



API Reference

Amazon Location Service



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Amazon Location Service: API Reference

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Welcome

Amazon Location Service Routes V2

With the Amazon Location Routes API you can calculate routes and estimate travel time based on up-to-date road network and live traffic information.

Calculate optimal travel routes and estimate travel times using up-to-date road network and traffic data. Key features include:

- Point-to-point routing with estimated travel time, distance, and turn-by-turn directions
- Multi-point route optimization to minimize travel time or distance
- Route matrices for efficient multi-destination planning
- Isoline calculations to determine reachable areas within specified time or distance thresholds
- Map-matching to align GPS traces with the road network

Amazon Location Service Maps V2

Integrate high-quality base map data into your applications using [MapLibre](#). Capabilities include:

- Access to comprehensive base map data, allowing you to tailor the map display to your specific needs.
- Multiple pre-designed map styles suited for various application types, such as navigation, logistics, or data visualization.
- Generation of static map images for scenarios where interactive maps aren't suitable, such as:
 - Embedding in emails or documents
 - Displaying in low-bandwidth environments
 - Creating printable maps
 - Enhancing application performance by reducing client-side rendering

Amazon Location Service Places V2

The Places API enables powerful location search and geocoding capabilities for your applications, offering global coverage with rich, detailed information. Key features include:

- Forward and reverse geocoding for addresses and coordinates
- Comprehensive place searches with detailed information, including:
 - Business names and addresses
 - Contact information
 - Hours of operation
 - POI (Points of Interest) categories
 - Food types for restaurants
 - Chain affiliation for relevant businesses
- Global data coverage with a wide range of POI categories
- Regular data updates to ensure accuracy and relevance

Amazon Location Service Tagging

Use resource tagging in Amazon Location Service to create tags to categorize your resources by purpose, owner, environment, or criteria. Tagging your resources helps you manage, identify, organize, search, and filter your resources.

For more information about [tagging your Amazon Location resources](#), see the Amazon Location Service Developer Guide. It provides definitions, tutorials, code examples, and instructions about how to integrate Amazon Location features into your application.

Amazon Location Service Geofences

Amazon Location Geofences lets you give your application the ability to detect and act when a tracked device enters or exits a defined geographical boundary known as a geofence.

With Amazon Location Geofences, you can automatically send an exit or entry event to Amazon EventBridge when a geofence breach is detected. This lets you trigger downstream actions such as sending a notification to a target. For additional information, see the [Amazon Location Service Developer Guide](#). It provides definitions, tutorials, code examples, and instructions about how to integrate features into web or mobile apps.

Amazon Location Service Trackers

Use trackers to store position updates for a collection of devices. The tracker can be used to query the devices' current location or location history. It stores the updates, but reduces storage space and visual noise by filtering the locations before storing them.

For more information, see the [Amazon Location Service Developer Guide](#). It provides definitions, tutorials, code examples, and instructions about how to integrate Amazon Location features into your application.

Actions

The following actions are supported by Amazon Location Service Routes V2:

- [CalculateIsolines](#)
- [CalculateRouteMatrix](#)
- [CalculateRoutes](#)
- [OptimizeWaypoints](#)
- [SnapToRoads](#)

The following actions are supported by Amazon Location Service Maps V2:

- [GetGlyphs](#)
- [GetSprites](#)
- [GetStaticMap](#)
- [GetStyleDescriptor](#)
- [GetTile](#)

The following actions are supported by Amazon Location Service Places V2:

- [Autocomplete](#)
- [Geocode](#)
- [GetPlace](#)
- [ReverseGeocode](#)
- [SearchNearby](#)
- [SearchText](#)
- [Suggest](#)

The following actions are supported by Amazon Location Service Tagging:

- [CreateKey](#)
- [DeleteKey](#)
- [DescribeKey](#)

- [ListKeys](#)
- [ListTagsForResource](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateKey](#)

The following actions are supported by Amazon Location Service Geofences:

- [BatchDeleteGeofence](#)
- [BatchEvaluateGeofences](#)
- [BatchPutGeofence](#)
- [CreateGeofenceCollection](#)
- [DeleteGeofenceCollection](#)
- [DescribeGeofenceCollection](#)
- [ForecastGeofenceEvents](#)
- [GetGeofence](#)
- [ListGeofenceCollections](#)
- [ListGeofences](#)
- [PutGeofence](#)
- [UpdateGeofenceCollection](#)

The following actions are supported by Amazon Location Service Trackers:

- [AssociateTrackerConsumer](#)
- [BatchDeleteDevicePositionHistory](#)
- [BatchGetDevicePosition](#)
- [BatchUpdateDevicePosition](#)
- [CreateTracker](#)
- [DeleteTracker](#)
- [DescribeTracker](#)
- [DisassociateTrackerConsumer](#)
- [GetDevicePosition](#)

- [GetDevicePositionHistory](#)
- [ListDevicePositions](#)
- [ListTrackerConsumers](#)
- [ListTrackers](#)
- [UpdateTracker](#)
- [VerifyDevicePosition](#)

Amazon Location Service Routes V2

The following actions are supported by Amazon Location Service Routes V2:

- [CalculateIsolines](#)
- [CalculateRouteMatrix](#)
- [CalculateRoutes](#)
- [OptimizeWaypoints](#)
- [SnapToRoads](#)

CalculateIsolines

Service: Amazon Location Service Routes V2

Calculates areas that can be reached within specified time or distance thresholds from a given point. For example, you can use this operation to determine the area within a 30-minute drive of a store location, find neighborhoods within walking distance of a school, or identify delivery zones based on drive time.

Isolines (also known as isochrones for time-based calculations) are useful for various applications including:

- Service area visualization - Show customers the area you can serve within promised delivery times
- Site selection - Analyze potential business locations based on population within travel distance
- Site selection - Determine areas that can be reached within specified response times

Note

Route preferences such as avoiding toll roads or ferries are treated as preferences rather than absolute restrictions. If a viable route cannot be calculated while honoring all preferences, some may be ignored.

For more information, see [Calculate isolines](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /isolines?key=Key HTTP/1.1
```

```
Content-type: application/json
```

```
{
  "Allow": {
    "Hot": boolean,
    "Hov": boolean
  },
  "ArrivalTime": "string",
  "Avoid": {
    "Areas": [
      {
```

```

    "Except": [
      {
        "BoundingBox": [ number ],
        "Corridor": {
          "LineString": [
            [ number ]
          ],
          "Radius": number
        },
        "Polygon": [
          [
            [ number ]
          ]
        ],
        "PolylineCorridor": {
          "Polyline": "string",
          "Radius": number
        },
        "PolylinePolygon": [ "string" ]
      }
    ],
    "Geometry": {
      "BoundingBox": [ number ],
      "Corridor": {
        "LineString": [
          [ number ]
        ],
        "Radius": number
      },
      "Polygon": [
        [
          [ number ]
        ]
      ],
      "PolylineCorridor": {
        "Polyline": "string",
        "Radius": number
      },
      "PolylinePolygon": [ "string" ]
    }
  ],
  "CarShuttleTrains": boolean,
  "ControlledAccessHighways": boolean,

```



```
"DirtRoads": boolean,
"Ferries": boolean,
"SeasonalClosure": boolean,
"TollRoads": boolean,
"TollTransponders": boolean,
"TruckRoadTypes": [ "string" ],
"Tunnels": boolean,
"UTurns": boolean,
"ZoneCategories": [
  {
    "Category": "string"
  }
],
},
"DepartNow": boolean,
"DepartureTime": "string",
"Destination": [ number ],
"DestinationOptions": {
  "AvoidActionsForDistance": number,
  "Heading": number,
  "Matching": {
    "NameHint": "string",
    "OnRoadThreshold": number,
    "Radius": number,
    "Strategy": "string"
  },
  "SideOfStreet": {
    "Position": [ number ],
    "UseWith": "string"
  }
},
},
"IsoLineGeometryFormat": "string",
"IsoLineGranularity": {
  "MaxPoints": number,
  "MaxResolution": number
},
},
"OptimizeIsoLineFor": "string",
"OptimizeRoutingFor": "string",
"Origin": [ number ],
"OriginOptions": {
  "AvoidActionsForDistance": number,
  "Heading": number,
  "Matching": {
    "NameHint": "string",
```

```
    "OnRoadThreshold": number,
    "Radius": number,
    "Strategy": "string"
  },
  "SideOfStreet": {
    "Position": [ number ],
    "UseWith": "string"
  }
},
"Thresholds": {
  "Distance": [ number ],
  "Time": [ number ]
},
"Traffic": {
  "FlowEventThresholdOverride": number,
  "Usage": "string"
},
"TravelMode": "string",
"TravelModeOptions": {
  "Car": {
    "EngineType": "string",
    "LicensePlate": {
      "LastCharacter": "string"
    },
    "MaxSpeed": number,
    "Occupancy": number
  },
  "Scooter": {
    "EngineType": "string",
    "LicensePlate": {
      "LastCharacter": "string"
    },
    "MaxSpeed": number,
    "Occupancy": number
  },
  "Truck": {
    "AxleCount": number,
    "EngineType": "string",
    "GrossWeight": number,
    "HazardousCargos": [ "string" ],
    "Height": number,
    "HeightAboveFirstAxle": number,
    "KpraLength": number,
    "Length": number,
```

```
{
  "LicensePlate": {
    "LastCharacter": "string"
  },
  "MaxSpeed": number,
  "Occupancy": number,
  "PayloadCapacity": number,
  "TireCount": number,
  "Trailer": {
    "AxleCount": number,
    "TrailerCount": number
  },
  "TruckType": "string",
  "TunnelRestrictionCode": "string",
  "WeightPerAxle": number,
  "WeightPerAxleGroup": {
    "Quad": number,
    "Quint": number,
    "Single": number,
    "Tandem": number,
    "Triple": number
  },
  "Width": number
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

An Amazon Location Service API Key with access to this action. If omitted, the request must be signed using Signature Version 4.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

Allow

Enables special road types or features that should be considered for routing even if they might be restricted by default for the selected travel mode. These include high-occupancy vehicle and toll lanes.

Type: [IsolineAllowOptions](#) object

Required: No

ArrivalTime

Determine areas from which `Destination` can be reached by this time, taking into account predicted traffic conditions and working backward to account for congestion patterns. This attribute cannot be used together with `DepartureTime` or `DepartNow`. Specified as an ISO-8601 timestamp with timezone offset.

Time format: `YYYY-MM-DDThh:mm:ss.sssZ` | `YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+-])([01][0-9]|2[0-3]):([0-5][0-9]))`

Required: No

Avoid

Specifies road types, features, or areas to avoid (if possible) when calculating reachable areas. These are treated as preferences rather than strict constraints—if a route cannot be calculated without using an avoided feature, that avoidance preference may be ignored.

Type: [IsolineAvoidanceOptions](#) object

Required: No

DepartNow

When true, uses the current time as the departure time and takes current traffic conditions into account. This attribute cannot be used together with `DepartureTime` or `ArrivalTime`.

Type: Boolean

Required: No

DepartureTime

Determine areas that can be reached when departing at this time, taking into account predicted traffic conditions. This attribute cannot be used together with `ArrivalTime` or `DepartNow`. Specified as an ISO-8601 timestamp with timezone offset.

Time format: `YYYY-MM-DDThh:mm:ss.sssZ` | `YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+-])([01][0-9]|2[0-3]):([0-5][0-9]))`

Required: No

Destination

An optional destination point, specified as `[longitude, latitude]` coordinates. When provided, the service calculates areas from which this destination can be reached within the specified thresholds. This reverses the usual isoline calculation to show areas that could reach your location, rather than areas you could reach from your location. Either `Origin` or `Destination` must be provided.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

DestinationOptions

Options that control how the destination point is matched to the road network and how routes can approach it. These options help improve travel time accuracy by accounting for real-world access to the destination.

Type: [IsolineDestinationOptions](#) object

Required: No

IsolineGeometryFormat

The format of the returned IsolineGeometry.

Default value:FlexiblePolyline

Type: String

Valid Values: FlexiblePolyline | Simple

Required: No

IsolineGranularity

Controls the detail level of the generated isolines. Higher granularity produces smoother shapes but requires more processing time and results in larger responses.

Type: [IsolineGranularityOptions](#) object

Required: No

OptimizelsolineFor

Controls the trade-off between calculation speed and isoline precision. Choose FastCalculation for quicker results with less detail, AccurateCalculation for more precise results, or BalancedCalculation for a middle ground.

Default value: BalancedCalculation

Type: String

Valid Values: AccurateCalculation | BalancedCalculation | FastCalculation

Required: No

OptimizeRoutingFor

Determines whether routes prioritize shortest travel time (`FastestRoute`) or shortest physical distance (`ShortestRoute`) when calculating reachable areas.

Default value: `FastestRoute`

Type: String

Valid Values: `FastestRoute` | `ShortestRoute`

Required: No

Origin

The starting point for isoline calculations, specified as [`longitude`, `latitude`] coordinates. For example, this could be a store location, service center, or any point from which you want to calculate reachable areas. Either `Origin` or `Destination` must be provided.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

OriginOptions

Options that control how the origin point is matched to the road network and how routes can depart from it. These options help improve travel time accuracy by accounting for real-world access from the origin.

Type: [IsolineOriginOptions](#) object

Required: No

Thresholds

The distance or time thresholds used to determine reachable areas. You can specify up to five thresholds (which all must be the same type) to calculate multiple isolines in a single request. For example, to determine the areas that are reachable within 10 and 20 minutes of the origin, specify time thresholds of 600 and 1200 seconds.

You incur a calculation charge for each threshold. Using a large number of thresholds in a request can lead to unexpected charges. For more information, see [Routes pricing](#) in the *Amazon Location Service Developer Guide*.

Type: [IsolineThresholds](#) object

Required: Yes

[Traffic](#)

Configures how real-time and historical traffic data affects isoline calculations. Traffic patterns can significantly impact reachable areas, especially during peak hours.

Type: [IsolineTrafficOptions](#) object

Required: No

[TravelMode](#)

The mode of transportation to use for calculations. This affects which road types or features can be used, estimated speed, and the traffic levels that are applied.

- `Car`—Standard passenger vehicle routing using roads accessible to cars
- `Pedestrian`—Walking routes using pedestrian paths, sidewalks, and crossings
- `Scooter`—Light two-wheeled vehicle routing using roads and paths accessible to scooters
- `Truck`—Commercial truck routing considering vehicle dimensions, weight restrictions, and hazardous material regulations

Note

The mode `Scooter` also applies to motorcycles; set this to `Scooter` when calculating isolines for motorcycles.

Default value: `Car`

Type: String

Valid Values: `Car` | `Pedestrian` | `Scooter` | `Truck`

Required: No

TravelModeOptions

Additional attributes that refine how reachable areas are calculated based on specific vehicle characteristics. These options help produce more accurate results by accounting for real-world constraints and capabilities.

For example:

- For trucks (`Truck`), specify dimensions, weight limits, and hazardous cargo restrictions to ensure isolines only include roads that can physically and legally accommodate the vehicle
- For cars (`Car`), set maximum speed capabilities or indicate high-occupancy vehicle eligibility to better estimate reachable areas
- For scooters (`Scooter`), specify engine type and speed limitations to more accurately model their travel capabilities

Without these options, calculations use default assumptions that may not match your specific use case.

Type: [IsolineTravelModeOptions](#) object

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
  "ArrivalTime": "string",
  "DepartureTime": "string",
  "IsolineGeometryFormat": "string",
  "Isolines": [
    {
      "Connections": [
        {
          "FromPolygonIndex": number,
          "Geometry": {
            "LineString": [
              [ number ]
            ],

```

```

        "Polyline": "string"
      },
      "ToPolygonIndex": number
    }
  ],
  "DistanceThreshold": number,
  "Geometries": [
    {
      "Polygon": [
        [
          [ number ]
        ]
      ],
      "PolylinePolygon": [ "string" ]
    }
  ],
  "TimeThreshold": number
}
],
"SnappedDestination": [ number ],
"SnappedOrigin": [ number ]
}

```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket applied to this calculation. Different buckets apply based on the travel mode and thresholds used.

The following data is returned in JSON format by the service.

ArrivalTime

Time of arrival at the destination, used for traffic calculations. This attribute is returned only if the `Destination` and `ArrivalTime` attributes were provided in the request.

Time format: YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm

Examples:

2020-04-22T17:57:24Z

2020-04-22T17:57:24+02:00

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+-]([01][0-9]|2[0-3]):[0-5][0-9]))

DepartureTime

Time of departure from the origin, used for traffic calculations. This attribute is returned when `Origin` was provided in the request and either a specific departure time was requested (`DepartureTime`) or `DepartNow` was set to true.

Time format: YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm

Examples:

2020-04-22T17:57:24Z

2020-04-22T17:57:24+02:00

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+-]([01][0-9]|2[0-3]):[0-5][0-9]))

IsolineGeometryFormat

The format of the returned geometries, matching the format specified in the request. Either `FlexiblePolyline` for compact encoding or `Simple` for GeoJSON-compatible coordinates.

Default value: `FlexiblePolyline`

Type: String

Valid Values: `FlexiblePolyline` | `Simple`

Isolines

Reachable areas, or isolines, for each threshold specified in the request.

Type: Array of [Isoline](#) objects

Array Members: Minimum number of 1 item. Maximum number of 5 items.

SnappedDestination

The actual point on the road network used for calculations, which may differ from the requested destination if `Destination` was not directly on a road.

Type: Array of doubles

Array Members: Fixed number of 2 items.

SnappedOrigin

The actual point on the road network used for calculations, which may differ from the requested origin if `Origin` was not directly on a road.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerErrorException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

The field where the invalid entry was detected.

Reason

A message with the reason for the validation exception error.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

CalculateRouteMatrix

Service: Amazon Location Service Routes V2

Use `CalculateRouteMatrix` to compute results for all pairs of Origins to Destinations. Each row corresponds to one entry in Origins. Each entry in the row corresponds to the route from that entry in Origins to an entry in Destinations positions.

For more information, see [Calculate route matrix](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /route-matrix?key=Key HTTP/1.1
```

```
Content-type: application/json
```

```
{
  "Allow": {
    "Hot": boolean,
    "Hov": boolean
  },
  "Avoid": {
    "Areas": [
      {
        "Geometry": {
          "BoundingBox": [ number ],
          "Polygon": [
            [
              [ number ]
            ]
          ],
          "PolylinePolygon": [ "string" ]
        }
      ]
    ],
    "CarShuttleTrains": boolean,
    "ControlledAccessHighways": boolean,
    "DirtRoads": boolean,
    "Ferries": boolean,
    "TollRoads": boolean,
    "TollTransponders": boolean,
    "TruckRoadTypes": [ "string" ],
    "Tunnels": boolean,
    "UTurns": boolean,
    "ZoneCategories": [
```

```
{
  "Category": "string"
}
],
"DepartNow": boolean,
"DepartureTime": "string",
"Destinations": [
  {
    "Options": {
      "AvoidActionsForDistance": number,
      "Heading": number,
      "Matching": {
        "NameHint": "string",
        "OnRoadThreshold": number,
        "Radius": number,
        "Strategy": "string"
      },
      "SideOfStreet": {
        "Position": [ number ],
        "UseWith": "string"
      }
    },
    "Position": [ number ]
  }
],
"Exclude": {
  "Countries": [ "string" ]
},
"OptimizeRoutingFor": "string",
"Origins": [
  {
    "Options": {
      "AvoidActionsForDistance": number,
      "Heading": number,
      "Matching": {
        "NameHint": "string",
        "OnRoadThreshold": number,
        "Radius": number,
        "Strategy": "string"
      },
      "SideOfStreet": {
        "Position": [ number ],
        "UseWith": "string"
      }
    }
  }
]
```

```
    }
  },
  "Position": [ number ]
}
],
"RoutingBoundary": {
  "Geometry": {
    "AutoCircle": {
      "Margin": number,
      "MaxRadius": number
    },
    "BoundingBox": [ number ],
    "Circle": {
      "Center": [ number ],
      "Radius": number
    },
    "Polygon": [
      [
        [ number ]
      ]
    ]
  },
  "Unbounded": boolean
},
"Traffic": {
  "FlowEventThresholdOverride": number,
  "Usage": "string"
},
"TravelMode": "string",
"TravelModeOptions": {
  "Car": {
    "LicensePlate": {
      "LastCharacter": "string"
    },
    "MaxSpeed": number,
    "Occupancy": number
  },
  "Scooter": {
    "LicensePlate": {
      "LastCharacter": "string"
    },
    "MaxSpeed": number,
    "Occupancy": number
  },
}
```



```
"Truck": {
  "AxleCount": number,
  "GrossWeight": number,
  "HazardousCargos": [ "string" ],
  "Height": number,
  "KpraLength": number,
  "Length": number,
  "LicensePlate": {
    "LastCharacter": "string"
  },
  "MaxSpeed": number,
  "Occupancy": number,
  "PayloadCapacity": number,
  "Trailer": {
    "TrailerCount": number
  },
  "TruckType": "string",
  "TunnelRestrictionCode": "string",
  "WeightPerAxle": number,
  "WeightPerAxleGroup": {
    "Quad": number,
    "Quint": number,
    "Single": number,
    "Tandem": number,
    "Triple": number
  },
  "Width": number
}
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

Allow

Features that are allowed while calculating a route.

Type: [RouteMatrixAllowOptions](#) object

Required: No

Avoid

Features that are avoided while calculating a route. Avoidance is on a best-case basis. If an avoidance can't be satisfied for a particular case, it violates the avoidance and the returned response produces a notice for the violation. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only TollRoads, Ferries, and ControlledAccessHighways.

Type: [RouteMatrixAvoidanceOptions](#) object

Required: No

DepartNow

Uses the current time as the time of departure.

Type: Boolean

Required: No

DepartureTime

Time of departure from the origin.

Time format: YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm

Examples:

2020-04-22T17:57:24Z

2020-04-22T17:57:24+02:00

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+-])([01][0-9]|2[0-3]):([0-5][0-9]))

Required: No

Destinations

List of destinations for the route.

Note

Route calculations are billed for each origin and destination pair. If you use a large matrix of origins and destinations, your costs will increase accordingly. For more information, see [Routes pricing](#) in the *Amazon Location Service Developer Guide*.

Type: Array of [RouteMatrixDestination](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

Exclude

Features to be strictly excluded while calculating the route. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteMatrixExclusionOptions](#) object

Required: No

OptimizeRoutingFor

Controls the trade-off between finding the shortest travel time (FastestRoute) and the shortest distance (ShortestRoute) when calculating reachable areas.

Default value: FastestRoute

Type: String

Valid Values: FastestRoute | ShortestRoute

Required: No

Origins

The position for the origin in World Geodetic System (WGS 84) format: [longitude, latitude].

Note

Route calculations are billed for each origin and destination pair. Using a large amount of Origins in a request can lead you to incur unexpected charges. For more information, see [Routes pricing](#) in the *Amazon Location Service Developer Guide*.

Type: Array of [RouteMatrixOrigin](#) objects

Array Members: Minimum number of 1 item.

Required: Yes

RoutingBoundary

Boundary within which the matrix is to be calculated. All data, origins and destinations outside the boundary are considered invalid. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only Unbounded set to true.

Default value: Unbounded set to true

Note

When request routing boundary was set as AutoCircle, the response routing boundary will return Circle derived from the AutoCircle settings.

Type: [RouteMatrixBoundary](#) object

Required: No

Traffic

Traffic related options. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteMatrixTrafficOptions](#) object

Required: No

[TravelMode](#)

Specifies the mode of transport when calculating a route. Used in estimating the speed of travel and road compatibility. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only Car, Pedestrian, and Scooter.

Default value: Car

Type: String

Valid Values: Car | Pedestrian | Scooter | Truck

Required: No

[TravelModeOptions](#)

Travel mode related options for the provided travel mode. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteMatrixTravelModeOptions](#) object

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json
```

```
{
  "ErrorCount": number,
  "RouteMatrix": [
    [
      {
        "Distance": number,
        "Duration": number,
        "Error": "string"
      }
    ]
  ]
}
```

```
],
  "RoutingBoundary": {
    "Geometry": {
      "AutoCircle": {
        "Margin": number,
        "MaxRadius": number
      },
      "BoundingBox": [ number ],
      "Circle": {
        "Center": [ number ],
        "Radius": number
      },
      "Polygon": [
        [
          [ number ]
        ]
      ]
    },
    "Unbounded": boolean
  }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

The following data is returned in JSON format by the service.

ErrorCount

The count of error results in the route matrix. If this number is 0, all routes were calculated successfully.

Type: Integer

Valid Range: Minimum value of 0.

[RouteMatrix](#)

The calculated route matrix containing the results for all pairs of Origins to Destination positions. Each row corresponds to one entry in Origins. Each entry in the row corresponds to the route from that entry in Origins to an entry in Destination positions.

Type: Array of arrays of [RouteMatrixEntry](#) objects

[RoutingBoundary](#)

Boundary within which the matrix is to be calculated. All data, origins and destinations outside the boundary are considered invalid.

Note

When request routing boundary was set as AutoCircle, the response routing boundary will return Circle derived from the AutoCircle settings.

Type: [RouteMatrixBoundary](#) object

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerError

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

The field where the invalid entry was detected.

Reason

A message with the reason for the validation exception error.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

CalculateRoutes

Service: Amazon Location Service Routes V2

CalculateRoutes computes routes given the following required parameters: Origin and Destination.

For more information, see [Calculate routes](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /routes?key=Key HTTP/1.1
Content-type: application/json
```

```
{
  "Allow": {
    "Hot": boolean,
    "Hov": boolean
  },
  "ArrivalTime": "string",
  "Avoid": {
    "Areas": [
      {
        "Except": [
          {
            "BoundingBox": [ number ],
            "Corridor": {
              "LineString": [
                [ number ]
              ],
              "Radius": number
            },
            "Polygon": [
              [ number ]
            ]
          },
          "PolylineCorridor": {
            "Polyline": "string",
            "Radius": number
          },
          "PolylinePolygon": [ "string" ]
        ]
      }
    ],
  },
}
```

```
    "Geometry": {
      "BoundingBox": [ number ],
      "Corridor": {
        "LineString": [
          [ number ]
        ],
        "Radius": number
      },
      "Polygon": [
        [
          [ number ]
        ]
      ],
      "PolylineCorridor": {
        "Polyline": "string",
        "Radius": number
      },
      "PolylinePolygon": [ "string" ]
    }
  ],
  "CarShuttleTrains": boolean,
  "ControlledAccessHighways": boolean,
  "DirtRoads": boolean,
  "Ferries": boolean,
  "SeasonalClosure": boolean,
  "TollRoads": boolean,
  "TollTransponders": boolean,
  "TruckRoadTypes": [ "string" ],
  "Tunnels": boolean,
  "UTurns": boolean,
  "ZoneCategories": [
    {
      "Category": "string"
    }
  ]
},
"DepartNow": boolean,
"DepartureTime": "string",
"Destination": [ number ],
"DestinationOptions": {
  "AvoidActionsForDistance": number,
  "AvoidUTurns": boolean,
  "Heading": number,
```

```
"Matching": {
  "NameHint": "string",
  "OnRoadThreshold": number,
  "Radius": number,
  "Strategy": "string"
},
"SideOfStreet": {
  "Position": [ number ],
  "UseWith": "string"
},
"StopDuration": number
},
"Driver": {
  "Schedule": [
    {
      "DriveDuration": number,
      "RestDuration": number
    }
  ]
},
"Exclude": {
  "Countries": [ "string" ]
},
"InstructionsMeasurementSystem": "string",
"Languages": [ "string" ],
"LegAdditionalFeatures": [ "string" ],
"LegGeometryFormat": "string",
"MaxAlternatives": number,
"OptimizeRoutingFor": "string",
"Origin": [ number ],
"OriginOptions": {
  "AvoidActionsForDistance": number,
  "AvoidUTurns": boolean,
  "Heading": number,
  "Matching": {
    "NameHint": "string",
    "OnRoadThreshold": number,
    "Radius": number,
    "Strategy": "string"
  },
  "SideOfStreet": {
    "Position": [ number ],
    "UseWith": "string"
  }
}
```

```
},
"SpanAdditionalFeatures": [ "string" ],
"Tolls": {
  "AllTransponders": boolean,
  "AllVignettes": boolean,
  "Currency": "string",
  "EmissionType": {
    "Co2EmissionClass": "string",
    "Type": "string"
  },
  "VehicleCategory": "string"
},
"Traffic": {
  "FlowEventThresholdOverride": number,
  "Usage": "string"
},
"TravelModeOptions": {
  "Car": {
    "EngineType": "string",
    "LicensePlate": {
      "LastCharacter": "string"
    },
    "MaxSpeed": number,
    "Occupancy": number
  },
  "Pedestrian": {
    "Speed": number
  },
  "Scooter": {
    "EngineType": "string",
    "LicensePlate": {
      "LastCharacter": "string"
    },
    "MaxSpeed": number,
    "Occupancy": number
  },
  "Truck": {
    "AxleCount": number,
    "EngineType": "string",
    "GrossWeight": number,
    "HazardousCargos": [ "string" ],
    "Height": number,
    "HeightAboveFirstAxle": number,
    "KpraLength": number,
```

```
"Length": number,
"LicensePlate": {
  "LastCharacter": "string"
},
"MaxSpeed": number,
"Occupancy": number,
"PayloadCapacity": number,
"TyreCount": number,
"Trailer": {
  "AxleCount": number,
  "TrailerCount": number
},
"TruckType": "string",
"TunnelRestrictionCode": "string",
"WeightPerAxle": number,
"WeightPerAxleGroup": {
  "Quad": number,
  "Quint": number,
  "Single": number,
  "Tandem": number,
  "Triple": number
},
"Width": number
}
},
"TravelStepType": "string",
"Waypoints": [
{
  "AvoidActionsForDistance": number,
  "AvoidUTurns": boolean,
  "Heading": number,
  "Matching": {
    "NameHint": "string",
    "OnRoadThreshold": number,
    "Radius": number,
    "Strategy": "string"
  },
  "PassThrough": boolean,
  "Position": [ number ],
  "SideOfStreet": {
    "Position": [ number ],
    "UseWith": "string"
  },
  "StopDuration": number
}
```

```
}  
]  
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

Allow

Features that are allowed while calculating a route. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteAllowOptions](#) object

Required: No

ArrivalTime

Time of arrival at the destination. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Time format: YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm

Examples:

2020-04-22T17:57:24Z

2020-04-22T17:57:24+02:00

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+ -])([01][0-9]|2[0-3]):[0-5][0-9])

Required: No

Avoid

Features that are avoided while calculating a route. Avoidance is on a best-case basis. If an avoidance can't be satisfied for a particular case, it violates the avoidance and the returned response produces a notice for the violation. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only ControlledAccessHighways, Ferries, and TollRoads

Type: [RouteAvoidanceOptions](#) object

Required: No

DepartNow

Uses the current time as the time of departure.

Type: Boolean

Required: No

DepartureTime

Time of departure from the origin.

Time format: YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm

Examples:

2020-04-22T17:57:24Z

2020-04-22T17:57:24+02:00

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+ -])([01][0-9]|2[0-3]):[0-5][0-9])

Required: No

Destination

The final position for the route. In the World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

DestinationOptions

Destination related options. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteDestinationOptions](#) object

Required: No

Driver

Driver related options. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteDriverOptions](#) object

Required: No

Exclude

Features to be strictly excluded while calculating the route. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteExclusionOptions](#) object

Required: No

InstructionsMeasurementSystem

Measurement system to be used for instructions within steps in the response.

Type: String

Valid Values: Metric | Imperial

Required: No

Languages

List of languages for instructions within steps in the response. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Note

Instructions in the requested language are returned only if they are available.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 10 items.

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

LegAdditionalFeatures

A list of optional additional parameters such as timezone that can be requested for each result. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only PassThroughWaypoints, Summary, and TravelStepInstructions

- **Elevation:** Retrieves the elevation information for each location.
- **Incidents:** Provides information on traffic incidents along the route.
- **PassThroughWaypoints:** Indicates waypoints that are passed through without stopping.
- **Summary:** Returns a summary of the route, including distance and duration.
- **Tolls:** Supplies toll cost information along the route.
- **TravelStepInstructions:** Provides step-by-step instructions for travel along the route.
- **TruckRoadTypes:** Returns information about road types suitable for trucks.
- **TypicalDuration:** Gives typical travel duration based on historical data.
- **Zones:** Specifies the time zone information for each waypoint.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 9 items.

Valid Values: Elevation | Incidents | PassThroughWaypoints | Summary | Tolls | TravelStepInstructions | TruckRoadTypes | TypicalDuration | Zones | Bookings | IntermediateStops | NextDepartures

Required: No

LegGeometryFormat

Specifies the format of the geometry returned for each leg of the route. You can choose between two different geometry encoding formats.

FlexiblePolyline: A compact and precise encoding format for the leg geometry. For more information on the format, see the GitHub repository for <https://github.com/aws-geospatial/polyline>.

Simple: A less compact encoding, which is easier to decode but may be less precise and result in larger payloads.

Type: String

Valid Values: FlexiblePolyline | Simple

Required: No

MaxAlternatives

Maximum number of alternative routes to be provided in the response, if available. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only up to 3 alternative routes.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 5.

Required: No

OptimizeRoutingFor

Controls the trade-off between achieving the shortest travel time (FastestRoute) and achieving the shortest physical distance ((ShortestRoute) when calculating each route in the matrix.

Default value: FastestRoute

Type: String

Valid Values: FastestRoute | ShortestRoute

Required: No

Origin

The start position for the route in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

OriginOptions

Specifies how the origin point should be matched to the road network and any routing constraints that apply when the traveler is departing the origin. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteOriginOptions](#) object

Required: No

SpanAdditionalFeatures

A list of optional features such as SpeedLimit that can be requested for a Span. A span is a section of a Leg for which the requested features have the same values. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 24 items.

Valid Values: BestCaseDuration | CarAccess | Country | Distance | Duration | DynamicSpeed | FunctionalClassification | Gates | Incidents | Names | Notices | PedestrianAccess | RailwayCrossings | Region | RoadAttributes | RouteNumbers | ScooterAccess | SpeedLimit | TollSystems | TruckAccess | TruckRoadTypes | TypicalDuration | Zones | Consumption

Required: No

Tolls

Toll related options. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteTollOptions](#) object

Required: No

[Traffic](#)

Traffic related options. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteTrafficOptions](#) object

Required: No

[TravelModeOptions](#)

Travel mode related options for the provided travel mode. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only Car and Pedestrian travel mode options.

Type: [RouteTravelModeOptions](#) object

Required: No

[TravelStepType](#)

Type of step returned by the response. Default provides basic steps intended for web based applications. TurnByTurn provides detailed instructions with more granularity intended for a turn based navigation system. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions Default does not return any steps.

Type: String

Valid Values: Default | TurnByTurn

Required: No

[Waypoints](#)

List of waypoints between the Origin and Destination. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions max length is 100.

Max length: 23

Type: Array of [RouteWaypoint](#) objects

Required: No

Response Syntax

HTTP/1.1 200

x-amz-geo-pricing-bucket: *PricingBucket*

Content-type: application/json

```
{
  "LegGeometryFormat": "string",
  "Notices": [
    {
      "Impact": "string"
    }
  ],
  "Routes": [
    {
      "Legs": [
        {
          "FerryLegDetails": {
            "AfterTravelSteps": [
              {
                "Duration": number,
                "Instruction": "string",
                "Type": "string"
              }
            ],
            "Arrival": {
              "Place": {
                "Name": "string",
                "OriginalPosition": [ number ],
                "Position": [ number ],
                "WaypointIndex": number
              },
              "Time": "string"
            },
            "BeforeTravelSteps": [
              {
                "Duration": number,
                "Instruction": "string",
                "Type": "string"
              }
            ],
            "Departure": {
              "Place": {
```

```
        "Name": "string",
        "OriginalPosition": [ number ],
        "Position": [ number ],
        "WaypointIndex": number
    },
    "Time": "string"
},
"Notices": [
    {
        "Code": "string",
        "Impact": "string"
    }
],
"PassThroughWaypoints": [
    {
        "GeometryOffset": number,
        "Place": {
            "OriginalPosition": [ number ],
            "Position": [ number ],
            "WaypointIndex": number
        }
    }
],
"RouteName": "string",
"Spans": [
    {
        "Country": "string",
        "Distance": number,
        "Duration": number,
        "GeometryOffset": number,
        "Names": [
            {
                "Language": "string",
                "Value": "string"
            }
        ],
        "Region": "string"
    }
],
"Summary": {
    "Overview": {
        "Distance": number,
        "Duration": number
    }
},
```

```
    "TravelOnly": {
      "Duration": number
    },
    "TravelSteps": [
      {
        "Distance": number,
        "Duration": number,
        "GeometryOffset": number,
        "Instruction": "string",
        "Type": "string"
      }
    ],
    "Geometry": {
      "LineString": [
        [ number ]
      ],
      "Polyline": "string"
    },
    "Language": "string",
    "PedestrianLegDetails": {
      "Arrival": {
        "Place": {
          "Name": "string",
          "OriginalPosition": [ number ],
          "Position": [ number ],
          "SideOfStreet": "string",
          "WaypointIndex": number
        },
        "Time": "string"
      },
      "Departure": {
        "Place": {
          "Name": "string",
          "OriginalPosition": [ number ],
          "Position": [ number ],
          "SideOfStreet": "string",
          "WaypointIndex": number
        },
        "Time": "string"
      },
      "Notices": [
        {
```

```

        "Code": "string",
        "Impact": "string"
    }
],
"PassThroughWaypoints": [
    {
        "GeometryOffset": number,
        "Place": {
            "OriginalPosition": [ number ],
            "Position": [ number ],
            "WaypointIndex": number
        }
    }
],
"Spans": [
    {
        "BestCaseDuration": number,
        "Country": "string",
        "Distance": number,
        "Duration": number,
        "DynamicSpeed": {
            "BestCaseSpeed": number,
            "TurnDuration": number,
            "TypicalSpeed": number
        },
        "FunctionalClassification": number,
        "GeometryOffset": number,
        "Incidents": [ number ],
        "Names": [
            {
                "Language": "string",
                "Value": "string"
            }
        ],
        "PedestrianAccess": [ "string" ],
        "Region": "string",
        "RoadAttributes": [ "string" ],
        "RouteNumbers": [
            {
                "Direction": "string",
                "Language": "string",
                "Value": "string"
            }
        ]
    }
],

```



```
        "SpeedLimit": {
            "MaxSpeed": number,
            "Unlimited": boolean
        },
        "TypicalDuration": number
    }
],
"Summary": {
    "Overview": {
        "Distance": number,
        "Duration": number
    },
    "TravelOnly": {
        "Duration": number
    }
},
"TravelSteps": [
    {
        "ContinueStepDetails": {
            "Intersection": [
                {
                    "Language": "string",
                    "Value": "string"
                }
            ]
        },
        "CurrentRoad": {
            "RoadName": [
                {
                    "Language": "string",
                    "Value": "string"
                }
            ]
        },
        "RouteNumber": [
            {
                "Direction": "string",
                "Language": "string",
                "Value": "string"
            }
        ],
        "Towards": [
            {
                "Language": "string",
                "Value": "string"
            }
        ]
    }
]
```

```
    }
  ],
  "Type": "string"
},
"Distance": number,
"Duration": number,
"ExitNumber": [
  {
    "Language": "string",
    "Value": "string"
  }
],
"GeometryOffset": number,
"Instruction": "string",
"KeepStepDetails": {
  "Intersection": [
    {
      "Language": "string",
      "Value": "string"
    }
  ],
  "SteeringDirection": "string",
  "TurnAngle": number,
  "TurnIntensity": "string"
},
"NextRoad": {
  "RoadName": [
    {
      "Language": "string",
      "Value": "string"
    }
  ],
  "RouteNumber": [
    {
      "Direction": "string",
      "Language": "string",
      "Value": "string"
    }
  ],
  "Towards": [
    {
      "Language": "string",
      "Value": "string"
    }
  ]
}
```

```
    ],
    "Type": "string"
  },
  "RoundaboutEnterStepDetails": {
    "Intersection": [
      {
        "Language": "string",
        "Value": "string"
      }
    ],
    "SteeringDirection": "string",
    "TurnAngle": number,
    "TurnIntensity": "string"
  },
  "RoundaboutExitStepDetails": {
    "Intersection": [
      {
        "Language": "string",
        "Value": "string"
      }
    ],
    "RelativeExit": number,
    "RoundaboutAngle": number,
    "SteeringDirection": "string"
  },
  "RoundaboutPassStepDetails": {
    "Intersection": [
      {
        "Language": "string",
        "Value": "string"
      }
    ],
    "SteeringDirection": "string",
    "TurnAngle": number,
    "TurnIntensity": "string"
  },
  "Signpost": {
    "Labels": [
      {
        "RouteNumber": {
          "Direction": "string",
          "Language": "string",
          "Value": "string"
        }
      }
    ]
  },
}
```

```

        "Text": {
            "Language": "string",
            "Value": "string"
        }
    ],
},
"TurnStepDetails": {
    "Intersection": [
        {
            "Language": "string",
            "Value": "string"
        }
    ],
    "SteeringDirection": "string",
    "TurnAngle": number,
    "TurnIntensity": "string"
}
}
],
},
"VehicleLegDetails": {
    "Arrival": {
        "Place": {
            "Name": "string",
            "OriginalPosition": [ number ],
            "Position": [ number ],
            "SideOfStreet": "string",
            "WaypointIndex": number
        },
        "Time": "string"
    },
    "Departure": {
        "Place": {
            "Name": "string",
            "OriginalPosition": [ number ],
            "Position": [ number ],
            "SideOfStreet": "string",
            "WaypointIndex": number
        },
        "Time": "string"
    },
    "Incidents": [
        {

```

```

        "Description": "string",
        "EndTime": "string",
        "Severity": "string",
        "StartTime": "string",
        "Type": "string"
    }
],
"Notices": [
    {
        "Code": "string",
        "Details": [
            {
                "Title": "string",
                "ViolatedConstraints": {
                    "AllHazardsRestricted": boolean,
                    "AxleCount": {
                        "Max": number,
                        "Min": number
                    },
                },
                "HazardousCargos": [ "string" ],
                "MaxHeight": number,
                "MaxKpraLength": number,
                "MaxLength": number,
                "MaxPayloadCapacity": number,
                "MaxWeight": {
                    "Type": "string",
                    "Value": number
                },
            },
            "MaxWeightPerAxle": number,
            "MaxWeightPerAxleGroup": {
                "Quad": number,
                "Quint": number,
                "Single": number,
                "Tandem": number,
                "Triple": number
            },
            "MaxWidth": number,
            "Occupancy": {
                "Max": number,
                "Min": number
            },
            "RestrictedTimes": "string",
            "TimeDependent": boolean,
            "TrailerCount": {

```

```

        "Max": number,
        "Min": number
    },
    "TravelMode": boolean,
    "TruckRoadType": "string",
    "TruckType": "string",
    "TunnelRestrictionCode": "string"
}
    ],
    "Impact": "string"
}
],
"PassThroughWaypoints": [
    {
        "GeometryOffset": number,
        "Place": {
            "OriginalPosition": [ number ],
            "Position": [ number ],
            "WaypointIndex": number
        }
    }
],
"Spans": [
    {
        "BestCaseDuration": number,
        "CarAccess": [ "string" ],
        "Country": "string",
        "Distance": number,
        "Duration": number,
        "DynamicSpeed": {
            "BestCaseSpeed": number,
            "TurnDuration": number,
            "TypicalSpeed": number
        },
        "FunctionalClassification": number,
        "Gate": "string",
        "GeometryOffset": number,
        "Incidents": [ number ],
        "Names": [
            {
                "Language": "string",
                "Value": "string"
            }
        ]
    }
]

```

```

    ],
    "Notices": [ number ],
    "RailwayCrossing": "string",
    "Region": "string",
    "RoadAttributes": [ "string" ],
    "RouteNumbers": [
        {
            "Direction": "string",
            "Language": "string",
            "Value": "string"
        }
    ],
    "ScooterAccess": [ "string" ],
    "SpeedLimit": {
        "MaxSpeed": number,
        "Unlimited": boolean
    },
    "TollSystems": [ number ],
    "TruckAccess": [ "string" ],
    "TruckRoadTypes": [ number ],
    "TypicalDuration": number,
    "Zones": [ number ]
}
],
"Summary": {
    "Overview": {
        "BestCaseDuration": number,
        "Distance": number,
        "Duration": number,
        "TypicalDuration": number
    },
    "TravelOnly": {
        "BestCaseDuration": number,
        "Duration": number,
        "TypicalDuration": number
    }
},
"Tolls": [
    {
        "Country": "string",
        "PaymentSites": [
            {
                "Name": "string",
                "Position": [ number ]
            }
        ]
    }
]

```

```
    }
  ],
  "Rates": [
    {
      "ApplicableTimes": "string",
      "ConvertedPrice": {
        "Currency": "string",
        "Estimate": boolean,
        "PerDuration": number,
        "Range": boolean,
        "RangeValue": {
          "Max": number,
          "Min": number
        },
      },
      "Value": number
    },
    {
      "Id": "string",
      "LocalPrice": {
        "Currency": "string",
        "Estimate": boolean,
        "PerDuration": number,
        "Range": boolean,
        "RangeValue": {
          "Max": number,
          "Min": number
        },
      },
      "Value": number
    },
    {
      "Name": "string",
      "Pass": {
        "IncludesReturnTrip": boolean,
        "SeniorPass": boolean,
        "TransferCount": number,
        "TripCount": number,
        "ValidityPeriod": {
          "Period": "string",
          "PeriodCount": number
        }
      }
    },
    {
      "PaymentMethods": [ "string" ],
      "Transponders": [
        {
          "SystemName": "string"
        }
      ]
    }
  ]
}
```



