
AWS Step Functions

API Reference

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AWS Step Functions: API Reference

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Table of Contents

Welcome	1
Actions	2
CreateActivity	3
Request Syntax	3
Request Parameters	3
Response Syntax	4
Response Elements	4
Errors	4
See Also	5
CreateStateMachine	6
Request Syntax	6
Request Parameters	6
Response Syntax	8
Response Elements	8
Errors	8
See Also	9
DeleteActivity	10
Request Syntax	10
Request Parameters	10
Response Elements	10
Errors	10
See Also	10
DeleteStateMachine	12
Request Syntax	12
Request Parameters	12
Response Elements	12
Errors	12
See Also	12
DescribeActivity	14
Request Syntax	14
Request Parameters	14
Response Syntax	14
Response Elements	14
Errors	15
See Also	15
DescribeExecution	16
Request Syntax	16
Request Parameters	16
Response Syntax	16
Response Elements	16
Errors	18
See Also	18
DescribeStateMachine	20
Request Syntax	20
Request Parameters	20
Response Syntax	20
Response Elements	21
Errors	22
See Also	22
DescribeStateMachineForExecution	23
Request Syntax	23
Request Parameters	23
Response Syntax	23
Response Elements	24

Errors	24
See Also	25
GetActivityTask	26
Request Syntax	26
Request Parameters	26
Response Syntax	26
Response Elements	27
Errors	27
See Also	27
GetExecutionHistory	29
Request Syntax	29
Request Parameters	29
Response Syntax	30
Response Elements	33
Errors	33
Examples	34
See Also	35
ListActivities	36
Request Syntax	36
Request Parameters	36
Response Syntax	36
Response Elements	37
Errors	37
See Also	37
ListExecutions	39
Request Syntax	39
Request Parameters	39
Response Syntax	40
Response Elements	40
Errors	41
See Also	41
ListStateMachines	42
Request Syntax	42
Request Parameters	42
Response Syntax	42
Response Elements	43
Errors	43
See Also	43
ListTagsForResource	45
Request Syntax	45
Request Parameters	45
Response Syntax	45
Response Elements	45
Errors	45
See Also	46
SendTaskFailure	47
Request Syntax	47
Request Parameters	47
Response Elements	47
Errors	48
See Also	48
SendTaskHeartbeat	49
Request Syntax	49
Request Parameters	49
Response Elements	49
Errors	49
See Also	50

SendTaskSuccess	51
Request Syntax	51
Request Parameters	51
Response Elements	51
Errors	51
See Also	52
StartExecution	53
Request Syntax	53
Request Parameters	53
Response Syntax	54
Response Elements	54
Errors	55
See Also	55
StartSyncExecution	57
Request Syntax	57
Request Parameters	57
Response Syntax	58
Response Elements	58
Errors	60
See Also	61
StopExecution	62
Request Syntax	62
Request Parameters	62
Response Syntax	62
Response Elements	63
Errors	63
See Also	63
TagResource	64
Request Syntax	64
Request Parameters	64
Response Elements	64
Errors	64
See Also	65
UntagResource	66
Request Syntax	66
Request Parameters	66
Response Elements	66
Errors	66
See Also	67
UpdateStateMachine	68
Request Syntax	68
Request Parameters	68
Response Syntax	69
Response Elements	69
Errors	69
See Also	70
Data Types	71
ActivityFailedEventDetails	73
Contents	73
See Also	73
ActivityListItem	74
Contents	74
See Also	74
ActivityScheduledEventDetails	75
Contents	75
See Also	75
ActivityScheduleFailedEventDetails	77

Contents	77
See Also	77
ActivityStartedEventDetails	78
Contents	78
See Also	78
ActivitySucceededEventDetails	79
Contents	79
See Also	79
ActivityTimedOutEventDetails	80
Contents	80
See Also	80
BillingDetails	81
Contents	81
See Also	81
CloudWatchEventsExecutionDataDetails	82
Contents	82
See Also	82
CloudWatchLogsLogGroup	83
Contents	83
See Also	83
ExecutionAbortedEventDetails	84
Contents	84
See Also	84
ExecutionFailedEventDetails	85
Contents	85
See Also	85
ExecutionListItem	86
Contents	86
See Also	87
ExecutionStartedEventDetails	88
Contents	88
See Also	88
ExecutionSucceededEventDetails	89
Contents	89
See Also	89
ExecutionTimedOutEventDetails	90
Contents	90
See Also	90
HistoryEvent	91
Contents	91
See Also	95
HistoryEventExecutionDataDetails	96
Contents	96
See Also	96
LambdaFunctionFailedEventDetails	97
Contents	97
See Also	97
LambdaFunctionScheduledEventDetails	98
Contents	98
See Also	98
LambdaFunctionScheduleFailedEventDetails	99
Contents	99
See Also	99
LambdaFunctionStartFailedEventDetails	100
Contents	100
See Also	100
LambdaFunctionSucceededEventDetails	101

Contents	101
See Also	101
LambdaFunctionTimedOutEventDetails	102
Contents	102
See Also	102
LogDestination	103
Contents	103
See Also	103
LoggingConfiguration	104
Contents	104
See Also	104
MapIterationEventDetails	105
Contents	105
See Also	105
MapStateStartedEventDetails	106
Contents	106
See Also	106
StateEnteredEventDetails	107
Contents	107
See Also	107
StateExitedEventDetails	108
Contents	108
See Also	108
StateMachineListItem	109
Contents	109
See Also	109
Tag	111
Contents	111
See Also	111
TaskFailedEventDetails	112
Contents	112
See Also	112
TaskScheduledEventDetails	113
Contents	113
See Also	114
TaskStartedEventDetails	115
Contents	115
See Also	115
TaskStartFailedEventDetails	116
Contents	116
See Also	116
TaskSubmitFailedEventDetails	117
Contents	117
See Also	117
TaskSubmittedEventDetails	118
Contents	118
See Also	118
TaskSucceededEventDetails	119
Contents	119
See Also	119
TaskTimedOutEventDetails	120
Contents	120
See Also	120
TracingConfiguration	121
Contents	121
See Also	121
Common Parameters	122

Common Errors	124
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Welcome

AWS Step Functions is a service that lets you coordinate the components of distributed applications and microservices using visual workflows.

You can use Step Functions to build applications from individual components, each of which performs a discrete function, or *task*, allowing you to scale and change applications quickly. Step Functions provides a console that helps visualize the components of your application as a series of steps. Step Functions automatically triggers and tracks each step, and retries steps when there are errors, so your application executes predictably and in the right order every time. Step Functions logs the state of each step, so you can quickly diagnose and debug any issues.

Step Functions manages operations and underlying infrastructure to ensure your application is available at any scale. You can run tasks on AWS, your own servers, or any system that has access to AWS. You can access and use Step Functions using the console, the AWS SDKs, or an HTTP API. For more information about Step Functions, see the [AWS Step Functions Developer Guide](#).

This document was last published on October 6, 2021.

Actions

The following actions are supported:

- [CreateActivity](#) (p. 3)
- [CreateStateMachine](#) (p. 6)
- [DeleteActivity](#) (p. 10)
- [DeleteStateMachine](#) (p. 12)
- [DescribeActivity](#) (p. 14)
- [DescribeExecution](#) (p. 16)
- [DescribeStateMachine](#) (p. 20)
- [DescribeStateMachineForExecution](#) (p. 23)
- [GetActivityTask](#) (p. 26)
- [GetExecutionHistory](#) (p. 29)
- [ListActivities](#) (p. 36)
- [ListExecutions](#) (p. 39)
- [ListStateMachines](#) (p. 42)
- [ListTagsForResource](#) (p. 45)
- [SendTaskFailure](#) (p. 47)
- [SendTaskHeartbeat](#) (p. 49)
- [SendTaskSuccess](#) (p. 51)
- [StartExecution](#) (p. 53)
- [StartSyncExecution](#) (p. 57)
- [StopExecution](#) (p. 62)
- [TagResource](#) (p. 64)
- [UntagResource](#) (p. 66)
- [UpdateStateMachine](#) (p. 68)

CreateActivity

Creates an activity. An activity is a task that you write in any programming language and host on any machine that has access to AWS Step Functions. Activities must poll Step Functions using the `GetActivityTask` API action and respond using `SendTask*` API actions. This function lets Step Functions know the existence of your activity and returns an identifier for use in a state machine and when polling from the activity.

Note

This operation is eventually consistent. The results are best effort and may not reflect very recent updates and changes.

Note

`CreateActivity` is an idempotent API. Subsequent requests won't create a duplicate resource if it was already created. `CreateActivity`'s idempotency check is based on the activity name. If a following request has different `tags` values, Step Functions will ignore these differences and treat it as an idempotent request of the previous. In this case, `tags` will not be updated, even if they are different.

Request Syntax

```
{
  "name": "string",
  "tags": [
    {
      "key": "string",
      "value": "string"
    }
  ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

name (p. 3)

The name of the activity to create. This name must be unique for your AWS account and region for 90 days. For more information, see [Limits Related to State Machine Executions](#) in the *AWS Step Functions Developer Guide*.

A name must *not* contain:

- white space
- brackets `<` `>` `{` `}` `[` `]`
- wildcard characters `?` `*`
- special characters `"` `#` `%` `\` `^` `|` `~` ``` `$` `&` `,` `;` `:` `/`
- control characters (U+0000–001F, U+007F–009F)

To enable logging with CloudWatch Logs, the name should only contain 0-9, A-Z, a-z, - and _.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

tags (p. 3)

The list of tags to add to a resource.

An array of key-value pairs. For more information, see [Using Cost Allocation Tags](#) in the *AWS Billing and Cost Management User Guide*, and [Controlling Access Using IAM Tags](#).

Tags may only contain Unicode letters, digits, white space, or these symbols: _ . : / = + - @.

Type: Array of [Tag](#) (p. 111) objects

Required: No

Response Syntax

```
{
  "activityArn": "string",
  "creationDate": 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.

activityArn (p. 4)

The Amazon Resource Name (ARN) that identifies the created activity.

