AWS Step Functions

API Reference

API Version 2016-11-23

AWS Step Functions: API Reference

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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 April 18, 2019.

Actions

The following actions are supported:

- CreateActivity (p. 3)
- CreateStateMachine (p. 6)
- DeleteActivity (p. 9)
- DeleteStateMachine (p. 11)
- DescribeActivity (p. 13)
- DescribeExecution (p. 15)
- DescribeStateMachine (p. 18)
- DescribeStateMachineForExecution (p. 21)
- GetActivityTask (p. 24)
- GetExecutionHistory (p. 27)
- ListActivities (p. 33)
- ListExecutions (p. 36)
- ListStateMachines (p. 39)
- ListTagsForResource (p. 42)
- SendTaskFailure (p. 44)
- SendTaskHeartbeat (p. 46)
- SendTaskSuccess (p. 48)
- StartExecution (p. 50)
- StopExecution (p. 53)
- TagResource (p. 55)
- UntagResource (p. 57)
- UpdateStateMachine (p. 59)

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. 100).

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:

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

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.

Type: Array of Tag (p. 90) 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. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

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.

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` and `definition`. 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",
   "name": "string",
   "roleArn": "string",
   "tags": [
      {
         "key": "string",
         "value": "string"
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 100).

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

name (p. 6)

The name of the state machine.

A name must *not* contain:

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

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.

Type: Array of Tag (p. 90) objects

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. 7)

The date the state machine is created.

Type: Timestamp

stateMachineArn (p. 7)

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. 102).

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

InvalidName

The provided name is invalid.

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

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

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. 100).

The request accepts the following data in JSON format.

activityArn (p. 9)

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. 102).

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 Go - Pilot
- AWS SDK for Java

- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteStateMachine

Deletes a state machine. This is an asynchronous operation: It sets the state machine's status to `DELETING` and begins the deletion process. Each state machine execution is deleted the next time it makes a state transition.

> **Note**
> The state machine itself is deleted after all executions are completed or deleted.

Request Syntax

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

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 100).

The request accepts the following data in JSON format.

stateMachineArn (p. 11)

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. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

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. 100).

The request accepts the following data in JSON format.

activityArn (p. 13)

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. 13)

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

Type: String

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

creationDate (p. 13)

The date the activity is created.

Type: Timestamp

name (p. 13)

The name of the activity.

A name must *not* contain:

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

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. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeExecution

Describes an execution.

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

Request Syntax

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

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 100).

The request accepts the following data in JSON format.

executionArn (p. 15)

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",
   "name": "string",
   "output": "string",
   "startDate": number,
   "stateMachineArn": "string",
   "status": "string",
   "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.

executionArn (p. 15)

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

Type: String

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

input (p. 15)

The string that contains the JSON input data of the execution.

Type: String

Length Constraints: Maximum length of 32768.

name (p. 15)

The name of the execution.

A name must *not* contain:

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

Type: String

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

output (p. 15)

The JSON output data of the execution.

> **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 32768.

startDate (p. 15)

The date the execution is started.

Type: Timestamp

stateMachineArn (p. 15)

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

Type: String

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

status (p. 15)

The current status of the execution.

Type: String

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

stopDate (p. 15)

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

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Errors (p. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

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. 100).

The request accepts the following data in JSON format.

stateMachineArn (p. 18)

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",
   "name": "string",
   "roleArn": "string",
   "stateMachineArn": "string",
   "status": "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. 18)

The date the state machine is created.

Type: Timestamp

definition (p. 18)

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.

name (p. 18)

The name of the state machine.

A name must *not* contain:

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

Type: String

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

roleArn (p. 18)

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. 18)

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

Type: String

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

status (p. 18)

The current status of the state machine.

Type: String

Valid Values: `ACTIVE | DELETING`

Errors

For information about the errors that are common to all actions, see Common Errors (p. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

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.

Request Syntax

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

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 100).

The request accepts the following data in JSON format.

executionArn (p. 21)

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",
   "name": "string",
   "roleArn": "string",
   "stateMachineArn": "string",
   "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. 21)

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.

name (p. 21)

The name of the state machine associated with the execution.

Type: String

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

roleArn (p. 21)

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. 21)

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.

updateDate (p. 21)

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. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3

- AWS SDK for Python
- AWS SDK for Ruby V2

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. 100).

The request accepts the following data in JSON format.

activityArn (p. 24)

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. 24)

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. 24)

The string that contains the JSON input data for the task.

