Amazon EMR Serverless

EMR Serverless API Reference

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Amazon EMR Serverless: EMR Serverless API Reference

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Welcome

Amazon EMR Serverless is a new deployment option for Amazon EMR. EMR Serverless provides a serverless runtime environment that simplifies running analytics applications using the latest open source frameworks such as Apache Spark and Apache Hive. With EMR Serverless, you don't have to configure, optimize, secure, or operate clusters to run applications with these frameworks.

The API reference to Amazon EMR Serverless is `emr-serverless`. The `emr-serverless` prefix is used in the following scenarios:

- It is the prefix in the CLI commands for Amazon EMR Serverless. For example, `aws emr-serverless start-job-run`.
- It is the prefix before IAM policy actions for Amazon EMR Serverless. For example, `"Action": ["emr-serverless:StartJobRun"]`. For more information, see Policy actions for Amazon EMR Serverless.
- It is the prefix used in Amazon EMR Serverless service endpoints. For example, `emr-serverless.us-east-2.amazonaws.com`.

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Actions

The following actions are supported:

- CancelJobRun (p. 3)
- CreateApplication (p. 5)
- DeleteApplication (p. 10)
- GetApplication (p. 12)
- GetJobRun (p. 15)
- ListApplications (p. 18)
- ListJobRuns (p. 21)
- ListTagsForResource (p. 24)
- StartApplication (p. 26)
- StartJobRun (p. 28)
- StopApplication (p. 32)
- TagResource (p. 34)
- UntagResource (p. 36)
- UpdateApplication (p. 38)

CancelJobRun

Cancels a job run.

Request Syntax

```
DELETE /applications/applicationId/jobruns/jobRunId HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

applicationId (p. 3)

The ID of the application on which the job run will be canceled.

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

Pattern: `^[0-9a-z]+$`

Required: Yes

jobRunId (p. 3)

The ID of the job run to cancel.

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

Pattern: `^[0-9a-z]+$`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

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

{
   "applicationId": "string",
   "jobRunId": "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.

applicationId (p. 3)

The output contains the application ID on which the job run is cancelled.

Type: String

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

Pattern: `^[0-9a-z]+$`

jobRunId (p. 3)

The output contains the ID of the cancelled job run.

Type: String

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

Pattern: `^[0-9a-z]+$`

Errors

For information about the errors that are common to all actions, see Common Errors (p. 72).

InternalServerException

Request processing failed because of an error or failure with the service.

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

CreateApplication

Creates an application.

Request Syntax

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

{
   "autoStartConfiguration": {
      "enabled": boolean
   },
   "autoStopConfiguration": {
      "enabled": boolean,
      "idleTimeoutMinutes": number
   },
   "clientToken": "string",
   "initialCapacity": {
      "string" : {
         "workerConfiguration": {
            "cpu": "string",
            "disk": "string",
            "memory": "string"
         },
         "workerCount": number
      }
   },
   "maximumCapacity": {
      "cpu": "string",
      "disk": "string",
      "memory": "string"
   },
   "name": "string",
   "networkConfiguration": {
      "securityGroupIds": [ "string" ],
      "subnetIds": [ "string" ]
   },
   "releaseLabel": "string",
   "tags": {
      "string" : "string"
   },
   "type": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

autoStartConfiguration (p. 5)

The configuration for an application to automatically start on job submission.

Type: AutoStartConfig (p. 48) object

Required: No

autoStopConfiguration (p. 5)

The configuration for an application to automatically stop after a certain amount of time being idle.

Type: AutoStopConfig (p. 49) object

Required: No

clientToken (p. 5)

The client idempotency token of the application to create. Its value must be unique for each request.

Type: String

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

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

Required: Yes

initialCapacity (p. 5)

The capacity to initialize when the application is created.

Type: String to InitialCapacityConfig (p. 53) object map

Map Entries: Minimum number of 0 items. Maximum number of 10 items.

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

Key Pattern: `^[a-zA-Z]+[-_]*[a-zA-Z]+$`

Required: No

maximumCapacity (p. 5)

The maximum capacity to allocate when the application is created. This is cumulative across all workers at any given point in time, not just when an application is created. No new resources will be created once any one of the defined limits is hit.

Type: MaximumAllowedResources (p. 63) object

Required: No

name (p. 5)

The name of the application.

Type: String

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

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

Required: No

networkConfiguration (p. 5)

The network configuration for customer VPC connectivity.

Type: NetworkConfiguration (p. 65) object

Required: No

releaseLabel (p. 5)

The EMR release version associated with the application.

Type: String

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

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

Required: Yes

tags (p. 5)

The tags assigned to the application.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 200 items.

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

Key Pattern: `^[A-Za-z0-9 /_.:=+@-]+$`

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

Value Pattern: `^[A-Za-z0-9 /_.:=+@-]*$`

Required: No

type (p. 5)

The type of application you want to start, such as Spark or Hive.

Type: String

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

Required: Yes

Response Syntax

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

{
   "applicationId": "string",
   "arn": "string",
   "name": "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.

applicationId (p. 7)

The output contains the application ID.

Type: String

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

Pattern: `^[0-9a-z]+$`

arn (p. 7)

The output contains the ARN of the application.

Type: String

Length Constraints: Minimum length of 60. Maximum length of 1024.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):emr-serverless:.+:(\d{12}):\/applications\/[0-9a-zA-Z]+$`

name (p. 7)

The output contains the name of the application.

Type: String

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

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

Errors

For information about the errors that are common to all actions, see Common Errors (p. 72).

ConflictException

The request could not be processed because of conflict in the current state of the resource.

HTTP Status Code: 409

InternalServerException

Request processing failed because of an error or failure with the service.

HTTP Status Code: 500

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

DeleteApplication

Deletes an application. An application has to be in a stopped or created state in order to be deleted.

Request Syntax