```

        ]
    }
},
    "Systems": [ number ]
}
],
    "TollSystems": [
        {
            "Name": "string"
        }
    ],
    "TravelSteps": [
        {
            "ContinueHighwayStepDetails": {
                "Intersection": [
                    {
                        "Language": "string",
                        "Value": "string"
                    }
                ],
                "SteeringDirection": "string",
                "TurnAngle": number,
                "TurnIntensity": "string"
            },
            "ContinueStepDetails": {
                "Intersection": [
                    {
                        "Language": "string",
                        "Value": "string"
                    }
                ]
            },
            "CurrentRoad": {
                "RoadName": [
                    {
                        "Language": "string",
                        "Value": "string"
                    }
                ],
                "RouteNumber": [
                    {
                        "Direction": "string",
                        "Language": "string",
                        "Value": "string"
                    }
                ]
            }
        }
    ]
}

```

```
    }
  ],
  "Towards": [
    {
      "Language": "string",
      "Value": "string"
    }
  ],
  "Type": "string"
},
"Distance": number,
"Duration": number,
"EnterHighwayStepDetails": {
  "Intersection": [
    {
      "Language": "string",
      "Value": "string"
    }
  ],
  "SteeringDirection": "string",
  "TurnAngle": number,
  "TurnIntensity": "string"
},
"ExitNumber": [
  {
    "Language": "string",
    "Value": "string"
  }
],
"ExitStepDetails": {
  "Intersection": [
    {
      "Language": "string",
      "Value": "string"
    }
  ],
  "RelativeExit": number,
  "SteeringDirection": "string",
  "TurnAngle": number,
  "TurnIntensity": "string"
},
"GeometryOffset": number,
"Instruction": "string",
"KeepStepDetails": {
```

```
    "Intersection": [
      {
        "Language": "string",
        "Value": "string"
      }
    ],
    "SteeringDirection": "string",
    "TurnAngle": number,
    "TurnIntensity": "string"
  },
  "NextRoad": {
    "RoadName": [
      {
        "Language": "string",
        "Value": "string"
      }
    ],
    "RouteNumber": [
      {
        "Direction": "string",
        "Language": "string",
        "Value": "string"
      }
    ],
    "Towards": [
      {
        "Language": "string",
        "Value": "string"
      }
    ],
    "Type": "string"
  },
  "RampStepDetails": {
    "Intersection": [
      {
        "Language": "string",
        "Value": "string"
      }
    ],
    "SteeringDirection": "string",
    "TurnAngle": number,
    "TurnIntensity": "string"
  },
  "RoundaboutEnterStepDetails": {
```

```
    "Intersection": [
      {
        "Language": "string",
        "Value": "string"
      }
    ],
    "SteeringDirection": "string",
    "TurnAngle": number,
    "TurnIntensity": "string"
  },
  "RoundaboutExitStepDetails": {
    "Intersection": [
      {
        "Language": "string",
        "Value": "string"
      }
    ],
    "RelativeExit": number,
    "RoundaboutAngle": number,
    "SteeringDirection": "string"
  },
  "RoundaboutPassStepDetails": {
    "Intersection": [
      {
        "Language": "string",
        "Value": "string"
      }
    ],
    "SteeringDirection": "string",
    "TurnAngle": number,
    "TurnIntensity": "string"
  },
  "Signpost": {
    "Labels": [
      {
        "RouteNumber": {
          "Direction": "string",
          "Language": "string",
          "Value": "string"
        },
        "Text": {
          "Language": "string",
          "Value": "string"
        }
      }
    ]
  }
}
```

```

        }
    ]
},
"TurnStepDetails": {
    "Intersection": [
        {
            "Language": "string",
            "Value": "string"
        }
    ],
    "SteeringDirection": "string",
    "TurnAngle": number,
    "TurnIntensity": "string"
},
"Type": "string",
"UTurnStepDetails": {
    "Intersection": [
        {
            "Language": "string",
            "Value": "string"
        }
    ],
    "SteeringDirection": "string",
    "TurnAngle": number,
    "TurnIntensity": "string"
}
}
],
"TruckRoadTypes": [ "string" ],
"Zones": [
    {
        "Category": "string",
        "Name": "string"
    }
]
}
],
"MajorRoadLabels": [
    {
        "RoadName": {
            "Language": "string",
            "Value": "string"
        }
    },

```

```

        "RouteNumber": {
            "Direction": "string",
            "Language": "string",
            "Value": "string"
        }
    ],
    "Summary": {
        "Distance": number,
        "Duration": number,
        "Tolls": {
            "Total": {
                "Currency": "string",
                "Estimate": boolean,
                "Range": boolean,
                "RangeValue": {
                    "Max": number,
                    "Min": number
                },
                "Value": number
            }
        }
    }
}

```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

The following data is returned in JSON format by the service.

LegGeometryFormat

Specifies the format of the geometry returned for each leg of the route.

Type: String

Valid Values: `FlexiblePolyline` | `Simple`

Notices

Notices are additional information returned that indicate issues that occurred during route calculation. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [RouteResponseNotice](#) objects

Routes

The path from the origin to the destination.

Type: Array of [Route](#) objects

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerError

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

The field where the invalid entry was detected.

Reason

A message with the reason for the validation exception error.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

OptimizeWaypoints

Service: Amazon Location Service Routes V2

OptimizeWaypoints calculates the optimal order to travel between a set of waypoints to minimize either the travel time or the distance travelled during the journey, based on road network restrictions and the traffic pattern data.

For more information, see [Optimize waypoints](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /optimize-waypoints?key=Key HTTP/1.1
```

```
Content-type: application/json
```

```
{
  "Avoid": {
    "Areas": [
      {
        "Geometry": {
          "BoundingBox": [ number ]
        }
      }
    ],
    "CarShuttleTrains": boolean,
    "ControlledAccessHighways": boolean,
    "DirtRoads": boolean,
    "Ferries": boolean,
    "TollRoads": boolean,
    "Tunnels": boolean,
    "UTurns": boolean
  },
  "Clustering": {
    "Algorithm": "string",
    "DrivingDistanceOptions": {
      "DrivingDistance": number
    }
  },
  "DepartureTime": "string",
  "Destination": [ number ],
  "DestinationOptions": {
    "AccessHours": {
      "From": {
        "DayOfWeek": "string",
```

```
    "TimeOfDay": "string",
  },
  "To": {
    "DayOfWeek": "string",
    "TimeOfDay": "string"
  }
},
"AppointmentTime": "string",
"Heading": number,
"Id": "string",
"ServiceDuration": number,
"SideOfStreet": {
  "Position": [ number ],
  "UseWith": "string"
}
},
"Driver": {
  "RestCycles": {
    "LongCycle": {
      "RestDuration": number,
      "WorkDuration": number
    },
    "ShortCycle": {
      "RestDuration": number,
      "WorkDuration": number
    }
  },
  "RestProfile": {
    "Profile": "string"
  },
  "TreatServiceTimeAs": "string"
},
"Exclude": {
  "Countries": [ "string" ]
},
"OptimizeSequencingFor": "string",
"Origin": [ number ],
"OriginOptions": {
  "Id": "string"
},
"Traffic": {
  "Usage": "string"
},
"TravelMode": "string",
```

```

"TravelModeOptions": {
  "Pedestrian": {
    "Speed": number
  },
  "Truck": {
    "GrossWeight": number,
    "HazardousCargos": [ "string" ],
    "Height": number,
    "Length": number,
    "Trailer": {
      "TrailerCount": number
    },
    "TruckType": "string",
    "TunnelRestrictionCode": "string",
    "WeightPerAxle": number,
    "Width": number
  }
},
"Waypoints": [
  {
    "AccessHours": {
      "From": {
        "DayOfWeek": "string",
        "TimeOfDay": "string"
      },
      "To": {
        "DayOfWeek": "string",
        "TimeOfDay": "string"
      }
    },
    "AppointmentTime": "string",
    "Before": [ number ],
    "Heading": number,
    "Id": "string",
    "Position": [ number ],
    "ServiceDuration": number,
    "SideOfStreet": {
      "Position": [ number ],
      "UseWith": "string"
    }
  }
]
}

```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

Avoid

Features that are avoided. Avoidance is on a best-case basis. If an avoidance can't be satisfied for a particular case, this setting is ignored.

Type: [WaypointOptimizationAvoidanceOptions](#) object

Required: No

Clustering

Clustering allows you to specify how nearby waypoints can be clustered to improve the optimized sequence.

Type: [WaypointOptimizationClusteringOptions](#) object

Required: No

DepartureTime

Departure time from the waypoint.

Time format: YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm

Examples:

2020-04-22T17:57:24Z

2020-04-22T17:57:24+02:00

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\[0-9]{0,9})?(Z|([+ -])([01][0-9]|2[0-3]):([0-5][0-9]))

Required: No

Destination

The final position for the route in the World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

DestinationOptions

Destination related options.

Type: [WaypointOptimizationDestinationOptions](#) object

Required: No

Driver

Driver related options.

Type: [WaypointOptimizationDriverOptions](#) object

Required: No

Exclude

Features to be strictly excluded while calculating the route.

Type: [WaypointOptimizationExclusionOptions](#) object

Required: No

OptimizeSequencingFor

Specifies the optimization criteria for the calculated sequence.

Default value: FastestRoute.

Type: String

Valid Values: FastestRoute | ShortestRoute

Required: No

Origin

The start position for the route in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

OriginOptions

Origin related options.

Type: [WaypointOptimizationOriginOptions](#) object

Required: No

Traffic

Traffic-related options.

Type: [WaypointOptimizationTrafficOptions](#) object

Required: No

TravelMode

Specifies the mode of transport when calculating a route. Used in estimating the speed of travel and road compatibility.

Default value: Car

Type: String

Valid Values: Car | Pedestrian | Scooter | Truck

Required: No

TravelModeOptions

Travel mode related options for the provided travel mode.

Type: [WaypointOptimizationTravelModeOptions](#) object

Required: No

Waypoints

List of waypoints between the Origin and Destination.

Type: Array of [WaypointOptimizationWaypoint](#) objects

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
  "Connections": [
    {
      "Distance": number,
      "From": "string",
      "RestDuration": number,
      "To": "string",
      "TravelDuration": number,
      "WaitDuration": number
    }
  ],
  "Distance": number,
  "Duration": number,
  "ImpedingWaypoints": [
    {
      "FailedConstraints": [
        {
          "Constraint": "string",
          "Reason": "string"
        }
      ]
    }
  ]
}
```

```
    ],
    "Id": "string",
    "Position": [ number ]
  }
],
"OptimizedWaypoints": [
  {
    "ArrivalTime": "string",
    "ClusterIndex": number,
    "DepartureTime": "string",
    "Id": "string",
    "Position": [ number ]
  }
],
"TimeBreakdown": {
  "RestDuration": number,
  "ServiceDuration": number,
  "TravelDuration": number,
  "WaitDuration": number
}
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

The following data is returned in JSON format by the service.

Connections

Details about the connection from one waypoint to the next, within the optimized sequence.

Type: Array of [WaypointOptimizationConnection](#) objects

Distance

Overall distance to travel the whole sequence.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Duration

Overall duration to travel the whole sequence.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

ImpedingWaypoints

Returns waypoints that caused the optimization problem to fail, and the constraints that were unsatisfied leading to the failure.

Type: Array of [WaypointOptimizationImpedingWaypoint](#) objects

OptimizedWaypoints

Waypoints in the order of the optimized sequence.

Type: Array of [WaypointOptimizationOptimizedWaypoint](#) objects

TimeBreakdown

Time breakdown for the sequence.

Type: [WaypointOptimizationTimeBreakdown](#) object

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerErrorException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

The field where the invalid entry was detected.

Reason

A message with the reason for the validation exception error.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

SnapToRoads

Service: Amazon Location Service Routes V2

SnapToRoads matches GPS trace to roads most likely traveled on.

For more information, see [Snap to Roads](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /snap-to-roads?key=Key HTTP/1.1
```

```
Content-type: application/json
```

```
{
  "SnappedGeometryFormat": "string",
  "SnapRadius": number,
  "TracePoints": [
    {
      "Heading": number,
      "Position": [ number ],
      "Speed": number,
      "Timestamp": "string"
    }
  ],
  "TravelMode": "string",
  "TravelModeOptions": {
    "Truck": {
      "GrossWeight": number,
      "HazardousCargos": [ "string" ],
      "Height": number,
      "Length": number,
      "Trailer": {
        "TrailerCount": number
      },
      "TunnelRestrictionCode": "string",
      "Width": number
    }
  }
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

SnappedGeometryFormat

Chooses what the returned SnappedGeometry format should be.

Default value: FlexiblePolyline

Type: String

Valid Values: FlexiblePolyline | Simple

Required: No

SnapRadius

The radius around the provided tracepoint that is considered for snapping.

Unit: meters

Default value: 300

Type: Long

Valid Range: Minimum value of 0. Maximum value of 10000.

Required: No

TracePoints

List of trace points to be snapped onto the road network.

Type: Array of [RoadSnapTracePoint](#) objects

Array Members: Minimum number of 2 items. Maximum number of 5000 items.

Required: Yes

TravelMode

Specifies the mode of transport when calculating a route. Used in estimating the speed of travel and road compatibility.

Default value: Car

Type: String

Valid Values: Car | Pedestrian | Scooter | Truck

Required: No

TravelModeOptions

Travel mode related options for the provided travel mode.

Type: [RoadSnapTravelModeOptions](#) object

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json
```

```
{
  "Notices": [
    {
      "Code": "string",
      "Title": "string",
      "TracePointIndexes": [ number ]
    }
  ],
  "SnappedGeometry": {
    "LineString": [
      [ number ]
    ],
    "Polyline": "string"
  },
  "SnappedGeometryFormat": "string",
```

```
"SnappedTracePoints": [  
  {  
    "Confidence": number,  
    "OriginalPosition": [ number ],  
    "SnappedPosition": [ number ]  
  }  
]
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

The following data is returned in JSON format by the service.

Notices

Notices are additional information returned that indicate issues that occurred during route calculation.

Type: Array of [RoadSnapNotice](#) objects

SnappedGeometry

The interpolated geometry for the snapped route onto the road network.

Type: [RoadSnapSnappedGeometry](#) object

SnappedGeometryFormat

Specifies the format of the geometry returned for each leg of the route.

Type: String

Valid Values: FlexiblePolyline | Simple

SnappedTracePoints

The trace points snapped onto the road network.

Type: Array of [RoadSnapSnappedTracePoint](#) objects

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerError

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

The field where the invalid entry was detected.

Reason

A message with the reason for the validation exception error.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)

- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

Amazon Location Service Maps V2

The following actions are supported by Amazon Location Service Maps V2:

- [GetGlyphs](#)
- [GetSprites](#)
- [GetStaticMap](#)
- [GetStyleDescriptor](#)
- [GetTile](#)

GetGlyphs

Service: Amazon Location Service Maps V2

GetGlyphs returns the map's glyphs.

For more information, see [Style labels with glyphs](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
GET /glyphs/FontStack/FontUnicodeRange HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

FontStack

Name of the FontStack to retrieve.

Example: Amazon Ember Bold,Noto Sans Bold.

The supported font stacks are as follows:

- Amazon Ember Bold
- Amazon Ember Bold Italic
- Amazon Ember Bold,Noto Sans Bold
- Amazon Ember Bold,Noto Sans Bold,Noto Sans Arabic Bold
- Amazon Ember Condensed RC BdItalic
- Amazon Ember Condensed RC Bold
- Amazon Ember Condensed RC Bold Italic
- Amazon Ember Condensed RC Bold,Noto Sans Bold
- Amazon Ember Condensed RC Bold,Noto Sans Bold,Noto Sans Arabic Condensed Bold
- Amazon Ember Condensed RC Light
- Amazon Ember Condensed RC Light Italic
- Amazon Ember Condensed RC LtItalic
- Amazon Ember Condensed RC Regular
- Amazon Ember Condensed RC Regular Italic

- Amazon Ember Condensed RC Regular,Noto Sans Regular
- Amazon Ember Condensed RC Regular,Noto Sans Regular,Noto Sans Arabic Condensed Regular
- Amazon Ember Condensed RC RgItalic
- Amazon Ember Condensed RC ThItalic
- Amazon Ember Condensed RC Thin
- Amazon Ember Condensed RC Thin Italic
- Amazon Ember Heavy
- Amazon Ember Heavy Italic
- Amazon Ember Light
- Amazon Ember Light Italic
- Amazon Ember Medium
- Amazon Ember Medium Italic
- Amazon Ember Medium,Noto Sans Medium
- Amazon Ember Medium,Noto Sans Medium,Noto Sans Arabic Medium
- Amazon Ember Regular
- Amazon Ember Regular Italic
- Amazon Ember Regular Italic,Noto Sans Italic
- Amazon Ember Regular Italic,Noto Sans Italic,Noto Sans Arabic Regular
- Amazon Ember Regular,Noto Sans Regular
- Amazon Ember Regular,Noto Sans Regular,Noto Sans Arabic Regular
- Amazon Ember Thin
- Amazon Ember Thin Italic
- AmazonEmberCdRC_Bd
- AmazonEmberCdRC_BdIt
- AmazonEmberCdRC_Lt
- AmazonEmberCdRC_LtIt
- AmazonEmberCdRC_Rg
- AmazonEmberCdRC_RgIt
- AmazonEmberCdRC_Th
- AmazonEmberCdRC_ThIt

- AmazonEmber_Bd
- AmazonEmber_BdIt
- AmazonEmber_He
- AmazonEmber_Helt
- AmazonEmber_Lt
- AmazonEmber_LtIt
- AmazonEmber_Md
- AmazonEmber_MdIt
- AmazonEmber_Rg
- AmazonEmber_RgIt
- AmazonEmber_Th
- AmazonEmber_ThIt
- Noto Sans Black
- Noto Sans Black Italic
- Noto Sans Bold
- Noto Sans Bold Italic
- Noto Sans Extra Bold
- Noto Sans Extra Bold Italic
- Noto Sans Extra Light
- Noto Sans Extra Light Italic
- Noto Sans Italic
- Noto Sans Light
- Noto Sans Light Italic
- Noto Sans Medium
- Noto Sans Medium Italic
- Noto Sans Regular
- Noto Sans Semi Bold
- Noto Sans Semi Bold Italic
- Noto Sans Thin
- Noto Sans Thin Italic

- NotoSans-Bold
- NotoSans-Italic
- NotoSans-Medium
- NotoSans-Regular
- Open Sans Regular, Arial Unicode MS Regular

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: Yes

FontUnicodeRange

A Unicode range of characters to download glyphs for. This must be aligned to multiples of 256.

Example: 0-255.pbf

Length Constraints: Minimum length of 0. Maximum length of 50.

Pattern: [0-9]+-[0-9]+\..pbf

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-Type: ContentType
Cache-Control: CacheControl
ETag: ETag

Blob
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

CacheControl

Header that instructs caching configuration for the client.

ContentType

Header that represents the format of the response. The response returns the following as the HTTP body.

ETag

The glyph's Etag.

The response returns the following as the HTTP body.

Blob

The Glyph, as a binary blob.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

GetSprites

Service: Amazon Location Service Maps V2

GetSprites returns the map's sprites.

For more information, see [Style iconography with sprites](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
GET /styles/Style/ColorScheme/Variant/sprites/FileName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

ColorScheme

Sets color tone for map such as dark and light for specific map styles. It applies to only vector map styles such as Standard and Monochrome.

Example: Light

Default value: Light

Note

Valid values for ColorScheme are case sensitive.

Valid Values: Light | Dark

Required: Yes

FileName

Sprites API: The name of the sprite file to retrieve, following pattern `sprites(@2x)?\.(png|json)`.

Example: `sprites.png`

Pattern: `sprites(@2x)?\.(png|json)`

Required: Yes

Style

Style specifies the desired map style for the Sprites APIs.

Valid Values: Standard | Monochrome | Hybrid | Satellite

Required: Yes

Variant

Optimizes map styles for specific use case or industry. You can choose allowed variant only with Standard map style.

Example: Default

Note

Valid values for Variant are case sensitive.

Valid Values: Default

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-Type: ContentType
Cache-Control: CacheControl
ETag: ETag
```

Blob

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

CacheControl

Header that instructs caching configuration for the client.

ContentType

Header that represents the format of the response. The response returns the following as the HTTP body.

ETag

The sprite's Etag.

The response returns the following as the HTTP body.

Blob

The body of the sprite sheet or JSON offset file (image/png or application/json, depending on input).

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)

- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

GetStaticMap

Service: Amazon Location Service Maps V2

Note

This operation is not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

GetStaticMap provides high-quality static map images with customizable options. You can modify the map's appearance and overlay additional information. It's an ideal solution for applications requiring tailored static map snapshots.

For more information, see the following topics in the *Amazon Location Service Developer Guide*:

- [Static maps](#)
- [Customize static maps](#)
- [Overlay on the static map](#)

Request Syntax

```
GET /static/FileName?bounded-positions=BoundedPositions&bounding-  
box=BoundingBox&center=Center&color-scheme=ColorScheme&compact-  
overlay=CompactOverlay&crop-labels=CropLabels&geojson-  
overlay=GeoJsonOverlay&height=Height&key=Key&label-  
size=LabelSize&lang=Language&padding=Padding&pois=PointsOfInterests&political-  
view=PoliticalView&radius=Radius&scale-  
unit=ScaleBarUnit&style=Style&width=Width&zoom=Zoom HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[BoundedPositions](#)

Takes in two or more pair of coordinates in World Geodetic System (WGS 84) format: [longitude, latitude], with each coordinate separated by a comma. The API will generate an image to encompass all of the provided coordinates.

Note

Cannot be used with Zoom and or Radius

Example: 97.170451,78.039098,99.045536,27.176178

Length Constraints: Minimum length of 0. Maximum length of 5000.

Pattern: `(-?\d{1,3}(\.\d{1,14})?,-?\d{1,2}(\.\d{1,14})?)(,(-?\d{1,3}(\.\d{1,14})?,-?\d{1,2}(\.\d{1,14})?))*`

BoundingBox

Takes in two pairs of coordinates in World Geodetic System (WGS 84) format: [longitude, latitude], denoting south-westerly and north-easterly edges of the image. The underlying area becomes the view of the image.

Example: -123.17075,49.26959,-123.08125,49.31429

Length Constraints: Minimum length of 0. Maximum length of 100.

Pattern: `(-?\d{1,3}(\.\d{1,14})?,-?\d{1,2}(\.\d{1,14})?)(,(-?\d{1,3}(\.\d{1,14})?,-?\d{1,2}(\.\d{1,14})?))*`

Center

Takes in a pair of coordinates in World Geodetic System (WGS 84) format: [longitude, latitude], which becomes the center point of the image. This parameter requires that either zoom or radius is set.

Note

Cannot be used with Zoom and or Radius

Example: 49.295,-123.108

Length Constraints: Minimum length of 3. Maximum length of 36.

Pattern: `-?\d{1,3}(\.\d{1,14})?,-?\d{1,2}(\.\d{1,14})?`

ColorScheme

Sets color tone for map, such as dark and light for specific map styles. It only applies to vector map styles, such as Standard.

Example: Light

Default value: Light

Note

Valid values for ColorScheme are case sensitive.

Valid Values: Light | Dark

CompactOverlay

Takes in a string to draw geometries on the image. The input is a comma separated format as follows format: [Lon, Lat]

Example: line:-122.407653,37.798557,-122.413291,37.802443;color=%23DD0000;width=7;outline-color=#00DD00;outline-width=5yd|point:-122.40572,37.80004;label=Fog Hill Market;size=large;text-color=%23DD0000;color=#EE4B2B

Note

Currently it supports the following geometry types: point, line and polygon. It does not support multiPoint, multiLine and multiPolygon.

Length Constraints: Minimum length of 1. Maximum length of 5000.

CropLabels

It is a flag that takes in true or false. It prevents the labels that are on the edge of the image from being cut or obscured.

FileName

The map scaling parameter to size the image, icons, and labels. It follows the pattern of ^map(@2x)?\$.

Example: map, map@2x

Pattern: map(@2x)?

Required: Yes

GeoJsonOverlay

Takes in a string to draw geometries on the image. The input is a valid GeoJSON collection object.

```
Example: {"type": "FeatureCollection", "features":  
[{"type": "Feature", "geometry": {"type": "MultiPoint", "coordinates":  
[[-90.076345, 51.504107], [-0.074451, 51.506892]]}, "properties":  
{"color": "#00DD00"}]}]}
```

Length Constraints: Minimum length of 1. Maximum length of 4200.

Height

Specifies the height of the map image.

Valid Range: Minimum value of 64. Maximum value of 1400.

Required: Yes

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

LabelSize

Overrides the label size auto-calculated by `FileName`. Takes in one of the values - `Small` or `Large`.

Valid Values: `Small` | `Large`

Language

Specifies the language on the map labels using the BCP 47 language tag, limited to ISO 639-1 two-letter language codes. If the specified language data isn't available for the map image, the labels will default to the regional primary language.

Supported codes:

- ar
- as
- az
- be
- bg
- bn
- bs
- ca
- cs
- cy
- da
- de
- el
- en
- es
- et
- eu
- fi
- fo
- fr
- ga
- gl
- gn
- gu
- he
- hi
- hr
- hu
- hy

- `id`
- `is`
- `it`
- `ja`
- `ka`
- `kk`
- `km`
- `kn`
- `ko`
- `ky`
- `lt`
- `lv`
- `mk`
- `ml`
- `mr`
- `ms`
- `mt`
- `my`
- `nl`
- `no`
- `or`
- `pa`
- `pl`
- `pt`
- `ro`
- `ru`
- `sk`
- `sl`
- `sq`
- `sr`

- sv
- ta
- te
- th
- tr
- uk
- uz
- vi
- zh

Length Constraints: Minimum length of 2. Maximum length of 35.

Padding

Applies additional space (in pixels) around overlay feature to prevent them from being cut or obscured.

Note

Value for max and min is determined by:

Min: 1

Max: $\min(\text{height}, \text{width})/4$

Example: 100

Valid Range: Minimum value of 0. Maximum value of 350.

PointsOfInterests

Determines if the result image will display icons representing points of interest on the map.

Valid Values: Enabled | Disabled

PoliticalView

Specifies the political view, using ISO 3166-2 or ISO 3166-3 country code format.

The following political views are currently supported:

- ARG: Argentina's view on the Southern Patagonian Ice Field and Tierra Del Fuego, including the Falkland Islands, South Georgia, and South Sandwich Islands
- EGY: Egypt's view on Bir Tawil
- IND: India's view on Gilgit-Baltistan
- KEN: Kenya's view on the Ilemi Triangle
- MAR: Morocco's view on Western Sahara
- RUS: Russia's view on Crimea
- SDN: Sudan's view on the Halaib Triangle
- SRB: Serbia's view on Kosovo, Vukovar, and Sarengrad Islands
- SUR: Suriname's view on the Courantyne Headwaters and Lawa Headwaters
- SYR: Syria's view on the Golan Heights
- TUR: Turkey's view on Cyprus and Northern Cyprus
- TZA: Tanzania's view on Lake Malawi
- URY: Uruguay's view on Rincon de Artigas
- VNM: Vietnam's view on the Paracel Islands and Spratly Islands

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Radius

Used with center parameter, it specifies the zoom of the image where you can control it on a granular level. Takes in any value ≥ 1 .

Example: 1500

Note

Cannot be used with Zoom.

Unit: Meters

Valid Range: Minimum value of 0. Maximum value of 4294967295.

ScaleBarUnit

Displays a scale on the bottom right of the map image with the unit specified in the input.

Example: KilometersMiles, Miles, Kilometers, MilesKilometers

Valid Values: Kilometers | KilometersMiles | Miles | MilesKilometers

Style

Style specifies the desired map style.

Valid Values: Satellite | Standard

Width

Specifies the width of the map image.

Valid Range: Minimum value of 64. Maximum value of 1400.

Required: Yes

Zoom

Specifies the zoom level of the map image.

Note

Cannot be used with Radius.

Valid Range: Minimum value of 0. Maximum value of 20.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-Type: ContentType
Cache-Control: CacheControl
ETag: ETag
```

x-amz-geo-pricing-bucket: *PricingBucket*

Blob

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

CacheControl

Header that instructs caching configuration for the client.

ContentType

Header that represents the format of the response. The response returns the following as the HTTP body.

ETag

The static map's Etag.

PricingBucket

The pricing bucket for which the request is charged at.

The response returns the following as the HTTP body.

Blob

The blob represents a map image as a jpeg for the GetStaticMap API.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

The request was denied because of insufficient access or permissions. Check with an administrator to verify your permissions.

HTTP Status Code: 403

InternalServerErrorException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

A message with the reason for the validation exception error.

Reason

The field where the invalid entry was detected.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

GetStyleDescriptor

Service: Amazon Location Service Maps V2

GetStyleDescriptor returns information about the style.

For more information, see [Style dynamic maps](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
GET /styles/Style/descriptor?buildings=Buildings&color-  
scheme=ColorScheme&contour-density=ContourDensity&key=Key&political-  
view=PoliticalView&terrain=Terrain&traffic=Traffic&travel-modes=TravelModes HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

Buildings

Adjusts how building details are rendered on the map.

The following building styles are currently supported:

- **Buildings3D**: Displays buildings as three-dimensional extrusions on the map.

Buildings3D is valid only for the Standard and Monochrome map styles.

Valid Values: Buildings3D

ColorScheme

Sets color tone for map such as dark and light for specific map styles. It applies to only vector map styles such as Standard and Monochrome.

Example: Light

Default value: Light

Note

Valid values for ColorScheme are case sensitive.

Valid Values: Light | Dark

ContourDensity

Displays the shape and steepness of terrain features using elevation lines. The density value controls how densely the available contour line information is rendered on the map. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

This parameter is valid only for the Standard, Monochrome, and Hybrid map styles.

Valid Values: Medium

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

PoliticalView

Specifies the political view using ISO 3166-2 or ISO 3166-3 country code format. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

The following political views are currently supported:

- ARG: Argentina's view on the Southern Patagonian Ice Field and Tierra Del Fuego, including the Falkland Islands, South Georgia, and South Sandwich Islands
- EGY: Egypt's view on Bir Tawil
- IND: India's view on Gilgit-Baltistan
- KEN: Kenya's view on the Ilemi Triangle
- MAR: Morocco's view on Western Sahara
- RUS: Russia's view on Crimea
- SDN: Sudan's view on the Halaib Triangle
- SRB: Serbia's view on Kosovo, Vukovar, and Sarengrad Islands
- SUR: Suriname's view on the Courantyne Headwaters and Lawa Headwaters
- SYR: Syria's view on the Golan Heights
- TUR: Turkey's view on Cyprus and Northern Cyprus
- TZA: Tanzania's view on Lake Malawi

- URY: Uruguay's view on Rincon de Artigas
- VNM: Vietnam's view on the Paracel Islands and Spratly Islands

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Style

Style specifies the desired map style. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only the Standard and Monochrome values.

Valid Values: Standard | Monochrome | Hybrid | Satellite

Required: Yes

Terrain

Adjusts how physical terrain details are rendered on the map. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

The following terrain styles are currently supported:

- Hillshade: Displays the physical terrain details through shading and highlighting of elevation change and geographic features.
- Terrain3D: Displays physical terrain details and elevations as a three-dimensional model.

Hillshade is valid only for the Standard and Monochrome map styles.

Valid Values: Hillshade | Terrain3D

Traffic

Displays real-time traffic information overlay on map, such as incident events and flow events. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

This parameter is valid only for the Standard map style.

Valid Values: All

TravelModes

Renders additional map information relevant to selected travel modes. Information for multiple travel modes can be displayed simultaneously, although this increases the overall information

density rendered on the map. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

This parameter is valid only for the Standard map style.

Array Members: Minimum number of 0 items. Maximum number of 2 items.

Valid Values: Transit | Truck

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-Type: ContentType
Cache-Control: CacheControl
ETag: ETag
```

Blob

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

CacheControl

Header that instructs caching configuration for the client.

ContentType

Header that represents the format of the response. The response returns the following as the HTTP body.

ETag

The style descriptor's Etag.

The response returns the following as the HTTP body.

Blob

This Blob contains the body of the style descriptor which is in application/json format.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

GetTile

Service: Amazon Location Service Maps V2

GetTile returns a tile. Map tiles are used by clients to render a map. They're addressed using a grid arrangement with an X coordinate, Y coordinate, and Z (zoom) level.

For more information, see [Tiles](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
GET /tiles/Tileset/Z/X/Y?additional-features=AdditionalFeatures&key=Key HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

AdditionalFeatures

A list of optional additional parameters such as map styles that can be requested for each result. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Array Members: Minimum number of 0 items. Maximum number of 4 items.

Valid Values: ContourLines | Hillshade | Logistics | Transit

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Tileset

Specifies the desired tile set. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only the vector.basemap value.

Valid Values: raster.satellite | vector.basemap | vector.traffic | raster.dem

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\w]+`

Required: Yes

X

The X axis value for the map tile.

Length Constraints: Minimum length of 0. Maximum length of 7.

Pattern: `.*\d+.*`

Required: Yes

Y

The Y axis value for the map tile.

Length Constraints: Minimum length of 0. Maximum length of 7.

Pattern: `.*\d+.*`

Required: Yes

Z

The zoom value for the map tile.

Length Constraints: Minimum length of 0. Maximum length of 2.

Pattern: `.*\d+.*`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-Type: ContentType
Cache-Control: CacheControl
ETag: ETag
```

x-amz-geo-pricing-bucket: *PricingBucket*

Blob

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

CacheControl

Header that instructs caching configuration for the client.

ContentType

Header that represents the format of the response. The response returns the following as the HTTP body.

ETag

The pricing bucket for which the request is charged at.

PricingBucket

The pricing bucket for which the request is charged at.

The response returns the following as the HTTP body.

Blob

The blob represents a vector tile in mvt or a raster tile in an image format.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

The request was denied because of insufficient access or permissions. Check with an administrator to verify your permissions.

HTTP Status Code: 403

InternalServerErrorException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ResourceNotFoundException

Exception thrown when the associated resource could not be found.

HTTP Status Code: 404

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

A message with the reason for the validation exception error.

Reason

The field where the invalid entry was detected.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)

- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

Amazon Location Service Places V2

The following actions are supported by Amazon Location Service Places V2:

- [Autocomplete](#)
- [Geocode](#)
- [GetPlace](#)
- [ReverseGeocode](#)
- [SearchNearby](#)
- [SearchText](#)
- [Suggest](#)

Autocomplete

Service: Amazon Location Service Places V2

Autocomplete completes potential places and addresses as the user types, based on the partial input. The API enhances the efficiency and accuracy of address by completing query based on a few entered keystrokes. It helps you by completing partial queries with valid address completion. Also, the API supports the filtering of results based on geographic location, country, or specific place types, and can be tailored using optional parameters like language and political views.

For more information, see [Autocomplete](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /autocomplete?key=Key HTTP/1.1
Content-type: application/json

{
  "AdditionalFeatures": [ "string" ],
  "BiasPosition": [ number ],
  "Filter": {
    "BoundingBox": [ number ],
    "Circle": {
      "Center": [ number ],
      "Radius": number
    },
    "IncludeCountries": [ "string" ],
    "IncludePlaceTypes": [ "string" ]
  },
  "IntendedUse": "string",
  "Language": "string",
  "MaxResults": number,
  "PoliticalView": "string",
  "PostalCodeMode": "string",
  "QueryText": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

AdditionalFeatures

A list of optional additional parameters that can be requested for each result.

Type: Array of strings

Array Members: Fixed number of 1 item.

Valid Values: Core

Required: No

BiasPosition

The position in longitude and latitude that the results should be close to. Typically, place results returned are ranked higher the closer they are to this position. Stored in [lng, lat] and in the WGS 84 format.

Note

The fields `BiasPosition`, `FilterBoundingBox`, and `FilterCircle` are mutually exclusive.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

Filter

A structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Type: [AutocompleteFilter](#) object

Required: No

IntendedUse

Indicates if the query results will be persisted in customer infrastructure. Defaults to SingleUse (not stored). Currently, Autocomplete does not support storage of results.

Type: String

Valid Values: SingleUse

Required: No

Language

A list of [BCP 47](#) compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

MaxResults

An optional limit for the number of results returned in a single call.

Default value: 5

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 20.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country.

The following political views are currently supported:

- ARG: Argentina's view on the Southern Patagonian Ice Field and Tierra Del Fuego, including the Falkland Islands, South Georgia, and South Sandwich Islands
- EGY: Egypt's view on Bir Tawil
- IND: India's view on Gilgit-Baltistan
- KEN: Kenya's view on the Ilemi Triangle
- MAR: Morocco's view on Western Sahara
- RUS: Russia's view on Crimea
- SDN: Sudan's view on the Halaib Triangle
- SRB: Serbia's view on Kosovo, Vukovar, and Sarengrad Islands
- SUR: Suriname's view on the Courantyne Headwaters and Lawa Headwaters
- SYR: Syria's view on the Golan Heights
- TUR: Turkey's view on Cyprus and Northern Cyprus
- TZA: Tanzania's view on Lake Malawi
- URY: Uruguay's view on Rincon de Artigas
- VNM: Vietnam's view on the Paracel Islands and Spratly Islands

Type: String

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: No

PostalCodeMode

The `PostalCodeMode` affects how postal code results are returned. If a postal code spans multiple localities and this value is empty, partial district or locality information may be returned under a single postal code result entry. If it's populated with the value `EnumerateSpannedLocalities`, all cities in that postal code are returned.

Type: String

Valid Values: `MergeAllSpannedLocalities` | `EnumerateSpannedLocalities`

Required: No

QueryText

The free-form text query to match addresses against. This is usually a partially typed address from an end user in an address box or form.

Note

The fields `QueryText`, and `QueryID` are mutually exclusive.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Required: Yes

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
  "ResultItems": [
    {
      "Address": {
        "AddressNumber": "string",
        "Block": "string",
        "Building": "string",
        "Country": {
          "Code2": "string",
          "Code3": "string",
          "Name": "string"
        },
        "District": "string",
        "Intersection": [ "string" ],
        "Label": "string",
```

```
"Locality": "string",
"PostalCode": "string",
"Region": {
  "Code": "string",
  "Name": "string"
},
"SecondaryAddressComponents": [
  {
    "Designator": "string",
    "Number": "string"
  }
],
"Street": "string",
"StreetComponents": [
  {
    "BaseName": "string",
    "Direction": "string",
    "Language": "string",
    "Prefix": "string",
    "Suffix": "string",
    "Type": "string",
    "TypePlacement": "string",
    "TypeSeparator": "string"
  }
],
"SubBlock": "string",
"SubDistrict": "string",
"SubRegion": {
  "Code": "string",
  "Name": "string"
}
},
"Distance": number,
"Highlights": {
  "Address": {
    "AddressNumber": [
      {
        "EndIndex": number,
        "StartIndex": number,
        "Value": "string"
      }
    ],
  },
  "Block": [
    {
```

```
        "EndIndex": number,
        "StartIndex": number,
        "Value": "string"
    }
],
"Building": [
    {
        "EndIndex": number,
        "StartIndex": number,
        "Value": "string"
    }
],
"Country": {
    "Code": [
        {
            "EndIndex": number,
            "StartIndex": number,
            "Value": "string"
        }
    ],
    "Name": [
        {
            "EndIndex": number,
            "StartIndex": number,
            "Value": "string"
        }
    ]
},
"District": [
    {
        "EndIndex": number,
        "StartIndex": number,
        "Value": "string"
    }
],
"Intersection": [
    [
        {
            "EndIndex": number,
            "StartIndex": number,
            "Value": "string"
        }
    ]
],
```

```
"Label": [  
  {  
    "EndIndex": number,  
    "StartIndex": number,  
    "Value": "string"  
  }  
],  
"Locality": [  
  {  
    "EndIndex": number,  
    "StartIndex": number,  
    "Value": "string"  
  }  
],  
"PostalCode": [  
  {  
    "EndIndex": number,  
    "StartIndex": number,  
    "Value": "string"  
  }  
],  
"Region": {  
  "Code": [  
    {  
      "EndIndex": number,  
      "StartIndex": number,  
      "Value": "string"  
    }  
  ],  
  "Name": [  
    {  
      "EndIndex": number,  
      "StartIndex": number,  
      "Value": "string"  
    }  
  ]  
},  
"Street": [  
  {  
    "EndIndex": number,  
    "StartIndex": number,  
    "Value": "string"  
  }  
],
```



```
    "SubBlock": [  
      {  
        "EndIndex": number,  
        "StartIndex": number,  
        "Value": "string"  
      }  
    ],  
    "SubDistrict": [  
      {  
        "EndIndex": number,  
        "StartIndex": number,  
        "Value": "string"  
      }  
    ],  
    "SubRegion": {  
      "Code": [  
        {  
          "EndIndex": number,  
          "StartIndex": number,  
          "Value": "string"  
        }  
      ],  
      "Name": [  
        {  
          "EndIndex": number,  
          "StartIndex": number,  
          "Value": "string"  
        }  
      ]  
    }  
  },  
  "Title": [  
    {  
      "EndIndex": number,  
      "StartIndex": number,  
      "Value": "string"  
    }  
  ]  
},  
"Language": "string",  
"PlaceId": "string",  
"PlaceType": "string",  
"PoliticalView": "string",  
"Title": "string"
```

```
}  
]  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

For more information on pricing, please visit [Amazon Location Service Pricing](#).

The following data is returned in JSON format by the service.

ResultItems

List of places or results returned for a query.

Type: Array of [AutocompleteResultItem](#) objects

Array Members: Minimum number of 0 items. Maximum number of 20 items.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerError

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

Geocode

Service: Amazon Location Service Places V2

Geocode converts a textual address or place into geographic coordinates. You can obtain geographic coordinates, address component, and other related information. It supports flexible queries, including free-form text or structured queries with components like street names, postal codes, and regions. The Geocode API can also provide additional features such as time zone information and the inclusion of political views.

For more information, see [Geocode](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /geocode?key=Key HTTP/1.1
Content-type: application/json

{
  "AdditionalFeatures": [ "string" ],
  "BiasPosition": [ number ],
  "Filter": {
    "IncludeCountries": [ "string" ],
    "IncludePlaceTypes": [ "string" ]
  },
  "IntendedUse": "string",
  "Language": "string",
  "MaxResults": number,
  "PoliticalView": "string",
  "QueryComponents": {
    "AddressNumber": "string",
    "Country": "string",
    "District": "string",
    "Locality": "string",
    "PostalCode": "string",
    "Region": "string",
    "Street": "string",
    "SubRegion": "string"
  },
  "QueryText": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

AdditionalFeatures

A list of optional additional parameters, such as time zone, that can be requested for each result.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 4 items.

Valid Values: TimeZone | Access | SecondaryAddresses | Intersections

Required: No

BiasPosition

The position, in longitude and latitude, that the results should be close to. Typically, place results returned are ranked higher the closer they are to this position. Stored in [lng, lat] and in the WGS 84 format.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

Filter

A structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Type: [GeocodeFilter](#) object

Required: No

[IntendedUse](#)

Indicates if the query results will be persisted in customer infrastructure. Defaults to SingleUse (not stored). Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Note

When storing Geocode responses, you *must* set this field to Storage to comply with the terms of service. These requests will be charged at a higher rate. Please review the [user agreement](#) and [service pricing structure](#) to determine the correct setting for your use case.

Type: String

Valid Values: SingleUse | Storage

Required: No

[Language](#)

A list of [BCP 47](#) compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

[MaxResults](#)

An optional limit for the number of results returned in a single call.

Default value: 20

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: No

QueryComponents

A structured free text query allows you to search for places by the name or text representation of specific properties of the place.

Type: [GeocodeQueryComponents](#) object

Required: No

QueryText

The free-form text query to match addresses against. This is usually a partially typed address from an end user in an address box or form.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
  "ResultItems": [
    {
```

```
"AccessPoints": [
  {
    "Position": [ number ]
  }
],
"Address": {
  "AddressNumber": "string",
  "Block": "string",
  "Building": "string",
  "Country": {
    "Code2": "string",
    "Code3": "string",
    "Name": "string"
  },
  "District": "string",
  "Intersection": [ "string" ],
  "Label": "string",
  "Locality": "string",
  "PostalCode": "string",
  "Region": {
    "Code": "string",
    "Name": "string"
  },
  "SecondaryAddressComponents": [
    {
      "Designator": "string",
      "Number": "string"
    }
  ],
  "Street": "string",
  "StreetComponents": [
    {
      "BaseName": "string",
      "Direction": "string",
      "Language": "string",
      "Prefix": "string",
      "Suffix": "string",
      "Type": "string",
      "TypePlacement": "string",
      "TypeSeparator": "string"
    }
  ],
  "SubBlock": "string",
  "SubDistrict": "string",
```



```
    "SubRegion": {
      "Code": "string",
      "Name": "string"
    }
  },
  "AddressNumberCorrected": boolean,
  "Categories": [
    {
      "Id": "string",
      "LocalizedName": "string",
      "Name": "string",
      "Primary": boolean
    }
  ],
  "Distance": number,
  "FoodTypes": [
    {
      "Id": "string",
      "LocalizedName": "string",
      "Primary": boolean
    }
  ],
  "Intersections": [
    {
      "AccessPoints": [
        {
          "Position": [ number ]
        }
      ],
      "Address": {
        "AddressNumber": "string",
        "Block": "string",
        "Building": "string",
        "Country": {
          "Code2": "string",
          "Code3": "string",
          "Name": "string"
        },
        "District": "string",
        "Intersection": [ "string" ],
        "Label": "string",
        "Locality": "string",
        "PostalCode": "string",
        "Region": {
```

```
        "Code": "string",
        "Name": "string"
    },
    "SecondaryAddressComponents": [
        {
            "Designator": "string",
            "Number": "string"
        }
    ],
    "Street": "string",
    "StreetComponents": [
        {
            "BaseName": "string",
            "Direction": "string",
            "Language": "string",
            "Prefix": "string",
            "Suffix": "string",
            "Type": "string",
            "TypePlacement": "string",
            "TypeSeparator": "string"
        }
    ],
    "SubBlock": "string",
    "SubDistrict": "string",
    "SubRegion": {
        "Code": "string",
        "Name": "string"
    }
},
"Distance": number,
"MapView": [ number ],
"PlaceId": "string",
"Position": [ number ],
"RouteDistance": number,
"Title": "string"
}
],
"MainAddress": {
    "AccessPoints": [
        {
            "Position": [ number ]
        }
    ],
    "Address": {
```

```
"AddressNumber": "string",
"Block": "string",
"Building": "string",
"Country": {
  "Code2": "string",
  "Code3": "string",
  "Name": "string"
},
"District": "string",
"Intersection": [ "string" ],
"Label": "string",
"Locality": "string",
"PostalCode": "string",
"Region": {
  "Code": "string",
  "Name": "string"
},
"SecondaryAddressComponents": [
  {
    "Designator": "string",
    "Number": "string"
  }
],
"Street": "string",
"StreetComponents": [
  {
    "BaseName": "string",
    "Direction": "string",
    "Language": "string",
    "Prefix": "string",
    "Suffix": "string",
    "Type": "string",
    "TypePlacement": "string",
    "TypeSeparator": "string"
  }
],
"SubBlock": "string",
"SubDistrict": "string",
"SubRegion": {
  "Code": "string",
  "Name": "string"
}
},
"PlaceId": "string",
```

```

    "PlaceType": "string",
    "Position": [ number ],
    "Title": "string"
  },
  "MapView": [ number ],
  "MatchScores": {
    "Components": {
      "Address": {
        "AddressNumber": number,
        "Block": number,
        "Building": number,
        "Country": number,
        "District": number,
        "Intersection": [ number ],
        "Locality": number,
        "PostalCode": number,
        "Region": number,
        "SecondaryAddressComponents": [
          {
            "Number": number
          }
        ],
        "SubBlock": number,
        "SubDistrict": number,
        "SubRegion": number
      },
      "Title": number
    },
    "Overall": number
  },
  "ParsedQuery": {
    "Address": {
      "AddressNumber": [
        {
          "EndIndex": number,
          "QueryComponent": "string",
          "StartIndex": number,
          "Value": "string"
        }
      ],
      "Block": [
        {
          "EndIndex": number,
          "QueryComponent": "string",

