aws

API Reference

Amazon Location Service

Amazon Location Service: API Reference

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Welcome to Amazon Location Service

Welcome to the *Amazon Location Service API Reference*.

Amazon Location Service is a location-based service that you can use to add geospatial data and location functionality to your applications. Amazon Location includes geolocation functionality across several broad categories: Maps, Places, Routes, Geofences, and Trackers. You can visualize and search for places on maps. Calculate fastest routes, and prepare for route planning. Track your fleet of devices and see when they enter or leave designated boundaries. To learn more about the Amazon Location Service, 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. You can find code examples in the Developer Guide, and on the AWS GitHub page for Amazon Location.

> **Note**
>
> Location Data provided through Amazon Location should be evaluated for accuracy as appropriate for your use case. You are responsible for making your own assessment of whether your use of Amazon Location Service meets applicable legal and regulatory requirements. You and your End Users are solely responsible for all decisions made, advice given, actions taken, and failures to take action based on your use of Amazon Location Service.

When using Amazon Location, you choose the data provider that you want to use. Map, place, and route data is sourced from your chosen global location data provider, including:

- Esri
- Grab
- HERE Technologies
- Open Data (Maps only)

For additional information , see Data providers in the *Amazon Location Service Developer Guide*. For information on available features for each data provider, see Features by data provider.

Amazon Location provides several sub-services to provide geolocation functionality in different categories:

- **Maps** — With Amazon Location Maps you can visualize geospatial information as the foundation of many location-based service capabilities. Amazon Location provides map tiles of different styles, from your chosen data provider. For more information about how to use Amazon Location Maps, see the Using maps topic in the *Amazon Location Service Developer Guide*.

  > **Note**
  >
  > When using Amazon Location Maps, make sure to provide the appropriate data attribution and follow the terms of use for each data provider you've selected to use. For additional information, read more about Data Providers from the *Amazon Location Service Developer guide*.

- **Places** — Amazon Location Places lets you integrate search functionality into your application. You can search for addresses, businesses by name or category, and other queries, finding geographic coordinates in longitude and latitude (also known as geocoding). You can convert geographic positions into addresses and place descriptions (also known as reverse geocoding). You can get suggestions that can be used for autocompletion.

  For more information about how to use Amazon Location Places, see the Places search topic in the *Amazon Location Service Developer Guide*.

- **Routes** — With Amazon Location Routes you can calculate routes and estimate travel time based on up-to-date road network and live traffic information from your chosen data provider. Calculate routes to estimate travel time, distance, and directions. Calculate a route matrix to determine the travel time and travel distance of many routes in a single request.

  For more information about how to use Amazon Location Routes, see the Calculating routes topic in the *Amazon Location Service Developer Guide*.

- **Geofences** — With Amazon Location Geofences your application can 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. EventBridge lets you trigger downstream actions such as sending a notification to a target.

  For more information about how to use Amazon Location Geofences, see the Geofencing and tracking topic in the *Amazon Location Service Developer Guide*.

- **Trackers** — With Amazon Location Trackers you can send device location updates so that you can retrieve current and historical locations for devices running your tracking-enabled application. Filtering allows you to store just the location updates you need, saving you space and costs.

  Using Amazon Location Trackers and Amazon Location Geofences together, you can automatically evaluate location updates from your devices against your geofences to generate geofence events.

  For more information about how to use Amazon Location Trackers, see the Geofencing and tracking topic in the *Amazon Location Service Developer Guide*.
- **Tags** — Use resource tags in Amazon Location Service 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.

> **Note**
>
> By using Amazon Location, you agree that AWS may transmit your API queries to your chosen third-party data provider for processing, which may be outside the AWS Region you are currently using. For more information, see the AWS Service Terms for Amazon Location Service.

More resources

For additional information on how to use Amazon Location resources, see the following topics in the *Amazon Location Service Developer Guide*. The developer guide provides definitions, tutorials, code examples, and instructions about how to integrate Amazon Location features into web or mobile apps.

- Amazon Location Service concepts
- How to use Amazon Location Service
- Quick start with Amazon Location Service
- Code examples and tutorials for working with Amazon Location Service
- Amazon Location Regions and endpoints

- Using Amazon Location with an AWS SDK

Actions

The following actions are supported for Maps:

- CreateMap
- DeleteMap
- DescribeMap
- GetMapGlyphs
- GetMapSprites
- GetMapStyleDescriptor
- GetMapTile
- ListMaps
- UpdateMap

The following actions are supported for Places:

- CreatePlaceIndex
- DeletePlaceIndex
- DescribePlaceIndex
- GetPlace
- ListPlaceIndexes
- SearchPlaceIndexForPosition
- SearchPlaceIndexForSuggestions
- SearchPlaceIndexForText
- UpdatePlaceIndex

The following actions are supported for Routes:

- CalculateRoute
- CalculateRouteMatrix
- CreateRouteCalculator
- DeleteRouteCalculator

- DescribeRouteCalculator
- ListRouteCalculators
- UpdateRouteCalculator

The following actions are supported for Geofences:

- BatchDeleteGeofence
- BatchEvaluateGeofences
- BatchPutGeofence
- CreateGeofenceCollection
- DeleteGeofenceCollection
- DescribeGeofenceCollection
- ForecastGeofenceEvents
- GetGeofence
- ListGeofenceCollections
- ListGeofences
- PutGeofence
- UpdateGeofenceCollection

The following actions are supported for Trackers:

- AssociateTrackerConsumer
- BatchDeleteDevicePositionHistory
- BatchGetDevicePosition
- BatchUpdateDevicePosition
- CreateTracker
- DeleteTracker
- DescribeTracker
- DisassociateTrackerConsumer
- GetDevicePosition
- GetDevicePositionHistory
- ListDevicePositions

- ListTrackerConsumers
- ListTrackers
- UpdateTracker
- VerifyDevicePosition

The following actions are supported for API keys:

- CreateKey
- DeleteKey
- DescribeKey
- ListKeys
- UpdateKey

The following actions are supported for Tags:

- ListTagsForResource
- TagResource
- UntagResource

Maps actions

The following actions are supported for Maps:

- CreateMap
- DeleteMap
- DescribeMap
- GetMapGlyphs
- GetMapSprites
- GetMapStyleDescriptor
- GetMapTile
- ListMaps
- UpdateMap

CreateMap

Important

This operation is no longer current and may be deprecated in the future. We recommend upgrading to the Maps API V2 unless you require `Grab` data.

- `CreateMap` is part of a previous Amazon Location Service Maps API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Maps API version 2 has a simplified interface that can be used without creating or managing map resources.
- If you are using an AWS SDK or the AWS CLI, note that the Maps API version 2 is found under `geo-maps` or `geo_maps`, not under `location`.
- Since `Grab` is not yet fully supported in Maps API version 2, we recommend you continue using API version 1 when using `Grab`.
- Start your version 2 API journey with the Maps V2 API Reference or the Developer Guide.

Creates a map resource in your AWS account, which provides map tiles of different styles sourced from global location data providers.

Note

If your application is tracking or routing assets you use in your business, such as delivery vehicles or employees, you must not use Esri as your geolocation provider. See section 82 of the AWS service terms for more details.

Request Syntax

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

{
   "Configuration": {
      "CustomLayers": [ "string" ],
      "PoliticalView": "string",
      "Style": "string"
```

```
    },
    "Description": "string",
    "MapName": "string",
    "PricingPlan": "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.

Configuration

Specifies the `MapConfiguration`, including the map style, for the map resource that you create. The map style defines the look of maps and the data provider for your map resource.

Type: MapConfiguration object

Required: Yes

Description

An optional description for the map resource.

Type: String

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

Required: No

MapName

The name for the map resource.

Requirements:

- Must contain only alphanumeric characters (A–Z, a–z, 0–9), hyphens (-), periods (.), and underscores (_).

- Must be a unique map resource name.
- No spaces allowed. For example, `ExampleMap`.

Type: String

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

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

Required: Yes

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

Tags

Applies one or more tags to the map 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

Response Syntax

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

{
   "CreateTime": "string",
   "MapArn": "string",
   "MapName": "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 map resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

Type: Timestamp

MapArn

The Amazon Resource Name (ARN) for the map resource. Used to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:map/ExampleMap`

Type: String

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]+))`

MapName

The name of the map 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

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

HTTP Status Code: 403

ConflictException

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ServiceQuotaExceededException

The operation was denied because the request would exceed the maximum quota set for Amazon Location Service.

Message

A message with the reason for the service quota exceeded exception error.

HTTP Status Code: 402

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

DeleteMap

Important

This operation is no longer current and may be deprecated in the future. We recommend upgrading to the Maps API V2 unless you require `Grab` data.

- `DeleteMap` is part of a previous Amazon Location Service Maps API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Maps API version 2 has a simplified interface that can be used without creating or managing map resources.
- If you are using an AWS SDK or the AWS CLI, note that the Maps API version 2 is found under `geo-maps` or `geo_maps`, not under `location`.
- Since `Grab` is not yet fully supported in Maps API version 2, we recommend you continue using API version 1 when using `Grab`.
- Start your version 2 API journey with the Maps V2 API Reference or the Developer Guide.

Deletes a map resource from your AWS account.

Note

This operation deletes the resource permanently. If the map is being used in an application, the map may not render.

Request Syntax

```
DELETE /maps/v0/maps/MapName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

MapName

The name of the map 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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

DescribeMap

Important

This operation is no longer current and may be deprecated in the future. We recommend upgrading to the Maps API V2 unless you require `Grab` data.

- `DescribeMap` is part of a previous Amazon Location Service Maps API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Maps API version 2 has a simplified interface that can be used without creating or managing map resources.
- If you are using an AWS SDK or the AWS CLI, note that the Maps API version 2 is found under `geo-maps` or `geo_maps`, not under `location`.
- Since `Grab` is not yet fully supported in Maps API version 2, we recommend you continue using API version 1 when using `Grab`.
- Start your version 2 API journey with the Maps V2 API Reference or the Developer Guide.

Retrieves the map resource details.

Request Syntax

```
GET /maps/v0/maps/MapName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

MapName

The name of the map 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

{
   "Configuration": {
      "CustomLayers": [ "string" ],
      "PoliticalView": "string",
      "Style": "string"
   },
   "CreateTime": "string",
   "DataSource": "string",
   "Description": "string",
   "MapArn": "string",
   "MapName": "string",
   "PricingPlan": "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.

Configuration

Specifies the map tile style selected from a partner data provider.

Type: MapConfiguration object

CreateTime

The timestamp for when the map resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

Type: Timestamp

DataSource

Specifies the data provider for the associated map tiles.

Type: String

Description

The optional description for the map resource.

Type: String

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

MapArn

The Amazon Resource Name (ARN) for the map resource. Used to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:map/ExampleMap`

Type: String

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]+))`

MapName

The map style selected from an available provider.

Type: String

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

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

PricingPlan

This parameter has been deprecated.

No longer used. Always returns `RequestBasedUsage`.

Type: String

Valid Values: `RequestBasedUsage | MobileAssetTracking | MobileAssetManagement`

Tags

Tags associated with the map 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 map resource was last update in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

GetMapGlyphs

Important

This operation is no longer current and may be deprecated in the future. We recommend upgrading to `GetGlyphs` unless you require `Grab` data.

- `GetMapGlyphs` is part of a previous Amazon Location Service Maps API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The version 2 `GetGlyphs` operation gives a better user experience and is compatible with the remainder of the V2 Maps API.
- If you are using an AWS SDK or the AWS CLI, note that the Maps API version 2 is found under `geo-maps` or `geo_maps`, not under `location`.
- Since `Grab` is not yet fully supported in Maps API version 2, we recommend you continue using API version 1 when using `Grab`.
- Start your version 2 API journey with the Maps V2 API Reference or the Developer Guide.

Retrieves glyphs used to display labels on a map.

Request Syntax

```
GET /maps/v0/maps/MapName/glyphs/FontStack/FontUnicodeRange?key=Key HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

FontStack

A comma-separated list of fonts to load glyphs from in order of preference. For example, `Noto Sans Regular, Arial Unicode`.

Valid font stacks for Esri styles:

- VectorEsriDarkGrayCanvas – `Ubuntu Medium Italic | Ubuntu Medium | Ubuntu Italic | Ubuntu Regular | Ubuntu Bold`
- VectorEsriLightGrayCanvas – `Ubuntu Italic | Ubuntu Regular | Ubuntu Light | Ubuntu Bold`

- VectorEsriTopographic – `Noto Sans Italic | Noto Sans Regular | Noto Sans Bold | Noto Serif Regular | Roboto Condensed Light Italic`
- VectorEsriStreets – `Arial Regular | Arial Italic | Arial Bold`
- VectorEsriNavigation – `Arial Regular | Arial Italic | Arial Bold`

Valid font stacks for HERE Technologies styles:

- VectorHereContrast – `Fira GO Regular | Fira GO Bold`
- VectorHereExplore, VectorHereExploreTruck, HybridHereExploreSatellite – `Fira GO Italic | Fira GO Map | Fira GO Map Bold | Noto Sans CJK JP Bold | Noto Sans CJK JP Light | Noto Sans CJK JP Regular`

Valid font stacks for GrabMaps styles:

- VectorGrabStandardLight, VectorGrabStandardDark – `Noto Sans Regular | Noto Sans Medium | Noto Sans Bold`

Valid font stacks for Open Data styles:

- VectorOpenDataStandardLight, VectorOpenDataStandardDark, VectorOpenDataVisualizationLight, VectorOpenDataVisualizationDark – `Amazon Ember Regular,Noto Sans Regular | Amazon Ember Bold,Noto Sans Bold | Amazon Ember Medium,Noto Sans Medium | Amazon Ember Regular Italic,Noto Sans Italic | Amazon Ember Condensed RC Regular,Noto Sans Regular | Amazon Ember Condensed RC Bold,Noto Sans Bold | Amazon Ember Regular,Noto Sans Regular,Noto Sans Arabic Regular | Amazon Ember Condensed RC Bold,Noto Sans Bold,Noto Sans Arabic Condensed Bold | Amazon Ember Bold,Noto Sans Bold,Noto Sans Arabic Bold | Amazon Ember Regular Italic,Noto Sans Italic,Noto Sans Arabic Regular | Amazon Ember Condensed RC Regular,Noto Sans Regular,Noto Sans Arabic Condensed Regular | Amazon Ember Medium,Noto Sans Medium,Noto Sans Arabic Medium`

> **Note**
>
> The fonts used by the Open Data map styles are combined fonts that use `Amazon Ember` for most glyphs but `Noto Sans` for glyphs unsupported by `Amazon Ember`.

Required: Yes

FontUnicodeRange

A Unicode range of characters to download glyphs for. Each response will contain 256 characters. For example, 0–255 includes all characters from range `U+0000` to `00FF`. Must be aligned to multiples of 256.

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

Required: Yes

Key

The optional API key to authorize the request.

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

MapName

The map resource associated with the glyph file.

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: ContentType
Cache-Control: CacheControl

Blob
```

Response Elements

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

The response returns the following HTTP headers.

