



EMR Serverless API Reference

# Amazon EMR Serverless



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# Amazon EMR Serverless: EMR Serverless API Reference

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# Table of Contents

<b>Welcome</b> .....	<b>1</b>
<b>Actions</b> .....	<b>2</b>
CancelJobRun .....	3
Request Syntax .....	3
URI Request Parameters .....	3
Request Body .....	3
Response Syntax .....	3
Response Elements .....	4
Errors .....	4
See Also .....	5
CreateApplication .....	6
Request Syntax .....	6
URI Request Parameters .....	8
Request Body .....	8
Response Syntax .....	12
Response Elements .....	12
Errors .....	13
See Also .....	14
DeleteApplication .....	15
Request Syntax .....	15
URI Request Parameters .....	15
Request Body .....	15
Response Syntax .....	15
Response Elements .....	15
Errors .....	15
See Also .....	16
GetApplication .....	17
Request Syntax .....	17
URI Request Parameters .....	17
Request Body .....	17
Response Syntax .....	17
Response Elements .....	20
Errors .....	20
See Also .....	20

GetDashboardForJobRun .....	22
Request Syntax .....	22
URI Request Parameters .....	22
Request Body .....	23
Response Syntax .....	23
Response Elements .....	23
Errors .....	23
See Also .....	24
GetJobRun .....	25
Request Syntax .....	25
URI Request Parameters .....	25
Request Body .....	25
Response Syntax .....	26
Response Elements .....	28
Errors .....	28
See Also .....	28
ListApplications .....	30
Request Syntax .....	30
URI Request Parameters .....	30
Request Body .....	30
Response Syntax .....	31
Response Elements .....	31
Errors .....	32
See Also .....	32
ListJobRunAttempts .....	33
Request Syntax .....	33
URI Request Parameters .....	33
Request Body .....	34
Response Syntax .....	34
Response Elements .....	34
Errors .....	35
See Also .....	35
ListJobRuns .....	37
Request Syntax .....	37
URI Request Parameters .....	37
Request Body .....	38

Response Syntax .....	38
Response Elements .....	39
Errors .....	39
See Also .....	40
ListTagsForResource .....	41
Request Syntax .....	41
URI Request Parameters .....	41
Request Body .....	41
Response Syntax .....	41
Response Elements .....	42
Errors .....	42
See Also .....	43
StartApplication .....	44
Request Syntax .....	44
URI Request Parameters .....	44
Request Body .....	44
Response Syntax .....	44
Response Elements .....	44
Errors .....	44
See Also .....	45
StartJobRun .....	46
Request Syntax .....	46
URI Request Parameters .....	47
Request Body .....	47
Response Syntax .....	50
Response Elements .....	50
Errors .....	51
See Also .....	51
StopApplication .....	53
Request Syntax .....	53
URI Request Parameters .....	53
Request Body .....	53
Response Syntax .....	53
Response Elements .....	53
Errors .....	53
See Also .....	54

TagResource .....	55
Request Syntax .....	55
URI Request Parameters .....	55
Request Body .....	55
Response Syntax .....	56
Response Elements .....	56
Errors .....	56
See Also .....	57
UntagResource .....	58
Request Syntax .....	58
URI Request Parameters .....	58
Request Body .....	58
Response Syntax .....	59
Response Elements .....	59
Errors .....	59
See Also .....	59
UpdateApplication .....	61
Request Syntax .....	61
URI Request Parameters .....	63
Request Body .....	63
Response Syntax .....	66
Response Elements .....	69
Errors .....	69
See Also .....	70
<b>Data Types .....</b>	<b>71</b>
Application .....	73
Contents .....	73
See Also .....	78
ApplicationSummary .....	79
Contents .....	79
See Also .....	81
AutoStartConfig .....	82
Contents .....	82
See Also .....	82
AutoStopConfig .....	83
Contents .....	83

---

See Also .....	83
CloudWatchLoggingConfiguration .....	84
Contents .....	84
See Also .....	85
Configuration .....	87
Contents .....	87
See Also .....	88
ConfigurationOverrides .....	89
Contents .....	89
See Also .....	89
Hive .....	90
Contents .....	90
See Also .....	91
ImageConfiguration .....	92
Contents .....	92
See Also .....	92
ImageConfigurationInput .....	93
Contents .....	93
See Also .....	93
InitialCapacityConfig .....	94
Contents .....	94
See Also .....	94
InteractiveConfiguration .....	95
Contents .....	95
See Also .....	95
JobDriver .....	96
Contents .....	96
See Also .....	96
JobRun .....	97
Contents .....	97
See Also .....	103
JobRunAttemptSummary .....	104
Contents .....	104
See Also .....	107
JobRunSummary .....	108
Contents .....	108

---

See Also .....	111
ManagedPersistenceMonitoringConfiguration .....	112
Contents .....	112
See Also .....	112
MaximumAllowedResources .....	113
Contents .....	113
See Also .....	114
MonitoringConfiguration .....	115
Contents .....	115
See Also .....	115
NetworkConfiguration .....	117
Contents .....	117
See Also .....	117
PrometheusMonitoringConfiguration .....	119
Contents .....	119
See Also .....	119
ResourceUtilization .....	120
Contents .....	120
See Also .....	120
RetryPolicy .....	122
Contents .....	122
See Also .....	122
S3MonitoringConfiguration .....	123
Contents .....	123
See Also .....	123
SchedulerConfiguration .....	124
Contents .....	124
See Also .....	124
SparkSubmit .....	125
Contents .....	125
See Also .....	126
TotalResourceUtilization .....	127
Contents .....	127
See Also .....	127
WorkerResourceConfig .....	129
Contents .....	129



---

See Also .....	130
<b>WorkerTypeSpecification</b> .....	<b>131</b>
Contents .....	131
See Also .....	131
<b>WorkerTypeSpecificationInput</b> .....	<b>132</b>
Contents .....	132
See Also .....	132
<b>Common Parameters</b> .....	<b>133</b>
<b>Common Errors</b> .....	<b>136</b>

# Welcome

Amazon EMR Serverless is a new deployment option for Amazon EMR. Amazon 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 Amazon 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`.