```

```
        "StartIndex": number,
        "Value": "string"
    }
],
"Building": [
    {
        "EndIndex": number,
        "QueryComponent": "string",
        "StartIndex": number,
        "Value": "string"
    }
],
"Country": [
    {
        "EndIndex": number,
        "QueryComponent": "string",
        "StartIndex": number,
        "Value": "string"
    }
],
"District": [
    {
        "EndIndex": number,
        "QueryComponent": "string",
        "StartIndex": number,
        "Value": "string"
    }
],
"Locality": [
    {
        "EndIndex": number,
        "QueryComponent": "string",
        "StartIndex": number,
        "Value": "string"
    }
],
"PostalCode": [
    {
        "EndIndex": number,
        "QueryComponent": "string",
        "StartIndex": number,
        "Value": "string"
    }
],
```

```
"Region": [  
  {  
    "EndIndex": number,  
    "QueryComponent": "string",  
    "StartIndex": number,  
    "Value": "string"  
  }  
],  
"SecondaryAddressComponents": [  
  {  
    "Designator": "string",  
    "EndIndex": number,  
    "Number": "string",  
    "StartIndex": number,  
    "Value": "string"  
  }  
],  
"Street": [  
  {  
    "EndIndex": number,  
    "QueryComponent": "string",  
    "StartIndex": number,  
    "Value": "string"  
  }  
],  
"SubBlock": [  
  {  
    "EndIndex": number,  
    "QueryComponent": "string",  
    "StartIndex": number,  
    "Value": "string"  
  }  
],  
"SubDistrict": [  
  {  
    "EndIndex": number,  
    "QueryComponent": "string",  
    "StartIndex": number,  
    "Value": "string"  
  }  
],  
"SubRegion": [  
  {  
    "EndIndex": number,
```

```

        "QueryComponent": "string",
        "StartIndex": number,
        "Value": "string"
    }
]
},
"Title": [
    {
        "EndIndex": number,
        "QueryComponent": "string",
        "StartIndex": number,
        "Value": "string"
    }
]
},
"PlaceId": "string",
"PlaceType": "string",
"PoliticalView": "string",
"Position": [ number ],
"PostalCodeDetails": [
    {
        "PostalAuthority": "string",
        "PostalCode": "string",
        "PostalCodeType": "string",
        "UspsZip": {
            "ZipClassificationCode": "string"
        },
        "UspsZipPlus4": {
            "RecordTypeCode": "string"
        }
    }
],
"SecondaryAddresses": [
    {
        "AccessPoints": [
            {
                "Position": [ number ]
            }
        ],
        "Address": {
            "AddressNumber": "string",
            "Block": "string",
            "Building": "string",
            "Country": {

```

```
        "Code2": "string",
        "Code3": "string",
        "Name": "string"
    },
    "District": "string",
    "Intersection": [ "string" ],
    "Label": "string",
    "Locality": "string",
    "PostalCode": "string",
    "Region": {
        "Code": "string",
        "Name": "string"
    },
    "SecondaryAddressComponents": [
        {
            "Designator": "string",
            "Number": "string"
        }
    ],
    "Street": "string",
    "StreetComponents": [
        {
            "BaseName": "string",
            "Direction": "string",
            "Language": "string",
            "Prefix": "string",
            "Suffix": "string",
            "Type": "string",
            "TypePlacement": "string",
            "TypeSeparator": "string"
        }
    ],
    "SubBlock": "string",
    "SubDistrict": "string",
    "SubRegion": {
        "Code": "string",
        "Name": "string"
    }
},
"PlaceId": "string",
"PlaceType": "string",
"Position": [ number ],
"Title": "string"
}
```



```
    ],
    "TimeZone": {
      "Name": "string",
      "Offset": "string",
      "OffsetSeconds": number
    },
    "Title": "string"
  }
]
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at, or the maximum pricing bucket when the query is charged per item within the query.

For more information on pricing, please visit [Amazon Location Service Pricing](#).

The following data is returned in JSON format by the service.

ResultItems

List of places or results returned for a query.

Type: Array of [GeocodeResultItem](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerErrorException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)

- [AWS SDK for Ruby V3](#)

GetPlace

Service: Amazon Location Service Places V2

GetPlace finds a place by its unique ID. A PlaceId is returned by other place operations.

For more information, see [GetPlace](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
GET /place/PlaceId?additional-features=AdditionalFeatures&intended-  
use=IntendedUse&key=Key&language=Language&political-view=PoliticalView HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

AdditionalFeatures

A list of optional additional parameters such as time zone that can be requested for each result. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only the TimeZone value.

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Valid Values: TimeZone | Phonemes | Access | Contact | SecondaryAddresses

IntendedUse

Indicates if the query results will be persisted in customer infrastructure. Defaults to SingleUse (not stored). Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Note

When storing GetPlace responses, you *must* set this field to Storage to comply with the terms of service. These requests will be charged at a higher rate. Please review the [user agreement](#) and [service pricing structure](#) to determine the correct setting for your use case.

Valid Values: SingleUse | Storage

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Language

A list of [BCP 47](#) compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only the following codes: en, id, km, lo, ms, my, pt, th, tl, vi, zh

Length Constraints: Minimum length of 2. Maximum length of 35.

PlaceId

The PlaceId of the place you wish to receive the information for.

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2}|[A-Z]{3})

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json
```

```
{
  "AccessPoints": [
    {
      "Position": [ number ]
    }
  ],
  "AccessRestrictions": [
    {
      "Categories": [
        {
          "Id": "string",
          "LocalizedName": "string",
          "Name": "string",
          "Primary": boolean
        }
      ],
      "Restricted": boolean
    }
  ],
  "Address": {
    "AddressNumber": "string",
    "Block": "string",
    "Building": "string",
    "Country": {
      "Code2": "string",
      "Code3": "string",
      "Name": "string"
    },
    "District": "string",
    "Intersection": [ "string" ],
    "Label": "string",
    "Locality": "string",
    "PostalCode": "string",
    "Region": {
      "Code": "string",
      "Name": "string"
    },
    "SecondaryAddressComponents": [
      {
        "Designator": "string",
        "Number": "string"
      }
    ],
    "Street": "string",
```

```
"StreetComponents": [  
  {  
    "BaseName": "string",  
    "Direction": "string",  
    "Language": "string",  
    "Prefix": "string",  
    "Suffix": "string",  
    "Type": "string",  
    "TypePlacement": "string",  
    "TypeSeparator": "string"  
  }  
],  
"SubBlock": "string",  
"SubDistrict": "string",  
"SubRegion": {  
  "Code": "string",  
  "Name": "string"  
}  
},  
"AddressNumberCorrected": boolean,  
"BusinessChains": [  
  {  
    "Id": "string",  
    "Name": "string"  
  }  
],  
"Categories": [  
  {  
    "Id": "string",  
    "LocalizedName": "string",  
    "Name": "string",  
    "Primary": boolean  
  }  
],  
"Contacts": {  
  "Emails": [  
    {  
      "Categories": [  
        {  
          "Id": "string",  
          "LocalizedName": "string",  
          "Name": "string",  
          "Primary": boolean  
        }  
      ]  
    }  
  ]  
}
```

```
    ],
    "Label": "string",
    "Value": "string"
  }
],
"Faxes": [
  {
    "Categories": [
      {
        "Id": "string",
        "LocalizedName": "string",
        "Name": "string",
        "Primary": boolean
      }
    ],
    "Label": "string",
    "Value": "string"
  }
],
"Phones": [
  {
    "Categories": [
      {
        "Id": "string",
        "LocalizedName": "string",
        "Name": "string",
        "Primary": boolean
      }
    ],
    "Label": "string",
    "Value": "string"
  }
],
"Websites": [
  {
    "Categories": [
      {
        "Id": "string",
        "LocalizedName": "string",
        "Name": "string",
        "Primary": boolean
      }
    ],
    "Label": "string",
```



```

        "Value": "string"
    }
]
},
"FoodTypes": [
{
    "Id": "string",
    "LocalizedName": "string",
    "Primary": boolean
}
],
"MainAddress": {
    "AccessPoints": [
        {
            "Position": [ number ]
        }
    ],
    "Address": {
        "AddressNumber": "string",
        "Block": "string",
        "Building": "string",
        "Country": {
            "Code2": "string",
            "Code3": "string",
            "Name": "string"
        },
        "District": "string",
        "Intersection": [ "string" ],
        "Label": "string",
        "Locality": "string",
        "PostalCode": "string",
        "Region": {
            "Code": "string",
            "Name": "string"
        },
        "SecondaryAddressComponents": [
            {
                "Designator": "string",
                "Number": "string"
            }
        ],
        "Street": "string",
        "StreetComponents": [
            {

```

```

        "BaseName": "string",
        "Direction": "string",
        "Language": "string",
        "Prefix": "string",
        "Suffix": "string",
        "Type": "string",
        "TypePlacement": "string",
        "TypeSeparator": "string"
    }
],
"SubBlock": "string",
"SubDistrict": "string",
"SubRegion": {
    "Code": "string",
    "Name": "string"
}
},
"PlaceId": "string",
"PlaceType": "string",
"Position": [ number ],
"Title": "string"
},
"MapView": [ number ],
"OpeningHours": [
    {
        "Categories": [
            {
                "Id": "string",
                "LocalizedName": "string",
                "Name": "string",
                "Primary": boolean
            }
        ],
        "Components": [
            {
                "OpenDuration": "string",
                "OpenTime": "string",
                "Recurrence": "string"
            }
        ],
        "Display": [ "string" ],
        "OpenNow": boolean
    }
],

```

```
"Phonemes": {
  "Address": {
    "Block": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ],
    "Country": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ],
    "District": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ],
    "Locality": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ],
    "Region": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ],
    "Street": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ]
  },
}
```

```
    "SubBlock": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ],
    "SubDistrict": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ],
    "SubRegion": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ]
  },
  "Title": [
    {
      "Language": "string",
      "Preferred": boolean,
      "Value": "string"
    }
  ]
},
"PlaceId": "string",
"PlaceType": "string",
"PoliticalView": "string",
"Position": [ number ],
"PostalCodeDetails": [
  {
    "PostalAuthority": "string",
    "PostalCode": "string",
    "PostalCodeType": "string",
    "UspsZip": {
      "ZipClassificationCode": "string"
    },
    "UspsZipPlus4": {
      "RecordTypeCode": "string"
    }
  }
]
```

```

    }
  }
],
"SecondaryAddresses": [
  {
    "AccessPoints": [
      {
        "Position": [ number ]
      }
    ],
    "Address": {
      "AddressNumber": "string",
      "Block": "string",
      "Building": "string",
      "Country": {
        "Code2": "string",
        "Code3": "string",
        "Name": "string"
      },
      "District": "string",
      "Intersection": [ "string" ],
      "Label": "string",
      "Locality": "string",
      "PostalCode": "string",
      "Region": {
        "Code": "string",
        "Name": "string"
      },
    },
    "SecondaryAddressComponents": [
      {
        "Designator": "string",
        "Number": "string"
      }
    ],
    "Street": "string",
    "StreetComponents": [
      {
        "BaseName": "string",
        "Direction": "string",
        "Language": "string",
        "Prefix": "string",
        "Suffix": "string",
        "Type": "string",
        "TypePlacement": "string",

```

```
        "TypeSeparator": "string"
      },
    ],
    "SubBlock": "string",
    "SubDistrict": "string",
    "SubRegion": {
      "Code": "string",
      "Name": "string"
    },
  },
  "PlaceId": "string",
  "PlaceType": "string",
  "Position": [ number ],
  "Title": "string"
}
],
"TimeZone": {
  "Name": "string",
  "Offset": "string",
  "OffsetSeconds": number
},
"Title": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

For more information on pricing, please visit [Amazon Location Service Pricing](#).

The following data is returned in JSON format by the service.

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude].

Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [AccessPoint](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

[AccessRestrictions](#)

Indicates known access restrictions on a vehicle access point. The index correlates to an access point and indicates if access through this point has some form of restriction. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [AccessRestriction](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

[Address](#)

The place's address.

Type: [Address](#) object

[AddressNumberCorrected](#)

Boolean indicating if the address provided has been corrected. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Boolean

[BusinessChains](#)

The Business Chains associated with the place.

Type: Array of [BusinessChain](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

[Categories](#)

Categories of results that results must belong to.

Type: Array of [Category](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

[Contacts](#)

List of potential contact methods for the result/place. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [Contacts](#) object

[FoodTypes](#)

List of food types offered by this result. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [FoodType](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

[MainAddress](#)

The main address corresponding to a place of type Secondary Address. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RelatedPlace](#) object

[MapView](#)

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set of four coordinates: [{westward lng}, {southern lat}, {eastward lng}, {northern lat}]

Type: Array of doubles

Array Members: Fixed number of 4 items.

[OpeningHours](#)

List of opening hours objects. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [OpeningHours](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

[Phonemes](#)

How the various components of the result's address are pronounced in various languages. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [PhonemeDetails](#) object

PlaceId

The PlaceId of the place you wish to receive the information for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

PlaceType

A PlaceType is a category that the result place must belong to.

Type: String

Valid Values: Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: String

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

PostalCodeDetails

Contains details about the postal code of the place/result. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [PostalCodeDetails](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

[SecondaryAddresses](#)

All secondary addresses that are associated with a main address. A secondary address is one that includes secondary designators, such as a Suite or Unit Number, Building, or Floor information. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Note

Coverage for this functionality is available in the following countries: AUS, CAN, NZL, USA, PRI.

Type: Array of [RelatedPlace](#) objects

Array Members: Minimum number of 1 item.

[TimeZone](#)

The time zone in which the place is located.

Type: [TimeZone](#) object

[Title](#)

The localized display name of this result item based on request parameter language.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerErrorException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)

- [AWS SDK for Ruby V3](#)

ReverseGeocode

Service: Amazon Location Service Places V2

ReverseGeocode converts geographic coordinates into a human-readable address or place. You can obtain address component, and other related information such as place type, category, street information. The Reverse Geocode API supports filtering to on place type so that you can refine result based on your need. Also, The Reverse Geocode API can also provide additional features such as time zone information and the inclusion of political views.

For more information, see [Reverse Geocode](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /reverse-geocode?key=Key HTTP/1.1
Content-type: application/json

{
  "AdditionalFeatures": [ "string" ],
  "Filter": {
    "IncludePlaceTypes": [ "string" ]
  },
  "Heading": number,
  "IntendedUse": "string",
  "Language": "string",
  "MaxResults": number,
  "PoliticalView": "string",
  "QueryPosition": [ number ],
  "QueryRadius": number
}
```

URI Request Parameters

The request uses the following URI parameters.

[Key](#)

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

AdditionalFeatures

A list of optional additional parameters, such as time zone that can be requested for each result. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only the TimeZone value.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 3 items.

Valid Values: TimeZone | Access | Intersections

Required: No

Filter

A structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Type: [ReverseGeocodeFilter](#) object

Required: No

Heading

The heading in degrees from true north in a navigation context. The heading is measured as the angle clockwise from the North direction.

Example: North is 0 degrees, East is 90 degrees, South is 180 degrees, and West is 270 degrees.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

IntendedUse

Indicates if the query results will be persisted in customer infrastructure. Defaults to SingleUse (not stored).

Note

When storing ReverseGeocode responses, you *must* set this field to Storage to comply with the terms of service. These requests will be charged at a higher rate. Please review the [user agreement](#) and [service pricing structure](#) to determine the correct setting for your use case.

Type: String

Valid Values: SingleUse | Storage

Required: No

Language

A list of [BCP 47](#) compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only the following codes: en, id, km, lo, ms, my, pt, th, tl, vi, zh

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

MaxResults

An optional limit for the number of results returned in a single call.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: No

QueryPosition

The position in World Geodetic System (WGS 84) format: [longitude, latitude] for which you are querying nearby results for. Results closer to the position will be ranked higher than results further away from the position

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

QueryRadius

The maximum distance in meters from the QueryPosition from which a result will be returned. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only up to a maximum value of 100,000.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 21000000.

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json
```

```
{
  "ResultItems": [
    {
      "AccessPoints": [
        {
          "Position": [ number ]
        }
      ]
    }
  ]
}
```



```
],
  "Address": {
    "AddressNumber": "string",
    "Block": "string",
    "Building": "string",
    "Country": {
      "Code2": "string",
      "Code3": "string",
      "Name": "string"
    },
    "District": "string",
    "Intersection": [ "string" ],
    "Label": "string",
    "Locality": "string",
    "PostalCode": "string",
    "Region": {
      "Code": "string",
      "Name": "string"
    },
    "SecondaryAddressComponents": [
      {
        "Designator": "string",
        "Number": "string"
      }
    ],
    "Street": "string",
    "StreetComponents": [
      {
        "BaseName": "string",
        "Direction": "string",
        "Language": "string",
        "Prefix": "string",
        "Suffix": "string",
        "Type": "string",
        "TypePlacement": "string",
        "TypeSeparator": "string"
      }
    ],
    "SubBlock": "string",
    "SubDistrict": "string",
    "SubRegion": {
      "Code": "string",
      "Name": "string"
    }
  }
}
```

```
},
"AddressNumberCorrected": boolean,
"Categories": [
  {
    "Id": "string",
    "LocalizedName": "string",
    "Name": "string",
    "Primary": boolean
  }
],
"Distance": number,
"FoodTypes": [
  {
    "Id": "string",
    "LocalizedName": "string",
    "Primary": boolean
  }
],
"Intersections": [
  {
    "AccessPoints": [
      {
        "Position": [ number ]
      }
    ],
    "Address": {
      "AddressNumber": "string",
      "Block": "string",
      "Building": "string",
      "Country": {
        "Code2": "string",
        "Code3": "string",
        "Name": "string"
      },
      "District": "string",
      "Intersection": [ "string" ],
      "Label": "string",
      "Locality": "string",
      "PostalCode": "string",
      "Region": {
        "Code": "string",
        "Name": "string"
      },
      "SecondaryAddressComponents": [
```

```

        {
            "Designator": "string",
            "Number": "string"
        }
    ],
    "Street": "string",
    "StreetComponents": [
        {
            "BaseName": "string",
            "Direction": "string",
            "Language": "string",
            "Prefix": "string",
            "Suffix": "string",
            "Type": "string",
            "TypePlacement": "string",
            "TypeSeparator": "string"
        }
    ],
    "SubBlock": "string",
    "SubDistrict": "string",
    "SubRegion": {
        "Code": "string",
        "Name": "string"
    }
},
"Distance": number,
"MapView": [ number ],
"PlaceId": "string",
"Position": [ number ],
"RouteDistance": number,
"Title": "string"
}
],
"MapView": [ number ],
"PlaceId": "string",
"PlaceType": "string",
"PoliticalView": "string",
"Position": [ number ],
"PostalCodeDetails": [
    {
        "PostalAuthority": "string",
        "PostalCode": "string",
        "PostalCodeType": "string",
        "UspsZip": {

```

```
        "ZipClassificationCode": "string"
      },
      "UspsZipPlus4": {
        "RecordTypeCode": "string"
      }
    }
  ],
  "TimeZone": {
    "Name": "string",
    "Offset": "string",
    "OffsetSeconds": number
  },
  "Title": "string"
}
]
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

For more information on pricing, please visit [Amazon Location Service Pricing](#).

The following data is returned in JSON format by the service.

ResultItems

List of places or results returned for a query.

Type: Array of [ReverseGeocodeResultItem](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerError

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)

- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

SearchNearby

Service: Amazon Location Service Places V2

SearchNearby queries for points of interest within a radius from a central coordinates, returning place results with optional filters such as categories, business chains, food types and more. The API returns details such as a place name, address, phone, category, food type, contact, opening hours. Also, the API can return phonemes, time zones and more based on requested parameters.

For more information, see [Search Nearby](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /search-nearby?key=Key HTTP/1.1
Content-type: application/json

{
  "AdditionalFeatures": [ "string" ],
  "Filter": {
    "BoundingBox": [ number ],
    "ExcludeBusinessChains": [ "string" ],
    "ExcludeCategories": [ "string" ],
    "ExcludeFoodTypes": [ "string" ],
    "IncludeBusinessChains": [ "string" ],
    "IncludeCategories": [ "string" ],
    "IncludeCountries": [ "string" ],
    "IncludeFoodTypes": [ "string" ]
  },
  "IntendedUse": "string",
  "Language": "string",
  "MaxResults": number,
  "NextToken": "string",
  "PoliticalView": "string",
  "QueryPosition": [ number ],
  "QueryRadius": number
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

AdditionalFeatures

A list of optional additional parameters, such as time zone, that can be requested for each result.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 4 items.

Valid Values: TimeZone | Phonemes | Access | Contact

Required: No

Filter

A structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Type: [SearchNearbyFilter](#) object

Required: No

IntendedUse

Indicates if the query results will be persisted in customer infrastructure. Defaults to SingleUse (not stored). Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Note

When storing SearchNearby responses, you *must* set this field to Storage to comply with the terms of service. These requests will be charged at a higher rate. Please review

the [user agreement](#) and [service pricing structure](#) to determine the correct setting for your use case.

Type: String

Valid Values: SingleUse | Storage

Required: No

Language

A list of [BCP 47](#) compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

MaxResults

An optional limit for the number of results returned in a single call.

Default value: 20

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

If nextToken is returned, there are more results available. The value of nextToken is a unique pagination token for each page.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: No

QueryPosition

The position in World Geodetic System (WGS 84) format: [longitude, latitude] for which you are querying nearby results for. Results closer to the position will be ranked higher than results further away from the position

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

QueryRadius

The maximum distance in meters from the QueryPosition from which a result will be returned.

Note

The fields QueryText, and QueryID are mutually exclusive.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 21000000.

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
  "NextToken": "string",
  "ResultItems": [
    {
      "AccessPoints": [
        {
          "Position": [ number ]
        }
      ],
      "AccessRestrictions": [
        {
          "Categories": [
            {
              "Id": "string",
              "LocalizedName": "string",
              "Name": "string",
              "Primary": boolean
            }
          ],
          "Restricted": boolean
        }
      ],
      "Address": {
        "AddressNumber": "string",
        "Block": "string",
        "Building": "string",
        "Country": {
          "Code2": "string",
          "Code3": "string",
          "Name": "string"
        },
        "District": "string",
        "Intersection": [ "string" ],
        "Label": "string",
        "Locality": "string",
        "PostalCode": "string",
        "Region": {
```

```
    "Code": "string",
    "Name": "string"
  },
  "SecondaryAddressComponents": [
    {
      "Designator": "string",
      "Number": "string"
    }
  ],
  "Street": "string",
  "StreetComponents": [
    {
      "BaseName": "string",
      "Direction": "string",
      "Language": "string",
      "Prefix": "string",
      "Suffix": "string",
      "Type": "string",
      "TypePlacement": "string",
      "TypeSeparator": "string"
    }
  ],
  "SubBlock": "string",
  "SubDistrict": "string",
  "SubRegion": {
    "Code": "string",
    "Name": "string"
  }
},
"AddressNumberCorrected": boolean,
"BusinessChains": [
  {
    "Id": "string",
    "Name": "string"
  }
],
"Categories": [
  {
    "Id": "string",
    "LocalizedName": "string",
    "Name": "string",
    "Primary": boolean
  }
],
```

```
"Contacts": {
  "Emails": [
    {
      "Categories": [
        {
          "Id": "string",
          "LocalizedName": "string",
          "Name": "string",
          "Primary": boolean
        }
      ],
      "Label": "string",
      "Value": "string"
    }
  ],
  "Faxes": [
    {
      "Categories": [
        {
          "Id": "string",
          "LocalizedName": "string",
          "Name": "string",
          "Primary": boolean
        }
      ],
      "Label": "string",
      "Value": "string"
    }
  ],
  "Phones": [
    {
      "Categories": [
        {
          "Id": "string",
          "LocalizedName": "string",
          "Name": "string",
          "Primary": boolean
        }
      ],
      "Label": "string",
      "Value": "string"
    }
  ],
  "Websites": [
```

```
{
  "Categories": [
    {
      "Id": "string",
      "LocalizedName": "string",
      "Name": "string",
      "Primary": boolean
    }
  ],
  "Label": "string",
  "Value": "string"
}
],
"Distance": number,
"FoodTypes": [
  {
    "Id": "string",
    "LocalizedName": "string",
    "Primary": boolean
  }
],
"MapView": [ number ],
"OpeningHours": [
  {
    "Categories": [
      {
        "Id": "string",
        "LocalizedName": "string",
        "Name": "string",
        "Primary": boolean
      }
    ],
    "Components": [
      {
        "OpenDuration": "string",
        "OpenTime": "string",
        "Recurrence": "string"
      }
    ],
    "Display": [ "string" ],
    "OpenNow": boolean
  }
],
```

```
"Phonemes": {
  "Address": {
    "Block": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ],
    "Country": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ],
    "District": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ],
    "Locality": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ],
    "Region": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ],
    "Street": [
      {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
      }
    ]
  },
}
```

```

        "SubBlock": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "SubDistrict": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "SubRegion": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ]
    },
    "Title": [
        {
            "Language": "string",
            "Preferred": boolean,
            "Value": "string"
        }
    ]
},
"PlaceId": "string",
"PlaceType": "string",
"PoliticalView": "string",
"Position": [ number ],
"TimeZone": {
    "Name": "string",
    "Offset": "string",
    "OffsetSeconds": number
},
"Title": "string"
}
]
}

```


Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

For more information on pricing, please visit [Amazon Location Service Pricing](#).

The following data is returned in JSON format by the service.

NextToken

If nextToken is returned, there are more results available. The value of nextToken is a unique pagination token for each page.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

ResultItems

List of places or results returned for a query.

Type: Array of [SearchNearbyResultItem](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerErrorException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

SearchText

Service: Amazon Location Service Places V2

SearchText searches for geocode and place information. You can then complete a follow-up query suggested from the Suggest API via a query id.

For more information, see [Search Text](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /search-text?key=Key HTTP/1.1
Content-type: application/json

{
  "AdditionalFeatures": [ "string" ],
  "BiasPosition": [ number ],
  "Filter": {
    "BoundingBox": [ number ],
    "Circle": {
      "Center": [ number ],
      "Radius": number
    },
    "IncludeCountries": [ "string" ]
  },
  "IntendedUse": "string",
  "Language": "string",
  "MaxResults": number,
  "NextToken": "string",
  "PoliticalView": "string",
  "QueryId": "string",
  "QueryText": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

AdditionalFeatures

A list of optional additional parameters, such as time zone, that can be requested for each result. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only the `TimeZone` value.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 4 items.

Valid Values: `TimeZone` | `Phonemes` | `Access` | `Contact`

Required: No

BiasPosition

The position, in longitude and latitude, that the results should be close to. Typically, place results returned are ranked higher the closer they are to this position. Stored in [`lng`, `lat`] and in the WGS 84 format.

Note

Exactly one of the following fields must be set: `BiasPosition`, `Filter.BoundingBox`, or `Filter.Circle`.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

Filter

A structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Type: [SearchTextFilter](#) object

Required: No

IntendedUse

Indicates if the query results will be persisted in customer infrastructure. Defaults to SingleUse (not stored).

Note

When storing SearchText responses, you *must* set this field to Storage to comply with the terms of service. These requests will be charged at a higher rate. Please review the [user agreement](#) and [service pricing structure](#) to determine the correct setting for your use case.

Type: String

Valid Values: SingleUse | Storage

Required: No

Language

A list of [BCP 47](#) compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only the following codes: en, id, km, lo, ms, my, pt, th, tl, vi, zh

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

MaxResults

An optional limit for the number of results returned in a single call.

Default value: 20

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

If nextToken is returned, there are more results available. The value of nextToken is a unique pagination token for each page.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: No

QueryId

The query Id returned by the suggest API. If passed in the request, the SearchText API will preform a SearchText query with the improved query terms for the original query made to the suggest API. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Note

Exactly one of the following fields must be set: QueryText or QueryId.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 500.

Required: No

QueryText

The free-form text query to match addresses against. This is usually a partially typed address from an end user in an address box or form.

Note

Exactly one of the following fields must be set: QueryText or QueryId.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
  "NextToken": "string",
  "ResultItems": [
    {
      "AccessPoints": [
        {
          "Position": [ number ]
        }
      ],
      "AccessRestrictions": [
        {
          "Categories": [
            {
              "Id": "string",
              "LocalizedName": "string",
              "Name": "string",
              "Primary": boolean
            }
          ],
          "Restricted": boolean
        }
      ]
    }
  ]
}
```

```
    }
  ],
  "Address": {
    "AddressNumber": "string",
    "Block": "string",
    "Building": "string",
    "Country": {
      "Code2": "string",
      "Code3": "string",
      "Name": "string"
    },
    "District": "string",
    "Intersection": [ "string" ],
    "Label": "string",
    "Locality": "string",
    "PostalCode": "string",
    "Region": {
      "Code": "string",
      "Name": "string"
    },
    "SecondaryAddressComponents": [
      {
        "Designator": "string",
        "Number": "string"
      }
    ],
    "Street": "string",
    "StreetComponents": [
      {
        "BaseName": "string",
        "Direction": "string",
        "Language": "string",
        "Prefix": "string",
        "Suffix": "string",
        "Type": "string",
        "TypePlacement": "string",
        "TypeSeparator": "string"
      }
    ],
    "SubBlock": "string",
    "SubDistrict": "string",
    "SubRegion": {
      "Code": "string",
      "Name": "string"
    }
  }
}
```



```
    }
  },
  "AddressNumberCorrected": boolean,
  "BusinessChains": [
    {
      "Id": "string",
      "Name": "string"
    }
  ],
  "Categories": [
    {
      "Id": "string",
      "LocalizedName": "string",
      "Name": "string",
      "Primary": boolean
    }
  ],
  "Contacts": {
    "Emails": [
      {
        "Categories": [
          {
            "Id": "string",
            "LocalizedName": "string",
            "Name": "string",
            "Primary": boolean
          }
        ],
        "Label": "string",
        "Value": "string"
      }
    ],
    "Faxes": [
      {
        "Categories": [
          {
            "Id": "string",
            "LocalizedName": "string",
            "Name": "string",
            "Primary": boolean
          }
        ],
        "Label": "string",
        "Value": "string"
      }
    ]
  }
}
```

```
    }
  ],
  "Phones": [
    {
      "Categories": [
        {
          "Id": "string",
          "LocalizedName": "string",
          "Name": "string",
          "Primary": boolean
        }
      ],
      "Label": "string",
      "Value": "string"
    }
  ],
  "Websites": [
    {
      "Categories": [
        {
          "Id": "string",
          "LocalizedName": "string",
          "Name": "string",
          "Primary": boolean
        }
      ],
      "Label": "string",
      "Value": "string"
    }
  ],
  "Distance": number,
  "FoodTypes": [
    {
      "Id": "string",
      "LocalizedName": "string",
      "Primary": boolean
    }
  ],
  "MapView": [ number ],
  "OpeningHours": [
    {
      "Categories": [
        {
```

```
        "Id": "string",
        "LocalizedName": "string",
        "Name": "string",
        "Primary": boolean
    }
],
"Components": [
    {
        "OpenDuration": "string",
        "OpenTime": "string",
        "Recurrence": "string"
    }
],
"Display": [ "string" ],
"OpenNow": boolean
}
],
"Phonemes": {
    "Address": {
        "Block": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "Country": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "District": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "Locality": [
            {
                "Language": "string",
                "Preferred": boolean,
```

```
        "Value": "string"
    },
],
"Region": [
    {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
    }
],
"Street": [
    {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
    }
],
"SubBlock": [
    {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
    }
],
"SubDistrict": [
    {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
    }
],
"SubRegion": [
    {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
    }
],
},
"Title": [
    {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
    }
]
```

```
    }
  ]
},
"PlaceId": "string",
"PlaceType": "string",
"PoliticalView": "string",
"Position": [ number ],
"TimeZone": {
  "Name": "string",
  "Offset": "string",
  "OffsetSeconds": number
},
"Title": "string"
}
]
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

For more information on pricing, please visit [Amazon Location Service Pricing](#).

The following data is returned in JSON format by the service.

NextToken

If nextToken is returned, there are more results available. The value of nextToken is a unique pagination token for each page.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

ResultItems

List of places or results returned for a query.

Type: Array of [SearchTextResultItem](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerError

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

Suggest

Service: Amazon Location Service Places V2

Suggest provides intelligent predictions or recommendations based on the user's input or context, such as relevant places, points of interest, query terms or search category. It is designed to help users find places or point of interests candidates or identify a follow on query based on incomplete or misspelled queries. It returns a list of possible matches or refinements that can be used to formulate a more accurate query. Users can select the most appropriate suggestion and use it for further searching. The API provides options for filtering results by location and other attributes, and allows for additional features like phonemes and timezones. The response includes refined query terms and detailed place information.

For more information, see [Suggest](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /suggest?key=Key HTTP/1.1
Content-type: application/json

{
  "AdditionalFeatures": [ "string" ],
  "BiasPosition": [ number ],
  "Filter": {
    "BoundingBox": [ number ],
    "Circle": {
      "Center": [ number ],
      "Radius": number
    },
    "IncludeCountries": [ "string" ]
  },
  "IntendedUse": "string",
  "Language": "string",
  "MaxQueryRefinements": number,
  "MaxResults": number,
  "PoliticalView": "string",
  "QueryText": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

AdditionalFeatures

A list of optional additional parameters, such as time zone, that can be requested for each result. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only the Core and TimeZone values.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 4 items.

Valid Values: Core | TimeZone | Phonemes | Access

Required: No

BiasPosition

The position, in longitude and latitude, that the results should be close to. Typically, place results returned are ranked higher the closer they are to this position. Stored in [lng, lat] and in the WGS 84 format.

Note

The fields BiasPosition, FilterBoundingBox, and FilterCircle are mutually exclusive.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

Filter

A structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Type: [SuggestFilter](#) object

Required: No

IntendedUse

Indicates if the query results will be persisted in customer infrastructure. Defaults to SingleUse (not stored). Currently, Suggest does not support storage of results.

Type: String

Valid Values: SingleUse

Required: No

Language

A list of [BCP 47](#) compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only the following codes: en, id, km, lo, ms, my, pt, th, tl, vi, zh

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

MaxQueryRefinements

Maximum number of query terms to be returned for use with a search text query. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 10.

Required: No

MaxResults

An optional limit for the number of results returned in a single call.

Default value: 20

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: No

QueryText

The free-form text query to match addresses against. This is usually a partially typed address from an end user in an address box or form.

Note

The fields QueryText and QueryID are mutually exclusive.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Required: Yes

Response Syntax

HTTP/1.1 200

x-amz-geo-pricing-bucket: *PricingBucket*

Content-type: application/json

```
{
  "QueryRefinements": [
    {
      "EndIndex": number,
      "OriginalTerm": "string",
      "RefinedTerm": "string",
      "StartIndex": number
    }
  ],
  "ResultItems": [
    {
      "Highlights": {
        "Address": {
          "Label": [
            {
              "EndIndex": number,
              "StartIndex": number,
              "Value": "string"
            }
          ]
        },
        "Title": [
          {
            "EndIndex": number,
            "StartIndex": number,
            "Value": "string"
          }
        ]
      },
      "Place": {
        "AccessPoints": [
          {
            "Position": [ number ]
          }
        ],
        "AccessRestrictions": [
          {
```

```
    "Categories": [  
      {  
        "Id": "string",  
        "LocalizedName": "string",  
        "Name": "string",  
        "Primary": boolean  
      }  
    ],  
    "Restricted": boolean  
  }  
],  
"Address": {  
  "AddressNumber": "string",  
  "Block": "string",  
  "Building": "string",  
  "Country": {  
    "Code2": "string",  
    "Code3": "string",  
    "Name": "string"  
  },  
  "District": "string",  
  "Intersection": [ "string" ],  
  "Label": "string",  
  "Locality": "string",  
  "PostalCode": "string",  
  "Region": {  
    "Code": "string",  
    "Name": "string"  
  },  
  "SecondaryAddressComponents": [  
    {  
      "Designator": "string",  
      "Number": "string"  
    }  
  ],  
  "Street": "string",  
  "StreetComponents": [  
    {  
      "BaseName": "string",  
      "Direction": "string",  
      "Language": "string",  
      "Prefix": "string",  
      "Suffix": "string",  
      "Type": "string",
```

```

        "TypePlacement": "string",
        "TypeSeparator": "string"
    }
],
"SubBlock": "string",
"SubDistrict": "string",
"SubRegion": {
    "Code": "string",
    "Name": "string"
}
},
"BusinessChains": [
    {
        "Id": "string",
        "Name": "string"
    }
],
"Categories": [
    {
        "Id": "string",
        "LocalizedName": "string",
        "Name": "string",
        "Primary": boolean
    }
],
"Distance": number,
"FoodTypes": [
    {
        "Id": "string",
        "LocalizedName": "string",
        "Primary": boolean
    }
],
"MapView": [ number ],
"Phonemes": {
    "Address": {
        "Block": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
    },
    "Country": [

```

```
{
  "Language": "string",
  "Preferred": boolean,
  "Value": "string"
},
"District": [
  {
    "Language": "string",
    "Preferred": boolean,
    "Value": "string"
  }
],
"Locality": [
  {
    "Language": "string",
    "Preferred": boolean,
    "Value": "string"
  }
],
"Region": [
  {
    "Language": "string",
    "Preferred": boolean,
    "Value": "string"
  }
],
"Street": [
  {
    "Language": "string",
    "Preferred": boolean,
    "Value": "string"
  }
],
"SubBlock": [
  {
    "Language": "string",
    "Preferred": boolean,
    "Value": "string"
  }
],
"SubDistrict": [
  {
    "Language": "string",
```

```

        "Preferred": boolean,
        "Value": "string"
    }
],
"SubRegion": [
    {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
    }
]
},
"Title": [
    {
        "Language": "string",
        "Preferred": boolean,
        "Value": "string"
    }
]
},
"PlaceId": "string",
"PlaceType": "string",
"PoliticalView": "string",
"Position": [ number ],
"TimeZone": {
    "Name": "string",
    "Offset": "string",
    "OffsetSeconds": number
}
},
"Query": {
    "QueryId": "string",
    "QueryType": "string"
},
"SuggestResultItemType": "string",
"Title": "string"
}
]
}

```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

For more information on pricing, please visit [Amazon Location Service Pricing](#).

The following data is returned in JSON format by the service.

QueryRefinements

Maximum number of query terms to be returned for use with a search text query. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [QueryRefinement](#) objects

Array Members: Minimum number of 0 items. Maximum number of 10 items.

ResultItems

List of places or results returned for a query.

Type: Array of [SuggestResultItem](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerError

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

Amazon Location Service Tagging

The following actions are supported by Amazon Location Service Tagging:

- [CreateKey](#)
- [DeleteKey](#)
- [DescribeKey](#)
- [ListKeys](#)
- [ListTagsForResource](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateKey](#)

CreateKey

Service: Amazon Location Service Tagging

Creates an API key resource in your AWS account, which lets you grant actions for Amazon Location resources to the API key bearer.

For more information, see [Use API keys to authenticate](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /metadata/v0/keys HTTP/1.1
Content-type: application/json

{
  "Description": "string",
  "ExpireTime": "string",
  "KeyName": "string",
  "NoExpiry": boolean,
  "Restrictions": {
    "AllowActions": [ "string" ],
    "AllowAndroidApps": [
      {
        "CertificateFingerprint": "string",
        "Package": "string"
      }
    ],
    "AllowAppleApps": [
      {
        "BundleId": "string"
      }
    ],
    "AllowReferers": [ "string" ],
    "AllowResources": [ "string" ]
  },
  "Tags": {
    "string" : "string"
  }
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

Description

An optional description for the API key resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

ExpireTime

The optional timestamp for when the API key resource will expire in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss. One of NoExpiry or ExpireTime must be set.

Type: Timestamp

Required: No

KeyName

A custom name for the API key resource.

Requirements:

- Contain only alphanumeric characters (A–Z, a–z, 0–9), hyphens (-), periods (.), and underscores (_).
- Must be a unique API key name.
- No spaces allowed. For example, ExampleAPIKey.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [-._\\w]+

Required: Yes

NoExpiry

Optionally set to `true` to set no expiration time for the API key. One of `NoExpiry` or `ExpireTime` must be set.

Type: Boolean

Required: No

Restrictions

The API key restrictions for the API key resource.

Type: [ApiKeyRestrictions](#) object

Required: Yes

Tags

Applies one or more tags to the map resource. A tag is a key-value pair that helps manage, identify, search, and filter your resources by labelling them.

Format: "key" : "value"

Restrictions:

- Maximum 50 tags per resource
- Each resource tag must be unique with a maximum of one value.
- Maximum key length: 128 Unicode characters in UTF-8
- Maximum value length: 256 Unicode characters in UTF-8
- Can use alphanumeric characters (A–Z, a–z, 0–9), and the following characters: + - = . _ : / @.
- Cannot use "aws : " as a prefix for a key.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: ([\p{L}\p{Z}\p{N}_ . , : / = + \ - @] *)

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: ([\p{L}\p{Z}\p{N}_., :/=+\-@] *)

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "CreateTime": "string",
  "Key": "string",
  "KeyArn": "string",
  "KeyName": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CreateTime

The timestamp for when the API key resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Key

The key value/string of an API key. This value is used when making API calls to authorize the call. For example, see [GetMapGlyphs](#).

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

KeyArn

The Amazon Resource Name (ARN) for the API key resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:key/ExampleKey`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+(.[a-z0-9]+)*){2}(:([a-z0-9]+(.[a-z0-9]+)*)?)?{2}:([^\./].*)?`

KeyName

The name of the API key resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\_\\w]+`

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

ConflictException

HTTP Status Code: 409

InternalServerErrorException

HTTP Status Code: 500

ServiceQuotaExceededException

HTTP Status Code: 402

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

DeleteKey

Service: Amazon Location Service Tagging

Deletes the specified API key. The API key must have been deactivated more than 90 days previously.

For more information, see [Use API keys to authenticate](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
DELETE /metadata/v0/keys/KeyName?forceDelete=ForceDelete HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

ForceDelete

ForceDelete bypasses an API key's expiry conditions and deletes the key. Set the parameter `true` to delete the key or to `false` to not preemptively delete the API key.

Valid values: `true`, or `false`.

Required: No

Note

This action is irreversible. Only use ForceDelete if you are certain the key is no longer in use.

KeyName

The name of the API key to delete.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- ._\w]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

DescribeKey

Service: Amazon Location Service Tagging

Retrieves the API key resource details.

For more information, see [Use API keys to authenticate](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
GET /metadata/v0/keys/KeyName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

KeyName

The name of the API key resource.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "CreateTime": "string",
  "Description": "string",
  "ExpireTime": "string",
  "Key": "string",
```

```
{
  "KeyArn": "string",
  "KeyName": "string",
  "Restrictions": {
    "AllowActions": [ "string" ],
    "AllowAndroidApps": [
      {
        "CertificateFingerprint": "string",
        "Package": "string"
      }
    ],
    "AllowAppleApps": [
      {
        "BundleId": "string"
      }
    ],
    "AllowReferers": [ "string" ],
    "AllowResources": [ "string" ]
  },
  "Tags": {
    "string" : "string"
  },
  "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CreateTime

The timestamp for when the API key resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Description

The optional description for the API key resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

ExpireTime

The timestamp for when the API key resource will expire in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Key

The key value/string of an API key.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

KeyArn

The Amazon Resource Name (ARN) for the API key resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:key/ExampleKey`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?)?{2}:([^\/*].*)?`

KeyName

The name of the API key resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\_\\w]+`

Restrictions

API Restrictions on the allowed actions, resources, referers, Android apps, and Apple apps for an API key resource.

Type: [ApiKeyRestrictions](#) object

Tags

Tags associated with the API key resource.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: ([\p{L}\p{Z}\p{N}_ . , : / = + \ - @] *)

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: ([\p{L}\p{Z}\p{N}_ . , : / = + \ - @] *)

UpdateTime

The timestamp for when the API key resource was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

ListKeys

Service: Amazon Location Service Tagging

Lists API key resources in your AWS account.

For more information, see [Use API keys to authenticate](#) in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /metadata/v0/list-keys HTTP/1.1
Content-type: application/json

{
  "Filter": {
    "KeyStatus": "string"
  },
  "MaxResults": number,
  "NextToken": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

Filter

Optionally filter the list to only Active or Expired API keys.

Type: [ApiKeyFilter](#) object

Required: No

MaxResults

An optional limit for the number of resources returned in a single call.

Default value: 100

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: null

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

Response Syntax

HTTP/1.1 200

Content-type: application/json

```
{
  "Entries": [
    {
      "CreateTime": "string",
      "Description": "string",
      "ExpireTime": "string",
      "KeyName": "string",
      "Restrictions": {
        "AllowActions": [ "string" ],
        "AllowAndroidApps": [
          {
            "CertificateFingerprint": "string",
            "Package": "string"
          }
        ],
        "AllowAppleApps": [
          {
            "BundleId": "string"
          }
        ]
      }
    }
  ]
}
```

```
    ],  
    "AllowReferers": [ "string" ],  
    "AllowResources": [ "string" ]  
  },  
  "UpdateTime": "string"  
}  
],  
"NextToken": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Entries

Contains API key resources in your AWS account. Details include API key name, allowed referers and timestamp for when the API key will expire.

