Amazon Simple Workflow Service

API Reference

API Version 2012-01-25

Amazon Simple Workflow Service: API Reference

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Welcome

The Amazon Simple Workflow Service (Amazon SWF) makes it easy to build applications that use Amazon's cloud to coordinate work across distributed components. In Amazon SWF, a *task* represents a logical unit of work that is performed by a component of your workflow. Coordinating tasks in a workflow involves managing intertask dependencies, scheduling, and concurrency in accordance with the logical flow of the application.

Amazon SWF gives you full control over implementing tasks and coordinating them without worrying about underlying complexities such as tracking their progress and maintaining their state.

This documentation serves as reference only. For a broader overview of the Amazon SWF programming model, see the Amazon SWF Developer Guide.

This document was last updated on December 9, 2016.

Actions

The following actions are supported:

- TerminateWorkflowExecution (p. 139)

CountClosedWorkflowExecutions

Returns the number of closed workflow executions within the given domain that meet the specified filtering criteria.

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

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `tagFilter.tag`: String constraint. The key is `swf:tagFilter.tag`.
  - `typeFilter.name`: String constraint. The key is `swf:typeFilter.name`.
  - `typeFilter.version`: String constraint. The key is `swf:typeFilter.version`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "closeStatusFilter": {
        "status": "string"
    },
    "closeTimeFilter": {
        "latestDate": number,
        "oldestDate": number
    },
    "domain": "string",
    "executionFilter": {
        "workflowId": "string"
    },
    "startTimeFilter": {
        "latestDate": number,
        "oldestDate": number
    },
    "tagFilter": {
        "tag": "string"
    },
    "typeFilter": {
        "name": "string",
        "version": "string"
    }
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

closeStatusFilter
If specified, only workflow executions that match this close status are counted. This filter has an affect only if `executionStatus` is specified as `CLOSED`.

> **Note**
> `closeStatusFilter`, `executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: CloseStatusFilter (p. 163) object

Required: No

closeTimeFilter
If specified, only workflow executions that meet the close time criteria of the filter are counted.

> **Note**
> `startTimeFilter` and `closeTimeFilter` are mutually exclusive. You must specify one of these in a request but not both.

Type: ExecutionTimeFilter (p. 177) object

Required: No

domain
The name of the domain containing the workflow executions to count.

Type: String

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

Required: Yes

executionFilter
If specified, only workflow executions matching the `WorkflowId` in the filter are counted.

> **Note**
> `closeStatusFilter`, `executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: WorkflowExecutionFilter (p. 224) object

Required: No

startTimeFilter
If specified, only workflow executions that meet the start time criteria of the filter are counted.

> **Note**
> `startTimeFilter` and `closeTimeFilter` are mutually exclusive. You must specify one of these in a request but not both.

Type: ExecutionTimeFilter (p. 177) object

Required: No

tagFilter
If specified, only executions that have a tag that matches the filter are counted.

> **Note**
> `closeStatusFilter`, `executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: TagFilter (p. 214) object

Required: No

typeFilter
If specified, indicates the type of the workflow executions to be counted.

Note
`closeStatusFilter`, `executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: WorkflowTypeFilter (p. 234) object

Required: No

Response Syntax

```
{
    "count": number,
    "truncated": boolean
}
```

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.

count
The number of workflow executions.

Type: Number

Valid range: Minimum value of 0.

truncated
If set to true, indicates that the actual count was more than the maximum supported by this API and the count returned is the truncated value.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

CountClosedWorkflowExecutions Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Sun, 15 Jan 2012 02:42:47 GMT
X-Amz-Target: SimpleWorkflowService.CountClosedWorkflowExecutions
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=jFS74utjeATV7vj72CWdLToPCKW0RQse6OEDkafB+SA=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 157
Pragma: no-cache
Cache-Control: no-cache

{
  "domain": "867530901",
  "activityType": {
    "version": "1.0",
    "name": "activityVerify"
  }
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 29
Content-Type: application/json
x-amzn-RequestId: 9bfad387-3f22-11e1-9914-a356b6ea8bdf

{ "count":3, "truncated":false }
```

CountOpenWorkflowExecutions

Returns the number of open workflow executions within the given domain that meet the specified filtering criteria.

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

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `tagFilter.tag`: String constraint. The key is `swf:tagFilter.tag`.
  - `typeFilter.name`: String constraint. The key is `swf:typeFilter.name`.
  - `typeFilter.version`: String constraint. The key is `swf:typeFilter.version`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "executionFilter": {
        "workflowId": "string"
    },
    "startTimeFilter": {
        "latestDate": number,
        "oldestDate": number
    },
    "tagFilter": {
        "tag": "string"
    },
    "typeFilter": {
        "name": "string",
        "version": "string"
    }
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain containing the workflow executions to count.

Type: String

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

Required: Yes

executionFilter

If specified, only workflow executions matching the `WorkflowId` in the filter are counted.

> **Note**
> `executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: WorkflowExecutionFilter (p. 224) object

Required: No

startTimeFilter

Specifies the start time criteria that workflow executions must meet in order to be counted.

Type: ExecutionTimeFilter (p. 177) object

Required: Yes

tagFilter

If specified, only executions that have a tag that matches the filter are counted.

> **Note**
> `executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: TagFilter (p. 214) object

Required: No

typeFilter

Specifies the type of the workflow executions to be counted.

> **Note**
> `executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: WorkflowTypeFilter (p. 234) object

Required: No

Response Syntax

```
{
    "count": number,
    "truncated": boolean
}
```

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.

count
The number of workflow executions.

Type: Number

Valid range: Minimum value of 0.

truncated
If set to true, indicates that the actual count was more than the maximum supported by this API and the count returned is the truncated value.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

CountOpenWorkflowExecutions Example

Sample Request

```
          POST / HTTP/1.1
          Host: swf.us-east-1.amazonaws.com
          User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
 rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
          Accept: application/json, text/javascript, */*
          Accept-Language: en-us,en;q=0.5
          Accept-Encoding: gzip,deflate
          Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
          Keep-Alive: 115
          Connection: keep-alive
          Content-Type: application/x-amz-json-1.0
          X-Requested-With: XMLHttpRequest
          X-Amz-Date: Sat, 14 Jan 2012 23:13:29 GMT
          X-Amz-Target: SimpleWorkflowService.CountOpenWorkflowExecutions
          Content-Encoding: amz-1.0
          X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-Encoding,Signature=3v6shiGzWukq4KiX/5HFMIUF/
w5qajhW4dp+6AKyOtY=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 150
```

```
Pragma: no-cache
Cache-Control: no-cache

{"domain": "867530901",
"startTimeFilter":
{"oldestDate": 1325376070,
"latestDate": 1356998399},
"tagFilter":
{"tag": "ricoh-the-dog"}
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 29
Content-Type: application/json
x-amzn-RequestId: 5ea6789e-3f05-11e1-9e8f-57bb03e21482

{"count":1,"truncated":false}
```

CountPendingActivityTasks

Returns the estimated number of activity tasks in the specified task list. The count returned is an approximation and is not guaranteed to be exact. If you specify a task list that no activity task was ever scheduled in then 0 will be returned.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the `taskList.name` parameter by using a **Condition** element with the `swf:taskList.name` key to allow the action to access only certain task lists.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "taskList": {
        "name": "string"
    }
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain that contains the task list.

Type: String

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

Required: Yes

taskList
The name of the task list.

Type: TaskList (p. 215) object

Required: Yes

Response Syntax

```
{
    "count": number,
    "truncated": boolean
}
```

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.

count
The number of tasks in the task list.

Type: Number

Valid range: Minimum value of 0.

truncated
If set to true, indicates that the actual count was more than the maximum supported by this API and the count returned is the truncated value.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

CountPendingActivityTasks Example

Sample Request

```
        POST / HTTP/1.1
        Host: swf.us-east-1.amazonaws.com
        User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
```

```
          Accept: application/json, text/javascript, */*
          Accept-Language: en-us,en;q=0.5
          Accept-Encoding: gzip,deflate
          Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
          Keep-Alive: 115
          Connection: keep-alive
          Content-Type: application/x-amz-json-1.0
          X-Requested-With: XMLHttpRequest
          X-Amz-Date: Mon, 16 Jan 2012 03:29:28 GMT
          X-Amz-Target: SimpleWorkflowService.CountPendingActivityTasks
          Content-Encoding: amz-1.0
          X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=eCNiyyl5qmP0gGQ0hM8LqeRzxEvVZ0LAjE4oxVzzk9w=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 70
          Pragma: no-cache
          Cache-Control: no-cache

          {"domain": "867530901",
          "taskList":
          {"name": "specialTaskList"}
          }
```

Sample Response

```
          HTTP/1.1 200 OK
          Content-Length: 29
          Content-Type: application/json
          x-amzn-RequestId: 4b977c76-3ff2-11e1-a23a-99d60383ae71

          {"count":1,"truncated":false}
```

CountPendingDecisionTasks

Returns the estimated number of decision tasks in the specified task list. The count returned is an approximation and is not guaranteed to be exact. If you specify a task list that no decision task was ever scheduled in then 0 will be returned.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the `taskList.name` parameter by using a **Condition** element with the `swf:taskList.name` key to allow the action to access only certain task lists.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "taskList": {
        "name": "string"
    }
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain that contains the task list.

Type: String

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

Required: Yes

taskList
The name of the task list.

Type: TaskList (p. 215) object

Required: Yes

Response Syntax

```
{
    "count": number,
    "truncated": boolean
}
```

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.

count
The number of tasks in the task list.

Type: Number

Valid range: Minimum value of 0.

truncated
If set to true, indicates that the actual count was more than the maximum supported by this API and the count returned is the truncated value.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

CountPendingDecisionTasks Example

Sample Request

```
        POST / HTTP/1.1
        Host: swf.us-east-1.amazonaws.com
        User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
```

```
          Accept: application/json, text/javascript, */*
          Accept-Language: en-us,en;q=0.5
          Accept-Encoding: gzip,deflate
          Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
          Keep-Alive: 115
          Connection: keep-alive
          Content-Type: application/x-amz-json-1.0
          X-Requested-With: XMLHttpRequest
          X-Amz-Date: Sun, 15 Jan 2012 23:25:57 GMT
          X-Amz-Target: SimpleWorkflowService.CountPendingDecisionTasks
          Content-Encoding: amz-1.0
          X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-Encoding,Signature=i9tUkWnZBLfn/
T6BOymajCtwArAll6Stuh1x2C4dbsE=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 70
          Pragma: no-cache
          Cache-Control: no-cache