CacheControl

The HTTP Cache-Control directive for the value.

ContentType

The map glyph content type. For example, `application/octet-stream`.

The response returns the following as the HTTP body.

Blob

The glyph, as binary blob.

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

GetMapSprites

Important

This operation is no longer current and may be deprecated in the future. We recommend upgrading to `GetSprites` unless you require `Grab` data.

- `GetMapSprites` is part of a previous Amazon Location Service Maps API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The version 2 `GetSprites` operation gives a better user experience and is compatible with the remainder of the V2 Maps API.
- If you are using an AWS SDK or the AWS CLI, note that the Maps API version 2 is found under `geo-maps` or `geo_maps`, not under `location`.
- Since `Grab` is not yet fully supported in Maps API version 2, we recommend you continue using API version 1 when using `Grab`.
- Start your version 2 API journey with the Maps V2 API Reference or the Developer Guide.

Retrieves the sprite sheet corresponding to a map resource. The sprite sheet is a PNG image paired with a JSON document describing the offsets of individual icons that will be displayed on a rendered map.

Request Syntax

```
GET /maps/v0/maps/MapName/sprites/FileName?key=Key HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

FileName

The name of the sprite file. Use the following file names for the sprite sheet:

- `sprites.png`
- `sprites@2x.png` for high pixel density displays

For the JSON document containing image offsets. Use the following file names:

- `sprites.json`
- `sprites@2x.json` for high pixel density displays

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

Required: Yes

Key

The optional API key to authorize the request.

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

MapName

The map resource associated with the sprite file.

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: ContentType
Cache-Control: CacheControl

Blob
```

Response Elements

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

The response returns the following HTTP headers.

CacheControl

The HTTP Cache-Control directive for the value.

ContentType

The content type of the sprite sheet and offsets. For example, the sprite sheet content type is `image/png`, and the sprite offset JSON document is `application/json`.

The response returns the following as the HTTP body.

Blob

Contains the body of the sprite sheet or JSON offset file.

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

GetMapStyleDescriptor

Important

This operation is no longer current and may be deprecated in the future. We recommend upgrading to `GetStyleDescriptor` unless you require `Grab` data.

- `GetMapStyleDescriptor` is part of a previous Amazon Location Service Maps API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The version 2 `GetStyleDescriptor` operation gives a better user experience and is compatible with the remainder of the V2 Maps API.
- If you are using an AWS SDK or the AWS CLI, note that the Maps API version 2 is found under `geo-maps` or `geo_maps`, not under `location`.
- Since `Grab` is not yet fully supported in Maps API version 2, we recommend you continue using API version 1 when using `Grab`.
- Start your version 2 API journey with the Maps V2 API Reference or the Developer Guide.

Retrieves the map style descriptor from a map resource.

The style descriptor contains specifications on how features render on a map. For example, what data to display, what order to display the data in, and the style for the data. Style descriptors follow the Mapbox Style Specification.

Request Syntax

```
GET /maps/v0/maps/MapName/style-descriptor?key=Key HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

Key

The optional API key to authorize the request.

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

MapName

The map resource to retrieve the style descriptor from.

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: ContentType
Cache-Control: CacheControl

Blob
```

Response Elements

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

The response returns the following HTTP headers.

CacheControl

The HTTP Cache-Control directive for the value.

ContentType

The style descriptor's content type. For example, `application/json`.

The response returns the following as the HTTP body.

Blob

Contains the body of the style descriptor.

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

GetMapTile

Important

This operation is no longer current and may be deprecated in the future. We recommend upgrading to `GetTile` unless you require `Grab` data.

- `GetMapTile` is part of a previous Amazon Location Service Maps API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The version 2 `GetTile` operation gives a better user experience and is compatible with the remainder of the V2 Maps API.
- If you are using an AWS SDK or the AWS CLI, note that the Maps API version 2 is found under `geo-maps` or `geo_maps`, not under `location`.
- Since `Grab` is not yet fully supported in Maps API version 2, we recommend you continue using API version 1 when using `Grab`.
- Start your version 2 API journey with the Maps V2 API Reference or the Developer Guide.

Retrieves a vector data tile from the map resource. 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.

The origin (0, 0) is the top left of the map. Increasing the zoom level by 1 doubles both the X and Y dimensions, so a tile containing data for the entire world at (0/0/0) will be split into 4 tiles at zoom 1 (1/0/0, 1/0/1, 1/1/0, 1/1/1).

Request Syntax

```
GET /maps/v0/maps/MapName/tiles/Z/X/Y?key=Key HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

Key

The optional API key to authorize the request.

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

MapName

The map resource to retrieve the map tiles from.

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

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

Required: Yes

X

The X axis value for the map tile.

Pattern: `.*\d+.*`

Required: Yes

Y

The Y axis value for the map tile.

Pattern: `.*\d+.*`

Required: Yes

Z

The zoom value for the map tile.

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
```

```
Blob
```

Response Elements

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

The response returns the following HTTP headers.

CacheControl

The HTTP Cache-Control directive for the value.

ContentType

The map tile's content type. For example, `application/vnd.mapbox-vector-tile`.

The response returns the following as the HTTP body.

Blob

Contains Mapbox Vector Tile (MVT) data.

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

ListMaps

Important

This operation is no longer current and may be deprecated in the future. We recommend upgrading to the Maps API V2 unless you require `Grab` data.

- `ListMaps` is part of a previous Amazon Location Service Maps API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Maps API version 2 has a simplified interface that can be used without creating or managing map resources.
- If you are using an AWS SDK or the AWS CLI, note that the Maps API version 2 is found under `geo-maps` or `geo_maps`, not under `location`.
- Since `Grab` is not yet fully supported in Maps API version 2, we recommend you continue using API version 1 when using `Grab`.
- Start your version 2 API journey with the Maps V2 API Reference or the Developer Guide.

Lists map resources in your AWS account.

Request Syntax

```
POST /maps/v0/list-maps 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",
         "DataSource": "string",
         "Description": "string",
         "MapName": "string",
         "PricingPlan": "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 maps in your AWS account

Type: Array of ListMapsResponseEntry 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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

UpdateMap

Important

This operation is no longer current and may be deprecated in the future. We recommend upgrading to the Maps API V2 unless you require `Grab` data.

- `UpdateMap` is part of a previous Amazon Location Service Maps API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Maps API version 2 has a simplified interface that can be used without creating or managing map resources.
- If you are using an AWS SDK or the AWS CLI, note that the Maps API version 2 is found under `geo-maps` or `geo_maps`, not under `location`.
- Since `Grab` is not yet fully supported in Maps API version 2, we recommend you continue using API version 1 when using `Grab`.
- Start your version 2 API journey with the Maps V2 API Reference or the Developer Guide.

Updates the specified properties of a given map resource.

Request Syntax

```
PATCH /maps/v0/maps/MapName HTTP/1.1
Content-type: application/json

{
   "ConfigurationUpdate": {
      "CustomLayers": [ "string" ],
      "PoliticalView": "string"
   },
   "Description": "string",
   "PricingPlan": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

MapName

The name of the map 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.

ConfigurationUpdate

Updates the parts of the map configuration that can be updated, including the political view.

Type: MapConfigurationUpdate object

Required: No

Description

Updates the description for the map resource.

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

Response Syntax

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

{
   "MapArn": "string",
   "MapName": "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.

MapArn

The Amazon Resource Name (ARN) of the updated map resource. Used to specify a resource across AWS.

- Format example: `arn:aws:geo:region:account-id:map/ExampleMap`

Type: String

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]+))`

MapName

The name of the updated map resource.

Type: String

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

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

UpdateTime

The timestamp for when the map resource was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

Places actions

The following actions are supported for Places:

- CreatePlaceIndex
- DeletePlaceIndex
- DescribePlaceIndex
- GetPlace
- ListPlaceIndexes
- SearchPlaceIndexForPosition
- SearchPlaceIndexForSuggestions
- SearchPlaceIndexForText
- UpdatePlaceIndex

CreatePlaceIndex

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to the Places API V2 unless you require Grab data.

- `CreatePlaceIndex` is part of a previous Amazon Location Service Places API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Places API version 2 has a simplified interface that can be used without creating or managing place index resources.
- If you are using an AWS SDK or the AWS CLI, note that the Places API version 2 is found under `geo-places` or `geo_places`, not under `location`.
- Since Grab is not yet fully supported in Places API version 2, we recommend you continue using API version 1 when using Grab.
- Start your version 2 API journey with the Places V2 API Reference or the Developer Guide.

Creates a place index resource in your AWS account. Use a place index resource to geocode addresses and other text queries by using the `SearchPlaceIndexForText` operation, and reverse geocode coordinates by using the `SearchPlaceIndexForPosition` operation, and enable autosuggestions by using the `SearchPlaceIndexForSuggestions` operation.

Note

If your application is tracking or routing assets you use in your business, such as delivery vehicles or employees, you must not use Esri as your geolocation provider. See section 82 of the AWS service terms for more details.

Request Syntax

```
POST /places/v0/indexes HTTP/1.1
Content-type: application/json

{
   "DataSource": "string",
```

```
   "DataSourceConfiguration": {
      "IntendedUse": "string"
   },
   "Description": "string",
   "IndexName": "string",
   "PricingPlan": "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.

DataSource

Specifies the geospatial data provider for the new place index.

> **Note**
>
> This field is case-sensitive. Enter the valid values as shown. For example, entering HERE returns an error.

Valid values include:

- `Esri` – For additional information about Esri's coverage in your region of interest, see Esri details on geocoding coverage.
- `Grab` – Grab provides place index functionality for Southeast Asia. For additional information about GrabMaps' coverage, see GrabMaps countries and areas covered.
- `Here` – For additional information about HERE Technologies' coverage in your region of interest, see HERE details on goecoding coverage.

> **Important**
>
> If you specify HERE Technologies (`Here`) as the data provider, you may not store results for locations in Japan. For more information, see the AWS service terms for Amazon Location Service.

For additional information , see Data providers on the *Amazon Location Service developer guide*.

Type: String

Required: Yes

DataSourceConfiguration

Specifies the data storage option requesting Places.

Type: DataSourceConfiguration object

Required: No

Description

The optional description for the place index resource.

Type: String

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

Required: No

IndexName

The name of the place index resource.

Requirements:

- Contain only alphanumeric characters (A–Z, a–z, 0–9), hyphens (-), periods (.), and underscores (_).
- Must be a unique place index resource name.
- No spaces allowed. For example, `ExamplePlaceIndex`.

Type: String

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

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

Required: Yes

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

Tags

Applies one or more tags to the place index 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: No

Response Syntax

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

{
   "CreateTime": "string",
   "IndexArn": "string",
   "IndexName": "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 place index resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

Type: Timestamp

IndexArn

The Amazon Resource Name (ARN) for the place index resource. Used to specify a resource across AWS.

- Format example: `arn:aws:geo:region:account-id:place-index/ExamplePlaceIndex`

Type: String

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]+))`

IndexName

The name for the place index 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

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

HTTP Status Code: 403

ConflictException

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ServiceQuotaExceededException

The operation was denied because the request would exceed the maximum quota set for Amazon Location Service.

Message

A message with the reason for the service quota exceeded exception error.

HTTP Status Code: 402

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

DeletePlaceIndex

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to the Places API V2 unless you require Grab data.

- `DeletePlaceIndex` is part of a previous Amazon Location Service Places API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Places API version 2 has a simplified interface that can be used without creating or managing place index resources.
- If you are using an AWS SDK or the AWS CLI, note that the Places API version 2 is found under `geo-places` or `geo_places`, not under `location`.
- Since Grab is not yet fully supported in Places API version 2, we recommend you continue using API version 1 when using Grab.
- Start your version 2 API journey with the Places V2 API Reference or the Developer Guide.

Deletes a place index resource from your AWS account.

Note

This operation deletes the resource permanently.

Request Syntax

```
DELETE /places/v0/indexes/IndexName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

IndexName

The name of the place index 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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

DescribePlaceIndex

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to the Places API V2 unless you require Grab data.

- `DescribePlaceIndex` is part of a previous Amazon Location Service Places API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Places API version 2 has a simplified interface that can be used without creating or managing place index resources.
- If you are using an AWS SDK or the AWS CLI, note that the Places API version 2 is found under `geo-places` or `geo_places`, not under `location`.
- Since Grab is not yet fully supported in Places API version 2, we recommend you continue using API version 1 when using Grab.
- Start your version 2 API journey with the Places V2 API Reference or the Developer Guide.

