



API Reference

Amazon Braket



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Amazon Braket: API Reference

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Welcome

The Amazon Braket API Reference provides information about the operations and structures supported by Amazon Braket.

To learn about the permissions required to call an Amazon Braket API action, see [Actions, resources, and condition keys for Amazon Braket](#). [Amazon Braket Python SDK](#) and the [AWS Command Line Interface](#) can be used to make discovery and creation of API calls easier. For more information about Amazon Braket features, see [What is Amazon Braket?](#) and important [terms and concepts](#) in the *Amazon Braket Developer Guide*.

In this guide:

- [Actions](#)
- [Data Types](#)
- [Common Parameters](#)
- [Common Error Types](#)

Available languages for AWS SDK:

- [.NET](#)
- [C++](#)
- [Go API reference](#)
- [Java](#)
- [JavaScript](#)
- [PHP](#)
- [Python \(Boto\)](#)
- [Ruby](#)

Code examples from the Amazon Braket Tutorials GitHub repository:

- [Amazon Braket Examples](#)

This document was last published on April 10, 2026.

Actions

The following actions are supported:

- [CancelJob](#)
- [CancelQuantumTask](#)
- [CreateJob](#)
- [CreateQuantumTask](#)
- [CreateSpendingLimit](#)
- [DeleteSpendingLimit](#)
- [GetDevice](#)
- [GetJob](#)
- [GetQuantumTask](#)
- [ListTagsForResource](#)
- [SearchDevices](#)
- [SearchJobs](#)
- [SearchQuantumTasks](#)
- [SearchSpendingLimits](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateSpendingLimit](#)

CancelJob

Cancels an Amazon Braket hybrid job.

Request Syntax

```
PUT /job/jobArn/cancel HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

jobArn

The ARN of the Amazon Braket hybrid job to cancel.

Pattern: `arn:aws[a-z\-*]:braket:[a-z0-9\-*]+:[0-9]{12}:job/.*`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

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

{
  "cancellationStatus": "string",
  "jobArn": "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.

cancellationStatus

The status of the hybrid job.

Type: String

Valid Values: CANCELLING | CANCELLED

jobArn

The ARN of the Amazon Braket job.

Type: String

Pattern: `arn:aws[a-z\-*]:braket:[a-z0-9\-*]+:[0-9]{12}:job/.*`

Errors

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

AccessDeniedException

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

ConflictException

An error occurred due to a conflict.

HTTP Status Code: 409

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

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](#)

CancelQuantumTask

Cancels the specified task.

Request Syntax

```
PUT /quantum-task/quantumTaskArn/cancel HTTP/1.1
Content-type: application/json

{
  "clientToken": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

quantumTaskArn

The ARN of the quantum task to cancel.

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

Required: Yes

Request Body

The request accepts the following data in JSON format.

clientToken

The client token associated with the cancellation request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Required: Yes

Response Syntax

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

{
  "cancellationStatus": "string",
  "quantumTaskArn": "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.

[cancellationStatus](#)

The status of the quantum task.

Type: String

Valid Values: CANCELLING | CANCELLED

[quantumTaskArn](#)

The ARN of the quantum task.

Type: String

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

Errors

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

AccessDeniedException

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

ConflictException

An error occurred due to a conflict.

HTTP Status Code: 409

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

HTTP Status Code: 400

See Also

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

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- [AWS SDK for .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](#)

CreateJob

Creates an Amazon Braket hybrid job.

Request Syntax

```
POST /job HTTP/1.1
```

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

```
{
  "algorithmSpecification": {
    "containerImage": {
      "uri": "string"
    },
    "scriptModeConfig": {
      "compressionType": "string",
      "entryPoint": "string",
      "s3Uri": "string"
    }
  },
  "associations": [
    {
      "arn": "string",
      "type": "string"
    }
  ],
  "checkpointConfig": {
    "localPath": "string",
    "s3Uri": "string"
  },
  "clientToken": "string",
  "deviceConfig": {
    "device": "string"
  },
  "hyperParameters": {
    "string" : "string"
  },
  "inputDataConfig": [
    {
      "channelName": "string",
      "contentType": "string",
      "dataSource": {
        "s3DataSource": {
```

```
        "s3Uri": "string"
      }
    }
  ],
  "instanceConfig": {
    "instanceCount": number,
    "instanceType": "string",
    "volumeSizeInGb": number
  },
  "jobName": "string",
  "outputDataConfig": {
    "kmsKeyId": "string",
    "s3Path": "string"
  },
  "roleArn": "string",
  "stoppingCondition": {
    "maxRuntimeInSeconds": number
  },
  "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.

algorithmSpecification

Definition of the Amazon Braket job to be created. Specifies the container image the job uses and information about the Python scripts used for entry and training.

Type: [AlgorithmSpecification](#) object

Required: Yes

associations

The list of Amazon Braket resources associated with the hybrid job.

Type: Array of [Association](#) objects

Array Members: Minimum number of 0 items. Maximum number of 1 item.

Required: No

[checkpointConfig](#)

Information about the output locations for hybrid job checkpoint data.

Type: [JobCheckpointConfig](#) object

Required: No

[clientToken](#)

The client token associated with this request that guarantees that the request is idempotent.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Required: Yes

[deviceConfig](#)

The quantum processing unit (QPU) or simulator used to create an Amazon Braket hybrid job.

Type: [DeviceConfig](#) object

Required: Yes

[hyperParameters](#)

Algorithm-specific parameters used by an Amazon Braket hybrid job that influence the quality of the training job. The values are set with a map of JSON key:value pairs, where the key is the name of the hyperparameter and the value is the value of the hyperparameter.

Important

Do not include any security-sensitive information including account access IDs, secrets, or tokens in any hyperparameter fields. As part of the shared responsibility model, you are responsible for any potential exposure, unauthorized access, or compromise of your sensitive data if caused by security-sensitive information included in the request hyperparameter variable or plain text fields.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 100 items.

Key Length Constraints: Minimum length of 1. Maximum length of 256.

Value Length Constraints: Minimum length of 1. Maximum length of 2500.

Value Pattern: .*

Required: No

inputDataConfig

A list of parameters that specify the name and type of input data and where it is located.

Type: Array of [InputFileConfig](#) objects

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

Required: No

instanceConfig

Configuration of the resource instances to use while running the hybrid job on Amazon Braket.

Type: [InstanceConfig](#) object

Required: Yes

jobName

The name of the Amazon Braket hybrid job.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: `[a-zA-Z0-9](-*[a-zA-Z0-9]){0,50}`

Required: Yes

outputDataConfig

The path to the S3 location where you want to store hybrid job artifacts and the encryption key used to store them.

Type: [JobOutputDataConfig](#) object

Required: Yes

[roleArn](#)

The Amazon Resource Name (ARN) of an IAM role that Amazon Braket can assume to perform tasks on behalf of a user. It can access user resources, run an Amazon Braket job container on behalf of user, and output results and hybrid job details to the users' s3 buckets.

Type: String

Pattern: `arn:aws[a-z\-*:iam::\d{12}:role/?[a-zA-Z_0-9+=,.\@-_/\]]+`

Required: Yes

[stoppingCondition](#)

The user-defined criteria that specifies when a hybrid job stops running.

Type: [JobStoppingCondition](#) object

Required: No

[tags](#)

Tags to be added to the hybrid job you're creating.

Type: String to string map

Required: No

Response Syntax