          {"domain": "867530901",
          "taskList":
          {"name": "specialTaskList"}
          }
```

Sample Response

```
          HTTP/1.1 200 OK
          Content-Length: 29
          Content-Type: application/json
          x-amzn-RequestId: 4718a364-3fd0-11e1-9914-a356b6ea8bdf

          {"count": 2,
          "truncated": false}
```

DeprecateActivityType

Deprecates the specified *activity type*. After an activity type has been deprecated, you cannot create new tasks of that activity type. Tasks of this type that were scheduled before the type was deprecated will continue to run.

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

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `activityType.name`: String constraint. The key is `swf:activityType.name`.
  - `activityType.version`: String constraint. The key is `swf:activityType.version`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "activityType": {
        "name": "string",
        "version": "string"
    },
    "domain": "string"
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

activityType
The activity type to deprecate.

Type: ActivityType (p. 152) object

Required: Yes

domain
The name of the domain in which the activity type is registered.

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. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

TypeDeprecatedFault
Returned when the specified activity or workflow type was already deprecated.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

DeprecateActivityType Example

Sample Request

```
          POST / HTTP/1.1
          Host: swf.us-east-1.amazonaws.com
          User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
 rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
          Accept: application/json, text/javascript, */*
          Accept-Language: en-us,en;q=0.5
          Accept-Encoding: gzip,deflate
          Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
          Keep-Alive: 115
          Connection: keep-alive
          Content-Type: application/x-amz-json-1.0
          X-Requested-With: XMLHttpRequest
          X-Amz-Date: Mon, 16 Jan 2012 05:01:06 GMT
          X-Amz-Target: SimpleWorkflowService.DeprecateActivityType
          Content-Encoding: amz-1.0
          X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-Encoding,Signature=iX/
mNMtNH6IaSNwfZq9hHOhDlLnp7buuj9tO93kRIrQ=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 95
```

```
Pragma: no-cache
Cache-Control: no-cache

{"domain": "867530901",
"activityType":
{"name": "activityVerify",
"version": "1.0"}
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 0
Content-Type: application/json
x-amzn-RequestId: 191ee17e-3fff-11e1-a23a-99d60383ae71
```

DeprecateDomain

Deprecates the specified domain. After a domain has been deprecated it cannot be used to create new workflow executions or register new types. However, you can still use visibility actions on this domain. Deprecating a domain also deprecates all activity and workflow types registered in the domain. Executions that were started before the domain was deprecated will continue to run.

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

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "name": "string"
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

name
The name of the domain to deprecate.

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. 239).

DomainDeprecatedFault
Returned when the specified domain has been deprecated.

HTTP Status Code: 400

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

DeprecateDomain Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Mon, 16 Jan 2012 05:07:47 GMT
X-Amz-Target: SimpleWorkflowService.DeprecateDomain
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=BkJDtbH9uZvrarqXTkBEYuYHO7PPygRI8ykV29Dz/5M=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 21
Pragma: no-cache
Cache-Control: no-cache

{"name": "867530901"}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 0
Content-Type: application/json
x-amzn-RequestId: 0800c01a-4000-11e1-9914-a356b6ea8bdf
```

DeprecateWorkflowType

Deprecates the specified *workflow type*. After a workflow type has been deprecated, you cannot create new executions of that type. Executions that were started before the type was deprecated will continue to run. A deprecated workflow type may still be used when calling visibility actions.

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

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `workflowType.name`: String constraint. The key is `swf:workflowType.name`.
  - `workflowType.version`: String constraint. The key is `swf:workflowType.version`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "workflowType": {
        "name": "string",
        "version": "string"
    }
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain in which the workflow type is registered.

Type: String

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

Required: Yes

workflowType
The workflow type to deprecate.

Type: WorkflowType (p. 231) object

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. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

TypeDeprecatedFault
Returned when the specified activity or workflow type was already deprecated.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

DeprecateWorkflowType Example

Sample Request

```
          POST / HTTP/1.1
          Host: swf.us-east-1.amazonaws.com
          User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
 rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
          Accept: application/json, text/javascript, */*
          Accept-Language: en-us,en;q=0.5
          Accept-Encoding: gzip,deflate
          Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
          Keep-Alive: 115
          Connection: keep-alive
          Content-Type: application/x-amz-json-1.0
          X-Requested-With: XMLHttpRequest
          X-Amz-Date: Mon, 16 Jan 2012 05:04:47 GMT
          X-Amz-Target: SimpleWorkflowService.DeprecateWorkflowType
          Content-Encoding: amz-1.0
          X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-Encoding,Signature=BGrr1djQvp
+YLq3ci2ffpK8KWhZm/PakBL2fFhc3zds=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 102
```

```
Pragma: no-cache
Cache-Control: no-cache

{"domain": "867530901",
"workflowType":
{"name": "customerOrderWorkflow",
"version": "1.0"}
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 0
Content-Type: application/json
x-amzn-RequestId: 9c8d6d3b-3fff-11e1-9e8f-57bb03e21482
```

DescribeActivityType

Returns information about the specified activity type. This includes configuration settings provided when the type was registered and other general information about the type.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `activityType.name`: String constraint. The key is `swf:activityType.name`.
  - `activityType.version`: String constraint. The key is `swf:activityType.version`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "activityType": {
        "name": "string",
        "version": "string"
    },
    "domain": "string"
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

activityType
The activity type to get information about. Activity types are identified by the `name` and `version` that were supplied when the activity was registered.

Type: ActivityType (p. 152) object

Required: Yes

domain
The name of the domain in which the activity type is registered.

Type: String

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

Required: Yes

Response Syntax

```
{
    "configuration": {
        "defaultTaskHeartbeatTimeout": "string",
        "defaultTaskList": {
            "name": "string"
        },
        "defaultTaskPriority": "string",
        "defaultTaskScheduleToCloseTimeout": "string",
        "defaultTaskScheduleToStartTimeout": "string",
        "defaultTaskStartToCloseTimeout": "string"
    },
    "typeInfo": {
        "activityType": {
            "name": "string",
            "version": "string"
        },
        "creationDate": number,
        "deprecationDate": number,
        "description": "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.

configuration
The configuration settings registered with the activity type.

Type: ActivityTypeConfiguration (p. 153) object

typeInfo
General information about the activity type.

The status of activity type (returned in the ActivityTypeInfo structure) can be one of the following.

- **REGISTERED**: The type is registered and available. Workers supporting this type should be running.
- **DEPRECATED**: The type was deprecated using DeprecateActivityType (p. 18), but is still in use. You should keep workers supporting this type running. You cannot create new tasks of this type.

Type: ActivityTypeInfo (p. 155) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

DescribeActivityType Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Sun, 15 Jan 2012 03:04:10 GMT
X-Amz-Target: SimpleWorkflowService.DescribeActivityType
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-Encoding,Signature=XiGRwOZNLt
+ic3VBWvIlRGdcFcRJVSE8J7zyZLU3oXg=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 95
Pragma: no-cache
Cache-Control: no-cache

{
  "domain": "867530901",
  "activityType": {
    "version": "1.0",
    "name": "activityVerify"
  }
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 387
Content-Type: application/json
x-amzn-RequestId: 98d56ff5-3f25-11e1-9b11-7182192d0b57

{
```

```
  "configuration": {
    "defaultTaskHeartbeatTimeout": "120",
    "defaultTaskList": {"name": "mainTaskList"},
    "defaultTaskPriority", "100",
    "defaultTaskScheduleToCloseTimeout": "900",
    "defaultTaskScheduleToStartTimeout": "300",
    "defaultTaskStartToCloseTimeout": "600"
  },
  "typeInfo": {
    "activityType": {"name": "activityVerify", "version": "1.0"},
    "creationDate": 1326586446.471,
    "description": "Verify the customer credit",
    "status": "REGISTERED"
  }
}
```

DescribeDomain

Returns information about the specified domain, including description and status.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "name": "string"
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

name
The name of the domain to describe.

Type: String

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

Required: Yes

Response Syntax

```
{
    "configuration": {
        "workflowExecutionRetentionPeriodInDays": "string"
    },
    "domainInfo": {
        "description": "string",
        "name": "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.

configuration
Contains the configuration settings of a domain.

Type: DomainConfiguration (p. 175) object

domainInfo
Contains general information about a domain.

Type: DomainInfo (p. 176) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

DescribeDomain Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Sun, 15 Jan 2012 03:13:33 GMT
X-Amz-Target: SimpleWorkflowService.DescribeDomain
Content-Encoding: amz-1.0
```

```
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=IFJtq3M366CHqMlTpyqYqd9z0ChCoKDC5SCJBsLifu4=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 21
Pragma: no-cache
Cache-Control: no-cache

{"name": "867530901"}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 137
Content-Type: application/json
x-amzn-RequestId: e86a6779-3f26-11e1-9a27-0760db01a4a8

{"configuration":
  {"workflowExecutionRetentionPeriodInDays": "60"},
 "domainInfo":
  {"description": "music",
   "name": "867530901",
   "status": "REGISTERED"}
}
```

DescribeWorkflowExecution

Returns information about the specified workflow execution including its type and some statistics.

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

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "execution": {
        "runId": "string",
        "workflowId": "string"
    }
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain containing the workflow execution.

Type: String

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

Required: Yes

execution
The workflow execution to describe.