```
DELETE /applications/applicationId HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

applicationId (p. 10)

The ID of the application that will be deleted.

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

Pattern: `^[0-9a-z]+$`

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. 72).

InternalServerException

Request processing failed because of an error or failure with the service.

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

GetApplication

Displays detailed information about a specified application.

Request Syntax

```
GET /applications/applicationId HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

applicationId (p. 12)

The ID of the application that will be described.

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

Pattern: `^[0-9a-z]+$`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

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

{
   "application": {
      "applicationId": "string",
      "arn": "string",
      "autoStartConfiguration": {
         "enabled": boolean
      },
      "autoStopConfiguration": {
         "enabled": boolean,
         "idleTimeoutMinutes": number
      },
      "createdAt": number,
      "initialCapacity": {
         "string" : {
            "workerConfiguration": {
               "cpu": "string",
               "disk": "string",
               "memory": "string"
            },
            "workerCount": number
         }
      },
      "maximumCapacity": {
         "cpu": "string",
         "disk": "string",
```

```
            "memory": "string"
         },
         "name": "string",
         "networkConfiguration": {
            "securityGroupIds": [ "string" ],
            "subnetIds": [ "string" ]
         },
         "releaseLabel": "string",
         "state": "string",
         "stateDetails": "string",
         "tags": {
            "string" : "string"
         },
         "type": "string",
         "updatedAt": number
      }
}
```

Response Elements

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

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

application (p. 12)

The output displays information about the specified application.

Type: Application (p. 43) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 72).

InternalServerException

Request processing failed because of an error or failure with the service.

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

GetJobRun

Displays detailed information about a job run.

Request Syntax

```
GET /applications/applicationId/jobruns/jobRunId HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

applicationId (p. 15)

The ID of the application on which the job run is submitted.

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

Pattern: `^[0-9a-z]+$`

Required: Yes

jobRunId (p. 15)

The ID of the job run.

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

Pattern: `^[0-9a-z]+$`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

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

{
   "jobRun": {
      "applicationId": "string",
      "arn": "string",
      "configurationOverrides": {
         "applicationConfiguration": [
            {
               "classification": "string",
               "configurations": [
                  "Configuration"
               ],
               "properties": {
                  "string" : "string"
               }
            }
         ],
         "monitoringConfiguration": {
```

```
            "managedPersistenceMonitoringConfiguration": {
               "enabled": boolean,
               "encryptionKeyArn": "string"
            },
            "s3MonitoringConfiguration": {
               "encryptionKeyArn": "string",
               "logUri": "string"
            }
         }
      },
      "createdAt": number,
      "createdBy": "string",
      "executionRole": "string",
      "jobDriver": {
         "hive": {
            "initQueryFile": "string",
            "parameters": "string",
            "query": "string"
         },
         "sparkSubmit": {
            "entryPoint": "string",
            "entryPointArguments": [ "string" ],
            "sparkSubmitParameters": "string"
         }
      },
      "jobRunId": "string",
      "name": "string",
      "networkConfiguration": {
         "securityGroupIds": [ "string" ],
         "subnetIds": [ "string" ]
      },
      "releaseLabel": "string",
      "state": "string",
      "stateDetails": "string",
      "tags": {
         "string" : "string"
      },
      "totalExecutionDurationSeconds": number,
      "totalResourceUtilization": {
         "memoryGBHour": number,
         "storageGBHour": number,
         "vCPUHour": number
      },
      "updatedAt": number
   }
}
```

Response Elements

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

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

jobRun (p. 15)

The output displays information about the job run.

Type: JobRun (p. 55) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 72).

InternalServerException

Request processing failed because of an error or failure with the service.

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

ListApplications

Lists applications based on a set of parameters.