Type: Array of [ListKeysResponseEntry](#) objects

NextToken

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

ListTagsForResource

Service: Amazon Location Service Tagging

Returns a list of tags that are applied to the specified Amazon Location resource.

Request Syntax

```
GET /tags/ResourceArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

ResourceArn

The Amazon Resource Name (ARN) of the resource whose tags you want to retrieve.

- Format example: `arn:aws:geo:region:account-id:resourcetype/ExampleResource`

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+(.[a-z0-9]+)*){2}(:([a-z0-9]+(.[a-z0-9]+)*)?)?{2}:([^\/.]*)?`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
  "Tags": {
    "string" : "string"
  }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Tags

Tags that have been applied to the specified resource. Tags are mapped from the tag key to the tag value: "TagKey" : "TagValue".

- Format example: {"tag1" : "value1", "tag2" : "value2"}

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: ([\p{L}\p{Z}\p{N}_., :/=+\-@]*)

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: ([\p{L}\p{Z}\p{N}_., :/=+\-@]*)

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

TagResource

Service: Amazon Location Service Tagging

Assigns one or more tags (key-value pairs) to the specified Amazon Location Service resource.

Tags can help you organize and categorize your resources. You can also use them to scope user permissions, by granting a user permission to access or change only resources with certain tag values.

You can use the TagResource operation with an Amazon Location Service resource that already has tags. If you specify a new tag key for the resource, this tag is appended to the tags already associated with the resource. If you specify a tag key that's already associated with the resource, the new tag value that you specify replaces the previous value for that tag.

You can associate up to 50 tags with a resource.

Request Syntax

```
POST /tags/ResourceArn HTTP/1.1
Content-type: application/json
```

```
{
  "Tags": {
    "string" : "string"
  }
}
```

URI Request Parameters

The request uses the following URI parameters.

ResourceArn

The Amazon Resource Name (ARN) of the resource whose tags you want to update.

- Format example: `arn:aws:geo:region:account-id:resourcetype/ExampleResource`

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?)?{2}:([^\/*].*)?`

Required: Yes

Request Body

The request accepts the following data in JSON format.

Tags

Applies one or more tags to specific resource. A tag is a key-value pair that helps you manage, identify, search, and filter your resources.

Format: "key" : "value"

Restrictions:

- Maximum 50 tags per resource.
- Each tag key must be unique and must have exactly one associated value.
- Maximum key length: 128 Unicode characters in UTF-8.
- Maximum value length: 256 Unicode characters in UTF-8.
- Can use alphanumeric characters (A–Z, a–z, 0–9), and the following characters: + - = . _ : / @
- Cannot use "aws :" as a prefix for a key.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: ([\p{L}\p{Z}\p{N}_ . , : / = + \ - @] *)

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: ([\p{L}\p{Z}\p{N}_ . , : / = + \ - @] *)

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)

- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

UntagResource

Service: Amazon Location Service Tagging

Removes one or more tags from the specified Amazon Location resource.

Request Syntax

```
DELETE /tags/ResourceArn?tagKeys=TagKeys HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

ResourceArn

The Amazon Resource Name (ARN) of the resource from which you want to remove tags.

- Format example: `arn:aws:geo:region:account-id:resourcetype/ExampleResource`

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+(.[a-z0-9]+)*){2}(:([a-z0-9]+(.[a-z0-9]+)*)?)?{2}:([^\/.]*)?`

Required: Yes

TagKeys

The list of tag keys to remove from the specified resource.

Array Members: Minimum number of 1 item. Maximum number of 50 items.

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)

- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

UpdateKey

Service: Amazon Location Service Tagging

Updates the specified properties of a given API key resource.

Request Syntax

```
PATCH /metadata/v0/keys/KeyName HTTP/1.1
Content-type: application/json

{
  "Description": "string",
  "ExpireTime": "string",
  "ForceUpdate": boolean,
  "NoExpiry": boolean,
  "Restrictions": {
    "AllowActions": [ "string" ],
    "AllowAndroidApps": [
      {
        "CertificateFingerprint": "string",
        "Package": "string"
      }
    ],
    "AllowAppleApps": [
      {
        "BundleId": "string"
      }
    ],
    "AllowReferers": [ "string" ],
    "AllowResources": [ "string" ]
  }
}
```

URI Request Parameters

The request uses the following URI parameters.

KeyName

The name of the API key resource to update.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

Description

Updates the description for the API key resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

ExpireTime

Updates the timestamp for when the API key resource will expire in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Required: No

ForceUpdate

The boolean flag to be included for updating ExpireTime or Restrictions details.

Must be set to `true` to update an API key resource that has been used in the past 7 days.

False if force update is not preferred

Default value: `False`

Type: Boolean

Required: No

NoExpiry

Whether the API key should expire. Set to `true` to set the API key to have no expiration time.

Type: Boolean

Required: No

Restrictions

Updates the API key restrictions for the API key resource.

Type: [ApiKeyRestrictions](#) object

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "KeyArn": "string",
  "KeyName": "string",
  "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

KeyArn

The Amazon Resource Name (ARN) for the API key resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:key/ExampleKey`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?)?{2}:([^\./].*)?`

KeyName

The name of the API key resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

UpdateTime

The timestamp for when the API key resource was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

Amazon Location Service Geofences

The following actions are supported by Amazon Location Service Geofences:

- [BatchDeleteGeofence](#)
- [BatchEvaluateGeofences](#)
- [BatchPutGeofence](#)
- [CreateGeofenceCollection](#)
- [DeleteGeofenceCollection](#)
- [DescribeGeofenceCollection](#)
- [ForecastGeofenceEvents](#)
- [GetGeofence](#)
- [ListGeofenceCollections](#)
- [ListGeofences](#)
- [PutGeofence](#)
- [UpdateGeofenceCollection](#)

BatchDeleteGeofence

Service: Amazon Location Service Geofences

Deletes a batch of geofences from a geofence collection.

Note

This operation deletes the resource permanently.

Request Syntax

```
POST /geofencing/v0/collections/CollectionName/delete-geofences HTTP/1.1
Content-type: application/json
```

```
{
  "GeofenceIds": [ "string" ]
}
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The geofence collection storing the geofences to be deleted.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

Required: Yes

Request Body

The request accepts the following data in JSON format.

GeofenceIds

The batch of geofences to be deleted.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \p{L} \p{N} ]+`

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Errors": [
    {
      "Error": {
        "Code": "string",
        "Message": "string"
      },
      "GeofenceId": "string"
    }
  ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Errors

Contains error details for each geofence that failed to delete.

Type: Array of [BatchDeleteGeofenceError](#) objects

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

BatchEvaluateGeofences

Service: Amazon Location Service Geofences

Evaluates device positions against the geofence geometries from a given geofence collection.

This operation always returns an empty response because geofences are asynchronously evaluated. The evaluation determines if the device has entered or exited a geofenced area, and then publishes one of the following events to Amazon EventBridge:

- ENTER if Amazon Location determines that the tracked device has entered a geofenced area.
- EXIT if Amazon Location determines that the tracked device has exited a geofenced area.

Note

The last geofence that a device was observed within is tracked for 30 days after the most recent device position update.

Note

Geofence evaluation uses the given device position. It does not account for the optional Accuracy of a DevicePositionUpdate.

Note

The DeviceID is used as a string to represent the device. You do not need to have a Tracker associated with the DeviceID.

Request Syntax

```
POST /geofencing/v0/collections/CollectionName/positions HTTP/1.1
Content-type: application/json
```

```
{
  "DevicePositionUpdates": [
```



```
{
  "Accuracy": {
    "Horizontal": number
  },
  "DeviceId": "string",
  "Position": [ number ],
  "PositionProperties": {
    "string" : "string"
  },
  "SampleTime": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The geofence collection used in evaluating the position of devices against its geofences.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

Required: Yes

Request Body

The request accepts the following data in JSON format.

DevicePositionUpdates

Contains device details for each device to be evaluated against the given geofence collection.

Type: Array of [DevicePositionUpdate](#) objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Errors": [
    {
      "DeviceId": "string",
      "Error": {
        "Code": "string",
        "Message": "string"
      },
      "SampleTime": "string"
    }
  ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Errors

Contains error details for each device that failed to evaluate its position against the given geofence collection.

Type: Array of [BatchEvaluateGeofencesError](#) objects

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

BatchPutGeofence

Service: Amazon Location Service Geofences

A batch request for storing geofence geometries into a given geofence collection, or updates the geometry of an existing geofence if a geofence ID is included in the request.

Request Syntax

POST /geofencing/v0/collections/*CollectionName*/put-geofences HTTP/1.1

Content-type: application/json

```
{
  "Entries": [
    {
      "GeofenceId": "string",
      "GeofenceProperties": {
        "string" : "string"
      },
      "Geometry": {
        "Circle": {
          "Center": [ number ],
          "Radius": number
        },
        "Geobuf": blob,
        "MultiPolygon": [
          [
            [ number ]
          ]
        ],
        "Polygon": [
          [ number ]
        ]
      }
    }
  ]
}
```

URI Request Parameters

The request uses the following URI parameters.

[CollectionName](#)

The geofence collection storing the geofences.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

Required: Yes

Request Body

The request accepts the following data in JSON format.

[Entries](#)

The batch of geofences to be stored in a geofence collection.

Type: Array of [BatchPutGeofenceRequestEntry](#) objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Errors": [
    {
      "Error": {
        "Code": "string",
        "Message": "string"
      },
      "GeofenceId": "string"
    }
  ]
}
```

```
],
  "Successes": [
    {
      "CreateTime": "string",
      "GeofenceId": "string",
      "UpdateTime": "string"
    }
  ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Errors

Contains additional error details for each geofence that failed to be stored in a geofence collection.

Type: Array of [BatchPutGeofenceError](#) objects

Successes

Contains each geofence that was successfully stored in a geofence collection.

Type: Array of [BatchPutGeofenceSuccess](#) objects

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

CreateGeofenceCollection

Service: Amazon Location Service Geofences

Creates a geofence collection, which manages and stores geofences.

Request Syntax

```
POST /geofencing/v0/collections HTTP/1.1
```

```
Content-type: application/json
```

```
{
  "CollectionName": "string",
  "Description": "string",
  "KmsKeyId": "string",
  "PricingPlan": "string",
  "PricingPlanDataSource": "string",
  "Tags": {
    "string" : "string"
  }
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

CollectionName

A custom name for the geofence collection.

Requirements:

- Contain only alphanumeric characters (A–Z, a–z, 0–9), hyphens (-), periods (.), and underscores (_).
- Must be a unique geofence collection name.
- No spaces allowed. For example, ExampleGeofenceCollection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [-._\\w]+

Required: Yes

Description

An optional description for the geofence collection.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

KmsKeyId

A key identifier for an [AWS KMS customer managed key](#). Enter a key ID, key ARN, alias name, or alias ARN.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

PricingPlan

This parameter has been deprecated.

No longer used. If included, the only allowed value is RequestBasedUsage.

Type: String

Valid Values: RequestBasedUsage | MobileAssetTracking |
MobileAssetManagement

Required: No

PricingPlanDataSource

This parameter has been deprecated.

This parameter is no longer used.

Type: String

Required: No

Tags

Applies one or more tags to the geofence collection. A tag is a key-value pair helps manage, identify, search, and filter your resources by labelling them.

Format: "key" : "value"

Restrictions:

- Maximum 50 tags per resource
- Each resource tag must be unique with a maximum of one value.
- Maximum key length: 128 Unicode characters in UTF-8
- Maximum value length: 256 Unicode characters in UTF-8
- Can use alphanumeric characters (A–Z, a–z, 0–9), and the following characters: + - = . _ : / @.
- Cannot use "aws : " as a prefix for a key.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: ([\p{L}\p{Z}\p{N}_ . , : / = + \ - @] *)

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: ([\p{L}\p{Z}\p{N}_ . , : / = + \ - @] *)

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "CollectionArn": "string",
  "CollectionName": "string",
```

```
"CreateTime": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CollectionArn

The Amazon Resource Name (ARN) for the geofence collection resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:geofence-collection/ExampleGeofenceCollection`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?)?{2}:([^\./].*)?`

CollectionName

The name for the geofence collection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\_w]+`

CreateTime

The timestamp for when the geofence collection was created in [ISO 8601](#) format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

ConflictException

HTTP Status Code: 409

InternalServerErrorException

HTTP Status Code: 500

ServiceQuotaExceededException

HTTP Status Code: 402

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)

- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

DeleteGeofenceCollection

Service: Amazon Location Service Geofences

Deletes a geofence collection from your AWS account.

Note

This operation deletes the resource permanently. If the geofence collection is the target of a tracker resource, the devices will no longer be monitored.

Request Syntax

```
DELETE /geofencing/v0/collections/CollectionName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The name of the geofence collection to be deleted.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- ._\w]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)

- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

DescribeGeofenceCollection

Service: Amazon Location Service Geofences

Retrieves the geofence collection details.

Request Syntax

```
GET /geofencing/v0/collections/CollectionName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The name of the geofence collection.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "CollectionArn": "string",
  "CollectionName": "string",
  "CreateTime": "string",
  "Description": "string",
  "GeofenceCount": number,
  "KmsKeyId": "string",
  "PricingPlan": "string",
```

```
"PricingPlanDataSource": "string",  
"Tags": {  
  "string" : "string"  
},  
"UpdateTime": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CollectionArn

The Amazon Resource Name (ARN) for the geofence collection resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:geofence-collection/ExampleGeofenceCollection`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+(.[a-z0-9]+)*){2}(:([a-z0-9]+(.[a-z0-9]+)*)?)?{2}:([^\/.]*)?`

CollectionName

The name of the geofence collection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\_\\w]+`

CreateTime

The timestamp for when the geofence resource was created in [ISO 8601](#) format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Description

The optional description for the geofence collection.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

GeofenceCount

The number of geofences in the geofence collection.

Type: Integer

Valid Range: Minimum value of 0.

KmsKeyId

A key identifier for an [AWS KMS customer managed key](#) assigned to the Amazon Location resource

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

PricingPlan

This parameter has been deprecated.

No longer used. Always returns RequestBasedUsage.

Type: String

Valid Values: RequestBasedUsage | MobileAssetTracking | MobileAssetManagement

PricingPlanDataSource

This parameter has been deprecated.

No longer used. Always returns an empty string.

Type: String

Tags

Displays the key, value pairs of tags associated with this resource.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: ([\p{L}\p{Z}\p{N}_., :/=+\-@] *)

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: ([\p{L}\p{Z}\p{N}_., :/=+\-@] *)

UpdateTime

The timestamp for when the geofence collection was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

ForecastGeofenceEvents

Service: Amazon Location Service Geofences

This action forecasts future geofence events that are likely to occur within a specified time horizon if a device continues moving at its current speed. Each forecasted event is associated with a geofence from a provided geofence collection. A forecast event can have one of the following states:

ENTER: The device position is outside the referenced geofence, but the device may cross into the geofence during the forecasting time horizon if it maintains its current speed.

EXIT: The device position is inside the referenced geofence, but the device may leave the geofence during the forecasted time horizon if the device maintains its current speed.

IDLE: The device is inside the geofence, and it will remain inside the geofence through the end of the time horizon if the device maintains its current speed.

Note

Heading direction is not considered in the current version. The API takes a conservative approach and includes events that can occur for any heading.

Request Syntax

```
POST /geofencing/v0/collections/CollectionName/forecast-geofence-events HTTP/1.1
Content-type: application/json
```

```
{
  "DeviceState": {
    "Position": [ number ],
    "Speed": number
  },
  "DistanceUnit": "string",
  "MaxResults": number,
  "NextToken": "string",
  "SpeedUnit": "string",
  "TimeHorizonMinutes": number
}
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The name of the geofence collection.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- ._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

DeviceState

Represents the device's state, including its current position and speed. When speed is omitted, this API performs a *containment check*. The *containment check* operation returns IDLE events for geofences where the device is currently inside of, but no other events.

Type: [ForecastGeofenceEventsDeviceState](#) object

Required: Yes

DistanceUnit

The distance unit used for the NearestDistance property returned in a forecasted event. The measurement system must match for DistanceUnit and SpeedUnit; if Kilometers is specified for DistanceUnit, then SpeedUnit must be KilometersPerHour.

Default Value: Kilometers

Type: String

Valid Values: Kilometers | Miles

Required: No

MaxResults

An optional limit for the number of resources returned in a single call.

Default value: 20

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 20.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: null

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60000.

Required: No

SpeedUnit

The speed unit for the device captured by the device state. The measurement system must match for DistanceUnit and SpeedUnit; if Kilometers is specified for DistanceUnit, then SpeedUnit must be KilometersPerHour.

Default Value: KilometersPerHour.

Type: String

Valid Values: KilometersPerHour | MilesPerHour

Required: No

TimeHorizonMinutes

The forward-looking time window for forecasting, specified in minutes. The API only returns events that are predicted to occur within this time horizon. When no value is specified, this API performs a *containment check*. The *containment check* operation returns IDLE events for geofences where the device is currently inside of, but no other events.

Type: Double

Valid Range: Minimum value of 0.

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "DistanceUnit": "string",
  "ForecastedEvents": [
    {
      "EventId": "string",
      "EventType": "string",
      "ForecastedBreachTime": "string",
      "GeofenceId": "string",
      "GeofenceProperties": {
        "string" : "string"
      },
      "IsDeviceInGeofence": boolean,
      "NearestDistance": number
    }
  ],
  "NextToken": "string",
  "SpeedUnit": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DistanceUnit

The distance unit for the forecasted events.

Type: String

Valid Values: Kilometers | Miles

ForecastedEvents

The list of forecasted events.

Type: Array of [ForecastedEvent](#) objects

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60000.

SpeedUnit

The speed unit for the forecasted events.

Type: String

Valid Values: KilometersPerHour | MilesPerHour

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

GetGeofence

Service: Amazon Location Service Geofences

Retrieves the geofence details from a geofence collection.

Note

The returned geometry will always match the geometry format used when the geofence was created.

Request Syntax

```
GET /geofencing/v0/collections/CollectionName/geofences/GeofenceId HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The geofence collection storing the target geofence.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \w]+`

Required: Yes

GeofenceId

The geofence you're retrieving details for.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \p{L} \p{N}]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
  "CreateTime": "string",
  "GeofenceId": "string",
  "GeofenceProperties": {
    "string" : "string"
  },
  "Geometry": {
    "Circle": {
      "Center": [ number ],
      "Radius": number
    },
    "Geobuf": blob,
    "MultiPolygon": [
      [
        [
          [ number ]
        ]
      ]
    ],
    "Polygon": [
      [
        [ number ]
      ]
    ]
  },
  "Status": "string",
  "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CreateTime

The timestamp for when the geofence collection was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss

Type: Timestamp

GeofenceId

The geofence identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\p{L}\p{N}]+`

GeofenceProperties

User defined properties of the geofence. A property is a key-value pair stored with the geofence and added to any geofence event triggered with that geofence.

Format: "key" : "value"

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 3 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 40.

Geometry

Contains the geofence geometry details describing a polygon or a circle.

Type: [GeofenceGeometry](#) object

Status

Identifies the state of the geofence. A geofence will hold one of the following states:

- ACTIVE — The geofence has been indexed by the system.
- PENDING — The geofence is being processed by the system.
- FAILED — The geofence failed to be indexed by the system.

- **DELETED** — The geofence has been deleted from the system index.
- **DELETING** — The geofence is being deleted from the system index.

Type: String

UpdateTime

The timestamp for when the geofence collection was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

ListGeofenceCollections

Service: Amazon Location Service Geofences

Lists geofence collections in your AWS account.

Request Syntax

```
POST /geofencing/v0/list-collections HTTP/1.1
Content-type: application/json
```

```
{
  "MaxResults": number,
  "NextToken": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

MaxResults

An optional limit for the number of resources returned in a single call.

Default value: 100

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: null

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Entries": [
    {
      "CollectionName": "string",
      "CreateTime": "string",
      "Description": "string",
      "PricingPlan": "string",
      "PricingPlanDataSource": "string",
      "UpdateTime": "string"
    }
  ],
  "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Entries

Lists the geofence collections that exist in your AWS account.

Type: Array of [ListGeofenceCollectionsResponseEntry](#) objects

NextToken

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

ListGeofences

Service: Amazon Location Service Geofences

Lists geofences stored in a given geofence collection.

Request Syntax

```
POST /geofencing/v0/collections/CollectionName/list-geofences HTTP/1.1
Content-type: application/json
```

```
{
  "MaxResults": number,
  "NextToken": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The name of the geofence collection storing the list of geofences.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults

An optional limit for the number of geofences returned in a single call.

Default value: 100

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: null

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60000.

Required: No

Response Syntax

HTTP/1.1 200

Content-type: application/json

```
{
  "Entries": [
    {
      "CreateTime": "string",
      "GeofenceId": "string",
      "GeofenceProperties": {
        "string" : "string"
      },
      "Geometry": {
        "Circle": {
          "Center": [ number ],
          "Radius": number
        },
        "Geobuf": blob,
        "MultiPolygon": [
          [
            [
              [ number ]
            ]
          ]
        ],
        "Polygon": [
          [
```

```
        [ number ]
      ]
    },
    "Status": "string",
    "UpdateTime": "string"
  }
],
"NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

[Entries](#)

Contains a list of geofences stored in the geofence collection.

Type: Array of [ListGeofenceResponseEntry](#) objects

[NextToken](#)

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60000.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

PutGeofence

Service: Amazon Location Service Geofences

Stores a geofence geometry in a given geofence collection, or updates the geometry of an existing geofence if a geofence ID is included in the request.

Request Syntax

```
PUT /geofencing/v0/collections/CollectionName/geofences/GeofenceId HTTP/1.1
```

Content-type: application/json

```
{
  "GeofenceProperties": {
    "string" : "string"
  },
  "Geometry": {
    "Circle": {
      "Center": [ number ],
      "Radius": number
    },
    "Geobuf": blob,
    "MultiPolygon": [
      [
        [
          [ number ]
        ]
      ]
    ],
    "Polygon": [
      [
        [ number ]
      ]
    ]
  ]
}
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The geofence collection to store the geofence in.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\w]+`

Required: Yes

GeofenceId

An identifier for the geofence. For example, `ExampleGeofence-1`.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\p{L}\p{N}]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

GeofenceProperties

Associates one or more properties with the geofence. A property is a key-value pair stored with the geofence and added to any geofence event triggered with that geofence.

Format: `"key" : "value"`

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 3 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 40.

Required: No

Geometry

Contains the details to specify the position of the geofence. Can be a circle, a polygon, or a multipolygon. Polygon and MultiPolygon geometries can be defined using their respective parameters, or encoded in Geobuf format using the `Geobuf` parameter. Including multiple geometry types in the same request will return a validation error.

Note

The geofence Polygon and MultiPolygon formats support a maximum of 1,000 total vertices. The Geobuf format supports a maximum of 100,000 vertices.

Type: [GeofenceGeometry](#) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "CreateTime": "string",
  "GeofenceId": "string",
  "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

[CreateTime](#)

The timestamp for when the geofence was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss

Type: Timestamp

[GeofenceId](#)

The geofence identifier entered in the request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [-.\p{L}\p{N}]+

UpdateTime

The timestamp for when the geofence was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

ConflictException

HTTP Status Code: 409

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
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- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

UpdateGeofenceCollection

Service: Amazon Location Service Geofences

Updates the specified properties of a given geofence collection.

Request Syntax

```
PATCH /geofencing/v0/collections/CollectionName HTTP/1.1
Content-type: application/json
```

```
{
  "Description": "string",
  "PricingPlan": "string",
  "PricingPlanDataSource": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The name of the geofence collection to update.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

Required: Yes

Request Body

The request accepts the following data in JSON format.

Description

Updates the description for the geofence collection.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

PricingPlan

This parameter has been deprecated.

No longer used. If included, the only allowed value is RequestBasedUsage.

Type: String

Valid Values: RequestBasedUsage | MobileAssetTracking |
MobileAssetManagement

Required: No

PricingPlanDataSource

This parameter has been deprecated.

This parameter is no longer used.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "CollectionArn": "string",
  "CollectionName": "string",
  "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CollectionArn

The Amazon Resource Name (ARN) of the updated geofence collection. Used to specify a resource across AWS.

- Format example: `arn:aws:geo:region:account-id:geofence-collection/ExampleGeofenceCollection`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+(.[a-z0-9]+)*){2}(:([a-z0-9]+(.[a-z0-9]+)*)?)?{2}:([^\./].*)?`

CollectionName

The name of the updated geofence collection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\_w]+`

UpdateTime

The time when the geofence collection was last updated in [ISO 8601](#) format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

Amazon Location Service Trackers

The following actions are supported by Amazon Location Service Trackers:

- [AssociateTrackerConsumer](#)
- [BatchDeleteDevicePositionHistory](#)
- [BatchGetDevicePosition](#)
- [BatchUpdateDevicePosition](#)
- [CreateTracker](#)
- [DeleteTracker](#)

- [DescribeTracker](#)
- [DisassociateTrackerConsumer](#)
- [GetDevicePosition](#)
- [GetDevicePositionHistory](#)
- [ListDevicePositions](#)
- [ListTrackerConsumers](#)
- [ListTrackers](#)
- [UpdateTracker](#)
- [VerifyDevicePosition](#)

AssociateTrackerConsumer

Service: Amazon Location Service Trackers

Creates an association between a geofence collection and a tracker resource. This allows the tracker resource to communicate location data to the linked geofence collection.

You can associate up to five geofence collections to each tracker resource.

Note

Currently not supported — Cross-account configurations, such as creating associations between a tracker resource in one account and a geofence collection in another account.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/consumers HTTP/1.1
Content-type: application/json
```

```
{
  "ConsumerArn": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource to be associated with a geofence collection.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- ._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

ConsumerArn

The Amazon Resource Name (ARN) for the geofence collection to be associated to tracker resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:geofence-collection/ExampleGeofenceCollectionConsumer`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+(.[a-z0-9]+)*){2}(:([a-z0-9]+(.[a-z0-9]+)*)?)?{2}:([^\./].*)?`

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

ConflictException

HTTP Status Code: 409

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ServiceQuotaExceededException

HTTP Status Code: 402

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

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- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

BatchDeleteDevicePositionHistory

Service: Amazon Location Service Trackers

Deletes the position history of one or more devices from a tracker resource.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/delete-positions HTTP/1.1
Content-type: application/json

{
  "DeviceIds": [ "string" ]
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource to delete the device position history from.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- . _ \w] +

Required: Yes

Request Body

The request accepts the following data in JSON format.

DeviceIds

Devices whose position history you want to delete.

- For example, for two devices: "DeviceIds" : [DeviceId1,DeviceId2]

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \p{L} \p{N} ]+`

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Errors": [
    {
      "DeviceId": "string",
      "Error": {
        "Code": "string",
        "Message": "string"
      }
    }
  ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Errors

Contains error details for each device history that failed to delete.

Type: Array of [BatchDeleteDevicePositionHistoryError](#) objects

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

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- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

BatchGetDevicePosition

Service: Amazon Location Service Trackers

Lists the latest device positions for requested devices.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/get-positions HTTP/1.1
Content-type: application/json

{
  "DeviceIds": [ "string" ]
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The tracker resource retrieving the device position.

Length Constraints: Minimum length of 1.

Pattern: [- . _ \w] +

Required: Yes

Request Body

The request accepts the following data in JSON format.

DeviceIds

Devices whose position you want to retrieve.

- For example, for two devices: device-ids=DeviceId1&device-ids=DeviceId2

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-. _\p{L}\p{N}]+`

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "DevicePositions": [
    {
      "Accuracy": {
        "Horizontal": number
      },
      "DeviceId": "string",
      "Position": [ number ],
      "PositionProperties": {
        "string" : "string"
      },
      "ReceivedTime": "string",
      "SampleTime": "string"
    }
  ],
  "Errors": [
    {
      "DeviceId": "string",
      "Error": {
        "Code": "string",
        "Message": "string"
      }
    }
  ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DevicePositions

Contains device position details such as the device ID, position, and timestamps for when the position was received and sampled.

Type: Array of [DevicePosition](#) objects

Errors

Contains error details for each device that failed to send its position to the tracker resource.

Type: Array of [BatchGetDevicePositionError](#) objects

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

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- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

BatchUpdateDevicePosition

Service: Amazon Location Service Trackers

Uploads position update data for one or more devices to a tracker resource (up to 10 devices per batch). Amazon Location uses the data when it reports the last known device position and position history. Amazon Location retains location data for 30 days.

Note

Position updates are handled based on the `PositionFiltering` property of the tracker. When `PositionFiltering` is set to `TimeBased`, updates are evaluated against linked geofence collections, and location data is stored at a maximum of one position per 30 second interval. If your update frequency is more often than every 30 seconds, only one update per 30 seconds is stored for each unique device ID.

When `PositionFiltering` is set to `DistanceBased` filtering, location data is stored and evaluated against linked geofence collections only if the device has moved more than 30 m (98.4 ft).

When `PositionFiltering` is set to `AccuracyBased` filtering, location data is stored and evaluated against linked geofence collections only if the device has moved more than the measured accuracy. For example, if two consecutive updates from a device have a horizontal accuracy of 5 m and 10 m, the second update is neither stored or evaluated if the device has moved less than 15 m. If `PositionFiltering` is set to `AccuracyBased` filtering, Amazon Location uses the default value { "Horizontal": 0 } when accuracy is not provided on a `DevicePositionUpdate`.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/positions HTTP/1.1
Content-type: application/json
```

```
{
  "Updates": [
    {
      "Accuracy": {
        "Horizontal": number
      },
      "DeviceId": "string",
      "Position": [ number ],
```

```
    "PositionProperties": {  
      "string" : "string"  
    },  
    "SampleTime": "string"  
  }  
]  
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource to update.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

Required: Yes

Request Body

The request accepts the following data in JSON format.

Updates

Contains the position update details for each device, up to 10 devices.

Type: Array of [DevicePositionUpdate](#) objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Required: Yes

Response Syntax

```
HTTP/1.1 200  
Content-type: application/json  
  
{
```

```
"Errors": [  
  {  
    "DeviceId": "string",  
    "Error": {  
      "Code": "string",  
      "Message": "string"  
    },  
    "SampleTime": "string"  
  },  
]  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Errors

Contains error details for each device that failed to update its position.

Type: Array of [BatchUpdateDevicePositionError](#) objects

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
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- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

CreateTracker

Service: Amazon Location Service Trackers

Creates a tracker resource in your AWS account, which lets you retrieve current and historical location of devices.

Request Syntax

```
POST /tracking/v0/trackers HTTP/1.1
Content-type: application/json

{
  "Description": "string",
  "EventBridgeEnabled": boolean,
  "KmsKeyEnableGeospatialQueries": boolean,
  "KmsKeyId": "string",
  "PositionFiltering": "string",
  "PricingPlan": "string",
  "PricingPlanDataSource": "string",
  "Tags": {
    "string" : "string"
  },
  "TrackerName": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

Description

An optional description for the tracker resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

EventBridgeEnabled

Whether to enable position UPDATE events from this tracker to be sent to EventBridge.

Note

You do not need enable this feature to get ENTER and EXIT events for geofences with this tracker. Those events are always sent to EventBridge.

Type: Boolean

Required: No

KmsKeyEnableGeospatialQueries

Enables `GeospatialQueries` for a tracker that uses a [AWS KMS customer managed key](#).

This parameter is only used if you are using a KMS customer managed key.

Note

If you wish to encrypt your data using your own KMS customer managed key, then the Bounding Polygon Queries feature will be disabled by default. This is because by using this feature, a representation of your device positions will not be encrypted using the your KMS managed key. The exact device position, however; is still encrypted using your managed key.

You can choose to opt-in to the Bounding Polygon Quseries feature. This is done by setting the `KmsKeyEnableGeospatialQueries` parameter to true when creating or updating a Tracker.

Type: Boolean

Required: No

KmsKeyId

A key identifier for an [AWS KMS customer managed key](#). Enter a key ID, key ARN, alias name, or alias ARN.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

PositionFiltering

Specifies the position filtering for the tracker resource.

Valid values:

- **TimeBased** - Location updates are evaluated against linked geofence collections, but not every location update is stored. If your update frequency is more often than 30 seconds, only one update per 30 seconds is stored for each unique device ID.
- **DistanceBased** - If the device has moved less than 30 m (98.4 ft), location updates are ignored. Location updates within this area are neither evaluated against linked geofence collections, nor stored. This helps control costs by reducing the number of geofence evaluations and historical device positions to paginate through. Distance-based filtering can also reduce the effects of GPS noise when displaying device trajectories on a map.
- **AccuracyBased** - If the device has moved less than the measured accuracy, location updates are ignored. For example, if two consecutive updates from a device have a horizontal accuracy of 5 m and 10 m, the second update is ignored if the device has moved less than 15 m. Ignored location updates are neither evaluated against linked geofence collections, nor stored. This can reduce the effects of GPS noise when displaying device trajectories on a map, and can help control your costs by reducing the number of geofence evaluations.

This field is optional. If not specified, the default value is **TimeBased**.

Type: String

Valid Values: **TimeBased** | **DistanceBased** | **AccuracyBased**

Required: No

PricingPlan

This parameter has been deprecated.

No longer used. If included, the only allowed value is **RequestBasedUsage**.

Type: String

Valid Values: **RequestBasedUsage** | **MobileAssetTracking** | **MobileAssetManagement**

Required: No

PricingPlanDataSource

This parameter has been deprecated.

This parameter is no longer used.

Type: String

Required: No

Tags

Applies one or more tags to the tracker resource. A tag is a key-value pair helps manage, identify, search, and filter your resources by labelling them.

Format: "key" : "value"

Restrictions:

- Maximum 50 tags per resource
- Each resource tag must be unique with a maximum of one value.
- Maximum key length: 128 Unicode characters in UTF-8
- Maximum value length: 256 Unicode characters in UTF-8
- Can use alphanumeric characters (A–Z, a–z, 0–9), and the following characters: + - = . _ : / @.
- Cannot use "aws : " as a prefix for a key.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: ([\p{L}\p{Z}\p{N}_ . , : / = + \ - @] *)

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: ([\p{L}\p{Z}\p{N}_ . , : / = + \ - @] *)

Required: No

TrackerName

The name for the tracker resource.

Requirements:

- Contain only alphanumeric characters (A-Z, a-z, 0-9) , hyphens (-), periods (.), and underscores (_).
- Must be a unique tracker resource name.
- No spaces allowed. For example, ExampleTracker.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [-._\\w]+

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "CreateTime": "string",
  "TrackerArn": "string",
  "TrackerName": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CreateTime

The timestamp for when the tracker resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

TrackerArn

The Amazon Resource Name (ARN) for the tracker resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:tracker/ExampleTracker`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+(.[a-z0-9]+)*){2}(:([a-z0-9]+(.[a-z0-9]+)*)?)?{2}:([^\s]*))?`

TrackerName

The name of the tracker resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\w]+`

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

ConflictException

HTTP Status Code: 409

InternalServerErrorException

HTTP Status Code: 500

ServiceQuotaExceededException

HTTP Status Code: 402

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
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- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

DeleteTracker

Service: Amazon Location Service Trackers

Deletes a tracker resource from your AWS account.

Note

This operation deletes the resource permanently. If the tracker resource is in use, you may encounter an error. Make sure that the target resource isn't a dependency for your applications.

Request Syntax

```
DELETE /tracking/v0/trackers/TrackerName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource to be deleted.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

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- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)

- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

DescribeTracker

Service: Amazon Location Service Trackers

Retrieves the tracker resource details.

Request Syntax

```
GET /tracking/v0/trackers/TrackerName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
```

```
Content-type: application/json
```

```
{
  "CreateTime": "string",
  "Description": "string",
  "EventBridgeEnabled": boolean,
  "KmsKeyEnableGeospatialQueries": boolean,
  "KmsKeyId": "string",
  "PositionFiltering": "string",
  "PricingPlan": "string",
  "PricingPlanDataSource": "string",
  "Tags": {
```

```
    "string" : "string"
  },
  "TrackerArn": "string",
  "TrackerName": "string",
  "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CreateTime

The timestamp for when the tracker resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Description

The optional description for the tracker resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

EventBridgeEnabled

Whether UPDATE events from this tracker in EventBridge are enabled. If set to `true` these events will be sent to EventBridge.

Type: Boolean

KmsKeyEnableGeospatialQueries

Enables `GeospatialQueries` for a tracker that uses a [AWS KMS customer managed key](#).

This parameter is only used if you are using a KMS customer managed key.

Note

If you wish to encrypt your data using your own KMS customer managed key, then the Bounding Polygon Queries feature will be disabled by default. This is because by using

this feature, a representation of your device positions will not be encrypted using the your KMS managed key. The exact device position, however; is still encrypted using your managed key.

You can choose to opt-in to the Bounding Polygon Qseries feature. This is done by setting the `KmsKeyEnableGeospatialQueries` parameter to true when creating or updating a Tracker.

Type: Boolean

KmsKeyId

A key identifier for an [AWS KMS customer managed key](#) assigned to the Amazon Location resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

PositionFiltering

The position filtering method of the tracker resource.

Type: String

Valid Values: TimeBased | DistanceBased | AccuracyBased

PricingPlan

This parameter has been deprecated.

Always returns RequestBasedUsage.

Type: String

Valid Values: RequestBasedUsage | MobileAssetTracking | MobileAssetManagement

PricingPlanDataSource

This parameter has been deprecated.

No longer used. Always returns an empty string.

Type: String

Tags

The tags associated with the tracker resource.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: ([\p{L}\p{Z}\p{N}_., :/=+\-@] *)

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: ([\p{L}\p{Z}\p{N}_., :/=+\-@] *)

TrackerArn

The Amazon Resource Name (ARN) for the tracker resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:tracker/ExampleTracker`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?)?{2}:([^\./].*)?`

TrackerName

The name of the tracker resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-. _\w]+`

UpdateTime

The timestamp for when the tracker resource was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

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- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)

- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

DisassociateTrackerConsumer

Service: Amazon Location Service Trackers

Removes the association between a tracker resource and a geofence collection.

Note

Once you unlink a tracker resource from a geofence collection, the tracker positions will no longer be automatically evaluated against geofences.

Request Syntax

```
DELETE /tracking/v0/trackers/TrackerName/consumers/ConsumerArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

ConsumerArn

The Amazon Resource Name (ARN) for the geofence collection to be disassociated from the tracker resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:geofence-collection/ExampleGeofenceCollectionConsumer`

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?)?{2}:([^\./].*)?`

Required: Yes

TrackerName

The name of the tracker resource to be dissociated from the consumer.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\_w]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
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- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

GetDevicePosition

Service: Amazon Location Service Trackers

Retrieves a device's most recent position according to its sample time.

Note

Device positions are deleted after 30 days.

Request Syntax

```
GET /tracking/v0/trackers/TrackerName/devices/DeviceId/positions/latest HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

DeviceId

The device whose position you want to retrieve.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- ._\p{L}\p{N}] +`

Required: Yes

TrackerName

The tracker resource receiving the position update.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- ._\w] +`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Accuracy": {
    "Horizontal": number
  },
  "DeviceId": "string",
  "Position": [ number ],
  "PositionProperties": {
    "string" : "string"
  },
  "ReceivedTime": "string",
  "SampleTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Accuracy

The accuracy of the device position.

Type: [PositionalAccuracy](#) object

DeviceId

The device whose position you retrieved.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \p{L} \p{N} ] +`

Position

The last known device position.

Type: Array of doubles

Array Members: Fixed number of 2 items.

PositionProperties

The properties associated with the position.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 4 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 150.

ReceivedTime

The timestamp for when the tracker resource received the device position. Uses [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

SampleTime

The timestamp at which the device's position was determined. Uses [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

GetDevicePositionHistory

Service: Amazon Location Service Trackers

Retrieves the device position history from a tracker resource within a specified range of time.

Note

Device positions are deleted after 30 days.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/devices/DeviceId/list-positions HTTP/1.1
Content-type: application/json
```

```
{
  "EndTimeExclusive": "string",
  "MaxResults": number,
  "NextToken": "string",
  "StartTimeInclusive": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

DeviceId

The device whose position history you want to retrieve.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- ._\p{L}\p{N}]+`

Required: Yes

TrackerName

The tracker resource receiving the request for the device position history.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

EndTimeExclusive

Specify the end time for the position history in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss. By default, the value will be the time that the request is made.

Requirement:

- The time specified for `EndTimeExclusive` must be after the time for `StartTimeInclusive`.

Type: Timestamp

Required: No

MaxResults

An optional limit for the number of device positions returned in a single call.

Default value: 100

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: null

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

StartTimeInclusive

Specify the start time for the position history in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss. By default, the value will be 24 hours prior to the time that the request is made.

Requirement:

- The time specified for `StartTimeInclusive` must be before `EndTimeExclusive`.

Type: Timestamp

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "DevicePositions": [
    {
      "Accuracy": {
        "Horizontal": number
      },
      "DeviceId": "string",
      "Position": [ number ],
      "PositionProperties": {
        "string" : "string"
      },
      "ReceivedTime": "string",
      "SampleTime": "string"
    }
  ],
  "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DevicePositions

Contains the position history details for the requested device.

Type: Array of [DevicePosition](#) objects

NextToken

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

ListDevicePositions

Service: Amazon Location Service Trackers

A batch request to retrieve all device positions.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/list-positions HTTP/1.1
Content-type: application/json
```

```
{
  "FilterGeometry": {
    "Polygon": [
      [
        [ number ]
      ]
    ]
  },
  "MaxResults": number,
  "NextToken": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The tracker resource containing the requested devices.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

Required: Yes

Request Body

The request accepts the following data in JSON format.

FilterGeometry

The geometry used to filter device positions.

Type: [TrackingFilterGeometry](#) object

Required: No

[MaxResults](#)

An optional limit for the number of entries returned in a single call.

Default value: 100

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

[NextToken](#)

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: null

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Entries": [
    {
      "Accuracy": {
        "Horizontal": number
      },
      "DeviceId": "string",
      "Position": [ number ],
      "PositionProperties": {
        "string" : "string"
      }
    }
  ]
}
```

```
    },  
    "SampleTime": "string"  
  }  
],  
"NextToken": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Entries

Contains details about each device's last known position.

Type: Array of [ListDevicePositionsResponseEntry](#) objects

NextToken

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerError

HTTP Status Code: 500

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

ListTrackerConsumers

Service: Amazon Location Service Trackers

Lists geofence collections currently associated to the given tracker resource.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/list-consumers HTTP/1.1
Content-type: application/json
```

```
{
  "MaxResults": number,
  "NextToken": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The tracker resource whose associated geofence collections you want to list.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults

An optional limit for the number of resources returned in a single call.

Default value: 100

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: null

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "ConsumerArns": [ "string" ],
  "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ConsumerArns

Contains the list of geofence collection ARNs associated to the tracker resource.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?)?{2}:([^\./].*)?`

NextToken

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

ListTrackers

Service: Amazon Location Service Trackers

Lists tracker resources in your AWS account.

Request Syntax

```
POST /tracking/v0/list-trackers HTTP/1.1
Content-type: application/json
```

```
{
  "MaxResults": number,
  "NextToken": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

MaxResults

An optional limit for the number of resources returned in a single call.

Default value: 100

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: null

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Entries": [
    {
      "CreateTime": "string",
      "Description": "string",
      "PricingPlan": "string",
      "PricingPlanDataSource": "string",
      "TrackerName": "string",
      "UpdateTime": "string"
    }
  ],
  "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Entries

Contains tracker resources in your AWS account. Details include tracker name, description and timestamps for when the tracker was created and last updated.

Type: Array of [ListTrackersResponseEntry](#) objects

NextToken

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)

- [AWS SDK for Ruby V3](#)

UpdateTracker

Service: Amazon Location Service Trackers

Updates the specified properties of a given tracker resource.

Request Syntax

```
PATCH /tracking/v0/trackers/TrackerName HTTP/1.1
Content-type: application/json
```

```
{
  "Description": "string",
  "EventBridgeEnabled": boolean,
  "KmsKeyEnableGeospatialQueries": boolean,
  "PositionFiltering": "string",
  "PricingPlan": "string",
  "PricingPlanDataSource": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource to update.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- ._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

Description

Updates the description for the tracker resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

EventBridgeEnabled

Whether to enable position UPDATE events from this tracker to be sent to EventBridge.

Note

You do not need enable this feature to get ENTER and EXIT events for geofences with this tracker. Those events are always sent to EventBridge.

Type: Boolean

Required: No

KmsKeyEnableGeospatialQueries

Enables `GeospatialQueries` for a tracker that uses a [AWS KMS customer managed key](#).

This parameter is only used if you are using a KMS customer managed key.

