
Amazon Braket

API Reference

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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 in Amazon Braket.

Additional Resources:

- [Amazon Braket Developer Guide](#)

This document was last published on November 28, 2022.

Actions

The following actions are supported:

- [CancelJob](#) (p. 3)
- [CancelQuantumTask](#) (p. 5)
- [CreateJob](#) (p. 8)
- [CreateQuantumTask](#) (p. 13)
- [GetDevice](#) (p. 17)
- [GetJob](#) (p. 21)
- [GetQuantumTask](#) (p. 26)
- [ListTagsForResource](#) (p. 29)
- [SearchDevices](#) (p. 31)
- [SearchJobs](#) (p. 34)
- [SearchQuantumTasks](#) (p. 37)
- [TagResource](#) (p. 40)
- [UntagResource](#) (p. 42)

CancelJob

Cancels an Amazon Braket job.

Request Syntax

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

URI Request Parameters

The request uses the following URI parameters.

[jobArn \(p. 3\)](#)

The ARN of the Amazon Braket 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 \(p. 3\)](#)

The status of the job cancellation request.

Type: String

Valid Values: CANCELLING | CANCELLED

[jobArn \(p. 3\)](#)

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 Errors \(p. 68\)](#).

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 403

ConflictException

An error occurred due to a conflict.

HTTP Status Code: 409

InternalServiceException

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

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ThrottlingException

The throttling rate limit is met.

HTTP Status Code: 429

ValidationException

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

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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript](#)
- [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 \(p. 5\)](#)

The ARN of the task to cancel.

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

Required: Yes

Request Body

The request accepts the following data in JSON format.

[clientToken \(p. 5\)](#)

The client token associated with the 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 \(p. 5\)](#)

The status of the cancellation request.

Type: String

Valid Values: CANCELLING | CANCELLED

[quantumTaskArn \(p. 5\)](#)

The ARN of the task.

Type: String

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

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 68\)](#).

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 403

ConflictException

An error occurred due to a conflict.

HTTP Status Code: 409

InternalServiceException

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

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ThrottlingException

The throttling rate limit is met.

HTTP Status Code: 429

ValidationException

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

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](#)

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

CreateJob

Creates an Amazon Braket job.

Request Syntax

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

{
  "algorithmSpecification": {
    "containerImage": {
      "uri": "string"
    },
    "scriptModeConfig": {
      "compressionType": "string",
      "entryPoint": "string",
      "s3Uri": "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 (p. 8)

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](#) (p. 45) object

Required: Yes

checkpointConfig (p. 8)

Information about the output locations for job checkpoint data.

Type: [JobCheckpointConfig](#) (p. 53) object

Required: No

clientToken (p. 8)

A unique token that guarantees that the call to this API is idempotent.

Type: String

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

Required: Yes

deviceConfig (p. 8)

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

Type: [DeviceConfig](#) (p. 48) object

Required: Yes

hyperParameters (p. 8)

Algorithm-specific parameters used by an Amazon Braket job that influence the quality of the training job. The values are set with a string 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.

Required: No

inputDataConfig (p. 8)

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

Type: Array of [InputFileConfig](#) (p. 51) objects

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

Required: No

instanceConfig (p. 8)

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

Type: [InstanceConfig \(p. 52\)](#) object

Required: Yes

jobName (p. 8)

The name of the Amazon Braket 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 (p. 8)

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

Type: [JobOutputDataConfig \(p. 55\)](#) object

Required: Yes

roleArn (p. 8)

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 resources to the users' s3 buckets.

Type: String

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

Required: Yes

stoppingCondition (p. 8)

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

Type: [JobStoppingCondition \(p. 56\)](#) object

Required: No

tags (p. 8)

A tag object that consists of a key and an optional value, used to manage metadata for Amazon Braket resources.

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 \(p. 10\)](#)

The ARN of the Amazon Braket 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 Errors \(p. 68\)](#).

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 403

ConflictException

An error occurred due to a conflict.

HTTP Status Code: 409

DeviceRetiredException

The specified device has been retired.

HTTP Status Code: 410

InternalServiceException

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

HTTP Status Code: 500

ServiceQuotaExceededException

The request failed because a service quota is exceeded.

HTTP Status Code: 402

ThrottlingException

The throttling rate limit is met.

HTTP Status Code: 429

ValidationException

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

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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript](#)
- [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",
  "clientToken": "string",
  "deviceArn": "string",
  "deviceParameters": "string",
  "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 (p. 13)

The action associated with the task.