Retrieves the place index resource details.

Request Syntax

```
GET /places/v0/indexes/IndexName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

IndexName

The name of the place index 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",
   "DataSource": "string",
   "DataSourceConfiguration": {
      "IntendedUse": "string"
   },
   "Description": "string",
   "IndexArn": "string",
   "IndexName": "string",
   "PricingPlan": "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 place index resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

Type: Timestamp

DataSource

The data provider of geospatial data. Values can be one of the following:

- `Esri`

- `Grab`
- `Here`

For more information about data providers, see Amazon Location Service data providers.

Type: String

DataSourceConfiguration

The specified data storage option for requesting Places.

Type: DataSourceConfiguration object

Description

The optional description for the place index resource.

Type: String

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

IndexArn

The Amazon Resource Name (ARN) for the place index resource. Used to specify a resource across AWS.

- Format example: `arn:aws:geo:region:account-id:place-index/ExamplePlaceIndex`

Type: String

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]+))`

IndexName

The name of the place index resource being described.

Type: String

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

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

PricingPlan

This parameter has been deprecated.

No longer used. Always returns `RequestBasedUsage`.

Type: String

Valid Values: `RequestBasedUsage | MobileAssetTracking | MobileAssetManagement`

Tags

Tags associated with place index 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 place index resource was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

GetPlace

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to the V2 `GetPlace` operation unless you require Grab data.

- This version of `GetPlace` is part of a previous Amazon Location Service Places API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- Version 2 of the `GetPlace` operation interoperates with the rest of the Places V2 API, while this version does not.
- If you are using an AWS SDK or the AWS CLI, note that the Places API version 2 is found under `geo-places` or `geo_places`, not under `location`.
- Since Grab is not yet fully supported in Places API version 2, we recommend you continue using API version 1 when using Grab.
- Start your version 2 API journey with the Places V2 API Reference or the Developer Guide.

Finds a place by its unique ID. A `PlaceId` is returned by other search operations.

Note

A PlaceId is valid only if all of the following are the same in the original search request and the call to `GetPlace`.

- Customer AWS account
- AWS Region
- Data provider specified in the place index resource

Note

If your Place index resource is configured with Grab as your geolocation provider and Storage as Intended use, the GetPlace operation is unavailable. For more information, see AWS service terms.

Request Syntax

```
GET /places/v0/indexes/IndexName/places/PlaceId?key=Key&language=Language HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

IndexName

The name of the place index resource that you want to use for the search.

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

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

Required: Yes

Key

The optional API key to authorize the request.

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

Language

The preferred language used to return results. The value must be a valid BCP 47 language tag, for example, `en` for English.

This setting affects the languages used in the results, but not the results themselves. If no language is specified, or not supported for a particular result, the partner automatically chooses a language for the result.

For an example, we'll use the Greek language. You search for a location around Athens, Greece, with the `language` parameter set to `en`. The `city` in the results will most likely be returned as `Athens`.

If you set the `language` parameter to `el`, for Greek, then the `city` in the results will more likely be returned as `Αθήνα`.

If the data provider does not have a value for Greek, the result will be in a language that the provider does support.

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

PlaceId

The identifier of the place to find.

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

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

{
   "Place": {
      "AddressNumber": "string",
      "Categories": [ "string" ],
      "Country": "string",
      "Geometry": {
         "Point": [ number ]
      },
      "Interpolated": boolean,
      "Label": "string",
      "Municipality": "string",
      "Neighborhood": "string",
      "PostalCode": "string",
      "Region": "string",
      "Street": "string",
      "SubMunicipality": "string",
      "SubRegion": "string",
      "SupplementalCategories": [ "string" ],
      "TimeZone": {
         "Name": "string",
         "Offset": number
      },
      "UnitNumber": "string",
      "UnitType": "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.

Place

Details about the result, such as its address and position.

Type: Place object

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

ListPlaceIndexes

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to the Places API V2 unless you require Grab data.

- `ListPlaceIndexes` is part of a previous Amazon Location Service Places API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Places API version 2 has a simplified interface that can be used without creating or managing place index resources.
- If you are using an AWS SDK or the AWS CLI, note that the Places API version 2 is found under `geo-places` or `geo_places`, not under `location`.
- Since Grab is not yet fully supported in Places API version 2, we recommend you continue using API version 1 when using Grab.
- Start your version 2 API journey with the Places V2 API Reference or the Developer Guide.

Lists place index resources in your AWS account.

Request Syntax

```
POST /places/v0/list-indexes 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 maximum number of results 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",
         "DataSource": "string",
         "Description": "string",
         "IndexName": "string",
         "PricingPlan": "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 place index resources that exist in your AWS account

Type: Array of ListPlaceIndexesResponseEntry objects

NextToken

A pagination token indicating that there are additional pages available. You can use the token in a new request to fetch the next page 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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

SearchPlaceIndexForPosition

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to ReverseGeocode or SearchNearby unless you require Grab data.

- SearchPlaceIndexForPosition is part of a previous Amazon Location Service Places API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The version 2 ReverseGeocode operation gives better results in the address reverse-geocoding use case, while the version 2 SearchNearby operation gives better results when searching for businesses and points of interest near a specific location.
- If you are using an AWS SDK or the AWS CLI, note that the Places API version 2 is found under geo-places or geo_places, not under location.
- Since Grab is not yet fully supported in Places API version 2, we recommend you continue using API version 1 when using Grab.

Reverse geocodes a given coordinate and returns a legible address. Allows you to search for Places or points of interest near a given position.

Request Syntax

```
POST /places/v0/indexes/IndexName/search/position?key=Key HTTP/1.1
Content-type: application/json

{
   "Language": "string",
   "MaxResults": number,
   "Position": [ number ]
}
```

URI Request Parameters

The request uses the following URI parameters.

IndexName

The name of the place index resource you want to use for the search.

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

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

Required: Yes

Key

The optional API key to authorize the request.

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

Request Body

The request accepts the following data in JSON format.

Language

The preferred language used to return results. The value must be a valid BCP 47 language tag, for example, `en` for English.

This setting affects the languages used in the results, but not the results themselves. If no language is specified, or not supported for a particular result, the partner automatically chooses a language for the result.

For an example, we'll use the Greek language. You search for a location around Athens, Greece, with the `language` parameter set to `en`. The `city` in the results will most likely be returned as `Athens`.

If you set the `language` parameter to `el`, for Greek, then the `city` in the results will more likely be returned as `Αθήνα`.

If the data provider does not have a value for Greek, the result will be in a language that the provider does support.

Type: String

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

Required: No

MaxResults

An optional parameter. The maximum number of results returned per request.

Default value: `50`

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 50.

Required: No

Position

Specifies the longitude and latitude of the position to query.

This parameter must contain a pair of numbers. The first number represents the X coordinate, or longitude; the second number represents the Y coordinate, or latitude.

For example, `[-123.1174, 49.2847]` represents a position with longitude `-123.1174` and latitude `49.2847`.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Response Syntax

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

{
   "Results": [
      {
         "Distance": number,
         "Place": {
            "AddressNumber": "string",
            "Categories": [ "string" ],
            "Country": "string",
```

```
            "Geometry": {
               "Point": [ number ]
            },
            "Interpolated": boolean,
            "Label": "string",
            "Municipality": "string",
            "Neighborhood": "string",
            "PostalCode": "string",
            "Region": "string",
            "Street": "string",
            "SubMunicipality": "string",
            "SubRegion": "string",
            "SupplementalCategories": [ "string" ],
            "TimeZone": {
               "Name": "string",
               "Offset": number
            },
            "UnitNumber": "string",
            "UnitType": "string"
         },
         "PlaceId": "string"
      }
   ],
   "Summary": {
      "DataSource": "string",
      "Language": "string",
      "MaxResults": number,
      "Position": [ number ]
   }
}
```


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.

Results

Returns a list of Places closest to the specified position. Each result contains additional information about the Places returned.

Type: Array of SearchForPositionResult objects

Summary

Contains a summary of the request. Echoes the input values for `Position`, `Language`, `MaxResults`, and the `DataSource` of the place index.

Type: SearchPlaceIndexForPositionSummary object

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

SearchPlaceIndexForSuggestions

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to `Suggest` or `Autocomplete` unless you require Grab data.

- `SearchPlaceIndexForSuggestions` is part of a previous Amazon Location Service Places API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The version 2 `Suggest` operation gives better results for typeahead place search suggestions with fuzzy matching, while the version 2 `Autocomplete` operation gives better results for address completion based on partial input.
- If you are using an AWS SDK or the AWS CLI, note that the Places API version 2 is found under `geo-places` or `geo_places`, not under `location`.
- Since Grab is not yet fully supported in Places API version 2, we recommend you continue using API version 1 when using Grab.

Generates suggestions for addresses and points of interest based on partial or misspelled free-form text. This operation is also known as autocomplete, autosuggest, or fuzzy matching.

Optional parameters let you narrow your search results by bounding box or country, or bias your search toward a specific position on the globe.

Note

You can search for suggested place names near a specified position by using `BiasPosition`, or filter results within a bounding box by using `FilterBBox`. These parameters are mutually exclusive; using both `BiasPosition` and `FilterBBox` in the same command returns an error.

Request Syntax

```
POST /places/v0/indexes/IndexName/search/suggestions?key=Key HTTP/1.1
Content-type: application/json
```

```
{
   "BiasPosition": [ number ],
   "FilterBBox": [ number ],
   "FilterCategories": [ "string" ],
   "FilterCountries": [ "string" ],
   "Language": "string",
   "MaxResults": number,
   "Text": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

IndexName

The name of the place index resource you want to use for the search.

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

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

Required: Yes

Key

The optional API key to authorize the request.

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

Request Body

The request accepts the following data in JSON format.

BiasPosition

An optional parameter that indicates a preference for place suggestions that are closer to a specified position.

If provided, this parameter must contain a pair of numbers. The first number represents the X coordinate, or longitude; the second number represents the Y coordinate, or latitude.

For example, `[-123.1174, 49.2847]` represents the position with longitude `-123.1174` and latitude `49.2847`.

> **Note**
>
> `BiasPosition` and `FilterBBox` are mutually exclusive. Specifying both options results in an error.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

FilterBBox

An optional parameter that limits the search results by returning only suggestions within a specified bounding box.

If provided, this parameter must contain a total of four consecutive numbers in two pairs. The first pair of numbers represents the X and Y coordinates (longitude and latitude, respectively) of the southwest corner of the bounding box; the second pair of numbers represents the X and Y coordinates (longitude and latitude, respectively) of the northeast corner of the bounding box.

For example, `[-12.7935, -37.4835, -12.0684, -36.9542]` represents a bounding box where the southwest corner has longitude `-12.7935` and latitude `-37.4835`, and the northeast corner has longitude `-12.0684` and latitude `-36.9542`.

> **Note**
>
> `FilterBBox` and `BiasPosition` are mutually exclusive. Specifying both options results in an error.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

FilterCategories

A list of one or more Amazon Location categories to filter the returned places. If you include more than one category, the results will include results that match *any* of the categories listed.

For more information about using categories, including a list of Amazon Location categories, see Categories and filtering, in the *Amazon Location Service developer guide*.

Type: Array of strings

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

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

FilterCountries

An optional parameter that limits the search results by returning only suggestions within the provided list of countries.

- Use the ISO 3166 3-digit country code. For example, Australia uses three upper-case characters: AUS.

Type: Array of strings

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

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Language

The preferred language used to return results. The value must be a valid BCP 47 language tag, for example, `en` for English.

This setting affects the languages used in the results. If no language is specified, or not supported for a particular result, the partner automatically chooses a language for the result.

For an example, we'll use the Greek language. You search for `Athens, Gr` to get suggestions with the `language` parameter set to `en`. The results found will most likely be returned as `Athens, Greece`.

If you set the `language` parameter to `el`, for Greek, then the result found will more likely be returned as `Αθήνα, Ελλάδα`.

If the data provider does not have a value for Greek, the result will be in a language that the provider does support.

Type: String

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

Required: No

MaxResults

An optional parameter. The maximum number of results returned per request.

The default: 5

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 15.

Required: No

Text

The free-form partial text to use to generate place suggestions. For example, `eiffel tow`.

Type: String

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

Required: Yes

Response Syntax

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

{
   "Results": [
      {
         "Categories": [ "string" ],
         "PlaceId": "string",
         "SupplementalCategories": [ "string" ],
```

```
            "Text": "string"
         }
      ],
      "Summary": {
         "BiasPosition": [ number ],
         "DataSource": "string",
         "FilterBBox": [ number ],
         "FilterCategories": [ "string" ],
         "FilterCountries": [ "string" ],
         "Language": "string",
         "MaxResults": number,
         "Text": "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.

Results

A list of place suggestions that best match the search text.

Type: Array of SearchForSuggestionsResult objects

Summary

Contains a summary of the request. Echoes the input values for `BiasPosition`, `FilterBBox`, `FilterCountries`, `Language`, `MaxResults`, and `Text`. Also includes the `DataSource` of the place index.

Type: SearchPlaceIndexForSuggestionsSummary object

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

SearchPlaceIndexForText

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to `Geocode` or `SearchText` unless you require Grab data.

- `SearchPlaceIndexForText` is part of a previous Amazon Location Service Places API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The version 2 `Geocode` operation gives better results in the address geocoding use case, while the version 2 `SearchText` operation gives better results when searching for businesses and points of interest.
- If you are using an AWS SDK or the AWS CLI, note that the Places API version 2 is found under `geo-places` or `geo_places`, not under `location`.
- Since Grab is not yet fully supported in Places API version 2, we recommend you continue using API version 1 when using Grab.

Geocodes free-form text, such as an address, name, city, or region to allow you to search for Places or points of interest.

Optional parameters let you narrow your search results by bounding box or country, or bias your search toward a specific position on the globe.

Note

You can search for places near a given position using `BiasPosition`, or filter results within a bounding box using `FilterBBox`. Providing both parameters simultaneously returns an error.

Search results are returned in order of highest to lowest relevance.

Request Syntax

```
POST /places/v0/indexes/IndexName/search/text?key=Key HTTP/1.1
Content-type: application/json
```

```
{
   "BiasPosition": [ number ],
   "FilterBBox": [ number ],
   "FilterCategories": [ "string" ],
   "FilterCountries": [ "string" ],
   "Language": "string",
   "MaxResults": number,
   "Text": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

IndexName

The name of the place index resource you want to use for the search.