```
HTTP/1.1 201
Content-type: application/json

{
  "jobArn": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 201 response.

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

jobArn

The ARN of the Amazon Braket hybrid job created.

Type: String

Pattern: arn:aws[a-z\-*]:braket:[a-z0-9\-*]+:[0-9]{12}:job/.*

Errors

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

AccessDeniedException

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

ConflictException

An error occurred due to a conflict.

HTTP Status Code: 409

DeviceOfflineException

The specified device is currently offline.

HTTP Status Code: 424

DeviceRetiredException

The specified device has been retired.

HTTP Status Code: 410

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ServiceQuotaExceededException

The request failed because a service quota is exceeded.

HTTP Status Code: 402

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

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](#)

CreateQuantumTask

Creates a quantum task.

Request Syntax

```
POST /quantum-task HTTP/1.1
Content-type: application/json
```

```
{
  "action": "string",
  "associations": [
    {
      "arn": "string",
      "type": "string"
    }
  ],
  "clientToken": "string",
  "deviceArn": "string",
  "deviceParameters": "string",
  "experimentalCapabilities": { ... },
  "jobToken": "string",
  "outputS3Bucket": "string",
  "outputS3KeyPrefix": "string",
  "shots": number,
  "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.

action

The action associated with the quantum task.

Type: String

Required: Yes

associations

The list of Amazon Braket resources associated with the quantum task.

Type: Array of [Association](#) objects

Array Members: Minimum number of 0 items. Maximum number of 1 item.

Required: No

clientToken

The client token associated with the request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Required: Yes

deviceArn

The ARN of the device to run the quantum task on.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

deviceParameters

The parameters for the device to run the quantum task on.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 48000.

Required: No

experimentalCapabilities

Enable experimental capabilities for the quantum task.

Type: [ExperimentalCapabilities](#) object

Note: This object is a Union. Only one member of this object can be specified or returned.

Required: No

jobToken

The token for an Amazon Braket hybrid job that associates it with the quantum task.

Type: String

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

Required: No

outputS3Bucket

The S3 bucket to store quantum task result files in.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 63.

Required: Yes

outputS3KeyPrefix

The key prefix for the location in the S3 bucket to store quantum task results in. For example, results/. Must not contain path traversal sequences such as ../ or ./.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: Yes

shots

The number of shots to use for the quantum task.

Type: Long

Valid Range: Minimum value of 0.

Required: Yes

tags

Tags to be added to the quantum task you're creating.

Type: String to string map

Required: No

Response Syntax

```
HTTP/1.1 201
Content-type: application/json

{
  "quantumTaskArn": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 201 response.

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

[quantumTaskArn](#)

The ARN of the quantum task created by the request.

Type: String

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

Errors

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

AccessDeniedException

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

DeviceOfflineException

The specified device is currently offline.

HTTP Status Code: 424

DeviceRetiredException

The specified device has been retired.

HTTP Status Code: 410

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ServiceQuotaExceededException

The request failed because a service quota is exceeded.

HTTP Status Code: 402

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

HTTP Status Code: 400

Examples

OpenQASM 3.0 action example

The following code is an example of the `action` parameter for creating an OpenQASM 3.0 quantum task.

```
{
```

```

"braketSchemaHeader": {
  "name": "braket.ir.openqasm.program",
  "version": "1"
},
"source": "OPENQASM 3; qubit[2] q; bit[2] c; h q[0]; cnot q[0], q[1]; c = measure q;"
}

```

ProgramSet action example

The following code shows the action parameter for creating a ProgramSet quantum task with two programs: one with three sets of input parameters (theta and phi), and one with no input parameters.

```

{
  "braketSchemaHeader": {
    "name": "braket.ir.openqasm.program_set",
    "version": "1"
  },
  "programs": [
    {
      "braketSchemaHeader": {
        "name": "braket.ir.openqasm.program",
        "version": "1"
      },
      "source": "OPENQASM 3.0;\n\ninput float phi;\n\ninput float theta;\n\nbit[2] b;\n\nqubit[2] q;\n\nrx(theta) q[0];\n\ncnot q[0], q[1];\n\nrz(phi) q[1];\n\nb[0] = measure q[0];\n\nb[1] = measure q[1];",
      "inputs": {
        "theta": [
          1.23,
          1.73,
          0.73
        ],
        "phi": [
          0.12,
          -0.38,
          0.62
        ]
      }
    },
    {
      "braketSchemaHeader": {
        "name": "braket.ir.openqasm.program",

```

```
        "version": "1"
    },
    "source": "OPENQASM 3.0;\nbit[2] b;\nqubit[2] q;\nh q[0];\ncnot q[0],\nq[1];\nb[0] = measure q[0];\nb[1] = measure q[1];",
    "inputs": {}
}
]
```

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](#)

CreateSpendingLimit

Creates a spending limit for a specified quantum device. Spending limits help you control costs by setting maximum amounts that can be spent on quantum computing tasks within a specified time period. Simulators do not support spending limits.