Type: Boolean

Required: No

PositionFiltering

Updates the position filtering for the tracker resource.

Valid values:

- **TimeBased** - Location updates are evaluated against linked geofence collections, but not every location update is stored. If your update frequency is more often than 30 seconds, only one update per 30 seconds is stored for each unique device ID.
- **DistanceBased** - If the device has moved less than 30 m (98.4 ft), location updates are ignored. Location updates within this distance are neither evaluated against linked geofence collections, nor stored. This helps control costs by reducing the number of geofence evaluations and historical device positions to paginate through. Distance-based filtering can also reduce the effects of GPS noise when displaying device trajectories on a map.

- **AccuracyBased** - If the device has moved less than the measured accuracy, location updates are ignored. For example, if two consecutive updates from a device have a horizontal accuracy of 5 m and 10 m, the second update is ignored if the device has moved less than 15 m. Ignored location updates are neither evaluated against linked geofence collections, nor stored. This helps educe the effects of GPS noise when displaying device trajectories on a map, and can help control costs by reducing the number of geofence evaluations.

Type: String

Valid Values: TimeBased | DistanceBased | AccuracyBased

Required: No

PricingPlan

This parameter has been deprecated.

No longer used. If included, the only allowed value is RequestBasedUsage.

Type: String

Valid Values: RequestBasedUsage | MobileAssetTracking |
MobileAssetManagement

Required: No

PricingPlanDataSource

This parameter has been deprecated.

This parameter is no longer used.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "TrackerArn": "string",
```

```
"TrackerName": "string",  
"UpdateTime": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

TrackerArn

The Amazon Resource Name (ARN) of the updated tracker resource. Used to specify a resource across AWS.

- Format example: `arn:aws:geo:region:account-id:tracker/ExampleTracker`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?)?{2}:([^\./].*)?`

TrackerName

The name of the updated tracker resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\_w]+`

UpdateTime

The timestamp for when the tracker resource was last updated in [ISO 8601](#) format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

VerifyDevicePosition

Service: Amazon Location Service Trackers

Verifies the integrity of the device's position by determining if it was reported behind a proxy, and by comparing it to an inferred position estimated based on the device's state.

Note

The Location Integrity SDK provides enhanced features related to device verification, and it is available for use by request. To get access to the SDK, contact [Sales Support](#).

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/positions/verify HTTP/1.1
Content-type: application/json
```

```
{
  "DeviceState": {
    "Accuracy": {
      "Horizontal": number
    },
    "CellSignals": {
      "LteCellDetails": [
        {
          "CellId": number,
          "LocalId": {
            "Earfcn": number,
            "Pci": number
          },
          "Mcc": number,
          "Mnc": number,
          "NetworkMeasurements": [
            {
              "CellId": number,
              "Earfcn": number,
              "Pci": number,
              "Rsrp": number,
              "Rsrq": number
            }
          ]
        }
      ],
      "NrCapable": boolean,
```

```
        "Rsrp": number,
        "Rsrq": number,
        "Tac": number,
        "TimingAdvance": number
    }
]
},
"DeviceId": "string",
"Ipv4Address": "string",
"Position": [ number ],
"SampleTime": "string",
"WiFiAccessPoints": [
    {
        "MacAddress": "string",
        "Rss": number
    }
]
},
"DistanceUnit": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource to be associated with verification request.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

Required: Yes

Request Body

The request accepts the following data in JSON format.

DeviceState

The device's state, including position, IP address, cell signals and Wi-Fi access points.

Type: [DeviceState](#) object

Required: Yes

DistanceUnit

The distance unit for the verification request.

Default Value: Kilometers

Type: String

Valid Values: Kilometers | Miles

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "DeviceId": "string",
  "DistanceUnit": "string",
  "InferredState": {
    "Accuracy": {
      "Horizontal": number
    },
    "DeviationDistance": number,
    "Position": [ number ],
    "ProxyDetected": boolean
  },
  "ReceivedTime": "string",
  "SampleTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DeviceId

The device identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- ._\p{L}\p{N}]+`

DistanceUnit

The distance unit for the verification response.

Type: String

Valid Values: Kilometers | Miles

InferredState

The inferred state of the device, given the provided position, IP address, cellular signals, and Wi-Fi access points.

Type: [InferredState](#) object

ReceivedTime

The timestamp for when the tracker resource received the device position in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

SampleTime

The timestamp at which the device's position was determined. Uses [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

HTTP Status Code: 403

InternalServerErrorException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

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- [AWS SDK for C++](#)
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- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

Data Types

The following data types are supported by Amazon Location Service Routes V2:

- [Circle](#)
- [Corridor](#)
- [Isoline](#)
- [IsolineAllowOptions](#)
- [IsolineAvoidanceArea](#)
- [IsolineAvoidanceAreaGeometry](#)
- [IsolineAvoidanceOptions](#)
- [IsolineAvoidanceZoneCategory](#)
- [IsolineCarOptions](#)
- [IsolineConnection](#)
- [IsolineConnectionGeometry](#)
- [IsolineDestinationOptions](#)
- [IsolineGranularityOptions](#)
- [IsolineMatchingOptions](#)
- [IsolineOriginOptions](#)
- [IsolineScooterOptions](#)
- [IsolineShapeGeometry](#)
- [IsolineSideOfStreetOptions](#)
- [IsolineThresholds](#)
- [IsolineTrafficOptions](#)
- [IsolineTrailerOptions](#)
- [IsolineTravelModeOptions](#)
- [IsolineTruckOptions](#)
- [IsolineVehicleLicensePlate](#)
- [LocalizedString](#)
- [PolylineCorridor](#)
- [RoadSnapNotice](#)

- [RoadSnapSnappedGeometry](#)
- [RoadSnapSnappedTracePoint](#)
- [RoadSnapTracePoint](#)
- [RoadSnapTrailerOptions](#)
- [RoadSnapTravelModeOptions](#)
- [RoadSnapTruckOptions](#)
- [Route](#)
- [RouteAllowOptions](#)
- [RouteAvoidanceArea](#)
- [RouteAvoidanceAreaGeometry](#)
- [RouteAvoidanceOptions](#)
- [RouteAvoidanceZoneCategory](#)
- [RouteCarOptions](#)
- [RouteContinueHighwayStepDetails](#)
- [RouteContinueStepDetails](#)
- [RouteDestinationOptions](#)
- [RouteDriverOptions](#)
- [RouteDriverScheduleInterval](#)
- [RouteEmissionType](#)
- [RouteEnterHighwayStepDetails](#)
- [RouteExclusionOptions](#)
- [RouteExitStepDetails](#)
- [RouteFerryAfterTravelStep](#)
- [RouteFerryArrival](#)
- [RouteFerryBeforeTravelStep](#)
- [RouteFerryDeparture](#)
- [RouteFerryLegDetails](#)
- [RouteFerryNotice](#)
- [RouteFerryOverviewSummary](#)
- [RouteFerryPlace](#)

- [RouteFerrySpan](#)
- [RouteFerrySummary](#)
- [RouteFerryTravelOnlySummary](#)
- [RouteFerryTravelStep](#)
- [RouteKeepStepDetails](#)
- [RouteLeg](#)
- [RouteLegGeometry](#)
- [RouteMajorRoadLabel](#)
- [RouteMatchingOptions](#)
- [RouteMatrixAllowOptions](#)
- [RouteMatrixAutoCircle](#)
- [RouteMatrixAvoidanceArea](#)
- [RouteMatrixAvoidanceAreaGeometry](#)
- [RouteMatrixAvoidanceOptions](#)
- [RouteMatrixAvoidanceZoneCategory](#)
- [RouteMatrixBoundary](#)
- [RouteMatrixBoundaryGeometry](#)
- [RouteMatrixCarOptions](#)
- [RouteMatrixDestination](#)
- [RouteMatrixDestinationOptions](#)
- [RouteMatrixEntry](#)
- [RouteMatrixExclusionOptions](#)
- [RouteMatrixMatchingOptions](#)
- [RouteMatrixOrigin](#)
- [RouteMatrixOriginOptions](#)
- [RouteMatrixScooterOptions](#)
- [RouteMatrixSideOfStreetOptions](#)
- [RouteMatrixTrafficOptions](#)
- [RouteMatrixTrailerOptions](#)
- [RouteMatrixTravelModeOptions](#)

- [RouteMatrixTruckOptions](#)
- [RouteMatrixVehicleLicensePlate](#)
- [RouteNoticeDetailRange](#)
- [RouteNumber](#)
- [RouteOriginOptions](#)
- [RoutePassThroughPlace](#)
- [RoutePassThroughWaypoint](#)
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The following data types are supported by Amazon Location Service Maps V2:

- [ValidationExceptionField](#)

The following data types are supported by Amazon Location Service Places V2:

- [AccessPoint](#)
- [AccessRestriction](#)
- [Address](#)
- [AddressComponentMatchScores](#)
- [AddressComponentPhonemes](#)
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The following data types are supported by Amazon Location Service Tagging:

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- [ApiKeyFilter](#)
- [ApiKeyRestrictions](#)
- [AppleApp](#)
- [ListKeysResponseEntry](#)
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The following data types are supported by Amazon Location Service Geofences:

- [BatchDeleteGeofenceError](#)
- [BatchEvaluateGeofencesError](#)
- [BatchItemError](#)
- [BatchPutGeofenceError](#)
- [BatchPutGeofenceRequestEntry](#)
- [BatchPutGeofenceSuccess](#)
- [Circle](#)
- [DevicePositionUpdate](#)
- [ForecastedEvent](#)
- [ForecastGeofenceEventsDeviceState](#)
- [GeofenceGeometry](#)
- [ListGeofenceCollectionsResponseEntry](#)
- [ListGeofenceResponseEntry](#)

- [PositionalAccuracy](#)
- [ValidationExceptionField](#)

The following data types are supported by Amazon Location Service Trackers:

- [BatchDeleteDevicePositionHistoryError](#)
- [BatchGetDevicePositionError](#)
- [BatchItemError](#)
- [BatchUpdateDevicePositionError](#)
- [CellSignals](#)
- [DevicePosition](#)
- [DevicePositionUpdate](#)
- [DeviceState](#)
- [InferredState](#)
- [ListDevicePositionsResponseEntry](#)
- [ListTrackersResponseEntry](#)
- [LteCellDetails](#)
- [LteLocalId](#)
- [LteNetworkMeasurements](#)
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Amazon Location Service Routes V2

The following data types are supported by Amazon Location Service Routes V2:

- [Circle](#)
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Circle

Service: Amazon Location Service Routes V2

Geometry defined as a circle. When request routing boundary was set as `AutoCircle`, the response routing boundary will return `Circle` derived from the `AutoCircle` settings.

Contents

Center

Center of the Circle in World Geodetic System (WGS 84) format: [longitude, latitude].

Example: [-123.1174, 49.2847] represents the position with longitude -123.1174 and latitude 49.2847.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Radius

Radius of the Circle.

Unit: meters

Type: Double

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Corridor

Service: Amazon Location Service Routes V2

Geometry defined as a corridor - a LineString with a radius that defines the width of the corridor.

Contents

LineString

An ordered list of positions used to plot a route on a map.

Note

LineString and Polyline are mutually exclusive properties.

Type: Array of arrays of doubles

Array Members: Minimum number of 2 items.

Array Members: Fixed number of 2 items.

Required: Yes

Radius

Radius that defines the width of the corridor.

Type: Integer

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Isoline

Service: Amazon Location Service Routes V2

Represents a single reachable area calculated for a specific threshold.

Contents

Connections

Lines connecting separate parts of the reachable area that can be reached within the same threshold. These occur when areas are reachable but not contiguous, such as when separated by water or unroutable areas. When present, these lines represent actual transportation network segments (such as ferry routes or bridges) that connect the separated areas.

Type: Array of [IsolineConnection](#) objects

Required: Yes

Geometries

The shapes that define the reachable area, provided in the requested geometry format.

Type: Array of [IsolineShapeGeometry](#) objects

Required: Yes

DistanceThreshold

The travel distance in meters used to calculate this isoline, if distance-based thresholds were specified in the request.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

TimeThreshold

The travel time in seconds used to calculate this isoline, if time-based thresholds were specified in the request.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineAllowOptions

Service: Amazon Location Service Routes V2

Special road types or features that should be considered available for routing. For example, this attribute can be used to allow the use of HOV (high-occupancy vehicle) or HOT (high-occupancy toll) lanes, even if they would otherwise not be.

Contents

Hot

When true, allows the use of HOT (high-occupancy toll) lanes, which may affect travel times and reachable areas.

Default value: `false`

Type: Boolean

Required: No

Hov

When true, allows the use of HOV (high-occupancy vehicle) lanes, which may affect travel times and reachable areas.

Default value: `false`

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineAvoidanceArea

Service: Amazon Location Service Routes V2

Defines an area to avoid when calculating routes. Consists of a primary geometry to avoid, with the ability to specify exception areas within that geometry where travel is permitted.

Contents

Geometry

The primary area to avoid, specified using a bounding box, corridor, polygon, or polyline corridor.

Type: [IsolineAvoidanceAreaGeometry](#) object

Required: Yes

Except

Areas within the primary avoidance geometry where travel is allowed. For example, you might want to avoid a neighborhood but allow travel on a major road that passes through it.

Type: Array of [IsolineAvoidanceAreaGeometry](#) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineAvoidanceAreaGeometry

Service: Amazon Location Service Routes V2

Defines an area to avoid during calculations using one of several supported geometry types. The service will prefer routes that avoid these areas when possible.

Contents

BoundingBox

A rectangular area defined by its southwest and northeast corners: [min longitude, min latitude, max longitude, max latitude].

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Corridor

A buffer zone around a line, defined by a series of coordinates and a radius in meters.

Type: [Corridor](#) object

Required: No

Polygon

A polygon defined by a list of coordinate rings. The first ring defines the outer boundary; subsequent rings will be ignored.

Type: Array of arrays of arrays of doubles

Array Members: Fixed number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

PolylineCorridor

A buffer zone around a compressed polyline, defined by an encoded polyline string and a radius in meters. For more information on polyline encoding, see <https://github.com/aws-geospatial/polyline>.

Type: [PolylineCorridor](#) object

Required: No

PolylinePolygon

A polygon defined by encoded polyline strings. The first string defines the outer boundary; subsequent strings will be ignored. For more information on polyline encoding, see <https://github.com/aws-geospatial/polyline>.

Type: Array of strings

Array Members: Fixed number of 1 item.

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineAvoidanceOptions

Service: Amazon Location Service Routes V2

Specifies features of the road network to avoid when calculating reachable areas. These preferences guide route calculations but may be overridden when no reasonable alternative exists. For example, if avoiding toll roads would make an area unreachable, toll roads may still be used.

Avoidance options include physical features (like ferries and tunnels), road characteristics (like dirt roads and highways), and regulated areas (like congestion zones). They can be combined to match specific routing needs, such as avoiding both toll roads and ferries.

Contents

Areas

Specifies geographic areas to avoid where possible. Routes may still pass through these areas if no reasonable alternative exists.

Type: Array of [IsolineAvoidanceArea](#) objects

Required: No

CarShuttleTrains

Indicates a preference to avoid car shuttle trains (auto trains) where possible. These may still be included if no reasonable alternative route exists.

Type: Boolean

Required: No

ControlledAccessHighways

Indicates a preference to avoid controlled-access highways (such as interstate highways or motorways) where possible. If a viable route cannot be calculated using only local roads, controlled-access highways may still be included.

Type: Boolean

Required: No

DirtRoads

Indicates a preference to avoid unpaved or dirt roads where possible. Routes may still include dirt roads if no reasonable paved alternative exists.

Type: Boolean

Required: No

Ferries

Indicates a preference to avoid ferries where possible. If a viable route cannot be calculated without using ferries, they may still be included.

Type: Boolean

Required: No

SeasonalClosure

Indicates a preference to avoid roads that may be subject to seasonal closures where possible. These roads may still be included if no reasonable year-round alternative exists.

Type: Boolean

Required: No

TollRoads

Indicates a preference to avoid toll roads where possible. If a viable route cannot be calculated without using toll roads, they may still be included.

Type: Boolean

Required: No

TollTransponders

Indicates a preference to avoid roads that require electronic toll collection transponders where possible. These roads may still be included if no viable alternative route exists.

Type: Boolean

Required: No

TruckRoadTypes

For truck travel modes, indicates specific road classification types in Sweden (BK1 through BK4) and Mexico (A2, A4, B2, B4, C, D, ET2, ET4) to avoid where possible. These road types may still be used if no reasonable alternative exists.

Note

There are currently no other supported values as of 26th April 2024.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 12 items.

Length Constraints: Minimum length of 1. Maximum length of 3.

Required: No

Tunnels

Indicates a preference to avoid tunnels where possible. If a viable route cannot be calculated without using tunnels, they may still be included.

Type: Boolean

Required: No

UTurns

Indicates a preference to avoid U-turns where possible. U-turns may still be included if necessary to reach certain areas or when no reasonable alternative exists.

Type: Boolean

Required: No

ZoneCategories

Indicates types of regulated zones (such as congestion pricing or environmental zones) to avoid where possible. Routes may still pass through these zones if no reasonable alternative exists.

Type: Array of [IsolineAvoidanceZoneCategory](#) objects

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineAvoidanceZoneCategory

Service: Amazon Location Service Routes V2

Types of regulated zones that may affect routing.

Contents

Category

The type of regulated zone: `CongestionPricing` for toll zones based on traffic levels, `Environmental` for low-emission zones, or `Vignette` for areas requiring special permits or stickers.

Type: String

Valid Values: `CongestionPricing` | `Environmental` | `Vignette`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineCarOptions

Service: Amazon Location Service Routes V2

Vehicle characteristics and preferences that affect routing for passenger cars. This includes vehicle type, occupancy, and speed restrictions that may influence which roads can be used and expected travel times.

Contents

EngineType

The type of engine powering the vehicle, which may affect route calculation due to road restrictions or vehicle characteristics.

- `INTERNAL_COMBUSTION`—Standard gasoline or diesel engine.
- `ELECTRIC`—Battery electric vehicle.
- `PLUGIN_HYBRID`—Combination of electric and internal combustion engines with plug-in charging capability.

Type: String

Valid Values: `Electric` | `InternalCombustion` | `PluginHybrid`

Required: No

LicensePlate

License plate information used in regions where road access or routing restrictions are based on license plate numbers.

Type: [IsolineVehicleLicensePlate](#) object

Required: No

MaxSpeed

The maximum speed of the vehicle in kilometers per hour. When specified, routes will not include roads with higher speed limits. Valid values range from 3.6 km/h (1 m/s) to 252 km/h (70 m/s).

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle. This can affect route calculations by enabling the use of high-occupancy vehicle (HOV) lanes where minimum occupancy requirements are met.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineConnection

Service: Amazon Location Service Routes V2

Represents a segment of the transportation network that connects separate parts of a reachable area. These connections show how discontinuous areas are linked, such as by ferry routes or bridges crossing unroutable terrain.

Contents

FromPolygonIndex

The index of the starting polygon in the isoline's `Geometries` list.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

Geometry

The shape of the connection, representing the actual path through the transportation network that links the polygons.

Type: [IsolineConnectionGeometry](#) object

Required: Yes

ToPolygonIndex

The index of the ending polygon in the isoline's `Geometries` list.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineConnectionGeometry

Service: Amazon Location Service Routes V2

Represents the geometry of connections between non-contiguous parts of an isoline. These connections can be provided in either coordinate pairs (LineString) or encoded (Polyline) format, matching the format specified in the request.

Contents

LineString

A series of [longitude, latitude] coordinate pairs defining the connection path when Simple geometry format is requested. These coordinates can be directly used as the coordinates array in a GeoJSON LineString without transformation.

Note

LineString and Polyline are mutually exclusive properties.

Type: Array of arrays of doubles

Array Members: Minimum number of 2 items.

Array Members: Fixed number of 2 items.

Required: No

Polyline

An encoded representation of the connection path when FlexiblePolyline geometry format is requested. This provides a more compact representation suitable for transmission and storage. To convert to GeoJSON, first decode to obtain coordinate pairs, then use those coordinates as the coordinates array in a GeoJSON LineString.

Note

LineString and Polyline are mutually exclusive properties.

Type: String

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineDestinationOptions

Service: Amazon Location Service Routes V2

Options that control how the destination point is interpreted and matched to the road network when calculating reachable areas. This affects which roads are considered accessible near the destination and how the final approach is calculated.

Contents

AvoidActionsForDistance

The distance in meters from the destination point within which certain routing actions (such as U-turns or left turns across traffic) are restricted. This helps generate more practical routes by avoiding potentially dangerous maneuvers near the endpoint.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Heading

The initial direction of travel in degrees (0-360, where 0 is north). This can affect which road segments are considered accessible from the starting point.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Controls how the destination point is matched to the road network, including search radius and name-based matching preferences.

Type: [IsolineMatchingOptions](#) object

Required: No

SideOfStreet

Specifies which side of the street should be considered accessible, which is important when building entrances or parking access points are only reachable from one side of the road.

Type: [IsolineSideOfStreetOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineGranularityOptions

Service: Amazon Location Service Routes V2

Controls the detail level and smoothness of generated isolines. More detailed isolines provide better visual representation of reachable areas but require more processing time and result in larger responses.

Contents

MaxPoints

The maximum number of points used to define each isoline. Higher values create smoother, more detailed shapes.

Type: Integer

Valid Range: Minimum value of 31.

Required: No

MaxResolution

The maximum distance in meters between points along the isoline. Smaller values create more detailed shapes.

Unit: meters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineMatchingOptions

Service: Amazon Location Service Routes V2

Controls how origin and destination points are matched to the road network when they don't fall exactly on a road. Matching options help ensure realistic routing by connecting points to appropriate roads.

Contents

NameHint

The expected street name near the point. Helps disambiguate matching when multiple roads are within range.

Type: String

Required: No

OnRoadThreshold

The maximum distance in meters that a point can be from a road while still being considered "on" that road. Points further than this distance require explicit matching.

Unit: meters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Radius

The maximum distance in meters to search for roads to match to. Points with no roads within this radius will fail to match. The roads that are considered within this radius are determined by the specified Strategy

Unit: meters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Strategy

Determines how points are matched to the road network. MatchAny finds the nearest viable road segment, while MatchMostSignificantRoad prioritizes major roads.

Type: String

Valid Values: MatchAny | MatchMostSignificantRoad

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineOriginOptions

Service: Amazon Location Service Routes V2

Options that control how the origin point is interpreted when calculating reachable areas. These options affect which roads are considered accessible from the starting point and how initial routing decisions are made.

Contents

AvoidActionsForDistance

The distance in meters from the origin point within which certain routing actions (such as U-turns or left turns across traffic) are restricted. This helps generate more practical routes by avoiding potentially dangerous maneuvers near the starting point.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Heading

Initial direction of travel in degrees (0-360, where 0 is north). This affects which road segments are considered accessible from the starting point and is particularly useful when the origin is on a divided road or at a complex intersection.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Controls how the origin point is matched to the road network, including search radius and matching strategy.

Type: [IsolineMatchingOptions](#) object

Required: No

SideOfStreet

Controls which side of the street is considered accessible from the origin point, particularly important for divided roads where building entrances or parking access may only be available from one direction.

Type: [IsolineSideOfStreetOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineScooterOptions

Service: Amazon Location Service Routes V2

Vehicle characteristics that affect which roads and paths can be used when calculating reachable areas for scooters. This includes areas such as bike lanes, shared paths, and roads where scooters are permitted.

Contents

EngineType

The type of engine powering the vehicle, which may affect route calculation due to road restrictions or vehicle characteristics.

- `INTERNAL_COMBUSTION`—Standard gasoline or diesel engine.
- `ELECTRIC`—Battery electric vehicle.
- `PLUGIN_HYBRID`—Combination of electric and internal combustion engines with plug-in charging capability.

Type: String

Valid Values: `Electric` | `InternalCombustion` | `PluginHybrid`

Required: No

LicensePlate

License plate information used in regions where road access or routing restrictions are based on license plate numbers.

Type: [IsolineVehicleLicensePlate](#) object

Required: No

MaxSpeed

The maximum speed of the vehicle in kilometers per hour. When specified, routes will not include roads with higher speed limits. Valid values range from 3.6 km/h (1 m/s) to 252 km/h (70 m/s).

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle. This can affect route calculations by enabling the use of high-occupancy vehicle (HOV) lanes where minimum occupancy requirements are met.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineShapeGeometry

Service: Amazon Location Service Routes V2

Represents the shape of a reachable area. The geometry can be provided either as coordinate pairs (Polygon) or in encoded format (PolylinePolygon), matching the format specified in the request.

Contents

Polygon

A series of coordinate rings defining the reachable area when Simple geometry format is requested. Each ring is a list of [`longitude`, `latitude`] coordinate pairs. The first ring defines the outer boundary; subsequent rings define holes representing unreachable areas.

Note

Polygon and PolylinePolygon are mutually exclusive properties.

Type: Array of arrays of arrays of doubles

Array Members: Minimum number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

PolylinePolygon

An encoded representation of the reachable area when FlexiblePolyline geometry format is requested. Provides a compact representation suitable for transmission and storage. The first string defines the outer boundary; subsequent strings define holes representing unreachable areas. For more information on polyline encoding, see <https://github.com/aws-geospatial/polyline>.

Note

Polygon and PolylinePolygon are mutually exclusive properties.

Type: Array of strings

Array Members: Minimum number of 1 item.

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineSideOfStreetOptions

Service: Amazon Location Service Routes V2

Controls how points are matched to specific sides of streets. This is important when the side of the street matters for accessibility - for example, when building entrances or parking lot access points can only be reached from one side of a divided road.

Contents

Position

The [longitude, latitude] coordinates of the point that should be matched to a specific side of the street.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

UseWith

Controls whether side-of-street matching is applied to any street (AnyStreet) or only to divided roads (DividedStreetOnly). This is important when the exact side of the street matters - for example, if a building entrance is only accessible from one side of a divided highway, or if a parking lot can only be entered from northbound lanes. Without correct side-of-street matching, travel time estimates may be inaccurate because they don't account for necessary U-turns or detours to reach the correct side.

Default value: DividedStreetOnly

Type: String

Valid Values: AnyStreet | DividedStreetOnly

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineThresholds

Service: Amazon Location Service Routes V2

Specifies the time or distance limits used to calculate reachable areas. You can provide up to five thresholds for a single type to generate multiple isolines in a single request. For example, you might request areas reachable within 5, 10, and 15 minutes, or within 1, 2, and 5 kilometers.

Contents

Distance

List of travel distances in meters. For example, [1000, 2000, 5000] would calculate areas reachable within 1, 2, and 5 kilometers.

Type: Array of longs

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Valid Range: Minimum value of 0. Maximum value of 300000.

Required: No

Time

List of travel times in seconds. For example, [300, 600, 900] would calculate areas reachable within 5, 10, and 15 minutes.

Type: Array of longs

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Valid Range: Minimum value of 0. Maximum value of 10800.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)

IsolineTrafficOptions

Service: Amazon Location Service Routes V2

Controls how real-time and historical traffic data is used when calculating reachable areas. This affects both the size and shape of isolines by accounting for expected travel speeds based on congestion patterns.

Contents

FlowEventThresholdOverride

The duration in seconds that real-time congestion data is considered valid before reverting to historical traffic patterns. This helps balance between using current conditions and more predictable historical data when calculating travel times.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Usage

Controls whether traffic data is used in calculations. `UseTrafficData` considers both real-time congestion and historical patterns, while `IgnoreTrafficData` calculates routes based solely on road types and speed limits. Using traffic data provides more accurate real-world estimates but may produce different results at different times of day.

Default value: `UseTrafficData`

Type: String

Valid Values: `IgnoreTrafficData` | `UseTrafficData`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineTrailerOptions

Service: Amazon Location Service Routes V2

Additional specifications when the vehicle includes one or more trailers.

Contents

AxleCount

The total number of axles across all trailers. Used for weight distribution calculations and road restrictions.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

TrailerCount

The number of trailers being pulled. Affects which roads can be used based on local regulations.

Default value: 0

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 255.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineTravelModeOptions

Service: Amazon Location Service Routes V2

Mode-specific routing options that further refine how reachable areas are calculated. Options are only considered when they match the selected travel mode.

Contents

Car

Options specific to passenger vehicle routing (`Car`, such as vehicle characteristics and license plate restrictions).

Type: [IsolineCarOptions](#) object

Required: No

Scooter

Options specific to scooter routing (`Scooter`, such as vehicle characteristics and license plate restrictions).

Note

When using the `Scooter` travel mode, controlled-access highways are automatically avoided unless explicitly allowed.

Type: [IsolineScooterOptions](#) object

Required: No

Truck

Options specific to commercial truck routing (`Truck`, including vehicle dimensions, weight limits, and hazardous cargo specifications).

Type: [IsolineTruckOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineTruckOptions

Service: Amazon Location Service Routes V2

Vehicle characteristics and restrictions that affect which roads can be used when calculating reachable areas for trucks. These details ensure that routes respect physical limitations and legal requirements.

These apply when the provided travel mode is `Truck`

Contents

AxleCount

The total number of axles on the vehicle. Required for certain road restrictions and weight limit calculations.

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 255.

Required: No

EngineType

The type of engine powering the vehicle, which may affect route calculation due to road restrictions or vehicle characteristics.

- `INTERNAL_COMBUSTION`—Standard gasoline or diesel engine.
- `ELECTRIC`—Battery electric vehicle.
- `PLUGIN_HYBRID`—Combination of electric and internal combustion engines with plug-in charging capability.

Type: String

Valid Values: `Electric` | `InternalCombustion` | `PluginHybrid`

Required: No

GrossWeight

The gross vehicle weight (the maximum weight a vehicle can safely operate at, as specified by the manufacturer) in kilograms. Used to avoid roads with weight restrictions and ensure compliance with maximum allowed vehicle weight regulations.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

HazardousCargos

Types of hazardous materials being transported. This affects which roads and tunnels can be used based on local regulations.

- **Combustible**—Materials that can burn readily
- **Corrosive**—Materials that can destroy or irreversibly damage other substances
- **Explosive**—Materials that can produce an explosion by chemical reaction
- **Flammable**—Materials that can easily ignite
- **Gas**—Hazardous materials in gaseous form
- **HarmfulToWater**—Materials that pose a risk to water sources if released
- **Organic**—Hazardous organic compounds
- **Other**—Hazardous materials not covered by other categories
- **Poison**—Toxic materials
- **PoisonousInhalation**—Materials that are toxic when inhaled
- **Radioactive**—Materials that emit ionizing radiation

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 11 items.

Valid Values: Combustible | Corrosive | Explosive | Flammable | Gas | HarmfulToWater | Organic | Other | Poison | PoisonousInhalation | Radioactive

Required: No

Height

The vehicle height in centimeters. Used to avoid routes with low bridges or other height restrictions.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

HeightAboveFirstAxle

The height in centimeters measured from the ground to the highest point above the first axle. Used for specific bridge and tunnel clearance restrictions.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

KpraLength

The kingpin to rear axle (KPRA) length in centimeters. Used to determine if the vehicle can safely navigate turns and intersections.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Length

The total vehicle length in centimeters. Used to avoid roads with length restrictions and determine if the vehicle can safely navigate turns.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 30000.

Required: No

LicensePlate

License plate information used in regions where road access or routing restrictions are based on license plate numbers.

Type: [IsolineVehicleLicensePlate](#) object

Required: No

MaxSpeed

The maximum speed in kilometers per hour at which the vehicle can or is permitted to travel. This affects travel time calculations and may result in different reachable areas compared to using default speed limits. Value must be between 3.6 and 252 kilometers per hour.

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle. This can affect route calculations by enabling the use of high-occupancy vehicle (HOV) lanes where minimum occupancy requirements are met.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

PayloadCapacity

The maximum cargo weight in kilograms that the vehicle (including attached trailers) is rated to carry.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

TireCount

The total number of tires on the vehicle.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 255.

Required: No

Trailer

Optional specifications for attached trailers. When provided, trailer characteristics affect route calculations to ensure compliance with trailer-specific restrictions such as length limits, weight distribution requirements, and access restrictions for multi-trailer configurations.

Type: [IsolineTrailerOptions](#) object

Required: No

TruckType

The type of truck: `LightTruck` for smaller delivery vehicles, `StraightTruck` for rigid body trucks, or `Tractor` for tractor-trailer combinations.

Type: String

Valid Values: `LightTruck` | `StraightTruck` | `Tractor`

Required: No

TunnelRestrictionCode

The tunnel restriction code.

Tunnel categories in this list indicate the restrictions which apply to certain tunnels in Great Britain. They relate to the types of dangerous goods that can be transported through them.

- *Tunnel Category B*
 - *Risk Level:* Limited risk
 - *Restrictions:* Few restrictions

- *Tunnel Category C*
 - *Risk Level:* Medium risk
 - *Restrictions:* Some restrictions
- *Tunnel Category D*
 - *Risk Level:* High risk
 - *Restrictions:* Many restrictions occur
- *Tunnel Category E*
 - *Risk Level:* Very high risk
 - *Restrictions:* Restricted tunnel

Type: String

Length Constraints: Fixed length of 1.

Required: No

WeightPerAxle

The heaviest weight per axle in kilograms, regardless of axle type or grouping. Used for roads with axle-weight restrictions in regions where regulations don't distinguish between different axle configurations.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

WeightPerAxleGroup

Specifies the total weight for different axle group configurations. Used in regions where regulations set different weight limits based on axle group types.

Unit: kilograms

Type: [WeightPerAxleGroup](#) object

Required: No

Width

The vehicle width in centimeters. Used to avoid routes with width restrictions.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

IsolineVehicleLicensePlate

Service: Amazon Location Service Routes V2

License plate information used in regions where road access or routing restrictions are based on license plate numbers.

Contents

LastCharacter

The last character of the vehicle's license plate. Used to determine road access restrictions in regions with license plate-based traffic management systems.

Type: String

Length Constraints: Fixed length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

LocalizedString

Service: Amazon Location Service Routes V2

The localized string.

Contents

Value

The value of the localized string.

Type: String

Required: Yes

Language

A list of BCP 47 compliant language codes for the results to be rendered in. The request uses the regional default as the fallback if the requested language can't be provided.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

PolylineCorridor

Service: Amazon Location Service Routes V2

Geometry defined as an encoded corridor - an encoded polyline with a radius that defines the width of the corridor.

Contents

Polyline

An ordered list of positions used to plot a route on a map in a lossy compression format.

Note

LineString and Polyline are mutually exclusive properties.

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Radius

Considers all roads within the provided radius to match the provided destination to. The roads that are considered are determined by the provided Strategy.

Unit: meters

Type: Integer

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)

RoadSnapNotice

Service: Amazon Location Service Routes V2

Notices provide information around factors that may have influenced snapping in a manner atypical to the standard use cases.

Contents

Code

Code corresponding to the issue.

Type: String

Valid Values: TracePointsHeadingIgnored | TracePointsIgnored
| TracePointsMovedByLargeDistance | TracePointsNotMatched
| TracePointsOutOfSequence | TracePointsSpeedEstimated |
TracePointsSpeedIgnored

Required: Yes

Title

The notice title.

Type: String

Required: Yes

TracePointIndexes

TracePoint indices for which the provided notice code corresponds to.

Type: Array of integers

Array Members: Minimum number of 1 item. Maximum number of 1000 items.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoadSnapSnappedGeometry

Service: Amazon Location Service Routes V2

Interpolated geometry for the snapped route that is overlay-able onto a map.

Contents

LineString

An ordered list of positions used to plot a route on a map.

Note

LineString and Polyline are mutually exclusive properties.

Type: Array of arrays of doubles

Array Members: Minimum number of 2 items.

Array Members: Fixed number of 2 items.

Required: No

Polyline

An ordered list of positions used to plot a route on a map in a lossy compression format.

Note

LineString and Polyline are mutually exclusive properties.

Type: String

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoadSnapSnappedTracePoint

Service: Amazon Location Service Routes V2

TracePoints snapped onto the road network.

Contents

Confidence

Confidence value for the correctness of this point match.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: Yes

OriginalPosition

Position of the TracePoint provided within the request, at the same index.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

SnappedPosition

Snapped position of the TracePoint provided within the request, at the same index.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoadSnapTracePoint

Service: Amazon Location Service Routes V2

TracePoint indices for which the provided notice code corresponds to.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Speed

Speed at the specified trace point .

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

Timestamp

Timestamp of the event.

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+-]([01][0-9]|2[0-3]):[0-5][0-9]))

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoadSnapTrailerOptions

Service: Amazon Location Service Routes V2

Trailer options corresponding to the vehicle.

Contents

TrailerCount

Number of trailers attached to the vehicle.

Default value: 0

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 4.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoadSnapTravelModeOptions

Service: Amazon Location Service Routes V2

Travel mode related options for the provided travel mode.

Contents

Truck

Travel mode options when the provided travel mode is `Truck`.

Type: [RoadSnapTruckOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoadSnapTruckOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is `Truck`.

Contents

GrossWeight

Gross weight of the vehicle including trailers, and goods at capacity.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

HazardousCargos

List of Hazardous cargos contained in the vehicle.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 11 items.

Valid Values: Combustible | Corrosive | Explosive | Flammable | Gas | HarmfulToWater | Organic | Other | Poison | PoisonousInhalation | Radioactive

Required: No

Height

Height of the vehicle.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

Length

Length of the vehicle.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 30000.

Required: No

Trailer

Trailer options corresponding to the vehicle.

Type: [RoadSnapTrailerOptions](#) object

Required: No

TunnelRestrictionCode

The tunnel restriction code.

Tunnel categories in this list indicate the restrictions which apply to certain tunnels in Great Britain. They relate to the types of dangerous goods that can be transported through them.

- *Tunnel Category B*
 - *Risk Level:* Limited risk
 - *Restrictions:* Few restrictions
- *Tunnel Category C*
 - *Risk Level:* Medium risk
 - *Restrictions:* Some restrictions
- *Tunnel Category D*
 - *Risk Level:* High risk
 - *Restrictions:* Many restrictions occur
- *Tunnel Category E*
 - *Risk Level:* Very high risk
 - *Restrictions:* Restricted tunnel

Type: String

Length Constraints: Fixed length of 1.

Required: No

Width

Width of the vehicle in centimeters.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Route

Service: Amazon Location Service Routes V2

The route.

Contents

Legs

A leg is a section of a route from one waypoint to the next. A leg could be of type Vehicle, Pedestrian or Ferry. Legs of different types could occur together within a single route. For example, a car employing the use of a Ferry will contain Vehicle legs corresponding to journey on land, and Ferry legs corresponding to the journey via Ferry.

Type: Array of [RouteLeg](#) objects

Required: Yes

MajorRoadLabels

Important labels including names and route numbers that differentiate the current route from the alternatives presented.

Type: Array of [RouteMajorRoadLabel](#) objects

Array Members: Minimum number of 0 items. Maximum number of 2 items.

Required: Yes

Summary

Summarized details of the leg.

Type: [RouteSummary](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteAllowOptions

Service: Amazon Location Service Routes V2

Features that are allowed while calculating a route.

Contents

Hot

Allow Hot (High Occupancy Toll) lanes while calculating the route.

Default value: `false`

Type: Boolean

Required: No

Hov

Allow Hov (High Occupancy vehicle) lanes while calculating the route.

Default value: `false`

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteAvoidanceArea

Service: Amazon Location Service Routes V2

Areas to be avoided.

Contents

Geometry

Geometry of the area to be avoided.

Type: [RouteAvoidanceAreaGeometry](#) object

Required: Yes

Except

Exceptions to the provided avoidance geometry, to be included while calculating the route.

Type: Array of [RouteAvoidanceAreaGeometry](#) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteAvoidanceAreaGeometry

Service: Amazon Location Service Routes V2

Geometry of the area to be avoided.

Contents

BoundingBox

Geometry defined as a bounding box. The first pair represents the X and Y coordinates (longitude and latitude,) of the southwest corner of the bounding box; the second pair represents the X and Y coordinates (longitude and latitude) of the northeast corner.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Corridor

Geometry defined as a corridor - a LineString with a radius that defines the width of the corridor.

Type: [Corridor](#) object

Required: No

Polygon

Geometry defined as a polygon with only one linear ring.

Type: Array of arrays of arrays of doubles

Array Members: Fixed number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

PolylineCorridor

Geometry defined as an encoded corridor - an encoded polyline with a radius that defines the width of the corridor.

Type: [PolylineCorridor](#) object

Required: No

PolylinePolygon

A list of Isoline PolylinePolygon, for each isoline PolylinePolygon, it contains PolylinePolygon of the first linear ring (the outer ring) and from 2nd item to the last item (the inner rings). For more information on polyline encoding, see <https://github.com/aws-geospatial/polyline>.

Type: Array of strings

Array Members: Fixed number of 1 item.

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteAvoidanceOptions

Service: Amazon Location Service Routes V2

Specifies options for areas to avoid when calculating the route. This is a best-effort avoidance setting, meaning the router will try to honor the avoidance preferences but may still include restricted areas if no feasible alternative route exists. If avoidance options are not followed, the response will indicate that the avoidance criteria were violated.

Contents

Areas

Areas to be avoided. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [RouteAvoidanceArea](#) objects

Required: No

CarShuttleTrains

Avoid car-shuttle-trains while calculating the route. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Boolean

Required: No

ControlledAccessHighways

Avoid controlled access highways while calculating the route.

Type: Boolean

Required: No

DirtRoads

Avoid dirt roads while calculating the route. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Boolean

Required: No

Ferries

Avoid ferries while calculating the route.

Type: Boolean

Required: No

SeasonalClosure

Avoid roads that have seasonal closure while calculating the route. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Boolean

Required: No

TollRoads

Avoids roads where the specified toll transponders are the only mode of payment.

Type: Boolean

Required: No

TollTransponders

Avoids roads where the specified toll transponders are the only mode of payment. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Boolean

Required: No

TruckRoadTypes

Truck road type identifiers. BK1 through BK4 apply only to Sweden.

A2, A4, B2, B4, C, D, ET2, ET4 apply only to Mexico. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Note

There are currently no other supported values as of 26th April 2024.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 12 items.

Length Constraints: Minimum length of 1. Maximum length of 3.

Required: No

Tunnels

Avoid tunnels while calculating the route. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Boolean

Required: No

UTurns

Avoid U-turns for calculation on highways and motorways. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Boolean

Required: No

ZoneCategories

Zone categories to be avoided. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [RouteAvoidanceZoneCategory](#) objects

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)

RouteAvoidanceZoneCategory

Service: Amazon Location Service Routes V2

Zone categories to be avoided. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Contents

Category

Zone category to be avoided.

Type: String

Valid Values: CongestionPricing | Environmental | Vignette

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteCarOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is Car. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only LicensePlate options.

Contents

EngineType

Engine type of the vehicle. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: String

Valid Values: Electric | InternalCombustion | PluginHybrid

Required: No

LicensePlate

The vehicle License Plate.

Type: [RouteVehicleLicensePlate](#) object

Required: No

MaxSpeed

Maximum speed specified. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteContinueHighwayStepDetails

Service: Amazon Location Service Routes V2

Details related to the continue highway step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of [LocalizedString](#) objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: Left | Right | Straight

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: Sharp | Slight | Typical

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteContinueStepDetails

Service: Amazon Location Service Routes V2

Details related to the continue step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of [LocalizedString](#) objects

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteDestinationOptions

Service: Amazon Location Service Routes V2

Options related to the destination.

Contents

AvoidActionsForDistance

The distance in meters from the destination point within which certain routing actions (such as U-turns or left turns across traffic) are restricted. This helps generate more practical routes by avoiding potentially dangerous maneuvers near the endpoint.

Type: Long

Valid Range: Maximum value of 2000.

Required: No

AvoidUTurns

Avoid U-turns for calculation on highways and motorways.

Type: Boolean

Required: No

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Options to configure matching the provided position to the road network.

Type: [RouteMatchingOptions](#) object

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: [RouteSideOfStreetOptions](#) object

Required: No

StopDuration

Duration of the stop.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteDriverOptions

Service: Amazon Location Service Routes V2

Driver related options.

Contents

Schedule

Driver work-rest schedule. Stops are added to fulfil the provided rest schedule.

Type: Array of [RouteDriverScheduleInterval](#) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteDriverScheduleInterval

Service: Amazon Location Service Routes V2

Interval of the driver work-rest schedule. Stops are added to fulfil the provided rest schedule.

Contents

DriveDuration

Maximum allowed driving time before stopping to rest.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

RestDuration

Resting time before the driver can continue driving.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteEmissionType

Service: Amazon Location Service Routes V2

Type of the emission.

Valid values: Euro1, Euro2, Euro3, Euro4, Euro5, Euro6, EuroEev

Contents

Type

Type of the emission.

Valid values: Euro1, Euro2, Euro3, Euro4, Euro5, Euro6, EuroEev

Type: String

Required: Yes

Co2EmissionClass

The CO 2 emission classes.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteEnterHighwayStepDetails

Service: Amazon Location Service Routes V2

Details related to the enter highway step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of [LocalizedString](#) objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: Left | Right | Straight

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: Sharp | Slight | Typical

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteExclusionOptions

Service: Amazon Location Service Routes V2

Specifies strict exclusion options for the route calculation. This setting mandates that the router will avoid any routes that include the specified options, rather than merely attempting to minimize them.

Contents

Countries

List of countries to be avoided defined by two-letter or three-letter country codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteExitStepDetails

Service: Amazon Location Service Routes V2

Details related to the exit step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of [LocalizedString](#) objects

Required: Yes

RelativeExit

Exit to be taken.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 12.

Required: No

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: Left | Right | Straight

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: Sharp | Slight | Typical

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteFerryAfterTravelStep

Service: Amazon Location Service Routes V2

Steps of a leg that must be performed after the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: Deboard

Required: Yes

Instruction

Brief description of the step in the requested language.

Note

Only available when the TravelStepType is Default.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteFerryArrival

Service: Amazon Location Service Routes V2

Details corresponding to the arrival for the leg.