Type: String

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

creationDate (p. 4)

The date the activity is created.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

ActivityLimitExceeded

The maximum number of activities has been reached. Existing activities must be deleted before a new activity can be created.

HTTP Status Code: 400

InvalidName

The provided name is invalid.

HTTP Status Code: 400

TooManyTags

You've exceeded the number of tags allowed for a resource. See the [Limits Topic](#) in the AWS Step Functions Developer Guide.

HTTP Status Code: 400

See Also

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

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

CreateStateMachine

Creates a state machine. A state machine consists of a collection of states that can do work (Task states), determine to which states to transition next (Choice states), stop an execution with an error (Fail states), and so on. State machines are specified using a JSON-based, structured language. For more information, see [Amazon States Language](#) in the AWS Step Functions User Guide.

Note

This operation is eventually consistent. The results are best effort and may not reflect very recent updates and changes.

Note

CreateStateMachine is an idempotent API. Subsequent requests won't create a duplicate resource if it was already created. CreateStateMachine's idempotency check is based on the state machine name, definition, type, LoggingConfiguration and TracingConfiguration. If a following request has a different roleArn or tags, Step Functions will ignore these differences and treat it as an idempotent request of the previous. In this case, roleArn and tags will not be updated, even if they are different.

Request Syntax

```
{
  "definition": "string",
  "loggingConfiguration": {
    "destinations": [
      {
        "cloudWatchLogsLogGroup": {
          "logGroupArn": "string"
        }
      }
    ],
    "includeExecutionData": boolean,
    "level": "string"
  },
  "name": "string",
  "roleArn": "string",
  "tags": [
    {
      "key": "string",
      "value": "string"
    }
  ],
  "tracingConfiguration": {
    "enabled": boolean
  },
  "type": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

definition (p. 6)

The Amazon States Language definition of the state machine. See [Amazon States Language](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1048576.

Required: Yes

[loggingConfiguration \(p. 6\)](#)

Defines what execution history events are logged and where they are logged.

Note

By default, the `level` is set to `OFF`. For more information see [Log Levels](#) in the AWS Step Functions User Guide.

Type: [LoggingConfiguration \(p. 104\)](#) object

Required: No

[name \(p. 6\)](#)

The name of the state machine.

A name must *not* contain:

- white space
- brackets `<` `>` `{` `}` `[` `]`
- wildcard characters `?` `*`
- special characters `"` `#` `%` `\` `^` `|` `~` ``` `$` `&` `,` `;` `:` `/`
- control characters (U+0000–001F, U+007F–009F)

To enable logging with CloudWatch Logs, the name should only contain 0-9, A-Z, a-z, `-` and `_`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

[roleArn \(p. 6\)](#)

The Amazon Resource Name (ARN) of the IAM role to use for this state machine.

Type: String

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

Required: Yes

[tags \(p. 6\)](#)

Tags to be added when creating a state machine.

An array of key-value pairs. For more information, see [Using Cost Allocation Tags](#) in the *AWS Billing and Cost Management User Guide*, and [Controlling Access Using IAM Tags](#).

Tags may only contain Unicode letters, digits, white space, or these symbols: `_` `.` `:` `/` `=` `+` `-` `@`.

Type: Array of [Tag \(p. 111\)](#) objects

Required: No

[tracingConfiguration \(p. 6\)](#)

Selects whether AWS X-Ray tracing is enabled.

Type: [TracingConfiguration](#) (p. 121) object

Required: No

type (p. 6)

Determines whether a Standard or Express state machine is created. The default is STANDARD. You cannot update the type of a state machine once it has been created.

Type: String

Valid Values: STANDARD | EXPRESS

Required: No

Response Syntax

```
{
  "creationDate": number,
  "stateMachineArn": "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.

creationDate (p. 8)

The date the state machine is created.

Type: Timestamp

stateMachineArn (p. 8)

The Amazon Resource Name (ARN) that identifies the created state machine.

Type: String

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

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

InvalidDefinition

The provided Amazon States Language definition is invalid.

HTTP Status Code: 400

InvalidLoggingConfiguration

HTTP Status Code: 400

InvalidName

The provided name is invalid.

HTTP Status Code: 400

InvalidTracingConfiguration

Your `tracingConfiguration` key does not match, or `enabled` has not been set to `true` or `false`.

HTTP Status Code: 400

StateMachineAlreadyExists

A state machine with the same name but a different definition or role ARN already exists.

HTTP Status Code: 400

StateMachineDeleting

The specified state machine is being deleted.

HTTP Status Code: 400

StateMachineLimitExceeded

The maximum number of state machines has been reached. Existing state machines must be deleted before a new state machine can be created.

HTTP Status Code: 400

StateMachineTypeNotSupported

HTTP Status Code: 400

TooManyTags

You've exceeded the number of tags allowed for a resource. See the [Limits Topic](#) in the AWS Step Functions Developer Guide.

HTTP Status Code: 400

See Also

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

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

DeleteActivity

Deletes an activity.

Request Syntax

```
{  
  "activityArn": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 122\)](#).

The request accepts the following data in JSON format.

activityArn (p. 10)

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

Type: String

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

Required: Yes

Response Elements

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

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 124\)](#).

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

See Also

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

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

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

DeleteStateMachine

Deletes a state machine. This is an asynchronous operation: It sets the state machine's status to `DELETING` and begins the deletion process.

Note

For `EXPRESS` state machines, the deletion will happen eventually (usually less than a minute). Running executions may emit logs after `DeleteStateMachine` API is called.

Request Syntax

```
{  
  "stateMachineArn": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

stateMachineArn (p. 12)

The Amazon Resource Name (ARN) of the state machine to delete.

Type: String

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

Required: Yes

Response Elements

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

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)

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

DescribeActivity

Describes an activity.

Note

This operation is eventually consistent. The results are best effort and may not reflect very recent updates and changes.

Request Syntax

```
{  
  "activityArn": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

activityArn (p. 14)

The Amazon Resource Name (ARN) of the activity to describe.

Type: String

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

Required: Yes

Response Syntax

```
{  
  "activityArn": "string",  
  "creationDate": number,  
  "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.

activityArn (p. 14)

The Amazon Resource Name (ARN) that identifies the activity.

Type: String

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

creationDate (p. 14)

The date the activity is created.

Type: Timestamp

name (p. 14)

The name of the activity.

A name must *not* contain:

- white space
- brackets < > { } []
- wildcard characters ? *
- special characters " # % \ ^ | ~ ` \$ & , ; : /
- control characters (U+0000–001F, U+007F–009F)

To enable logging with CloudWatch Logs, the name should only contain 0-9, A-Z, a-z, - and _.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 124\)](#).

ActivityDoesNotExist

The specified activity does not exist.

HTTP Status Code: 400

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

See Also

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

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

DescribeExecution

Describes an execution.

Note

This operation is eventually consistent. The results are best effort and may not reflect very recent updates and changes.

This API action is not supported by `EXPRESS` state machines.

Request Syntax

```
{  
  "executionArn": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

executionArn (p. 16)

The Amazon Resource Name (ARN) of the execution to describe.

Type: String

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

Required: Yes

Response Syntax

```
{  
  "executionArn": "string",  
  "input": "string",  
  "inputDetails": {  
    "included": boolean  
  },  
  "name": "string",  
  "output": "string",  
  "outputDetails": {  
    "included": boolean  
  },  
  "startDate": number,  
  "stateMachineArn": "string",  
  "status": "string",  
  "stopDate": number,  
  "traceHeader": "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.

executionArn (p. 16)

The Amazon Resource Name (ARN) that identifies the execution.

Type: String

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

input (p. 16)

The string that contains the JSON input data of the execution. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

inputDetails (p. 16)

Provides details about execution input or output.

Type: [CloudWatchEventsExecutionDataDetails](#) (p. 82) object

name (p. 16)

The name of the execution.

A name must *not* contain:

- white space
- brackets < > { } []
- wildcard characters ? *
- special characters " # % \ ^ | ~ ` \$ & , ; : /
- control characters (U+0000–001F, U+007F–009F)

To enable logging with CloudWatch Logs, the name should only contain 0-9, A-Z, a-z, - and _.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

output (p. 16)

The JSON output data of the execution. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Note

This field is set only if the execution succeeds. If the execution fails, this field is null.

Type: String

Length Constraints: Maximum length of 262144.

outputDetails (p. 16)

Provides details about execution input or output.

Type: [CloudWatchEventsExecutionDataDetails](#) (p. 82) object

startDate (p. 16)

The date the execution is started.

Type: Timestamp

stateMachineArn (p. 16)

The Amazon Resource Name (ARN) of the executed stated machine.

Type: String

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

status (p. 16)

The current status of the execution.

Type: String

Valid Values: `RUNNING` | `SUCCEEDED` | `FAILED` | `TIMED_OUT` | `ABORTED`

stopDate (p. 16)

If the execution has already ended, the date the execution stopped.

Type: Timestamp

traceHeader (p. 16)

The AWS X-Ray trace header that was passed to the execution.

Type: String

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

Pattern: `\p{ASCII}*`

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

ExecutionDoesNotExist

The specified execution does not exist.

HTTP Status Code: 400

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

See Also

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

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

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

DescribeStateMachine

Describes a state machine.