Request Syntax

```
GET /applications?maxResults=maxResults&nextToken=nextToken&states=states HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

maxResults (p. 18)

The maximum number of applications that can be listed.

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

nextToken (p. 18)

The token for the next set of application results.

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

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

states (p. 18)

An optional filter for application states. Note that if this filter contains multiple states, the resulting list will be grouped by the state.

Array Members: Minimum number of 1 item. Maximum number of 7 items.

Valid Values: `CREATING | CREATED | STARTING | STARTED | STOPPING | STOPPED | TERMINATED`

Request Body

The request does not have a request body.

Response Syntax

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

{
   "applications": [
      {
         "arn": "string",
         "createdAt": number,
         "id": "string",
         "name": "string",
         "releaseLabel": "string",
         "state": "string",
         "stateDetails": "string",
         "type": "string",
```

```
            "updatedAt": number
        }
    ],
    "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.

applications (p. 18)

The output lists the specified applications.

Type: Array of ApplicationSummary (p. 46) objects

nextToken (p. 18)

The output displays the token for the next set of application results. This is required for pagination and is available as a response of the previous request.

Type: String

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

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

Errors

For information about the errors that are common to all actions, see Common Errors (p. 72).

InternalServerException

Request processing failed because of an error or failure with the service.

HTTP Status Code: 500

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

ListJobRuns

Lists job runs based on a set of parameters.

Request Syntax

```
GET /applications/applicationId/jobruns?
createdAtAfter=createdAtAfter&createdAtBefore=createdAtBefore&maxResults=maxResults&nextToken=nextToken
 HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

applicationId (p. 21)

The ID of the application for which to list the job run.

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

Pattern: `^[0-9a-z]+$`

Required: Yes

createdAtAfter (p. 21)

The lower bound of the option to filter by creation date and time.

createdAtBefore (p. 21)

The upper bound of the option to filter by creation date and time.

maxResults (p. 21)

The maximum number of job runs that can be listed.

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

nextToken (p. 21)

The token for the next set of job run results.

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

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

states (p. 21)

An optional filter for job run states. Note that if this filter contains multiple states, the resulting list will be grouped by the state.

Array Members: Minimum number of 0 items. Maximum number of 8 items.

Valid Values: `SUBMITTED | PENDING | SCHEDULED | RUNNING | SUCCESS | FAILED | CANCELLING | CANCELLED`

Request Body

The request does not have a request body.

Response Syntax

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

{
   "jobRuns": [
      {
         "applicationId": "string",
         "arn": "string",
         "createdAt": number,
         "createdBy": "string",
         "executionRole": "string",
         "id": "string",
         "name": "string",
         "releaseLabel": "string",
         "state": "string",
         "stateDetails": "string",
         "type": "string",
         "updatedAt": number
      }
   ],
   "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.

jobRuns (p. 22)

The output lists information about the specified job runs.

Type: Array of JobRunSummary (p. 59) objects

nextToken (p. 22)

The output displays the token for the next set of job run results. This is required for pagination and is available as a response of the previous request.

Type: String

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

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

Errors

For information about the errors that are common to all actions, see Common Errors (p. 72).

InternalServerException

Request processing failed because of an error or failure with the service.

HTTP Status Code: 500

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
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- 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

Lists the tags assigned to the resources.

Request Syntax

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

URI Request Parameters

The request uses the following URI parameters.

resourceArn (p. 24)

The Amazon Resource Name (ARN) that identifies the resource to list the tags for. Currently, the supported resources are Amazon EMR Serverless applications and job runs.

Length Constraints: Minimum length of 60. Maximum length of 1024.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):emr-serverless:.+:(\d{12}):\/applications\/[0-9a-zA-Z]+(\/jobruns\/[0-9a-zA-Z]+)?$`

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. 24)

The tags for the resource.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 200 items.

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

Key Pattern: `^[A-Za-z0-9 /_.:=+@-]+$`

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

Value Pattern: `^[A-Za-z0-9 /_.:=+@-]*$`

Errors

For information about the errors that are common to all actions, see Common Errors (p. 72).

InternalServerException

Request processing failed because of an error or failure with the service.

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

StartApplication

Starts a specified application and initializes initial capacity if configured.