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

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

Required: Yes

Key

The optional API key to authorize the request.

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

Request Body

The request accepts the following data in JSON format.

BiasPosition

An optional parameter that indicates a preference for places that are closer to a specified position.

If provided, this parameter must contain a pair of numbers. The first number represents the X coordinate, or longitude; the second number represents the Y coordinate, or latitude.

For example, `[-123.1174, 49.2847]` represents the position with longitude `-123.1174` and latitude `49.2847`.

> **Note**
>
> `BiasPosition` and `FilterBBox` are mutually exclusive. Specifying both options results in an error.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

FilterBBox

An optional parameter that limits the search results by returning only places that are within the provided bounding box.

If provided, this parameter must contain a total of four consecutive numbers in two pairs. The first pair of numbers represents the X and Y coordinates (longitude and latitude, respectively) of the southwest corner of the bounding box; the second pair of numbers represents the X and Y coordinates (longitude and latitude, respectively) of the northeast corner of the bounding box.

For example, `[-12.7935, -37.4835, -12.0684, -36.9542]` represents a bounding box where the southwest corner has longitude `-12.7935` and latitude `-37.4835`, and the northeast corner has longitude `-12.0684` and latitude `-36.9542`.

> **Note**
>
> `FilterBBox` and `BiasPosition` are mutually exclusive. Specifying both options results in an error.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

FilterCategories

A list of one or more Amazon Location categories to filter the returned places. If you include more than one category, the results will include results that match *any* of the categories listed.

For more information about using categories, including a list of Amazon Location categories, see Categories and filtering, in the *Amazon Location Service developer guide*.

Type: Array of strings

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

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

FilterCountries

An optional parameter that limits the search results by returning only places that are in a specified list of countries.

- Valid values include ISO 3166 3-digit country codes. For example, Australia uses three upper-case characters: AUS.

Type: Array of strings

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

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Language

The preferred language used to return results. The value must be a valid BCP 47 language tag, for example, `en` for English.

This setting affects the languages used in the results, but not the results themselves. If no language is specified, or not supported for a particular result, the partner automatically chooses a language for the result.

For an example, we'll use the Greek language. You search for `Athens, Greece`, with the `language` parameter set to `en`. The result found will most likely be returned as `Athens`.

If you set the `language` parameter to `el`, for Greek, then the result found will more likely be returned as `Αθήνα`.

If the data provider does not have a value for Greek, the result will be in a language that the provider does support.

Type: String

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

Required: No

MaxResults

An optional parameter. The maximum number of results returned per request.

The default: `50`

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 50.

Required: No

Text

The address, name, city, or region to be used in the search in free-form text format. For example, `123 Any Street`.

Type: String

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

Required: Yes

Response Syntax

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

{
   "Results": [
      {
         "Distance": number,
         "Place": {
```

```
            "AddressNumber": "string",
            "Categories": [ "string" ],
            "Country": "string",
            "Geometry": {
               "Point": [ number ]
            },
            "Interpolated": boolean,
            "Label": "string",
            "Municipality": "string",
            "Neighborhood": "string",
            "PostalCode": "string",
            "Region": "string",
            "Street": "string",
            "SubMunicipality": "string",
            "SubRegion": "string",
            "SupplementalCategories": [ "string" ],
            "TimeZone": {
               "Name": "string",
               "Offset": number
            },
            "UnitNumber": "string",
            "UnitType": "string"
         },
         "PlaceId": "string",
         "Relevance": number
      }
   ],
   "Summary": {
      "BiasPosition": [ number ],
      "DataSource": "string",
      "FilterBBox": [ number ],
      "FilterCategories": [ "string" ],
      "FilterCountries": [ "string" ],
      "Language": "string",
      "MaxResults": number,
      "ResultBBox": [ number ],
      "Text": "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.

Results

A list of Places matching the input text. Each result contains additional information about the specific point of interest.

Not all response properties are included with all responses. Some properties may only be returned by specific data partners.

Type: Array of SearchForTextResult objects

Summary

Contains a summary of the request. Echoes the input values for `BiasPosition`, `FilterBBox`, `FilterCountries`, `Language`, `MaxResults`, and `Text`. Also includes the `DataSource` of the place index and the bounding box, `ResultBBox`, which surrounds the search results.

Type: SearchPlaceIndexForTextSummary object

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

UpdatePlaceIndex

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to the Places API V2 unless you require Grab data.

- `UpdatePlaceIndex` is part of a previous Amazon Location Service Places API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Places API version 2 has a simplified interface that can be used without creating or managing place index resources.
- If you are using an AWS SDK or the AWS CLI, note that the Places API version 2 is found under `geo-places` or `geo_places`, not under `location`.
- Since Grab is not yet fully supported in Places API version 2, we recommend you continue using API version 1 when using Grab.
- Start your version 2 API journey with the Places V2 API Reference or the Developer Guide.

Updates the specified properties of a given place index resource.

Request Syntax

```
PATCH /places/v0/indexes/IndexName HTTP/1.1
Content-type: application/json

{
   "DataSourceConfiguration": {
      "IntendedUse": "string"
   },
   "Description": "string",
   "PricingPlan": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

IndexName

The name of the place index 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.

DataSourceConfiguration

Updates the data storage option for the place index resource.

Type: DataSourceConfiguration object

Required: No

Description

Updates the description for the place index resource.

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

Response Syntax

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

{
   "IndexArn": "string",
   "IndexName": "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.

IndexArn

The Amazon Resource Name (ARN) of the upated place index resource. Used to specify a resource across AWS.

- Format example: `arn:aws:geo:region:account-id:place- index/ExamplePlaceIndex`

Type: String

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]+))`

IndexName

The name of the updated place index resource.

Type: String

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

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

UpdateTime

The timestamp for when the place index resource was last updated in ISO 8601 format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

Routes actions

The following actions are supported for Routes:

- CalculateRoute
- CalculateRouteMatrix
- CreateRouteCalculator
- DeleteRouteCalculator
- DescribeRouteCalculator
- ListRouteCalculators
- UpdateRouteCalculator

CalculateRoute

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to `CalculateRoutes` or `CalculateIsolines` unless you require Grab data.

- `CalculateRoute` is part of a previous Amazon Location Service Routes API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The version 2 `CalculateRoutes` operation gives better results for point-to-point routing, while the version 2 `CalculateIsolines` operation adds support for calculating service areas and travel time envelopes.
- If you are using an AWS SDK or the AWS CLI, note that the Routes API version 2 is found under `geo-routes` or `geo_routes`, not under `location`.
- Since Grab is not yet fully supported in Routes API version 2, we recommend you continue using API version 1 when using Grab.

Calculates a route given the following required parameters: `DeparturePosition` and `DestinationPosition`. Requires that you first create a route calculator resource.

By default, a request that doesn't specify a departure time uses the best time of day to travel with the best traffic conditions when calculating the route.

Additional options include:

- Specifying a departure time using either `DepartureTime` or `DepartNow`. This calculates a route based on predictive traffic data at the given time.

  Note

  You can't specify both `DepartureTime` and `DepartNow` in a single request. Specifying both parameters returns a validation error.

- Specifying a travel mode using TravelMode sets the transportation mode used to calculate the routes. This also lets you specify additional route preferences in `CarModeOptions` if traveling by `Car`, or `TruckModeOptions` if traveling by `Truck`.

> **Note**
>
> If you specify `walking` for the travel mode and your data provider is Esri, the start and destination must be within 40km.

Request Syntax

```
POST /routes/v0/calculators/CalculatorName/calculate/route?key=Key HTTP/1.1
Content-type: application/json

{
   "ArrivalTime": "string",
   "CarModeOptions": {
      "AvoidFerries": boolean,
      "AvoidTolls": boolean
   },
   "DepartNow": boolean,
   "DeparturePosition": [ number ],
   "DepartureTime": "string",
   "DestinationPosition": [ number ],
   "DistanceUnit": "string",
   "IncludeLegGeometry": boolean,
   "OptimizeFor": "string",
   "TravelMode": "string",
   "TruckModeOptions": {
      "AvoidFerries": boolean,
      "AvoidTolls": boolean,
      "Dimensions": {
         "Height": number,
         "Length": number,
         "Unit": "string",
         "Width": number
      },
      "Weight": {
         "Total": number,
         "Unit": "string"
      }
   },
   "WaypointPositions": [
      [ number ]
```

```
    ]
}
```

URI Request Parameters

The request uses the following URI parameters.

CalculatorName

The name of the route calculator resource that you want to use to calculate the route.

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

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

Required: Yes

Key

The optional API key to authorize the request.

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

Request Body

The request accepts the following data in JSON format.

ArrivalTime

Specifies the desired time of arrival. Uses the given time to calculate the route. Otherwise, the best time of day to travel with the best traffic conditions is used to calculate the route.

> **Note**
>
> ArrivalTime is not supported Esri.

Type: Timestamp

Required: No

CarModeOptions

Specifies route preferences when traveling by `Car`, such as avoiding routes that use ferries or tolls.

Requirements: `TravelMode` must be specified as `Car`.

Type: CalculateRouteCarModeOptions object

Required: No

DepartNow

Sets the time of departure as the current time. Uses the current time to calculate a route. Otherwise, the best time of day to travel with the best traffic conditions is used to calculate the route.

Default Value: `false`

Valid Values: `false` | `true`

Type: Boolean

Required: No

DeparturePosition

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

- For example, `[-123.115, 49.285]`

> **Note**
>
> If you specify a departure that's not located on a road, Amazon Location moves the position to the nearest road. If Esri is the provider for your route calculator, specifying a route that is longer than 400 km returns a `400 RoutesValidationException` error.

Valid Values: `[-180 to 180,-90 to 90]`

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

DepartureTime

Specifies the desired time of departure. Uses the given time to calculate the route. Otherwise, the best time of day to travel with the best traffic conditions is used to calculate the route.

- In ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`. For example, `2020-07-2T12:15:20.000Z+01:00`

Type: Timestamp

Required: No

DestinationPosition

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

- For example, `[-122.339, 47.615]`

> **Note**
>
> If you specify a destination that's not located on a road, Amazon Location moves the position to the nearest road.

Valid Values: `[-180 to 180,-90 to 90]`

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

DistanceUnit

Set the unit system to specify the distance.

Default Value: `Kilometers`

Type: String

Valid Values: `Kilometers | Miles`

Required: No

IncludeLegGeometry

Set to include the geometry details in the result for each path between a pair of positions.

Default Value: `false`

Valid Values: `false` | `true`

Type: Boolean

Required: No

OptimizeFor

Specifies the distance to optimize for when calculating a route.

Type: String

Valid Values: `FastestRoute` | `ShortestRoute`

Required: No

TravelMode

Specifies the mode of transport when calculating a route. Used in estimating the speed of travel and road compatibility. You can choose `Car`, `Truck`, `Walking`, `Bicycle` or `Motorcycle` as options for the `TravelMode`.

> **Note**
>
> `Bicycle` and `Motorcycle` are only valid when using Grab as a data provider, and only within Southeast Asia.
> `Truck` is not available for Grab.
> For more details on the using Grab for routing, including areas of coverage, see GrabMaps in the *Amazon Location Service Developer Guide*.

The `TravelMode` you specify also determines how you specify route preferences:

- If traveling by `Car` use the `CarModeOptions` parameter.
- If traveling by `Truck` use the `TruckModeOptions` parameter.

Default Value: `Car`

Type: String

Valid Values: `Car | Truck | Walking | Bicycle | Motorcycle`

Required: No

TruckModeOptions

Specifies route preferences when traveling by `Truck`, such as avoiding routes that use ferries or tolls, and truck specifications to consider when choosing an optimal road.

Requirements: `TravelMode` must be specified as `Truck`.

Type: CalculateRouteTruckModeOptions object

Required: No

WaypointPositions

Specifies an ordered list of up to 23 intermediate positions to include along a route between the departure position and destination position.

- For example, from the `DeparturePosition` `[-123.115, 49.285]`, the route follows the order that the waypoint positions are given `[[-122.757, 49.0021],[-122.349, 47.620]]`

> **Note**
>
> If you specify a waypoint position that's not located on a road, Amazon Location moves the position to the nearest road.
> Specifying more than 23 waypoints returns a `400 ValidationException` error.
> If Esri is the provider for your route calculator, specifying a route that is longer than 400 km returns a `400 RoutesValidationException` error.

Valid Values: `[-180 to 180,-90 to 90]`

Type: Array of arrays of doubles

Array Members: Minimum number of 0 items. Maximum number of 23 items.

Array Members: Fixed number of 2 items.

Required: No

Response Syntax

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

{
   "Legs": [
      {
         "Distance": number,
         "DurationSeconds": number,
         "EndPosition": [ number ],
         "Geometry": {
            "LineString": [
               [ number ]
            ]
         },
         "StartPosition": [ number ],
         "Steps": [
            {
               "Distance": number,
               "DurationSeconds": number,
               "EndPosition": [ number ],
               "GeometryOffset": number,
               "StartPosition": [ number ]
            }
         ]
      }
   ],
   "Summary": {
      "DataSource": "string",
      "Distance": number,
      "DistanceUnit": "string",
      "DurationSeconds": number,
      "RouteBBox": [ number ]
   }
}
```

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.