Request Syntax

```
POST /spending-limit HTTP/1.1
Content-type: application/json
```

```
{
  "clientToken": "string",
  "deviceArn": "string",
  "spendingLimit": "string",
  "tags": {
    "string" : "string"
  },
  "timePeriod": {
    "endAt": number,
    "startAt": number
  }
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

clientToken

A unique, case-sensitive identifier to ensure that the operation completes no more than one time. If this token matches a previous request, Amazon Braket ignores the request, but does not return an error.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Required: Yes

deviceArn

The Amazon Resource Name (ARN) of the quantum device to apply the spending limit to.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

spendingLimit

The maximum amount that can be spent on the specified device, in USD.

Type: String

Length Constraints: Minimum length of 1.

Pattern: `\d+(\.\d{1,2})?`

Required: Yes

tags

The tags to apply to the spending limit. Each tag consists of a key and an optional value.

Type: String to string map

Required: No

timePeriod

The time period during which the spending limit is active, including start and end dates.

Type: [TimePeriod](#) object

Required: No

Response Syntax

```
HTTP/1.1 201
Content-type: application/json

{
```

```
"spendingLimitArn": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 201 response.

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

[spendingLimitArn](#)

The Amazon Resource Name (ARN) of the created spending limit.

Type: String

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

Pattern: `arn:aws[a-z\-*]:braket:[a-z0-9\-*]+:[0-9]{12}:spending-limit/.*`

Errors

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

AccessDeniedException

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

DeviceRetiredException

The specified device has been retired.

HTTP Status Code: 410

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

HTTP Status Code: 400

See Also

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

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

DeleteSpendingLimit

Deletes an existing spending limit. This operation permanently removes the spending limit and cannot be undone. After deletion, the associated device becomes unrestricted for spending.

Request Syntax

```
DELETE /spending-limit/spendingLimitArn/delete HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

spendingLimitArn

The Amazon Resource Name (ARN) of the spending limit to delete.

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

Pattern: `arn:aws[a-z\-*:braket:[a-z0-9\-*]+:[0-9]{12}:spending-limit/.*`

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

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

InternalServerErrorException

The request failed because of an unknown error.

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

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](#)

GetDevice

Retrieves the devices available in Amazon Braket.

Note

For backwards compatibility with older versions of BraketSchemas, OpenQASM information is omitted from GetDevice API calls. To get this information the user-agent needs to present a recent version of the BraketSchemas (1.8.0 or later). The Braket SDK automatically reports this for you. If you do not see OpenQASM results in the GetDevice response when using a Braket SDK, you may need to set `AWS_EXECUTION_ENV` environment variable to configure user-agent. See the code examples provided below for how to do this for the AWS CLI, Boto3, and the Go, Java, and JavaScript/TypeScript SDKs.

Request Syntax

```
GET /device/deviceArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

deviceArn

The ARN of the device to retrieve.

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
```

```
Content-type: application/json

{
  "deviceArn": "string",
  "deviceCapabilities": "string",
  "deviceName": "string",
  "deviceQueueInfo": [
    {
      "queue": "string",
      "queuePriority": "string",
      "queueSize": "string"
    }
  ],
  "deviceStatus": "string",
  "deviceType": "string",
  "providerName": "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.

deviceArn

The ARN of the device.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

deviceCapabilities

Details about the capabilities of the device.

Type: String

deviceName

The name of the device.

Type: String

deviceQueueInfo

The number of quantum tasks and hybrid jobs currently queued on the device.

Type: Array of [DeviceQueueInfo](#) objects

deviceStatus

The status of the device.

Type: String

Valid Values: ONLINE | OFFLINE | RETIRED

deviceType

The type of the device.

Type: String

Valid Values: QPU | SIMULATOR

providerName

The name of the partner company for the device.

Type: String

Errors

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

AccessDeniedException

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

HTTP Status Code: 400

Examples

AWS CLI SDK example

To set `AWS_EXECUTION_ENV` environment variable to configure user-agent when using the AWS CLI SDK:

```
% export AWS_EXECUTION_ENV="aws-cli BraketSchemas/1.8.0"  
# Or for single execution  
% AWS_EXECUTION_ENV="aws-cli BraketSchemas/1.8.0" aws braket <cmd> [options]
```

Boto3 example

To set `AWS_EXECUTION_ENV` environment variable to configure user-agent when using the Boto3:

```
import boto3  
import botocore
```

```
client = boto3.client("braket",
    config=botocore.client.Config(user_agent_extra="BraketSchemas/1.8.0"))
```

JavaScript/TypeScript (SDK v2) example

To set `AWS_EXECUTION_ENV` environment variable to configure user-agent when using the JavaScript/TypeScript (SDK v2):

```
import Braket from 'aws-sdk/clients/braket';
const client = new Braket({ region: 'us-west-2', credentials: AWS_CREDENTIALS,
    customUserAgent: 'BraketSchemas/1.8.0' });
```

JavaScript/TypeScript (SDK v3) example

To set `AWS_EXECUTION_ENV` environment variable to configure user-agent when using the JavaScript/TypeScript (SDK v3):

```
import { Braket } from '@aws-sdk/client-braket';
const client = new Braket({ region: 'us-west-2', credentials: AWS_CREDENTIALS,
    customUserAgent: 'BraketSchemas/1.8.0' });
```

Go SDK example

To set `AWS_EXECUTION_ENV` environment variable to configure user-agent when using the Go SDK:

```
os.Setenv("AWS_EXECUTION_ENV", "BraketGo BraketSchemas/1.8.0")
mySession := session.Must(session.NewSession())
svc := braket.New(mySession)
```

Java SDK example

To set `AWS_EXECUTION_ENV` environment variable to configure user-agent when using the Java SDK:

```
ClientConfiguration config = new ClientConfiguration();
config.setUserAgentSuffix("BraketSchemas/1.8.0");
BraketClient braketClient =
    BraketClientBuilder.standard().withClientConfiguration(config).build();
```

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](#)

GetJob

Retrieves the specified Amazon Braket hybrid job.