Type: String

Length Constraints: Maximum length of 65536.

taskToken (p. 24)

A token that identifies the scheduled task. This token must be copied and included in subsequent calls to SendTaskHeartbeat (p. 46), SendTaskSuccess (p. 48) or SendTaskFailure (p. 44) 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. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

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.

Request Syntax

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

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 100).

The request accepts the following data in JSON format.

executionArn (p. 27)

The Amazon Resource Name (ARN) of the execution.

Type: String

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

Required: Yes

maxResults (p. 27)

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. 27)

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. 27)

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",
            "resource": "string",
            "timeoutInSeconds": number
         },
         "activityScheduleFailedEventDetails": {
            "cause": "string",
            "error": "string"
         },
         "activityStartedEventDetails": {
            "workerName": "string"
         },
         "activitySucceededEventDetails": {
            "output": "string"
         },
         "activityTimedOutEventDetails": {
            "cause": "string",
            "error": "string"
         },
         "executionAbortedEventDetails": {
            "cause": "string",
            "error": "string"
         },
         "executionFailedEventDetails": {
            "cause": "string",
            "error": "string"
         },
         "executionStartedEventDetails": {
            "input": "string",
            "roleArn": "string"
         },
         "executionSucceededEventDetails": {
            "output": "string"
         },
         "executionTimedOutEventDetails": {
            "cause": "string",
            "error": "string"
         },
         "id": number,
         "lambdaFunctionFailedEventDetails": {
            "cause": "string",
```

```
      "error": "string"
   },
   "lambdaFunctionScheduledEventDetails": {
      "input": "string",
      "resource": "string",
      "timeoutInSeconds": number
   },
   "lambdaFunctionScheduleFailedEventDetails": {
      "cause": "string",
      "error": "string"
   },
   "lambdaFunctionStartFailedEventDetails": {
      "cause": "string",
      "error": "string"
   },
   "lambdaFunctionSucceededEventDetails": {
      "output": "string"
   },
   "lambdaFunctionTimedOutEventDetails": {
      "cause": "string",
      "error": "string"
   },
   "previousEventId": number,
   "stateEnteredEventDetails": {
      "input": "string",
      "name": "string"
   },
   "stateExitedEventDetails": {
      "name": "string",
      "output": "string"
   },
   "taskFailedEventDetails": {
      "cause": "string",
      "error": "string",
      "resource": "string",
      "resourceType": "string"
   },
   "taskScheduledEventDetails": {
      "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",
      "resource": "string",
      "resourceType": "string"
   },
   "taskSucceededEventDetails": {
```

```
            "output": "string",
            "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. 28)

The list of events that occurred in the execution.

Type: Array of HistoryEvent (p. 77) objects

nextToken (p. 28)

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. 102).

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

Example

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": "{}",
                "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": "{}",
                "name": "HelloWorld"
            },
            "previousEventId": 0
        },
        {
            "timestamp": 1525283875.612,
            "stateExitedEventDetails": {
                "output": "\"Hello World!\"",
                "name": "HelloWorld"
            },
            "type": "PassStateExited",
            "id": 3,
            "previousEventId": 2
        },
        {
            "executionSucceededEventDetails": {
                "output": "\"Hello World!\""
            },
            "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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

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. 100).

The request accepts the following data in JSON format.

maxResults (p. 33)

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. 33)

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. 33)

The list of activities.

Type: Array of ActivityListItem (p. 64) objects

nextToken (p. 33)

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. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3

- AWS SDK for Python
- AWS SDK for Ruby V2

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.

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. 100).

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

stateMachineArn (p. 36)

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. 36)

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. 37)

The list of matching executions.

Type: Array of ExecutionListItem (p. 72) objects

nextToken (p. 37)

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. 102).

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

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

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. 100).

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 1024.