This document was last published on February 21, 2025.

# Actions

The following actions are supported:

- [CancelJobRun](#)
- [CreateApplication](#)
- [DeleteApplication](#)
- [GetApplication](#)
- [GetDashboardForJobRun](#)
- [GetJobRun](#)
- [ListApplications](#)
- [ListJobRunAttempts](#)
- [ListJobRuns](#)
- [ListTagsForResource](#)
- [StartApplication](#)
- [StartJobRun](#)
- [StopApplication](#)
- [TagResource](#)
- [UntagResource](#)
- [UpdateApplication](#)

# 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

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

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

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

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](#).

### **InternalServerError**

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [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
```

```
{
  "architecture": "string",
  "autoStartConfiguration": {
    "enabled": boolean
  },
  "autoStopConfiguration": {
    "enabled": boolean,
    "idleTimeoutMinutes": number
  },
  "clientToken": "string",
  "imageConfiguration": {
    "imageUri": "string"
  },
  "initialCapacity": {
    "string" : {
      "workerConfiguration": {
        "cpu": "string",
        "disk": "string",
        "diskType": "string",
        "memory": "string"
      },
      "workerCount": number
    }
  },
  "interactiveConfiguration": {
    "livyEndpointEnabled": boolean,
    "studioEnabled": boolean
  },
  "maximumCapacity": {
    "cpu": "string",
    "disk": "string",
    "memory": "string"
  },
  "monitoringConfiguration": {
```

```

    "cloudWatchLoggingConfiguration": {
      "enabled": boolean,
      "encryptionKeyArn": "string",
      "logGroupName": "string",
      "logStreamNamePrefix": "string",
      "logTypes": {
        "string" : [ "string" ]
      }
    },
    "managedPersistenceMonitoringConfiguration": {
      "enabled": boolean,
      "encryptionKeyArn": "string"
    },
    "prometheusMonitoringConfiguration": {
      "remoteWriteUrl": "string"
    },
    "s3MonitoringConfiguration": {
      "encryptionKeyArn": "string",
      "logUri": "string"
    }
  },
  "name": "string",
  "networkConfiguration": {
    "securityGroupIds": [ "string" ],
    "subnetIds": [ "string" ]
  },
  "releaseLabel": "string",
  "runtimeConfiguration": [
    {
      "classification": "string",
      "configurations": [
        "Configuration"
      ],
      "properties": {
        "string" : "string"
      }
    }
  ],
  "schedulerConfiguration": {
    "maxConcurrentRuns": number,
    "queueTimeoutMinutes": number
  },
  "tags": {
    "string" : "string"
  }

```



```
},
  "type": "string",
  "workerTypeSpecifications": {
    "string" : {
      "imageConfiguration": {
        "imageUri": "string"
      }
    }
  }
}
```

## URI Request Parameters

The request does not use any URI parameters.

## Request Body

The request accepts the following data in JSON format.

### architecture

The CPU architecture of an application.

Type: String

Valid Values: ARM64 | X86\_64

Required: No

### autoStartConfiguration

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

Type: [AutoStartConfig](#) object

Required: No

### autoStopConfiguration

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

Type: [AutoStopConfig](#) object

Required: No

### clientToken

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

### imageConfiguration

The image configuration for all worker types. You can either set this parameter or `imageConfiguration` for each worker type in `workerTypeSpecifications`.

Type: [ImageConfigurationInput](#) object

Required: No

### initialCapacity

The capacity to initialize when the application is created.

Type: String to [InitialCapacityConfig](#) 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

### interactiveConfiguration

The interactive configuration object that enables the interactive use cases to use when running an application.

Type: [InteractiveConfiguration](#) object

Required: No

## maximumCapacity

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](#) object

Required: No

## monitoringConfiguration

The configuration setting for monitoring.

Type: [MonitoringConfiguration](#) 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.

Type: [NetworkConfiguration](#) object

Required: No

## releaseLabel

The Amazon EMR release associated with the application.

Type: String

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

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

Required: Yes

### runtimeConfiguration

The [Configuration](#) specifications to use when creating an application. Each configuration consists of a classification and properties. This configuration is applied to all the job runs submitted under the application.

Type: Array of [Configuration](#) objects

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

Required: No

### schedulerConfiguration

The scheduler configuration for batch and streaming jobs running on this application. Supported with release labels emr-7.0.0 and above.

Type: [SchedulerConfiguration](#) object

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 you want to start, such as Spark or Hive.

Type: String

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

Required: Yes

### [workerTypeSpecifications](#)

The key-value pairs that specify worker type to `WorkerTypeSpecificationInput`. This parameter must contain all valid worker types for a Spark or Hive application. Valid worker types include `Driver` and `Executor` for Spark applications and `HiveDriver` and `TezTask` for Hive applications. You can either set image details in this parameter for each worker type, or in `imageConfiguration` for all worker types.

Type: String to [WorkerTypeSpecificationInput](#) object map

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

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

Required: No

## 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](#)

The output contains the application ID.

Type: String

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

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

### arn

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}): \w/applications \w/[0-9a-zA-Z]+$`

### name

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](#).

### **ConflictException**

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

HTTP Status Code: 409

### **InternalServerErrorException**

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [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

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](#).



## InternalServerErrorException

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [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](#)

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",
    "architecture": "string",
    "arn": "string",
    "autoStartConfiguration": {
      "enabled": boolean
    },
    "autoStopConfiguration": {
      "enabled": boolean,
      "idleTimeoutMinutes": number
    }
  }
}
```

```
},
  "createdAt": number,
  "imageConfiguration": {
    "imageUri": "string",
    "resolvedImageDigest": "string"
  },
  "initialCapacity": {
    "string" : {
      "workerConfiguration": {
        "cpu": "string",
        "disk": "string",
        "diskType": "string",
        "memory": "string"
      },
      "workerCount": number
    }
  },
  "interactiveConfiguration": {
    "livyEndpointEnabled": boolean,
    "studioEnabled": boolean
  },
  "maximumCapacity": {
    "cpu": "string",
    "disk": "string",
    "memory": "string"
  },
  "monitoringConfiguration": {
    "cloudWatchLoggingConfiguration": {
      "enabled": boolean,
      "encryptionKeyArn": "string",
      "logGroupName": "string",
      "logStreamNamePrefix": "string",
      "logTypes": {
        "string" : [ "string" ]
      }
    },
    "managedPersistenceMonitoringConfiguration": {
      "enabled": boolean,
      "encryptionKeyArn": "string"
    },
    "prometheusMonitoringConfiguration": {
      "remoteWriteUrl": "string"
    },
    "s3MonitoringConfiguration": {
```