Request Syntax

```
GET /job/jobArn?additionalAttributeNames=additionalAttributeNames HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

additionalAttributeNames

A list of attributes to return additional information for. Only the QueueInfo additional attribute name is currently supported.

Valid Values: QueueInfo

jobArn

The ARN of the hybrid job to retrieve.

Pattern: `arn:aws[a-z\-*]:braket:[a-z0-9\-*]+:[0-9]{12}:job/.*`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

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

{
  "algorithmSpecification": {
    "containerImage": {
      "uri": "string"
    },
    "scriptModeConfig": {
```

```
    "compressionType": "string",
    "entryPoint": "string",
    "s3Uri": "string"
  }
},
"associations": [
  {
    "arn": "string",
    "type": "string"
  }
],
"billableDuration": number,
"checkpointConfig": {
  "localPath": "string",
  "s3Uri": "string"
},
"createdAt": "string",
"deviceConfig": {
  "device": "string"
},
"endedAt": "string",
"events": [
  {
    "eventType": "string",
    "message": "string",
    "timeOfEvent": "string"
  }
],
"failureReason": "string",
"hyperParameters": {
  "string" : "string"
},
"inputDataConfig": [
  {
    "channelName": "string",
    "contentType": "string",
    "dataSource": {
      "s3DataSource": {
        "s3Uri": "string"
      }
    }
  }
],
"instanceConfig": {
```

```
    "instanceCount": number,
    "instanceType": "string",
    "volumeSizeInGb": number
  },
  "jobArn": "string",
  "jobName": "string",
  "outputDataConfig": {
    "kmsKeyId": "string",
    "s3Path": "string"
  },
  "queueInfo": {
    "message": "string",
    "position": "string",
    "queue": "string"
  },
  "roleArn": "string",
  "startedAt": "string",
  "status": "string",
  "stoppingCondition": {
    "maxRuntimeInSeconds": number
  },
  "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.

algorithmSpecification

Definition of the Amazon Braket hybrid job created. Provides information about the container image used, and the Python scripts used for training.

Type: [AlgorithmSpecification](#) object

associations

The list of Amazon Braket resources associated with the hybrid job.

Type: Array of [Association](#) objects

billableDuration

The billable time for which the Amazon Braket hybrid job used to complete.

Type: Integer

checkpointConfig

Information about the output locations for hybrid job checkpoint data.

Type: [JobCheckpointConfig](#) object

createdAt

The time at which the Amazon Braket hybrid job was created.

Type: Timestamp

deviceConfig

The primary device used by the Amazon Braket hybrid job.

Type: [DeviceConfig](#) object

endedAt

The time at which the Amazon Braket hybrid job ended.

Type: Timestamp

events

Details about the time and type of events occurred related to the Amazon Braket hybrid job.

Type: Array of [JobEventDetails](#) objects

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

failureReason

A description of the reason why an Amazon Braket hybrid job failed, if it failed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

[hyperParameters](#)

Algorithm-specific parameters used by an Amazon Braket hybrid job that influence the quality of the training job. The values are set with a map of JSON key:value pairs, where the key is the name of the hyperparameter and the value is the value of the hyperparameter.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 100 items.

Key Length Constraints: Minimum length of 1. Maximum length of 256.

Value Length Constraints: Minimum length of 1. Maximum length of 2500.

Value Pattern: .*

[inputDataConfig](#)

A list of parameters that specify the name and type of input data and where it is located.

Type: Array of [InputFileConfig](#) objects

[instanceConfig](#)

The resource instances to use while running the hybrid job on Amazon Braket.

Type: [InstanceConfig](#) object

[jobArn](#)

The ARN of the Amazon Braket hybrid job.

Type: String

Pattern: arn:aws[a-z\-*]:braket:[a-z0-9\-*]+:[0-9]{12}:job/.*

[jobName](#)

The name of the Amazon Braket hybrid job.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 50.

Pattern: [a-zA-Z0-9](-*[a-zA-Z0-9]){0,50}

[outputDataConfig](#)

The path to the S3 location where hybrid job artifacts are stored and the encryption key used to store them there.

Type: [JobOutputDataConfig](#) object

[queueInfo](#)

Queue information for the requested hybrid job. Only returned if QueueInfo is specified in the additionalAttributeNames" field in the GetJob API request.

Type: [HybridJobQueueInfo](#) object

[roleArn](#)

The Amazon Resource Name (ARN) of an IAM role that Amazon Braket can assume to perform tasks on behalf of a user. It can access user resources, run an Amazon Braket job container on behalf of user, and output results and other hybrid job details to the s3 buckets of a user.

Type: String

Pattern: arn:aws[a-z\-*:iam::\d{12}:role/?[a-zA-Z_0-9+=,.\@\-_/\]]+

[startedAt](#)

The time at which the Amazon Braket hybrid job was started.

Type: Timestamp

[status](#)

The status of the Amazon Braket hybrid job.

Type: String

Valid Values: QUEUED | RUNNING | COMPLETED | FAILED | CANCELLING | CANCELLED

[stoppingCondition](#)

The user-defined criteria that specifies when to stop a running hybrid job.

Type: [JobStoppingCondition](#) object

[tags](#)

The tags associated with this hybrid job.

Type: String to string map

Errors

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

AccessDeniedException

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

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](#)

GetQuantumTask

Retrieves the specified quantum task.

Request Syntax

```
GET /quantum-task/quantumTaskArn?additionalAttributeNames=additionalAttributeNames
HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

additionalAttributeNames

A list of attributes to return additional information for. Only the QueueInfo additional attribute name is currently supported.

Valid Values: QueueInfo

quantumTaskArn

The ARN of the quantum task to retrieve.

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

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

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

{
  "actionMetadata": {
    "actionType": "string",
```

```
    "executableCount": number,
    "programCount": number
  },
  "associations": [
    {
      "arn": "string",
      "type": "string"
    }
  ],
  "createdAt": "string",
  "deviceArn": "string",
  "deviceParameters": "string",
  "endedAt": "string",
  "experimentalCapabilities": { ... },
  "failureReason": "string",
  "jobArn": "string",
  "numSuccessfulShots": number,
  "outputS3Bucket": "string",
  "outputS3Directory": "string",
  "quantumTaskArn": "string",
  "queueInfo": {
    "message": "string",
    "position": "string",
    "queue": "string",
    "queuePriority": "string"
  },
  "shots": number,
  "status": "string",
  "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.

actionMetadata

Metadata about the action performed by the quantum task, including information about the type of action and program counts.

Type: [ActionMetadata](#) object

[associations](#)

The list of Amazon Braket resources associated with the quantum task.

Type: Array of [Association](#) objects

[createdAt](#)

The time at which the quantum task was created.

Type: Timestamp

[deviceArn](#)

The ARN of the device the quantum task was run on.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

[deviceParameters](#)

The parameters for the device on which the quantum task ran.

Type: String

[endedAt](#)

The time at which the quantum task ended.

Type: Timestamp

[experimentalCapabilities](#)

Enabled experimental capabilities for the quantum task, if any.

Type: [ExperimentalCapabilities](#) object

Note: This object is a Union. Only one member of this object can be specified or returned.

[failureReason](#)

The reason that a quantum task failed.

Type: String

jobArn

The ARN of the Amazon Braket job associated with the quantum task.