Required: No

Response Syntax

```
{
```

```
   "nextToken": "string",
   "stateMachines": [
      {
         "creationDate": number,
         "name": "string",
         "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.

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 1024.

stateMachines (p. 39)

Type: Array of StateMachineListItem (p. 89) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListTagsForResource

List tags for a given resource.

Request Syntax

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

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 100).

The request accepts the following data in JSON format.

resourceArn (p. 42)

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. 42)

An array of tags associated with the resource.

Type: Array of Tag (p. 90) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 102).

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

ResourceNotFound

Could not fine 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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

SendTaskFailure

Used by workers 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. 100).

The request accepts the following data in JSON format.

cause (p. 44)

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. 44)

The error code of the failure.

Type: String

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

Required: No

taskToken (p. 44)

The token that represents this task. Task tokens are generated by the service when the tasks are assigned to a worker (see GetActivityTask::taskToken).

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. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

SendTaskHeartbeat

Used by workers to report to the service 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. 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` event.

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. 46) requests received.

Note
This operation is only useful for long-lived tasks to report the liveliness of the task.

Request Syntax

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

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 100).

The request accepts the following data in JSON format.

taskToken (p. 46)

The token that represents this task. Task tokens are generated by the service when the tasks are assigned to a worker (see GetActivityTask:taskToken (p. 25)).

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. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

SendTaskSuccess

Used by workers 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. 100).

The request accepts the following data in JSON format.

output (p. 48)

The JSON output of the task.

Type: String

Length Constraints: Maximum length of 32768.

Required: Yes

taskToken (p. 48)

The token that represents this task. Task tokens are generated by the service when the tasks are assigned to a worker (see GetActivityTask:taskToken (p. 25)).

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. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

StartExecution

Starts a state machine execution.

> **Note**
> `StartExecution` is idempotent. 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.

Request Syntax

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

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 100).

The request accepts the following data in JSON format.

input (p. 50)

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": "{}"`

Type: String

Length Constraints: Maximum length of 32768.

Required: No

name (p. 50)

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:

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

Type: String

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

Required: No

stateMachineArn (p. 50)

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

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. 51)

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

Type: String

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

startDate (p. 51)

The date the execution is started.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Errors (p. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

StopExecution

Stops an execution.

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. 100).

The request accepts the following data in JSON format.

cause (p. 53)

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. 53)

The error code of the failure.

Type: String

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

Required: No

executionArn (p. 53)

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. 53)

The date the execution is stopped.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Errors (p. 102).

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

TagResource

Add a tag to a Step Functions resource.

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. 100).

The request accepts the following data in JSON format.

resourceArn (p. 55)

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. 55)

The list of tags to add to a resource.

Tags may only contain unicode letters, digits, whitespace, or these symbols: `_ . : / = + - @`.

Type: Array of Tag (p. 90) 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. 102).

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

ResourceNotFound

Could not fine 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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

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. 100).

The request accepts the following data in JSON format.

resourceArn (p. 57)

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. 57)

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. 102).

InvalidArn

The provided Amazon Resource Name (ARN) is invalid.

HTTP Status Code: 400

ResourceNotFound

Could not fine 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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateStateMachine

Updates an existing state machine by modifying its `definition` and/or `roleArn`. 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",
   "roleArn": "string",
   "stateMachineArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 100).

The request accepts the following data in JSON format.

definition (p. 59)

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

roleArn (p. 59)

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. 59)

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

Type: String

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

Required: Yes

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. 59)

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. 102).

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

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 Go - Pilot
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

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. 63)
- ActivityListItem (p. 64)
- ActivityScheduledEventDetails (p. 65)
- ActivityScheduleFailedEventDetails (p. 66)
- ActivityStartedEventDetails (p. 67)
- ActivitySucceededEventDetails (p. 68)
- ActivityTimedOutEventDetails (p. 69)
- ExecutionAbortedEventDetails (p. 70)
- ExecutionFailedEventDetails (p. 71)
- ExecutionListItem (p. 72)
- ExecutionStartedEventDetails (p. 74)
- ExecutionSucceededEventDetails (p. 75)