Note

This operation is eventually consistent. The results are best effort and may not reflect very recent updates and changes.

Request Syntax

```
{
  "stateMachineArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

stateMachineArn (p. 20)

The Amazon Resource Name (ARN) of the state machine to describe.

Type: String

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

Required: Yes

Response Syntax

```
{
  "creationDate": number,
  "definition": "string",
  "loggingConfiguration": {
    "destinations": [
      {
        "cloudWatchLogsLogGroup": {
          "logGroupArn": "string"
        }
      }
    ],
    "includeExecutionData": boolean,
    "level": "string"
  },
  "name": "string",
  "roleArn": "string",
  "stateMachineArn": "string",
  "status": "string",
  "tracingConfiguration": {
    "enabled": boolean
  },
  "type": "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.

creationDate (p. 20)

The date the state machine is created.

Type: Timestamp

definition (p. 20)

The Amazon States Language definition of the state machine. See [Amazon States Language](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1048576.

loggingConfiguration (p. 20)

Type: [LoggingConfiguration](#) (p. 104) object

name (p. 20)

The name of the state machine.

A name must *not* contain:

- white space
- brackets < > { } []
- wildcard characters ? *
- special characters " # % \ ^ | ~ ` \$ & , ; : /
- control characters (U+0000–001F, U+007F–009F)

To enable logging with CloudWatch Logs, the name should only contain 0-9, A-Z, a-z, - and _.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

roleArn (p. 20)

The Amazon Resource Name (ARN) of the IAM role used when creating this state machine. (The IAM role maintains security by granting Step Functions access to AWS resources.)

Type: String

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

stateMachineArn (p. 20)

The Amazon Resource Name (ARN) that identifies the state machine.

Type: String

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

status (p. 20)

The current status of the state machine.

Type: String

Valid Values: `ACTIVE` | `DELETING`

tracingConfiguration (p. 20)

Selects whether AWS X-Ray tracing is enabled.

Type: [TracingConfiguration \(p. 121\)](#) object
type (p. 20)

The type of the state machine (`STANDARD` or `EXPRESS`).

Type: String

Valid Values: `STANDARD` | `EXPRESS`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 124\)](#).

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

StateMachineDoesNotExist

The specified state machine does not exist.

HTTP Status Code: 400

See Also

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

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

DescribeStateMachineForExecution

Describes the state machine associated with a specific execution.

Note

This operation is eventually consistent. The results are best effort and may not reflect very recent updates and changes.

This API action is not supported by **EXPRESS** state machines.

Request Syntax

```
{
  "executionArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 122\)](#).

The request accepts the following data in JSON format.

executionArn (p. 23)

The Amazon Resource Name (ARN) of the execution you want state machine information for.

Type: String

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

Required: Yes

Response Syntax

```
{
  "definition": "string",
  "loggingConfiguration": {
    "destinations": [
      {
        "cloudWatchLogsLogGroup": {
          "logGroupArn": "string"
        }
      }
    ],
    "includeExecutionData": boolean,
    "level": "string"
  },
  "name": "string",
  "roleArn": "string",
  "stateMachineArn": "string",
  "tracingConfiguration": {
    "enabled": boolean
  },
  "updateDate": 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.

definition (p. 23)

The Amazon States Language definition of the state machine. See [Amazon States Language](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1048576.

loggingConfiguration (p. 23)

The `LoggingConfiguration` data type is used to set CloudWatch Logs options.

Type: [LoggingConfiguration](#) (p. 104) object

name (p. 23)

The name of the state machine associated with the execution.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

roleArn (p. 23)

The Amazon Resource Name (ARN) of the IAM role of the State Machine for the execution.

Type: String

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

stateMachineArn (p. 23)

The Amazon Resource Name (ARN) of the state machine associated with the execution.

Type: String

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

tracingConfiguration (p. 23)

Selects whether AWS X-Ray tracing is enabled.

Type: [TracingConfiguration](#) (p. 121) object

updateDate (p. 23)

The date and time the state machine associated with an execution was updated. For a newly created state machine, this is the creation date.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

ExecutionDoesNotExist

The specified execution does not exist.

HTTP Status Code: 400

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

See Also

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

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

GetActivityTask

Used by workers to retrieve a task (with the specified activity ARN) which has been scheduled for execution by a running state machine. This initiates a long poll, where the service holds the HTTP connection open and responds as soon as a task becomes available (i.e. an execution of a task of this type is needed.) The maximum time the service holds on to the request before responding is 60 seconds. If no task is available within 60 seconds, the poll returns a `taskToken` with a null string.

Important

Workers should set their client side socket timeout to at least 65 seconds (5 seconds higher than the maximum time the service may hold the poll request).

Polling with `GetActivityTask` can cause latency in some implementations. See [Avoid Latency When Polling for Activity Tasks](#) in the Step Functions Developer Guide.

Request Syntax

```
{  
  "activityArn": "string",  
  "workerName": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

`activityArn` (p. 26)

The Amazon Resource Name (ARN) of the activity to retrieve tasks from (assigned when you create the task using [CreateActivity](#) (p. 3).)

Type: String

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

Required: Yes

`workerName` (p. 26)

You can provide an arbitrary name in order to identify the worker that the task is assigned to. This name is used when it is logged in the execution history.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: No

Response Syntax

```
{  
  "input": "string",  
  "taskToken": "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.

input (p. 26)

The string that contains the JSON input data for the task. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

taskToken (p. 26)

A token that identifies the scheduled task. This token must be copied and included in subsequent calls to [SendTaskHeartbeat](#) (p. 49), [SendTaskSuccess](#) (p. 51) or [SendTaskFailure](#) (p. 47) in order to report the progress or completion of the task.

Type: String

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

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

ActivityDoesNotExist

The specified activity does not exist.

HTTP Status Code: 400

ActivityWorkerLimitExceeded

The maximum number of workers concurrently polling for activity tasks has been reached.

HTTP Status Code: 400

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

See Also

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

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

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

GetExecutionHistory

Returns the history of the specified execution as a list of events. By default, the results are returned in ascending order of the `timestamp` of the events. Use the `reverseOrder` parameter to get the latest events first.

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page. Make the call again using the returned token to retrieve the next page. Keep all other arguments unchanged. Each pagination token expires after 24 hours. Using an expired pagination token will return an *HTTP 400 InvalidToken* error.

This API action is not supported by `EXPRESS` state machines.

Request Syntax

```
{
  "executionArn": "string",
  "includeExecutionData": boolean,
  "maxResults": number,
  "nextToken": "string",
  "reverseOrder": boolean
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

`executionArn` (p. 29)

The Amazon Resource Name (ARN) of the execution.

Type: String

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

Required: Yes

`includeExecutionData` (p. 29)

You can select whether execution data (input or output of a history event) is returned. The default is `true`.

Type: Boolean

Required: No

`maxResults` (p. 29)

The maximum number of results that are returned per call. You can use `nextToken` to obtain further pages of results. The default is 100 and the maximum allowed page size is 1000. A value of 0 uses the default.

This is only an upper limit. The actual number of results returned per call might be fewer than the specified maximum.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 1000.

Required: No

nextToken (p. 29)

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page. Make the call again using the returned token to retrieve the next page. Keep all other arguments unchanged. Each pagination token expires after 24 hours. Using an expired pagination token will return an *HTTP 400 InvalidToken* error.

Type: String

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

Required: No

reverseOrder (p. 29)

Lists events in descending order of their `timeStamp`.

Type: Boolean

Required: No

Response Syntax

```
{
  "events": [
    {
      "activityFailedEventDetails": {
        "cause": "string",
        "error": "string"
      },
      "activityScheduledEventDetails": {
        "heartbeatInSeconds": number,
        "input": "string",
        "inputDetails": {
          "truncated": boolean
        },
        "resource": "string",
        "timeoutInSeconds": number
      },
      "activityScheduleFailedEventDetails": {
        "cause": "string",
        "error": "string"
      },
      "activityStartedEventDetails": {
        "workerName": "string"
      },
      "activitySucceededEventDetails": {
        "output": "string",
        "outputDetails": {
          "truncated": boolean
        }
      },
      "activityTimedOutEventDetails": {
        "cause": "string",
        "error": "string"
      }
    ]
  }
}
```

```

"executionAbortedEventDetails": {
  "cause": "string",
  "error": "string"
},
"executionFailedEventDetails": {
  "cause": "string",
  "error": "string"
},
"executionStartedEventDetails": {
  "input": "string",
  "inputDetails": {
    "truncated": boolean
  },
  "roleArn": "string"
},
"executionSucceededEventDetails": {
  "output": "string",
  "outputDetails": {
    "truncated": boolean
  }
},
"executionTimedOutEventDetails": {
  "cause": "string",
  "error": "string"
},
"id": number,
"lambdaFunctionFailedEventDetails": {
  "cause": "string",
  "error": "string"
},
"lambdaFunctionScheduledEventDetails": {
  "input": "string",
  "inputDetails": {
    "truncated": boolean
  },
  "resource": "string",
  "timeoutInSeconds": number
},
"lambdaFunctionScheduleFailedEventDetails": {
  "cause": "string",
  "error": "string"
},
"lambdaFunctionStartFailedEventDetails": {
  "cause": "string",
  "error": "string"
},
"lambdaFunctionSucceededEventDetails": {
  "output": "string",
  "outputDetails": {
    "truncated": boolean
  }
},
"lambdaFunctionTimedOutEventDetails": {
  "cause": "string",
  "error": "string"
},
"mapIterationAbortedEventDetails": {
  "index": number,
  "name": "string"
},
"mapIterationFailedEventDetails": {
  "index": number,
  "name": "string"
},
"mapIterationStartedEventDetails": {
  "index": number,

```