Request Syntax

```
POST /applications/applicationId/start HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

applicationId (p. 26)

The ID of the application to start.

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

Pattern: `^[0-9a-z]+$`

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. 72).

InternalServerException

Request processing failed because of an error or failure with the service.

HTTP Status Code: 500

ResourceNotFoundException

The specified resource was not found.

HTTP Status Code: 404

ServiceQuotaExceededException

The maximum number of resources per account has been reached.

HTTP Status Code: 402

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

StartJobRun

Starts a job run.

Request Syntax

```
POST /applications/applicationId/jobruns HTTP/1.1
Content-type: application/json

{
   "clientToken": "string",
   "configurationOverrides": {
      "applicationConfiguration": [
         {
            "classification": "string",
            "configurations": [
               "Configuration"
            ],
            "properties": {
               "string" : "string"
            }
         }
      ],
      "monitoringConfiguration": {
         "managedPersistenceMonitoringConfiguration": {
            "enabled": boolean,
            "encryptionKeyArn": "string"
         },
         "s3MonitoringConfiguration": {
            "encryptionKeyArn": "string",
            "logUri": "string"
         }
      }
   },
   "executionRoleArn": "string",
   "executionTimeoutMinutes": number,
   "jobDriver": {
      "hive": {
         "initQueryFile": "string",
         "parameters": "string",
         "query": "string"
      },
      "sparkSubmit": {
         "entryPoint": "string",
         "entryPointArguments": [ "string" ],
         "sparkSubmitParameters": "string"
      }
   },
   "name": "string",
   "tags": {
      "string" : "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

applicationId (p. 28)

The ID of the application on which to run the job.

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

Pattern: `^[0-9a-z]+$`

Required: Yes

Request Body

The request accepts the following data in JSON format.

clientToken (p. 28)

The client idempotency token of the job run to start. Its value must be unique for each request.

Type: String

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

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

Required: Yes

configurationOverrides (p. 28)

The configuration overrides for the job run.

Type: ConfigurationOverrides (p. 51) object

Required: No

executionRoleArn (p. 28)

The execution role ARN for the job run.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):iam::(\d{12})?:(role((\u002F)|(\u002F[\u0021-\u007F]+\u002F))[\w+=,.@-]+)$`

Required: Yes

executionTimeoutMinutes (p. 28)

The maximum duration for the job run to run. If the job run runs beyond this duration, it will be automatically cancelled.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 1000000.

Required: No

jobDriver (p. 28)

The job driver for the job run.

Type: JobDriver (p. 54) object

Required: No

name (p. 28)

The optional job run name. This doesn't have to be unique.

Type: String

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

Pattern: `.*\S.*`

Required: No

tags (p. 28)

The tags assigned to the job run.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 200 items.

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

Key Pattern: `^[A-Za-z0-9 /_.:=+@-]+$`

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

Value Pattern: `^[A-Za-z0-9 /_.:=+@-]*$`

Required: No

Response Syntax

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

{
   "applicationId": "string",
   "arn": "string",
   "jobRunId": "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.

applicationId (p. 30)

This output displays the application ID on which the job run was submitted.

Type: String

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

Pattern: `^[0-9a-z]+$`

arn (p. 30)

The output lists the execution role ARN of the job run.

Type: String

Length Constraints: Minimum length of 60. Maximum length of 1024.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):emr-serverless:.+:(\d{12}):\/applications\/[0-9a-zA-Z]+\/jobruns\/[0-9a-zA-Z]+$`

jobRunId (p. 30)

The output contains the ID of the started job run.

Type: String

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

Pattern: `^[0-9a-z]+$`

Errors

For information about the errors that are common to all actions, see Common Errors (p. 72).

ConflictException

The request could not be processed because of conflict in the current state of the resource.

HTTP Status Code: 409

InternalServerException

Request processing failed because of an error or failure with the service.

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

StopApplication

Stops a specified application and releases initial capacity if configured. All scheduled and running jobs must be completed or cancelled before stopping an application.

Request Syntax

```
POST /applications/applicationId/stop HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

applicationId (p. 32)

The ID of the application to stop.

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

Pattern: `^[0-9a-z]+$`

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. 72).

InternalServerException

Request processing failed because of an error or failure with the service.

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

TagResource

Assigns tags to resources. A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value, both of which you define. Tags enable you to categorize your AWS resources by attributes such as purpose, owner, or environment. When you have many resources of the same type, you can quickly identify a specific resource based on the tags you've assigned to it.

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. 34)

The Amazon Resource Name (ARN) that identifies the resource to list the tags for. Currently, the supported resources are Amazon EMR Serverless applications and job runs.

Length Constraints: Minimum length of 60. Maximum length of 1024.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):emr-serverless:.+:(\d{12}):\/applications\/[0-9a-zA-Z]+(\/jobruns\/[0-9a-zA-Z]+)?$`

Required: Yes

Request Body

The request accepts the following data in JSON format.

tags (p. 34)

The tags to add to the resource. A tag is an array of key-value pairs.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 200 items.

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

Key Pattern: `^[A-Za-z0-9 /_.:=+@-]+$`

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

Value Pattern: `^[A-Za-z0-9 /_.:=+@-]*$`

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. 72).

InternalServerException

Request processing failed because of an error or failure with the service.

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

Removes tags from resources.

Request Syntax

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

URI Request Parameters

The request uses the following URI parameters.

resourceArn (p. 36)

The Amazon Resource Name (ARN) that identifies the resource to list the tags for. Currently, the supported resources are Amazon EMR Serverless applications and job runs.

Length Constraints: Minimum length of 60. Maximum length of 1024.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):emr-serverless:.+:(\d{12}):\/applications\/[0-9a-zA-Z]+(\/jobruns\/[0-9a-zA-Z]+)?$`

Required: Yes

tagKeys (p. 36)

The keys of the tags to be removed.

Array Members: Minimum number of 1 item. Maximum number of 200 items.

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

Pattern: `^[A-Za-z0-9 /_.:=+@-]+$`

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. 72).

InternalServerException

Request processing failed because of an error or failure with the service.

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

UpdateApplication

Updates a specified application. An application has to be in a stopped or created state in order to be updated.

Request Syntax