Type: String

Pattern: `arn:aws[a-z\-*]:braket:[a-z0-9\-*]+:[0-9]{12}:job/.*`

numSuccessfulShots

The number of successful shots for the quantum task. This is available after a successfully completed quantum task.

Type: Long

outputS3Bucket

The S3 bucket where quantum task results are stored.

Type: String

outputS3Directory

The folder in the S3 bucket where quantum task results are stored.

Type: String

quantumTaskArn

The ARN of the quantum task.

Type: String

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

queueInfo

Queue information for the requested quantum task. Only returned if `QueueInfo` is specified in the `additionalAttributeNames` field in the `GetQuantumTask` API request.

Type: [QuantumTaskQueueInfo](#) object

shots

The number of shots used in the quantum task.

Type: Long

status

The status of the quantum task.

Type: String

Valid Values: CREATED | QUEUED | RUNNING | COMPLETED | FAILED | CANCELLING | CANCELLED

tags

The tags that belong to this quantum task.

Type: String to string map

Errors

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

AccessDeniedException

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

HTTP Status Code: 400

See Also

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

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

ListTagsForResource

Shows the tags associated with this resource.

Request Syntax

```
GET /tags/resourceArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

resourceArn

Specify the `resourceArn` for the resource whose tags to display.

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](#)

Displays the key, value pairs of tags associated with this resource.

Type: String to string map

Errors

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

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

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](#)

SearchDevices

Searches for devices using the specified filters.

Request Syntax

```
POST /devices HTTP/1.1
Content-type: application/json

{
  "filters": [
    {
      "name": "string",
      "values": [ "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.

filters

Array of SearchDevicesFilter objects to use when searching for devices.

Type: Array of [SearchDevicesFilter](#) objects

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

Required: Yes

maxResults

The maximum number of results to return in the response.

Type: Integer

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

Required: No

nextToken

A token used for pagination of results returned in the response. Use the token returned from the previous request to continue search where the previous request ended.

Type: String

Required: No

Response Syntax

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

{
  "devices": [
    {
      "deviceArn": "string",
      "deviceName": "string",
      "deviceStatus": "string",
      "deviceType": "string",
      "providerName": "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.

devices

An array of DeviceSummary objects for devices that match the specified filter values.

Type: Array of [DeviceSummary](#) objects

[nextToken](#)

A token used for pagination of results, or null if there are no additional results. Use the token value in a subsequent request to continue search where the previous request ended.

Type: String

Errors

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

AccessDeniedException

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

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](#)

SearchJobs

Searches for Amazon Braket hybrid jobs that match the specified filter values.

Request Syntax

```
POST /jobs HTTP/1.1
Content-type: application/json

{
  "filters": [
    {
      "name": "string",
      "operator": "string",
      "values": [ "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.

filters

Array of SearchJobsFilter objects to use when searching for hybrid jobs.

Type: Array of [SearchJobsFilter](#) objects

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

Required: Yes

maxResults

The maximum number of results to return in the response.

Type: Integer

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

Required: No

nextToken

A token used for pagination of results returned in the response. Use the token returned from the previous request to continue search where the previous request ended.

Type: String

Required: No

Response Syntax

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

{
  "jobs": [
    {
      "createdAt": "string",
      "device": "string",
      "endedAt": "string",
      "jobArn": "string",
      "jobName": "string",
      "startedAt": "string",
      "status": "string",
      "tags": {
        "string" : "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.

jobs

An array of `JobSummary` objects for devices that match the specified filter values.

Type: Array of [JobSummary](#) objects

nextToken

A token used for pagination of results, or `null` if there are no additional results. Use the token value in a subsequent request to continue search where the previous request ended.

Type: String

Errors

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

AccessDeniedException

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

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](#)

SearchQuantumTasks

Searches for tasks that match the specified filter values.

Request Syntax

```
POST /quantum-tasks HTTP/1.1
Content-type: application/json

{
  "filters": [
    {
      "name": "string",
      "operator": "string",
      "values": [ "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.

filters

Array of `SearchQuantumTasksFilter` objects to use when searching for quantum tasks.

Type: Array of [SearchQuantumTasksFilter](#) objects

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

Required: Yes

maxResults

Maximum number of results to return in the response.

Type: Integer

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

Required: No

[nextToken](#)

A token used for pagination of results returned in the response. Use the token returned from the previous request to continue search where the previous request ended.

Type: String

Required: No

Response Syntax

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

{
  "nextToken": "string",
  "quantumTasks": [
    {
      "createdAt": "string",
      "deviceArn": "string",
      "endedAt": "string",
      "outputS3Bucket": "string",
      "outputS3Directory": "string",
      "quantumTaskArn": "string",
      "shots": number,
      "status": "string",
      "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.

nextToken

A token used for pagination of results, or null if there are no additional results. Use the token value in a subsequent request to continue search where the previous request ended.

Type: String

quantumTasks

An array of QuantumTaskSummary objects for quantum tasks that match the specified filters.

Type: Array of [QuantumTaskSummary](#) objects

Errors

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

AccessDeniedException

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

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](#)

SearchSpendingLimits

Searches and lists spending limits based on specified filters. This operation supports pagination and allows filtering by various criteria to find specific spending limits. We recommend using pagination to ensure that the operation returns quickly and successfully.

Request Syntax

```
POST /spending-limits HTTP/1.1
Content-type: application/json

{
  "filters": [
    {
      "name": "string",
      "operator": "string",
      "values": [ "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.

filters

The filters to apply when searching for spending limits. Use filters to narrow down the results based on specific criteria.

Type: Array of [SearchSpendingLimitsFilter](#) objects

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

Required: No

maxResults

The maximum number of results to return in a single call. Minimum value of 1, maximum value of 100. Default is 20.

Type: Integer

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

Required: No

nextToken

The token to retrieve the next page of results. This value is returned from a previous call to `SearchSpendingLimits` when there are more results available.

Type: String

Required: No

Response Syntax

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

{
  "nextToken": "string",
  "spendingLimits": [
    {
      "createdAt": "string",
      "deviceArn": "string",
      "queuedSpend": "string",
      "spendingLimit": "string",
      "spendingLimitArn": "string",
      "tags": {
        "string" : "string"
      },
      "timePeriod": {
        "endAt": number,
        "startAt": number
      },
      "totalSpend": "string",
      "updatedAt": "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.

nextToken

The token to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

spendingLimits

An array of spending limit summaries that match the specified filters.

Type: Array of [SpendingLimitSummary](#) objects

Errors

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

AccessDeniedException

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

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

Add a tag to the specified 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

Specify the `resourceArn` of the resource to which a tag will be added.

Required: Yes

Request Body

The request accepts the following data in JSON format.

tags

Specify the tags to add to the resource. Tags can be specified as a key-value map.

Type: String to string map

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](#).

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

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

Remove tags from a resource.

Request Syntax

```
DELETE /tags/resourceArn?tagKeys=tagKeys HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

resourceArn

Specify the `resourceArn` for the resource from which to remove the tags.