```

    "name": "string"
  },
  "mapIterationSucceededEventDetails": {
    "index": number,
    "name": "string"
  },
  "mapStateStartedEventDetails": {
    "length": number
  },
  "previousEventId": number,
  "stateEnteredEventDetails": {
    "input": "string",
    "inputDetails": {
      "truncated": boolean
    },
    "name": "string"
  },
  "stateExitedEventDetails": {
    "name": "string",
    "output": "string",
    "outputDetails": {
      "truncated": boolean
    }
  },
  "taskFailedEventDetails": {
    "cause": "string",
    "error": "string",
    "resource": "string",
    "resourceType": "string"
  },
  "taskScheduledEventDetails": {
    "heartbeatInSeconds": number,
    "parameters": "string",
    "region": "string",
    "resource": "string",
    "resourceType": "string",
    "timeoutInSeconds": number
  },
  "taskStartedEventDetails": {
    "resource": "string",
    "resourceType": "string"
  },
  "taskStartFailedEventDetails": {
    "cause": "string",
    "error": "string",
    "resource": "string",
    "resourceType": "string"
  },
  "taskSubmitFailedEventDetails": {
    "cause": "string",
    "error": "string",
    "resource": "string",
    "resourceType": "string"
  },
  "taskSubmittedEventDetails": {
    "output": "string",
    "outputDetails": {
      "truncated": boolean
    },
    "resource": "string",
    "resourceType": "string"
  },
  "taskSucceededEventDetails": {
    "output": "string",
    "outputDetails": {
      "truncated": boolean
    }
  }
}

```



```
    },
    "resource": "string",
    "resourceType": "string"
  },
  "taskTimedOutEventDetails": {
    "cause": "string",
    "error": "string",
    "resource": "string",
    "resourceType": "string"
  },
  "timestamp": number,
  "type": "string"
}
],
"nextToken": "string"
}
```

Response Elements

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

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

events (p. 30)

The list of events that occurred in the execution.

Type: Array of [HistoryEvent](#) (p. 91) objects

nextToken (p. 30)

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page. Make the call again using the returned token to retrieve the next page. Keep all other arguments unchanged. Each pagination token expires after 24 hours. Using an expired pagination token will return an *HTTP 400 InvalidToken* error.

Type: String

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

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

ExecutionDoesNotExist

The specified execution does not exist.

HTTP Status Code: 400

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

InvalidToken

The provided token is invalid.

HTTP Status Code: 400

Examples

HelloWorld Execution History

The following shows example output from `GetExecutionHistory` for a simple HelloWorld state machine, comprised of a single Pass state.

Sample Response

```
{
  "events": [
    {
      "timestamp": 1525283875.58,
      "executionStartedEventDetails": {
        "input": "{}",
        "inputDetails": {
          "truncated": false
        },
        "roleArn": "arn:aws:iam::123456789123:role/service-role/StatesExecutionRole-us-east-1"
      },
      "type": "ExecutionStarted",
      "id": 1,
      "previousEventId": 0
    },
    {
      "timestamp": 1525283875.612,
      "type": "PassStateEntered",
      "id": 2,
      "stateEnteredEventDetails": {
        "input": "{}",
        "inputDetails": {
          "truncated": false
        },
        "name": "HelloWorld"
      },
      "previousEventId": 0
    },
    {
      "timestamp": 1525283875.612,
      "stateExitedEventDetails": {
        "output": "\"Hello World!\"",
        "outputDetails": {
          "truncated": false
        },
        "name": "HelloWorld"
      },
      "type": "PassStateExited",
      "id": 3,
      "previousEventId": 2
    },
    {
      "executionSucceededEventDetails": {
        "output": "\"Hello World!\"",
        "outputDetails": {
          "truncated": false
        }
      },
      "timestamp": 1525283875.612,
      "type": "ExecutionSucceeded",
      "id": 4,
      "previousEventId": 3
    }
  ]
}
```

```
} ]
```

See Also

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

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

ListActivities

Lists the existing activities.

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page. Make the call again using the returned token to retrieve the next page. Keep all other arguments unchanged. Each pagination token expires after 24 hours. Using an expired pagination token will return an *HTTP 400 InvalidToken* error.

Note

This operation is eventually consistent. The results are best effort and may not reflect very recent updates and changes.

Request Syntax

```
{
  "maxResults": number,
  "nextToken": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

`maxResults` (p. 36)

The maximum number of results that are returned per call. You can use `nextToken` to obtain further pages of results. The default is 100 and the maximum allowed page size is 1000. A value of 0 uses the default.

This is only an upper limit. The actual number of results returned per call might be fewer than the specified maximum.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 1000.

Required: No

`nextToken` (p. 36)

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page. Make the call again using the returned token to retrieve the next page. Keep all other arguments unchanged. Each pagination token expires after 24 hours. Using an expired pagination token will return an *HTTP 400 InvalidToken* error.

Type: String

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

Required: No

Response Syntax

```
{
```

```
"activities": [
  {
    "activityArn": "string",
    "creationDate": number,
    "name": "string"
  }
],
"nextToken": "string"
}
```

Response Elements

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

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

activities (p. 36)

The list of activities.

Type: Array of [ActivityListItem](#) (p. 74) objects

nextToken (p. 36)

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page. Make the call again using the returned token to retrieve the next page. Keep all other arguments unchanged. Each pagination token expires after 24 hours. Using an expired pagination token will return an *HTTP 400 InvalidToken* error.

Type: String

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

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

InvalidToken

The provided token is invalid.

HTTP Status Code: 400

See Also

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

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

- [AWS SDK for Ruby V3](#)

ListExecutions

Lists the executions of a state machine that meet the filtering criteria. Results are sorted by time, with the most recent execution first.

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page. Make the call again using the returned token to retrieve the next page. Keep all other arguments unchanged. Each pagination token expires after 24 hours. Using an expired pagination token will return an *HTTP 400 InvalidToken* error.

Note

This operation is eventually consistent. The results are best effort and may not reflect very recent updates and changes.

This API action is not supported by `EXPRESS` state machines.

Request Syntax

```
{
  "maxResults": number,
  "nextToken": "string",
  "stateMachineArn": "string",
  "statusFilter": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 122\)](#).

The request accepts the following data in JSON format.

`maxResults` (p. 39)

The maximum number of results that are returned per call. You can use `nextToken` to obtain further pages of results. The default is 100 and the maximum allowed page size is 1000. A value of 0 uses the default.

This is only an upper limit. The actual number of results returned per call might be fewer than the specified maximum.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 1000.

Required: No

`nextToken` (p. 39)

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page. Make the call again using the returned token to retrieve the next page. Keep all other arguments unchanged. Each pagination token expires after 24 hours. Using an expired pagination token will return an *HTTP 400 InvalidToken* error.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 3096.

Required: No

stateMachineArn (p. 39)

The Amazon Resource Name (ARN) of the state machine whose executions is listed.

Type: String

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

Required: Yes

statusFilter (p. 39)

If specified, only list the executions whose current execution status matches the given filter.

Type: String

Valid Values: RUNNING | SUCCEEDED | FAILED | TIMED_OUT | ABORTED

Required: No

Response Syntax

```
{
  "executions": [
    {
      "executionArn": "string",
      "name": "string",
      "startDate": number,
      "stateMachineArn": "string",
      "status": "string",
      "stopDate": 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.

executions (p. 40)

The list of matching executions.

Type: Array of [ExecutionListItem](#) (p. 86) objects

nextToken (p. 40)

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page. Make the call again using the returned token to retrieve the next page. Keep all other arguments unchanged. Each pagination token expires after 24 hours. Using an expired pagination token will return an *HTTP 400 InvalidToken* error.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 3096.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 124\)](#).

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

InvalidToken

The provided token is invalid.

HTTP Status Code: 400

StateMachineDoesNotExist

The specified state machine does not exist.

HTTP Status Code: 400

StateMachineTypeNotSupported

HTTP Status Code: 400

See Also

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

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

ListStateMachines

Lists the existing state machines.

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page. Make the call again using the returned token to retrieve the next page. Keep all other arguments unchanged. Each pagination token expires after 24 hours. Using an expired pagination token will return an *HTTP 400 InvalidToken* error.

Note

This operation is eventually consistent. The results are best effort and may not reflect very recent updates and changes.

Request Syntax

```
{
  "maxResults": number,
  "nextToken": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

`maxResults` (p. 42)

The maximum number of results that are returned per call. You can use `nextToken` to obtain further pages of results. The default is 100 and the maximum allowed page size is 1000. A value of 0 uses the default.

This is only an upper limit. The actual number of results returned per call might be fewer than the specified maximum.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 1000.

Required: No

`nextToken` (p. 42)

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page. Make the call again using the returned token to retrieve the next page. Keep all other arguments unchanged. Each pagination token expires after 24 hours. Using an expired pagination token will return an *HTTP 400 InvalidToken* error.

Type: String

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

Required: No

Response Syntax

```
{
```

```
"nextToken": "string",
"stateMachines": [
  {
    "creationDate": number,
    "name": "string",
    "stateMachineArn": "string",
    "type": "string"
  }
]
```

Response Elements

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

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

nextToken (p. 42)

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page. Make the call again using the returned token to retrieve the next page. Keep all other arguments unchanged. Each pagination token expires after 24 hours. Using an expired pagination token will return an *HTTP 400 InvalidToken* error.

Type: String

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

stateMachines (p. 42)

Type: Array of [StateMachineListItem](#) (p. 109) objects

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

InvalidToken

The provided token is invalid.

HTTP Status Code: 400

See Also

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

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

ListTagsForResource

List tags for a given resource.

Tags may only contain Unicode letters, digits, white space, or these symbols: _ . : / = + - @.

Request Syntax

```
{  
  "resourceArn": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

resourceArn (p. 45)

The Amazon Resource Name (ARN) for the Step Functions state machine or activity.