```
PATCH /applications/applicationId HTTP/1.1
Content-type: application/json

{
   "autoStartConfiguration": {
      "enabled": boolean
   },
   "autoStopConfiguration": {
      "enabled": boolean,
      "idleTimeoutMinutes": number
   },
   "clientToken": "string",
   "initialCapacity": {
      "string" : {
         "workerConfiguration": {
            "cpu": "string",
            "disk": "string",
            "memory": "string"
         },
         "workerCount": number
      }
   },
   "maximumCapacity": {
      "cpu": "string",
      "disk": "string",
      "memory": "string"
   },
   "networkConfiguration": {
      "securityGroupIds": [ "string" ],
      "subnetIds": [ "string" ]
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

applicationId (p. 38)

The ID of the application to update.

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

Pattern: `^[0-9a-z]+$`

Required: Yes

Request Body

The request accepts the following data in JSON format.

autoStartConfiguration (p. 38)

The configuration for an application to automatically start on job submission.

Type: AutoStartConfig (p. 48) object

Required: No

autoStopConfiguration (p. 38)

The configuration for an application to automatically stop after a certain amount of time being idle.

Type: AutoStopConfig (p. 49) object

Required: No

clientToken (p. 38)

The client idempotency token of the application to update. Its value must be unique for each request.

Type: String

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

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

Required: Yes

initialCapacity (p. 38)

The capacity to initialize when the application is updated.

Type: String to InitialCapacityConfig (p. 53) object map

Map Entries: Minimum number of 0 items. Maximum number of 10 items.

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

Key Pattern: `^[a-zA-Z]+[-_]*[a-zA-Z]+$`

Required: No

maximumCapacity (p. 38)

The maximum capacity to allocate when the application is updated. This is cumulative across all workers at any given point in time during the lifespan of the application. No new resources will be created once any one of the defined limits is hit.

Type: MaximumAllowedResources (p. 63) object

Required: No

networkConfiguration (p. 38)

The network configuration for customer VPC connectivity.

Type: NetworkConfiguration (p. 65) object

Required: No

Response Syntax

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

```
{
   "application": {
      "applicationId": "string",
      "arn": "string",
      "autoStartConfiguration": {
         "enabled": boolean
      },
      "autoStopConfiguration": {
         "enabled": boolean,
         "idleTimeoutMinutes": number
      },
      "createdAt": number,
      "initialCapacity": {
         "string" : {
            "workerConfiguration": {
               "cpu": "string",
               "disk": "string",
               "memory": "string"
            },
            "workerCount": number
         }
      },
      "maximumCapacity": {
         "cpu": "string",
         "disk": "string",
         "memory": "string"
      },
      "name": "string",
      "networkConfiguration": {
         "securityGroupIds": [ "string" ],
         "subnetIds": [ "string" ]
      },
      "releaseLabel": "string",
      "state": "string",
      "stateDetails": "string",
      "tags": {
         "string" : "string"
      },
      "type": "string",
      "updatedAt": number
   }
}
```

Response Elements

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

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

application (p. 39)

Information about the updated application.

Type: Application (p. 43) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 72).

InternalServerException

Request processing failed because of an error or failure with the service.

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 EMR Serverless Web Service API contains several data types that various actions use. This section describes each data type in detail.

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

The following data types are supported:

- Application (p. 43)
- ApplicationSummary (p. 46)
- AutoStartConfig (p. 48)
- AutoStopConfig (p. 49)
- Configuration (p. 50)
- ConfigurationOverrides (p. 51)
- Hive (p. 52)
- InitialCapacityConfig (p. 53)
- JobDriver (p. 54)
- JobRun (p. 55)
- JobRunSummary (p. 59)
- ManagedPersistenceMonitoringConfiguration (p. 62)
- MaximumAllowedResources (p. 63)
- MonitoringConfiguration (p. 64)
- NetworkConfiguration (p. 65)
- S3MonitoringConfiguration (p. 66)
- SparkSubmit (p. 67)
- TotalResourceUtilization (p. 68)
- WorkerResourceConfig (p. 69)

Application

Information about an application. EMR Serverless uses applications to run jobs.

Contents

applicationId

The ID of the application.