Required: Yes

tagKeys

Specify the keys for the tags to remove from the resource.

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](#).

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

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](#)

UpdateSpendingLimit

Updates an existing spending limit. You can modify the spending amount or time period. Changes take effect immediately.

Request Syntax

```
PATCH /spending-limit/spendingLimitArn/update HTTP/1.1
```

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

```
{
  "clientToken": "string",
  "spendingLimit": "string",
  "timePeriod": {
    "endAt": number,
    "startAt": number
  }
}
```

URI Request Parameters

The request uses the following URI parameters.

spendingLimitArn

The Amazon Resource Name (ARN) of the spending limit to update.

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

Pattern: `arn:aws[a-z\-*]:braket:[a-z0-9\-*]+:[0-9]{12}:spending-limit/.*`

Required: Yes

Request Body

The request accepts the following data in JSON format.

clientToken

A unique, case-sensitive identifier to ensure that the operation completes no more than one time. If this token matches a previous request, Amazon Braket ignores the request, but does not return an error.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Required: Yes

spendingLimit

The new maximum amount that can be spent on the specified device, in USD.

Type: String

Length Constraints: Minimum length of 1.

Pattern: `\d+(\.\d{1,2})?`

Required: No

timePeriod

The new time period during which the spending limit is active, including start and end dates.

Type: [TimePeriod](#) object

Required: No

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

You do not have sufficient permissions to perform this action.

HTTP Status Code: 403

InternalServiceException

The request failed because of an unknown error.

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ThrottlingException

The API throttling rate limit is exceeded.

HTTP Status Code: 429

ValidationException

The input request failed to satisfy constraints expected by Amazon Braket.

programSetValidationFailures

The validation failures in the program set submitted in the request.

reason

The reason for validation failure.

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 Braket 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:

- [ActionMetadata](#)
- [AlgorithmSpecification](#)
- [Association](#)
- [ContainerImage](#)
- [DataSource](#)
- [DeviceConfig](#)
- [DeviceQueueInfo](#)
- [DeviceSummary](#)
- [ExperimentalCapabilities](#)
- [HybridJobQueueInfo](#)
- [InputFileConfig](#)
- [InstanceConfig](#)
- [JobCheckpointConfig](#)
- [JobEventDetails](#)
- [JobOutputDataConfig](#)
- [JobStoppingCondition](#)
- [JobSummary](#)
- [ProgramSetValidationFailure](#)
- [QuantumTaskQueueInfo](#)
- [QuantumTaskSummary](#)

- [S3DataSource](#)
- [ScriptModeConfig](#)
- [SearchDevicesFilter](#)
- [SearchJobsFilter](#)
- [SearchQuantumTasksFilter](#)
- [SearchSpendingLimitsFilter](#)
- [SpendingLimitSummary](#)
- [TimePeriod](#)

ActionMetadata

Contains metadata about the quantum task action, including the action type and program statistics.

Contents

actionType

The type of action associated with the quantum task.

Type: String

Required: Yes

executableCount

The number of executables in a program set. This is only available for a program set.

Type: Long

Required: No

programCount

The number of programs in a program set. This is only available for a program set.

Type: Long

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

AlgorithmSpecification

Defines the Amazon Braket hybrid job to be created. Specifies the container image the job uses and the paths to the Python scripts used for entry and training.

Contents

containerImage

The container image used to create an Amazon Braket hybrid job.

Type: [ContainerImage](#) object

Required: No

scriptModeConfig

Configures the paths to the Python scripts used for entry and training.

Type: [ScriptModeConfig](#) 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](#)

Association

The Amazon Braket resource and the association type.

Contents

arn

The Amazon Braket resource arn.

Type: String

Pattern: `arn:aws[a-z\-*]:braket:[a-z0-9\-*]:[0-9]{12}:.*`

Required: Yes

type

The association type for the specified Amazon Braket resource arn.

Type: String

Valid Values: `RESERVATION_TIME_WINDOW_ARN`

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](#)

ContainerImage

The container image used to create an Amazon Braket hybrid job.

Contents

uri

The URI locating the container image.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `\d{10,14}\.dkr\.ecr\.[a-z0-9-]+\\.amazonaws\.com\/.+(@sha256)??:.+`

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](#)

DataSource

Information about the source of the input data used by the Amazon Braket hybrid job.

Contents

s3DataSource

Amazon S3 path of the input data used by the hybrid job.

Type: [S3DataSource](#) 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](#)

DeviceConfig

Configures the primary device used to create and run an Amazon Braket hybrid job.

Contents

device

The primary device ARN used to create and run an Amazon Braket hybrid job.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

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](#)

DeviceQueueInfo

Information about quantum tasks and hybrid jobs queued on a device.

Contents

queue

The name of the queue.

Type: String

Valid Values: QUANTUM_TASKS_QUEUE | JOBS_QUEUE

Required: Yes

queueSize

The number of hybrid jobs or quantum tasks in the queue for a given device.

Type: String

Required: Yes

queuePriority

Optional. Specifies the priority of the queue. Quantum tasks in a priority queue are processed before the quantum tasks in a normal queue.

Type: String

Valid Values: Normal | Priority

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)

DeviceSummary

Includes information about the device.

Contents

deviceArn

The ARN of the device.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

deviceName

The name of the device.

Type: String

Required: Yes

deviceStatus

The status of the device.

Type: String

Valid Values: ONLINE | OFFLINE | RETIRED

Required: Yes

deviceType

The type of the device.

Type: String

Valid Values: QPU | SIMULATOR

Required: Yes

providerName

The provider of the device.

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](#)

ExperimentalCapabilities

Enabled experimental capabilities for quantum hardware. Note that the use of these features may impact device capabilities and performance beyond its standard specifications.

Contents

Important

This data type is a UNION, so only one of the following members can be specified when used or returned.

enabled

Enabled experimental capabilities.

Type: String

Valid Values: ALL | NONE

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

HybridJobQueueInfo

Information about the queue for a specified hybrid job.