Type: String

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

Required: Yes

Response Syntax

```
{  
  "tags": [  
    {  
      "key": "string",  
      "value": "string"  
    }  
  ]  
}
```

Response Elements

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

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

tags (p. 45)

An array of tags associated with the resource.

Type: Array of [Tag](#) (p. 111) objects

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

ResourceNotFound

Could not find the referenced resource. Only state machine and activity ARNs are supported.

HTTP Status Code: 400

See Also

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

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

SendTaskFailure

Used by activity workers and task states using the [callback](#) pattern to report that the task identified by the `taskToken` failed.

Request Syntax

```
{  
  "cause": "string",  
  "error": "string",  
  "taskToken": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

cause (p. 47)

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error (p. 47)

The error code of the failure.

Type: String

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

Required: No

taskToken (p. 47)

The token that represents this task. Task tokens are generated by Step Functions when tasks are assigned to a worker, or in the [context object](#) when a workflow enters a task state. See [GetActivityTask:taskToken](#) (p. 27).

Type: String

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

Required: Yes

Response Elements

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

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 124\)](#).

InvalidToken

The provided token is invalid.

HTTP Status Code: 400

TaskDoesNotExist

HTTP Status Code: 400

TaskTimedOut

HTTP Status Code: 400

See Also

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

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

SendTaskHeartbeat

Used by activity workers and task states using the [callback](#) pattern to report to Step Functions that the task represented by the specified `taskToken` is still making progress. This action resets the `Heartbeat` clock. The `Heartbeat` threshold is specified in the state machine's Amazon States Language definition (`HeartbeatSeconds`). This action does not in itself create an event in the execution history. However, if the task times out, the execution history contains an `ActivityTimedOut` entry for activities, or a `TaskTimedOut` entry for for tasks using the [job run](#) or [callback](#) pattern.

Note

The `Timeout` of a task, defined in the state machine's Amazon States Language definition, is its maximum allowed duration, regardless of the number of [SendTaskHeartbeat](#) (p. 49) requests received. Use `HeartbeatSeconds` to configure the timeout interval for heartbeats.

Request Syntax

```
{
  "taskToken": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

`taskToken` (p. 49)

The token that represents this task. Task tokens are generated by Step Functions when tasks are assigned to a worker, or in the [context object](#) when a workflow enters a task state. See [GetActivityTask:taskToken](#) (p. 27).

Type: String

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

Required: Yes

Response Elements

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

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

InvalidToken

The provided token is invalid.

HTTP Status Code: 400

TaskDoesNotExist

HTTP Status Code: 400

TaskTimedOut

HTTP Status Code: 400

See Also

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

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

SendTaskSuccess

Used by activity workers and task states using the [callback](#) pattern to report that the task identified by the `taskToken` completed successfully.

Request Syntax

```
{
  "output": "string",
  "taskToken": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

output (p. 51)

The JSON output of the task. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

Required: Yes

taskToken (p. 51)

The token that represents this task. Task tokens are generated by Step Functions when tasks are assigned to a worker, or in the [context object](#) when a workflow enters a task state. See [GetActivityTask:taskToken](#) (p. 27).

Type: String

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

Required: Yes

Response Elements

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

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

InvalidOutput

The provided JSON output data is invalid.

HTTP Status Code: 400

InvalidToken

The provided token is invalid.

HTTP Status Code: 400

TaskDoesNotExist

HTTP Status Code: 400

TaskTimedOut

HTTP Status Code: 400

See Also

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

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

StartExecution

Starts a state machine execution.

Note

StartExecution is idempotent for STANDARD workflows. For a STANDARD workflow, if StartExecution is called with the same name and input as a running execution, the call will succeed and return the same response as the original request. If the execution is closed or if the input is different, it will return a 400 ExecutionAlreadyExists error. Names can be reused after 90 days.

StartExecution is not idempotent for EXPRESS workflows.

Request Syntax

```
{
  "input": "string",
  "name": "string",
  "stateMachineArn": "string",
  "traceHeader": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

input (p. 53)

The string that contains the JSON input data for the execution, for example:

```
"input": "{\"first_name\" : \"test\"}"
```

Note

If you don't include any JSON input data, you still must include the two braces, for example:

```
"input": "{}"
```

Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

Required: No

name (p. 53)

The name of the execution. This name must be unique for your AWS account, region, and state machine for 90 days. For more information, see [Limits Related to State Machine Executions](#) in the *AWS Step Functions Developer Guide*.

A name must *not* contain:

- white space
- brackets < > { } []
- wildcard characters ? *

- special characters " # % \ ^ | ~ ` \$ & , ; : /
- control characters (U+0000–001F, U+007F–009F)

To enable logging with CloudWatch Logs, the name should only contain 0-9, A-Z, a-z, - and _.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: No

stateMachineArn (p. 53)

The Amazon Resource Name (ARN) of the state machine to execute.

Type: String

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

Required: Yes

traceHeader (p. 53)

Passes the AWS X-Ray trace header. The trace header can also be passed in the request payload.

Type: String

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

Pattern: \p{ASCII}*

Required: No

Response Syntax

```
{
  "executionArn": "string",
  "startDate": 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.

executionArn (p. 54)

The Amazon Resource Name (ARN) that identifies the execution.

Type: String

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

startDate (p. 54)

The date the execution is started.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 124\)](#).

ExecutionAlreadyExists

The execution has the same name as another execution (but a different input).

Note

Executions with the same name and input are considered idempotent.

HTTP Status Code: 400

ExecutionLimitExceeded

The maximum number of running executions has been reached. Running executions must end or be stopped before a new execution can be started.

HTTP Status Code: 400

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

InvalidExecutionInput

The provided JSON input data is invalid.

HTTP Status Code: 400

InvalidName

The provided name is invalid.

HTTP Status Code: 400

StateMachineDeleting

The specified state machine is being deleted.

HTTP Status Code: 400

StateMachineDoesNotExist

The specified state machine does not exist.

HTTP Status Code: 400

See Also

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

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

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

StartSyncExecution

Starts a Synchronous Express state machine execution. `StartSyncExecution` is not available for `STANDARD` workflows.

Note

`StartSyncExecution` will return a 200 OK response, even if your execution fails, because the status code in the API response doesn't reflect function errors. Error codes are reserved for errors that prevent your execution from running, such as permissions errors, limit errors, or issues with your state machine code and configuration.

Request Syntax

```
{
  "input": "string",
  "name": "string",
  "stateMachineArn": "string",
  "traceHeader": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

input (p. 57)

The string that contains the JSON input data for the execution, for example:

```
"input": "{\"first_name\" : \"test\"}"
```

Note

If you don't include any JSON input data, you still must include the two braces, for example:

```
"input": "{}"
```

Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

Required: No

name (p. 57)

The name of the execution.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: No

stateMachineArn (p. 57)

The Amazon Resource Name (ARN) of the state machine to execute.

Type: String

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

Required: Yes

[traceHeader \(p. 57\)](#)

Passes the AWS X-Ray trace header. The trace header can also be passed in the request payload.

Type: String

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

Pattern: \p{ASCII}*

Required: No

Response Syntax

```
{
  "billingDetails": {
    "billedDurationInMilliseconds": number,
    "billedMemoryUsedInMB": number
  },
  "cause": "string",
  "error": "string",
  "executionArn": "string",
  "input": "string",
  "inputDetails": {
    "included": boolean
  },
  "name": "string",
  "output": "string",
  "outputDetails": {
    "included": boolean
  },
  "startDate": number,
  "stateMachineArn": "string",
  "status": "string",
  "stopDate": number,
  "traceHeader": "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.

[billingDetails \(p. 58\)](#)

An object that describes workflow billing details, including billed duration and memory use.

Type: [BillingDetails \(p. 81\)](#) object

[cause \(p. 58\)](#)

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

error (p. 58)

The error code of the failure.

Type: String

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

executionArn (p. 58)

The Amazon Resource Name (ARN) that identifies the execution.

Type: String

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

input (p. 58)

The string that contains the JSON input data of the execution. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

inputDetails (p. 58)

Provides details about execution input or output.

Type: [CloudWatchEventsExecutionDataDetails](#) (p. 82) object

name (p. 58)

The name of the execution.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

output (p. 58)

The JSON output data of the execution. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Note

This field is set only if the execution succeeds. If the execution fails, this field is null.

Type: String

Length Constraints: Maximum length of 262144.

outputDetails (p. 58)

Provides details about execution input or output.

Type: [CloudWatchEventsExecutionDataDetails](#) (p. 82) object

startDate (p. 58)

The date the execution is started.

Type: Timestamp

stateMachineArn (p. 58)

The Amazon Resource Name (ARN) that identifies the state machine.

Type: String

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

status (p. 58)

The current status of the execution.

Type: String

Valid Values: SUCCEEDED | FAILED | TIMED_OUT

stopDate (p. 58)

If the execution has already ended, the date the execution stopped.

Type: Timestamp

traceHeader (p. 58)

The AWS X-Ray trace header that was passed to the execution.

Type: String

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

Pattern: \p{ASCII}*

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 124\)](#).

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

InvalidExecutionInput

The provided JSON input data is invalid.

HTTP Status Code: 400

InvalidName

The provided name is invalid.

HTTP Status Code: 400

StateMachineDeleting

The specified state machine is being deleted.

HTTP Status Code: 400

StateMachineDoesNotExist

The specified state machine does not exist.

HTTP Status Code: 400

StateMachineTypeNotSupported

HTTP Status Code: 400

See Also

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

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

StopExecution

Stops an execution.

This API action is not supported by `EXPRESS` state machines.

Request Syntax

```
{  
  "cause": "string",  
  "error": "string",  
  "executionArn": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

cause (p. 62)

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error (p. 62)

The error code of the failure.