## 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

The output displays information about the specified application.

Type: [Application](#) object

## Errors

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

### **InternalServerErrorException**

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetDashboardForJobRun

Creates and returns a URL that you can use to access the application UIs for a job run.

For jobs in a running state, the application UI is a live user interface such as the Spark or Tez web UI. For completed jobs, the application UI is a persistent application user interface such as the Spark History Server or persistent Tez UI.

## Note

The URL is valid for one hour after you generate it. To access the application UI after that hour elapses, you must invoke the API again to generate a new URL.

## Request Syntax

```
GET /applications/applicationId/jobruns/jobRunId/dashboard?  
accessSystemProfileLogs=accessSystemProfileLogs&attempt=attempt HTTP/1.1
```

## URI Request Parameters

The request uses the following URI parameters.

### [accessSystemProfileLogs](#)

Allows access to system profile logs for Lake Formation-enabled jobs. Default is false.

### [applicationId](#)

The ID of the application.

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

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

Required: Yes

### [attempt](#)

An optional parameter that indicates the amount of attempts for the job. If not specified, this value defaults to the attempt of the latest job.

Valid Range: Minimum value of 1.

### jobRunId

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

{
  "url": "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.

### url

The URL to view job run's dashboard.

Type: String

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

## Errors

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



## InternalServerErrorException

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [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?attempt=attempt HTTP/1.1
```

## URI Request Parameters

The request uses the following URI parameters.

### applicationId

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

### attempt

An optional parameter that indicates the amount of attempts for the job. If not specified, this value defaults to the attempt of the latest job.

Valid Range: Minimum value of 1.

### jobRunId

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",
    "attempt": number,
    "attemptCreatedAt": number,
    "attemptUpdatedAt": number,
    "billedResourceUtilization": {
      "memoryGBHour": number,
      "storageGBHour": number,
      "vCPUHour": number
    },
    "configurationOverrides": {
      "applicationConfiguration": [
        {
          "classification": "string",
          "configurations": [
            "Configuration"
          ],
          "properties": {
            "string" : "string"
          }
        }
      ],
      "monitoringConfiguration": {
        "cloudWatchLoggingConfiguration": {
          "enabled": boolean,
          "encryptionKeyArn": "string",
          "logGroupName": "string",
          "logStreamNamePrefix": "string",
          "logTypes": {
            "string" : [ "string" ]
          }
        },
        "managedPersistenceMonitoringConfiguration": {
          "enabled": boolean,
          "encryptionKeyArn": "string"
        }
      }
    }
  }
}
```

```

    "prometheusMonitoringConfiguration": {
      "remoteWriteUrl": "string"
    },
    "s3MonitoringConfiguration": {
      "encryptionKeyArn": "string",
      "logUri": "string"
    }
  }
},
"createdAt": number,
"createdBy": "string",
"endedAt": number,
"executionRole": "string",
"executionTimeoutMinutes": number,
"jobDriver": { ... },
"jobRunId": "string",
"mode": "string",
"name": "string",
"networkConfiguration": {
  "securityGroupIds": [ "string" ],
  "subnetIds": [ "string" ]
},
"queuedDurationMilliseconds": number,
"releaseLabel": "string",
"retryPolicy": {
  "maxAttempts": number,
  "maxFailedAttemptsPerHour": number
},
"startedAt": number,
"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](#)

The output displays information about the job run.

Type: [JobRun](#) object

## Errors

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

### **InternalServerErrorException**

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [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

The maximum number of applications that can be listed.

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

### nextToken

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

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": [
    {
      "architecture": "string",
      "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](#)

The output lists the specified applications.

Type: Array of [ApplicationSummary](#) objects

### [nextToken](#)

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](#).

### InternalServerError

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListJobRunAttempts

Lists all attempt of a job run.

## Request Syntax