Type: WorkflowExecution (p. 217) object

Required: Yes

Response Syntax

```
{
    "executionConfiguration": {
        "childPolicy": "string",
        "executionStartToCloseTimeout": "string",
        "lambdaRole": "string",
        "taskList": {
            "name": "string"
        },
        "taskPriority": "string",
        "taskStartToCloseTimeout": "string"
    },
    "executionInfo": {
        "cancelRequested": boolean,
        "closeStatus": "string",
        "closeTimestamp": number,
        "execution": {
            "runId": "string",
            "workflowId": "string"
        },
        "executionStatus": "string",
        "parent": {
            "runId": "string",
            "workflowId": "string"
        },
        "startTimestamp": number,
        "tagList": [
            "string"
        ],
        "workflowType": {
            "name": "string",
            "version": "string"
        }
    },
    "latestActivityTaskTimestamp": number,
    "latestExecutionContext": "string",
    "openCounts": {
        "openActivityTasks": number,
        "openChildWorkflowExecutions": number,
        "openDecisionTasks": number,
        "openLambdaFunctions": number,
        "openTimers": 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.

executionConfiguration
The configuration settings for this workflow execution including timeout values, tasklist etc.

Type: WorkflowExecutionConfiguration (p. 219) object

executionInfo
Information about the workflow execution.

Type: WorkflowExecutionInfo (p. 224) object

latestActivityTaskTimestamp
The time when the last activity task was scheduled for this workflow execution. You can use this information to determine if the workflow has not made progress for an unusually long period of time and might require a corrective action.

Type: DateTime

latestExecutionContext
The latest executionContext provided by the decider for this workflow execution. A decider can provide an executionContext (a free-form string) when closing a decision task using RespondDecisionTaskCompleted (p. 125).

Type: String

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

openCounts
The number of tasks for this workflow execution. This includes open and closed tasks of all types.

Type: WorkflowExecutionOpenCounts (p. 226) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

DescribeWorkflowExecution Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
```

```
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Sun, 15 Jan 2012 02:05:18 GMT
X-Amz-Target: SimpleWorkflowService.DescribeWorkflowExecution
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=ufQVcSkfUyGPLiS8xbkEBqEc2PmEEE/3Lb9Kr8yozs8=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 127
Pragma: no-cache
Cache-Control: no-cache

{
  "domain": "867530901",
  "execution": {
    "workflowId": "20110927-T-1",
    "runId": "06b8f87a-24b3-40b6-9ceb-9676f28e9493"
  }
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 577
Content-Type: application/json
x-amzn-RequestId: 5f85ef79-3f1d-11e1-9e8f-57bb03e21482

{
  "executionConfiguration": {
    "executionStartToCloseTimeout": "3600",
    "childPolicy": "TERMINATE",
    "taskPriority": "100",
    "taskStartToCloseTimeout": "600",
    "taskList": {
      "name": "specialTaskList"
    }
  },
  "openCounts": {
    "openTimers": 0,
    "openDecisionTasks": 1,
    "openActivityTasks": 0,
    "openChildWorkflowExecutions": 0
  },
  "executionInfo": {
    "execution": {
      "workflowId": "20110927-T-1",
      "runId": "06b8f87a-24b3-40b6-9ceb-9676f28e9493"
    },
    "startTimestamp": 1326592619.474,
    "executionStatus": "OPEN",
    "workflowType": {
      "version": "1.0",
      "name": "customerOrderWorkflow"
    },
```

```
    "cancelRequested": false,
    "tagList": [
      "music purchase",
      "digital",
      "ricoh-the-dog"
    ]
  }
}
```

DescribeWorkflowType

Returns information about the specified *workflow type*. This includes configuration settings specified when the type was registered and other information such as creation date, current status, etc.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `workflowType.name`: String constraint. The key is `swf:workflowType.name`.
  - `workflowType.version`: String constraint. The key is `swf:workflowType.version`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "workflowType": {
        "name": "string",
        "version": "string"
    }
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain in which this workflow type is registered.

Type: String

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

Required: Yes

workflowType
The workflow type to describe.

Type: WorkflowType (p. 231) object

Required: Yes

Response Syntax

```
{
    "configuration": {
        "defaultChildPolicy": "string",
        "defaultExecutionStartToCloseTimeout": "string",
        "defaultLambdaRole": "string",
        "defaultTaskList": {
            "name": "string"
        },
        "defaultTaskPriority": "string",
        "defaultTaskStartToCloseTimeout": "string"
    },
    "typeInfo": {
        "creationDate": number,
        "deprecationDate": number,
        "description": "string",
        "status": "string",
        "workflowType": {
            "name": "string",
            "version": "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.

configuration
Configuration settings of the workflow type registered through RegisterWorkflowType (p. 108)

Type: WorkflowTypeConfiguration (p. 232) object

typeInfo
General information about the workflow type.

The status of the workflow type (returned in the WorkflowTypeInfo structure) can be one of the following.

- **REGISTERED**: The type is registered and available. Workers supporting this type should be running.
- **DEPRECATED**: The type was deprecated using DeprecateWorkflowType (p. 24), but is still in use. You should keep workers supporting this type running. You cannot create new workflow executions of this type.

Type: WorkflowTypeInfo (p. 234) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault

Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

DescribeWorkflowType Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Sun, 15 Jan 2012 22:40:40 GMT
X-Amz-Target: SimpleWorkflowService.DescribeWorkflowType
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=iGt8t83OmrURqu0pKYbcW6mNdjXbFomevCBPUPQEbaM=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 102
Pragma: no-cache
Cache-Control: no-cache

{
  "domain": "867530901",
  "workflowType": {
    "version": "1.0",
    "name": "customerOrderWorkflow"
  }
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 348
Content-Type: application/json
x-amzn-RequestId: f35a8e7f-3fc9-11e1-a23a-99d60383ae71
```

```
{
  "configuration": {
    "defaultExecutionStartToCloseTimeout": "3600",
    "defaultTaskStartToCloseTimeout": "600",
    "defaultTaskList": {"name": "mainTaskList"},
    "defaultTaskPriority": "10"
    "defaultChildPolicy": "TERMINATE"
  },
  "typeInfo": {
    "status": "REGISTERED",
    "creationDate": 1326481174.027,
    "description": "Handle customer orders",
    "workflowType": {
      "version": "1.0",
      "name": "customerOrderWorkflow"
    }
  }
}
```

GetWorkflowExecutionHistory

Returns the history of the specified workflow execution. The results may be split into multiple pages. To retrieve subsequent pages, make the call again using the `nextPageToken` returned by the initial call.

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

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "execution": {
        "runId": "string",
        "workflowId": "string"
    },
    "maximumPageSize": number,
    "nextPageToken": "string",
    "reverseOrder": boolean
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain containing the workflow execution.

Type: String

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

Required: Yes

execution
Specifies the workflow execution for which to return the history.

Type: WorkflowExecution (p. 217) object

Required: Yes

maximumPageSize
The maximum number of results that will be returned per call. `nextPageToken` can be used to obtain futher pages of results. The default is 1000, which is the maximum allowed page size. You can, however, specify a page size *smaller* than the maximum.

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

Type: Number

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

Required: No

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

reverseOrder
When set to `true`, returns the events in reverse order. By default the results are returned in ascending order of the `eventTimeStamp` of the events.