Type: String

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

Required: No

executionArn (p. 62)

The Amazon Resource Name (ARN) of the execution to stop.

Type: String

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

Required: Yes

Response Syntax

```
{  
  "stopDate": 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.

stopDate (p. 62)

The date the execution is stopped.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 124\)](#).

ExecutionDoesNotExist

The specified execution does not exist.

HTTP Status Code: 400

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

See Also

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

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

TagResource

Add a tag to a Step Functions resource.

An array of key-value pairs. For more information, see [Using Cost Allocation Tags](#) in the *AWS Billing and Cost Management User Guide*, and [Controlling Access Using IAM Tags](#).

Tags may only contain Unicode letters, digits, white space, or these symbols: _ . : / = + - @.

Request Syntax

```
{
  "resourceArn": "string",
  "tags": [
    {
      "key": "string",
      "value": "string"
    }
  ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 122).

The request accepts the following data in JSON format.

resourceArn (p. 64)

The Amazon Resource Name (ARN) for the Step Functions state machine or activity.

Type: String

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

Required: Yes

tags (p. 64)

The list of tags to add to a resource.

Tags may only contain Unicode letters, digits, white space, or these symbols: _ . : / = + - @.

Type: Array of [Tag](#) (p. 111) objects

Required: Yes

Response Elements

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

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

ResourceNotFound

Could not find the referenced resource. Only state machine and activity ARNs are supported.

HTTP Status Code: 400

TooManyTags

You've exceeded the number of tags allowed for a resource. See the [Limits Topic](#) in the AWS Step Functions Developer Guide.

HTTP Status Code: 400

See Also

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

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

UntagResource

Remove a tag from a Step Functions resource

Request Syntax

```
{  
  "resourceArn": "string",  
  "tagKeys": [ "string" ]  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 122\)](#).

The request accepts the following data in JSON format.

resourceArn (p. 66)

The Amazon Resource Name (ARN) for the Step Functions state machine or activity.

Type: String

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

Required: Yes

tagKeys (p. 66)

The list of tags to remove from the resource.

Type: Array of strings

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

Required: Yes

Response Elements

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

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 124\)](#).

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

ResourceNotFound

Could not find the referenced resource. Only state machine and activity ARNs are supported.

HTTP Status Code: 400

See Also

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

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

UpdateStateMachine

Updates an existing state machine by modifying its definition, roleArn, or loggingConfiguration. Running executions will continue to use the previous definition and roleArn. You must include at least one of definition or roleArn or you will receive a `MissingRequiredParameter` error.

Note

All `StartExecution` calls within a few seconds will use the updated definition and roleArn. Executions started immediately after calling `UpdateStateMachine` may use the previous state machine definition and roleArn.

Request Syntax

```
{
  "definition": "string",
  "loggingConfiguration": {
    "destinations": [
      {
        "cloudWatchLogsLogGroup": {
          "logGroupArn": "string"
        }
      }
    ],
    "includeExecutionData": boolean,
    "level": "string"
  },
  "roleArn": "string",
  "stateMachineArn": "string",
  "tracingConfiguration": {
    "enabled": boolean
  }
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 122\)](#).

The request accepts the following data in JSON format.

definition (p. 68)

The Amazon States Language definition of the state machine. See [Amazon States Language](#).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1048576.

Required: No

loggingConfiguration (p. 68)

The `LoggingConfiguration` data type is used to set CloudWatch Logs options.

Type: [LoggingConfiguration \(p. 104\)](#) object

Required: No

roleArn (p. 68)

The Amazon Resource Name (ARN) of the IAM role of the state machine.

Type: String

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

Required: No

stateMachineArn (p. 68)

The Amazon Resource Name (ARN) of the state machine.

Type: String

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

Required: Yes

tracingConfiguration (p. 68)

Selects whether AWS X-Ray tracing is enabled.