```
GET /applications/applicationId/jobruns/jobRunId/attempts?  
maxResults=maxResults&nextToken=nextToken HTTP/1.1
```

## URI Request Parameters

The request uses the following URI parameters.

### applicationId

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

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

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

Required: Yes

### jobRunId

The ID of the job run to list.

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

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

Required: Yes

### maxResults

The maximum number of job run attempts to list.

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

### nextToken

The token for the next set of job run attempt results.

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

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

## Request Body

The request does not have a request body.

## Response Syntax

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

{
  "jobRunAttempts": [
    {
      "applicationId": "string",
      "arn": "string",
      "attempt": number,
      "createdAt": number,
      "createdBy": "string",
      "executionRole": "string",
      "id": "string",
      "jobCreatedAt": number,
      "mode": "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.

## [jobRunAttempts](#)

The array of the listed job run attempt objects.

Type: Array of [JobRunAttemptSummary](#) objects

## [nextToken](#)

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](#).

### **InternalServerError**

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [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&mode=mode&n  
HTTP/1.1
```

## URI Request Parameters

The request uses the following URI parameters.

### applicationId

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

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

### createdAtBefore

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

### maxResults

The maximum number of job runs that can be listed.

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

### mode

The mode of the job runs to list.

Valid Values: BATCH | STREAMING

## nextToken

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

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 | QUEUED

## 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",
      "attempt": number,
      "attemptCreatedAt": number,
      "attemptUpdatedAt": number,
      "createdAt": number,
      "createdBy": "string",
      "executionRole": "string",
      "id": "string",
      "mode": "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](#)

The output lists information about the specified job runs.

Type: Array of [JobRunSummary](#) objects

### [nextToken](#)

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](#).

### **InternalServerError**

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [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

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

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](#).

### **InternalServerErrorException**

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [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

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](#).

## **InternalServerErrorException**

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [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": {
      "cloudWatchLoggingConfiguration": {
        "enabled": boolean,
        "encryptionKeyArn": "string",
        "logGroupName": "string",
        "logStreamNamePrefix": "string",
        "logTypes": {
          "string" : [ "string" ]
        }
      }
    },
    "managedPersistenceMonitoringConfiguration": {
      "enabled": boolean,
      "encryptionKeyArn": "string"
    },
    "prometheusMonitoringConfiguration": {
      "remoteWriteUrl": "string"
    },
    "s3MonitoringConfiguration": {
      "encryptionKeyArn": "string",
      "logUri": "string"
    }
  }
}
```

```
    }
  }
},
"executionRoleArn": "string",
"executionTimeoutMinutes": number,
"jobDriver": { ... },
"mode": "string",
"name": "string",
"retryPolicy": {
  "maxAttempts": number,
  "maxFailedAttemptsPerHour": number
},
"tags": {
  "string" : "string"
}
}
```

## URI Request Parameters

The request uses the following URI parameters.

### [applicationId](#)

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

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

Pattern:  $^[\text{0-9a-z}]+\text{\$}$

Required: Yes

## Request Body

The request accepts the following data in JSON format.

### [clientToken](#)

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

The configuration overrides for the job run.

Type: [ConfigurationOverrides](#) object

Required: No

### executionRoleArn

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::([0-9]{12}):role((\u002F|(\u002F[\u0021-\u007F]+\u002F))[\w+=,.\@-]+)$`

Required: Yes

### executionTimeoutMinutes

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

The job driver for the job run.

Type: [JobDriver](#) object

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

Required: No

## mode

The mode of the job run when it starts.

Type: String

Valid Values: BATCH | STREAMING

Required: No

## 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

## retryPolicy

The retry policy when job run starts.

Type: [RetryPolicy](#) object

Required: No

## 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

## 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](#)

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](#)

This output displays 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}): \backslashapplications  
 \backslash[0-9a-zA-Z]+ \backslashjobruns \backslash[0-9a-zA-Z]+$`

### [jobRunId](#)

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](#).

### ConflictException

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

HTTP Status Code: 409

### InternalServerErrorException

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [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

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](#).

## InternalServerErrorException

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [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

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

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](#).

### InternalServerErrorException

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [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](#)

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}): \/application \/[0-9a-zA-Z]+(\ /jobruns \/[0-9a-zA-Z]+)?$`

Required: Yes

### [tagKeys](#)

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](#).

### **InternalServerErrorException**

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 v2](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for JavaScript V3](#)
- [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
```

```
{
  "architecture": "string",
  "autoStartConfiguration": {
    "enabled": boolean
  },
  "autoStopConfiguration": {
    "enabled": boolean,
    "idleTimeoutMinutes": number
  },
  "clientToken": "string",
  "imageConfiguration": {
    "imageUri": "string"
  },
  "initialCapacity": {
    "string" : {
      "workerConfiguration": {
        "cpu": "string",
        "disk": "string",
        "diskType": "string",
        "memory": "string"
      },
      "workerCount": number
    }
  },
  "interactiveConfiguration": {
    "livyEndpointEnabled": boolean,
    "studioEnabled": boolean
  },
  "maximumCapacity": {
    "cpu": "string",
    "disk": "string",
    "memory": "string"
  },
}
```

```
"monitoringConfiguration": {
  "cloudWatchLoggingConfiguration": {
    "enabled": boolean,
    "encryptionKeyArn": "string",
    "logGroupName": "string",
    "logStreamNamePrefix": "string",
    "logTypes": {
      "string" : [ "string" ]
    }
  },
  "managedPersistenceMonitoringConfiguration": {
    "enabled": boolean,
    "encryptionKeyArn": "string"
  },
  "prometheusMonitoringConfiguration": {
    "remoteWriteUrl": "string"
  },
  "s3MonitoringConfiguration": {
    "encryptionKeyArn": "string",
    "logUri": "string"
  }
},
"networkConfiguration": {
  "securityGroupIds": [ "string" ],
  "subnetIds": [ "string" ]
},
"releaseLabel": "string",
"runtimeConfiguration": [
  {
    "classification": "string",
    "configurations": [
      "Configuration"
    ],
    "properties": {
      "string" : "string"
    }
  }
],
"schedulerConfiguration": {
  "maxConcurrentRuns": number,
  "queueTimeoutMinutes": number
},
"workerTypeSpecifications": {
  "string" : {
```

```
    "imageConfiguration": {  
      "imageUri": "string"  
    }  
  }  
}
```