Type: String

Required: Yes

clientToken (p. 13)

The client token associated with the request.

Type: String

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

Required: Yes

deviceArn (p. 13)

The ARN of the device to run the task on.

Type: String

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

Required: Yes

deviceParameters (p. 13)

The parameters for the device to run the task on.

Type: String

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

Required: No

jobToken (p. 13)

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

Type: String

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

Required: No

outputS3Bucket (p. 13)

The S3 bucket to store task result files in.

Type: String

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

Required: Yes

outputS3KeyPrefix (p. 13)

The key prefix for the location in the S3 bucket to store task results in.

Type: String

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

Required: Yes

shots (p. 13)

The number of shots to use for the task.

Type: Long

Valid Range: Minimum value of 0.

Required: Yes

tags (p. 13)

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 (p. 14)

The ARN of the task created by the request.

Type: String

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

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 68).

AccessDeniedException

You do not have sufficient access 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 processing has failed because of an unknown error, exception, or failure.

HTTP Status Code: 500

ServiceQuotaExceededException

The request failed because a service quota is exceeded.

HTTP Status Code: 402

ThrottlingException

The throttling rate limit is met.

HTTP Status Code: 429

ValidationException

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

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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript](#)
- [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 \(p. 17\)](#)

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",
  "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 (p. 17)

The ARN of the device.

Type: String

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

deviceCapabilities (p. 17)

Details about the capabilities of the device.

Type: String

deviceName (p. 17)

The name of the device.

Type: String

deviceStatus (p. 17)

The status of the device.

Type: String

Valid Values: ONLINE | OFFLINE | RETIRED

deviceType (p. 17)

The type of the device.

Type: String

Valid Values: QPU | SIMULATOR

providerName (p. 17)

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 Errors \(p. 68\)](#).

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 403

InternalServiceException

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

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ThrottlingException

The throttling rate limit is met.

HTTP Status Code: 429

ValidationException

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

HTTP Status Code: 400

Examples

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]
```

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"))
```

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' });
```

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' });
```

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)
```

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

GetJob

Retrieves the specified Amazon Braket job.

Request Syntax

```
GET /job/jobArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[jobArn \(p. 21\)](#)

The ARN of the 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"
    }
  },
  "billableDuration": number,
  "checkpointConfig": {
    "localPath": "string",
    "s3Uri": "string"
  },
  "createdAt": number,
  "deviceConfig": {
    "device": "string"
  },
  "endedAt": number,
  "events": [
    {
      "eventType": "string",
      "message": "string",
      "timeOfEvent": number
    }
  ]
}
```

```

    ],
    "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"
    },
    "roleArn": "string",
    "startedAt": number,
    "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 (p. 21)

Definition of the Amazon Braket job created. Specifies the container image the job uses, information about the Python scripts used for entry and training, and the user-defined metrics used to evaluation the job.

Type: [AlgorithmSpecification](#) (p. 45) object

billableDuration (p. 21)

The billable time the Amazon Braket job used to complete.

Type: Integer

checkpointConfig (p. 21)

Information about the output locations for job checkpoint data.

Type: [JobCheckpointConfig](#) (p. 53) object

createdAt (p. 21)

The date and time that the Amazon Braket job was created.

Type: Timestamp

deviceConfig (p. 21)

The quantum processing unit (QPU) or simulator used to run the Amazon Braket job.

Type: [DeviceConfig \(p. 48\)](#) object

endedAt (p. 21)

The date and time that the Amazon Braket job ended.

Type: Timestamp

events (p. 21)

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

Type: Array of [JobEventDetails \(p. 54\)](#) objects

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

failureReason (p. 21)

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

Type: String

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

hyperParameters (p. 21)

Algorithm-specific parameters used by an Amazon Braket job that influence the quality of the training job. The values are set with a string 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.

inputDataConfig (p. 21)

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

Type: Array of [InputFileConfig \(p. 51\)](#) objects

instanceConfig (p. 21)

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

Type: [InstanceConfig \(p. 52\)](#) object

jobArn (p. 21)

The ARN of the Amazon Braket job.

Type: String

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

[jobName \(p. 21\)](#)

The name of the Amazon Braket 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 \(p. 21\)](#)

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

Type: [JobOutputDataConfig \(p. 55\)](#) object

[roleArn \(p. 21\)](#)

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 resources to the s3 buckets of a user.

Type: String

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

[startedAt \(p. 21\)](#)

The date and time that the Amazon Braket job was started.