Legs

Contains details about each path between a pair of positions included along a route such as: `StartPosition`, `EndPosition`, `Distance`, `DurationSeconds`, `Geometry`, and `Steps`. The number of legs returned corresponds to one fewer than the total number of positions in the request.

For example, a route with a departure position and destination position returns one leg with the positions snapped to a nearby road:

- The `StartPosition` is the departure position.
- The `EndPosition` is the destination position.

A route with a waypoint between the departure and destination position returns two legs with the positions snapped to a nearby road:

- Leg 1: The `StartPosition` is the departure position . The `EndPosition` is the waypoint positon.
- Leg 2: The `StartPosition` is the waypoint position. The `EndPosition` is the destination position.

Type: Array of Leg objects

Summary

Contains information about the whole route, such as: `RouteBBox`, `DataSource`, `Distance`, `DistanceUnit`, and `DurationSeconds`.

Type: CalculateRouteSummary object

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to the V2 `CalculateRouteMatrix` unless you require Grab data.

- This version of `CalculateRouteMatrix` is part of a previous Amazon Location Service Routes API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The version 2 `CalculateRouteMatrix` operation gives better results for matrix routing calculations.
- If you are using an AWS SDK or the AWS CLI, note that the Routes API version 2 is found under `geo-routes` or `geo_routes`, not under `location`.
- Since Grab is not yet fully supported in Routes API version 2, we recommend you continue using API version 1 when using Grab.
- Start your version 2 API journey with the Routes V2 API Reference or the Developer Guide.

Calculates a route matrix given the following required parameters: `DeparturePositions` and `DestinationPositions`. `CalculateRouteMatrix` calculates routes and returns the travel time and travel distance from each departure position to each destination position in the request. For example, given departure positions A and B, and destination positions X and Y, `CalculateRouteMatrix` will return time and distance for routes from A to X, A to Y, B to X, and B to Y (in that order). The number of results returned (and routes calculated) will be the number of `DeparturePositions` times the number of `DestinationPositions`.

Note

Your account is charged for each route calculated, not the number of requests.

Requires that you first create a route calculator resource.

By default, a request that doesn't specify a departure time uses the best time of day to travel with the best traffic conditions when calculating routes.

Additional options include:

- Specifying a departure time using either `DepartureTime` or `DepartNow`. This calculates routes based on predictive traffic data at the given time.

  > **Note**
  >
  > You can't specify both `DepartureTime` and `DepartNow` in a single request. Specifying both parameters returns a validation error.

- Specifying a travel mode using TravelMode sets the transportation mode used to calculate the routes. This also lets you specify additional route preferences in `CarModeOptions` if traveling by `Car`, or `TruckModeOptions` if traveling by `Truck`.

Request Syntax

```
POST /routes/v0/calculators/CalculatorName/calculate/route-matrix?key=Key HTTP/1.1
Content-type: application/json

{
   "CarModeOptions": {
      "AvoidFerries": boolean,
      "AvoidTolls": boolean
   },
   "DepartNow": boolean,
   "DeparturePositions": [
      [ number ]
   ],
   "DepartureTime": "string",
   "DestinationPositions": [
      [ number ]
   ],
   "DistanceUnit": "string",
   "TravelMode": "string",
   "TruckModeOptions": {
      "AvoidFerries": boolean,
      "AvoidTolls": boolean,
      "Dimensions": {
         "Height": number,
         "Length": number,
         "Unit": "string",
```

```
            "Width": number
         },
         "Weight": {
            "Total": number,
            "Unit": "string"
         }
      }
}
```

URI Request Parameters

The request uses the following URI parameters.

CalculatorName

The name of the route calculator resource that you want to use to calculate the route matrix.

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

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

Required: Yes

Key

The optional API key to authorize the request.

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

Request Body

The request accepts the following data in JSON format.

CarModeOptions

Specifies route preferences when traveling by `Car`, such as avoiding routes that use ferries or tolls.

Requirements: `TravelMode` must be specified as `Car`.

Type: CalculateRouteCarModeOptions object

Required: No

DepartNow

Sets the time of departure as the current time. Uses the current time to calculate the route matrix. You can't set both `DepartureTime` and `DepartNow`. If neither is set, the best time of day to travel with the best traffic conditions is used to calculate the route matrix.

Default Value: `false`

Valid Values: `false` | `true`

Type: Boolean

Required: No

DeparturePositions

The list of departure (origin) positions for the route matrix. An array of points, each of which is itself a 2-value array defined in WGS 84 format: `[longitude, latitude]`. For example, `[-123.115, 49.285]`.

> **Important**
>
> Depending on the data provider selected in the route calculator resource there may be additional restrictions on the inputs you can choose. See Position restrictions in the *Amazon Location Service Developer Guide*.

> **Note**
>
> For route calculators that use Esri as the data provider, if you specify a departure that's not located on a road, Amazon Location moves the position to the nearest road. The snapped value is available in the result in `SnappedDeparturePositions`.

Valid Values: `[-180 to 180,-90 to 90]`

Type: Array of arrays of doubles

Array Members: Minimum number of 1 item. Maximum number of 350 items.

Array Members: Fixed number of 2 items.

Required: Yes

DepartureTime

Specifies the desired time of departure. Uses the given time to calculate the route matrix. You can't set both `DepartureTime` and `DepartNow`. If neither is set, the best time of day to travel with the best traffic conditions is used to calculate the route matrix.

> **Note**
>
> Setting a departure time in the past returns a `400 ValidationException` error.

- In ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`. For example, `2020-07-2T12:15:20.000Z+01:00`

Type: Timestamp

Required: No

DestinationPositions

The list of destination positions for the route matrix. An array of points, each of which is itself a 2-value array defined in WGS 84 format: `[longitude, latitude]`. For example, `[-122.339, 47.615]`

> **Important**
>
> Depending on the data provider selected in the route calculator resource there may be additional restrictions on the inputs you can choose. See Position restrictions in the *Amazon Location Service Developer Guide*.

> **Note**
>
> For route calculators that use Esri as the data provider, if you specify a destination that's not located on a road, Amazon Location moves the position to the nearest road. The snapped value is available in the result in `SnappedDestinationPositions`.

Valid Values: `[-180 to 180,-90 to 90]`

Type: Array of arrays of doubles

Array Members: Minimum number of 1 item. Maximum number of 350 items.

Array Members: Fixed number of 2 items.

Required: Yes

DistanceUnit

Set the unit system to specify the distance.

Default Value: `Kilometers`

Type: String

Valid Values: `Kilometers | Miles`

Required: No

TravelMode

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

The `TravelMode` you specify also determines how you specify route preferences:

- If traveling by `Car` use the `CarModeOptions` parameter.
- If traveling by `Truck` use the `TruckModeOptions` parameter.

> **Note**
>
> `Bicycle` or `Motorcycle` are only valid when using `Grab` as a data provider, and only within Southeast Asia.
> `Truck` is not available for Grab.
> For more information about using Grab as a data provider, see GrabMaps in the *Amazon Location Service Developer Guide*.

Default Value: `Car`

Type: String

Valid Values: `Car | Truck | Walking | Bicycle | Motorcycle`

Required: No

TruckModeOptions

Specifies route preferences when traveling by `Truck`, such as avoiding routes that use ferries or tolls, and truck specifications to consider when choosing an optimal road.

Requirements: `TravelMode` must be specified as `Truck`.

Type: CalculateRouteTruckModeOptions object

Required: No

Response Syntax

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

{
   "RouteMatrix": [
      [
         {
            "Distance": number,
            "DurationSeconds": number,
            "Error": {
               "Code": "string",
               "Message": "string"
            }
         }
      ]
   ],
   "SnappedDeparturePositions": [
      [ number ]
   ],
   "SnappedDestinationPositions": [
      [ number ]
   ],
   "Summary": {
      "DataSource": "string",
      "DistanceUnit": "string",
      "ErrorCount": number,
      "RouteCount": number
   }
```

```
}
```

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.

RouteMatrix

The calculated route matrix containing the results for all pairs of `DeparturePositions` to `DestinationPositions`. Each row corresponds to one entry in `DeparturePositions`. Each entry in the row corresponds to the route from that entry in `DeparturePositions` to an entry in `DestinationPositions`.

Type: Array of arrays of RouteMatrixEntry objects

SnappedDeparturePositions

For routes calculated using an Esri route calculator resource, departure positions are snapped to the closest road. For Esri route calculator resources, this returns the list of departure/origin positions used for calculation of the `RouteMatrix`.

Type: Array of arrays of doubles

Array Members: Minimum number of 1 item. Maximum number of 350 items.

Array Members: Fixed number of 2 items.

SnappedDestinationPositions

The list of destination positions for the route matrix used for calculation of the `RouteMatrix`.

Type: Array of arrays of doubles

Array Members: Minimum number of 1 item. Maximum number of 350 items.

Array Members: Fixed number of 2 items.

Summary

Contains information about the route matrix, `DataSource`, `DistanceUnit`, `RouteCount` and `ErrorCount`.

Type: CalculateRouteMatrixSummary object

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

CreateRouteCalculator

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to the Routes API V2 unless you require Grab data.

- `CreateRouteCalculator` is part of a previous Amazon Location Service Routes API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Routes API version 2 has a simplified interface that can be used without creating or managing route calculator resources.
- If you are using an AWS SDK or the AWS CLI, note that the Routes API version 2 is found under `geo-routes` or `geo_routes`, not under `location`.
- Since Grab is not yet fully supported in Routes API version 2, we recommend you continue using API version 1 when using Grab.
- Start your version 2 API journey with the Routes V2 API Reference or the Developer Guide.

Creates a route calculator resource in your AWS account.

You can send requests to a route calculator resource to estimate travel time, distance, and get directions. A route calculator sources traffic and road network data from your chosen data provider.

Note

If your application is tracking or routing assets you use in your business, such as delivery vehicles or employees, you must not use Esri as your geolocation provider. See section 82 of the AWS service terms for more details.

Request Syntax

```
POST /routes/v0/calculators HTTP/1.1
Content-type: application/json

{
```

```
    "CalculatorName": "string",
    "DataSource": "string",
    "Description": "string",
    "PricingPlan": "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.

CalculatorName

The name of the route calculator resource.

Requirements:

- Can use alphanumeric characters (A–Z, a–z, 0–9) , hyphens (-), periods (.), and underscores (_).
- Must be a unique Route calculator resource name.
- No spaces allowed. For example, `ExampleRouteCalculator`.

Type: String

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

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

Required: Yes

DataSource

Specifies the data provider of traffic and road network data.

> **Note**
>
> This field is case-sensitive. Enter the valid values as shown. For example, entering HERE returns an error.

Valid values include:

- `Esri` – For additional information about Esri's coverage in your region of interest, see Esri details on street networks and traffic coverage.

  Route calculators that use Esri as a data source only calculate routes that are shorter than 400 km.

- `Grab` – Grab provides routing functionality for Southeast Asia. For additional information about GrabMaps' coverage, see GrabMaps countries and areas covered.
- `Here` – For additional information about HERE Technologies' coverage in your region of interest, see HERE car routing coverage and HERE truck routing coverage.

For additional information , see Data providers on the *Amazon Location Service Developer Guide*.

Type: String

Required: Yes

Description

The optional description for the route calculator resource.

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

Tags

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

- For example: { "tag1" : "value1", "tag2" : "value2"}

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

{
   "CalculatorArn": "string",
   "CalculatorName": "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.

CalculatorArn

The Amazon Resource Name (ARN) for the route calculator resource. Use the ARN when you specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:route-calculator/ExampleCalculator`

Type: String

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]+))`

CalculatorName

The name of the route calculator resource.

- For example, `ExampleRouteCalculator`.

Type: String

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

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

CreateTime

The timestamp when the route calculator resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

- For example, `2020–07-2T12:15:20.000Z+01:00`

Type: Timestamp

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

ConflictException

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ServiceQuotaExceededException

The operation was denied because the request would exceed the maximum quota set for Amazon Location Service.

Message

A message with the reason for the service quota exceeded exception error.

HTTP Status Code: 402

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

DeleteRouteCalculator

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to the Routes API V2 unless you require Grab data.

- `DeleteRouteCalculator` is part of a previous Amazon Location Service Routes API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Routes API version 2 has a simplified interface that can be used without creating or managing route calculator resources.
- If you are using an AWS SDK or the AWS CLI, note that the Routes API version 2 is found under `geo-routes` or `geo_routes`, not under `location`.
- Since Grab is not yet fully supported in Routes API version 2, we recommend you continue using API version 1 when using Grab.
- Start your version 2 API journey with the Routes V2 API Reference or the Developer Guide.

Deletes a route calculator resource from your AWS account.

Note

This operation deletes the resource permanently.

Request Syntax

```
DELETE /routes/v0/calculators/CalculatorName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

CalculatorName

The name of the route calculator 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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

DescribeRouteCalculator

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to the Routes API V2 unless you require Grab data.

- `DescribeRouteCalculator` is part of a previous Amazon Location Service Routes API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Routes API version 2 has a simplified interface that can be used without creating or managing route calculator resources.
- If you are using an AWS SDK or the AWS CLI, note that the Routes API version 2 is found under `geo-routes` or `geo_routes`, not under `location`.
- Since Grab is not yet fully supported in Routes API version 2, we recommend you continue using API version 1 when using Grab.
- Start your version 2 API journey with the Routes V2 API Reference or the Developer Guide.

Retrieves the route calculator resource details.

Request Syntax

```
GET /routes/v0/calculators/CalculatorName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

CalculatorName

The name of the route calculator 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

{
   "CalculatorArn": "string",
   "CalculatorName": "string",
   "CreateTime": "string",
   "DataSource": "string",
   "Description": "string",
   "PricingPlan": "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.