Type: Boolean

Required: No

Response Syntax

```
{
    "events": [
        {
            "activityTaskCancelRequestedEventAttributes": {
                "activityId": "string",
                "decisionTaskCompletedEventId": number
            },
            "activityTaskCanceledEventAttributes": {
                "details": "string",
                "latestCancelRequestedEventId": number,
                "scheduledEventId": number,
                "startedEventId": number
            },
            "activityTaskCompletedEventAttributes": {
                "result": "string",
                "scheduledEventId": number,
                "startedEventId": number
            },
            "activityTaskFailedEventAttributes": {
                "details": "string",
                "reason": "string",
                "scheduledEventId": number,
```

```
        "startedEventId": number
    },
    "activityTaskScheduledEventAttributes": {
        "activityId": "string",
        "activityType": {
            "name": "string",
            "version": "string"
        },
        "control": "string",
        "decisionTaskCompletedEventId": number,
        "heartbeatTimeout": "string",
        "input": "string",
        "scheduleToCloseTimeout": "string",
        "scheduleToStartTimeout": "string",
        "startToCloseTimeout": "string",
        "taskList": {
            "name": "string"
        },
        "taskPriority": "string"
    },
    "activityTaskStartedEventAttributes": {
        "identity": "string",
        "scheduledEventId": number
    },
    "activityTaskTimedOutEventAttributes": {
        "details": "string",
        "scheduledEventId": number,
        "startedEventId": number,
        "timeoutType": "string"
    },
    "cancelTimerFailedEventAttributes": {
        "cause": "string",
        "decisionTaskCompletedEventId": number,
        "timerId": "string"
    },
    "cancelWorkflowExecutionFailedEventAttributes": {
        "cause": "string",
        "decisionTaskCompletedEventId": number
    },
    "childWorkflowExecutionCanceledEventAttributes": {
        "details": "string",
        "initiatedEventId": number,
        "startedEventId": number,
        "workflowExecution": {
            "runId": "string",
            "workflowId": "string"
        },
        "workflowType": {
            "name": "string",
            "version": "string"
        }
    },
    "childWorkflowExecutionCompletedEventAttributes": {
        "initiatedEventId": number,
        "result": "string",
        "startedEventId": number,
        "workflowExecution": {
            "runId": "string",
            "workflowId": "string"
```

```
        },
        "workflowType": {
            "name": "string",
            "version": "string"
        }
    },
    "childWorkflowExecutionFailedEventAttributes": {
        "details": "string",
        "initiatedEventId": number,
        "reason": "string",
        "startedEventId": number,
        "workflowExecution": {
            "runId": "string",
            "workflowId": "string"
        },
        "workflowType": {
            "name": "string",
            "version": "string"
        }
    },
    "childWorkflowExecutionStartedEventAttributes": {
        "initiatedEventId": number,
        "workflowExecution": {
            "runId": "string",
            "workflowId": "string"
        },
        "workflowType": {
            "name": "string",
            "version": "string"
        }
    },
    "childWorkflowExecutionTerminatedEventAttributes": {
        "initiatedEventId": number,
        "startedEventId": number,
        "workflowExecution": {
            "runId": "string",
            "workflowId": "string"
        },
        "workflowType": {
            "name": "string",
            "version": "string"
        }
    },
    "childWorkflowExecutionTimedOutEventAttributes": {
        "initiatedEventId": number,
        "startedEventId": number,
        "timeoutType": "string",
        "workflowExecution": {
            "runId": "string",
            "workflowId": "string"
        },
        "workflowType": {
            "name": "string",
            "version": "string"
        }
    },
    "completeWorkflowExecutionFailedEventAttributes": {
        "cause": "string",
        "decisionTaskCompletedEventId": number
```

```
        },
        "continueAsNewWorkflowExecutionFailedEventAttributes": {
            "cause": "string",
            "decisionTaskCompletedEventId": number
        },
        "decisionTaskCompletedEventAttributes": {
            "executionContext": "string",
            "scheduledEventId": number,
            "startedEventId": number
        },
        "decisionTaskScheduledEventAttributes": {
            "startToCloseTimeout": "string",
            "taskList": {
                "name": "string"
            },
            "taskPriority": "string"
        },
        "decisionTaskStartedEventAttributes": {
            "identity": "string",
            "scheduledEventId": number
        },
        "decisionTaskTimedOutEventAttributes": {
            "scheduledEventId": number,
            "startedEventId": number,
            "timeoutType": "string"
        },
        "eventId": number,
        "eventTimestamp": number,
        "eventType": "string",
        "externalWorkflowExecutionCancelRequestedEventAttributes": {
            "initiatedEventId": number,
            "workflowExecution": {
                "runId": "string",
                "workflowId": "string"
            }
        },
        "externalWorkflowExecutionSignaledEventAttributes": {
            "initiatedEventId": number,
            "workflowExecution": {
                "runId": "string",
                "workflowId": "string"
            }
        },
        "failWorkflowExecutionFailedEventAttributes": {
            "cause": "string",
            "decisionTaskCompletedEventId": number
        },
        "lambdaFunctionCompletedEventAttributes": {
            "result": "string",
            "scheduledEventId": number,
            "startedEventId": number
        },
        "lambdaFunctionFailedEventAttributes": {
            "details": "string",
            "reason": "string",
            "scheduledEventId": number,
            "startedEventId": number
        },
        "lambdaFunctionScheduledEventAttributes": {
```

```
            "decisionTaskCompletedEventId": number,
            "id": "string",
            "input": "string",
            "name": "string",
            "startToCloseTimeout": "string"
        },
        "lambdaFunctionStartedEventAttributes": {
            "scheduledEventId": number
        },
        "lambdaFunctionTimedOutEventAttributes": {
            "scheduledEventId": number,
            "startedEventId": number,
            "timeoutType": "string"
        },
        "markerRecordedEventAttributes": {
            "decisionTaskCompletedEventId": number,
            "details": "string",
            "markerName": "string"
        },
        "recordMarkerFailedEventAttributes": {
            "cause": "string",
            "decisionTaskCompletedEventId": number,
            "markerName": "string"
        },
        "requestCancelActivityTaskFailedEventAttributes": {
            "activityId": "string",
            "cause": "string",
            "decisionTaskCompletedEventId": number
        },
        "requestCancelExternalWorkflowExecutionFailedEventAttributes": {
            "cause": "string",
            "control": "string",
            "decisionTaskCompletedEventId": number,
            "initiatedEventId": number,
            "runId": "string",
            "workflowId": "string"
        },
        "requestCancelExternalWorkflowExecutionInitiatedEventAttributes":
{
            "control": "string",
            "decisionTaskCompletedEventId": number,
            "runId": "string",
            "workflowId": "string"
        },
        "scheduleActivityTaskFailedEventAttributes": {
            "activityId": "string",
            "activityType": {
                "name": "string",
                "version": "string"
            },
            "cause": "string",
            "decisionTaskCompletedEventId": number
        },
        "scheduleLambdaFunctionFailedEventAttributes": {
            "cause": "string",
            "decisionTaskCompletedEventId": number,
            "id": "string",
            "name": "string"
        },
```

```
"signalExternalWorkflowExecutionFailedEventAttributes": {
    "cause": "string",
    "control": "string",
    "decisionTaskCompletedEventId": number,
    "initiatedEventId": number,
    "runId": "string",
    "workflowId": "string"
},
"signalExternalWorkflowExecutionInitiatedEventAttributes": {
    "control": "string",
    "decisionTaskCompletedEventId": number,
    "input": "string",
    "runId": "string",
    "signalName": "string",
    "workflowId": "string"
},
"startChildWorkflowExecutionFailedEventAttributes": {
    "cause": "string",
    "control": "string",
    "decisionTaskCompletedEventId": number,
    "initiatedEventId": number,
    "workflowId": "string",
    "workflowType": {
        "name": "string",
        "version": "string"
    }
},
"startChildWorkflowExecutionInitiatedEventAttributes": {
    "childPolicy": "string",
    "control": "string",
    "decisionTaskCompletedEventId": number,
    "executionStartToCloseTimeout": "string",
    "input": "string",
    "lambdaRole": "string",
    "tagList": [
        "string"
    ],
    "taskList": {
        "name": "string"
    },
    "taskPriority": "string",
    "taskStartToCloseTimeout": "string",
    "workflowId": "string",
    "workflowType": {
        "name": "string",
        "version": "string"
    }
},
"startLambdaFunctionFailedEventAttributes": {
    "cause": "string",
    "message": "string",
    "scheduledEventId": number
},
"startTimerFailedEventAttributes": {
    "cause": "string",
    "decisionTaskCompletedEventId": number,
    "timerId": "string"
},
"timerCanceledEventAttributes": {
```

```
            "decisionTaskCompletedEventId": number,
            "startedEventId": number,
            "timerId": "string"
        },
        "timerFiredEventAttributes": {
            "startedEventId": number,
            "timerId": "string"
        },
        "timerStartedEventAttributes": {
            "control": "string",
            "decisionTaskCompletedEventId": number,
            "startToFireTimeout": "string",
            "timerId": "string"
        },
        "workflowExecutionCancelRequestedEventAttributes": {
            "cause": "string",
            "externalInitiatedEventId": number,
            "externalWorkflowExecution": {
                "runId": "string",
                "workflowId": "string"
            }
        },
        "workflowExecutionCanceledEventAttributes": {
            "decisionTaskCompletedEventId": number,
            "details": "string"
        },
        "workflowExecutionCompletedEventAttributes": {
            "decisionTaskCompletedEventId": number,
            "result": "string"
        },
        "workflowExecutionContinuedAsNewEventAttributes": {
            "childPolicy": "string",
            "decisionTaskCompletedEventId": number,
            "executionStartToCloseTimeout": "string",
            "input": "string",
            "lambdaRole": "string",
            "newExecutionRunId": "string",
            "tagList": [
                "string"
            ],
            "taskList": {
                "name": "string"
            },
            "taskPriority": "string",
            "taskStartToCloseTimeout": "string",
            "workflowType": {
                "name": "string",
                "version": "string"
            }
        },
        "workflowExecutionFailedEventAttributes": {
            "decisionTaskCompletedEventId": number,
            "details": "string",
            "reason": "string"
        },
        "workflowExecutionSignaledEventAttributes": {
            "externalInitiatedEventId": number,
            "externalWorkflowExecution": {
                "runId": "string",
```

```
                    "workflowId": "string"
                },
                "input": "string",
                "signalName": "string"
            },
            "workflowExecutionStartedEventAttributes": {
                "childPolicy": "string",
                "continuedExecutionRunId": "string",
                "executionStartToCloseTimeout": "string",
                "input": "string",
                "lambdaRole": "string",
                "parentInitiatedEventId": number,
                "parentWorkflowExecution": {
                    "runId": "string",
                    "workflowId": "string"
                },
                "tagList": [
                    "string"
                ],
                "taskList": {
                    "name": "string"
                },
                "taskPriority": "string",
                "taskStartToCloseTimeout": "string",
                "workflowType": {
                    "name": "string",
                    "version": "string"
                }
            },
            "workflowExecutionTerminatedEventAttributes": {
                "cause": "string",
                "childPolicy": "string",
                "details": "string",
                "reason": "string"
            },
            "workflowExecutionTimedOutEventAttributes": {
                "childPolicy": "string",
                "timeoutType": "string"
            }
        }
    ],
    "nextPageToken": "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
The list of history events.

Type: array of HistoryEvent (p. 180) objects

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

GetWorkflowExecutionHistory Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Mon, 16 Jan 2012 03:44:00 GMT
X-Amz-Target: SimpleWorkflowService.GetWorkflowExecutionHistory
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=90GENeUWJbEAMWuVI0dcWatHjltMWddXfLjl0MbNOzM=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 175
Pragma: no-cache
Cache-Control: no-cache

{
  "maximumPageSize": 10,
  "domain": "867530901",
  "execution": {
```

```
    "workflowId": "20110927-T-1",
    "runId": "d29e60b5-fa71-4276-a4be-948b0adcd20b"
  },
  "reverseOrder": true
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 2942
Content-Type: application/json
x-amzn-RequestId: 5385723f-3ff4-11e1-b118-3bfa5e8e7fc3

{
  "nextPageToken":
 "AAAAKgAAAAEAAAAAAAAAATeTvAyvqlQz34ctbGhM5nglWmjzk0hGuHf0g4EO4CblQFku70ukjPgrAHy7Tnp7FaZ0o
WVrXyxQaa525D31cIq1owXK21CKR6SQ0Job87G8SHvvqvP7yjLGHlHrRGZUCbJgeEuV4Rp/yW
+vKhc8dJ54x7wvpQMwZ+ssG6stTyX26vu1gIDuspk13UrDZa4TbLOFdM0aAocHe3xklKMtD/
B4ithem6BWm6CBl/UF7lMfNccwUYEityp1Kht/
YrcD9zbJkt1FSt4Y6pgt0njAh4FKRO9nyRyvLmbvgtQXEIQz8hdbjwj3xE1+9ocYwXOCAhVkRsh3OD6F8KHilKfdwg4
++W9sRQXqqX/HTX5kNomHySZloylPuY5gL5zRj39frInfZk4EXWHwrI
+18+erGIHO4nBQpMzO64dMP+A/
KtVGCn59rAMmilD6wEE9rH8RuZ03Wkvm9yrJvjrI8/6358n8TMB8OcHoqILkMCAXYiIppnFlm
+NWXVqxalHLKOrrNzEZM6qsz3Qj3HV1cpy9P7fnS9QAxrgsAYBoDmdOaFkS3ktAkRa0Sle8STfHi4zKbfIGS7rg==",
  "events": [
    {
      "eventId": 11,
      "eventType": "WorkflowExecutionTimedOut",
      "eventTimestamp": 1326671603.102,
      "workflowExecutionTimedOutEventAttributes": {
        "timeoutType": "START_TO_CLOSE",
        "childPolicy": "TERMINATE"
      }
    },
    {
      "eventId": 10,
      "eventType": "DecisionTaskScheduled",
      "decisionTaskScheduledEventAttributes": {
        "startToCloseTimeout": "600",
        "taskList": {
          "name": "specialTaskList"
        }
      },
      "eventTimestamp": 1326670566.124
    },
    {
      "eventId": 9,
      "eventType": "ActivityTaskTimedOut",
      "activityTaskTimedOutEventAttributes": {
        "startedEventId": 0,
        "scheduledEventId": 8,
        "timeoutType": "SCHEDULE_TO_START",
        "latestHeartbeatRecordedEventId": 0
      },
      "eventTimestamp": 1326670566.124
    },
    {
```

```
      "activityTaskScheduledEventAttributes": {
        "activityId": "verification-27",
        "activityType": {
          "version": "1.0",
          "name": "activityVerify"
        },
        "control": "digital music",
        "decisionTaskCompletedEventId": 7,
        "heartbeatTimeout": "120",
        "input": "5634-0056-4367-0923,12/12,437",
        "scheduleToStartTimeout": "300",
        "scheduleToCloseTimeout": "900",
        "startToCloseTimeout": "600",
        "taskList": {
          "name": "specialTaskList"
        },
        "taskPriority": "50"
      },
      "eventId": 8,
      "eventTimestamp": 1326670266.115,
      "eventType": "ActivityTaskScheduled"
    },
    {
      "eventId": 7,
      "eventType": "DecisionTaskCompleted",
      "decisionTaskCompletedEventAttributes": {
        "startedEventId": 6,
        "executionContext": "Black Friday",
        "scheduledEventId": 5
      },
      "eventTimestamp": 1326670266.103
    },
    {
      "eventId": 6,
      "decisionTaskStartedEventAttributes": {
        "scheduledEventId": 5,
        "identity": "Decider01"
      },
      "eventTimestamp": 1326670161.497,
      "eventType": "DecisionTaskStarted"
    },
    {
      "eventId": 5,
      "eventType": "DecisionTaskScheduled",
      "decisionTaskScheduledEventAttributes": {
        "startToCloseTimeout": "600",
        "taskList": {
          "name": "specialTaskList"
        }
      },
      "eventTimestamp": 1326668752.66
    },
    {
      "eventId": 4,
      "eventType": "DecisionTaskTimedOut",
      "eventTimestamp": 1326668752.66,
      "decisionTaskTimedOutEventAttributes": {
        "startedEventId": 3,
        "timeoutType": "START_TO_CLOSE",
```

```
        "scheduledEventId": 2
      }
    },
    {
      "eventId": 3,
      "decisionTaskStartedEventAttributes": {
        "scheduledEventId": 2,
        "identity": "Decider01"
      },
      "eventTimestamp": 1326668152.648,
      "eventType": "DecisionTaskStarted"
    },
    {
      "eventId": 2,
      "eventType": "DecisionTaskScheduled",
      "decisionTaskScheduledEventAttributes": {
        "startToCloseTimeout": "600",
        "taskList": {
          "name": "specialTaskList"
        }
      },
      "eventTimestamp": 1326668003.094
    }
  ]
}
```