Type: String

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

Pattern: `^[0-9a-z]+$`

Required: Yes

arn

The ARN of the application.

Type: String

Length Constraints: Minimum length of 60. Maximum length of 1024.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):emr-serverless:.+:(\d{12}):\/applications\/[0-9a-zA-Z]+$`

Required: Yes

autoStartConfiguration

The configuration for an application to automatically start on job submission.

Type: AutoStartConfig (p. 48) object

Required: No

autoStopConfiguration

The configuration for an application to automatically stop after a certain amount of time being idle.

Type: AutoStopConfig (p. 49) object

Required: No

createdAt

The date and time when the application run was created.

Type: Timestamp

Required: Yes

initialCapacity

The initial capacity of the application.

Type: String to InitialCapacityConfig (p. 53) object map

Map Entries: Minimum number of 0 items. Maximum number of 10 items.

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

Key Pattern: `^[a-zA-Z]+[-_]*[a-zA-Z]+$`

Required: No

maximumCapacity

The maximum capacity of the application. This is cumulative across all workers at any given point in time during the lifespan of the application is created. No new resources will be created once any one of the defined limits is hit.

Type: MaximumAllowedResources (p. 63) object

Required: No

name

The name of the application.

Type: String

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

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

Required: No

networkConfiguration

The network configuration for customer VPC connectivity for the application.

Type: NetworkConfiguration (p. 65) object

Required: No

releaseLabel

The EMR release version associated with the application.

Type: String

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

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

Required: Yes

state

The state of the application.

Type: String

Valid Values: `CREATING | CREATED | STARTING | STARTED | STOPPING | STOPPED | TERMINATED`

Required: Yes

stateDetails

The state details of the application.

Type: String

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

Pattern: `.*\S.*`

Required: No

tags

The tags assigned to the application.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 200 items.

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

Key Pattern: `^[A-Za-z0-9 /_.:=+@-]+$`

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

Value Pattern: `^[A-Za-z0-9 /_.:=+@-]*$`

Required: No

type

The type of application, such as Spark or Hive.

Type: String

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

Required: Yes

updatedAt

The date and time when the application run was last updated.

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 Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ApplicationSummary

The summary of attributes associated with an application.

Contents

arn

The ARN of the application.

Type: String

Length Constraints: Minimum length of 60. Maximum length of 1024.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):emr-serverless:.+:(\d{12}):\/applications\/[0-9a-zA-Z]+$`

Required: Yes

createdAt

The date and time when the application was created.

Type: Timestamp

Required: Yes

id

The ID of the application.

Type: String

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

Pattern: `^[0-9a-z]+$`

Required: Yes

name

The name of the application.

Type: String

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

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

Required: No

releaseLabel

The EMR release version associated with the application.

Type: String

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

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

Required: Yes

state

The state of the application.

Type: String

Valid Values: `CREATING | CREATED | STARTING | STARTED | STOPPING | STOPPED | TERMINATED`

Required: Yes

stateDetails

The state details of the application.

Type: String

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

Pattern: `.*\S.*`

Required: No

type

The type of application, such as Spark or Hive.

Type: String

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

Required: Yes

updatedAt

The date and time when the application was last updated.

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 Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AutoStartConfig

The configuration for an application to automatically start on job submission.

Contents

enabled

Enables the application to automatically start on job submission. Defaults to true.

Type: Boolean

Required: No

See Also

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

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

AutoStopConfig

The configuration for an application to automatically stop after a certain amount of time being idle.

Contents

enabled

Enables the application to automatically stop after a certain amount of time being idle. Defaults to true.

Type: Boolean

Required: No

idleTimeoutMinutes

The amount of idle time in minutes after which your application will automatically stop. Defaults to 15 minutes.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 10080.

Required: No

See Also

For 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

Configuration

A configuration specification to be used when provisioning an application. A configuration consists of a classification, properties, and optional nested configurations. A classification refers to an application-specific configuration file. Properties are the settings you want to change in that file.

Contents

classification

The classification within a configuration.

Type: String

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

Pattern: `.*\S.*`

Required: Yes

configurations

A list of additional configurations to apply within a configuration object.

Type: Array of Configuration (p. 50) objects

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

Required: No

properties

A set of properties specified within a configuration classification.

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 1024.

Key Pattern: `.*\S.*`

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

Value Pattern: `.*\S.*`

Required: No

See Also

For 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

ConfigurationOverrides

A configuration specification to be used to override existing configurations.

Contents

applicationConfiguration

The override configurations for the application.

Type: Array of Configuration (p. 50) objects

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

Required: No

monitoringConfiguration

The override configurations for monitoring.

Type: MonitoringConfiguration (p. 64) 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

Hive

The configurations for the Hive job driver.

Contents

initQueryFile

The query file for the Hive job run.