Type: [TracingConfiguration](#) (p. 121) object

Required: No

Response Syntax

```
{  
  "updateDate": 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.

updateDate (p. 69)

The date and time the state machine was updated.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 124).

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

InvalidDefinition

The provided Amazon States Language definition is invalid.

HTTP Status Code: 400

InvalidLoggingConfiguration

HTTP Status Code: 400

InvalidTracingConfiguration

Your `tracingConfiguration` key does not match, or `enabled` has not been set to `true` or `false`.

HTTP Status Code: 400

MissingRequiredParameter

Request is missing a required parameter. This error occurs if both `definition` and `roleArn` are not specified.

HTTP Status Code: 400

StateMachineDeleting

The specified state machine is being deleted.

HTTP Status Code: 400

StateMachineDoesNotExist

The specified state machine does not exist.

HTTP Status Code: 400

See Also

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

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

Data Types

The AWS Step Functions 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:

- [ActivityFailedEventDetails](#) (p. 73)
- [ActivityListItem](#) (p. 74)
- [ActivityScheduledEventDetails](#) (p. 75)
- [ActivityScheduleFailedEventDetails](#) (p. 77)
- [ActivityStartedEventDetails](#) (p. 78)
- [ActivitySucceededEventDetails](#) (p. 79)
- [ActivityTimedOutEventDetails](#) (p. 80)
- [BillingDetails](#) (p. 81)
- [CloudWatchEventsExecutionDataDetails](#) (p. 82)
- [CloudWatchLogsLogGroup](#) (p. 83)
- [ExecutionAbortedEventDetails](#) (p. 84)
- [ExecutionFailedEventDetails](#) (p. 85)
- [ExecutionListItem](#) (p. 86)
- [ExecutionStartedEventDetails](#) (p. 88)
- [ExecutionSucceededEventDetails](#) (p. 89)
- [ExecutionTimedOutEventDetails](#) (p. 90)
- [HistoryEvent](#) (p. 91)
- [HistoryEventExecutionDataDetails](#) (p. 96)
- [LambdaFunctionFailedEventDetails](#) (p. 97)
- [LambdaFunctionScheduledEventDetails](#) (p. 98)
- [LambdaFunctionScheduleFailedEventDetails](#) (p. 99)
- [LambdaFunctionStartFailedEventDetails](#) (p. 100)
- [LambdaFunctionSucceededEventDetails](#) (p. 101)
- [LambdaFunctionTimedOutEventDetails](#) (p. 102)
- [LogDestination](#) (p. 103)
- [LoggingConfiguration](#) (p. 104)
- [MapIterationEventDetails](#) (p. 105)
- [MapStateStartedEventDetails](#) (p. 106)
- [StateEnteredEventDetails](#) (p. 107)
- [StateExitedEventDetails](#) (p. 108)
- [StateMachineListItem](#) (p. 109)
- [Tag](#) (p. 111)
- [TaskFailedEventDetails](#) (p. 112)
- [TaskScheduledEventDetails](#) (p. 113)
- [TaskStartedEventDetails](#) (p. 115)

- [TaskStartFailedEventDetails](#) (p. 116)
- [TaskSubmitFailedEventDetails](#) (p. 117)
- [TaskSubmittedEventDetails](#) (p. 118)
- [TaskSucceededEventDetails](#) (p. 119)
- [TaskTimedOutEventDetails](#) (p. 120)
- [TracingConfiguration](#) (p. 121)

ActivityFailedEventDetails

Contains details about an activity that failed during an execution.

Contents

cause

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

See Also

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

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

ActivityListItem

Contains details about an activity.

Contents

activityArn

The Amazon Resource Name (ARN) that identifies the activity.

Type: String

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

Required: Yes

creationDate

The date the activity is created.

Type: Timestamp

Required: Yes

name

The name of the activity.

A name must *not* contain:

- white space
- brackets < > { } []
- wildcard characters ? *
- special characters " # % \ ^ | ~ ` \$ & , ; : /
- control characters (U+0000–001F, U+007F–009F)

To enable logging with CloudWatch Logs, the name should only contain 0-9, A-Z, a-z, - and _.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

See Also

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

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

ActivityScheduledEventDetails

Contains details about an activity scheduled during an execution.

Contents

heartbeatInSeconds

The maximum allowed duration between two heartbeats for the activity task.

Type: Long

Required: No

input

The JSON data input to the activity task. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

Required: No

inputDetails

Contains details about the input for an execution history event.

Type: [HistoryEventExecutionDataDetails](#) (p. 96) object

Required: No

resource

The Amazon Resource Name (ARN) of the scheduled activity.

Type: String

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

Required: Yes

timeoutInSeconds

The maximum allowed duration of the activity task.

Type: Long

Required: No

See Also

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

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

ActivityScheduleFailedEventDetails

Contains details about an activity schedule failure that occurred during an execution.

Contents

cause

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

See Also

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

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

ActivityStartedEventDetails

Contains details about the start of an activity during an execution.

Contents

workerName

The name of the worker that the task is assigned to. These names are provided by the workers when calling [GetActivityTask](#) (p. 26).

Type: String

Length Constraints: Maximum length of 256.

Required: No

See Also

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

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

ActivitySucceededEventDetails

Contains details about an activity that successfully terminated during an execution.

Contents

output

The JSON data output by the activity task. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

Required: No

outputDetails

Contains details about the output of an execution history event.

Type: [HistoryEventExecutionDataDetails](#) (p. 96) object

Required: No

See Also

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

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

ActivityTimedOutEventDetails

Contains details about an activity timeout that occurred during an execution.

Contents

cause

A more detailed explanation of the cause of the timeout.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

See Also

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

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

BillingDetails

An object that describes workflow billing details.

Contents

billedDurationInMilliseconds

Billed duration of your workflow, in milliseconds.

Type: Long

Valid Range: Minimum value of 0.

Required: No

billedMemoryUsedInMB

Billed memory consumption of your workflow, in MB.

Type: Long

Valid Range: Minimum value of 0.

Required: No

See Also

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

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

CloudWatchEventsExecutionDataDetails

Provides details about execution input or output.

Contents

included

Indicates whether input or output was included in the response. Always `true` for API calls.

Type: Boolean

Required: No

See Also

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

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

CloudWatchLogsLogGroup

Contents

logGroupArn

The ARN of the the CloudWatch log group to which you want your logs emitted to. The ARN must end with : *

Type: String

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

Required: No

See Also

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

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

ExecutionAbortedEventDetails

Contains details about an abort of an execution.

Contents

cause

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

See Also

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

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

ExecutionFailedEventDetails

Contains details about an execution failure event.

Contents

cause

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

See Also

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

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

ExecutionListItem

Contains details about an execution.

Contents

executionArn

The Amazon Resource Name (ARN) that identifies the execution.

Type: String

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

Required: Yes

name

The name of the execution.

A name must *not* contain:

- white space
- brackets < > { } []
- wildcard characters ? *
- special characters " # % \ ^ | ~ ` \$ & , ; : /
- control characters (U+0000–001F, U+007F–009F)

To enable logging with CloudWatch Logs, the name should only contain 0-9, A-Z, a-z, - and _.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

startDate

The date the execution started.

Type: Timestamp

Required: Yes

stateMachineArn

The Amazon Resource Name (ARN) of the executed state machine.

Type: String

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

Required: Yes

status

The current status of the execution.

Type: String

Valid Values: `RUNNING` | `SUCCEEDED` | `FAILED` | `TIMED_OUT` | `ABORTED`

Required: Yes

stopDate

If the execution already ended, the date the execution stopped.

Type: Timestamp

Required: No

See Also

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

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

ExecutionStartedEventDetails

Contains details about the start of the execution.

Contents

input

The JSON data input to the execution. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

Required: No

inputDetails

Contains details about the input for an execution history event.

Type: [HistoryEventExecutionDataDetails](#) (p. 96) object

Required: No

roleArn

The Amazon Resource Name (ARN) of the IAM role used for executing AWS Lambda tasks.

Type: String

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

Required: No

See Also

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

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

ExecutionSucceededEventDetails

Contains details about the successful termination of the execution.

Contents

output

The JSON data output by the execution. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

Required: No

outputDetails

Contains details about the output of an execution history event.

Type: [HistoryEventExecutionDataDetails](#) (p. 96) object

Required: No

See Also

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

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

ExecutionTimedOutEventDetails

Contains details about the execution timeout that occurred during the execution.

Contents

cause

A more detailed explanation of the cause of the timeout.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

See Also

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

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

HistoryEvent

Contains details about the events of an execution.

Contents

activityFailedEventDetails

Type: [ActivityFailedEventDetails](#) (p. 73) object

Required: No

activityScheduledEventDetails

Type: [ActivityScheduledEventDetails](#) (p. 75) object

Required: No

activityScheduleFailedEventDetails

Contains details about an activity schedule event that failed during an execution.

Type: [ActivityScheduleFailedEventDetails](#) (p. 77) object

Required: No

activityStartedEventDetails

Type: [ActivityStartedEventDetails](#) (p. 78) object

Required: No

activitySucceededEventDetails

Type: [ActivitySucceededEventDetails](#) (p. 79) object

Required: No

activityTimedOutEventDetails

Type: [ActivityTimedOutEventDetails](#) (p. 80) object

Required: No

executionAbortedEventDetails

Type: [ExecutionAbortedEventDetails](#) (p. 84) object

Required: No

executionFailedEventDetails

Type: [ExecutionFailedEventDetails](#) (p. 85) object

Required: No

executionStartedEventDetails

Type: [ExecutionStartedEventDetails](#) (p. 88) object

Required: No

executionSucceededEventDetails

Type: [ExecutionSucceededEventDetails](#) (p. 89) object

Required: No

executionTimedOutEventDetails

Type: [ExecutionTimedOutEventDetails](#) (p. 90) object

Required: No

id

The id of the event. Events are numbered sequentially, starting at one.

Type: Long

Required: Yes

lambdaFunctionFailedEventDetails

Type: [LambdaFunctionFailedEventDetails](#) (p. 97) object

Required: No

lambdaFunctionScheduledEventDetails

Type: [LambdaFunctionScheduledEventDetails](#) (p. 98) object

Required: No

lambdaFunctionScheduleFailedEventDetails

Type: [LambdaFunctionScheduleFailedEventDetails](#) (p. 99) object

Required: No

lambdaFunctionStartFailedEventDetails

Contains details about a lambda function that failed to start during an execution.

Type: [LambdaFunctionStartFailedEventDetails](#) (p. 100) object

Required: No

lambdaFunctionSucceededEventDetails

Contains details about a Lambda function that terminated successfully during an execution.

Type: [LambdaFunctionSucceededEventDetails](#) (p. 101) object

Required: No

lambdaFunctionTimedOutEventDetails

Type: [LambdaFunctionTimedOutEventDetails](#) (p. 102) object

Required: No

mapIterationAbortedEventDetails

Contains details about an iteration of a Map state that was aborted.

Type: [MapIterationEventDetails](#) (p. 105) object

Required: No

mapIterationFailedEventDetails

Contains details about an iteration of a Map state that failed.

Type: [MapIterationEventDetails](#) (p. 105) object

Required: No

mapIterationStartedEventDetails

Contains details about an iteration of a Map state that was started.

Type: [MapIterationEventDetails](#) (p. 105) object

Required: No

mapIterationSucceededEventDetails

Contains details about an iteration of a Map state that succeeded.

Type: [MapIterationEventDetails](#) (p. 105) object

Required: No

mapStateStartedEventDetails

Contains details about Map state that was started.

Type: [MapStateStartedEventDetails](#) (p. 106) object

Required: No

previousEventId

The id of the previous event.

Type: Long

Required: No

stateEnteredEventDetails

Type: [StateEnteredEventDetails](#) (p. 107) object

Required: No

stateExitedEventDetails

Type: [StateExitedEventDetails](#) (p. 108) object

Required: No

taskFailedEventDetails

Contains details about the failure of a task.

Type: [TaskFailedEventDetails](#) (p. 112) object

Required: No

taskScheduledEventDetails

Contains details about a task that was scheduled.

Type: [TaskScheduledEventDetails](#) (p. 113) object

Required: No

taskStartedEventDetails

Contains details about a task that was started.

Type: [TaskStartedEventDetails](#) (p. 115) object

Required: No

taskStartFailedEventDetails

Contains details about a task that failed to start.

Type: [TaskStartFailedEventDetails](#) (p. 116) object

Required: No

taskSubmitFailedEventDetails

Contains details about a task that where the submit failed.

Type: [TaskSubmitFailedEventDetails](#) (p. 117) object

Required: No

taskSubmittedEventDetails

Contains details about a submitted task.

Type: [TaskSubmittedEventDetails](#) (p. 118) object

Required: No

taskSucceededEventDetails

Contains details about a task that succeeded.

Type: [TaskSucceededEventDetails](#) (p. 119) object

Required: No

taskTimedOutEventDetails

Contains details about a task that timed out.

Type: [TaskTimedOutEventDetails](#) (p. 120) object

Required: No

timestamp

The date and time the event occurred.

Type: Timestamp

Required: Yes

type

The type of the event.

Type: String

Valid Values: ActivityFailed | ActivityScheduled | ActivityScheduleFailed | ActivityStarted | ActivitySucceeded | ActivityTimedOut | ChoiceStateEntered | ChoiceStateExited | ExecutionAborted | ExecutionFailed | ExecutionStarted | ExecutionSucceeded | ExecutionTimedOut | FailStateEntered | LambdaFunctionFailed | LambdaFunctionScheduled | LambdaFunctionScheduleFailed | LambdaFunctionStarted | LambdaFunctionStartFailed | LambdaFunctionSucceeded | LambdaFunctionTimedOut | MapIterationAborted | MapIterationFailed | MapIterationStarted | MapIterationSucceeded | MapStateAborted | MapStateEntered | MapStateExited | MapStateFailed | MapStateStarted | MapStateSucceeded | ParallelStateAborted | ParallelStateEntered | ParallelStateExited | ParallelStateFailed

| ParallelStateStarted | ParallelStateSucceeded | PassStateEntered |
PassStateExited | SucceedStateEntered | SucceedStateExited | TaskFailed
| TaskScheduled | TaskStarted | TaskStartFailed | TaskStateAborted |
TaskStateEntered | TaskStateExited | TaskSubmitFailed | TaskSubmitted
| TaskSucceeded | TaskTimedOut | WaitStateAborted | WaitStateEntered |
WaitStateExited

Required: Yes

See Also

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

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

HistoryEventExecutionDataDetails

Provides details about input or output in an execution history event.