Contents

Place

The place details.

Type: [RouteFerryPlace](#) object

Required: Yes

Time

The time.

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+ -])([01][0-9]|2[0-3]):([0-5][0-9]))

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteFerryBeforeTravelStep

Service: Amazon Location Service Routes V2

Steps of a leg that must be performed before the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: Board

Required: Yes

Instruction

Brief description of the step in the requested language.

Note

Only available when the TravelStepType is Default.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteFerryDeparture

Service: Amazon Location Service Routes V2

Details corresponding to the departure for the leg.

Contents

Place

The place details.

Type: [RouteFerryPlace](#) object

Required: Yes

Time

The time.

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+ -])([01][0-9]|2[0-3]):([0-5][0-9]))

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteFerryLegDetails

Service: Amazon Location Service Routes V2

FerryLegDetails is populated when the Leg type is Ferry, and provides additional information that is specific to ferry travel.

Contents

AfterTravelSteps

Steps of a leg that must be performed after the travel portion of the leg.

Type: Array of [RouteFerryAfterTravelStep](#) objects

Required: Yes

Arrival

Details corresponding to the arrival for the leg.

Type: [RouteFerryArrival](#) object

Required: Yes

BeforeTravelSteps

Steps of a leg that must be performed before the travel portion of the leg.

Type: Array of [RouteFerryBeforeTravelStep](#) objects

Required: Yes

Departure

Details corresponding to the departure for the leg.

Type: [RouteFerryDeparture](#) object

Required: Yes

Notices

Notices are additional information returned that indicate issues that occurred during route calculation.

Type: Array of [RouteFerryNotice](#) objects

Required: Yes

PassThroughWaypoints

Waypoints that were passed through during the leg. This includes the waypoints that were configured with the PassThrough option.

Type: Array of [RoutePassThroughWaypoint](#) objects

Required: Yes

Spans

Spans that were computed for the requested SpanAdditionalFeatures.

Type: Array of [RouteFerrySpan](#) objects

Required: Yes

TravelSteps

Steps of a leg that must be performed before the travel portion of the leg.

Type: Array of [RouteFerryTravelStep](#) objects

Required: Yes

RouteName

Route name of the ferry line.

Type: String

Required: No

Summary

Summarized details of the leg.

Type: [RouteFerrySummary](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteFerryNotice

Service: Amazon Location Service Routes V2

Notices are additional information returned that indicate issues that occurred during route calculation.

Contents

Code

Code corresponding to the issue.

Type: String

Valid Values: `AccuratePolylineUnavailable` | `NoSchedule` | `Other` | `ViolatedAvoidFerry` | `ViolatedAvoidRailFerry` | `SeasonalClosure` | `PotentialViolatedVehicleRestrictionUsage`

Required: Yes

Impact

Impact corresponding to the issue. While Low impact notices can be safely ignored, High impact notices must be evaluated further to determine the impact.

Type: String

Valid Values: `High` | `Low`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteFerryOverviewSummary

Service: Amazon Location Service Routes V2

Summarized details of the leg.

Contents

Distance

Distance of the step.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Duration

Duration of the step.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteFerryPlace

Service: Amazon Location Service Routes V2

Position provided in the request.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: Yes

Name

The name of the place.

Type: String

Required: No

OriginalPosition

Position provided in the request.

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: No

WaypointIndex

Index of the waypoint in the request.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteFerrySpan

Service: Amazon Location Service Routes V2

Span computed for the requested SpanAdditionalFeatures.

Contents

Country

3 letter Country code corresponding to the Span.

Type: String

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

Distance

Distance of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Unit: meters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Duration

Duration of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this span.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Names

Provides an array of names of the ferry span in available languages.

Type: Array of [LocalizedString](#) objects

Required: No

Region

2-3 letter Region code corresponding to the Span. This is either a province or a state.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 3.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteFerrySummary

Service: Amazon Location Service Routes V2

Summarized details for the leg including travel steps only. The Distance for the travel only portion of the journey is the same as the Distance within the Overview summary.

Contents

Overview

Summarized details for the leg including before travel, travel and after travel steps.

Type: [RouteFerryOverviewSummary](#) object

Required: No

TravelOnly

Summarized details for the leg including travel steps only. The Distance for the travel only portion of the journey is in meters

Type: [RouteFerryTravelOnlySummary](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteFerryTravelOnlySummary

Service: Amazon Location Service Routes V2

Summarized details for the leg including travel steps only. The Distance for the travel only portion of the journey is the same as the Distance within the Overview summary.

Contents

Duration

Total duration in free flowing traffic, which is the best case or shortest duration possible to cover the leg.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteFerryTravelStep

Service: Amazon Location Service Routes V2

Steps of a leg that must be performed during the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: Depart | Continue | Arrive

Required: Yes

Distance

Distance of the step.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this step.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Instruction

Brief description of the step in the requested language.

Note

Only available when the TravelStepType is Default.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteKeepStepDetails

Service: Amazon Location Service Routes V2

Details that are specific to a Keep step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of [LocalizedString](#) objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: Left | Right | Straight

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: Sharp | Slight | Typical

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteLeg

Service: Amazon Location Service Routes V2

A leg is a section of a route from one waypoint to the next. A leg could be of type Vehicle, Pedestrian or Ferry. Legs of different types could occur together within a single route. For example, a car employing the use of a Ferry will contain Vehicle legs corresponding to journey on land, and Ferry legs corresponding to the journey via Ferry.

Contents

Geometry

Geometry of the area to be avoided.

Type: [RouteLegGeometry](#) object

Required: Yes

FerryLegDetails

FerryLegDetails is populated when the Leg type is Ferry, and provides additional information that is specific to ferry travel. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteFerryLegDetails](#) object

Required: No

Language

List of languages for instructions within steps in the response. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

PedestrianLegDetails

Details related to the pedestrian leg.

Type: [RoutePedestrianLegDetails](#) object

Required: No

VehicleLegDetails

Details related to the vehicle leg.

Type: [RouteVehicleLegDetails](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteLegGeometry

Service: Amazon Location Service Routes V2

The returned Route leg geometry.

Contents

LineString

An ordered list of positions used to plot a route on a map.

Note

LineString and Polyline are mutually exclusive properties.

Type: Array of arrays of doubles

Array Members: Minimum number of 2 items.

Array Members: Fixed number of 2 items.

Required: No

Polyline

An ordered list of positions used to plot a route on a map in a lossy compression format.

Note

LineString and Polyline are mutually exclusive properties.

Type: String

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMajorRoadLabel

Service: Amazon Location Service Routes V2

Important labels including names and route numbers that differentiate the current route from the alternatives presented.

Contents

RoadName

Name of the road (localized).

Type: [LocalizedString](#) object

Required: No

RouteNumber

Route number of the road.

Type: [RouteNumber](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatchingOptions

Service: Amazon Location Service Routes V2

Options related to route matching.

Contents

NameHint

Attempts to match the provided position to a road similar to the provided name.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 100.

Required: No

OnRoadThreshold

If the distance to a highway/bridge/tunnel/sliproad is within threshold, the waypoint will be snapped to the highway/bridge/tunnel/sliproad.

Unit: meters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Radius

Considers all roads within the provided radius to match the provided destination to. The roads that are considered are determined by the provided Strategy.

Unit: meters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Strategy

Strategy that defines matching of the position onto the road network. MatchAny considers all roads possible, whereas MatchMostSignificantRoad matches to the most significant road.

Type: String

Valid Values: MatchAny | MatchMostSignificantRoad

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixAllowOptions

Service: Amazon Location Service Routes V2

Allow Options related to the route matrix.

Contents

Hot

Allow Hot (High Occupancy Toll) lanes while calculating the route.

Default value: `false`

Type: Boolean

Required: No

Hov

Allow Hov (High Occupancy vehicle) lanes while calculating the route.

Default value: `false`

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixAutoCircle

Service: Amazon Location Service Routes V2

Provides the circle that was used while calculating the route.

Contents

Margin

The margin provided for the calculation.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 200000.

Required: No

MaxRadius

The maximum size of the radius provided for the calculation.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 200000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixAvoidanceArea

Service: Amazon Location Service Routes V2

Area to be avoided.

Contents

Geometry

Geometry of the area to be avoided.

Type: [RouteMatrixAvoidanceAreaGeometry](#) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixAvoidanceAreaGeometry

Service: Amazon Location Service Routes V2

Geometry of the area to be avoided.

Contents

BoundingBox

Geometry defined as a bounding box. The first pair represents the X and Y coordinates (longitude and latitude,) of the southwest corner of the bounding box; the second pair represents the X and Y coordinates (longitude and latitude) of the northeast corner.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Polygon

Geometry defined as a polygon with only one linear ring.

Type: Array of arrays of arrays of doubles

Array Members: Fixed number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

PolylinePolygon

A list of Isoline PolylinePolygon, for each isoline PolylinePolygon, it contains PolylinePolygon of the first linear ring (the outer ring) and from second item to the last item (the inner rings). For more information on polyline encoding, see <https://github.com/aws-geospatial/polyline>.

Type: Array of strings

Array Members: Fixed number of 1 item.

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixAvoidanceOptions

Service: Amazon Location Service Routes V2

Specifies options for areas to avoid when calculating the route. This is a best-effort avoidance setting, meaning the router will try to honor the avoidance preferences but may still include restricted areas if no feasible alternative route exists. If avoidance options are not followed, the response will indicate that the avoidance criteria were violated.

Contents

Areas

Areas to be avoided.

Type: Array of [RouteMatrixAvoidanceArea](#) objects

Array Members: Minimum number of 0 items. Maximum number of 250 items.

Required: No

CarShuttleTrains

Avoid car-shuttle-trains while calculating the route.

Type: Boolean

Required: No

ControlledAccessHighways

Avoid controlled access highways while calculating the route.

Type: Boolean

Required: No

DirtRoads

Avoid dirt roads while calculating the route.

Type: Boolean

Required: No

Ferries

Avoid ferries while calculating the route.

Type: Boolean

Required: No

TollRoads

Avoids roads where the specified toll transponders are the only mode of payment.

Type: Boolean

Required: No

TollTransponders

Avoids roads where the specified toll transponders are the only mode of payment.

Type: Boolean

Required: No

TruckRoadTypes

Truck road type identifiers. BK1 through BK4 apply only to Sweden.

A2, A4, B2, B4, C, D, ET2, ET4 apply only to Mexico.

Note

There are currently no other supported values as of 26th April 2024.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 12 items.

Length Constraints: Minimum length of 1. Maximum length of 3.

Required: No

Tunnels

Avoid tunnels while calculating the route.

Type: Boolean

Required: No

UTurns

Avoid U-turns for calculation on highways and motorways.

Type: Boolean

Required: No

ZoneCategories

Zone categories to be avoided.

Type: Array of [RouteMatrixAvoidanceZoneCategory](#) objects

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixAvoidanceZoneCategory

Service: Amazon Location Service Routes V2

Zone categories to be avoided.

Contents

Category

Zone category to be avoided.

Type: String

Valid Values: CongestionPricing | Environmental | Vignette

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixBoundary

Service: Amazon Location Service Routes V2

Boundary within which the matrix is to be calculated. All data, origins and destinations outside the boundary are considered invalid.

Contents

Geometry

Geometry of the area to be avoided.

Type: [RouteMatrixBoundaryGeometry](#) object

Required: No

Unbounded

No restrictions in terms of a routing boundary, and is typically used for longer routes.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixBoundaryGeometry

Service: Amazon Location Service Routes V2

Geometry of the routing boundary.

Contents

AutoCircle

Provides the circle that was used while calculating the route.

Type: [RouteMatrixAutoCircle](#) object

Required: No

BoundingBox

Geometry defined as a bounding box. The first pair represents the X and Y coordinates (longitude and latitude,) of the southwest corner of the bounding box; the second pair represents the X and Y coordinates (longitude and latitude) of the northeast corner.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Circle

Geometry defined as a circle. When request routing boundary was set as AutoCircle, the response routing boundary will return Circle derived from the AutoCircle settings.

Type: [Circle](#) object

Required: No

Polygon

Geometry defined as a polygon with only one linear ring.

Type: Array of arrays of arrays of doubles

Array Members: Fixed number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixCarOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is Car.

Contents

LicensePlate

The vehicle License Plate.

Type: [RouteMatrixVehicleLicensePlate](#) object

Required: No

MaxSpeed

Maximum speed

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixDestination

Service: Amazon Location Service Routes V2

The route destination.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Options

Destination related options. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteMatrixDestinationOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixDestinationOptions

Service: Amazon Location Service Routes V2

Options related to the destination.

Contents

AvoidActionsForDistance

Avoids actions for the provided distance. This is typically to consider for users in moving vehicles who may not have sufficient time to make an action at an origin or a destination.

Type: Long

Valid Range: Minimum value of 0.

Required: No

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Options to configure matching the provided position to the road network.

Type: [RouteMatrixMatchingOptions](#) object

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: [RouteMatrixSideOfStreetOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixEntry

Service: Amazon Location Service Routes V2

The calculated route matrix containing the results for all pairs of Origins to Destination positions. Each row corresponds to one entry in Origins. Each entry in the row corresponds to the route from that entry in Origins to an entry in Destination positions.

Contents

Distance

The total distance of travel for the route.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Duration

The expected duration of travel for the route.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Error

Error code that occurred during calculation of the route.

Type: String

Valid Values: NoMatch | NoMatchDestination | NoMatchOrigin | NoRoute | OutOfBounds | OutOfBoundsDestination | OutOfBoundsOrigin | Other | Violation

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixExclusionOptions

Service: Amazon Location Service Routes V2

Specifies strict exclusion options for the route calculation. This setting mandates that the router will avoid any routes that include the specified options, rather than merely attempting to minimize them.

Contents

Countries

List of countries to be avoided defined by two-letter or three-letter country codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixMatchingOptions

Service: Amazon Location Service Routes V2

Matching options.

Contents

NameHint

Attempts to match the provided position to a road similar to the provided name.

Type: String

Required: No

OnRoadThreshold

If the distance to a highway/bridge/tunnel/sliproad is within threshold, the waypoint will be snapped to the highway/bridge/tunnel/sliproad.

Unit: meters

Type: Long

Valid Range: Minimum value of 0.

Required: No

Radius

Considers all roads within the provided radius to match the provided destination to. The roads that are considered are determined by the provided Strategy.

Unit: meters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Strategy

Strategy that defines matching of the position onto the road network. MatchAny considers all roads possible, whereas MatchMostSignificantRoad matches to the most significant road.

Type: String

Valid Values: MatchAny | MatchMostSignificantRoad

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixOrigin

Service: Amazon Location Service Routes V2

The start position for the route in World Geodetic System (WGS 84) format: [longitude, latitude].

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Options

Origin related options. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteMatrixOriginOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixOriginOptions

Service: Amazon Location Service Routes V2

Origin related options.

Contents

AvoidActionsForDistance

Avoids actions for the provided distance. This is typically to consider for users in moving vehicles who may not have sufficient time to make an action at an origin or a destination.

Type: Long

Valid Range: Minimum value of 0.

Required: No

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Options to configure matching the provided position to the road network.

Type: [RouteMatrixMatchingOptions](#) object

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: [RouteMatrixSideOfStreetOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixScooterOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is `Scooter`.

Contents

LicensePlate

The vehicle License Plate.

Type: [RouteMatrixVehicleLicensePlate](#) object

Required: No

MaxSpeed

Maximum speed.

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixSideOfStreetOptions

Service: Amazon Location Service Routes V2

Options to configure matching the provided position to a side of the street.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

UseWith

Strategy that defines when the side of street position should be used. AnyStreet will always use the provided position.

Default value: DividedStreetOnly

Type: String

Valid Values: AnyStreet | DividedStreetOnly

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixTrafficOptions

Service: Amazon Location Service Routes V2

Traffic related options.

Contents

FlowEventThresholdOverride

Duration for which flow traffic is considered valid. For this period, the flow traffic is used over historical traffic data. Flow traffic refers to congestion, which changes very quickly. Duration in seconds for which flow traffic event would be considered valid. While flow traffic event is valid it will be used over the historical traffic data.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Usage

Determines if traffic should be used or ignored while calculating the route.

Default value: UseTrafficData

Type: String

Valid Values: IgnoreTrafficData | UseTrafficData

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixTrailerOptions

Service: Amazon Location Service Routes V2

Trailer options corresponding to the vehicle.

Contents

TrailerCount

Number of trailers attached to the vehicle.

Default value: 0

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 255.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixTravelModeOptions

Service: Amazon Location Service Routes V2

Travel mode related options for the provided travel mode.

Contents

Car

Travel mode options when the provided travel mode is `Car`.

Type: [RouteMatrixCarOptions](#) object

Required: No

Scooter

Travel mode options when the provided travel mode is `Scooter`.

Note

When travel mode is set to `Scooter`, then the avoidance option `ControlledAccessHighways` defaults to `true`.

Type: [RouteMatrixScooterOptions](#) object

Required: No

Truck

Travel mode options when the provided travel mode is `Truck`.

Type: [RouteMatrixTruckOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixTruckOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is `Truck`.

Contents

AxleCount

Total number of axles of the vehicle.

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 255.

Required: No

GrossWeight

Gross weight of the vehicle including trailers, and goods at capacity.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

HazardousCargos

List of Hazardous cargo contained in the vehicle.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 11 items.

Valid Values: `Combustible` | `Corrosive` | `Explosive` | `Flammable` | `Gas` | `HarmfulToWater` | `Organic` | `Other` | `Poison` | `PoisonousInhalation` | `Radioactive`

Required: No

Height

Height of the vehicle.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

KpraLength

Kingpin to rear axle length of the vehicle

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Length

Length of the vehicle.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 30000.

Required: No

LicensePlate

The vehicle License Plate.

Type: [RouteMatrixVehicleLicensePlate](#) object

Required: No

MaxSpeed

Maximum speed

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

PayloadCapacity

Payload capacity of the vehicle and trailers attached.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Trailer

Trailer options corresponding to the vehicle.

Type: [RouteMatrixTrailerOptions](#) object

Required: No

TruckType

The type of truck: `LightTruck` for smaller delivery vehicles, `StraightTruck` for rigid body trucks, or `Tractor` for tractor-trailer combinations.

Type: String

Valid Values: `LightTruck` | `StraightTruck` | `Tractor`

Required: No

TunnelRestrictionCode

The tunnel restriction code.

Tunnel categories in this list indicate the restrictions which apply to certain tunnels in Great Britain. They relate to the types of dangerous goods that can be transported through them.

- *Tunnel Category B*
 - *Risk Level:* Limited risk
 - *Restrictions:* Few restrictions
- *Tunnel Category C*
 - *Risk Level:* Medium risk
 - *Restrictions:* Some restrictions
- *Tunnel Category D*
 - *Risk Level:* High risk
 - *Restrictions:* Many restrictions occur
- *Tunnel Category E*
 - *Risk Level:* Very high risk
 - *Restrictions:* Restricted tunnel

Type: String

Length Constraints: Fixed length of 1.

Required: No

WeightPerAxle

Heaviest weight per axle irrespective of the axle type or the axle group. Meant for usage in countries where the differences in axle types or axle groups are not distinguished.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

WeightPerAxleGroup

Specifies the total weight for the specified axle group. Meant for usage in countries that have different regulations based on the axle group type.

Type: [WeightPerAxleGroup](#) object

Required: No

Width

Width of the vehicle.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteMatrixVehicleLicensePlate

Service: Amazon Location Service Routes V2

The vehicle License Plate.

Contents

LastCharacter

The last character of the License Plate.

Type: String

Length Constraints: Fixed length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteNoticeDetailRange

Service: Amazon Location Service Routes V2

Notice Detail that is a range.

Contents

Max

Maximum value for the range.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Min

Minimum value for the range.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteNumber

Service: Amazon Location Service Routes V2

The route number.

Contents

Value

The route number.

Type: String

Required: Yes

Direction

Directional identifier of the route.

Type: String

Valid Values: East | North | South | West

Required: No

Language

List of languages for instructions corresponding to the route number.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteOriginOptions

Service: Amazon Location Service Routes V2

Origin related options.

Contents

AvoidActionsForDistance

Avoids actions for the provided distance. This is typically to consider for users in moving vehicles who may not have sufficient time to make an action at an origin or a destination.

Type: Long

Valid Range: Maximum value of 2000.

Required: No

AvoidUTurns

Avoid U-turns for calculation on highways and motorways.

Type: Boolean

Required: No

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Options to configure matching the provided position to the road network.

Type: [RouteMatchingOptions](#) object

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: [RouteSideOfStreetOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoutePassThroughPlace

Service: Amazon Location Service Routes V2

The place where the waypoint is passed through and not treated as a stop.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: Yes

OriginalPosition

Position provided in the request.

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: No

WaypointIndex

Index of the waypoint in the request.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoutePassThroughWaypoint

Service: Amazon Location Service Routes V2

If the waypoint should be treated as a stop. If yes, the route is split up into different legs around the stop.

Contents

Place

The place details.

Type: [RoutePassThroughPlace](#) object

Required: Yes

GeometryOffset

Offset in the leg geometry corresponding to the start of this step.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoutePedestrianArrival

Service: Amazon Location Service Routes V2

Details corresponding to the arrival for a leg.

Time format: YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm

Examples:

2020-04-22T17:57:24Z

2020-04-22T17:57:24+02:00

Contents

Place

The place details.

Type: [RoutePedestrianPlace](#) object

Required: Yes

Time

The time.

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+ -])([01][0-9]|2[0-3]):([0-5][0-9]))

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)

RoutePedestrianDeparture

Service: Amazon Location Service Routes V2

Details corresponding to the departure for a leg.

Time format: YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm

Examples:

2020-04-22T17:57:24Z

2020-04-22T17:57:24+02:00

Contents

Place

The place details.

Type: [RoutePedestrianPlace](#) object

Required: Yes

Time

The time.

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+-])([01][0-9]|2[0-3]):([0-5][0-9]))

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)

RoutePedestrianLegDetails

Service: Amazon Location Service Routes V2

Details that are specific to a pedestrian leg.

Contents

Arrival

Details corresponding to the arrival for the leg.

Type: [RoutePedestrianArrival](#) object

Required: Yes

Departure

Details corresponding to the departure for the leg.

Type: [RoutePedestrianDeparture](#) object

Required: Yes

Notices

Notices are additional information returned that indicate issues that occurred during route calculation. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [RoutePedestrianNotice](#) objects

Required: Yes

PassThroughWaypoints

Waypoints that were passed through during the leg. This includes the waypoints that were configured with the PassThrough option.

Type: Array of [RoutePassThroughWaypoint](#) objects

Required: Yes

Spans

Spans that were computed for the requested SpanAdditionalFeatures. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [RoutePedestrianSpan](#) objects

Required: Yes

TravelSteps

Steps of a leg that must be performed before the travel portion of the leg.

Type: Array of [RoutePedestrianTravelStep](#) objects

Required: Yes

Summary

Summarized details of the leg.

Type: [RoutePedestrianSummary](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoutePedestrianNotice

Service: Amazon Location Service Routes V2

Notices are additional information returned that indicate issues that occurred during route calculation.

Contents

Code

Code corresponding to the issue.

Type: String

Valid Values: `AccuratePolylineUnavailable` | `Other` | `ViolatedAvoidDirtRoad` | `ViolatedAvoidTunnel` | `ViolatedPedestrianOption`

Required: Yes

Impact

Impact corresponding to the issue. While Low impact notices can be safely ignored, High impact notices must be evaluated further to determine the impact.

Type: String

Valid Values: `High` | `Low`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoutePedestrianOptions

Service: Amazon Location Service Routes V2

Options related to the pedestrian. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Contents

Speed

Walking speed in Kilometers per hour.

Type: Double

Valid Range: Minimum value of 1.8. Maximum value of 7.2.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoutePedestrianOverviewSummary

Service: Amazon Location Service Routes V2

Provides a summary of a pedestrian route step.

Contents

Distance

Distance of the step.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Duration

Duration of the step.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoutePedestrianPlace

Service: Amazon Location Service Routes V2

Place details corresponding to the arrival or departure.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: Yes

Name

The name of the place.

Type: String

Required: No

OriginalPosition

Position provided in the request.

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: String

Valid Values: Left | Right

Required: No

WaypointIndex

Index of the waypoint in the request.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoutePedestrianSpan

Service: Amazon Location Service Routes V2

Span computed for the requested SpanAdditionalFeatures.

Contents

BestCaseDuration

Duration of the computed span without traffic congestion.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Country

3 letter Country code corresponding to the Span.

Type: String

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

Distance

Distance of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Duration

Duration of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

DynamicSpeed

Dynamic speed details corresponding to the span.

Unit: kilometers per hour

Type: [RouteSpanDynamicSpeedDetails](#) object

Required: No

FunctionalClassification

A numerical value indicating the functional classification of the road segment corresponding to the span.

Classification values are part of the hierarchical network that helps determine a logical and efficient route, and have the following definitions:

1. Roads that allow for high volume, maximum speed traffic movement between and through major metropolitan areas.
2. Roads that are used to channel traffic to functional class 1 roads for travel between and through cities in the shortest amount of time.
3. Roads that intersect functional class 2 roads and provide a high volume of traffic movement at a lower level of mobility than functional class 2 roads.
4. Roads that provide for a high volume of traffic movement at moderate speeds between neighborhoods.
5. Roads with volume and traffic movement below the level of any other functional class.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 5.

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this span.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Incidents

Incidents corresponding to the span. These index into the Incidents in the parent Leg.

Type: Array of integers

Required: No

Names

Provides an array of names of the pedestrian span in available languages.

Type: Array of [LocalizedString](#) objects

Required: No

PedestrianAccess

Access attributes for a pedestrian corresponding to the span.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 6 items.

Valid Values: Allowed | Indoors | NoThroughTraffic | Park | Stairs | TollRoad

Required: No

Region

2-3 letter Region code corresponding to the Span. This is either a province or a state.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 3.

Required: No

RoadAttributes

Attributes for the road segment corresponding to the span.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 12 items.

Valid Values: Bridge | BuiltUpArea | ControlledAccessHighway | DirtRoad | DividedRoad | Motorway | PrivateRoad | Ramp | RightHandTraffic | Roundabout | Tunnel | UnderConstruction

Required: No

RouteNumbers

Designated route name or number corresponding to the span.

Type: Array of [RouteNumber](#) objects

Required: No

SpeedLimit

Speed limit details corresponding to the span.

Unit: kilometers per hour

Type: [RouteSpanSpeedLimitDetails](#) object

Required: No

TypicalDuration

Duration of the computed span under typical traffic congestion.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoutePedestrianSummary

Service: Amazon Location Service Routes V2

Summarized details for the leg including before travel, travel and after travel steps.

Contents

Overview

Summarized details for the leg including before travel, travel and after travel steps.

Type: [RoutePedestrianOverviewSummary](#) object

Required: No

TravelOnly

Summarized details for the leg including travel steps only. The Distance for the travel only portion of the journey is in meters

Type: [RoutePedestrianTravelOnlySummary](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoutePedestrianTravelOnlySummary

Service: Amazon Location Service Routes V2

Summarized details for the leg including travel steps.

Contents

Duration

Duration of the step.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RoutePedestrianTravelStep

Service: Amazon Location Service Routes V2

Steps of a leg that must be performed during the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

ContinueStepDetails

Details related to the continue step.

Type: [RouteContinueStepDetails](#) object

Required: No

CurrentRoad

Details of the current road. See RouteRoad for details of sub-attributes.

Type: [RouteRoad](#) object

Required: No

Distance

Distance of the step.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

ExitNumber

Exit number of the road exit, if applicable.

Type: Array of [LocalizedString](#) objects

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this step.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Instruction

Brief description of the step in the requested language.

Note

Only available when the TravelStepType is Default.

Type: String

Required: No

KeepStepDetails

Details that are specific to a Keep step.

Type: [RouteKeepStepDetails](#) object

Required: No

NextRoad

Details of the next road. See RouteRoad for details of sub-attributes.

Type: [RouteRoad](#) object

Required: No

RoundaboutEnterStepDetails

Details that are specific to a Roundabout Enter step.

Type: [RouteRoundaboutEnterStepDetails](#) object

Required: No

RoundaboutExitStepDetails

Details that are specific to a Roundabout Exit step.

Type: [RouteRoundaboutExitStepDetails](#) object

Required: No

RoundaboutPassStepDetails

Details that are specific to a Roundabout Pass step.

Type: [RouteRoundaboutPassStepDetails](#) object

Required: No

Signpost

Sign post information of the action, applicable only for TurnByTurn steps. See [RouteSignpost](#) for details of sub-attributes.

Type: [RouteSignpost](#) object

Required: No

TurnStepDetails

Details that are specific to a turn step.

Type: [RouteTurnStepDetails](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteRampStepDetails

Service: Amazon Location Service Routes V2

Details that are specific to a ramp step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of [LocalizedString](#) objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: Left | Right | Straight

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: Sharp | Slight | Typical

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteResponseNotice

Service: Amazon Location Service Routes V2

Notices are additional information returned that indicate issues that occurred during route calculation.

Contents

Impact

Impact corresponding to the issue. While Low impact notices can be safely ignored, High impact notices must be evaluated further to determine the impact.

Type: String

Valid Values: High | Low

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteRoad

Service: Amazon Location Service Routes V2

The road on the route.

Contents

RoadName

Name of the road (localized).

Type: Array of [LocalizedString](#) objects

Required: Yes

RouteNumber

Route number of the road.

Type: Array of [RouteNumber](#) objects

Required: Yes

Towards

Names of destinations that can be reached when traveling on the road.

Type: Array of [LocalizedString](#) objects

Required: Yes

Type

The type of road.

Type: String

Valid Values: Highway | Rural | Urban

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteRoundaboutEnterStepDetails

Service: Amazon Location Service Routes V2

Details about the roundabout leg.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of [LocalizedString](#) objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: Left | Right | Straight

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: Sharp | Slight | Typical

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteRoundaboutExitStepDetails

Service: Amazon Location Service Routes V2

Details about the roundabout step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of [LocalizedString](#) objects

Required: Yes

RelativeExit

Exit to be taken.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 12.

Required: No

RoundaboutAngle

Angle of the roundabout.

Type: Double

Valid Range: Minimum value of -360. Maximum value of 360.

Required: No

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: Left | Right | Straight

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteRoundaboutPassStepDetails

Service: Amazon Location Service Routes V2

Details about the step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of [LocalizedString](#) objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: Left | Right | Straight

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: Sharp | Slight | Typical

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteScooterOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is Scooter. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only LicensePlate options.

Contents

EngineType

Engine type of the vehicle. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: String

Valid Values: Electric | InternalCombustion | PluginHybrid

Required: No

LicensePlate

The vehicle License Plate.

Type: [RouteVehicleLicensePlate](#) object

Required: No

MaxSpeed

Maximum speed Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteSideOfStreetOptions

Service: Amazon Location Service Routes V2

Options to configure matching the provided position to a side of the street.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

UseWith

Strategy that defines when the side of street position should be used.

Default value: DividedStreetOnly

Type: String

Valid Values: AnyStreet | DividedStreetOnly

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteSignpost

Service: Amazon Location Service Routes V2

Sign post information of the action, applicable only for TurnByTurn steps. See RouteSignpost for details of sub-attributes.

Contents

Labels

Labels present on the sign post.

Type: Array of [RouteSignpostLabel](#) objects

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteSignpostLabel

Service: Amazon Location Service Routes V2

Labels presented on the sign post.

Contents

RouteNumber

Route number of the road.

Type: [RouteNumber](#) object

Required: No

Text

The Signpost text.

Type: [LocalizedString](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteSpanDynamicSpeedDetails

Service: Amazon Location Service Routes V2

Details about the dynamic speed.

Unit: kilometers per hour

Contents

BestCaseSpeed

Estimated speed while traversing the span without traffic congestion.

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

TurnDuration

Estimated time to turn from this span into the next.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

TypicalSpeed

Estimated speed while traversing the span under typical traffic congestion.

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteSpanSpeedLimitDetails

Service: Amazon Location Service Routes V2

Details about the speed limit corresponding to the span.

Unit: kilometers per hour

Contents

MaxSpeed

Maximum speed.

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

Unlimited

If the span doesn't have a speed limit like the Autobahn.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteSummary

Service: Amazon Location Service Routes V2

Summarized details for the leg including travel steps only. The Distance for the travel only portion of the journey is the same as the Distance within the Overview summary.

Contents

Distance

Distance of the route.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Duration

Duration of the route.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Tolls

Toll summary for the complete route.

Type: [RouteTollSummary](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteToll

Service: Amazon Location Service Routes V2

Provides details about toll information along a route, including the payment sites, applicable toll rates, toll systems, and the country associated with the toll collection.

Contents

PaymentSites

Locations or sites where the toll fare is collected.

Type: Array of [RouteTollPaymentSite](#) objects

Required: Yes

Rates

Toll rates that need to be paid to travel this leg of the route.

Type: Array of [RouteTollRate](#) objects

Required: Yes

Systems

Toll systems are authorities that collect payments for the toll.

Type: Array of integers

Required: Yes

Country

The alpha-2 or alpha-3 character code for the country.

Type: String

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTollOptions

Service: Amazon Location Service Routes V2

Options related to Tolls on a route.

Contents

AllTransponders

Specifies if the user has valid transponder with access to all toll systems. This impacts toll calculation, and if true the price with transponders is used.

Type: Boolean

Required: No

AllVignettes

Specifies if the user has valid vignettes with access for all toll roads. If a user has a vignette for a toll road, then toll cost for that road is omitted since no further payment is necessary.

Type: Boolean

Required: No

Currency

Currency code corresponding to the price. This is the same as Currency specified in the request.

Type: String

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

EmissionType

Emission type of the vehicle for toll cost calculation.

Valid values: Euro1, Euro2, Euro3, Euro4, Euro5, Euro6, EuroEev

Type: [RouteEmissionType](#) object

Required: No

VehicleCategory

Vehicle category for toll cost calculation.

Type: String

Valid Values: Minibus

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTollPass

Service: Amazon Location Service Routes V2

Details if the toll rate can be a pass that supports multiple trips.

Contents

IncludesReturnTrip

If the pass includes the rate for the return leg of the trip.

Type: Boolean

Required: No

SeniorPass

If the pass is only valid for senior persons.

Type: Boolean

Required: No

TransferCount

If the toll pass can be transferred, and how many times.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

TripCount

Number of trips the pass is valid for.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

ValidityPeriod

Period for which the pass is valid.

Type: [RouteTollPassValidityPeriod](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTollPassValidityPeriod

Service: Amazon Location Service Routes V2

Period for which the pass is valid.

Contents

Period

Validity period.

Type: String

Valid Values: Annual | Days | ExtendedAnnual | Minutes | Months

Required: Yes

PeriodCount

Counts for the validity period.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTollPaymentSite

Service: Amazon Location Service Routes V2

Locations or sites where the toll fare is collected.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: Yes

Name

Name of the payment site.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTollPrice

Service: Amazon Location Service Routes V2

The toll price.

Contents

Currency

Currency code corresponding to the price. This is the same as Currency specified in the request.

Type: String

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: Yes

Estimate

If the price is an estimate or an exact value.

Type: Boolean

Required: Yes

Range

If the price is a range or an exact value. If any of the toll fares making up the route is a range, the overall price is also a range.

Type: Boolean

Required: Yes

Value

Exact price, if not a range.

Type: Double

Valid Range: Minimum value of 0.0.

Required: Yes

PerDuration

Duration for which the price corresponds to.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

RangeValue

Price range with a minimum and maximum value, if a range.

Type: [RouteTollPriceValueRange](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTollPriceSummary

Service: Amazon Location Service Routes V2

Summary of the route and toll price.

Contents

Currency

Currency code corresponding to the price. This is the same as Currency specified in the request.

Type: String

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: Yes

Estimate

If the price is an estimate or an exact value.

Type: Boolean

Required: Yes

Range

If the price is a range or an exact value. If any of the toll fares making up the route is a range, the overall price is also a range.

Type: Boolean

Required: Yes

Value

Exact price, if not a range.

Type: Double

Valid Range: Minimum value of 0.0.

Required: Yes

RangeValue

Price range with a minimum and maximum value, if a range.

Type: [RouteTollPriceValueRange](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTollPriceValueRange

Service: Amazon Location Service Routes V2

Price range with a minimum and maximum value, if a range.

Contents

Max

Maximum price.

Type: Double

Valid Range: Minimum value of 0.0.

Required: Yes

Min

Minimum price.

Type: Double

Valid Range: Minimum value of 0.0.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTollRate

Service: Amazon Location Service Routes V2

The toll rate.

Contents

Id

The Toll rate Id.

Type: String

Required: Yes

LocalPrice

Price in the local regional currency.

Type: [RouteTollPrice](#) object

Required: Yes

Name

The name of the toll.

Type: String

Required: Yes

PaymentMethods

Accepted payment methods at the toll.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 8 items.

Valid Values: BankCard | Cash | CashExact | CreditCard | PassSubscription | TravelCard | Transponder | VideoToll

Required: Yes

Transponders

Transponders for which this toll can be applied.

Type: Array of [RouteTransponder](#) objects

Required: Yes

ApplicableTimes

Time when the rate is valid.

Type: String

Required: No

ConvertedPrice

Price in the converted currency as specified in the request.

Type: [RouteTollPrice](#) object

Required: No

Pass

Details if the toll rate can be a pass that supports multiple trips.

Type: [RouteTollPass](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTollSummary

Service: Amazon Location Service Routes V2

The toll summary for the complete route.

Contents

Total

Total toll summary for the complete route. Total is the only summary available today.

Type: [RouteTollPriceSummary](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTollSystem

Service: Amazon Location Service Routes V2

Toll systems are authorities that collect payments for the toll.

Contents

Name

The toll system name.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTrafficOptions

Service: Amazon Location Service Routes V2

Traffic options for the route.

Contents

FlowEventThresholdOverride

Duration for which flow traffic is considered valid. For this period, the flow traffic is used over historical traffic data. Flow traffic refers to congestion, which changes very quickly. Duration in seconds for which flow traffic event would be considered valid. While flow traffic event is valid it will be used over the historical traffic data.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Usage

Specifies how traffic data should be used when calculating routes.

Default Value: UseTrafficData

Note

Traffic data usage depends on the time parameters in your route request:

- When Usage is set to UseTrafficData:
 - If DepartNow is set to true, or if you specify DepartureTime or ArrivalTime, then all traffic data is considered (including live traffic and closures).
 - If DepartNow, DepartureTime, and ArrivalTime are all unspecified, then only long-term closures are considered, regardless of this setting.
- When Usage is set to IgnoreTrafficData, then all traffic data is ignored regardless of the time parameters in your route request.

Type: String

Valid Values: IgnoreTrafficData | UseTrafficData

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTrailerOptions

Service: Amazon Location Service Routes V2

Trailer options corresponding to the vehicle.

Contents

AxleCount

Total number of axles of the vehicle.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

TrailerCount

Number of trailers attached to the vehicle.

Default value: 0

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 255.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTransponder

Service: Amazon Location Service Routes V2

Transponders for which this toll can be applied.

Contents

SystemName

Names of the toll system collecting the toll.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTravelModeOptions

Service: Amazon Location Service Routes V2

Travel mode related options for the provided travel mode.

Contents

Car

Travel mode options when the provided travel mode is `Car`.

Type: [RouteCarOptions](#) object

Required: No

Pedestrian

Travel mode options when the provided travel mode is `Pedestrian`.

Type: [RoutePedestrianOptions](#) object

Required: No

Scooter

Travel mode options when the provided travel mode is `Scooter`.

Note

When travel mode is set to `Scooter`, then the avoidance option `ControlledAccessHighways` defaults to `true`.

Type: [RouteScooterOptions](#) object

Required: No

Truck

Travel mode options when the provided travel mode is `Truck`.

Type: [RouteTruckOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTruckOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is `Truck`. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for [GrabMaps](#) customers.

Contents

AxleCount

Total number of axles of the vehicle.

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 255.

Required: No

EngineType

Engine type of the vehicle.

Type: String

Valid Values: `Electric` | `InternalCombustion` | `PluginHybrid`

Required: No

GrossWeight

Gross weight of the vehicle including trailers, and goods at capacity.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

HazardousCargos

List of Hazardous cargo contained in the vehicle.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 11 items.

Valid Values: Combustible | Corrosive | Explosive | Flammable | Gas | HarmfulToWater | Organic | Other | Poison | PoisonousInhalation | Radioactive

Required: No

Height

Height of the vehicle.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

HeightAboveFirstAxle

Height of the vehicle above its first axle.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

KpraLength

Kingpin to rear axle length of the vehicle.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Length

Length of the vehicle.

Unit: c

Type: Long

Valid Range: Minimum value of 0. Maximum value of 30000.

Required: No

LicensePlate

The vehicle License Plate.

Type: [RouteVehicleLicensePlate](#) object

Required: No

MaxSpeed

Maximum speed

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

PayloadCapacity

Payload capacity of the vehicle and trailers attached.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

TireCount

Number of tires on the vehicle.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 255.

Required: No

Trailer

Trailer options corresponding to the vehicle.

Type: [RouteTrailerOptions](#) object

Required: No

TruckType

The type of truck: `LightTruck` for smaller delivery vehicles, `StraightTruck` for rigid body trucks, or `Tractor` for tractor-trailer combinations.

Type: String

Valid Values: `LightTruck` | `StraightTruck` | `Tractor`

Required: No

TunnelRestrictionCode

The tunnel restriction code.

Tunnel categories in this list indicate the restrictions which apply to certain tunnels in Great Britain. They relate to the types of dangerous goods that can be transported through them.

- *Tunnel Category B*
 - *Risk Level:* Limited risk
 - *Restrictions:* Few restrictions
- *Tunnel Category C*
 - *Risk Level:* Medium risk

- *Restrictions*: Some restrictions
- *Tunnel Category D*
 - *Risk Level*: High risk
 - *Restrictions*: Many restrictions occur
- *Tunnel Category E*
 - *Risk Level*: Very high risk
 - *Restrictions*: Restricted tunnel

Type: String

Length Constraints: Minimum length of 0. Maximum length of 20.

Required: No

WeightPerAxle

Heaviest weight per axle irrespective of the axle type or the axle group. Meant for usage in countries where the differences in axle types or axle groups are not distinguished.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

WeightPerAxleGroup

Specifies the total weight for the specified axle group. Meant for usage in countries that have different regulations based on the axle group type.

Unit: kilograms

Type: [WeightPerAxleGroup](#) object

Required: No

Width

Width of the vehicle.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteTurnStepDetails

Service: Amazon Location Service Routes V2

Details related to the turn step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of [LocalizedString](#) objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: Left | Right | Straight

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: Sharp | Slight | Typical

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteUTurnStepDetails

Service: Amazon Location Service Routes V2

Details related to the U-turn step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of [LocalizedString](#) objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: Left | Right | Straight

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: Sharp | Slight | Typical

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteVehicleArrival

Service: Amazon Location Service Routes V2

Details corresponding to the arrival for a leg.

Contents

Place

The place details.

Type: [RouteVehiclePlace](#) object

Required: Yes

Time

The time.

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+ -])([01][0-9]|2[0-3]):([0-5][0-9]))

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteVehicleDeparture

Service: Amazon Location Service Routes V2

Details corresponding to the departure for the leg.

Contents

Place

The place details.

Type: [RouteVehiclePlace](#) object

Required: Yes

Time

The departure time.

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+ -])([01][0-9]|2[0-3]):([0-5][0-9]))

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteVehicleIncident

Service: Amazon Location Service Routes V2

Incidents corresponding to this leg of the route.

Contents

Description

Brief readable description of the incident.

Type: String

Required: No

EndTime

End timestamp of the incident.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[-+](01[0-9]|2[0-3]):[0-5][0-9])`

Required: No

Severity

Severity of the incident Critical - The part of the route the incident affects is unusable. Major-Major impact on the leg duration, for example stop and go Minor- Minor impact on the leg duration, for example traffic jam Low - Low on duration, for example slightly increased traffic

Type: String

Valid Values: `Critical | High | Medium | Low`

Required: No

StartTime

Start time of the incident.

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|12[0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|[-+])([01][0-9]|2[0-3]):[0-5][0-9])

Required: No

Type

Type of the incident.

Type: String

Valid Values: Accident | Congestion | Construction | DisabledVehicle | LaneRestriction | MassTransit | Other | PlannedEvent | RoadClosure | RoadHazard | Weather

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteVehicleLegDetails

Service: Amazon Location Service Routes V2

Steps of a leg that correspond to the travel portion of the leg.

Contents

Arrival

Details corresponding to the arrival for the leg.

Type: [RouteVehicleArrival](#) object

Required: Yes

Departure

Details corresponding to the departure for the leg.

Type: [RouteVehicleDeparture](#) object

Required: Yes

Incidents

Incidents corresponding to this leg of the route. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [RouteVehicleIncident](#) objects

Required: Yes

Notices

Notices are additional information returned that indicate issues that occurred during route calculation. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [RouteVehicleNotice](#) objects

Required: Yes

PassThroughWaypoints

Waypoints that were passed through during the leg. This includes the waypoints that were configured with the PassThrough option.

Type: Array of [RoutePassThroughWaypoint](#) objects

Required: Yes

Spans

Spans that were computed for the requested SpanAdditionalFeatures. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [RouteVehicleSpan](#) objects

Required: Yes

Tolls

Toll related options. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [RouteToll](#) objects

Required: Yes

TollSystems

Toll systems are authorities that collect payments for the toll. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [RouteTollSystem](#) objects

Required: Yes

TravelSteps

Steps of a leg that must be performed before the travel portion of the leg.

Type: Array of [RouteVehicleTravelStep](#) objects

Required: Yes

TruckRoadTypes

Truck road type identifiers. BK1 through BK4 apply only to Sweden.

A2, A4, B2, B4, C, D, ET2, ET4 apply only to Mexico. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Note

There are currently no other supported values as of 26th April 2024.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 12 items.

Length Constraints: Minimum length of 1. Maximum length of 3.