Type: String

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

Pattern: `.*\S.*`

Required: No

parameters

The parameters for the Hive job run.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 102400.

Pattern: `.*\S.*`

Required: No

query

The query for the Hive job run.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 10280.

Pattern: `.*\S.*`

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

InitialCapacityConfig

The initial capacity configuration per worker.

Contents

workerConfiguration

The resource configuration of the initial capacity configuration.

Type: WorkerResourceConfig (p. 69) object

Required: No

workerCount

The number of workers in the initial capacity configuration.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 1000000.

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

JobDriver

The driver that the job runs on.

Contents

hive

The job driver parameters specified for Hive.

Type: Hive (p. 52) object

Required: No

sparkSubmit

The job driver parameters specified for Spark.

Type: SparkSubmit (p. 67) 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

JobRun

Information about a job run. A job run is a unit of work, such as a Spark JAR, Hive query, or SparkSQL query, that you submit to an EMR Serverless application.

Contents

applicationId

The ID of the application the job is running on.

Type: String

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

Pattern: `^[0-9a-z]+$`

Required: Yes

arn

The execution role ARN of the job run.

Type: String

Length Constraints: Minimum length of 60. Maximum length of 1024.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):emr-serverless:.+:(\d{12}):\/applications\/[0-9a-zA-Z]+\/jobruns\/[0-9a-zA-Z]+$`

Required: Yes

configurationOverrides

The configuration settings that are used to override default configuration.

Type: ConfigurationOverrides (p. 51) object

Required: No

createdAt

The date and time when the job run was created.

Type: Timestamp

Required: Yes

createdBy

The user who created the job run.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):(iam|sts)::(\d{12})?:[\w/+=,.@-]+$`

Required: Yes

executionRole

The execution role ARN of the job run.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):iam::(\d{12})?:(role((\u002F)|(\u002F[\u0021-\u007F]+\u002F))[\w+=,.@-]+)$`

Required: Yes

jobDriver

The job driver for the job run.

Type: JobDriver (p. 54) object

Required: Yes

jobRunId

The ID of the job run.

Type: String

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

Pattern: `^[0-9a-z]+$`

Required: Yes

name

The optional job run name. This doesn't have to be unique.

Type: String

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

Pattern: `.*\S.*`

Required: No

networkConfiguration

The network configuration for customer VPC connectivity.

Type: NetworkConfiguration (p. 65) object

Required: No

releaseLabel

The EMR release version associated with the application your job is running on.

Type: String

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

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

Required: Yes

state

The state of the job run.

Type: String

Valid Values: `SUBMITTED` | `PENDING` | `SCHEDULED` | `RUNNING` | `SUCCESS` | `FAILED` | `CANCELLING` | `CANCELLED`

Required: Yes

stateDetails

The state details of the job run.

Type: String

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

Pattern: `.*\S.*`

Required: Yes

tags

The tags assigned to the job run.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 200 items.

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

Key Pattern: `^[A-Za-z0-9 /_.:=+@-]+$`

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

Value Pattern: `^[A-Za-z0-9 /_.:=+@-]*$`

Required: No

totalExecutionDurationSeconds

The job run total execution duration in seconds. This field is only available for job runs in a `COMPLETED`, `FAILED`, or `CANCELLED` state.

Type: Integer

Required: No

totalResourceUtilization

The aggregate vCPU, memory, and storage resources used from the time job start executing till the time job is terminated, rounded up to the nearest second.

Type: TotalResourceUtilization (p. 68) object

Required: No

updatedAt

The date and time when the job run was updated.

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 Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

JobRunSummary

The summary of attributes associated with a job run.

Contents

applicationId

The ID of the application the job is running on.

Type: String

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

Pattern: `^[0-9a-z]+$`

Required: Yes

arn

The ARN of the job run.

Type: String

Length Constraints: Minimum length of 60. Maximum length of 1024.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):emr-serverless:.+:(\d{12}):\/applications\/[0-9a-zA-Z]+\/jobruns\/[0-9a-zA-Z]+$`

Required: Yes

createdAt

The date and time when the job run was created.

Type: Timestamp

Required: Yes

createdBy

The user who created the job run.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):(iam|sts)::(\d{12})?:[\w/+=,.@-]+$`

Required: Yes

executionRole

The execution role ARN of the job run.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):iam::(\d{12})?:(role((\u002F)|(\u002F[\u0021-\u007F]+\u002F))[\w+=,.@-]+)$`

Required: Yes

id

The ID of the job run.

Type: String

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

Pattern: `^[0-9a-z]+$`

Required: Yes

name

The optional job run name. This doesn't have to be unique.

Type: String

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

Pattern: `.*\S.*`

Required: No

releaseLabel

The EMR release version associated with the application your job is running on.

Type: String

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

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

Required: Yes

state

The state of the job run.