## URI Request Parameters

The request uses the following URI parameters.

### applicationId

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.

### architecture

The CPU architecture of an application.

Type: String

Valid Values: ARM64 | X86\_64

Required: No

### autoStartConfiguration

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

Type: [AutoStartConfig](#) object

Required: No



## autoStopConfiguration

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

Type: [AutoStopConfig](#) object

Required: No

## clientToken

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

## imageConfiguration

The image configuration to be used for all worker types. You can either set this parameter or `imageConfiguration` for each worker type in `WorkerTypeSpecificationInput`.

Type: [ImageConfigurationInput](#) object

Required: No

## initialCapacity

The capacity to initialize when the application is updated.

Type: String to [InitialCapacityConfig](#) 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

## interactiveConfiguration

The interactive configuration object that contains new interactive use cases when the application is updated.

Type: [InteractiveConfiguration](#) object

Required: No

## maximumCapacity

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](#) object

Required: No

## monitoringConfiguration

The configuration setting for monitoring.

Type: [MonitoringConfiguration](#) object

Required: No

## networkConfiguration

The network configuration for customer VPC connectivity.

Type: [NetworkConfiguration](#) object

Required: No

## releaseLabel

The Amazon EMR release label for the application. You can change the release label to use a different release of Amazon EMR.

Type: String

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

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

Required: No

## runtimeConfiguration

The [Configuration](#) specifications to use when updating an application. Each configuration consists of a classification and properties. This configuration is applied across all the job runs submitted under the application.

Type: Array of [Configuration](#) objects

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

Required: No

## schedulerConfiguration

The scheduler configuration for batch and streaming jobs running on this application. Supported with release labels emr-7.0.0 and above.

Type: [SchedulerConfiguration](#) object

Required: No

## workerTypeSpecifications

The key-value pairs that specify worker type to `WorkerTypeSpecificationInput`. This parameter must contain all valid worker types for a Spark or Hive application. Valid worker types include `Driver` and `Executor` for Spark applications and `HiveDriver` and `TezTask` for Hive applications. You can either set image details in this parameter for each worker type, or in `imageConfiguration` for all worker types.

Type: String to [WorkerTypeSpecificationInput](#) object map

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

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

Required: No

## Response Syntax

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

{
  "application": {
```

```
"applicationId": "string",
"architecture": "string",
"arn": "string",
"autoStartConfiguration": {
  "enabled": boolean
},
"autoStopConfiguration": {
  "enabled": boolean,
  "idleTimeoutMinutes": number
},
"createdAt": number,
"imageConfiguration": {
  "imageUri": "string",
  "resolvedImageDigest": "string"
},
"initialCapacity": {
  "string" : {
    "workerConfiguration": {
      "cpu": "string",
      "disk": "string",
      "diskType": "string",
      "memory": "string"
    },
    "workerCount": number
  }
},
"interactiveConfiguration": {
  "livyEndpointEnabled": boolean,
  "studioEnabled": boolean
},
"maximumCapacity": {
  "cpu": "string",
  "disk": "string",
  "memory": "string"
},
"monitoringConfiguration": {
  "cloudWatchLoggingConfiguration": {
    "enabled": boolean,
    "encryptionKeyArn": "string",
    "logGroupName": "string",
    "logStreamNamePrefix": "string",
    "logTypes": {
      "string" : [ "string" ]
    }
  }
}
```

```

    },
    "managedPersistenceMonitoringConfiguration": {
      "enabled": boolean,
      "encryptionKeyArn": "string"
    },
    "prometheusMonitoringConfiguration": {
      "remoteWriteUrl": "string"
    },
    "s3MonitoringConfiguration": {
      "encryptionKeyArn": "string",
      "logUri": "string"
    }
  },
  "name": "string",
  "networkConfiguration": {
    "securityGroupIds": [ "string " ],
    "subnetIds": [ "string " ]
  },
  "releaseLabel": "string",
  "runtimeConfiguration": [
    {
      "classification": "string",
      "configurations": [
        "Configuration"
      ],
      "properties": {
        "string": "string"
      }
    }
  ],
  "schedulerConfiguration": {
    "maxConcurrentRuns": number,
    "queueTimeoutMinutes": number
  },
  "state": "string",
  "stateDetails": "string",
  "tags": {
    "string": "string"
  },
  "type": "string",
  "updatedAt": number,
  "workerTypeSpecifications": {
    "string": {
      "imageConfiguration": {

```

```
    "imageUri": "string",  
    "resolvedImageDigest": "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.

### application

Information about the updated application.