CalculatorArn

The Amazon Resource Name (ARN) for the Route calculator resource. Use the ARN when you specify a resource across AWS.

- Format example: `arn:aws:geo:region:account-id:route-calculator/ExampleCalculator`

Type: String

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]+))`

CalculatorName

The name of the route calculator resource being described.

Type: String

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

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

CreateTime

The timestamp when the route calculator resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

- For example, `2020-07-2T12:15:20.000Z+01:00`

Type: Timestamp

DataSource

The data provider of traffic and road network data. Indicates one of the available providers:

- `Esri`
- `Grab`
- `Here`

For more information about data providers, see Amazon Location Service data providers.

Type: String

Description

The optional description of the route calculator resource.

Type: String

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

PricingPlan

This parameter has been deprecated.

Always returns `RequestBasedUsage`.

Type: String

Valid Values: `RequestBasedUsage | MobileAssetTracking | MobileAssetManagement`

Tags

Tags associated with route calculator 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 when the route calculator resource was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

- For example, `2020–07-2T12:15:20.000Z+01:00`

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

ListRouteCalculators

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to the Routes API V2 unless you require Grab data.

- `ListRouteCalculators` is part of a previous Amazon Location Service Routes API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Routes API version 2 has a simplified interface that can be used without creating or managing route calculator resources.
- If you are using an AWS SDK or the AWS CLI, note that the Routes API version 2 is found under `geo-routes` or `geo_routes`, not under `location`.
- Since Grab is not yet fully supported in Routes API version 2, we recommend you continue using API version 1 when using Grab.
- Start your version 2 API journey with the Routes V2 API Reference or the Developer Guide.

Lists route calculator resources in your AWS account.

Request Syntax

```
POST /routes/v0/list-calculators 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 maximum number of results 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": [
      {
         "CalculatorName": "string",
         "CreateTime": "string",
         "DataSource": "string",
         "Description": "string",
         "PricingPlan": "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 route calculator resources that exist in your AWS account

Type: Array of ListRouteCalculatorsResponseEntry objects

NextToken

A pagination token indicating there are additional pages available. You can use the token in a subsequent 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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

UpdateRouteCalculator

Important

This operation is no longer current and may be deprecated in the future. We recommend you upgrade to the Routes API V2 unless you require Grab data.

- `UpdateRouteCalculator` is part of a previous Amazon Location Service Routes API (version 1) which has been superseded by a more intuitive, powerful, and complete API (version 2).
- The Routes API version 2 has a simplified interface that can be used without creating or managing route calculator resources.
- If you are using an AWS SDK or the AWS CLI, note that the Routes API version 2 is found under `geo-routes` or `geo_routes`, not under `location`.
- Since Grab is not yet fully supported in Routes API version 2, we recommend you continue using API version 1 when using Grab.
- Start your version 2 API journey with the Routes V2 API Reference or the Developer Guide.

Updates the specified properties for a given route calculator resource.

Request Syntax

```
PATCH /routes/v0/calculators/CalculatorName HTTP/1.1
Content-type: application/json

{
   "Description": "string",
   "PricingPlan": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

CalculatorName

The name of the route calculator 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 route calculator resource.

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

Response Syntax

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

{
   "CalculatorArn": "string",
   "CalculatorName": "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.

CalculatorArn

The Amazon Resource Name (ARN) of the updated route calculator resource. Used to specify a resource across AWS.

- Format example: `arn:aws:geo:region:account-id:route- calculator/ExampleCalculator`

Type: String

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]+))`

CalculatorName

The name of the updated route calculator resource.

Type: String

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

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

UpdateTime

The timestamp for when the route calculator was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

Geofences actions

The following actions are supported for Geofences:

- BatchDeleteGeofence
- BatchEvaluateGeofences
- BatchPutGeofence
- CreateGeofenceCollection
- DeleteGeofenceCollection
- DescribeGeofenceCollection
- ForecastGeofenceEvents
- GetGeofence
- ListGeofenceCollections
- ListGeofences
- PutGeofence
- UpdateGeofenceCollection

BatchDeleteGeofence

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

BatchEvaluateGeofences

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

BatchPutGeofence

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

CreateGeofenceCollection

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.sssZ`

Type: Timestamp

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

ConflictException

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ServiceQuotaExceededException

The operation was denied because the request would exceed the maximum quota set for Amazon Location Service.

Message

A message with the reason for the service quota exceeded exception error.

HTTP Status Code: 402

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

DeleteGeofenceCollection

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

DescribeGeofenceCollection

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.sssZ`

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.sssZ`

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

ForecastGeofenceEvents

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 it's 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 it's 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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

GetGeofence

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.sssZ`

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 the position of the geofence. Can be a circle, a polygon, or a multipolygon.

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.sssZ`

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

ListGeofenceCollections

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

ListGeofences

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

PutGeofence

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 of 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.sssZ`

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.sssZ`

Type: Timestamp

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

ConflictException

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

UpdateGeofenceCollection

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.sssZ`

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

Trackers actions

The following actions are supported for Trackers:

- AssociateTrackerConsumer
- BatchDeleteDevicePositionHistory
- BatchGetDevicePosition
- BatchUpdateDevicePosition
- CreateTracker
- DeleteTracker
- DescribeTracker
- DisassociateTrackerConsumer
- GetDevicePosition
- GetDevicePositionHistory
- ListDevicePositions
- ListTrackerConsumers
- ListTrackers
- UpdateTracker
- VerifyDevicePosition

AssociateTrackerConsumer

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

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

HTTP Status Code: 403

ConflictException

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ServiceQuotaExceededException

The operation was denied because the request would exceed the maximum quota set for Amazon Location Service.

Message

A message with the reason for the service quota exceeded exception error.

HTTP Status Code: 402

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

BatchDeleteDevicePositionHistory

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

BatchGetDevicePosition

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

BatchUpdateDevicePosition

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

CreateTracker

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.sssZ`.

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}:([^/].*)?`

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

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

HTTP Status Code: 403

ConflictException

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ServiceQuotaExceededException

The operation was denied because the request would exceed the maximum quota set for Amazon Location Service.

Message

A message with the reason for the service quota exceeded exception error.

HTTP Status Code: 402

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

DeleteTracker

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

DescribeTracker

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.sssZ`.

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 Queries 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.sssZ`.

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

DisassociateTrackerConsumer

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

GetDevicePosition

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.sssZ`.

Type: Timestamp

SampleTime

The timestamp at which the device's position was determined. Uses ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

GetDevicePositionHistory

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.sssZ`. 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.sssZ`. 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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

ListDevicePositions

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

ListTrackerConsumers

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

ListTrackers

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

UpdateTracker

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.sssZ`.

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

VerifyDevicePosition

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.sssZ`.

Type: Timestamp

SampleTime

The timestamp at which the device's position was determined. Uses ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

API keys actions

The following actions are supported for API keys:

- CreateKey
- DeleteKey
- DescribeKey
- ListKeys
- UpdateKey

CreateKey

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.sssZ. 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.sssZ`.

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

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

HTTP Status Code: 403

ConflictException

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ServiceQuotaExceededException

The operation was denied because the request would exceed the maximum quota set for Amazon Location Service.

Message

A message with the reason for the service quota exceeded exception error.

HTTP Status Code: 402

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

DeleteKey

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

DescribeKey

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.sssZ`.

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.sssZ`.

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, and referers 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.sssZ`.

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

ListKeys

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

UpdateKey

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.sssZ.

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.sssZ`.

Type: Timestamp

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

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

Tags actions

The following actions are supported for Tags:

- ListTagsForResource
- TagResource
- UntagResource

ListTagsForResource

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

TagResource

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

UntagResource

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

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

HTTP Status Code: 403

InternalServerException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

ValidationException

The input failed to meet the constraints specified by the 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

Data Types

The Amazon Location Service API contains several data types that various actions use. This section describes each data type in detail.

> **Note**
>
> The order of each element in a data type structure is not guaranteed. Applications should not assume a particular order.

The following data types are supported by Maps:

- ListMapsResponseEntry
- MapConfiguration
- MapConfigurationUpdate

The following data types are supported by Places:

- DataSourceConfiguration
- ListPlaceIndexesResponseEntry
- Place
- PlaceGeometry
- SearchForPositionResult
- SearchForSuggestionsResult
- SearchForTextResult
- SearchPlaceIndexForPositionSummary
- SearchPlaceIndexForSuggestionsSummary
- SearchPlaceIndexForTextSummary
- TimeZone

The following data types are supported by Routes:

- CalculateRouteCarModeOptions

- CalculateRouteMatrixSummary
- CalculateRouteSummary
- CalculateRouteTruckModeOptions
- Leg
- LegGeometry
- ListRouteCalculatorsResponseEntry
- RouteMatrixEntry
- RouteMatrixEntryError
- Step
- TrackingFilterGeometry
- TruckDimensions
- TruckWeight

The following data types are supported by Geofences:

- BatchDeleteGeofenceError
- BatchEvaluateGeofencesError
- BatchItemError
- BatchPutGeofenceError
- BatchPutGeofenceRequestEntry
- BatchPutGeofenceSuccess
- DevicePositionUpdate
- ForecastedEvent
- ForecastGeofenceEventsDeviceState
- GeofenceGeometry
- ListGeofenceCollectionsResponseEntry
- ListGeofenceResponseEntry
- PositionalAccuracy

The following data types are supported by Trackers:

- BatchDeleteDevicePositionHistoryError
- BatchGetDevicePositionError
- BatchItemError
- BatchUpdateDevicePositionError
- CellSignals
- DevicePosition
- DevicePositionUpdate
- DeviceState
- InferredState
- ListDevicePositionsResponseEntry
- ListTrackersResponseEntry
- LteCellDetails
- LteLocalId
- LteNetworkMeasurements
- PositionalAccuracy
- WiFiAccessPoint

The following data types are supported by API keys:

- ApiKeyFilter
- ApiKeyRestrictions
- ListKeysResponseEntry
- ListKeysResponseEntry

The following data types are common across Amazon Location Service:

- BatchItemError
- DevicePositionUpdate
- PositionalAccuracy
- ValidationExceptionField

Maps data types

The following data types are supported by Maps:

- ListMapsResponseEntry
- MapConfiguration
- MapConfigurationUpdate

ListMapsResponseEntry

Contains details of an existing map resource in your AWS account.

Contents

CreateTime

The timestamp for when the map resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

Type: Timestamp

Required: Yes

DataSource

Specifies the data provider for the associated map tiles.

Type: String

Required: Yes

Description

The description for the map resource.

Type: String

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

Required: Yes

MapName

The name of the associated map resource.

Type: String

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

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

Required: Yes

UpdateTime

The timestamp for when the map resource was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

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

See Also

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

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

MapConfiguration

Specifies the map tile style selected from an available provider.

Contents

Style

Specifies the map style selected from an available data provider.

Valid Esri map styles:

- `VectorEsriDarkGrayCanvas` – The Esri Dark Gray Canvas map style. A vector basemap with a dark gray, neutral background with minimal colors, labels, and features that's designed to draw attention to your thematic content.
- `RasterEsriImagery` – The Esri Imagery map style. A raster basemap that provides one meter or better satellite and aerial imagery in many parts of the world and lower resolution satellite imagery worldwide.
- `VectorEsriLightGrayCanvas` – The Esri Light Gray Canvas map style, which provides a detailed vector basemap with a light gray, neutral background style with minimal colors, labels, and features that's designed to draw attention to your thematic content.
- `VectorEsriTopographic` – The Esri Light map style, which provides a detailed vector basemap with a classic Esri map style.
- `VectorEsriStreets` – The Esri Street Map style, which provides a detailed vector basemap for the world symbolized with a classic Esri street map style. The vector tile layer is similar in content and style to the World Street Map raster map.
- `VectorEsriNavigation` – The Esri Navigation map style, which provides a detailed basemap for the world symbolized with a custom navigation map style that's designed for use during the day in mobile devices.

Valid HERE Technologies map styles:

- `VectorHereContrast` – The HERE Contrast (Berlin) map style is a high contrast detailed base map of the world that blends 3D and 2D rendering.

> **Note**
>
> The `VectorHereContrast` style has been renamed from `VectorHereBerlin`. `VectorHereBerlin` has been deprecated, but will continue to work in applications that use it.

- `VectorHereExplore` – A default HERE map style containing a neutral, global map and its features including roads, buildings, landmarks, and water features. It also now includes a fully designed map of Japan.
- `VectorHereExploreTruck` – A global map containing truck restrictions and attributes (e.g. width / height / HAZMAT) symbolized with highlighted segments and icons on top of HERE Explore to support use cases within transport and logistics.
- `RasterHereExploreSatellite` – A global map containing high resolution satellite imagery.
- `HybridHereExploreSatellite` – A global map displaying the road network, street names, and city labels over satellite imagery. This style will automatically retrieve both raster and vector tiles, and your charges will be based on total tiles retrieved.

> **Note**
>
> Hybrid styles use both vector and raster tiles when rendering the map that you see. This means that more tiles are retrieved than when using either vector or raster tiles alone. Your charges will include all tiles retrieved.

Valid GrabMaps map styles:

- `VectorGrabStandardLight` – The Grab Standard Light map style provides a basemap with detailed land use coloring, area names, roads, landmarks, and points of interest covering Southeast Asia.
- `VectorGrabStandardDark` – The Grab Standard Dark map style provides a dark variation of the standard basemap covering Southeast Asia.