Required: Yes

Zones

Zones corresponding to this leg of the route. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [RouteZone](#) objects

Required: Yes

Summary

Summarized details of the leg.

Type: [RouteVehicleSummary](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteVehicleLicensePlate

Service: Amazon Location Service Routes V2

License plate information of the vehicle. Currently, only the last character is used where license plate based controlled access is enforced.

Contents

LastCharacter

The last character of the License Plate.

Type: String

Length Constraints: Fixed length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteVehicleNotice

Service: Amazon Location Service Routes V2

Notices are additional information returned that indicate issues that occurred during route calculation.

Contents

Code

Code corresponding to the issue.

Type: String

Valid Values: AccuratePolylineUnavailable | Other |
PotentialViolatedAvoidTollRoadUsage | PotentialViolatedCarpoolUsage |
PotentialViolatedTurnRestrictionUsage |
PotentialViolatedVehicleRestrictionUsage |
PotentialViolatedZoneRestrictionUsage | SeasonalClosure |
TollsDataTemporarilyUnavailable | TollsDataUnavailable | TollTransponder
| ViolatedAvoidControlledAccessHighway | ViolatedAvoidDifficultTurns
| ViolatedAvoidDirtRoad | ViolatedAvoidSeasonalClosure
| ViolatedAvoidTollRoad | ViolatedAvoidTollTransponder |
ViolatedAvoidTruckRoadType | ViolatedAvoidTunnel | ViolatedAvoidUTurns
| ViolatedBlockedRoad | ViolatedCarpool | ViolatedEmergencyGate
| ViolatedStartDirection | ViolatedTurnRestriction |
ViolatedVehicleRestriction | ViolatedZoneRestriction

Required: Yes

Details

Additional details of the notice.

Type: Array of [RouteVehicleNoticeDetail](#) objects

Required: Yes

Impact

Impact corresponding to the issue. While Low impact notices can be safely ignored, High impact notices must be evaluated further to determine the impact.

Type: String

Valid Values: High | Low

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteVehicleNoticeDetail

Service: Amazon Location Service Routes V2

Additional details of the notice.

Contents

Title

The notice title.

Type: String

Required: No

ViolatedConstraints

Any violated constraints.

Type: [RouteViolatedConstraints](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteVehicleOverviewSummary

Service: Amazon Location Service Routes V2

Summarized details of the leg.

Contents

Distance

Distance of the step.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Duration

Duration of the step.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

BestCaseDuration

Total duration in free flowing traffic, which is the best case or shortest duration possible to cover the leg.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

TypicalDuration

Duration of the computed span under typical traffic congestion.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteVehiclePlace

Service: Amazon Location Service Routes V2

Place details corresponding to the arrival or departure.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: Yes

Name

The name of the place.

Type: String

Required: No

OriginalPosition

Position provided in the request.

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: String

Valid Values: Left | Right

Required: No

WaypointIndex

Index of the waypoint in the request.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteVehicleSpan

Service: Amazon Location Service Routes V2

Span computed for the requested SpanAdditionalFeatures.

Contents

BestCaseDuration

Duration of the computed span without traffic congestion.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

CarAccess

Access attributes for a car corresponding to the span.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Valid Values: Allowed | NoThroughTraffic | TollRoad

Required: No

Country

3 letter Country code corresponding to the Span.

Type: String

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

Distance

Distance of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Duration

Duration of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

DynamicSpeed

Dynamic speed details corresponding to the span.

Unit: kilometers per hour

Type: [RouteSpanDynamicSpeedDetails](#) object

Required: No

FunctionalClassification

A numerical value indicating the functional classification of the road segment corresponding to the span.

Classification values are part of the hierarchical network that helps determine a logical and efficient route, and have the following definitions:

1. Roads that allow for high volume, maximum speed traffic movement between and through major metropolitan areas.
2. Roads that are used to channel traffic to functional class 1 roads for travel between and through cities in the shortest amount of time.
3. Roads that intersect functional class 2 roads and provide a high volume of traffic movement at a lower level of mobility than functional class 2 roads.

4. Roads that provide for a high volume of traffic movement at moderate speeds between neighborhoods.
5. Roads with volume and traffic movement below the level of any other functional class.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 5.

Required: No

Gate

Attributes corresponding to a gate. The gate is present at the end of the returned span.

Type: String

Valid Values: Emergency | KeyAccess | PermissionRequired

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this span.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Incidents

Incidents corresponding to the span. These index into the Incidents in the parent Leg.

Type: Array of integers

Required: No

Names

Provides an array of names of the vehicle span in available languages.

Type: Array of [LocalizedString](#) objects

Required: No

Notices

Notices are additional information returned that indicate issues that occurred during route calculation.

Type: Array of integers

Required: No

RailwayCrossing

Attributes corresponding to a railway crossing. The gate is present at the end of the returned span.

Type: String

Valid Values: Protected | Unprotected

Required: No

Region

2-3 letter Region code corresponding to the Span. This is either a province or a state.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 3.

Required: No

RoadAttributes

Attributes for the road segment corresponding to the span.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 12 items.

Valid Values: Bridge | BuiltUpArea | ControlledAccessHighway | DirtRoad | DividedRoad | Motorway | PrivateRoad | Ramp | RightHandTraffic | Roundabout | Tunnel | UnderConstruction

Required: No

RouteNumbers

Designated route name or number corresponding to the span.

Type: Array of [RouteNumber](#) objects

Required: No

ScooterAccess

Access attributes for a scooter corresponding to the span.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Valid Values: Allowed | NoThroughTraffic | TollRoad

Required: No

SpeedLimit

Speed limit details corresponding to the span.

Unit: kilometers per hour

Type: [RouteSpanSpeedLimitDetails](#) object

Required: No

TollSystems

Toll systems are authorities that collect payments for the toll.

Type: Array of integers

Required: No

TruckAccess

Access attributes for a truck corresponding to the span.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Valid Values: Allowed | NoThroughTraffic | TollRoad

Required: No

TruckRoadTypes

Truck road type identifiers. BK1 through BK4 apply only to Sweden.
A2, A4, B2, B4, C, D, ET2, ET4 apply only to Mexico.

Note

There are currently no other supported values as of 26th April 2024.

Type: Array of integers

Required: No

TypicalDuration

Duration of the computed span under typical traffic congestion.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Zones

Zones corresponding to this leg of the route.

Type: Array of integers

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteVehicleSummary

Service: Amazon Location Service Routes V2

Summarized details of the route.

Contents

Overview

Summarized details for the leg including before travel, travel and after travel steps.

Type: [RouteVehicleOverviewSummary](#) object

Required: No

TravelOnly

Summarized details for the leg including travel steps only. The Distance for the travel only portion of the journey is in meters

Type: [RouteVehicleTravelOnlySummary](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteVehicleTravelOnlySummary

Service: Amazon Location Service Routes V2

Summarized details of the route.

Contents

Duration

Duration of the step.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

BestCaseDuration

Total duration in free flowing traffic, which is the best case or shortest duration possible to cover the leg.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

TypicalDuration

Duration of the computed span under typical traffic congestion.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteVehicleTravelStep

Service: Amazon Location Service Routes V2

Steps of a leg that correspond to the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: Arrive | Continue | ContinueHighway | Depart | EnterHighway | Exit | Keep | Ramp | RoundaboutEnter | RoundaboutExit | RoundaboutPass | Turn | UTurn

Required: Yes

ContinueHighwayStepDetails

Details that are specific to a Continue Highway step.

Type: [RouteContinueHighwayStepDetails](#) object

Required: No

ContinueStepDetails

Details that are specific to a Continue step.

Type: [RouteContinueStepDetails](#) object

Required: No

CurrentRoad

Details of the current road.

Type: [RouteRoad](#) object

Required: No

Distance

Distance of the step.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

EnterHighwayStepDetails

Details that are specific to a Enter Highway step.

Type: [RouteEnterHighwayStepDetails](#) object

Required: No

ExitNumber

Exit number of the road exit, if applicable.

Type: Array of [LocalizedString](#) objects

Required: No

ExitStepDetails

Details that are specific to a Roundabout Exit step.

Type: [RouteExitStepDetails](#) object

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this step.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Instruction

Brief description of the step in the requested language.

Note

Only available when the TravelStepType is Default.

Type: String

Required: No

KeepStepDetails

Details that are specific to a Keep step.

Type: [RouteKeepStepDetails](#) object

Required: No

NextRoad

Details of the next road. See RouteRoad for details of sub-attributes.

Type: [RouteRoad](#) object

Required: No

RampStepDetails

Details that are specific to a Ramp step.

Type: [RouteRampStepDetails](#) object

Required: No

RoundaboutEnterStepDetails

Details that are specific to a Roundabout Enter step.

Type: [RouteRoundaboutEnterStepDetails](#) object

Required: No

RoundaboutExitStepDetails

Details that are specific to a Roundabout Exit step.

Type: [RouteRoundaboutExitStepDetails](#) object

Required: No

RoundaboutPassStepDetails

Details that are specific to a Roundabout Pass step.

Type: [RouteRoundaboutPassStepDetails](#) object

Required: No

Signpost

Sign post information of the action, applicable only for TurnByTurn steps. See [RouteSignpost](#) for details of sub-attributes.

Type: [RouteSignpost](#) object

Required: No

TurnStepDetails

Details that are specific to a Turn step.

Type: [RouteTurnStepDetails](#) object

Required: No

UTurnStepDetails

Details that are specific to a Turn step.

Type: [RouteUTurnStepDetails](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteViolatedConstraints

Service: Amazon Location Service Routes V2

This property contains a summary of violated constraints.

Contents

HazardousCargos

List of Hazardous cargo contained in the vehicle.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 11 items.

Valid Values: Combustible | Corrosive | Explosive | Flammable | Gas | HarmfulToWater | Organic | Other | Poison | PoisonousInhalation | Radioactive

Required: Yes

AllHazardsRestricted

This restriction applies to truck cargo, where the resulting route excludes roads on which hazardous materials are prohibited from being transported.

Type: Boolean

Required: No

AxleCount

Total number of axles of the vehicle.

Type: [RouteNoticeDetailRange](#) object

Required: No

MaxHeight

The maximum height of the vehicle.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

MaxKpraLength

The maximum Kpra length of the vehicle.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

MaxLength

The maximum length of the vehicle.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

MaxPayloadCapacity

The maximum load capacity of the vehicle.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

MaxWeight

The maximum weight of the route.

Unit: kilograms

Type: [RouteWeightConstraint](#) object

Required: No

MaxWeightPerAxle

The maximum weight per axle of the vehicle.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

MaxWeightPerAxleGroup

The maximum weight per axle group of the vehicle.

Unit: kilograms

Type: [WeightPerAxleGroup](#) object

Required: No

MaxWidth

The maximum width of the vehicle.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Occupancy

The number of occupants in the vehicle.

Default value: 1

Type: [RouteNoticeDetailRange](#) object

Required: No

RestrictedTimes

Access radius restrictions based on time.

Type: String

Required: No

TimeDependent

The time dependent constraint.

Type: Boolean

Required: No

TrailerCount

Number of trailers attached to the vehicle.

Default value: 0

Type: [RouteNoticeDetailRange](#) object

Required: No

TravelMode

Travel mode corresponding to the leg.

Type: Boolean

Required: No

TruckRoadType

Truck road type identifiers. BK1 through BK4 apply only to Sweden. A2, A4, B2, B4, C, D, ET2, ET4 apply only to Mexico.

Note

There are currently no other supported values as of 26th April 2024.

Type: String

Required: No

TruckType

The type of truck: `LightTruck` for smaller delivery vehicles, `StraightTruck` for rigid body trucks, or `Tractor` for tractor-trailer combinations.

Type: String

Valid Values: `LightTruck` | `StraightTruck` | `Tractor`

Required: No

TunnelRestrictionCode

The tunnel restriction code.

Tunnel categories in this list indicate the restrictions which apply to certain tunnels in Great Britain. They relate to the types of dangerous goods that can be transported through them.

- *Tunnel Category B*
 - *Risk Level:* Limited risk
 - *Restrictions:* Few restrictions
- *Tunnel Category C*
 - *Risk Level:* Medium risk
 - *Restrictions:* Some restrictions
- *Tunnel Category D*
 - *Risk Level:* High risk
 - *Restrictions:* Many restrictions occur
- *Tunnel Category E*
 - *Risk Level:* Very high risk
 - *Restrictions:* Restricted tunnel

Type: String

Length Constraints: Fixed length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)

RouteWaypoint

Service: Amazon Location Service Routes V2

Waypoint between the Origin and Destination.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

AvoidActionsForDistance

Avoids actions for the provided distance. This is typically to consider for users in moving vehicles who may not have sufficient time to make an action at an origin or a destination. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Long

Valid Range: Maximum value of 2000.

Required: No

AvoidUTurns

Avoid U-turns for calculation on highways and motorways. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Boolean

Required: No

Heading

GPS Heading at the position. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Options to configure matching the provided position to the road network. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteMatchingOptions](#) object

Required: No

PassThrough

If the waypoint should not be treated as a stop. If yes, the waypoint is passed through and doesn't split the route into different legs. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Boolean

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [RouteSideOfStreetOptions](#) object

Required: No

StopDuration

Duration of the stop. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Unit: seconds

Type: Long

Valid Range: Maximum value of 49999.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteWeightConstraint

Service: Amazon Location Service Routes V2

The weight constraint for the route.

Unit: kilograms

Contents

Type

The type of constraint.

Type: String

Valid Values: Current | Gross | Unknown

Required: Yes

Value

The constraint value.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RouteZone

Service: Amazon Location Service Routes V2

The zone.

Contents

Category

The zone category.

Type: String

Valid Values: CongestionPricing | Environmental | Vignette

Required: No

Name

The name of the zone.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ValidationExceptionField

Service: Amazon Location Service Routes V2

The input fails to satisfy the constraints specified by the Amazon Location service.

Contents

message

The error message.

Type: String

Required: Yes

name

The name of the Validation Exception Field.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationAccessHours

Service: Amazon Location Service Routes V2

Access hours corresponding to when a destination can be visited.

Contents

From

Contains the ID of the starting waypoint in this connection.

Type: [WaypointOptimizationAccessHoursEntry](#) object

Required: Yes

To

Contains the ID of the ending waypoint in this connection.

Type: [WaypointOptimizationAccessHoursEntry](#) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationAccessHoursEntry

Service: Amazon Location Service Routes V2

Hours of entry.

Contents

DayOfWeek

Day of the week.

Type: String

Valid Values: Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday

Required: Yes

TimeOfDay

Time of the day.

Type: String

Pattern: ([0-1]?[0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9](Z|[-+]?([0-1]?[0-9]|2[0-3]):[0-5][0-9])

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationAvoidanceArea

Service: Amazon Location Service Routes V2

The area to be avoided.

Contents

Geometry

Geometry of the area to be avoided.

Type: [WaypointOptimizationAvoidanceAreaGeometry](#) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationAvoidanceAreaGeometry

Service: Amazon Location Service Routes V2

Geometry of the area to be avoided.

Contents

BoundingBox

Geometry defined as a bounding box. The first pair represents the X and Y coordinates (longitude and latitude,) of the southwest corner of the bounding box; the second pair represents the X and Y coordinates (longitude and latitude) of the northeast corner.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationAvoidanceOptions

Service: Amazon Location Service Routes V2

Specifies options for areas to avoid. This is a best-effort avoidance setting, meaning the router will try to honor the avoidance preferences but may still include restricted areas if no feasible alternative route exists. If avoidance options are not followed, the response will indicate that the avoidance criteria were violated.

Contents

Areas

Areas to be avoided.

Type: Array of [WaypointOptimizationAvoidanceArea](#) objects

Array Members: Minimum number of 0 items. Maximum number of 20 items.

Required: No

CarShuttleTrains

Avoidance options for cars-shuttles-trains.

Type: Boolean

Required: No

ControlledAccessHighways

Avoid controlled access highways while calculating the route.

Type: Boolean

Required: No

DirtRoads

Avoid dirt roads while calculating the route.

Type: Boolean

Required: No

Ferries

Avoidance options for ferries.

Type: Boolean

Required: No

TollRoads

Avoids roads where the specified toll transponders are the only mode of payment.

Type: Boolean

Required: No

Tunnels

Avoid tunnels while calculating the route.

Type: Boolean

Required: No

UTurns

Avoid U-turns for calculation on highways and motorways.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationClusteringOptions

Service: Amazon Location Service Routes V2

Options for WaypointOptimizationClustering.

Contents

Algorithm

The algorithm to be used. `DrivingDistance` assigns all the waypoints that are within driving distance of each other into a single cluster. `TopologySegment` assigns all the waypoints that are within the same topology segment into a single cluster. A Topology segment is a linear stretch of road between two junctions.

Type: String

Valid Values: `DrivingDistance` | `TopologySegment`

Required: Yes

DrivingDistanceOptions

Driving distance options to be used when the clustering algorithm is `DrivingDistance`.

Type: [WaypointOptimizationDrivingDistanceOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationConnection

Service: Amazon Location Service Routes V2

This contains information such as distance and duration from one waypoint to the next waypoint in the sequence.

Contents

Distance

Distance of the step.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

From

contains the ID of the starting waypoint in this connection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^, ; !]+

Required: Yes

RestDuration

Resting time before the driver can continue driving.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

To

Contains the ID of the ending waypoint in this connection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^, ; !] +

Required: Yes

TravelDuration

Total duration.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

WaitDuration

Duration of a wait step.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationDestinationOptions

Service: Amazon Location Service Routes V2

Destination related options.

Contents

AccessHours

Access hours corresponding to when a waypoint can be visited.

Type: [WaypointOptimizationAccessHours](#) object

Required: No

AppointmentTime

Appointment time at the destination.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\. [0-9]{0,9})?(Z| [+ -]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Id

The waypoint Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^, ; !] +

Required: No

ServiceDuration

Service time spent at the destination. At an appointment, the service time should be the appointment duration.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: [WaypointOptimizationSideOfStreetOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationDriverOptions

Service: Amazon Location Service Routes V2

Driver related options.

Contents

RestCycles

Driver work-rest schedules defined by a short and long cycle. A rest needs to be taken after the short work duration. The short cycle can be repeated until you hit the long work duration, at which point the long rest duration should be taken before restarting.

Type: [WaypointOptimizationRestCycles](#) object

Required: No

RestProfile

Pre defined rest profiles for a driver schedule. The only currently supported profile is EU.

Type: [WaypointOptimizationRestProfile](#) object

Required: No

TreatServiceTimeAs

If the service time provided at a waypoint/destination should be considered as rest or work. This contributes to the total time breakdown returned within the response.

Type: String

Valid Values: Rest | Work

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationDrivingDistanceOptions

Service: Amazon Location Service Routes V2

Driving distance related options.

Contents

DrivingDistance

DrivingDistance assigns all the waypoints that are within driving distance of each other into a single cluster.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationExclusionOptions

Service: Amazon Location Service Routes V2

Specifies strict exclusion options for the route calculation. This setting mandates that the router will avoid any routes that include the specified options, rather than merely attempting to minimize them.

Contents

Countries

List of countries to be avoided defined by two-letter or three-letter country codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationFailedConstraint

Service: Amazon Location Service Routes V2

The failed constraint.

Contents

Constraint

The failed constraint.

Type: String

Valid Values: AccessHours | AppointmentTime | Before | Heading | ServiceDuration | SideOfStreet

Required: No

Reason

Reason for the failed constraint.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationImpedingWaypoint

Service: Amazon Location Service Routes V2

The impeding waypoint.

Contents

FailedConstraints

Failed constraints for an impeding waypoint.

Type: Array of [WaypointOptimizationFailedConstraint](#) objects

Required: Yes

Id

The waypoint Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^, ; !]+

Required: Yes

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationOptimizedWaypoint

Service: Amazon Location Service Routes V2

The optimized waypoint.

Contents

DepartureTime

Estimated time of departure from the origin.

Time format: YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm

Examples:

2020-04-22T17:57:24Z

2020-04-22T17:57:24+02:00

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|([+ -])([01][0-9]|2[0-3]):[0-5][0-9])

Required: Yes

Id

The waypoint Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^, ; !]+

Required: Yes

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

ArrivalTime

Estimated time of arrival at the destination.

Time format: YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm

Examples:

2020-04-22T17:57:24Z

2020-04-22T17:57:24+02:00

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.([0-9]{0,9}))?(Z|[+ -]([01][0-9]|2[0-3]):[0-5][0-9])

Required: No

ClusterIndex

Index of the cluster the waypoint is associated with. The index is included in the response only if clustering was performed while processing the request.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationOriginOptions

Service: Amazon Location Service Routes V2

Origin related options.

Contents

Id

The Origin Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^, ; !]+

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationPedestrianOptions

Service: Amazon Location Service Routes V2

Options related to a pedestrian.

Contents

Speed

Walking speed.

Unit: kilometers per hour

Type: Double

Valid Range: Minimum value of 1.8. Maximum value of 7.2.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationRestCycleDurations

Service: Amazon Location Service Routes V2

Driver work-rest schedules defined by a short and long cycle. A rest needs to be taken after the short work duration. The short cycle can be repeated until you hit the long work duration, at which point the long rest duration should be taken before restarting.

Unit: seconds

Contents

RestDuration

Resting phase of the cycle.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

WorkDuration

Working phase of the cycle.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)

WaypointOptimizationRestCycles

Service: Amazon Location Service Routes V2

Resting phase of the cycle.

Contents

LongCycle

Long cycle for a driver work-rest schedule.

Type: [WaypointOptimizationRestCycleDurations](#) object

Required: Yes

ShortCycle

Short cycle for a driver work-rest schedule

Type: [WaypointOptimizationRestCycleDurations](#) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationRestProfile

Service: Amazon Location Service Routes V2

Pre defined rest profiles for a driver schedule. The only currently supported profile is EU.

Contents

Profile

Pre defined rest profiles for a driver schedule. The only currently supported profile is EU.

Type: String

Length Constraints: Fixed length of 2.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationSideOfStreetOptions

Service: Amazon Location Service Routes V2

Options to configure matching the provided position to a side of the street.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

UseWith

Strategy that defines when the side of street position should be used. AnyStreet will always use the provided position.

Default value: DividedStreetOnly

Type: String

Valid Values: AnyStreet | DividedStreetOnly

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationTimeBreakdown

Service: Amazon Location Service Routes V2

Time breakdown for the sequence.

Contents

RestDuration

Resting phase of the cycle.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

ServiceDuration

Service time spent at the destination. At an appointment, the service time should be the appointment duration.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

TravelDuration

Traveling phase of the cycle.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

WaitDuration

Waiting phase of the cycle.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationTrafficOptions

Service: Amazon Location Service Routes V2

Options related to traffic.

Contents

Usage

Determines if traffic should be used or ignored while calculating the route.

Default value: UseTrafficData

Type: String

Valid Values: IgnoreTrafficData | UseTrafficData

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationTrailerOptions

Service: Amazon Location Service Routes V2

Trailer options corresponding to the vehicle.

Contents

TrailerCount

Number of trailers attached to the vehicle.

Default value: 0

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 255.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationTravelModeOptions

Service: Amazon Location Service Routes V2

Travel mode related options for the provided travel mode.

Contents

Pedestrian

Travel mode options when the provided travel mode is `Pedestrian`.

Type: [WaypointOptimizationPedestrianOptions](#) object

Required: No

Truck

Travel mode options when the provided travel mode is `Truck`.

Type: [WaypointOptimizationTruckOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationTruckOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is Truck.

Contents

GrossWeight

Gross weight of the vehicle including trailers, and goods at capacity.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

HazardousCargos

List of Hazardous cargo contained in the vehicle.

Type: Array of strings

Valid Values: Combustible | Corrosive | Explosive | Flammable | Gas | HarmfulToWater | Organic | Other | Poison | PoisonousInhalation | Radioactive

Required: No

Height

Height of the vehicle.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

Length

Length of the vehicle.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 30000.

Required: No

Trailer

Trailer options corresponding to the vehicle.

Type: [WaypointOptimizationTrailerOptions](#) object

Required: No

TruckType

The type of truck: `LightTruck` for smaller delivery vehicles, `StraightTruck` for rigid body trucks, or `Tractor` for tractor-trailer combinations.

Type: String

Valid Values: `StraightTruck` | `Tractor`

Required: No

TunnelRestrictionCode

The tunnel restriction code.

Tunnel categories in this list indicate the restrictions which apply to certain tunnels in Great Britain. They relate to the types of dangerous goods that can be transported through them.

- *Tunnel Category B*
 - *Risk Level:* Limited risk
 - *Restrictions:* Few restrictions
- *Tunnel Category C*
 - *Risk Level:* Medium risk
 - *Restrictions:* Some restrictions
- *Tunnel Category D*
 - *Risk Level:* High risk

- *Restrictions*: Many restrictions occur
- *Tunnel Category E*
 - *Risk Level*: Very high risk
 - *Restrictions*: Restricted tunnel

Type: String

Length Constraints: Fixed length of 1.

Required: No

WeightPerAxle

Heaviest weight per axle irrespective of the axle type or the axle group. Meant for usage in countries where the differences in axle types or axle groups are not distinguished.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Width

Width of the vehicle.

Unit: centimeters

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WaypointOptimizationWaypoint

Service: Amazon Location Service Routes V2

Waypoint between the Origin and Destination.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

AccessHours

Access hours corresponding to when a waypoint can be visited.

Type: [WaypointOptimizationAccessHours](#) object

Required: No

AppointmentTime

Appointment time at the waypoint.

Type: String

Pattern: ([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[-+](01[0-9]|2[0-3]):[0-5][0-9])

Required: No

Before

Constraint defining what waypoints are to be visited after this waypoint.

Type: Array of integers

Required: No

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Id

The waypoint Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^, ; !]+

Required: No

ServiceDuration

Service time spent at the waypoint. At an appointment, the service time should be the appointment duration.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: [WaypointOptimizationSideOfStreetOptions](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WeightPerAxleGroup

Service: Amazon Location Service Routes V2

Specifies the total weight for different axle group configurations. Used in regions where regulations set different weight limits based on axle group types.

Unit: kilograms

Contents

Quad

Total weight in kilograms for quad (four adjacent) axle configurations.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Quint

Total weight in kilograms for quint (five adjacent) axle configurations.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Single

Total weight in kilograms for single axle configurations.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Tandem

Total weight in kilograms for tandem (two adjacent) axle configurations.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Triple

Total weight in kilograms for triple (three adjacent) axle configurations.

Unit: kilograms

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Amazon Location Service Maps V2

The following data types are supported by Amazon Location Service Maps V2:

- [ValidationExceptionField](#)

ValidationExceptionField

Service: Amazon Location Service Maps V2

The input fails to satisfy the constraints specified by the Amazon Location service.

Contents

message

The error message.

Type: String

Required: Yes

name

The name of the resource.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Amazon Location Service Places V2

The following data types are supported by Amazon Location Service Places V2:

- [AccessPoint](#)
- [AccessRestriction](#)
- [Address](#)

- [AddressComponentMatchScores](#)
- [AddressComponentPhonemes](#)
- [AutocompleteAddressHighlights](#)
- [AutocompleteFilter](#)
- [AutocompleteHighlights](#)
- [AutocompleteResultItem](#)
- [BusinessChain](#)
- [Category](#)
- [ComponentMatchScores](#)
- [ContactDetails](#)
- [Contacts](#)
- [Country](#)
- [CountryHighlights](#)
- [FilterCircle](#)
- [FoodType](#)
- [GeocodeFilter](#)
- [GeocodeParsedQuery](#)
- [GeocodeParsedQueryAddressComponents](#)
- [GeocodeQueryComponents](#)
- [GeocodeResultItem](#)
- [Highlight](#)
- [Intersection](#)
- [MatchScoreDetails](#)
- [OpeningHours](#)
- [OpeningHoursComponents](#)
- [ParsedQueryComponent](#)
- [ParsedQuerySecondaryAddressComponent](#)
- [PhonemeDetails](#)
- [PhonemeTranscription](#)
- [PostalCodeDetails](#)

- [QueryRefinement](#)
- [Region](#)
- [RegionHighlights](#)
- [RelatedPlace](#)
- [ReverseGeocodeFilter](#)
- [ReverseGeocodeResultItem](#)
- [SearchNearbyFilter](#)
- [SearchNearbyResultItem](#)
- [SearchTextFilter](#)
- [SearchTextResultItem](#)
- [SecondaryAddressComponent](#)
- [SecondaryAddressComponentMatchScore](#)
- [StreetComponents](#)
- [SubRegion](#)
- [SubRegionHighlights](#)
- [SuggestAddressHighlights](#)
- [SuggestFilter](#)
- [SuggestHighlights](#)
- [SuggestPlaceResult](#)
- [SuggestQueryResult](#)
- [SuggestResultItem](#)
- [TimeZone](#)
- [UspsZip](#)
- [UspsZipPlus4](#)
- [ValidationExceptionField](#)

AccessPoint

Service: Amazon Location Service Places V2

Position of the access point represented by longitude and latitude for a vehicle.

Contents

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

AccessRestriction

Service: Amazon Location Service Places V2

Indicates if the access location is restricted. Index correlates to that of an access point and indicates if access through this point has some form of restriction.

Contents

Categories

Categories of results that results must belong too.

Type: Array of [Category](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Restricted

The restriction.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Address

Service: Amazon Location Service Places V2

The place address.

Contents

AddressNumber

The number that identifies an address within a street.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 10.

Required: No

Block

Name of the block. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Example: Sunny Mansion 203 block: 2 Chome

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Building

The name of the building at the address. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Country

The country component of the address.

Type: [Country](#) object

Required: No

District

The district or division of a locality associated with this address.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Intersection

Name of the streets in the intersection. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Example: ["Friedrichstraße", "Unter den Linden"]

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Label

Assembled address value built out of the address components, according to the regional postal rules. This is the correctly formatted address.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Locality

The city or locality of the address.

Example: Vancouver.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

PostalCode

An alphanumeric string included in a postal address to facilitate mail sorting, such as post code, postcode, or ZIP code, for which the result should possess.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

Region

The region or state results should be present in.

Example: North Rhine-Westphalia.

Type: [Region](#) object

Required: No

SecondaryAddressComponents

Components that correspond to secondary identifiers on an Address. Secondary address components include information such as Suite or Unit Number, Building, or Floor. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Note

Coverage for Address.SecondaryAddressComponents is available in the following countries:

AUS, CAN, NZL, USA, PRI

Type: Array of [SecondaryAddressComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Required: No

Street

The name of the street results should be present in.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

StreetComponents

Components of the street. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Example: Yonge from "Yonge street".

Type: Array of [StreetComponents](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

SubBlock

Name of sub-block. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Example: Sunny Mansion 203 sub-block: 4

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

SubDistrict

A subdivision of a district.

Example: Minden-Lübbecke.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

SubRegion

The sub-region or county for which results should be present in.

Type: [SubRegion](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

AddressComponentMatchScores

Service: Amazon Location Service Places V2

Indicates how well the entire input matches the returned. It is equal to 1 if all input tokens are recognized and matched.

Contents

AddressNumber

The house number or address results should have.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

Block

Name of the block.

Example: Sunny Mansion 203 block: 2 Chome

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

Building

The name of the building at the address.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

Country

The alpha-2 or alpha-3 character code for the country that the results will be present in.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

District

The district or division of a city the results should be present in.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

Intersection

Name of the streets in the intersection.

Example: ["Friedrichstraße", "Unter den Linden"]

Type: Array of doubles

Array Members: Minimum number of 1 item. Maximum number of 2 items.

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

Locality

The city or locality results should be present in.

Example: Vancouver.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

PostalCode

An alphanumeric string included in a postal address to facilitate mail sorting, such as post code, postcode, or ZIP code, for which the result should possess.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

Region

The region or state results should be to be present in.

Example: North Rhine-Westphalia.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

SecondaryAddressComponents

Match scores for the secondary address components in the result.

Note

Coverage for this functionality is available in the following countries: AUS, AUT, BRA, CAN, ESP, FRA, GBR, IDN, IND, NZL, TUR, TWN, USA.

Type: Array of [SecondaryAddressComponentMatchScore](#) objects

Required: No

SubBlock

Name of sub-block.

Example: Sunny Mansion 203 sub-block: 4

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

SubDistrict

A subdivision of a district.

Example: Minden-Lübbecke

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

SubRegion

The sub-region or county for which results should be present in.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

AddressComponentPhonemes

Service: Amazon Location Service Places V2

How to pronounce the various components of the address or place.

Contents

Block

How to pronounce the name of the block.

Type: Array of [PhonemeTranscription](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Country

The alpha-2 or alpha-3 character code for the country that the results will be present in.

Type: Array of [PhonemeTranscription](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

District

How to pronounce the district or division of a city results should be present in.

Type: Array of [PhonemeTranscription](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Locality

How to pronounce the city or locality results should be present in.

Example: Vancouver.

Type: Array of [PhonemeTranscription](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Region

How to pronounce the region or state results should be to be present in.

Type: Array of [PhonemeTranscription](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Street

How to pronounce the name of the street results should be present in.

Type: Array of [PhonemeTranscription](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

SubBlock

How to pronounce the name of the sub-block.

Type: Array of [PhonemeTranscription](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

SubDistrict

How to pronounce the sub-district or division of a city results should be present in.

Type: Array of [PhonemeTranscription](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

SubRegion

How to pronounce the sub-region or county for which results should be present in.

Type: Array of [PhonemeTranscription](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

AutocompleteAddressHighlights

Service: Amazon Location Service Places V2

Describes how the parts of the response element matched the input query by returning the sections of the response which matched to input query terms.

Contents

AddressNumber

The house number or address results should have.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Block

Name of the block.

Example: Sunny Mansion 203 block: 2 Chome

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Building

The name of the building at the address.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Country

The alpha-2 or alpha-3 character code for the country that the results will be present in.

Type: [CountryHighlights](#) object

Required: No

District

The district or division of a city the results should be present in.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Intersection

Name of the streets in the intersection. For example: e.g. ["Friedrichstraße","Unter den Linden"]

Type: Array of arrays of [Highlight](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Label

Indicates the starting and ending indexes for result items where they are identified to match the input query. This should be used to provide emphasis to output display to make selecting the correct result from a list easier for end users.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Locality

The city or locality results should be present in.

Example: Vancouver.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

PostalCode

An alphanumeric string included in a postal address to facilitate mail sorting, such as post code, postcode, or ZIP code for which the result should possess.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Region

The region or state results should be to be present in.

Example: North Rhine-Westphalia.

Type: [RegionHighlights](#) object

Required: No

Street

The name of the street results should be present in.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SubBlock

Name of sub-block.

Example: Sunny Mansion 203 sub-block: 4

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SubDistrict

Indicates the starting and ending index of the title in the text query that match the found title.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SubRegion

The sub-region or county for which results should be present in.

Type: [SubRegionHighlights](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

AutocompleteFilter

Service: Amazon Location Service Places V2

Autocomplete structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Contents

BoundingBox

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: [{westward lng}, {southern lat}, {eastward lng}, {northern lat}]

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Circle

The Circle that all results must be in.

Type: [FilterCircle](#) object

Required: No

IncludeCountries

A list of countries that all results must be in. Countries are represented by either their alpha-2 or alpha-3 character codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: No

IncludePlaceTypes

The included place types.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 2 items.

Valid Values: Locality | PostalCode

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

AutocompleteHighlights

Service: Amazon Location Service Places V2

Describes how the parts of the response element matched the input query by returning the sections of the response which matched to input query terms.

Contents

Address

Describes how part of the result address match the input query.

Type: [AutocompleteAddressHighlights](#) object

Required: No

Title

Indicates where the title field in the result matches the input query.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

AutocompleteResultItem

Service: Amazon Location Service Places V2

A result matching the input query text.

Contents

PlaceId

The PlaceId of the place associated with this result. This can be used to look up additional details about the result via `GetPlace`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PlaceType

PlaceType describes the type of result entry returned.

Type: String

Valid Values: Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress

Required: Yes

Title

A formatted string for display when presenting this result to an end user.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

Address

The address associated with this result.

Type: [Address](#) object

Required: No

Distance

The distance in meters between the center of the search area and this result. Useful to evaluate how far away from the original bias position the result is.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Highlights

Indicates the starting and ending index of the place in the text query that match the found title.

Type: [AutocompleteHighlights](#) object

Required: No

Language

A list of [BCP 47](#) compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

BusinessChain

Service: Amazon Location Service Places V2

A businesschain is a chain of businesses that belong to the same brand. For example 7-11.

Contents

Id

The Business Chain Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

Name

The business chain name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Category

Service: Amazon Location Service Places V2

Category of the Place returned.

Contents

Id

The category ID.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: Yes

Name

The category name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: Yes

LocalizedName

Localized name of the category type.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

Primary

Boolean which indicates if this category is the primary offered by the place.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ComponentMatchScores

Service: Amazon Location Service Places V2

Indicates how well the returned title and address components matches the input TextQuery. For each component a score is provided with 1 indicating all tokens were matched and 0 indicating no tokens were matched.

Contents

Address

The place's address.

Type: [AddressComponentMatchScores](#) object

Required: No

Title

Indicates the match score of the title in the text query that match the found title.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ContactDetails

Service: Amazon Location Service Places V2

Details related to contacts.

Contents

Categories

Categories of results that results must belong too.

Type: Array of [Category](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Label

The contact's label.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Value

The contact's value.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Contacts

Service: Amazon Location Service Places V2

A list of potential contact methods for the result/place.

Contents

Emails

List of emails for contacts of the result.

Type: Array of [ContactDetails](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Faxes

List of fax addresses for the result contact.

Type: Array of [ContactDetails](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Phones

List of phone numbers for the results contact.

Type: Array of [ContactDetails](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Websites

List of website URLs that belong to the result.

Type: Array of [ContactDetails](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Country

Service: Amazon Location Service Places V2

The alpha-2 or alpha-3 character code for the country that the results will be present in.

Contents

Code2

Country, represented by its alpha 2-character code.

Type: String

Length Constraints: Fixed length of 2.

Pattern: `[A-Z]{2}`

Required: No

Code3

Country, represented by its alpha t-character code.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Name

Name of the country.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 100.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

CountryHighlights

Service: Amazon Location Service Places V2

Indicates the starting and ending index of the country in the text query that match the found title.

Contents

Code

Indicates the starting and ending index of the country code in the text query that match the found title.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Name

Indicates the starting and ending index of the country code in the text query that match the found title.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

FilterCircle

Service: Amazon Location Service Places V2

The Circle that all results must be in.

Contents

Center

The center position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Radius

The radius, in meters, of the FilterCircle. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only up to a maximum value of 300,000.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 21000000.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

FoodType

Service: Amazon Location Service Places V2

List of Food types offered by this result.

Contents

LocalizedName

Localized name of the food type.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: Yes

Id

The Food Type Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

Primary

Boolean which indicates if this food type is the primary offered by the place. For example, if a location serves fast food, but also dessert, the primary would likely be fast food.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)

GeocodeFilter

Service: Amazon Location Service Places V2

Geocode structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Contents

IncludeCountries

A list of countries that all results must be in. Countries are represented by either their alpha-2 or alpha-3 character codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: No

IncludePlaceTypes

The included place types.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 6 items.

Valid Values: Locality | PostalCode | Intersection | Street | PointAddress | InterpolatedAddress

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

GeocodeParsedQuery

Service: Amazon Location Service Places V2

Parsed components in the provided QueryText.

Contents

Address

The place address.

Type: [GeocodeParsedQueryAddressComponents](#) object

Required: No

Title

The localized display name of this result item based on request parameter language.

Type: Array of [ParsedQueryComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

GeocodeParsedQueryAddressComponents

Service: Amazon Location Service Places V2

Parsed address components in the provided QueryText.

Contents

AddressNumber

The number that identifies an address within a street.

Type: Array of [ParsedQueryComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Block

Name of the block.

Example: Sunny Mansion 203 block: 2 Chome

Type: Array of [ParsedQueryComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Building

The name of the building at the address.

Type: Array of [ParsedQueryComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Country

The alpha-2 or alpha-3 character code for the country that the results will be present in.

Type: Array of [ParsedQueryComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

District

The district or division of a city the results should be present in.

Type: Array of [ParsedQueryComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Locality

The city or locality of the address.

Example: Vancouver.

Type: Array of [ParsedQueryComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

PostalCode

An alphanumeric string included in a postal address to facilitate mail sorting, such as post code, postcode, or ZIP code, for which the result should possess.

Type: Array of [ParsedQueryComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Region

The region or state results should be present in.

Example: North Rhine-Westphalia.

Type: Array of [ParsedQueryComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SecondaryAddressComponents

Parsed secondary address components from the provided query text.

Note

Coverage for `ParsedQuery.Address.SecondaryAddressComponents` is available in the following countries:

AUS, AUT, BRA, CAN, ESP, FRA, GBR, HKG, IDN, IND, NZL, TUR, TWN, USA

Type: Array of [ParsedQuerySecondaryAddressComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Street

The name of the street results should be present in.

Type: Array of [ParsedQueryComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SubBlock

Name of sub-block.

Example: Sunny Mansion 203 sub-block: 4

Type: Array of [ParsedQueryComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SubDistrict

A subdivision of a district.

Example: Minden-Lübbecke.

Type: Array of [ParsedQueryComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SubRegion

The sub-region or county for which results should be present in.

Type: Array of [ParsedQueryComponent](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

GeocodeQueryComponents

Service: Amazon Location Service Places V2

A structured free text query allows you to search for places by the name or text representation of specific properties of the place.

Contents

AddressNumber

The house number or address results should have.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^;]+

Required: No

Country

The alpha-2 or alpha-3 character code for the country that the results will be present in.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^;]+

Required: No

District

The district or division of a city the results should be present in.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^;]+

Required: No

Locality

The city or locality results should be present in.

Example: Vancouver.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^;]+

Required: No

PostalCode

An alphanumeric string included in a postal address to facilitate mail sorting, such as post code, postcode, or ZIP code for which the result should possess.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^;]+

Required: No

Region

The region or state results should be to be present in.

Example: North Rhine-Westphalia.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^;]+

Required: No

Street

The name of the street results should be present in.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^;]+

Required: No

SubRegion

The sub-region or county for which results should be present in.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [^;]+

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

GeocodeResultItem

Service: Amazon Location Service Places V2

The Geocoded result.

Contents

PlaceId

The PlaceId of the place result.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PlaceType

A PlaceType is a category that the result place must belong to.

Type: String

Valid Values: Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress

Required: Yes

Title

The localized display name of this result item based on request parameter language.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of [AccessPoint](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Address

The place's address.

Type: [Address](#) object

Required: No

AddressNumberCorrected

Boolean indicating if the address provided has been corrected.

Type: Boolean

Required: No

Categories

Categories of results that results must belong to.

Type: Array of [Category](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Distance

The distance in meters from the QueryPosition.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

FoodTypes

List of food types offered by this result.

Type: Array of [FoodType](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Intersections

All Intersections that are near the provided address.

Type: Array of [Intersection](#) objects

Array Members: Minimum number of 1 item.

Required: No

MainAddress

The main address corresponding to a place of type Secondary Address.

Type: [RelatedPlace](#) object

Required: No

MapView

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: [{westward lng}, {southern lat}, {eastward lng}, {northern lat}]

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

MatchScores

Indicates how well the entire input matches the returned. It is equal to 1 if all input tokens are recognized and matched.

Type: [MatchScoreDetails](#) object

Required: No

ParsedQuery

Free-form text query.

Type: [GeocodeParsedQuery](#) object

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country.

Type: String

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

PostalCodeDetails

Contains details about the postal code of the place/result.

Type: Array of [PostalCodeDetails](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

SecondaryAddresses

All secondary addresses that are associated with a main address. A secondary address is one that includes secondary designators, such as a Suite or Unit Number, Building, or Floor information.

Note

Coverage for this functionality is available in the following countries: AUS, CAN, NZL, USA, PRI.

Type: Array of [RelatedPlace](#) objects

Array Members: Minimum number of 1 item.

Required: No

TimeZone

The time zone in which the place is located.

Type: [TimeZone](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Highlight

Service: Amazon Location Service Places V2

Indicates the starting and ending index of the text query that match the found title.

Contents

EndIndex

End index of the highlight.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

StartIndex

Start index of the highlight.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Value

The highlight's value.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Intersection

Service: Amazon Location Service Places V2

All Intersections that are near the provided address.

Contents

PlaceId

The PlaceId of the place result.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

Title

The localized display name of this result item based on request parameter language.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of [AccessPoint](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Address

The place address.

Type: [Address](#) object

Required: No

Distance

The distance in meters from the QueryPosition.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

MapView

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set of four coordinates: [{westward lng}, {southern lat}, {eastward lng}, {northern lat}]

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

RouteDistance

The distance from the routing position of the nearby address to the street result.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

MatchScoreDetails

Service: Amazon Location Service Places V2

Details related to the match score.

Contents

Components

Indicates how well the component input matches the returned. It is equal to 1 if all input tokens are recognized and matched.

Type: [ComponentMatchScores](#) object

Required: No

Overall

Indicates how well the entire input matches the returned. It is equal to 1 if all input tokens are recognized and matched.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

OpeningHours

Service: Amazon Location Service Places V2

List of opening hours objects.

Contents

Categories

Categories of results that results must belong too.

Type: Array of [Category](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Components

Components of the opening hours object.

Type: Array of [OpeningHoursComponents](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Display

List of opening hours in the format they are displayed in. This can vary by result and in most cases represents how the result uniquely formats their opening hours.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

OpenNow

Boolean which indicates if the result/place is currently open.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

OpeningHoursComponents

Service: Amazon Location Service Places V2

Components of the opening hours object.

Contents

OpenDuration

String which represents the duration of the opening period, such as "PT12H00M".

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

OpenTime

String which represents the opening hours, such as "T070000".

Type: String

Length Constraints: Minimum length of 0. Maximum length of 21.

Required: No

Recurrence

Days or periods when the provided opening hours are in affect.