Type: [Application](#) object

## Errors

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

### **InternalServerError**

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 v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# Data Types

The EMR Serverless 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](#)
- [ApplicationSummary](#)
- [AutoStartConfig](#)
- [AutoStopConfig](#)
- [CloudWatchLoggingConfiguration](#)
- [Configuration](#)
- [ConfigurationOverrides](#)
- [Hive](#)
- [ImageConfiguration](#)
- [ImageConfigurationInput](#)
- [InitialCapacityConfig](#)
- [InteractiveConfiguration](#)
- [JobDriver](#)
- [JobRun](#)
- [JobRunAttemptSummary](#)
- [JobRunSummary](#)
- [ManagedPersistenceMonitoringConfiguration](#)
- [MaximumAllowedResources](#)
- [MonitoringConfiguration](#)
- [NetworkConfiguration](#)



- [PrometheusMonitoringConfiguration](#)
- [ResourceUtilization](#)
- [RetryPolicy](#)
- [S3MonitoringConfiguration](#)
- [SchedulerConfiguration](#)
- [SparkSubmit](#)
- [TotalResourceUtilization](#)
- [WorkerResourceConfig](#)
- [WorkerTypeSpecification](#)
- [WorkerTypeSpecificationInput](#)

# Application

Information about an application. Amazon 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}):\w/applications  
/[0-9a-zA-Z]+$`

Required: Yes

### **createdAt**

The date and time when the application run was created.

Type: Timestamp

Required: Yes

### **releaseLabel**

The Amazon EMR release 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

### **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

### **architecture**

The CPU architecture of an application.

Type: String

Valid Values: ARM64 | X86\_64

Required: No

## **autoStartConfiguration**

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

Type: [AutoStartConfig](#) object

Required: No

## **autoStopConfiguration**

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

Type: [AutoStopConfig](#) object

Required: No

## **imageConfiguration**

The image configuration applied to all worker types.

Type: [ImageConfiguration](#) object

Required: No

## **initialCapacity**

The initial capacity of the application.

Type: String to [InitialCapacityConfig](#) 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

## **interactiveConfiguration**

The interactive configuration object that enables the interactive use cases for an application.

Type: [InteractiveConfiguration](#) object

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](#) object

Required: No

## monitoringConfiguration

The configuration setting for monitoring.

Type: [MonitoringConfiguration](#) 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](#) object

Required: No

## runtimeConfiguration

The [Configuration](#) specifications of an application. Each configuration consists of a classification and properties. You use this parameter when creating or updating an application. To see the runtimeConfiguration object of an application, run the [GetApplication](#) API operation.

Type: Array of [Configuration](#) objects

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

Required: No

### **schedulerConfiguration**

The scheduler configuration for batch and streaming jobs running on this application. Supported with release labels emr-7.0.0 and above.

Type: [SchedulerConfiguration](#) object

Required: No

### **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

### **workerTypeSpecifications**

The specification applied to each worker type.

Type: String to [WorkerTypeSpecification](#) object map

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

Key Pattern: `^[a-zA-Z]+[-_]*[a-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 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}): \/application \/[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

### releaseLabel

The Amazon EMR release 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

### **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

### **architecture**

The CPU architecture of an application.

Type: String

Valid Values: ARM64 | X86\_64

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

### **stateDetails**

The state details of the application.

Type: String

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

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

# CloudWatchLoggingConfiguration

The Amazon CloudWatch configuration for monitoring logs. You can configure your jobs to send log information to CloudWatch.

## Contents

### enabled

Enables CloudWatch logging.

Type: Boolean

Required: Yes

### encryptionKeyArn

The AWS Key Management Service (KMS) key ARN to encrypt the logs that you store in CloudWatch Logs.

Type: String

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

Pattern: `^arn:(aws[a-zA-Z0-9-]*):kms:[a-zA-Z0-9\-*]:([0-9]{12}):key\[a-zA-Z0-9-]+\$`

Required: No

### logGroupName

The name of the log group in Amazon CloudWatch Logs where you want to publish your logs.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 512.

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

Required: No

### logStreamNamePrefix

Prefix for the CloudWatch log stream name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 512.

Pattern: `^[^:]*$`

Required: No

## logTypes

The types of logs that you want to publish to CloudWatch. If you don't specify any log types, driver STDOUT and STDERR logs will be published to CloudWatch Logs by default. For more information including the supported worker types for Hive and Spark, see [Logging for EMR Serverless with CloudWatch](#).

- **Key Valid Values:** SPARK\_DRIVER, SPARK\_EXECUTOR, HIVE\_DRIVER, TEZ\_TASK
- **Array Members Valid Values:** STDOUT, STDERR, HIVE\_LOG, TEZ\_AM, SYSTEM\_LOGS

Type: String to array of strings map

Map Entries: Maximum number of 4 items.

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

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

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

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

Pattern: `^[a-zA-Z]+[-_]*[a-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 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](#) 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 0. 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 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](#) objects

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

Required: No

### **monitoringConfiguration**

The override configurations for monitoring.

Type: [MonitoringConfiguration](#) object

Required: No

## See Also

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

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

# Hive

The configurations for the Hive job driver.

## Contents

### query

The query for the Hive job run.

Type: String

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

Pattern: `.*\S.*`

Required: Yes

### 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

## See Also

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

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

# ImageConfiguration

The applied image configuration.

## Contents

### imageUri

The image URI.