> **Note**
>
> Grab provides maps only for countries in Southeast Asia, and is only available in the Asia Pacific (Singapore) Region (`ap-southeast-1`). For more information, see GrabMaps countries and area covered.

Valid Open Data map styles:

- `VectorOpenDataStandardLight` – The Open Data Standard Light map style provides a detailed basemap for the world suitable for website and mobile application use. The map includes highways major roads, minor roads, railways, water features, cities, parks, landmarks, building footprints, and administrative boundaries.
- `VectorOpenDataStandardDark` – Open Data Standard Dark is a dark-themed map style that provides a detailed basemap for the world suitable for website and mobile application use. The map includes highways major roads, minor roads, railways, water features, cities, parks, landmarks, building footprints, and administrative boundaries.
- `VectorOpenDataVisualizationLight` – The Open Data Visualization Light map style is a light-themed style with muted colors and fewer features that aids in understanding overlaid data.
- `VectorOpenDataVisualizationDark` – The Open Data Visualization Dark map style is a dark-themed style with muted colors and fewer features that aids in understanding overlaid data.

Type: String

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

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

Required: Yes

CustomLayers

Specifies the custom layers for the style. Leave unset to not enable any custom layer, or, for styles that support custom layers, you can enable layer(s), such as POI layer for the VectorEsriNavigation style. Default is `unset`.

> **Note**
>
> Not all map resources or styles support custom layers. See Custom Layers for more information.

Type: Array of strings

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

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

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

Required: No

PoliticalView

Specifies the political view for the style. Leave unset to not use a political view, or, for styles that support specific political views, you can choose a view, such as `IND` for the Indian view.

Default is unset.

> **Note**
>
> Not all map resources or styles support political view styles. See Political views for more information.

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

MapConfigurationUpdate

Specifies the political view for the style.

Contents

CustomLayers

Specifies the custom layers for the style. Leave unset to not enable any custom layer, or, for styles that support custom layers, you can enable layer(s), such as POI layer for the VectorEsriNavigation style. Default is `unset`.

> **Note**
>
> Not all map resources or styles support custom layers. See Custom Layers for more information.

Type: Array of strings

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

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

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

Required: No

PoliticalView

Specifies the political view for the style. Set to an empty string to not use a political view, or, for styles that support specific political views, you can choose a view, such as `IND` for the Indian view.

> **Note**
>
> Not all map resources or styles support political view styles. See Political views for more information.

Type: String

Length Constraints: Minimum length of 0. Maximum 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

Places data types

The following data types are supported by Places:

- DataSourceConfiguration
- ListPlaceIndexesResponseEntry
- Place
- PlaceGeometry
- SearchForPositionResult
- SearchForSuggestionsResult
- SearchForTextResult
- SearchPlaceIndexForPositionSummary
- SearchPlaceIndexForSuggestionsSummary
- SearchPlaceIndexForTextSummary
- TimeZone

DataSourceConfiguration

Specifies the data storage option chosen for requesting Places.

Important

When using Amazon Location Places:

- If using HERE Technologies as a data provider, you can't store results for locations in Japan by setting `IntendedUse` to `Storage`. parameter.
- Under the `MobileAssetTracking` or `MobilAssetManagement` pricing plan, you can't store results from your place index resources by setting `IntendedUse` to `Storage`. This returns a validation exception error.

For more information, see the AWS Service Terms for Amazon Location Service.

Contents

IntendedUse

Specifies how the results of an operation will be stored by the caller.

Valid values include:

- `SingleUse` specifies that the results won't be stored.
- `Storage` specifies that the result can be cached or stored in a database.

Default value: `SingleUse`

Type: String

Valid Values: `SingleUse | Storage`

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

ListPlaceIndexesResponseEntry

A place index resource listed in your AWS account.

Contents

CreateTime

The timestamp for when the place index resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

Type: Timestamp

Required: Yes

DataSource

The data provider of geospatial data. Values can be one of the following:

- `Esri`
- `Grab`
- `Here`

For more information about data providers, see Amazon Location Service data providers.

Type: String

Required: Yes

Description

The optional description for the place index resource.

Type: String

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

Required: Yes

IndexName

The name of the place index resource.

Type: String

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

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

Required: Yes

UpdateTime

The timestamp for when the place index resource was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

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

See Also

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

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Place

Contains details about addresses or points of interest that match the search criteria.

Not all details are included with all responses. Some details may only be returned by specific data partners.

Contents

Geometry

Places uses a point geometry to specify a location or a Place.

Type: PlaceGeometry object

Required: Yes

AddressNumber

The numerical portion of an address, such as a building number.

Type: String

Required: No

Categories

The Amazon Location categories that describe this Place.

For more information about using categories, including a list of Amazon Location categories, see Categories and filtering, in the *Amazon Location Service developer guide*.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

Country

A country/region specified using ISO 3166 3-digit country/region code. For example, CAN.

Type: String

Required: No

Interpolated

`True` if the result is interpolated from other known places.

`False` if the Place is a known place.

Not returned when the partner does not provide the information.

For example, returns `False` for an address location that is found in the partner data, but returns `True` if an address does not exist in the partner data and its location is calculated by interpolating between other known addresses.

Type: Boolean

Required: No

Label

The full name and address of the point of interest such as a city, region, or country. For example, `123 Any Street, Any Town, USA`.

Type: String

Required: No

Municipality

A name for a local area, such as a city or town name. For example, `Toronto`.

Type: String

Required: No

Neighborhood

The name of a community district. For example, `Downtown`.

Type: String

Required: No

PostalCode

A group of numbers and letters in a country-specific format, which accompanies the address for the purpose of identifying a location.

Type: String

Required: No

Region

A name for an area or geographical division, such as a province or state name. For example, `British Columbia`.

Type: String

Required: No

Street

The name for a street or a road to identify a location. For example, `Main Street`.

Type: String

Required: No

SubMunicipality

An area that's part of a larger municipality. For example, `Blissville` is a submunicipality in the Queen County in New York.

> **Note**
>
> This property supported by Esri and OpenData. The Esri property is `district`, and the OpenData property is `borough`.

Type: String

Required: No

SubRegion

A county, or an area that's part of a larger region. For example, `Metro Vancouver`.

Type: String

Required: No

SupplementalCategories

Categories from the data provider that describe the Place that are not mapped to any Amazon Location categories.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

TimeZone

The time zone in which the `Place` is located. Returned only when using HERE or Grab as the selected partner.

Type: TimeZone object

Required: No

UnitNumber

For addresses with multiple units, the unit identifier. Can include numbers and letters, for example `3B` or `Unit 123`.

> **Note**
>
> Returned only for a place index that uses Esri or Grab as a data provider. Is not returned for `SearchPlaceIndexForPosition`.

Type: String

Required: No

UnitType

For addresses with a `UnitNumber`, the type of unit. For example, `Apartment`.

> **Note**
>
> Returned only for a place index that uses Esri as a data provider.

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

PlaceGeometry

Places uses a point geometry to specify a location or a Place.

Contents

Point

A single point geometry specifies a location for a Place using WGS 84 coordinates:

- *x* — Specifies the x coordinate or longitude.
- *y* — Specifies the y coordinate or 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

SearchForPositionResult

Contains a search result from a position search query that is run on a place index resource.

Contents

Distance

The distance in meters of a great-circle arc between the query position and the result.

> **Note**
>
> A great-circle arc is the shortest path on a sphere, in this case the Earth. This returns the shortest distance between two locations.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

Place

Details about the search result, such as its address and position.

Type: Place object

Required: Yes

PlaceId

The unique identifier of the place. You can use this with the `GetPlace` operation to find the place again later.

> **Note**
>
> For `SearchPlaceIndexForPosition` operations, the `PlaceId` is returned only by place indexes that use HERE or Grab as a data provider.

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

SearchForSuggestionsResult

Contains a place suggestion resulting from a place suggestion query that is run on a place index resource.

Contents

Text

The text of the place suggestion, typically formatted as an address string.

Type: String

Required: Yes

Categories

The Amazon Location categories that describe the Place.

For more information about using categories, including a list of Amazon Location categories, see Categories and filtering, in the *Amazon Location Service developer guide*.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

PlaceId

The unique identifier of the Place. You can use this with the `GetPlace` operation to find the place again later, or to get full information for the Place.

The `GetPlace` request must use the same `PlaceIndex` resource as the `SearchPlaceIndexForSuggestions` that generated the Place ID.

> **Note**
>
> For `SearchPlaceIndexForSuggestions` operations, the `PlaceId` is returned by place indexes that use Esri, Grab, or HERE as data providers.

Type: String

Required: No

SupplementalCategories

Categories from the data provider that describe the Place that are not mapped to any Amazon Location categories.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 0. 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

SearchForTextResult

Contains a search result from a text search query that is run on a place index resource.

Contents

Place

Details about the search result, such as its address and position.

Type: Place object

Required: Yes

Distance

The distance in meters of a great-circle arc between the bias position specified and the result. `Distance` will be returned only if a bias position was specified in the query.

> **Note**
>
> A great-circle arc is the shortest path on a sphere, in this case the Earth. This returns the shortest distance between two locations.

Type: Double

Valid Range: Minimum value of 0.

Required: No

PlaceId

The unique identifier of the place. You can use this with the `GetPlace` operation to find the place again later.

> **Note**
>
> For `SearchPlaceIndexForText` operations, the `PlaceId` is returned only by place indexes that use HERE or Grab as a data provider.

Type: String

Required: No

Relevance

The relative confidence in the match for a result among the results returned. For example, if more fields for an address match (including house number, street, city, country/region, and postal code), the relevance score is closer to 1.

Returned only when the partner selected is Esri or Grab.

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

SearchPlaceIndexForPositionSummary

A summary of the request sent by using `SearchPlaceIndexForPosition`.

Contents

DataSource

The geospatial data provider attached to the place index resource specified in the request. Values can be one of the following:

- Esri
- Grab
- Here

For more information about data providers, see Amazon Location Service data providers.

Type: String

Required: Yes

Position

The position specified in the request.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Language

The preferred language used to return results. Matches the language in the request. The value is a valid BCP 47 language tag, for example, `en` for English.

Type: String

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

Required: No

MaxResults

Contains the optional result count limit that is specified in the request.

Default value: `50`

Type: Integer

Valid Range: Minimum value of 1. Maximum value 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

SearchPlaceIndexForSuggestionsSummary

A summary of the request sent by using `SearchPlaceIndexForSuggestions`.

Contents

DataSource

The geospatial data provider attached to the place index resource specified in the request. Values can be one of the following:

- Esri
- Grab
- Here

For more information about data providers, see Amazon Location Service data providers.

Type: String

Required: Yes

Text

The free-form partial text input specified in the request.

Type: String

Required: Yes

BiasPosition

Contains the coordinates for the optional bias position specified in the request.

This parameter contains a pair of numbers. The first number represents the X coordinate, or longitude; the second number represents the Y coordinate, or latitude.

For 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: No

FilterBBox

Contains the coordinates for the optional bounding box specified in the request.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

FilterCategories

The optional category filter specified in the request.

Type: Array of strings

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

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

FilterCountries

Contains the optional country filter specified in the request.

Type: Array of strings

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

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Language

The preferred language used to return results. Matches the language in the request. The value is a valid BCP 47 language tag, for example, `en` for English.

Type: String

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

Required: No

MaxResults

Contains the optional result count limit specified in the request.

Type: Integer

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

SearchPlaceIndexForTextSummary

A summary of the request sent by using `SearchPlaceIndexForText`.

Contents

DataSource

The geospatial data provider attached to the place index resource specified in the request. Values can be one of the following:

- Esri
- Grab
- Here

For more information about data providers, see Amazon Location Service data providers.

Type: String

Required: Yes

Text

The search text specified in the request.

Type: String

Required: Yes

BiasPosition

Contains the coordinates for the optional bias position specified in the request.

This parameter contains a pair of numbers. The first number represents the X coordinate, or longitude; the second number represents the Y coordinate, or latitude.

For 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: No

FilterBBox

Contains the coordinates for the optional bounding box specified in the request.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

FilterCategories

The optional category filter specified in the request.

Type: Array of strings

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

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

FilterCountries

Contains the optional country filter specified in the request.

Type: Array of strings

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

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Language

The preferred language used to return results. Matches the language in the request. The value is a valid BCP 47 language tag, for example, `en` for English.

Type: String

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

Required: No

MaxResults

Contains the optional result count limit specified in the request.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 50.

Required: No

ResultBBox

The bounding box that fully contains all search results.

> **Note**
>
> If you specified the optional `FilterBBox` parameter in the request, `ResultBBox` is contained within `FilterBBox`.

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

TimeZone

Information about a time zone. Includes the name of the time zone and the offset from UTC in seconds.

Contents

Name

The name of the time zone, following the IANA time zone standard. For example, `America/Los_Angeles`.

Type: String

Required: Yes

Offset

The time zone's offset, in seconds, from UTC.

Type: Integer

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

Routes data types

The following data types are supported by Routes:

- CalculateRouteCarModeOptions
- CalculateRouteMatrixSummary
- CalculateRouteSummary

- CalculateRouteTruckModeOptions
- Leg
- LegGeometry
- ListRouteCalculatorsResponseEntry
- RouteMatrixEntry
- RouteMatrixEntryError
- Step
- TruckDimensions
- TruckWeight

CalculateRouteCarModeOptions

Contains details about additional route preferences for requests that specify `TravelMode` as `Car`.

Contents

AvoidFerries

Avoids ferries when calculating routes.

Default Value: `false`

Valid Values: `false` | `true`

Type: Boolean

Required: No

AvoidTolls

Avoids tolls when calculating routes.

Default Value: `false`

Valid Values: `false` | `true`

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

CalculateRouteMatrixSummary

A summary of the calculated route matrix.