Contents

position

Current position of the hybrid job in the jobs queue.

Type: String

Required: Yes

queue

The name of the queue.

Type: String

Valid Values: QUANTUM_TASKS_QUEUE | JOBS_QUEUE

Required: Yes

message

Optional. Provides more information about the queue position. For example, if the hybrid job is complete and no longer in the queue, the message field contains that information.

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](#)

InputFileConfig

A list of parameters that specify the input channels, type of input data, and where it is located.

Contents

channelName

A named input source that an Amazon Braket hybrid job can consume.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[A-Za-z0-9\.\- _]+`

Required: Yes

dataSource

The location of the input data.

Type: [DataSource](#) object

Required: Yes

contentType

The MIME type of the data.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for Ruby V3](#)

InstanceConfig

Configures the resource instances to use while running the Amazon Braket hybrid job on Amazon Braket.

Contents

instanceType

Configures the type of resource instances to use while running an Amazon Braket hybrid job.

Type: String

Valid Values: ml.t3.large | ml.t3.xlarge | ml.t3.2xlarge | ml.m4.xlarge | ml.m4.2xlarge | ml.m4.4xlarge | ml.m4.10xlarge | ml.m4.16xlarge | ml.m5.large | ml.m5.xlarge | ml.m5.2xlarge | ml.m5.4xlarge | ml.m5.12xlarge | ml.m5.24xlarge | ml.c4.xlarge | ml.c4.2xlarge | ml.c4.4xlarge | ml.c4.8xlarge | ml.c5.xlarge | ml.c5.2xlarge | ml.c5.4xlarge | ml.c5.9xlarge | ml.c5.18xlarge | ml.c5n.xlarge | ml.c5n.2xlarge | ml.c5n.4xlarge | ml.c5n.9xlarge | ml.c5n.18xlarge | ml.p4d.24xlarge | ml.g4dn.xlarge | ml.g4dn.2xlarge | ml.g4dn.4xlarge | ml.g4dn.8xlarge | ml.g4dn.12xlarge | ml.g4dn.16xlarge | ml.g6.xlarge | ml.g6.2xlarge | ml.g6.4xlarge | ml.g6.8xlarge | ml.g6.12xlarge | ml.g6.16xlarge | ml.g6.24xlarge | ml.g6.48xlarge | ml.g6e.xlarge | ml.g6e.2xlarge | ml.g6e.4xlarge | ml.g6e.8xlarge | ml.g6e.12xlarge | ml.g6e.16xlarge | ml.g6e.24xlarge | ml.g6e.48xlarge

Required: Yes

volumeSizeInGb

The size of the storage volume, in GB, to provision.

Type: Integer

Valid Range: Minimum value of 1.

Required: Yes

instanceCount

Configures the number of resource instances to use while running an Amazon Braket hybrid job on Amazon Braket. The default value is 1.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

JobCheckpointConfig

Contains information about the output locations for hybrid job checkpoint data.

Contents

s3Uri

Identifies the S3 path where you want Amazon Braket to store checkpoint data. For example, `s3://bucket-name/key-name-prefix`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `(https|s3)://([^\s/]+)/?(.*)`

Required: Yes

localPath

(Optional) The local directory where checkpoint data is stored. The default directory is `/opt/braket/checkpoints/`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 4096.

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

JobEventDetails

Details about the type and time events that occurred related to the Amazon Braket hybrid job.

Contents

eventType

The type of event that occurred related to the Amazon Braket hybrid job.

Type: String

Valid Values: WAITING_FOR_PRIORITY | QUEUED_FOR_EXECUTION
| STARTING_INSTANCE | DOWNLOADING_DATA | RUNNING |
DEPRIORITIZED_DUE_TO_INACTIVITY | UPLOADING_RESULTS | COMPLETED | FAILED
| MAX_RUNTIME_EXCEEDED | CANCELLED

Required: No

message

A message describing the event that occurred related to the Amazon Braket hybrid job.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 2500.

Required: No

timeOfEvent

The time of the event that occurred related to the Amazon Braket hybrid job.

Type: Timestamp

Required: No

See Also

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

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

JobOutputDataConfig

Specifies the path to the S3 location where you want to store hybrid job artifacts and the encryption key used to store them.

Contents

s3Path

Identifies the S3 path where you want Amazon Braket to store the hybrid job training artifacts. For example, `s3://bucket-name/key-name-prefix`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `(https|s3)://([^\s/]+)?/?(.*)`

Required: Yes

kmsKeyId

The AWS Key Management Service (AWS KMS) key that Amazon Braket uses to encrypt the hybrid job training artifacts at rest using Amazon S3 server-side encryption.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

JobStoppingCondition

Specifies limits for how long an Amazon Braket hybrid job can run.

Contents

maxRuntimeInSeconds

The maximum length of time, in seconds, that an Amazon Braket hybrid job can run.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 432000.

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

JobSummary

Provides summary information about an Amazon Braket hybrid job.

Contents

createdAt

The time at which the Amazon Braket hybrid job was created.

Type: Timestamp

Required: Yes

device

The primary device used by an Amazon Braket hybrid job.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

jobArn

The ARN of the Amazon Braket hybrid job.

Type: String

Pattern: `arn:aws[a-z\-*]:braket:[a-z0-9\-*]+:[0-9]{12}:job/.*`

Required: Yes

jobName

The name of the Amazon Braket hybrid job.

Type: String

Required: Yes

status

The status of the Amazon Braket hybrid job.

Type: String

Valid Values: QUEUED | RUNNING | COMPLETED | FAILED | CANCELLING | CANCELLED

Required: Yes

endedAt

The time at which the Amazon Braket hybrid job ended.

Type: Timestamp

Required: No

startedAt

The time at which the Amazon Braket hybrid job was started.

Type: Timestamp

Required: No

tags

Displays the key, value pairs of tags associated with this hybrid job.

Type: String to string map

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ProgramSetValidationFailure

Contains information about validation failures that occurred during the processing of a program set in a quantum task.

Contents

programIndex

The index of the program within the program set that failed validation.

Type: Long

Required: Yes

errors

A list of error messages describing the validation failures that occurred.

Type: Array of strings

Required: No

inputsIndex

The index of the input within the program set that failed validation.

Type: Long

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

QuantumTaskQueueInfo

The queue information for the specified quantum task.

Contents

position

Current position of the quantum task in the quantum tasks queue.