ListActivityTypes

Returns information about all activities registered in the specified domain that match the specified name and registration status. The result includes information like creation date, current status of the activity, etc. The results may be split into multiple pages. To retrieve subsequent pages, make the call again using the `nextPageToken` returned by the initial call.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "maximumPageSize": number,
    "name": "string",
    "nextPageToken": "string",
    "registrationStatus": "string",
    "reverseOrder": boolean
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain in which the activity types have been registered.

Type: String

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

Required: Yes

maximumPageSize
The maximum number of results that will be returned per call. `nextPageToken` can be used to obtain futher pages of results. The default is 1000, which is the maximum allowed page size. You can, however, specify a page size *smaller* than the maximum.

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

Type: Number

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

Required: No

name

If specified, only lists the activity types that have this name.

Type: String

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

Required: No

nextPageToken

If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

registrationStatus

Specifies the registration status of the activity types to list.

Type: String

Valid Values: `REGISTERED | DEPRECATED`

Required: Yes

reverseOrder

When set to `true`, returns the results in reverse order. By default, the results are returned in ascending alphabetical order by `name` of the activity types.

Type: Boolean

Required: No

Response Syntax

```
{
    "nextPageToken": "string",
    "typeInfos": [
        {
            "activityType": {
                "name": "string",
                "version": "string"
            },
            "creationDate": number,
            "deprecationDate": number,
            "description": "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.

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

typeInfos
List of activity type information.

Type: array of ActivityTypeInfo (p. 155) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

ListActivityTypes Example

Sample Request

```
{"domain": "867530901",
"registrationStatus": "REGISTERED",
"maximumPageSize": 50,
"reverseOrder": false}
```

Sample Response

```
HTTP/1.1 200 OK
```

```
Content-Length: 171
Content-Type: application/json
x-amzn-RequestId: 11b6fbeb-3f25-11e1-9e8f-57bb03e21482

{"typeInfos":
[
{"activityType":
{"name": "activityVerify",
"version": "1.0"},
"creationDate": 1326586446.471,
"description": "Verify the customer credit",
"status": "REGISTERED"}
]
}
```

ListClosedWorkflowExecutions

Returns a list of closed workflow executions in the specified domain that meet the filtering criteria. The results may be split into multiple pages. To retrieve subsequent pages, make the call again using the nextPageToken returned by the initial call.

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

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `tagFilter.tag`: String constraint. The key is `swf:tagFilter.tag`.
  - `typeFilter.name`: String constraint. The key is `swf:typeFilter.name`.
  - `typeFilter.version`: String constraint. The key is `swf:typeFilter.version`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "closeStatusFilter": {
        "status": "string"
    },
    "closeTimeFilter": {
        "latestDate": number,
        "oldestDate": number
    },
    "domain": "string",
    "executionFilter": {
        "workflowId": "string"
    },
    "maximumPageSize": number,
    "nextPageToken": "string",
    "reverseOrder": boolean,
    "startTimeFilter": {
        "latestDate": number,
        "oldestDate": number
    },
    "tagFilter": {
        "tag": "string"
    },
    "typeFilter": {
        "name": "string",
        "version": "string"
    }
```

```
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

closeStatusFilter
If specified, only workflow executions that match this *close status* are listed. For example, if TERMINATED is specified, then only TERMINATED workflow executions are listed.

> **Note**
> `closeStatusFilter`, `executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: CloseStatusFilter (p. 163) object

Required: No

closeTimeFilter
If specified, the workflow executions are included in the returned results based on whether their close times are within the range specified by this filter. Also, if this parameter is specified, the returned results are ordered by their close times.

> **Note**
> `startTimeFilter` and `closeTimeFilter` are mutually exclusive. You must specify one of these in a request but not both.

Type: ExecutionTimeFilter (p. 177) object

Required: No

domain
The name of the domain that contains the workflow executions to list.

Type: String

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

Required: Yes

executionFilter
If specified, only workflow executions matching the workflow id specified in the filter are returned.

> **Note**
> `closeStatusFilter`, `executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: WorkflowExecutionFilter (p. 224) object

Required: No

maximumPageSize
The maximum number of results that will be returned per call. `nextPageToken` can be used to obtain futher pages of results. The default is 1000, which is the maximum allowed page size. You can, however, specify a page size *smaller* than the maximum.

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

Type: Number

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

Required: No

nextPageToken

If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

reverseOrder

When set to `true`, returns the results in reverse order. By default the results are returned in descending order of the start or the close time of the executions.

Type: Boolean

Required: No

startTimeFilter

If specified, the workflow executions are included in the returned results based on whether their start times are within the range specified by this filter. Also, if this parameter is specified, the returned results are ordered by their start times.

> **Note**
> `startTimeFilter` and `closeTimeFilter` are mutually exclusive. You must specify one of these in a request but not both.

Type: ExecutionTimeFilter (p. 177) object

Required: No

tagFilter

If specified, only executions that have the matching tag are listed.

> **Note**
> `closeStatusFilter`, `executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: TagFilter (p. 214) object

Required: No

typeFilter

If specified, only executions of the type specified in the filter are returned.

> **Note**
> `closeStatusFilter`, `executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: WorkflowTypeFilter (p. 234) object

Required: No

Response Syntax

```
{
    "executionInfos": [
        {
            "cancelRequested": boolean,
            "closeStatus": "string",
            "closeTimestamp": number,
            "execution": {
                "runId": "string",
                "workflowId": "string"
            },
            "executionStatus": "string",
            "parent": {
                "runId": "string",
                "workflowId": "string"
            },
            "startTimestamp": number,
            "tagList": [
                "string"
            ],
            "workflowType": {
                "name": "string",
                "version": "string"
            }
        }
    ],
    "nextPageToken": "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.

executionInfos
The list of workflow information structures.

Type: array of WorkflowExecutionInfo (p. 224) objects

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

ListClosedWorkflowExecutions Example

Sample Request

```
          POST / HTTP/1.1
          Host: swf.us-east-1.amazonaws.com
          User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
 rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
          Accept: application/json, text/javascript, */*
          Accept-Language: en-us,en;q=0.5
          Accept-Encoding: gzip,deflate
          Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
          Keep-Alive: 115
          Connection: keep-alive
          Content-Type: application/x-amz-json-1.0
          X-Requested-With: XMLHttpRequest
          X-Amz-Date: Sun, 15 Jan 2012 02:51:01 GMT
          X-Amz-Target: SimpleWorkflowService.ListClosedWorkflowExecutions
          Content-Encoding: amz-1.0
          X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-Encoding,Signature=WY9jGbf5E3F9smGJHANhEXz9VL
+1oGVgNL0/o7cBxQw=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 150
          Pragma: no-cache
          Cache-Control: no-cache

          {"domain": "867530901",
          "closeTimeFilter":
          {"oldestDate": 1325376070,
          "latestDate": 1356998399},
          "tagFilter":
          {"tag": "ricoh-the-dog"}
          }
```

Sample Response

```
          HTTP/1.1 200 OK
          Content-Length: 1084
          Content-Type: application/json
          x-amzn-RequestId: c28b4df4-3f23-11e1-9e8f-57bb03e21482
```

```
{"executionInfos":
[
{"cancelRequested": false,
"closeStatus": "TIMED_OUT",
"closeTimestamp": 1326590754.654,
"execution":
{"runId": "c724e07a-b966-441f-a1c0-4831acbda1cd",
"workflowId": "20110927-T-1"},
"executionStatus": "CLOSED",
"startTimestamp": 1326587154.626,
"tagList":
["music purchase", "digital", "ricoh-the-dog"],
"workflowType":
{"name": "customerOrderWorkflow",
"version": "1.0"}
},
{"cancelRequested": false,
"closeStatus": "TIMED_OUT",
"closeTimestamp": 1326586831.628,
"execution":
{"runId": "f5ebbac6-941c-4342-ad69-dfd2f8be6689",
"workflowId": "20110927-T-1"},
"executionStatus": "CLOSED",
"startTimestamp": 1326585031.619,
"tagList":
["music purchase", "digital", "ricoh-the-dog"],
"workflowType":
{"name": "customerOrderWorkflow",
"version": "1.0"}
},
{"cancelRequested": false,
"closeStatus": "TIMED_OUT",
"closeTimestamp": 1326582914.031,
"execution":
{"runId": "1e536162-f1ea-48b0-85f3-aade88eef2f7",
"workflowId": "20110927-T-1"},
"executionStatus": "CLOSED",
"startTimestamp": 1326581114.02,
"tagList":
["music purchase", "digital", "ricoh-the-dog"],
"workflowType":
{"name": "customerOrderWorkflow",
"version": "1.0"}
}
]
}
```

ListDomains

Returns the list of domains registered in the account. The results may be split into multiple pages. To retrieve subsequent pages, make the call again using the nextPageToken returned by the initial call.