- ExecutionTimedOutEventDetails (p. 76)
- HistoryEvent (p. 77)
- LambdaFunctionFailedEventDetails (p. 81)
- LambdaFunctionScheduledEventDetails (p. 82)
- LambdaFunctionScheduleFailedEventDetails (p. 83)
- LambdaFunctionStartFailedEventDetails (p. 84)
- LambdaFunctionSucceededEventDetails (p. 85)
- LambdaFunctionTimedOutEventDetails (p. 86)
- StateEnteredEventDetails (p. 87)
- StateExitedEventDetails (p. 88)
- StateMachineListItem (p. 89)
- Tag (p. 90)
- TaskFailedEventDetails (p. 91)
- TaskScheduledEventDetails (p. 92)
- TaskStartedEventDetails (p. 94)
- TaskStartFailedEventDetails (p. 95)
- TaskSubmitFailedEventDetails (p. 96)
- TaskSubmittedEventDetails (p. 97)
- TaskSucceededEventDetails (p. 98)
- TaskTimedOutEventDetails (p. 99)

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

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:

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

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

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.

Type: String

Length Constraints: Maximum length of 32768.

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

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

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. 24).

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

ActivitySucceededEventDetails

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

Contents

output

The JSON data output by the activity task.

Type: String

Length Constraints: Maximum length of 32768.

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

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

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

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

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:

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

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

ExecutionStartedEventDetails

Contains details about the start of the execution.

Contents

input

The JSON data input to the execution.

Type: String

Length Constraints: Maximum length of 32768.

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

ExecutionSucceededEventDetails

Contains details about the successful termination of the execution.

Contents

output

The JSON data output by the execution.

Type: String

Length Constraints: Maximum length of 32768.

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

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

HistoryEvent

Contains details about the events of an execution.

Contents

activityFailedEventDetails

Type: ActivityFailedEventDetails (p. 63) object

Required: No

activityScheduledEventDetails

Type: ActivityScheduledEventDetails (p. 65) object

Required: No

activityScheduleFailedEventDetails

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

Type: ActivityScheduleFailedEventDetails (p. 66) object

Required: No

activityStartedEventDetails

Type: ActivityStartedEventDetails (p. 67) object

Required: No

activitySucceededEventDetails

Type: ActivitySucceededEventDetails (p. 68) object

Required: No

activityTimedOutEventDetails

Type: ActivityTimedOutEventDetails (p. 69) object

Required: No

executionAbortedEventDetails

Type: ExecutionAbortedEventDetails (p. 70) object

Required: No

executionFailedEventDetails

Type: ExecutionFailedEventDetails (p. 71) object

Required: No

executionStartedEventDetails

Type: ExecutionStartedEventDetails (p. 74) object

Required: No

executionSucceededEventDetails

Type: ExecutionSucceededEventDetails (p. 75) object

Required: No

executionTimedOutEventDetails

Type: ExecutionTimedOutEventDetails (p. 76) object

Required: No

id

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

Type: Long

Required: Yes

lambdaFunctionFailedEventDetails

Type: LambdaFunctionFailedEventDetails (p. 81) object

Required: No

lambdaFunctionScheduledEventDetails

Type: LambdaFunctionScheduledEventDetails (p. 82) object

Required: No

lambdaFunctionScheduleFailedEventDetails

Type: LambdaFunctionScheduleFailedEventDetails (p. 83) object

Required: No

lambdaFunctionStartFailedEventDetails

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

Type: LambdaFunctionStartFailedEventDetails (p. 84) object

Required: No

lambdaFunctionSucceededEventDetails

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

Type: LambdaFunctionSucceededEventDetails (p. 85) object

Required: No

lambdaFunctionTimedOutEventDetails

Type: LambdaFunctionTimedOutEventDetails (p. 86) object

Required: No

previousEventId

The id of the previous event.

Type: Long

Required: No

stateEnteredEventDetails

Type: StateEnteredEventDetails (p. 87) object

Required: No

stateExitedEventDetails

Type: StateExitedEventDetails (p. 88) object

Required: No

taskFailedEventDetails

Contains details about the failure of a task.

Type: TaskFailedEventDetails (p. 91) object

Required: No

taskScheduledEventDetails

Contains details about a task that was scheduled.

Type: TaskScheduledEventDetails (p. 92) object

Required: No

taskStartedEventDetails

Contains details about a task that was started.

Type: TaskStartedEventDetails (p. 94) object

Required: No

taskStartFailedEventDetails

Contains details about a task that failed to start.

Type: TaskStartFailedEventDetails (p. 95) object

Required: No

taskSubmitFailedEventDetails

Contains details about a task that where the submit failed.

Type: TaskSubmitFailedEventDetails (p. 96) object

Required: No

taskSubmittedEventDetails

Contains details about a submitted task.

Type: TaskSubmittedEventDetails (p. 97) object

Required: No

taskSucceededEventDetails

Contains details about a task that succeeded.

Type: TaskSucceededEventDetails (p. 98) object

Required: No

taskTimedOutEventDetails

Contains details about a task that timed out.

Type: TaskTimedOutEventDetails (p. 99) 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 | ActivityScheduleFailed | ActivityScheduled | ActivityStarted | ActivitySucceeded | ActivityTimedOut | ChoiceStateEntered | ChoiceStateExited | TaskFailed | TaskScheduled | TaskStartFailed | TaskStarted | TaskSubmitFailed | TaskSubmitted | TaskSucceeded | TaskTimedOut | ExecutionFailed | ExecutionStarted | ExecutionSucceeded | ExecutionAborted | ExecutionTimedOut | FailStateEntered | LambdaFunctionFailed | LambdaFunctionScheduleFailed | LambdaFunctionScheduled | LambdaFunctionStartFailed | LambdaFunctionStarted | LambdaFunctionSucceeded | LambdaFunctionTimedOut | SucceedStateEntered | SucceedStateExited | TaskStateAborted | TaskStateEntered | TaskStateExited | PassStateEntered | PassStateExited | ParallelStateAborted | ParallelStateEntered | ParallelStateExited | ParallelStateFailed | ParallelStateStarted | ParallelStateSucceeded | 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 Go - Pilot
- AWS SDK for Java
- AWS SDK for Ruby V2

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

LambdaFunctionScheduledEventDetails

Contains details about a lambda function scheduled during an execution.

Contents

input

The JSON data input to the lambda function.

Type: String

Length Constraints: Maximum length of 32768.

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

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

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

LambdaFunctionSucceededEventDetails