Contents

truncated

Indicates whether input or output was truncated in the response. Always `false` for API calls.

Type: Boolean

Required: No

See Also

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

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

LambdaFunctionFailedEventDetails

Contains details about a Lambda function that failed during an execution.

Contents

cause

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

See Also

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

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

LambdaFunctionScheduledEventDetails

Contains details about a Lambda function scheduled during an execution.

Contents

input

The JSON data input to the Lambda function. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

Required: No

inputDetails

Contains details about input for an execution history event.

Type: [HistoryEventExecutionDataDetails](#) (p. 96) object

Required: No

resource

The Amazon Resource Name (ARN) of the scheduled Lambda function.

Type: String

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

Required: Yes

timeoutInSeconds

The maximum allowed duration of the Lambda function.

Type: Long

Required: No

See Also

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

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

LambdaFunctionScheduleFailedEventDetails

Contains details about a failed Lambda function schedule event that occurred during an execution.

Contents

cause

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

See Also

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

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

LambdaFunctionStartFailedEventDetails

Contains details about a lambda function that failed to start during an execution.

Contents

cause

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

See Also

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

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

LambdaFunctionSucceededEventDetails

Contains details about a Lambda function that successfully terminated during an execution.

Contents

output

The JSON data output by the Lambda function. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

Required: No

outputDetails

Contains details about the output of an execution history event.

Type: [HistoryEventExecutionDataDetails](#) (p. 96) object

Required: No

See Also

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

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

LambdaFunctionTimedOutEventDetails

Contains details about a Lambda function timeout that occurred during an execution.

Contents

cause

A more detailed explanation of the cause of the timeout.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

See Also

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

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

LogDestination

Contents

cloudWatchLogsLogGroup

An object describing a CloudWatch log group. For more information, see [AWS::Logs::LogGroup](#) in the AWS CloudFormation User Guide.

Type: [CloudWatchLogsLogGroup](#) (p. 83) object

Required: No

See Also

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

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

LoggingConfiguration

The `LoggingConfiguration` data type is used to set CloudWatch Logs options.

Contents

destinations

An array of objects that describes where your execution history events will be logged. Limited to size 1. Required, if your log level is not set to `OFF`.

Type: Array of [LogDestination](#) (p. 103) objects

Required: No

includeExecutionData

Determines whether execution data is included in your log. When set to `false`, data is excluded.

Type: Boolean

Required: No

level

Defines which category of execution history events are logged.

Type: String

Valid Values: `ALL` | `ERROR` | `FATAL` | `OFF`

Required: No

See Also

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

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

MapIterationEventDetails

Contains details about an iteration of a Map state.

Contents

index

The index of the array belonging to the Map state iteration.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

name

The name of the iteration's parent Map state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: No

See Also

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

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

MapStateStartedEventDetails

Details about a Map state that was started.

Contents

length

The size of the array for Map state iterations.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

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

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

StateEnteredEventDetails

Contains details about a state entered during an execution.

Contents

input

The string that contains the JSON input data for the state. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

Required: No

inputDetails

Contains details about the input for an execution history event.

Type: [HistoryEventExecutionDataDetails](#) (p. 96) object

Required: No

name

The name of the state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

See Also

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

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

StateExitedEventDetails

Contains details about an exit from a state during an execution.

Contents

name

The name of the state.

A name must *not* contain:

- white space
- brackets < > { } []
- wildcard characters ? *
- special characters " # % \ ^ | ~ ` \$ & , ; : /
- control characters (U+0000–001F, U+007F–009F)

To enable logging with CloudWatch Logs, the name should only contain 0-9, A-Z, a-z, - and _.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

output

The JSON output data of the state. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

Required: No

outputDetails

Contains details about the output of an execution history event.

Type: [HistoryEventExecutionDataDetails](#) (p. 96) object

Required: No

See Also

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

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

StateMachineListItem

Contains details about the state machine.

Contents

creationDate

The date the state machine is created.

Type: Timestamp

Required: Yes

name

The name of the state machine.

A name must *not* contain:

- white space
- brackets < > { } []
- wildcard characters ? *
- special characters " # % \ ^ | ~ ` \$ & , ; : /
- control characters (U+0000–001F, U+007F–009F)

To enable logging with CloudWatch Logs, the name should only contain 0-9, A-Z, a-z, - and _.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

stateMachineArn

The Amazon Resource Name (ARN) that identifies the state machine.

Type: String

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

Required: Yes

type

Type: String

Valid Values: STANDARD | EXPRESS

Required: Yes

See Also

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

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

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

Tag

Tags are key-value pairs that can be associated with Step Functions state machines and activities.

An array of key-value pairs. For more information, see [Using Cost Allocation Tags](#) in the *AWS Billing and Cost Management User Guide*, and [Controlling Access Using IAM Tags](#).

Tags may only contain Unicode letters, digits, white space, or these symbols: `_ . : / = + - @`.

Contents

key

The key of a tag.

Type: String

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

Required: No

value

The value of a tag.

Type: String

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

Required: No

See Also

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

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

TaskFailedEventDetails

Contains details about a task failure event.

Contents

cause

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

resource

The action of the resource called by a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

resourceType

The service name of the resource in a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

See Also

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

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

TaskScheduledEventDetails

Contains details about a task scheduled during an execution.

Contents

heartbeatInSeconds

The maximum allowed duration between two heartbeats for the task.

Type: Long

Required: No

parameters

The JSON data passed to the resource referenced in a task state. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 262144.

Required: Yes

region

The region of the scheduled task

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

resource

The action of the resource called by a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

resourceType

The service name of the resource in a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

timeoutInSeconds

The maximum allowed duration of the task.

Type: Long

Required: No

See Also

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

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

TaskStartedEventDetails

Contains details about the start of a task during an execution.

Contents

resource

The action of the resource called by a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

resourceType

The service name of the resource in a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

See Also

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

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

TaskStartFailedEventDetails

Contains details about a task that failed to start during an execution.

Contents

cause

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

resource

The action of the resource called by a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

resourceType

The service name of the resource in a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

See Also

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

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

TaskSubmitFailedEventDetails

Contains details about a task that failed to submit during an execution.

Contents

cause

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

resource

The action of the resource called by a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

resourceType

The service name of the resource in a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

See Also

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

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

TaskSubmittedEventDetails

Contains details about a task submitted to a resource .

Contents

output

The response from a resource when a task has started. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

Required: No

outputDetails

Contains details about the output of an execution history event.

Type: [HistoryEventExecutionDataDetails](#) (p. 96) object

Required: No

resource

The action of the resource called by a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

resourceType

The service name of the resource in a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

See Also

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

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

TaskSucceededEventDetails

Contains details about the successful completion of a task state.

Contents

output

The full JSON response from a resource when a task has succeeded. This response becomes the output of the related task. Length constraints apply to the payload size, and are expressed as bytes in UTF-8 encoding.

Type: String

Length Constraints: Maximum length of 262144.

Required: No

outputDetails

Contains details about the output of an execution history event.

Type: [HistoryEventExecutionDataDetails](#) (p. 96) object

Required: No

resource

The action of the resource called by a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

resourceType

The service name of the resource in a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

See Also

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

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

TaskTimedOutEventDetails

Contains details about a resource timeout that occurred during an execution.

Contents

cause

A more detailed explanation of the cause of the failure.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32768.

Required: No

error

The error code of the failure.

Type: String

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

Required: No

resource

The action of the resource called by a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

resourceType

The service name of the resource in a task state.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 80.

Required: Yes

See Also

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

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

TracingConfiguration

Selects whether or not the state machine's AWS X-Ray tracing is enabled. Default is `false`

Contents

enabled

When set to `true`, AWS X-Ray tracing is enabled.

Type: Boolean

Required: No

See Also

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

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

Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see [Signature Version 4 Signing Process](#) in the *Amazon Web Services General Reference*.

Action

The action to be performed.

Type: string

Required: Yes

Version

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

Type: string

Required: Yes

X-Amz-Algorithm

The hash algorithm that you used to create the request signature.

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

Type: string

Valid Values: `AWS4-HMAC-SHA256`

Required: Conditional

X-Amz-Credential

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4_request"). The value is expressed in the following format: `access_key/YYYYMMDD/region/service/aws4_request`.

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

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

Type: string

Required: Conditional

X-Amz-Date

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'THHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: `20120325T120000Z`.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is

not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see [Handling Dates in Signature Version 4](#) in the *Amazon Web Services General Reference*.

Type: string

Required: Conditional

X-Amz-Security-Token

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

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

Type: string

Required: Conditional

X-Amz-Signature

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

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

Type: string

Required: Conditional

X-Amz-SignedHeaders

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see [Task 1: Create a Canonical Request For Signature Version 4](#) in the *Amazon Web Services General Reference*.

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

Type: string

Required: Conditional

Common Errors

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

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 400

IncompleteSignature

The request signature does not conform to AWS standards.

HTTP Status Code: 400

InternalFailure

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

HTTP Status Code: 500

InvalidAction

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

HTTP Status Code: 400

InvalidClientTokenId

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

HTTP Status Code: 403

InvalidParameterCombination

Parameters that must not be used together were used together.

HTTP Status Code: 400

InvalidParameterValue

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

HTTP Status Code: 400

InvalidQueryParameter

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

HTTP Status Code: 400

MalformedQueryString

The query string contains a syntax error.

HTTP Status Code: 404

MissingAction

The request is missing an action or a required parameter.

HTTP Status Code: 400

MissingAuthenticationToken

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

HTTP Status Code: 403

MissingParameter

A required parameter for the specified action is not supplied.

HTTP Status Code: 400

NotAuthorized

You do not have permission to perform this action.

HTTP Status Code: 400

OptInRequired

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

HTTP Status Code: 403

RequestExpired

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

HTTP Status Code: 400

ServiceUnavailable

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

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

ValidationError

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

HTTP Status Code: 400