Example: `FREQ:DAILY;BYDAY:MO,TU,WE,TH,SU`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ParsedQueryComponent

Service: Amazon Location Service Places V2

Parsed components in the provided QueryText.

Contents

EndIndex

End index of the parsed query component.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

QueryComponent

The address component that the parsed query component corresponds to.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 11.

Required: No

StartIndex

Start index of the parsed query component.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Value

Value of the parsed query component.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ParsedQuerySecondaryAddressComponent

Service: Amazon Location Service Places V2

Information about a secondary address component parsed from the query text.

Contents

Designator

Secondary address designator provided in the query.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 4.

Required: Yes

EndIndex

End index of the parsed secondary address component in the query text.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

Number

Secondary address number provided in the query.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 10.

Required: Yes

StartIndex

Start index of the parsed secondary address component in the query text.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

Value

Value of the parsed secondary address component.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

PhonemeDetails

Service: Amazon Location Service Places V2

The phoneme details.

Contents

Address

How to pronounce the address.

Type: [AddressComponentPhonemes](#) object

Required: No

Title

List of PhonemeTranscription. See PhonemeTranscription for fields.

Type: Array of [PhonemeTranscription](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

PhonemeTranscription

Service: Amazon Location Service Places V2

How to pronounce the various components of the address or place.

Contents

Language

A list of [BCP 47](#) compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

Preferred

Boolean which indicates if it the preferred pronunciation.

Type: Boolean

Required: No

Value

Value which indicates how to pronounce the value.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

PostalCodeDetails

Service: Amazon Location Service Places V2

Contains details about the postal code of the place or result.

Contents

PostalAuthority

The postal authority or entity. This could be a governmental authority, a regulatory authority, or a designated postal operator.

Type: String

Valid Values: Usps

Required: No

PostalCode

An alphanumeric string included in a postal address to facilitate mail sorting, such as post code, postcode, or ZIP code for which the result should possess.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

PostalCodeType

The postal code type.

Type: String

Valid Values: UspsZip | UspsZipPlus4

Required: No

UspsZip

The ZIP Classification Code, or in other words what type of postal code is it.

Type: [UspsZip](#) object

Required: No

UspsZipPlus4

The USPS ZIP+4 Record Type Code.

Type: [UspsZipPlus4](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

QueryRefinement

Service: Amazon Location Service Places V2

Suggestions for refining individual query terms. Suggestions are returned as objects which note the term, suggested replacement, and its index in the query.

Contents

EndIndex

End index of the parsed query.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

OriginalTerm

The sub-string of the original query that is replaced by this query term.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

RefinedTerm

The term that will be suggested to the user.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

StartIndex

Start index of the parsed component.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Region

Service: Amazon Location Service Places V2

The region or state results should be to be present in.

Example: North Rhine-Westphalia.

Contents

Code

Abbreviated code for a the state, province or region of the country. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Example: BC.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 3.

Required: No

Name

Name for a the state, province, or region of the country.

Example: British Columbia.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RegionHighlights

Service: Amazon Location Service Places V2

Indicates the starting and ending index of the region in the text query that match the found title.

Contents

Code

Indicates the starting and ending index of the region in the text query that match the found title.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Name

Indicates the starting and ending index of the region name in the text query that match the found title.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RelatedPlace

Service: Amazon Location Service Places V2

Place that is related to the result item.

Contents

PlaceId

The PlaceId of the place result.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PlaceType

A PlaceType is a category that the result place must belong to.

Type: String

Valid Values: Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress

Required: Yes

Title

The localized display name of this result item based on request parameter language.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of [AccessPoint](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Address

The place address.

Type: [Address](#) object

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ReverseGeocodeFilter

Service: Amazon Location Service Places V2

The included place types.

Contents

IncludePlaceTypes

The included place types. For [GrabMaps](#) customers, ap-southeast-1 and ap-southeast-5 regions support only Street and PointAddress values.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Valid Values: Locality | Intersection | Street | PointAddress | InterpolatedAddress

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ReverseGeocodeResultItem

Service: Amazon Location Service Places V2

The returned location from the Reverse Geocode action.

Contents

PlaceId

The PlaceId of the place you wish to receive the information for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PlaceType

A PlaceType is a category that the result place must belong to.

Type: String

Valid Values: Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress

Required: Yes

Title

The localized display name of this result item based on request parameter language.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude].

Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [AccessPoint](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Address

The place's address.

Type: [Address](#) object

Required: No

AddressNumberCorrected

Boolean indicating if the address provided has been corrected. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Boolean

Required: No

Categories

Categories of results that results must belong to.

Type: Array of [Category](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Distance

The distance in meters from the QueryPosition.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

FoodTypes

List of food types offered by this result. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [FoodType](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Intersections

All Intersections that are near the provided address. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [Intersection](#) objects

Array Members: Minimum number of 1 item.

Required: No

MapView

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: [{westward lng}, {southern lat}, {eastward lng}, {northern lat}]

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: String

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

PostalCodeDetails

Contains details about the postal code of the place/result. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [PostalCodeDetails](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

TimeZone

The time zone in which the place is located.

Type: [TimeZone](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SearchNearbyFilter

Service: Amazon Location Service Places V2

SearchNearby structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Contents

BoundingBox

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: [{westward lng}, {southern lat}, {eastward lng}, {northern lat}]

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

ExcludeBusinessChains

The Business Chains associated with the place.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

ExcludeCategories

Categories of results that results are excluded from.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

ExcludeFoodTypes

Food types that results are excluded from.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

IncludeBusinessChains

The Business Chains associated with the place.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

IncludeCategories

Categories of results that results must belong too.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

IncludeCountries

A list of countries that all results must be in. Countries are represented by either their alpha-2 or alpha-3 character codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: No

IncludeFoodTypes

Food types that results are included from.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SearchNearbyResultItem

Service: Amazon Location Service Places V2

The search results of nearby places.

Contents

PlaceId

The PlaceId of the place you wish to receive the information for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PlaceType

A PlaceType is a category that the result place must belong to.

Type: String

Valid Values: Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress

Required: Yes

Title

The item's title.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of [AccessPoint](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

AccessRestrictions

Indicates known access restrictions on a vehicle access point. The index correlates to an access point and indicates if access through this point has some form of restriction.

Type: Array of [AccessRestriction](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Address

The place's address.

Type: [Address](#) object

Required: No

AddressNumberCorrected

Boolean indicating if the address provided has been corrected.

Type: Boolean

Required: No

BusinessChains

The Business Chains associated with the place.

Type: Array of [BusinessChain](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Categories

Categories of results that results must belong to.

Type: Array of [Category](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Contacts

List of potential contact methods for the result/place.

Type: [Contacts](#) object

Required: No

Distance

The distance in meters from the QueryPosition.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

FoodTypes

List of food types offered by this result.

Type: Array of [FoodType](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

MapView

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: [{westward lng}, {southern lat}, {eastward lng}, {northern lat}]

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

OpeningHours

List of opening hours objects.

Type: Array of [OpeningHours](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Phonemes

How the various components of the result's address are pronounced in various languages.

Type: [PhonemeDetails](#) object

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country.

Type: String

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

TimeZone

The time zone in which the place is located.

Type: [TimeZone](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SearchTextFilter

Service: Amazon Location Service Places V2

SearchText structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Contents

BoundingBox

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: [{westward lng}, {southern lat}, {eastward lng}, {northern lat}]

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Circle

The Circle that all results must be in.

Type: [FilterCircle](#) object

Required: No

IncludeCountries

A list of countries that all results must be in. Countries are represented by either their alpha-2 or alpha-3 character codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SearchTextResultItem

Service: Amazon Location Service Places V2

The text search result.

Contents

PlaceId

The PlaceId of the place you wish to receive the information for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PlaceType

A PlaceType is a category that the result place must belong to.

Type: String

Valid Values: Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress

Required: Yes

Title

The item's title.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of [AccessPoint](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

AccessRestrictions

Indicates known access restrictions on a vehicle access point. The index correlates to an access point and indicates if access through this point has some form of restriction.

Type: Array of [AccessRestriction](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Address

The place's address.

Type: [Address](#) object

Required: No

AddressNumberCorrected

Boolean indicating if the address provided has been corrected.

Type: Boolean

Required: No

BusinessChains

The Business Chains associated with the place.

Type: Array of [BusinessChain](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Categories

Categories of results that results must belong to.

Type: Array of [Category](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Contacts

List of potential contact methods for the result/place.

Type: [Contacts](#) object

Required: No

Distance

The distance in meters from the QueryPosition.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

FoodTypes

List of food types offered by this result.

Type: Array of [FoodType](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

MapView

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: [{westward lng}, {southern lat}, {eastward lng}, {northern lat}]

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

OpeningHours

List of opening hours objects.

Type: Array of [OpeningHours](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Phonemes

How the various components of the result's address are pronounced in various languages.

Type: [PhonemeDetails](#) object

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country.

Type: String

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

TimeZone

The time zone in which the place is located.

Type: [TimeZone](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SecondaryAddressComponent

Service: Amazon Location Service Places V2

Components that correspond to secondary identifiers on an address. The only component type supported currently is Unit.

Contents

Number

Number that uniquely identifies a secondary address.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 10.

Required: Yes

Designator

The designator of the secondary address component.

Example: Apt.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 20.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SecondaryAddressComponentMatchScore

Service: Amazon Location Service Places V2

Match score for a secondary address component in the result.

Contents

Number

Match score for the secondary address number.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

StreetComponents

Service: Amazon Location Service Places V2

Components of a street.

Contents

BaseName

Base name part of the street name.

Example: Younge from the "Younge street".

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Direction

Indicates the official directional identifiers assigned to highways.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

Language

A [BCP 47](#) compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

Prefix

A prefix is a directional identifier that precedes, but is not included in, the base name of a road.

Example: E for East.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

Suffix

A suffix is a directional identifier that follows, but is not included in, the base name of a road.

Example W for West.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

Type

Street type part of the street name.

Example: "avenue".

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

TypePlacement

Defines if the street type is before or after the base name.

Type: String

Valid Values: BeforeBaseName | AfterBaseName

Required: No

TypeSeparator

Defines a separator character such as "" or " " between the base name and type.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1.

Pattern: \$|^

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SubRegion

Service: Amazon Location Service Places V2

The sub-region.

Contents

Code

Abbreviated code for the county or sub-region. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 3.

Required: No

Name

Name for the county or sub-region.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SubRegionHighlights

Service: Amazon Location Service Places V2

Indicates the starting and ending index of the sub-region in the text query that match the found title.

Contents

Code

Indicates the starting and ending index of the sub-region in the text query that match the found title.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Name

Indicates the starting and ending index of the name in the text query that match the found title.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SuggestAddressHighlights

Service: Amazon Location Service Places V2

Describes how the parts of the textQuery matched the input query by returning the sections of the response which matched to textQuery terms.

Contents

Label

Indicates the starting and ending indexes of the places in the result which were identified to match the textQuery. This result is useful for providing emphasis to results where the user query directly matched to make selecting the correct result from a list easier for an end user.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SuggestFilter

Service: Amazon Location Service Places V2

SuggestFilter structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Contents

BoundingBox

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: [{westward lng}, {southern lat}, {eastward lng}, {northern lat}]

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Circle

The Circle that all results must be in.

Type: [FilterCircle](#) object

Required: No

IncludeCountries

A list of countries that all results must be in. Countries are represented by either their alpha-2 or alpha-3 character codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: ([A-Z]{2} | [A-Z]{3})

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SuggestHighlights

Service: Amazon Location Service Places V2

Describes how the parts of the textQuery matched the input query by returning the sections of the response which matched to textQuery terms.

Contents

Address

The place's address.

Type: [SuggestAddressHighlights](#) object

Required: No

Title

Indicates the starting and ending index of the title in the text query that match the found title.

Type: Array of [Highlight](#) objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SuggestPlaceResult

Service: Amazon Location Service Places V2

The suggested place results.

Contents

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude]. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [AccessPoint](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

AccessRestrictions

Indicates known access restrictions on a vehicle access point. The index correlates to an access point and indicates if access through this point has some form of restriction. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [AccessRestriction](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Address

The place's address.

Type: [Address](#) object

Required: No

BusinessChains

The Business Chains associated with the place. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [BusinessChain](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Categories

Categories of results that results must belong to.

Type: Array of [Category](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Distance

The distance in meters from the QueryPosition.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

FoodTypes

List of food types offered by this result. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: Array of [FoodType](#) objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

MapView

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: [{westward lng}, {southern lat}, {eastward lng}, {northern lat}]

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Phonemes

How the various components of the result's address are pronounced in various languages. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: [PhonemeDetails](#) object

Required: No

PlaceId

The PlaceId of the place you wish to receive the information for.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 500.

Required: No

PlaceType

A PlaceType is a category that the result place must belong to.

Type: String

Valid Values: Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. Not available in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: String

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

TimeZone

The time zone in which the place is located.

Type: [TimeZone](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SuggestQueryResult

Service: Amazon Location Service Places V2

The suggested query results.

Contents

QueryId

QueryId can be used to complete a follow up query through the SearchText API. The QueryId retains context from the original Suggest request such as filters, political view and language. See the SearchText API documentation for more details [SearchText API docs](#). Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Note

The fields QueryText, and QueryID are mutually exclusive.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: No

QueryType

The query type. Category queries will search for places which have an entry matching the given category, for example "doctor office". BusinessChain queries will search for instances of a given business. Not supported in ap-southeast-1 and ap-southeast-5 regions for [GrabMaps](#) customers.

Type: String

Valid Values: Category | BusinessChain

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SuggestResultItem

Service: Amazon Location Service Places V2

The resulting item from the suggested query.

Contents

SuggestResultItemType

The result type. Place results represent the final result for a point of interest, Query results represent a follow up query which can be completed through the SearchText operation.

Type: String

Valid Values: Place | Query

Required: Yes

Title

The display title that should be used when presenting this option to the end user.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

Highlights

Describes how the parts of the response element matched the input query by returning the sections of the response which matched to input query terms.

Type: [SuggestHighlights](#) object

Required: No

Place

The suggested place by its unique ID.

Type: [SuggestPlaceResult](#) object

Required: No

Query

The suggested query results.

Type: [SuggestQueryResult](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

TimeZone

Service: Amazon Location Service Places V2

The time zone in which the place is located.

Contents

Name

The time zone name.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

Offset

Time zone offset of the timezone from UTC.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 6.

Required: No

OffsetSeconds

The offset of the time zone from UTC, in seconds.

Type: Long

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

UspsZip

Service: Amazon Location Service Places V2

The USPS zip code.

Contents

ZipClassificationCode

The ZIP Classification Code, or in other words what type of postal code is it.

Type: String

Valid Values: Military | PostOfficeBoxes | Unique

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

UspsZipPlus4

Service: Amazon Location Service Places V2

The USPS zip+4 code.

Contents

RecordTypeCode

The USPS ZIP+4 Record Type Code.

Type: String

Valid Values: Firm | General | HighRise | PostOfficeBox | Rural | Street

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ValidationExceptionField

Service: Amazon Location Service Places V2

The input fails to satisfy the constraints specified by the Amazon Location service.

Contents

message

The error message.

Type: String

Required: Yes

name

The name of the resource.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Amazon Location Service Tagging

The following data types are supported by Amazon Location Service Tagging:

- [AndroidApp](#)
- [ApiKeyFilter](#)
- [ApiKeyRestrictions](#)

- [AppleApp](#)
- [ListKeysResponseEntry](#)
- [ValidationExceptionField](#)

AndroidApp

Service: Amazon Location Service Tagging

Unique identifying information for an Android app. Consists of a package name and a 20 byte SHA-1 certificate fingerprint.

Contents

CertificateFingerprint

20 byte SHA-1 certificate fingerprint associated with the Android app signing certificate.

Example: BB:0D:AC:74:D3:21:E1:43:67:71:9B:62:91:AF:A1:66:6E:44:5D:75

Type: String

Length Constraints: Fixed length of 59.

Pattern: ([A-Fa-f0-9]{2}:){19}[A-Fa-f0-9]{2}

Required: Yes

Package

Unique package name identifier for an Android app.

Example: com.mydomain.appname

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: ([A-Za-z][A-Za-z\d_]*\.)+[A-Za-z][A-Za-z\d_]*

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ApiKeyFilter

Service: Amazon Location Service Tagging

Options for filtering API keys.

Contents

KeyStatus

Filter on Active or Expired API keys.

Type: String

Valid Values: Active | Expired

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ApiKeyRestrictions

Service: Amazon Location Service Tagging

API Restrictions on the allowed actions, resources, referers, Android apps, and Apple apps for an API key resource.

Contents

AllowActions

A list of allowed actions that an API key resource grants permissions to perform. You must have at least one action for each type of resource. For example, if you have a place resource, you must include at least one place action.

The following are valid values for the actions.

- **Map actions**

- `geo:GetMap*` - Allows all actions needed for map rendering.
- `geo-maps:GetTile` - Allows retrieving map tiles.
- `geo-maps:GetStaticMap` - Allows retrieving static map images.
- `geo-maps:*` - Allows all actions related to map functionalities.

- **Place actions**

- `geo:SearchPlaceIndexForText` - Allows geocoding.
- `geo:SearchPlaceIndexForPosition` - Allows reverse geocoding.
- `geo:SearchPlaceIndexForSuggestions` - Allows generating suggestions from text.
- `GetPlace` - Allows finding a place by place ID.
- `geo-places:Geocode` - Allows geocoding using place information.
- `geo-places:ReverseGeocode` - Allows reverse geocoding from location coordinates.
- `geo-places:SearchNearby` - Allows searching for places near a location.
- `geo-places:SearchText` - Allows searching for places based on text input.
- `geo-places:Autocomplete` - Allows auto-completion of place names based on text input.
- `geo-places:Suggest` - Allows generating suggestions for places based on partial input.
- `geo-places:GetPlace` - Allows finding a place by its ID.
- `geo-places:*` - Allows all actions related to place services.

- **Route actions**

- `geo:CalculateRoute` - Allows point to point routing.
- `geo:CalculateRouteMatrix` - Allows calculating a matrix of routes.
- `geo-routes:CalculateRoutes` - Allows calculating multiple routes between points.
- `geo-routes:CalculateRouteMatrix` - Allows calculating a matrix of routes between points.
- `geo-routes:CalculateIsolines` - Allows calculating isolines for a given area.
- `geo-routes:OptimizeWaypoints` - Allows optimizing the order of waypoints in a route.
- `geo-routes:SnapToRoads` - Allows snapping a route to the nearest roads.
- `geo-routes:*` - Allows all actions related to routing functionalities.

 Note

You must use these strings exactly. For example, to provide access to map rendering, the only valid action is `geo:GetMap*` as an input to the list. `["geo:GetMap*"]` is valid but `["geo:GetMapTile"]` is not. Similarly, you cannot use `["geo:SearchPlaceIndexFor*"]` - you must list each of the Place actions separately.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 24 items.

Length Constraints: Minimum length of 5. Maximum length of 200.

Pattern: `(geo|geo-routes|geo-places|geo-maps):\\w*\\*?`

Required: Yes

AllowResources

A list of allowed resource ARNs that a API key bearer can perform actions on.

- The ARN must be the correct ARN for a map, place, or route ARN. You may include wildcards in the resource-id to match multiple resources of the same type.
- The resources must be in the same partition, region, and account-id as the key that is being created.

- Other than wildcards, you must include the full ARN, including the `arn`, `partition`, `service`, `region`, `account-id` and `resource-id` delimited by colons (:).
- No spaces allowed, even with wildcards. For example, `arn:aws:geo:region:account-id:map/ExampleMap*`.

For more information about ARN format, see [Amazon Resource Names \(ARNs\)](#).

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 8 items.

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `.*(^arn(:[a-z0-9]+([.-][a-z0-9]+)*) : geo(:([a-z0-9]+([.-][a-z0-9]+)*) )(:[0-9]+):((\*)|([-a-z]+[/][*-._\w]+))$)|(^arn(:[a-z0-9]+([.-][a-z0-9]+)*) : (geo-routes|geo-places|geo-maps):((\*)|([a-z0-9]+([.-][a-z0-9]+)*) )):((provider[/][*-._\w]+))$)).*`

Required: Yes

AllowAndroidApps

An optional list of allowed Android applications for which requests must originate from. Requests using this API key from other sources will not be allowed.

Type: Array of [AndroidApp](#) objects

Array Members: Minimum number of 0 items. Maximum number of 5 items.

Required: No

AllowAppleApps

An optional list of allowed Apple applications for which requests must originate from. Requests using this API key from other sources will not be allowed.

Type: Array of [AppleApp](#) objects

Array Members: Minimum number of 0 items. Maximum number of 5 items.

Required: No

AllowReferers

An optional list of allowed HTTP referers for which requests must originate from. Requests using this API key from other domains will not be allowed.

Requirements:

- Contain only alphanumeric characters (A–Z, a–z, 0–9) or any symbols in this list `$\ - . _ + ! * ` () , ; / ? : @ = &`
- May contain a percent (%) if followed by 2 hexadecimal digits (A-F, a-f, 0-9); this is used for URL encoding purposes.
- May contain wildcard characters question mark (?) and asterisk (*).

Question mark (?) will replace any single character (including hexadecimal digits).

Asterisk (*) will replace any multiple characters (including multiple hexadecimal digits).

- No spaces allowed.

Example:

`https://example.com`

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 5 items.

Length Constraints: Minimum length of 0. Maximum length of 253.

Pattern: `([\w!$&()*+,. /:;=?@\x{60}-] | %([\dA-Fa-f]{2} | [\dA-Fa-f]? \*))+`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

AppleApp

Service: Amazon Location Service Tagging

Unique identifying information for an Apple app (iOS, macOS, tvOS and watchOS). Consists of an Apple Bundle ID.

Contents

BundleId

The unique identifier of the app across all Apple platforms (iOS, macOS, tvOS and watchOS).

Example: `com.mydomain.appname`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 155.

Pattern: `[A-Za-z0-9\-\.](\.[A-Za-z0-9\-\.])+`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ListKeysResponseEntry

Service: Amazon Location Service Tagging

An API key resource listed in your AWS account.

Contents

CreateTime

The timestamp of when the API key was created, in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Required: Yes

ExpireTime

The timestamp for when the API key resource will expire, in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Required: Yes

KeyName

The name of the API key resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

Required: Yes

Restrictions

API Restrictions on the allowed actions, resources, referers, Android apps, and Apple apps for an API key resource.

Type: [ApiKeyRestrictions](#) object

Required: Yes

UpdateTime

The timestamp of when the API key was last updated, in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Required: Yes

Description

The optional description for the API key resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ValidationExceptionField

Service: Amazon Location Service Tagging

Contents

message

Type: String

Required: Yes

name

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Amazon Location Service Geofences

The following data types are supported by Amazon Location Service Geofences:

- [BatchDeleteGeofenceError](#)
- [BatchEvaluateGeofencesError](#)
- [BatchItemError](#)
- [BatchPutGeofenceError](#)
- [BatchPutGeofenceRequestEntry](#)
- [BatchPutGeofenceSuccess](#)

- [Circle](#)
- [DevicePositionUpdate](#)
- [ForecastedEvent](#)
- [ForecastGeofenceEventsDeviceState](#)
- [GeofenceGeometry](#)
- [ListGeofenceCollectionsResponseEntry](#)
- [ListGeofenceResponseEntry](#)
- [PositionalAccuracy](#)
- [ValidationExceptionField](#)

BatchDeleteGeofenceError

Service: Amazon Location Service Geofences

Contains error details for each geofence that failed to delete from the geofence collection.

Contents

Error

Contains details associated to the batch error.

Type: [BatchItemError](#) object

Required: Yes

GeofenceId

The geofence associated with the error message.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _\p{L}\p{N}]+`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

BatchEvaluateGeofencesError

Service: Amazon Location Service Geofences

Contains error details for each device that failed to evaluate its position against the geofences in a given geofence collection.

Contents

DeviceId

The device associated with the position evaluation error.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \p{L} \p{N} ]+`

Required: Yes

Error

Contains details associated to the batch error.

Type: [BatchItemError](#) object

Required: Yes

SampleTime

Specifies a timestamp for when the error occurred in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss

Type: Timestamp

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

BatchItemError

Service: Amazon Location Service Geofences

Contents

Code

Type: String

Valid Values: `AccessDeniedError` | `ConflictError` | `InternalServerError` | `ResourceNotFoundError` | `ThrottlingError` | `ValidationError`

Required: No

Message

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

BatchPutGeofenceError

Service: Amazon Location Service Geofences

Contains error details for each geofence that failed to be stored in a given geofence collection.

Contents

Error

Contains details associated to the batch error.

Type: [BatchItemError](#) object

Required: Yes

GeofenceId

The geofence associated with the error message.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \p{L} \p{N} ]+`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

BatchPutGeofenceRequestEntry

Service: Amazon Location Service Geofences

Contains geofence geometry details.

Contents

GeofenceId

The identifier for the geofence to be stored in a given geofence collection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \p{L} \p{N} ]+`

Required: Yes

Geometry

Contains the details to specify the position of the geofence. Can be a polygon, a circle or a polygon encoded in Geobuf format. Including multiple selections will return a validation error.

Note

The [geofence polygon](#) format supports a maximum of 1,000 vertices. The [Geofence geobuf](#) format supports a maximum of 100,000 vertices.

Type: [GeofenceGeometry](#) object

Required: Yes

GeofenceProperties

Associates one or more properties with the geofence. A property is a key-value pair stored with the geofence and added to any geofence event triggered with that geofence.

Format: `"key" : "value"`

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 3 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 40.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

BatchPutGeofenceSuccess

Service: Amazon Location Service Geofences

Contains a summary of each geofence that was successfully stored in a given geofence collection.

Contents

CreateTime

The timestamp for when the geofence was stored in a geofence collection in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss

Type: Timestamp

Required: Yes

GeofenceId

The geofence successfully stored in a geofence collection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [-._\p{L}\p{N}]+

Required: Yes

UpdateTime

The timestamp for when the geofence was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss

Type: Timestamp

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Circle

Service: Amazon Location Service Geofences

Contents

Center

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Radius

Type: Double

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

DevicePositionUpdate

Service: Amazon Location Service Geofences

Contents

DeviceId

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \p{L} \p{N} ]+`

Required: Yes

Position

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

SampleTime

Type: Timestamp

Required: Yes

Accuracy

Type: [PositionalAccuracy](#) object

Required: No

PositionProperties

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 4 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 150.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ForecastedEvent

Service: Amazon Location Service Geofences

A forecasted event represents a geofence event in relation to the requested device state, that may occur given the provided device state and time horizon.

Contents

EventId

The forecasted event identifier.

Type: String

Pattern: `[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}`

Required: Yes

EventType

The event type, forecasting three states for which a device can be in relative to a geofence:

ENTER: If a device is outside of a geofence, but would breach the fence if the device is moving at its current speed within time horizon window.

EXIT: If a device is inside of a geofence, but would breach the fence if the device is moving at its current speed within time horizon window.

IDLE: If a device is inside of a geofence, and the device is not moving.

Type: String

Valid Values: ENTER | EXIT | IDLE

Required: Yes

GeofenceId

The geofence identifier pertaining to the forecasted event.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\p{L}\p{N}]+`

Required: Yes

IsDeviceInGeofence

Indicates if the device is located within the geofence.

Type: Boolean

Required: Yes

NearestDistance

The closest distance from the device's position to the geofence.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

ForecastedBreachTime

The forecasted time the device will breach the geofence in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss

Type: Timestamp

Required: No

GeofenceProperties

The geofence properties.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 3 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 40.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ForecastGeofenceEventsDeviceState

Service: Amazon Location Service Geofences

The device's position and speed.

Contents

Position

The device's position.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Speed

The device's speed.

Type: Double

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

GeofenceGeometry

Service: Amazon Location Service Geofences

Contains the geofence geometry details.

A geofence geometry can be a circle, a polygon, or a multipolygon. Polygon and MultiPolygon geometries can be defined using their respective parameters, or encoded in Geobuf format using the Geobuf parameter. Including multiple geometry types in the same request will return a validation error.

Note

Amazon Location doesn't currently support polygons that cross the antimeridian.

Contents

Circle

A circle on the earth, as defined by a center point and a radius.

Type: [Circle](#) object

Required: No

Geobuf

Geobuf is a compact binary encoding for geographic data that provides lossless compression of GeoJSON polygons. The Geobuf must be Base64-encoded.

This parameter can contain a Geobuf-encoded GeoJSON geometry object of type Polygon *OR* MultiPolygon. For more information and specific configuration requirements for these object types, see [Polygon](#) and [MultiPolygon](#).

Note

The following limitations apply specifically to geometries defined using the Geobuf parameter, and supercede the corresponding limitations of the Polygon and MultiPolygon parameters:

- A Polygon in Geobuf format can have up to 25,000 rings and up to 100,000 total vertices, including all vertices from all component rings.

- A `MultiPolygon` in Geobuf format can contain up to 10,000 `Polygon`s and up to 100,000 total vertices, including all vertices from all component `Polygon`s.

Type: Base64-encoded binary data object

Length Constraints: Minimum length of 0. Maximum length of 700000.

Required: No

MultiPolygon

A `MultiPolygon` is a list of up to 250 `Polygon` elements which represent the shape of a geofence. The `Polygon` components of a `MultiPolygon` geometry can define separate geographical areas that are considered part of the same geofence, perimeters of larger exterior areas with smaller interior spaces that are excluded from the geofence, or some combination of these use cases to form complex geofence boundaries.

For more information and specific configuration requirements for the `Polygon` components that form a `MultiPolygon`, see [Polygon](#).

Note

The following additional requirements and limitations apply to geometries defined using the `MultiPolygon` parameter:

- The entire `MultiPolygon` must consist of no more than 1,000 vertices, including all vertices from all component `Polygon`s.
- Each edge of a component `Polygon` must intersect no more than 5 edges from other `Polygon`s. Parallel edges that are shared but do not cross are not counted toward this limit.
- The total number of intersecting edges of component `Polygon`s must be no more than 100,000. Parallel edges that are shared but do not cross are not counted toward this limit.

Type: Array of arrays of arrays of arrays of doubles

Array Members: Minimum number of 1 item. Maximum number of 250 items.

Array Members: Minimum number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

Polygon

A Polygon is a list of up to 250 linear rings which represent the shape of a geofence. This list *must* include 1 exterior ring (representing the outer perimeter of the geofence), and can optionally include up to 249 interior rings (representing polygonal spaces within the perimeter, which are excluded from the geofence area).

A linear ring is an array of 4 or more vertices, where the first and last vertex are the same (to form a closed boundary). Each vertex is a 2-dimensional point represented as an array of doubles of length 2: `[longitude, latitude]`.

Each linear ring is represented as an array of arrays of doubles (`[[longitude, latitude], [longitude, latitude], ...]`). The vertices for the exterior ring must be listed in *counter-clockwise* sequence. Vertices for all interior rings must be listed in *clockwise* sequence.

The list of linear rings that describe the entire Polygon is represented as an array of arrays of arrays of doubles (`[[[longitude, latitude], [longitude, latitude], ...], [[longitude, latitude], [longitude, latitude], ...], ...]`). The exterior ring must be listed first, before any interior rings.

Note

The following additional requirements and limitations apply to geometries defined using the Polygon parameter:

- The entire Polygon must consist of no more than 1,000 vertices, including all vertices from the exterior ring and all interior rings.
- Rings must not touch or cross each other.
- All interior rings must be fully contained within the exterior ring.
- Interior rings must not contain other interior rings.
- No ring is permitted to intersect itself.

Type: Array of arrays of arrays of doubles

Array Members: Minimum number of 1 item. Maximum number of 250 items.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ListGeofenceCollectionsResponseEntry

Service: Amazon Location Service Geofences

Contains the geofence collection details.

Note

The returned geometry will always match the geometry format used when the geofence was created.

Contents

CollectionName

The name of the geofence collection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- ._\w]+`

Required: Yes

CreateTime

The timestamp for when the geofence collection was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss

Type: Timestamp

Required: Yes

Description

The description for the geofence collection

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: Yes

UpdateTime

Specifies a timestamp for when the resource was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss

Type: Timestamp

Required: Yes

PricingPlan

This member has been deprecated.

No longer used. Always returns RequestBasedUsage.

Type: String

Valid Values: RequestBasedUsage | MobileAssetTracking | MobileAssetManagement

Required: No

PricingPlanDataSource

This member has been deprecated.

No longer used. Always returns an empty string.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ListGeofenceResponseEntry

Service: Amazon Location Service Geofences

Contains a list of geofences stored in a given geofence collection.

Note

The returned geometry will always match the geometry format used when the geofence was created.

Contents

CreateTime

The timestamp for when the geofence was stored in a geofence collection in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss

Type: Timestamp

Required: Yes

GeofenceId

The geofence identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \p{L} \p{N}] +`

Required: Yes

Geometry

Contains the geofence geometry details describing a polygon or a circle.

Type: [GeofenceGeometry](#) object

Required: Yes

Status

Identifies the state of the geofence. A geofence will hold one of the following states:

- **ACTIVE** — The geofence has been indexed by the system.
- **PENDING** — The geofence is being processed by the system.
- **FAILED** — The geofence failed to be indexed by the system.
- **DELETED** — The geofence has been deleted from the system index.
- **DELETING** — The geofence is being deleted from the system index.

Type: String

Required: Yes

UpdateTime

The timestamp for when the geofence was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss

Type: Timestamp

Required: Yes

GeofenceProperties

User defined properties of the geofence. A property is a key-value pair stored with the geofence and added to any geofence event triggered with that geofence.

Format: "key" : "value"

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 3 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 40.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

PositionalAccuracy

Service: Amazon Location Service Geofences

Contents

Horizontal

Type: Double

Valid Range: Minimum value of 0. Maximum value of 10000000.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ValidationExceptionField

Service: Amazon Location Service Geofences

Contents

message

Type: String

Required: Yes

name

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Amazon Location Service Trackers

The following data types are supported by Amazon Location Service Trackers:

- [BatchDeleteDevicePositionHistoryError](#)
- [BatchGetDevicePositionError](#)
- [BatchItemError](#)
- [BatchUpdateDevicePositionError](#)
- [CellSignals](#)
- [DevicePosition](#)

- [DevicePositionUpdate](#)
- [DeviceState](#)
- [InferredState](#)
- [ListDevicePositionsResponseEntry](#)
- [ListTrackersResponseEntry](#)
- [LteCellDetails](#)
- [LteLocalId](#)
- [LteNetworkMeasurements](#)
- [PositionalAccuracy](#)
- [TrackingFilterGeometry](#)
- [ValidationExceptionField](#)
- [WiFiAccessPoint](#)

BatchDeleteDevicePositionHistoryError

Service: Amazon Location Service Trackers

Contains the tracker resource details.

Contents

DeviceId

The ID of the device for this position.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- ._\p{L}\p{N}]+`

Required: Yes

Error

Type: [BatchItemError](#) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

BatchGetDevicePositionError

Service: Amazon Location Service Trackers

Contains error details for each device that didn't return a position.

Contents

DeviceId

The ID of the device that didn't return a position.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \p{L} \p{N} ] +`

Required: Yes

Error

Contains details related to the error code.

Type: [BatchItemError](#) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

BatchItemError

Service: Amazon Location Service Trackers

Contents

Code

Type: String

Valid Values: AccessDeniedError | ConflictError | InternalServerError | ResourceNotFoundError | ThrottlingError | ValidationError

Required: No

Message

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

BatchUpdateDevicePositionError

Service: Amazon Location Service Trackers

Contains error details for each device that failed to update its position.

Contents

DeviceId

The device associated with the failed location update.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\p{L}\p{N}]+`

Required: Yes

Error

Contains details related to the error code such as the error code and error message.

Type: [BatchItemError](#) object

Required: Yes

SampleTime

The timestamp at which the device position was determined. Uses [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)

CellSignals

Service: Amazon Location Service Trackers

The cellular network communication infrastructure that the device uses.

Contents

LteCellDetails

Information about the Long-Term Evolution (LTE) network the device is connected to.

Type: Array of [LteCellDetails](#) objects

Array Members: Minimum number of 1 item. Maximum number of 16 items.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

DevicePosition

Service: Amazon Location Service Trackers

Contains the device position details.

Contents

Position

The last known device position.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

ReceivedTime

The timestamp for when the tracker resource received the device position in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Required: Yes

SampleTime

The timestamp at which the device's position was determined. Uses [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Required: Yes

Accuracy

The accuracy of the device position.

Type: [PositionalAccuracy](#) object

Required: No

DeviceId

The device whose position you retrieved.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\p{L}\p{N}]`+

Required: No

PositionProperties

The properties associated with the position.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 4 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 150.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

DevicePositionUpdate

Service: Amazon Location Service Trackers

Contents

DeviceId

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \p{L} \p{N} ]+`

Required: Yes

Position

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

SampleTime

Type: Timestamp

Required: Yes

Accuracy

Type: [PositionalAccuracy](#) object

Required: No

PositionProperties

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 4 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 150.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

DeviceState

Service: Amazon Location Service Trackers

The device's position, IP address, and Wi-Fi access points.

Contents

DeviceId

The device identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[ - . _ \p{L} \p{N} ] +`

Required: Yes

Position

The last known device position.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

SampleTime

The timestamp at which the device's position was determined. Uses [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Required: Yes

Accuracy

Type: [PositionalAccuracy](#) object

Required: No

CellSignals

The cellular network infrastructure that the device is connected to.

Type: [CellSignals](#) object

Required: No

Ipv4Address

The device's Ipv4 address.

Type: String

Pattern: `(?: (?: 25[0-5] | (?: 2[0-4] | 1\d | [0-9] | )\d) \. ? \b ) { 4 }`

Required: No

WiFiAccessPoints

The Wi-Fi access points the device is using.

Type: Array of [WiFiAccessPoint](#) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

InferredState

Service: Amazon Location Service Trackers

The inferred state of the device, given the provided position, IP address, cellular signals, and Wi-Fi access points.

Contents

ProxyDetected

Indicates if a proxy was used.

Type: Boolean

Required: Yes

Accuracy

The level of certainty of the inferred position.

Type: [PositionalAccuracy](#) object

Required: No

DeviationDistance

The distance between the inferred position and the device's self-reported position.

Type: Double

Required: No

Position

The device position inferred by the provided position, IP address, cellular signals, and Wi-Fi access points.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ListDevicePositionsResponseEntry

Service: Amazon Location Service Trackers

Contains the tracker resource details.

Contents

DeviceId

The ID of the device for this position.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[- . _ \p{L} \p{N} ] +`

Required: Yes

Position

The last known device position. Empty if no positions currently stored.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

SampleTime

The timestamp at which the device position was determined. Uses [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Required: Yes

Accuracy

The accuracy of the device position.

Type: [PositionalAccuracy](#) object

Required: No

PositionProperties

The properties associated with the position.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 4 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 150.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ListTrackersResponseEntry

Service: Amazon Location Service Trackers

Contains the tracker resource details.

Contents

CreateTime

The timestamp for when the tracker resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Required: Yes

Description

The description for the tracker resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: Yes

TrackerName

The name of the tracker resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: [- ._\w]+

Required: Yes

UpdateTime

The timestamp at which the device's position was determined. Uses [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sss.

Type: Timestamp

Required: Yes

PricingPlan

This member has been deprecated.

Always returns RequestBasedUsage.

Type: String

Valid Values: RequestBasedUsage | MobileAssetTracking |
MobileAssetManagement

Required: No

PricingPlanDataSource

This member has been deprecated.

No longer used. Always returns an empty string.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

LteCellDetails

Service: Amazon Location Service Trackers

Details about the Long-Term Evolution (LTE) network.

Contents

CellId

The E-UTRAN Cell Identifier (ECI).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 268435455.

Required: Yes

Mcc

The Mobile Country Code (MCC).

Type: Integer

Valid Range: Minimum value of 200. Maximum value of 999.

Required: Yes

Mnc

The Mobile Network Code (MNC)

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 999.

Required: Yes

LocalId

The LTE local identification information (local ID).

Type: [LteLocalId](#) object

Required: No

NetworkMeasurements

The network measurements.

Type: Array of [LteNetworkMeasurements](#) objects

Array Members: Minimum number of 1 item. Maximum number of 32 items.

Required: No

NrCapable

Indicates whether the LTE object is capable of supporting NR (new radio).

Type: Boolean

Required: No

Rsrp

Signal power of the reference signal received, measured in decibel-milliwatts (dBm).

Type: Integer

Valid Range: Minimum value of -140. Maximum value of -44.

Required: No

Rsrq

Signal quality of the reference Signal received, measured in decibels (dB).

Type: Float

Valid Range: Minimum value of -19.5. Maximum value of -3.

Required: No

Tac

LTE Tracking Area Code (TAC).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 65535.

Required: No

TimingAdvance

Timing Advance (TA).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 1282.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

LteLocalId

Service: Amazon Location Service Trackers

LTE local identification information (local ID).

Contents

Earfcn

E-UTRA (Evolved Universal Terrestrial Radio Access) absolute radio frequency channel number (EARFCN).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 262143.

Required: Yes

Pci

Physical Cell ID (PCI).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 503.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

LteNetworkMeasurements

Service: Amazon Location Service Trackers

LTE network measurements.

Contents

CellId

E-UTRAN Cell Identifier (ECI).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 268435455.

Required: Yes

Earfcn

E-UTRA (Evolved Universal Terrestrial Radio Access) absolute radio frequency channel number (EARFCN).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 262143.

Required: Yes

Pci

Physical Cell ID (PCI).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 503.

Required: Yes

Rsrp

Signal power of the reference signal received, measured in dBm (decibel-milliwatts).

Type: Integer

Valid Range: Minimum value of -140. Maximum value of -44.

Required: No

Rsrq

Signal quality of the reference Signal received, measured in decibels (dB).

Type: Float

Valid Range: Minimum value of -19.5. Maximum value of -3.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

PositionalAccuracy

Service: Amazon Location Service Trackers

Contents

Horizontal

Type: Double

Valid Range: Minimum value of 0. Maximum value of 10000000.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

TrackingFilterGeometry

Service: Amazon Location Service Trackers

The geometry used to filter device positions.

Contents

Polygon

The set of arrays which define the polygon. A polygon can have between 4 and 1000 vertices.

Type: Array of arrays of arrays of doubles

Array Members: Minimum number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ValidationExceptionField

Service: Amazon Location Service Trackers

Contents

message

Type: String

Required: Yes

name

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

WiFiAccessPoint

Service: Amazon Location Service Trackers

Wi-Fi access point.

Contents

MacAddress

Medium access control address (Mac).

Type: String

Length Constraints: Minimum length of 12. Maximum length of 17.

Pattern: ([0-9A-Fa-f]{2}[:-]){5}([0-9A-Fa-f]{2})

Required: Yes

Rss

Received signal strength (dBm) of the WLAN measurement data.

Type: Integer

Valid Range: Minimum value of -128. Maximum value of 0.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see [Signing AWS API requests](#) in the *IAM User Guide*.

X-Amz-Algorithm

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: AWS4-HMAC-SHA256

Required: Conditional

X-Amz-Credential

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4_request"). The value is expressed in the following format: *access_key/YYYYMMDD/region/service/aws4_request*.

For more information, see [Create a signed AWS API request](#) in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-Date

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: 20120325T120000Z.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see [Elements of an AWS API request signature](#) in the *IAM User Guide*.

Type: string

Required: Conditional

X-Amz-Security-Token

The temporary security token that was obtained through a call to AWS Security Token Service (AWS STS). For a list of services that support temporary security credentials from AWS STS, see [AWS services that work with IAM](#) in the *IAM User Guide*.

Condition: If you're using temporary security credentials from AWS STS, you must include the security token.

Type: string

Required: Conditional

X-Amz-Signature

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-SignedHeaders

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see [Create a signed AWS API request](#) in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

Common Error Types

This section lists common error types that this AWS service may return. Not all services return all error types listed here. For errors specific to an API action for this service, see the topic for that API action.

AccessDeniedException

You don't have permission to perform this action. Verify that your IAM policy includes the required permissions.

HTTP Status Code: 403

ExpiredTokenException

The security token included in the request has expired. Request a new security token and try again.

HTTP Status Code: 403

IncompleteSignature

The request signature doesn't conform to AWS standards. Verify that you're using valid AWS credentials and that your request is properly formatted. If you're using an SDK, ensure it's up to date.

HTTP Status Code: 403

InternalFailure

The request can't be processed right now because of an internal server issue. Try again later. If the problem persists, contact AWS Support.

HTTP Status Code: 500

MalformedHttpRequestException

The request body can't be processed. This typically happens when the request body can't be decompressed using the specified content encoding algorithm. Verify that the content encoding header matches the compression format used.

HTTP Status Code: 400

NotAuthorized

You don't have permissions to perform this action. Verify that your IAM policy includes the required permissions.

HTTP Status Code: 401

OptInRequired

Your AWS account needs a subscription for this service. Verify that you've enabled the service in your account.

HTTP Status Code: 403

RequestAbortedException

The request was aborted before a response could be returned. This typically happens when the client closes the connection.

HTTP Status Code: 400

RequestEntityTooLargeException

The request entity is too large. Reduce the size of the request body and try again.

HTTP Status Code: 413

RequestTimeoutException

The request timed out. The server didn't receive the complete request within the expected time frame. Try again.

HTTP Status Code: 408

ServiceUnavailable

The service is temporarily unavailable. Try again later.

HTTP Status Code: 503

ThrottlingException

Your request rate is too high. The AWS SDKs automatically retry requests that receive this exception. Reduce the frequency of requests.

HTTP Status Code: 400

UnknownOperationException

The action or operation isn't recognized. Verify that the action name is spelled correctly and that it's supported by the API version you're using.

HTTP Status Code: 404

UnrecognizedClientException

The X.509 certificate or AWS access key ID you provided doesn't exist in our records. Verify that you're using valid credentials and that they haven't expired.

HTTP Status Code: 403

ValidationError

The input doesn't meet the required format or constraints. Check that all required parameters are included and that values are valid.

HTTP Status Code: 400