Type: Timestamp

[status \(p. 21\)](#)

The status of the Amazon Braket job.

Type: String

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

[stoppingCondition \(p. 21\)](#)

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

Type: [JobStoppingCondition \(p. 56\)](#) object

[tags \(p. 21\)](#)

A tag object that consists of a key and an optional value, used to manage metadata for Amazon Braket resources.

Type: String to string map

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 68\)](#).

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerErrorException

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

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ThrottlingException

The throttling rate limit is met.

HTTP Status Code: 429

ValidationException

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

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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript](#)
- [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 HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

quantumTaskArn (p. 26)

the ARN of the task 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

{
  "createdAt": number,
  "deviceArn": "string",
  "deviceParameters": "string",
  "endedAt": number,
  "failureReason": "string",
  "jobArn": "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.

createdAt (p. 26)

The time at which the task was created.

Type: Timestamp

deviceArn (p. 26)

The ARN of the device the task was run on.

Type: String

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

deviceParameters (p. 26)

The parameters for the device on which the task ran.

Type: String

endedAt (p. 26)

The time at which the task ended.

Type: Timestamp

failureReason (p. 26)

The reason that a task failed.

Type: String

jobArn (p. 26)

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/.*$`

outputS3Bucket (p. 26)

The S3 bucket where task results are stored.

Type: String

outputS3Directory (p. 26)

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

Type: String

quantumTaskArn (p. 26)

The ARN of the task.

Type: String

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

shots (p. 26)

The number of shots used in the task.

Type: Long

status (p. 26)

The status of the task.

Type: String

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

[tags \(p. 26\)](#)

The tags that belong to this task.

Type: String to string map

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 68\)](#).

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 403

InternalServiceException

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

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ThrottlingException

The throttling rate limit is met.

HTTP Status Code: 429

ValidationException

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

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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript](#)
- [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 (p. 29)

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 (p. 29)

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 Errors \(p. 68\)](#).

InternalServiceException

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

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ValidationException

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

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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript](#)
- [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 (p. 31)

The filter values to use to search for a device.

Type: Array of [SearchDevicesFilter](#) (p. 63) objects

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

Required: Yes

maxResults (p. 31)

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 (p. 31)

A token used for pagination of results returned in the response. Use the token returned from the previous request continue results 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 (p. 32)

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

Type: Array of [DeviceSummary](#) (p. 49) objects

nextToken (p. 32)

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 results where the previous request ended.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 68).

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 403

InternalServiceException

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

HTTP Status Code: 500

ThrottlingException

The throttling rate limit is met.

HTTP Status Code: 429

ValidationException

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

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

SearchJobs

Searches for Amazon Braket 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 (p. 34)

The filter values to use when searching for a job.

Type: Array of [SearchJobsFilter](#) (p. 64) objects

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

Required: Yes

maxResults (p. 34)

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 (p. 34)