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

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains. The element must be set to `arn:aws:swf::AccountID:domain/*`, where *AccountID* is the account ID, with no dashes.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "maximumPageSize": number,
    "nextPageToken": "string",
    "registrationStatus": "string",
    "reverseOrder": boolean
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

maximumPageSize
The maximum number of results that will be returned per call. `nextPageToken` can be used to obtain futher pages of results. The default is 1000, which is the maximum allowed page size. You can, however, specify a page size *smaller* than the maximum.

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

Type: Number

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

Required: No

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

registrationStatus
Specifies the registration status of the domains to list.

Type: String

Valid Values: `REGISTERED | DEPRECATED`

Required: Yes

reverseOrder
When set to `true`, returns the results in reverse order. By default, the results are returned in ascending alphabetical order by `name` of the domains.

Type: Boolean

Required: No

Response Syntax

```
{
    "domainInfos": [
        {
            "description": "string",
            "name": "string",
            "status": "string"
        }
    ],
    "nextPageToken": "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.

domainInfos
A list of DomainInfo structures.

Type: array of DomainInfo (p. 176) objects

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

Examples

ListDomains Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Sun, 15 Jan 2012 03:09:58 GMT
X-Amz-Target: SimpleWorkflowService.ListDomains
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-Encoding,Signature=ZCprC72dUxF9ca3w/
tbwKZ8lBQn0jaA4xOJqDF0uqMI=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 86
Pragma: no-cache
Cache-Control: no-cache

{"registrationStatus": "REGISTERED",
 "maximumPageSize": 50,
 "reverseOrder": false}
```

Sample Response

```
HTTP/1.1 200 OK
```

```
Content-Length: 568
Content-Type: application/json
x-amzn-RequestId: 67e874cc-3f26-11e1-9b11-7182192d0b57

{"domainInfos":
  [
    {"description": "music", "name": "867530901", "status": "REGISTERED"},
    {"description": "music", "name": "867530902", "status": "REGISTERED"},
    {"description": "", "name": "Demo", "status": "REGISTERED"},
    {"description": "", "name": "DemoDomain", "status": "REGISTERED"},
    {"description": "", "name": "Samples", "status": "REGISTERED"},
    {"description": "", "name": "testDomain2", "status": "REGISTERED"},
    {"description": "", "name": "testDomain3", "status": "REGISTERED"},
    {"description": "", "name": "testDomain4", "status": "REGISTERED"},
    {"description": "", "name": "zsxfvgsxcv", "status": "REGISTERED"}
  ]
}
```

ListOpenWorkflowExecutions

Returns a list of open workflow executions in the specified domain that meet the filtering criteria. The results may be split into multiple pages. To retrieve subsequent pages, make the call again using the nextPageToken returned by the initial call.

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

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `tagFilter.tag`: String constraint. The key is `swf:tagFilter.tag`.
  - `typeFilter.name`: String constraint. The key is `swf:typeFilter.name`.
  - `typeFilter.version`: String constraint. The key is `swf:typeFilter.version`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "executionFilter": {
        "workflowId": "string"
    },
    "maximumPageSize": number,
    "nextPageToken": "string",
    "reverseOrder": boolean,
    "startTimeFilter": {
        "latestDate": number,
        "oldestDate": number
    },
    "tagFilter": {
        "tag": "string"
    },
    "typeFilter": {
        "name": "string",
        "version": "string"
    }
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain that contains the workflow executions to list.

Type: String

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

Required: Yes

executionFilter
If specified, only workflow executions matching the workflow id specified in the filter are returned.

> **Note**
> `executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: WorkflowExecutionFilter (p. 224) object

Required: No

maximumPageSize
The maximum number of results that will be returned per call. `nextPageToken` can be used to obtain futher pages of results. The default is 1000, which is the maximum allowed page size. You can, however, specify a page size *smaller* than the maximum.

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

Type: Number

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

Required: No

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

reverseOrder
When set to `true`, returns the results in reverse order. By default the results are returned in descending order of the start time of the executions.

Type: Boolean

Required: No

startTimeFilter
Workflow executions are included in the returned results based on whether their start times are within the range specified by this filter.

Type: ExecutionTimeFilter (p. 177) object

Required: Yes

tagFilter

If specified, only executions that have the matching tag are listed.

Note
`executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: TagFilter (p. 214) object

Required: No

typeFilter

If specified, only executions of the type specified in the filter are returned.

Note
`executionFilter`, `typeFilter` and `tagFilter` are mutually exclusive. You can specify at most one of these in a request.

Type: WorkflowTypeFilter (p. 234) object

Required: No

Response Syntax

```
{
    "executionInfos": [
        {
            "cancelRequested": boolean,
            "closeStatus": "string",
            "closeTimestamp": number,
            "execution": {
                "runId": "string",
                "workflowId": "string"
            },
            "executionStatus": "string",
            "parent": {
                "runId": "string",
                "workflowId": "string"
            },
            "startTimestamp": number,
            "tagList": [
                "string"
            ],
            "workflowType": {
                "name": "string",
                "version": "string"
            }
        }
    ],
    "nextPageToken": "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.

executionInfos
The list of workflow information structures.

Type: array of WorkflowExecutionInfo (p. 224) objects

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

ListOpenWorkflowExecutions

Sample Request

```
         POST / HTTP/1.1
         Host: swf.us-east-1.amazonaws.com
         User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
         Accept: application/json, text/javascript, */*
         Accept-Language: en-us,en;q=0.5
         Accept-Encoding: gzip,deflate
         Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
         Keep-Alive: 115
         Connection: keep-alive
         Content-Type: application/x-amz-json-1.0
         X-Requested-With: XMLHttpRequest
         X-Amz-Date: Sat, 14 Jan 2012 23:51:04 GMT
         X-Amz-Target: SimpleWorkflowService.ListOpenWorkflowExecutions
         Content-Encoding: amz-1.0
         X-Amzn-Authorization: AWS3
AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
```

```
Amz-Date;X-Amz-Target;Content-Encoding,Signature=4kUhpZUp37PgpeOKHlWTsZi
+Pq3Egw4mTkPNiEUgp28=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 151
          Pragma: no-cache
          Cache-Control: no-cache

          {"domain": "867530901",
          "startTimeFilter":
          {"oldestDate": 1325376070,
          "latestDate": 1356998399},
          "tagFilter":
          {"tag": "music purchase"}
          }
```

Sample Response

```
          HTTP/1.1 200 OK
          Content-Length: 313
          Content-Type: application/json
          x-amzn-RequestId: 9efeff4b-3f0a-11e1-9e8f-57bb03e21482

          { "executionInfos": [
            { "cancelRequested": false,
              "execution": {
                "runId": "f5ebbac6-941c-4342-ad69-dfd2f8be6689",
                "workflowId": "20110927-T-1"
              },
              "executionStatus": "OPEN",
              "startTimestamp": 1326585031.619,
              "tagList": [
                "music purchase", "digital", "ricoh-the-dog"
              ],
              "workflowType": {
                "name": "customerOrderWorkflow",
                "version": "1.0"
              }
            } ]
          }
```

ListWorkflowTypes

Returns information about workflow types in the specified domain. The results may be split into multiple pages that can be retrieved by making the call repeatedly.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "maximumPageSize": number,
    "name": "string",
    "nextPageToken": "string",
    "registrationStatus": "string",
    "reverseOrder": boolean
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain in which the workflow types have been registered.

Type: String

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

Required: Yes

maximumPageSize
The maximum number of results that will be returned per call. `nextPageToken` can be used to obtain futher pages of results. The default is 1000, which is the maximum allowed page size. You can, however, specify a page size *smaller* than the maximum.

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

Type: Number

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

Required: No

name
If specified, lists the workflow type with this name.

Type: String

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

Required: No

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

registrationStatus
Specifies the registration status of the workflow types to list.

Type: String

Valid Values: `REGISTERED | DEPRECATED`

Required: Yes

reverseOrder
When set to `true`, returns the results in reverse order. By default the results are returned in ascending alphabetical order of the `name` of the workflow types.

Type: Boolean

Required: No

Response Syntax

```
{
    "nextPageToken": "string",
    "typeInfos": [
        {
            "creationDate": number,
            "deprecationDate": number,
            "description": "string",
            "status": "string",
            "workflowType": {
                "name": "string",
                "version": "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.

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

typeInfos
The list of workflow type information.

Type: array of WorkflowTypeInfo (p. 234) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

ListWorkflowTypes Example

Sample Request

```
         POST / HTTP/1.1
         Host: swf.us-east-1.amazonaws.com
         User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
         Accept: application/json, text/javascript, */*
         Accept-Language: en-us,en;q=0.5
         Accept-Encoding: gzip,deflate
         Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
         Keep-Alive: 115
```

```
          Connection: keep-alive
          Content-Type: application/x-amz-json-1.0
          X-Requested-With: XMLHttpRequest
          X-Amz-Date: Sun, 15 Jan 2012 22:25:43 GMT
          X-Amz-Target: SimpleWorkflowService.ListWorkflowTypes
          Content-Encoding: amz-1.0
          X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=uleWQSyVVf0+aG50IoBJG5h0hzxNFNT97Mkn/FSCQ+Q=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 110
          Pragma: no-cache
          Cache-Control: no-cache

          {"domain": "867530901",
          "registrationStatus": "REGISTERED",
          "maximumPageSize": 50,
          "reverseOrder": true}
```

Sample Response

```
          HTTP/1.1 200 OK
          Content-Length: 174
          Content-Type: application/json
          x-amzn-RequestId: dcde6719-3fc7-11e1-9e8f-57bb03e21482

          {"typeInfos":
          [
          {"creationDate": 1326481174.027,
          "description": "Handle customer orders",
          "status": "REGISTERED",
          "workflowType":
          {"name": "customerOrderWorkflow",
          "version": "1.0"}
          }
          ]
          }
```

PollForActivityTask

Used by workers to get an ActivityTask (p. 145) from the specified activity `taskList`. This initiates a long poll, where the service holds the HTTP connection open and responds as soon as a task becomes available. 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 will return an empty result. An empty result, in this context, means that an ActivityTask is returned, but that the value of taskToken is an empty string. If a task is returned, the worker should use its type to identify and process it correctly.