Contents

DataSource

The data provider of traffic and road network data used to calculate the routes. Indicates one of the available providers:

- `Esri`
- `Grab`
- `Here`

For more information about data providers, see Amazon Location Service data providers.

Type: String

Required: Yes

DistanceUnit

The unit of measurement for route distances.

Type: String

Valid Values: `Kilometers | Miles`

Required: Yes

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 1. Maximum value of 160000.

Required: Yes

RouteCount

The count of cells in the route matrix. Equal to the number of `DeparturePositions` multiplied by the number of `DestinationPositions`.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 160000.

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

CalculateRouteSummary

A summary of the calculated route.

Contents

DataSource

The data provider of traffic and road network data used to calculate the route. Indicates one of the available providers:

- `Esri`
- `Grab`
- `Here`

For more information about data providers, see Amazon Location Service data providers.

Type: String

Required: Yes

Distance

The total distance covered by the route. The sum of the distance travelled between every stop on the route.

> **Note**
>
> If Esri is the data source for the route calculator, the route distance can't be greater than 400 km. If the route exceeds 400 km, the response is a `400 RoutesValidationException` error.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

DistanceUnit

The unit of measurement for route distances.

Type: String

Valid Values: `Kilometers | Miles`

Required: Yes

DurationSeconds

The total travel time for the route measured in seconds. The sum of the travel time between every stop on the route.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

RouteBBox

Specifies a geographical box surrounding a route. Used to zoom into a route when displaying it in a map. For example, `[min x, min y, max x, max y]`.

The first 2 `bbox` parameters describe the lower southwest corner:

- The first `bbox` position is the X coordinate or longitude of the lower southwest corner.
- The second `bbox` position is the Y coordinate or latitude of the lower southwest corner.

The next 2 `bbox` parameters describe the upper northeast corner:

- The third `bbox` position is the X coordinate, or longitude of the upper northeast corner.
- The fourth `bbox` position is the Y coordinate, or latitude of the upper northeast corner.

Type: Array of doubles

Array Members: Fixed number of 4 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

CalculateRouteTruckModeOptions

Contains details about additional route preferences for requests that specify `TravelMode` as `Truck`.

Contents

AvoidFerries

Avoids ferries when calculating routes.

Default Value: `false`

Valid Values: `false` | `true`

Type: Boolean

Required: No

AvoidTolls

Avoids tolls when calculating routes.

Default Value: `false`

Valid Values: `false` | `true`

Type: Boolean

Required: No

Dimensions

Specifies the truck's dimension specifications including length, height, width, and unit of measurement. Used to avoid roads that can't support the truck's dimensions.

Type: TruckDimensions object

Required: No

Weight

Specifies the truck's weight specifications including total weight and unit of measurement. Used to avoid roads that can't support the truck's weight.

Type: TruckWeight 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

Leg

Contains the calculated route's details for each path between a pair of positions. The number of legs returned corresponds to one fewer than the total number of positions in the request.

For example, a route with a departure position and destination position returns one leg with the positions snapped to a nearby road:

- The `StartPosition` is the departure position.
- The `EndPosition` is the destination position.

A route with a waypoint between the departure and destination position returns two legs with the positions snapped to a nearby road:

- Leg 1: The `StartPosition` is the departure position . The `EndPosition` is the waypoint positon.
- Leg 2: The `StartPosition` is the waypoint position. The `EndPosition` is the destination position.

Contents

Distance

The distance between the leg's `StartPosition` and `EndPosition` along a calculated route.

- The default measurement is `Kilometers` unless the request specifies a `DistanceUnit` of `Miles`.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

DurationSeconds

The estimated travel time between the leg's `StartPosition` and `EndPosition`. The travel mode and departure time that you specify in the request determines the calculated time.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

EndPosition

The terminating position of the leg. Follows the format `[longitude,latitude]`.

> **Note**
>
> If the `EndPosition` isn't located on a road, it's snapped to a nearby road.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

StartPosition

The starting position of the leg. Follows the format `[longitude,latitude]`.

> **Note**
>
> If the `StartPosition` isn't located on a road, it's snapped to a nearby road.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Steps

Contains a list of steps, which represent subsections of a leg. Each step provides instructions for how to move to the next step in the leg such as the step's start position, end position, travel distance, travel duration, and geometry offset.

Type: Array of Step objects

Required: Yes

Geometry

Contains the calculated route's path as a linestring geometry.

Type: LegGeometry 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

LegGeometry

Contains the geometry details for each path between a pair of positions. Used in plotting a route leg on a map.

Contents

LineString

An ordered list of positions used to plot a route on a map.

The first position is closest to the start position for the leg, and the last position is the closest to the end position for the leg.

- For example, `[[-123.117, 49.284],[-123.115, 49.285],[-123.115, 49.285]]`

Type: Array of arrays of doubles

Array Members: Minimum number of 2 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

ListRouteCalculatorsResponseEntry

A route calculator resource listed in your AWS account.

Contents

CalculatorName

The name of the route calculator resource.

Type: String

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

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

Required: Yes

CreateTime

The timestamp when the route calculator resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

- For example, `2020–07-2T12:15:20.000Z+01:00`

Type: Timestamp

Required: Yes

DataSource

The data provider of traffic and road network data. Indicates one of the available providers:

- `Esri`
- `Grab`
- `Here`

For more information about data providers, see Amazon Location Service data providers.

Type: String

Required: Yes

Description

The optional description of the route calculator resource.

Type: String

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

Required: Yes

UpdateTime

The timestamp when the route calculator resource was last updated in ISO 8601 format: YYYY-MM-DDThh:mm:ss.sssZ.

- For example, `2020–07-2T12:15:20.000Z+01:00`

Type: Timestamp

Required: Yes

PricingPlan

This member has been deprecated.

Always returns `RequestBasedUsage`.

Type: String

Valid Values: `RequestBasedUsage | MobileAssetTracking | MobileAssetManagement`

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

The result for the calculated route of one `DeparturePosition` `DestinationPosition` pair.

Contents

Distance

The total distance of travel for the route.

Type: Double

Valid Range: Minimum value of 0.

Required: No

DurationSeconds

The expected duration of travel for the route.

Type: Double

Valid Range: Minimum value of 0.

Required: No

Error

An error corresponding to the calculation of a route between the `DeparturePosition` and `DestinationPosition`.

Type: RouteMatrixEntryError 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

RouteMatrixEntryError

An error corresponding to the calculation of a route between the `DeparturePosition` and `DestinationPosition`.

The error code can be one of the following:

- `RouteNotFound` - Unable to find a valid route with the given parameters.
- `RouteTooLong` - Route calculation went beyond the maximum size of a route and was terminated before completion.
- `PositionsNotFound` - One or more of the input positions were not found on the route network.
- `DestinationPositionNotFound` - The destination position was not found on the route network.
- `DeparturePositionNotFound` - The departure position was not found on the route network.
- `OtherValidationError` - The given inputs were not valid or a route was not found. More information is given in the error `Message`

Contents

Code

The type of error which occurred for the route calculation.

Type: String

Valid Values: `RouteNotFound | RouteTooLong | PositionsNotFound | DestinationPositionNotFound | DeparturePositionNotFound | OtherValidationError`

Required: Yes

Message

A message about the error that occurred for the route calculation.

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

Step

Represents an element of a leg within a route. A step contains instructions for how to move to the next step in the leg.

Contents

Distance

The travel distance between the step's `StartPosition` and `EndPosition`.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

DurationSeconds

The estimated travel time, in seconds, from the step's `StartPosition` to the `EndPosition`. . The travel mode and departure time that you specify in the request determines the calculated time.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

EndPosition

The end position of a step. If the position the last step in the leg, this position is the same as the end position of the leg.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

StartPosition

The starting position of a step. If the position is the first step in the leg, this position is the same as the start position of the leg.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

GeometryOffset

Represents the start position, or index, in a sequence of steps within the leg's line string geometry. For example, the index of the first step in a leg geometry is `0`.

Included in the response for queries that set `IncludeLegGeometry` to `True`.

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

TruckDimensions

Contains details about the truck dimensions in the unit of measurement that you specify. Used to filter out roads that can't support or allow the specified dimensions for requests that specify `TravelMode` as `Truck`.

Contents

Height

The height of the truck.

- For example, `4.5`.

> **Note**
>
> For routes calculated with a HERE resource, this value must be between 0 and 50 meters.

Type: Double

Valid Range: Minimum value of 0.

Required: No

Length

The length of the truck.

- For example, `15.5`.

> **Note**
>
> For routes calculated with a HERE resource, this value must be between 0 and 300 meters.

Type: Double

Valid Range: Minimum value of 0.

Required: No

Unit

Specifies the unit of measurement for the truck dimensions.

Default Value: `Meters`

Type: String

Valid Values: `Meters | Feet`

Required: No

Width

The width of the truck.

- For example, `4.5`.

> **Note**
>
> For routes calculated with a HERE resource, this value must be between 0 and 50 meters.

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

TruckWeight

Contains details about the truck's weight specifications. Used to avoid roads that can't support or allow the total weight for requests that specify `TravelMode` as `Truck`.

Contents

Total

The total weight of the truck.

- For example, `3500`.

Type: Double

Valid Range: Minimum value of 0.

Required: No

Unit

The unit of measurement to use for the truck weight.

Default Value: `Kilograms`

Type: String

Valid Values: `Kilograms | Pounds`

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

Geofences data types

The following data types are supported by Geofences:

- BatchDeleteGeofenceError
- BatchEvaluateGeofencesError
- BatchPutGeofenceError
- BatchPutGeofenceRequestEntry
- BatchPutGeofenceSuccess
- ForecastedEvent
- ForecastGeofenceEventsDeviceState
- GeofenceGeometry
- ListGeofenceCollectionsResponseEntry
- ListGeofenceResponseEntry

BatchDeleteGeofenceError

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

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.sssZ`

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

BatchPutGeofenceError

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

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 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

GeofenceProperties

Associates one of 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

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.sssZ`

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.sssZ`

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

ForecastedEvent

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.sssZ`

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

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

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 `Polygons` and up to 100,000 total vertices, including all vertices from all component `Polygons`.

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 `Polygons`.
- Each edge of a component `Polygon` must intersect no more than 5 edges from other `Polygons`. Parallel edges that are shared but do not cross are not counted toward this limit.
- The total number of intersecting edges of component `Polygons` 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

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.sssZ`

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.sssZ`

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

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.sssZ`

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 the position of the geofence. Can be a circle, a polygon, or a multipolygon.

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.sssZ`

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

Trackers data types

The following data types are supported by Trackers:

- BatchDeleteDevicePositionHistoryError
- BatchGetDevicePositionError
- BatchUpdateDevicePositionError
- DevicePosition
- DeviceState
- InferredState
- ListDevicePositionsResponseEntry
- ListTrackersResponseEntry
- TrackingFilterGeometry
- LteCellDetails
- CellSignals
- LteLocalId
- LteNetworkMeasurements
- WiFiAccessPoint

BatchDeleteDevicePositionHistoryError

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

Contains the batch request error details associated with the request.

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

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

BatchUpdateDevicePositionError

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.sssZ`.

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

DevicePosition

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.sssZ`.

Type: Timestamp

Required: Yes

SampleTime

The timestamp at which the device's position was determined. Uses ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

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

DeviceState

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.sssZ`.

Type: Timestamp

Required: Yes

Accuracy

Defines the level of certainty of the position.

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

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

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.sssZ`.

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

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.sssZ.

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.sssZ.

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

TrackingFilterGeometry

The geomerty 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

LteCellDetails

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

CellSignals

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

LteLocalId

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

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

WiFiAccessPoint

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

API key data types

The following data types are supported by API keys:

- ApiKeyFilter
- ApiKeyRestrictions
- ListKeysResponseEntry

ApiKeyFilter

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

API Restrictions on the allowed actions, resources, and referers 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 ??? 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 ??? 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. For 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

ListKeysResponseEntry

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.sssZ`.

Type: Timestamp

Required: Yes

ExpireTime

The timestamp for when the API key resource will expire, in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sssZ`.

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, and referers 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.sssZ`.

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

Common data types

The following data types are common across Amazon Location Service:

- BatchItemError
- Circle
- DevicePositionUpdate
- PositionalAccuracy
- ValidationExceptionField

BatchItemError

Contains the batch request error details associated with the request.

Contents

Code

The error code associated with the batch request error.

Type: String

Valid Values: `AccessDeniedError | ConflictError | InternalServerError | ResourceNotFoundError | ThrottlingError | ValidationError`

Required: No

Message

A message with the reason for the batch request error.

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

Circle

A circle on the earth, as defined by a center point and a radius.

Contents

Center

A single point geometry, specifying the center of the circle, using WGS 84 coordinates, in the form `[longitude, latitude]`.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Radius

The radius of the circle in meters. Must be greater than zero and no larger than 100,000 (100 kilometers).

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

Contains the position update details for a device.

Contents

DeviceId

The device associated to the position update.

Type: String

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

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Position

The latest device position defined in WGS 84 format: `[X or longitude, Y or latitude]`.

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.sssZ`

Type: Timestamp

Required: Yes

Accuracy

The accuracy of the device position.

Type: PositionalAccuracy object

Required: No

PositionProperties

Associates one of more properties with the position update. A property is a key-value pair stored with the position update and added to any geofence event the update may trigger.

Format: `"key" : "value"`

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

PositionalAccuracy

Defines the level of certainty of the position.

Contents

Horizontal

Estimated maximum distance, in meters, between the measured position and the true position of a device, along the Earth's surface.

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

The input failed to meet the constraints specified by the AWS service in a specified field.

Contents

message

A message with the reason for the validation exception error.

Type: String

Required: Yes

name

The field name where the invalid entry was detected.

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

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