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

Type: String

Required: No

Response Syntax

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

```
{
  "jobs": [
    {
      "createdAt": number,
      "device": "string",
      "endedAt": number,
      "jobArn": "string",
      "jobName": "string",
      "startedAt": number,
      "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 (p. 35)

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

Type: Array of [JobSummary](#) (p. 57) objects

nextToken (p. 35)

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 results where the previous request ended.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 68).

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 403

InternalServiceException

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

HTTP Status Code: 500

ThrottlingException

The throttling rate limit is met.

HTTP Status Code: 429

ValidationException

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

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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript](#)
- [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 (p. 37)

Array of SearchQuantumTasksFilter objects.

Type: Array of [SearchQuantumTasksFilter](#) (p. 65) objects

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

Required: Yes

maxResults (p. 37)

Maximum number of results to return in the response.

Type: Integer

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

Required: No

nextToken (p. 37)

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

Type: String

Required: No

Response Syntax

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

{
  "nextToken": "string",
  "quantumTasks": [
    {
      "createdAt": number,
      "deviceArn": "string",
      "endedAt": number,
      "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 (p. 38)

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 results where the previous request ended.

Type: String

quantumTasks (p. 38)

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

Type: Array of [QuantumTaskSummary](#) (p. 59) objects

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 68).

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 403

InternalServiceException

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

HTTP Status Code: 500

ThrottlingException

The throttling rate limit is met.

HTTP Status Code: 429

ValidationException

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

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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript](#)
- [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 (p. 40)

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 (p. 40)

Specify the tags to add to the resource.

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 Errors \(p. 68\)](#).

InternalServiceException

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

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ValidationException

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

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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript](#)
- [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 (p. 42)

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

Required: Yes

tagKeys (p. 42)

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 Errors \(p. 68\)](#).

InternalServiceException

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

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ValidationException

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

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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript](#)
- [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:

- [AlgorithmSpecification](#) (p. 45)
- [ContainerImage](#) (p. 46)
- [DataSource](#) (p. 47)
- [DeviceConfig](#) (p. 48)
- [DeviceSummary](#) (p. 49)
- [InputFileConfig](#) (p. 51)
- [InstanceConfig](#) (p. 52)
- [JobCheckpointConfig](#) (p. 53)
- [JobEventDetails](#) (p. 54)
- [JobOutputDataConfig](#) (p. 55)
- [JobStoppingCondition](#) (p. 56)
- [JobSummary](#) (p. 57)
- [QuantumTaskSummary](#) (p. 59)
- [S3DataSource](#) (p. 61)
- [ScriptModeConfig](#) (p. 62)
- [SearchDevicesFilter](#) (p. 63)
- [SearchJobsFilter](#) (p. 64)
- [SearchQuantumTasksFilter](#) (p. 65)

AlgorithmSpecification

Defines the Amazon Braket 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 job.

Type: [ContainerImage](#) (p. 46) object

Required: No

scriptModeConfig

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

Type: [ScriptModeConfig](#) (p. 62) 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 Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ContainerImage

The container image used to create an Amazon Braket 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 Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

DataSource

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

Contents

s3DataSource

Information about the data stored in Amazon S3 used by the Amazon Braket job.

Type: [S3DataSource](#) (p. 61) 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 Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

DeviceConfig

Configures the quantum processing units (QPUs) or simulator used to create and run an Amazon Braket job.

Contents

device

The primary quantum processing unit (QPU) or simulator used to create and run an Amazon Braket 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 Go](#)
- [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 Go](#)
- [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 job can consume.

Type: String

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

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

Required: Yes

contentType

The MIME type of the data.

Type: String

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

Required: No

dataSource

The location of the channel data.

Type: [DataSource](#) (p. 47) 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 Go](#)
- [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

instanceCount

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

Type: Integer

Valid Range: Minimum value of 1.

Required: No

instanceType

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

Type: String

Valid Values: ml.m4.xlarge | ml.m4.2xlarge | ml.m4.4xlarge | ml.m4.10xlarge | ml.m4.16xlarge | ml.g4dn.xlarge | ml.g4dn.2xlarge | ml.g4dn.4xlarge | ml.g4dn.8xlarge | ml.g4dn.12xlarge | ml.g4dn.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.p2.xlarge | ml.p2.8xlarge | ml.p2.16xlarge | ml.p3.2xlarge | ml.p3.8xlarge | ml.p3.16xlarge | ml.p3dn.24xlarge | ml.p4d.24xlarge | 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

Required: Yes

volumeSizeInGb

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

Type: Integer

Valid Range: Minimum value of 1.

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

JobCheckpointConfig

Contains information about the output locations for job checkpoint data.

Contents

localPath

(Optional) The local directory where checkpoints are written. The default directory is `/opt/braket/checkpoints/`.

Type: String

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

Required: No

s3Uri

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

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

JobEventDetails

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

Contents

eventType

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

Type: String

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

Required: No

timeOfEvent

The type of event that occurred related to the Amazon Braket 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 Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

JobOutputDataConfig