Type: String

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

Pattern: `^([\d]{12})\.dkr\.ecr\.([a-z0-9-]+)\.([a-z0-9._-]+)\|((?:[a-z0-9]+(?:[-._][a-z0-9]+)*/)*[a-z0-9]+(?:[-._][a-z0-9]+)*)((?:[a-zA-Z0-9_]+[a-zA-Z0-9-._]*)|@(sha256:[0-9a-f]{64}))$`

Required: Yes

### resolvedImageDigest

The SHA256 digest of the image URI. This indicates which specific image the application is configured for. The image digest doesn't exist until an application has started.

Type: String

Pattern: `^sha256:[0-9a-f]{64}$`

Required: No

## See Also

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

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

# ImageConfigurationInput

The image configuration.

## Contents

### imageUri

The URI of an image in the Amazon ECR registry. This field is required when you create a new application. If you leave this field blank in an update, Amazon EMR will remove the image configuration.

Type: String

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

Pattern: `^([0-9]{12})\.dkr\.ecr\.([a-z0-9-]+)\.([a-z0-9._-]+)\|((?:[a-z0-9]+(?:[-._][a-z0-9]+)*/)*[a-z0-9]+(?:[-._][a-z0-9]+)*)|(?:([a-zA-Z0-9_]+[a-zA-Z0-9-._]*)|@(sha256:[0-9a-f]{64}))$`

Required: No

## See Also

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

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

# InitialCapacityConfig

The initial capacity configuration per worker.

## Contents

### **workerCount**

The number of workers in the initial capacity configuration.

Type: Long

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

Required: Yes

### **workerConfiguration**

The resource configuration of the initial capacity configuration.

Type: [WorkerResourceConfig](#) object

Required: No

## See Also

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

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

# InteractiveConfiguration

The configuration to use to enable the different types of interactive use cases in an application.

## Contents

### **livyEndpointEnabled**

Enables an Apache Livy endpoint that you can connect to and run interactive jobs.

Type: Boolean

Required: No

### **studioEnabled**

Enables you to connect an application to Amazon EMR Studio to run interactive workloads in a notebook.

Type: Boolean

Required: No

## See Also

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

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



# JobDriver

The driver that the job runs on.

## Contents

### Important

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

### hive

The job driver parameters specified for Hive.

Type: [Hive](#) object

Required: No

### sparkSubmit

The job driver parameters specified for Spark.

Type: [SparkSubmit](#) object

Required: No

## See Also

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

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

# 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 Amazon 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

### **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::([0-9]{12}):(\u002F|(\u002F[\u0021-\u007F]+\u002F))[\w+=,.\@-]+$`

Required: Yes

### **jobDriver**

The job driver for the job run.

Type: [JobDriver](#) object

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

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

### **releaseLabel**

The Amazon EMR release 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 | QUEUED

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

### **updatedAt**

The date and time when the job run was updated.

Type: Timestamp

Required: Yes

### **attempt**

The attempt of the job run.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**attemptCreatedAt**

The date and time of when the job run attempt was created.

Type: Timestamp

Required: No

**attemptUpdatedAt**

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

Type: Timestamp

Required: No

**billedResourceUtilization**

The aggregate vCPU, memory, and storage that AWS has billed for the job run. The billed resources include a 1-minute minimum usage for workers, plus additional storage over 20 GB per worker. Note that billed resources do not include usage for idle pre-initialized workers.

Type: [ResourceUtilization](#) object

Required: No

**configurationOverrides**

The configuration settings that are used to override default configuration.

Type: [ConfigurationOverrides](#) object

Required: No

**endedAt**

The date and time when the job was terminated.

Type: Timestamp

Required: No

**executionTimeoutMinutes**

Returns the job run timeout value from the `StartJobRun` call. If no timeout was specified, then it returns the default timeout of 720 minutes.

Type: Long

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

Required: No

### **mode**

The mode of the job run.

Type: String

Valid Values: BATCH | STREAMING

Required: No

### **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](#) object

Required: No

### **queuedDurationMilliseconds**

The total time for a job in the QUEUED state in milliseconds.

Type: Long

Required: No

### **retryPolicy**

The retry policy of the job run.

Type: [RetryPolicy](#) object

Required: No

### **startedAt**

The date and time when the job moved to the RUNNING state.

Type: Timestamp

Required: No

### **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 the job starts to execute, until the time the job terminates, rounded up to the nearest second.

Type: [TotalResourceUtilization](#) object

Required: No

## See Also

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

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



# JobRunAttemptSummary

The summary of attributes associated with a job run attempt.

## 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 Amazon Resource Name (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}) : \backslash applications \backslash [0-9a-zA-Z]+ \backslash jobruns \backslash [0-9a-zA-Z]+$`

Required: Yes

### **createdAt**

The date and time when the job run attempt 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 Amazon Resource Name (ARN) of the execution role of the job run..

Type: String

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

Pattern: `^arn:(aws[a-zA-Z0-9-]*):iam::([0-9]{12}):(\u002F|(\u002F[\u0021-\u007F]+\u002F))[\w+=, .@-]+$`

Required: Yes

### **id**

The ID of the job run attempt.

Type: String

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

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

Required: Yes

### **jobCreatedAt**

The date and time of when the job run was created.

Type: Timestamp

Required: Yes

### **releaseLabel**

The Amazon EMR release label of the job run attempt.

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 attempt.

Type: String

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

Required: Yes

### **stateDetails**

The state details of the job run attempt.

Type: String

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

Pattern: `.*\S.*`

Required: Yes

### **updatedAt**

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

Type: Timestamp

Required: Yes

### **attempt**

The attempt number of the job run execution.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### **mode**

The mode of the job run attempt.

Type: String

Valid Values: BATCH | STREAMING

Required: No

### **name**

The name of the job run attempt.