Type: String

Required: Yes

queue

The name of the queue.

Type: String

Valid Values: QUANTUM_TASKS_QUEUE | JOBS_QUEUE

Required: Yes

message

Optional. Provides more information about the queue position. For example, if the quantum task is complete and no longer in the queue, the message field contains that information.

Type: String

Required: No

queuePriority

Optional. Specifies the priority of the queue. Quantum tasks in a priority queue are processed before the quantum tasks in a normal queue.

Type: String

Valid Values: Normal | Priority

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

QuantumTaskSummary

Includes information about a quantum task.

Contents

createdAt

The time at which the quantum task was created.

Type: Timestamp

Required: Yes

deviceArn

The ARN of the device the quantum task ran on.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

outputS3Bucket

The S3 bucket where the quantum task result file is stored.

Type: String

Required: Yes

outputS3Directory

The folder in the S3 bucket where the quantum task result file is stored.

Type: String

Required: Yes

quantumTaskArn

The ARN of the quantum task.

Type: String

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

Required: Yes

shots

The shots used for the quantum task.

Type: Long

Required: Yes

status

The status of the quantum task.

Type: String

Valid Values: CREATED | QUEUED | RUNNING | COMPLETED | FAILED | CANCELLING | CANCELLED

Required: Yes

endedAt

The time at which the quantum task finished.

Type: Timestamp

Required: No

tags

Displays the key, value pairs of tags associated with this quantum task.

Type: String to string map

Required: No

See Also

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

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

S3DataSource

Information about the Amazon S3 storage used by the Amazon Braket hybrid job.

Contents

s3Uri

Depending on the value specified for the `S3DataType`, identifies either a key name prefix or a manifest that locates the S3 data source.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `(https|s3)://[^(/)]+/?(.*)`

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](#)

ScriptModeConfig

Contains information about algorithm scripts used for the Amazon Braket hybrid job.

Contents

entryPoint

The entry point in the algorithm scripts from where the execution begins in the hybrid job.

Type: String

Required: Yes

s3Uri

The URI that specifies the S3 path to the algorithm scripts used by an Amazon Braket hybrid job.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Pattern: `(https|s3)://([^\s/]+)?/?(.*)`

Required: Yes

compressionType

The type of compression used to store the algorithm scripts in Amazon S3 storage.

Type: String

Valid Values: NONE | GZIP

Required: No

See Also

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

- [AWS SDK for C++](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SearchDevicesFilter

The filter used to search for devices.

Contents

name

The name of the device parameter to filter based on. Only `deviceArn` filter name is currently supported.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Required: Yes

values

The values used to filter devices based on the filter name.

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 256.

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](#)

SearchJobsFilter

A filter used to search for Amazon Braket hybrid jobs. You can combine multiple filters in a single request, except that `jobArn` cannot be combined with any other filter.

Contents

name

The name of the hybrid job parameter to filter based on. Supported filter names:

`jobArn` — Filter by the job ARN. Supports the EQUAL operator only. Cannot be combined with other filters.

`jobName` — Filter by the job name. Supports the EQUAL operator for exact match, or the CONTAINS operator for substring match. For example, use CONTAINS with a value of `my-experiment` to find all jobs whose name includes "my-experiment".

`deviceArn` — Filter by the target device. Supports the EQUAL operator only. The value can be a device ARN (for example, `arn:aws:braket:us-east-1::device/qpu/ionq/Aria-1`) or a local simulator identifier (for example, `local:braket/default`).

`createdAt` — Filter by the job creation time. Supports the EQUAL, GT, GTE, LT, LTE, and BETWEEN operators. Values must be in RFC 3339 date-time format.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Required: Yes

operator

An operator to use for the filter. The supported operators depend on the filter name. See the name parameter for details.

Type: String

Valid Values: LT | LTE | EQUAL | GT | GTE | BETWEEN | CONTAINS

Required: Yes

values

The values used to filter hybrid jobs based on the filter name and operator. Each filter accepts an array of values. Most filters accept a single value, except `createdAt` with the `BETWEEN` operator, which requires exactly two values.

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 256.

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](#)

SearchQuantumTasksFilter

A filter used to search for quantum tasks.

Contents

name

The name of the quantum task parameter to filter based on. Filter name can be either `quantumTaskArn`, `deviceArn`, `jobArn`, `status` or `createdAt`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Required: Yes

operator

An operator to use for the filter.

Type: String

Valid Values: `LT` | `LTE` | `EQUAL` | `GT` | `GTE` | `BETWEEN`

Required: Yes

values

The values used to filter quantum tasks based on the filter name and operator.

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 256.

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](#)

SearchSpendingLimitsFilter

Specifies filter criteria for searching spending limits. Use filters to narrow down results based on specific attributes.

Contents

name

The name of the field to filter on. Currently supports `deviceArn` and `spendingLimitArn`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Required: Yes

operator

The comparison operator to use when filtering.

Type: String

Valid Values: EQUAL

Required: Yes

values

An array of values to match against the specified field.

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 256.

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](#)

SpendingLimitSummary

Contains summary information about a spending limit, including current spending status and configuration details.

Contents

createdAt

The date and time when the spending limit was created, in epoch seconds.

Type: Timestamp

Required: Yes

deviceArn

The Amazon Resource Name (ARN) of the quantum device associated with this spending limit.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

queuedSpend

The amount currently queued for spending on the device, in USD.

Type: String

Required: Yes

spendingLimit

The maximum spending amount allowed for the device during the specified time period, in USD.

Type: String

Required: Yes

spendingLimitArn

The Amazon Resource Name (ARN) that uniquely identifies the spending limit.

Type: String

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

Pattern: `arn:aws[a-z\-*]:braket:[a-z0-9\-*]+:[0-9]{12}:spending-limit/.*`

Required: Yes

timePeriod

The time period during which the spending limit is active.

Type: [TimePeriod](#) object

Required: Yes

totalSpend

The total amount spent on the device so far during the current time period, in USD.

Type: String

Required: Yes

updatedAt

The date and time when the spending limit was last modified, in epoch seconds.

Type: Timestamp

Required: Yes

tags

The tags associated with the spending limit. Each tag consists of a key and an optional value.

Type: String to string map

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

TimePeriod

Defines a time range for spending limits, specifying when the limit is active.

Contents

endAt

The end date and time for the spending limit period, in epoch seconds.

Type: Timestamp

Required: Yes

startAt

The start date and time for the spending limit period, in epoch seconds.

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](#)

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