Important
Workers should set their client side socket timeout to at least 70 seconds (10 seconds higher than the maximum time service may hold the poll request).

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the `taskList.name` parameter by using a **Condition** element with the `swf:taskList.name` key to allow the action to access only certain task lists.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "identity": "string",
    "taskList": {
        "name": "string"
    }
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain that contains the task lists being polled.

Type: String

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

Required: Yes

identity
Identity of the worker making the request, recorded in the `ActivityTaskStarted` event in the workflow history. This enables diagnostic tracing when problems arise. The form of this identity is user defined.

Type: String

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

Required: No

taskList

Specifies the task list to poll for activity tasks.

The specified string must not start or end with whitespace. It must not contain a `:` (colon), `/` (slash), `|` (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: TaskList (p. 215) object

Required: Yes

Response Syntax

```
{
    "activityId": "string",
    "activityType": {
        "name": "string",
        "version": "string"
    },
    "input": "string",
    "startedEventId": number,
    "taskToken": "string",
    "workflowExecution": {
        "runId": "string",
        "workflowId": "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.

activityId

The unique ID of the task.

Type: String

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

activityType

The type of this activity task.

Type: ActivityType (p. 152) object

input

The inputs provided when the activity task was scheduled. The form of the input is user defined and should be meaningful to the activity implementation.

Type: String

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

startedEventId
The id of the `ActivityTaskStarted` event recorded in the history.

Type: Long

taskToken
The opaque string used as a handle on the task. This token is used by workers to communicate progress and response information back to the system about the task.

Type: String

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

workflowExecution
The workflow execution that started this activity task.

Type: WorkflowExecution (p. 217) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

LimitExceededFault
Returned by any operation if a system imposed limitation has been reached. To address this fault you should either clean up unused resources or increase the limit by contacting AWS.

HTTP Status Code: 400

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

PollForActivityTask Example

Sample Request

```
         POST / HTTP/1.1
         Host: swf.us-east-1.amazonaws.com
         User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
         Accept: application/json, text/javascript, */*
         Accept-Language: en-us,en;q=0.5
         Accept-Encoding: gzip,deflate
         Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
         Keep-Alive: 115
         Connection: keep-alive
```

```
          Content-Type: application/x-amz-json-1.0
          X-Requested-With: XMLHttpRequest
          X-Amz-Date: Mon, 16 Jan 2012 03:53:52 GMT
          X-Amz-Target: SimpleWorkflowService.PollForActivityTask
          Content-Encoding: amz-1.0
          X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=dv0H1RPYucoIcRckspWO0f8xG120MWZRKmj3O5/A4rY=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 108
          Pragma: no-cache
          Cache-Control: no-cache

          {"domain": "867530901",
          "taskList":
          {"name": "mainTaskList"},
          "identity": "VerifyCreditCardWorker01"}
```

Sample Response

```
          HTTP/1.1 200 OK
          Content-Length: 837
          Content-Type: application/json
          x-amzn-RequestId: b48fb6b5-3ff5-11e1-a23a-99d60383ae71

          {"activityId": "verification-27",
          "activityType":
          {"name": "activityVerify",
          "version": "1.0"},
          "input": "5634-0056-4367-0923,12/12,437",
          "startedEventId": 11,
          "taskToken": "AAAAKgAAAAEAAAAAAAAAAX9p3pcp3857oLXFUuwdxRU5/
zmn9f40XaMF7VohAH4jOtjXpZu7GdOzEi0b3cWYHbG5b5dpdcTXHUDPVMHXiUxCgr+Nc/
wUW9016W4YxJGs/jmxzPln8qLftU+SW135Q0UuKp5XRGoRTJp3tbHn2pY1vC8gDB/
K69J6q668U1pd4Cd9o43//lGgOIjN0/Ihg+DO
+83HNcOuVEQMM28kNMXf7yePh31M4dMKJwQaQZG13huJXDwzJOoZQz
+XFuqFly+lPnCE4XvsnhfAvTsh50EtNDEtQzPCFJoUeld9g64V/
FS/39PHL3M93PBUuroPyHuCwHsNC6fZ7gM/XOKmW4kKnXPoQweEUkFV/
J6E6+M1reBO7nJADTrLSnajg6MY/viWsEYmMw/DS5FlquFaDIhFkLhWUWN
+V2KqiKS23GYwpzgZ7fgcWHQF2NLEY3zrjam4LW/
UW5VLCyM3FpVD3erCTi9IvUgslPzyVGuWNAoTmgJEWvimgwiHxJMxxc9JBDR390iMmImxVl3eeSDUWx8reQltiviadP
          "workflowExecution":
          {"runId": "cfa2bd33-31b0-4b75-b131-255bb0d97b3f",
          "workflowId": "20110927-T-1"}
          }
```

PollForDecisionTask

Used by deciders to get a DecisionTask (p. 172) from the specified decision `taskList`. A decision task may be returned for any open workflow execution that is using the specified task list. The task includes a paginated view of the history of the workflow execution. The decider should use the workflow type and the history to determine how to properly handle the task.

This action initiates a long poll, where the service holds the HTTP connection open and responds as soon a task becomes available. If no decision task is available in the specified task list before the timeout of 60 seconds expires, an empty result is returned. An empty result, in this context, means that a DecisionTask is returned, but that the value of taskToken is an empty string.

Important
Deciders should set their client side socket timeout to at least 70 seconds (10 seconds higher than the timeout).

Important
Because the number of workflow history events for a single workflow execution might be very large, the result returned might be split up across a number of pages. To retrieve subsequent pages, make additional calls to `PollForDecisionTask` using the `nextPageToken` returned by the initial call. Note that you do **not** call `GetWorkflowExecutionHistory` with this `nextPageToken`. Instead, call `PollForDecisionTask` again.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the `taskList.name` parameter by using a **Condition** element with the `swf:taskList.name` key to allow the action to access only certain task lists.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "identity": "string",
    "maximumPageSize": number,
    "nextPageToken": "string",
    "reverseOrder": boolean,
    "taskList": {
        "name": "string"
    }
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain containing the task lists to poll.

Type: String

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

Required: Yes

identity
Identity of the decider making the request, which is recorded in the DecisionTaskStarted event in the workflow history. This enables diagnostic tracing when problems arise. The form of this identity is user defined.

Type: String

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

Required: No

maximumPageSize
The maximum number of results that will be returned per call. `nextPageToken` can be used to obtain futher pages of results. The default is 1000, which is the maximum allowed page size. You can, however, specify a page size *smaller* than the maximum.

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

Type: Number

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

Required: No

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

> **Note**
> The `nextPageToken` returned by this action cannot be used with GetWorkflowExecutionHistory (p. 43) to get the next page. You must call PollForDecisionTask (p. 83) again (with the `nextPageToken`) to retrieve the next page of history records. Calling PollForDecisionTask (p. 83) with a `nextPageToken` will not return a new decision task.

.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

reverseOrder
When set to `true`, returns the events in reverse order. By default the results are returned in ascending order of the `eventTimestamp` of the events.

Type: Boolean

Required: No

taskList
Specifies the task list to poll for decision tasks.

The specified string must not start or end with whitespace. It must not contain a : (colon), / (slash), | (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: TaskList (p. 215) object

Required: Yes

Response Syntax

```
{
    "events": [
        {
            "activityTaskCancelRequestedEventAttributes": {
                "activityId": "string",
                "decisionTaskCompletedEventId": number
            },
            "activityTaskCanceledEventAttributes": {
                "details": "string",
                "latestCancelRequestedEventId": number,
                "scheduledEventId": number,
                "startedEventId": number
            },
            "activityTaskCompletedEventAttributes": {
                "result": "string",
                "scheduledEventId": number,
                "startedEventId": number
            },
            "activityTaskFailedEventAttributes": {
                "details": "string",
                "reason": "string",
                "scheduledEventId": number,
                "startedEventId": number
            },
            "activityTaskScheduledEventAttributes": {
                "activityId": "string",
                "activityType": {
                    "name": "string",
                    "version": "string"
                },
                "control": "string",
                "decisionTaskCompletedEventId": number,
                "heartbeatTimeout": "string",
                "input": "string",
                "scheduleToCloseTimeout": "string",
                "scheduleToStartTimeout": "string",
                "startToCloseTimeout": "string",
                "taskList": {
                    "name": "string"
                },
                "taskPriority": "string"
            },
            "activityTaskStartedEventAttributes": {
                "identity": "string",
                "scheduledEventId": number
            },
```

```
"activityTaskTimedOutEventAttributes": {
    "details": "string",
    "scheduledEventId": number,
    "startedEventId": number,
    "timeoutType": "string"
},
"cancelTimerFailedEventAttributes": {
    "cause": "string",
    "decisionTaskCompletedEventId": number,
    "timerId": "string"
},
"cancelWorkflowExecutionFailedEventAttributes": {
    "cause": "string",
    "decisionTaskCompletedEventId": number
},
"childWorkflowExecutionCanceledEventAttributes": {
    "details": "string",
    "initiatedEventId": number,
    "startedEventId": number,
    "workflowExecution": {
        "runId": "string",
        "workflowId": "string"
    },
    "workflowType": {
        "name": "string",
        "version": "string"
    }
},
"childWorkflowExecutionCompletedEventAttributes": {
    "initiatedEventId": number,
    "result": "string",
    "startedEventId": number,
    "workflowExecution": {
        "runId": "string",
        "workflowId": "string"
    },
    "workflowType": {
        "name": "string",
        "version": "string"
    }
},
"childWorkflowExecutionFailedEventAttributes": {
    "details": "string",
    "initiatedEventId": number,
    "reason": "string",
    "startedEventId": number,
    "workflowExecution": {
        "runId": "string",
        "workflowId": "string"
    },
    "workflowType": {
        "name": "string",
        "version": "string"
    }
},
"childWorkflowExecutionStartedEventAttributes": {
    "initiatedEventId": number,
    "workflowExecution": {
        "runId": "string",
```