Type: String

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

Pattern: `.*\S.*`

Required: No

### **type**

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

Type: String

Required: No

## **See Also**

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

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

# 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::([0-9]{12}):(\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

### **releaseLabel**

The Amazon EMR release 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 | QUEUED

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

### **updatedAt**

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

Type: Timestamp

Required: Yes

### **attempt**

The attempt number of the job run execution.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### **attemptCreatedAt**

The date and time of when the job run attempt was created.

Type: Timestamp

Required: No

### **attemptUpdatedAt**

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

Type: Timestamp

Required: No

### **mode**

The mode of the job run.

Type: String

Valid Values: BATCH | STREAMING

Required: No

### **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

### **type**

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

Type: String

Required: No

## **See Also**

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

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



# 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\ -]* : ([0-9]{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 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

### 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

### 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

## See Also

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

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

# MonitoringConfiguration

The configuration setting for monitoring.

## Contents

### cloudWatchLoggingConfiguration

The Amazon CloudWatch configuration for monitoring logs. You can configure your jobs to send log information to CloudWatch.

Type: [CloudWatchLoggingConfiguration](#) object

Required: No

### managedPersistenceMonitoringConfiguration

The managed log persistence configuration for a job run.

Type: [ManagedPersistenceMonitoringConfiguration](#) object

Required: No

### prometheusMonitoringConfiguration

The monitoring configuration object you can configure to send metrics to Amazon Managed Service for Prometheus for a job run.

Type: [PrometheusMonitoringConfiguration](#) object

Required: No

### s3MonitoringConfiguration

The Amazon S3 configuration for monitoring log publishing.

Type: [S3MonitoringConfiguration](#) object

Required: No

## See Also

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

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

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



# PrometheusMonitoringConfiguration

The monitoring configuration object you can configure to send metrics to Amazon Managed Service for Prometheus for a job run.

## Contents

### remoteWriteUrl

The remote write URL in the Amazon Managed Service for Prometheus workspace to send metrics to.

Type: String

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

Pattern: `^https://aps-workspaces\.([a-z]{2}-[a-z-]{1,20}-[1-9])\.amazonaws(\.[0-9A-Za-z]{2,4})+/workspaces/[-_\.0-9A-Za-z]{1,100}/api/v1/remote_write$`

Required: No

## See Also

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

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



# ResourceUtilization

The resource utilization for memory, storage, and vCPU for jobs.

## Contents

### memoryGBHour

The aggregated memory used per hour from the time the job starts executing until the job is terminated.

Type: Double

Required: No

### storageGBHour

The aggregated storage used per hour from the time the job starts executing until the job is terminated.

Type: Double

Required: No

### vCPUHour

The aggregated vCPU used per hour from the time the job starts executing until the 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 Java V2](#)
- [AWS SDK for Ruby V3](#)



# RetryPolicy

The retry policy to use for a job run.

## Contents

### maxAttempts

Maximum number of attempts for the job run. This parameter is only applicable for BATCH mode.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

### maxFailedAttemptsPerHour

Maximum number of failed attempts per hour. This parameter is only applicable for STREAMING mode.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

## See Also

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

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

# 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\-*:([0-9]{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-\uFFFF\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 Java V2](#)
- [AWS SDK for Ruby V3](#)

# SchedulerConfiguration

The scheduler configuration for batch and streaming jobs running on this application. Supported with release labels emr-7.0.0 and above.

## Contents

### maxConcurrentRuns

The maximum concurrent job runs on this application. If scheduler configuration is enabled on your application, the default value is 15. The valid range is 1 to 1000.

Type: Integer

Required: No

### queueTimeoutMinutes

The maximum duration in minutes for the job in QUEUED state. If scheduler configuration is enabled on your application, the default value is 360 minutes (6 hours). The valid range is from 15 to 720.

Type: Integer

Required: No

## See Also

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

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

# 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 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

### vCPULHour

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 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

### 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

### 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

### diskType

The disk type for every worker instance of the work type. Shuffle optimized disks have higher performance characteristics and are better for shuffle heavy workloads. Default is STANDARD.

Type: String

Pattern: `^(SHUFFLE_OPTIMIZED|[Ss]huffle_[Oo]ptimized|STANDARD|[Ss]tandard)$`

Required: No

## See Also

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

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

# WorkerTypeSpecification

The specifications for a worker type.

## Contents

### imageConfiguration

The image configuration for a worker type.

Type: [ImageConfiguration](#) object

Required: No

## See Also

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

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

# WorkerTypeSpecificationInput

The specifications for a worker type.

## Contents

### imageConfiguration

The image configuration for a worker type.

Type: [ImageConfigurationInput](#) object

Required: No

## See Also

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

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

# Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see [Signing AWS API requests](#) in the *IAM User Guide*.

## 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 [Create a signed AWS API request](#) in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

### **X-Amz-Date**

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: 20120325T120000Z.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see [Elements of an AWS API request signature](#) in the *IAM User Guide*.

Type: string

Required: Conditional

### **X-Amz-Security-Token**

The temporary security token that was obtained through a call to AWS Security Token Service (AWS STS). For a list of services that support temporary security credentials from AWS STS, see [AWS services that work with IAM](#) in the *IAM User Guide*.

Condition: If you're using temporary security credentials from AWS STS, you must include the security token.

Type: string

Required: Conditional

### **X-Amz-Signature**

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

### **X-Amz-SignedHeaders**

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see [Create a signed AWS API request](#) in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional



# Common 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

## **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