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

Contents

kmsKeyId

The AWS Key Management Service (AWS KMS) key that Amazon Braket uses to encrypt the 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

s3Path

Identifies the S3 path where you want Amazon Braket to store the 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):\/\/([^\/]+)/?(.*)$`

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

JobStoppingCondition

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

Contents

maxRuntimeInSeconds

The maximum length of time, in seconds, that an Amazon Braket 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 Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

JobSummary

Provides summary information about an Amazon Braket job.

Contents

createdAt

The date and time that the Amazon Braket job was created.

Type: Timestamp

Required: Yes

device

Provides summary information about the primary device used by an Amazon Braket job.

Type: String

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

Required: Yes

endedAt

The date and time that the Amazon Braket job ended.

Type: Timestamp

Required: No

jobArn

The ARN of the Amazon Braket 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 job.

Type: String

Required: Yes

startedAt

The date and time that the Amazon Braket job was started.

Type: Timestamp

Required: No

status

The status of the Amazon Braket job.

Type: String

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

Required: Yes

tags

A tag object that consists of a key and an optional value, used to manage metadata for Amazon Braket resources.

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

QuantumTaskSummary

Includes information about a quantum task.

Contents

createdAt

The time at which the task was created.

Type: Timestamp

Required: Yes

deviceArn

The ARN of the device the task ran on.

Type: String

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

Required: Yes

endedAt

The time at which the task finished.

Type: Timestamp

Required: No

outputS3Bucket

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

Type: String

Required: Yes

outputS3Directory

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

Type: String

Required: Yes

quantumTaskArn

The ARN of the task.

Type: String

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

Required: Yes

shots

The shots used for the task.

Type: Long

Required: Yes

status

The status of the task.

Type: String

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

Required: Yes

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

S3DataSource

Information about the data stored in Amazon S3 used by the Amazon Braket 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 Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

ScriptModeConfig

Contains information about the Python scripts used for entry and by an Amazon Braket job.

Contents

compressionType

The type of compression used by the Python scripts for an Amazon Braket job.

Type: String

Valid Values: NONE | GZIP

Required: No

entryPoint

The path to the Python script that serves as the entry point for an Amazon Braket job.

Type: String

Required: Yes

s3Uri

The URI that specifies the S3 path to the Python script module that contains the training script used by an Amazon Braket job.

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

SearchDevicesFilter

The filter to use for searching devices.

Contents

name

The name to use to filter results.

Type: String

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

Required: Yes

values

The values to use to filter results.

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

SearchJobsFilter

A filter used to search for Amazon Braket jobs.

Contents

name

The name to use for the jobs filter.

Type: String

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

Required: Yes

operator

An operator to use for the jobs filter.

Type: String

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

Required: Yes

values

The values to use for the jobs filter.

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

SearchQuantumTasksFilter

A filter to use to search for tasks.

Contents

name

The name of the device used for the task.

Type: String

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

Required: Yes

operator

An operator to use in the filter.

Type: String

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

Required: Yes

values

The values to use for the filter.

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 Go](#)
- [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 [Signature Version 4 Signing Process](#) in the *Amazon Web Services General Reference*.

Action

The action to be performed.

Type: string

Required: Yes

Version

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Type: string

Required: Yes

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 [Task 2: Create a String to Sign for Signature Version 4](#) in the *Amazon Web Services General Reference*.

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'THHMMSS'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 [Handling Dates in Signature Version 4](#) in the *Amazon Web Services General Reference*.

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 Security Token Service, go to [AWS Services That Work with IAM](#) in the *IAM User Guide*.

Condition: If you're using temporary security credentials from the AWS Security Token Service, 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 [Task 1: Create a Canonical Request For Signature Version 4](#) in the *Amazon Web Services General Reference*.

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 Errors

This section lists the errors common to the API actions of all AWS services. For errors specific to an API action for this service, see the topic for that API action.

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 400

IncompleteSignature

The request signature does not conform to AWS standards.

HTTP Status Code: 400

InternalFailure

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

HTTP Status Code: 500

InvalidAction

The action or operation requested is invalid. Verify that the action is typed correctly.

HTTP Status Code: 400

InvalidClientTokenId

The X.509 certificate or AWS access key ID provided does not exist in our records.

HTTP Status Code: 403

InvalidParameterCombination

Parameters that must not be used together were used together.

HTTP Status Code: 400

InvalidParameterValue

An invalid or out-of-range value was supplied for the input parameter.

HTTP Status Code: 400

InvalidQueryParameter

The AWS query string is malformed or does not adhere to AWS standards.

HTTP Status Code: 400

MalformedQueryString

The query string contains a syntax error.

HTTP Status Code: 404

MissingAction

The request is missing an action or a required parameter.

HTTP Status Code: 400

MissingAuthenticationToken

The request must contain either a valid (registered) AWS access key ID or X.509 certificate.

HTTP Status Code: 403

MissingParameter

A required parameter for the specified action is not supplied.

HTTP Status Code: 400

NotAuthorized

You do not have permission to perform this action.

HTTP Status Code: 400

OptInRequired

The AWS access key ID needs a subscription for the service.

HTTP Status Code: 403

RequestExpired

The request reached the service more than 15 minutes after the date stamp on the request or more than 15 minutes after the request expiration date (such as for pre-signed URLs), or the date stamp on the request is more than 15 minutes in the future.

HTTP Status Code: 400

ServiceUnavailable

The request has failed due to a temporary failure of the server.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

ValidationError

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

HTTP Status Code: 400