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

Contents

output

The JSON data output by the lambda function.

Type: String

Length Constraints: Maximum length of 32768.

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

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

StateEnteredEventDetails

Contains details about a state entered during an execution.

Contents

input

The string that contains the JSON input data for the state.

Type: String

Length Constraints: Maximum length of 32768.

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

StateExitedEventDetails

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

Contents

name

The name of the state.

A name must *not* contain:

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

Type: String

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

Required: Yes

output

The JSON output data of the state.

Type: String

Length Constraints: Maximum length of 32768.

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

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:

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

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

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

Tag

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

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

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 service name of the resource in a task state.

Type: String

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

Required: Yes

resourceType

The action of the resource called by 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 Go - Pilot
- AWS SDK for Java
- AWS SDK for Ruby V2

TaskScheduledEventDetails

Contains details about a task scheduled during an execution.

Contents

parameters

The JSON data passed to the resource referenced in a task state.

Type: String

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

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 service name of the resource in a task state.

Type: String

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

Required: Yes

resourceType

The action of the resource called by 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 Go - Pilot
- AWS SDK for Java
- AWS SDK for Ruby V2

TaskStartedEventDetails

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

Contents

resource

The service name of the resource in a task state.

Type: String

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

Required: Yes

resourceType

The action of the resource called by 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 Go - Pilot
- AWS SDK for Java
- AWS SDK for Ruby V2

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 service name of the resource in a task state.

Type: String

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

Required: Yes

resourceType

The action of the resource called by 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 Go - Pilot
- AWS SDK for Java
- AWS SDK for Ruby V2

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 service name of the resource in a task state.

Type: String

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

Required: Yes

resourceType

The action of the resource called by 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 Go - Pilot
- AWS SDK for Java
- AWS SDK for Ruby V2

TaskSubmittedEventDetails

Contains details about a task submitted to a resource .

Contents

output

The response from a resource when a task has started.

Type: String

Length Constraints: Maximum length of 32768.

Required: No

resource

The service name of the resource in a task state.

Type: String

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

Required: Yes

resourceType

The action of the resource called by 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 Go - Pilot
- AWS SDK for Java
- AWS SDK for Ruby V2

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.

Type: String

Length Constraints: Maximum length of 32768.

Required: No

resource

The service name of the resource in a task state.

Type: String

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

Required: Yes

resourceType

The action of the resource called by 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 Go - Pilot
- AWS SDK for Java
- AWS SDK for Ruby V2

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 service name of the resource in a task state.

Type: String

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

Required: Yes

resourceType

The action of the resource called by 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 Go - Pilot
- AWS SDK for Java
- AWS SDK for Ruby V2

Common Parameters

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

Action

The action to be performed.

Type: string

Required: Yes

Version

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

Type: string

Required: Yes

X-Amz-Algorithm

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

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

Type: string

Valid Values: `AWS4-HMAC-SHA256`

Required: Conditional

X-Amz-Credential

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

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

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

Type: string

Required: Conditional

X-Amz-Date

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

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

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

Type: string

Required: Conditional

X-Amz-Security-Token

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

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

Type: string

Required: Conditional

X-Amz-Signature

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

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

Type: string

Required: Conditional

X-Amz-SignedHeaders

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

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

Type: string

Required: Conditional

Common Errors

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

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 400

IncompleteSignature

The request signature does not conform to AWS standards.

HTTP Status Code: 400

InternalFailure

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

HTTP Status Code: 500

InvalidAction

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

HTTP Status Code: 400

InvalidClientTokenId

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

HTTP Status Code: 403

InvalidParameterCombination

Parameters that must not be used together were used together.

HTTP Status Code: 400

InvalidParameterValue

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

HTTP Status Code: 400

InvalidQueryParameter

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

HTTP Status Code: 400

MalformedQueryString

The query string contains a syntax error.

HTTP Status Code: 404

MissingAction

The request is missing an action or a required parameter.

HTTP Status Code: 400

MissingAuthenticationToken

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

HTTP Status Code: 403

MissingParameter

A required parameter for the specified action is not supplied.

HTTP Status Code: 400

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