Type: String

Valid Values: `SUBMITTED | PENDING | SCHEDULED | RUNNING | SUCCESS | FAILED | CANCELLING | CANCELLED`

Required: Yes

stateDetails

The state details of the job run.

Type: String

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

Pattern: `.*\S.*`

Required: Yes

type

The type of job run, such as Spark or Hive.

Type: String

Required: No

updatedAt

The date and time when the job run was last updated.

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 Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ManagedPersistenceMonitoringConfiguration

The managed log persistence configuration for a job run.

Contents

enabled

Enables managed logging and defaults to true. If set to false, managed logging will be turned off.

Type: Boolean

Required: No

encryptionKeyArn

The KMS key ARN to encrypt the logs stored in managed log persistence.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):kms:[a-zA-Z0-9\-]*:(\d{12})?:key\/[a-zA-Z0-9-]+$`

Required: No

See Also

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

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

MaximumAllowedResources

The maximum allowed cumulative resources for an application. No new resources will be created once the limit is hit.

Contents

cpu

The maximum allowed CPU for an application.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 15.

Pattern: `^[1-9][0-9]*(\s)?(vCPU|vcpu|VCPU)?$`

Required: Yes

disk

The maximum allowed disk for an application.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 15.

Pattern: `^[1-9][0-9]*(\s)?(GB|gb|gB|Gb)$`

Required: No

memory

The maximum allowed resources for an application.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 15.

Pattern: `^[1-9][0-9]*(\s)?(GB|gb|gB|Gb)?$`

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

MonitoringConfiguration

The configuration setting for monitoring.

Contents

managedPersistenceMonitoringConfiguration

The managed log persistence configuration for a job run.

Type: ManagedPersistenceMonitoringConfiguration (p. 62) object

Required: No

s3MonitoringConfiguration

The Amazon S3 configuration for monitoring log publishing.

Type: S3MonitoringConfiguration (p. 66) 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

NetworkConfiguration

The network configuration for customer VPC connectivity.

Contents

securityGroupIds

The array of security group Ids for customer VPC connectivity.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 5 items.

Length Constraints: Minimum length of 1. Maximum length of 32.

Pattern: `^[-0-9a-zA-Z]+`

Required: No

subnetIds

The array of subnet Ids for customer VPC connectivity.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 16 items.

Length Constraints: Minimum length of 1. Maximum length of 32.

Pattern: `^[-0-9a-zA-Z]+`

Required: No

See Also

For 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

S3MonitoringConfiguration

The Amazon S3 configuration for monitoring log publishing. You can configure your jobs to send log information to Amazon S3.

Contents

encryptionKeyArn

The KMS key ARN to encrypt the logs published to the given Amazon S3 destination.

Type: String

Length Constraints: Minimum length of 20. Maximum length of 2048.

Pattern: `^arn:(aws[a-zA-Z0-9-]*):kms:[a-zA-Z0-9\-]*:(\d{12})?:key\/[a-zA-Z0-9-]+$`

Required: No

logUri

The Amazon S3 destination URI for log publishing.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 10280.

Pattern: `[\u0020-\uD7FF\uE000-\uFFFD\uD800\uDBFF-\uDC00\uDFFF\r\n\t]*`

Required: No

See Also

For 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

SparkSubmit

The configurations for the Spark submit job driver.

Contents

entryPoint

The entry point for the Spark submit job run.

Type: String

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

Pattern: `.*\S.*`

Required: Yes

entryPointArguments

The arguments for the Spark submit job run.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 10280.

Pattern: `.*\S.*`

Required: No

sparkSubmitParameters

The parameters for the Spark submit job run.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 102400.

Pattern: `.*\S.*`

Required: No

See Also

For 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

TotalResourceUtilization

The aggregate vCPU, memory, and storage resources used from the time job start executing till the time job is terminated, rounded up to the nearest second.

Contents

memoryGBHour

The aggregated memory used per hour from the time job start executing till the time job is terminated.

Type: Double

Required: No

storageGBHour

The aggregated storage used per hour from the time job start executing till the time job is terminated.

Type: Double

Required: No

vCPUHour

The aggregated vCPU used per hour from the time job start executing till the time job is terminated.

Type: Double

Required: No

See Also

For 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

WorkerResourceConfig

The cumulative configuration requirements for every worker instance of the worker type.

Contents

cpu

The CPU requirements for every worker instance of the worker type.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 15.

Pattern: `^[1-9][0-9]*(\s)?(vCPU|vcpu|VCPU)?$`

Required: Yes

disk

The disk requirements for every worker instance of the worker type.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 15.

Pattern: `^[1-9][0-9]*(\s)?(GB|gb|gB|Gb)$`

Required: No

memory

The memory requirements for every worker instance of the worker type.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 15.

Pattern: `^[1-9][0-9]*(\s)?(GB|gb|gB|Gb)?$`

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'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 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