```
            "workflowId": "string"
        },
        "workflowType": {
            "name": "string",
            "version": "string"
        }
    },
    "childWorkflowExecutionTerminatedEventAttributes": {
        "initiatedEventId": number,
        "startedEventId": number,
        "workflowExecution": {
            "runId": "string",
            "workflowId": "string"
        },
        "workflowType": {
            "name": "string",
            "version": "string"
        }
    },
    "childWorkflowExecutionTimedOutEventAttributes": {
        "initiatedEventId": number,
        "startedEventId": number,
        "timeoutType": "string",
        "workflowExecution": {
            "runId": "string",
            "workflowId": "string"
        },
        "workflowType": {
            "name": "string",
            "version": "string"
        }
    },
    "completeWorkflowExecutionFailedEventAttributes": {
        "cause": "string",
        "decisionTaskCompletedEventId": number
    },
    "continueAsNewWorkflowExecutionFailedEventAttributes": {
        "cause": "string",
        "decisionTaskCompletedEventId": number
    },
    "decisionTaskCompletedEventAttributes": {
        "executionContext": "string",
        "scheduledEventId": number,
        "startedEventId": number
    },
    "decisionTaskScheduledEventAttributes": {
        "startToCloseTimeout": "string",
        "taskList": {
            "name": "string"
        },
        "taskPriority": "string"
    },
    "decisionTaskStartedEventAttributes": {
        "identity": "string",
        "scheduledEventId": number
    },
    "decisionTaskTimedOutEventAttributes": {
        "scheduledEventId": number,
        "startedEventId": number,
```

```
        "timeoutType": "string"
    },
    "eventId": number,
    "eventTimestamp": number,
    "eventType": "string",
    "externalWorkflowExecutionCancelRequestedEventAttributes": {
        "initiatedEventId": number,
        "workflowExecution": {
            "runId": "string",
            "workflowId": "string"
        }
    },
    "externalWorkflowExecutionSignaledEventAttributes": {
        "initiatedEventId": number,
        "workflowExecution": {
            "runId": "string",
            "workflowId": "string"
        }
    },
    "failWorkflowExecutionFailedEventAttributes": {
        "cause": "string",
        "decisionTaskCompletedEventId": number
    },
    "lambdaFunctionCompletedEventAttributes": {
        "result": "string",
        "scheduledEventId": number,
        "startedEventId": number
    },
    "lambdaFunctionFailedEventAttributes": {
        "details": "string",
        "reason": "string",
        "scheduledEventId": number,
        "startedEventId": number
    },
    "lambdaFunctionScheduledEventAttributes": {
        "decisionTaskCompletedEventId": number,
        "id": "string",
        "input": "string",
        "name": "string",
        "startToCloseTimeout": "string"
    },
    "lambdaFunctionStartedEventAttributes": {
        "scheduledEventId": number
    },
    "lambdaFunctionTimedOutEventAttributes": {
        "scheduledEventId": number,
        "startedEventId": number,
        "timeoutType": "string"
    },
    "markerRecordedEventAttributes": {
        "decisionTaskCompletedEventId": number,
        "details": "string",
        "markerName": "string"
    },
    "recordMarkerFailedEventAttributes": {
        "cause": "string",
        "decisionTaskCompletedEventId": number,
        "markerName": "string"
    },
```

```
            "requestCancelActivityTaskFailedEventAttributes": {
                "activityId": "string",
                "cause": "string",
                "decisionTaskCompletedEventId": number
            },
            "requestCancelExternalWorkflowExecutionFailedEventAttributes": {
                "cause": "string",
                "control": "string",
                "decisionTaskCompletedEventId": number,
                "initiatedEventId": number,
                "runId": "string",
                "workflowId": "string"
            },
            "requestCancelExternalWorkflowExecutionInitiatedEventAttributes":
{
                "control": "string",
                "decisionTaskCompletedEventId": number,
                "runId": "string",
                "workflowId": "string"
            },
            "scheduleActivityTaskFailedEventAttributes": {
                "activityId": "string",
                "activityType": {
                    "name": "string",
                    "version": "string"
                },
                "cause": "string",
                "decisionTaskCompletedEventId": number
            },
            "scheduleLambdaFunctionFailedEventAttributes": {
                "cause": "string",
                "decisionTaskCompletedEventId": number,
                "id": "string",
                "name": "string"
            },
            "signalExternalWorkflowExecutionFailedEventAttributes": {
                "cause": "string",
                "control": "string",
                "decisionTaskCompletedEventId": number,
                "initiatedEventId": number,
                "runId": "string",
                "workflowId": "string"
            },
            "signalExternalWorkflowExecutionInitiatedEventAttributes": {
                "control": "string",
                "decisionTaskCompletedEventId": number,
                "input": "string",
                "runId": "string",
                "signalName": "string",
                "workflowId": "string"
            },
            "startChildWorkflowExecutionFailedEventAttributes": {
                "cause": "string",
                "control": "string",
                "decisionTaskCompletedEventId": number,
                "initiatedEventId": number,
                "workflowId": "string",
                "workflowType": {
                    "name": "string",
```

```
            "version": "string"
        }
    },
    "startChildWorkflowExecutionInitiatedEventAttributes": {
        "childPolicy": "string",
        "control": "string",
        "decisionTaskCompletedEventId": number,
        "executionStartToCloseTimeout": "string",
        "input": "string",
        "lambdaRole": "string",
        "tagList": [
            "string"
        ],
        "taskList": {
            "name": "string"
        },
        "taskPriority": "string",
        "taskStartToCloseTimeout": "string",
        "workflowId": "string",
        "workflowType": {
            "name": "string",
            "version": "string"
        }
    },
    "startLambdaFunctionFailedEventAttributes": {
        "cause": "string",
        "message": "string",
        "scheduledEventId": number
    },
    "startTimerFailedEventAttributes": {
        "cause": "string",
        "decisionTaskCompletedEventId": number,
        "timerId": "string"
    },
    "timerCanceledEventAttributes": {
        "decisionTaskCompletedEventId": number,
        "startedEventId": number,
        "timerId": "string"
    },
    "timerFiredEventAttributes": {
        "startedEventId": number,
        "timerId": "string"
    },
    "timerStartedEventAttributes": {
        "control": "string",
        "decisionTaskCompletedEventId": number,
        "startToFireTimeout": "string",
        "timerId": "string"
    },
    "workflowExecutionCancelRequestedEventAttributes": {
        "cause": "string",
        "externalInitiatedEventId": number,
        "externalWorkflowExecution": {
            "runId": "string",
            "workflowId": "string"
        }
    },
    "workflowExecutionCanceledEventAttributes": {
        "decisionTaskCompletedEventId": number,
```

```
        "details": "string"
    },
    "workflowExecutionCompletedEventAttributes": {
        "decisionTaskCompletedEventId": number,
        "result": "string"
    },
    "workflowExecutionContinuedAsNewEventAttributes": {
        "childPolicy": "string",
        "decisionTaskCompletedEventId": number,
        "executionStartToCloseTimeout": "string",
        "input": "string",
        "lambdaRole": "string",
        "newExecutionRunId": "string",
        "tagList": [
            "string"
        ],
        "taskList": {
            "name": "string"
        },
        "taskPriority": "string",
        "taskStartToCloseTimeout": "string",
        "workflowType": {
            "name": "string",
            "version": "string"
        }
    },
    "workflowExecutionFailedEventAttributes": {
        "decisionTaskCompletedEventId": number,
        "details": "string",
        "reason": "string"
    },
    "workflowExecutionSignaledEventAttributes": {
        "externalInitiatedEventId": number,
        "externalWorkflowExecution": {
            "runId": "string",
            "workflowId": "string"
        },
        "input": "string",
        "signalName": "string"
    },
    "workflowExecutionStartedEventAttributes": {
        "childPolicy": "string",
        "continuedExecutionRunId": "string",
        "executionStartToCloseTimeout": "string",
        "input": "string",
        "lambdaRole": "string",
        "parentInitiatedEventId": number,
        "parentWorkflowExecution": {
            "runId": "string",
            "workflowId": "string"
        },
        "tagList": [
            "string"
        ],
        "taskList": {
            "name": "string"
        },
        "taskPriority": "string",
        "taskStartToCloseTimeout": "string",
```

```
                "workflowType": {
                    "name": "string",
                    "version": "string"
                }
            },
            "workflowExecutionTerminatedEventAttributes": {
                "cause": "string",
                "childPolicy": "string",
                "details": "string",
                "reason": "string"
            },
            "workflowExecutionTimedOutEventAttributes": {
                "childPolicy": "string",
                "timeoutType": "string"
            }
        }
    ],
    "nextPageToken": "string",
    "previousStartedEventId": number,
    "startedEventId": number,
    "taskToken": "string",
    "workflowExecution": {
        "runId": "string",
        "workflowId": "string"
    },
    "workflowType": {
        "name": "string",
        "version": "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
A paginated list of history events of the workflow execution. The decider uses this during the processing of the decision task.

Type: array of HistoryEvent (p. 180) objects

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

previousStartedEventId
The id of the DecisionTaskStarted event of the previous decision task of this workflow execution that was processed by the decider. This can be used to determine the events in the history new since the last decision task received by the decider.

Type: Long

startedEventId
The id of the `DecisionTaskStarted` event recorded in the history.

Type: Long

taskToken
The opaque string used as a handle on the task. This token is used by workers to communicate progress and response information back to the system about the task.

Type: String

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

workflowExecution
The workflow execution for which this decision task was created.

Type: WorkflowExecution (p. 217) object

workflowType
The type of the workflow execution for which this decision task was created.

Type: WorkflowType (p. 231) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

LimitExceededFault
Returned by any operation if a system imposed limitation has been reached. To address this fault you should either clean up unused resources or increase the limit by contacting AWS.

HTTP Status Code: 400

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

PollForDecisionTask Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
```

```
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Sun, 15 Jan 2012 02:09:54 GMT
X-Amz-Target: SimpleWorkflowService.PollForDecisionTask
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=R3CJ2HMLSVpc2p6eafeztZCZWcgza+h61gSUuWx15gw=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 171
Pragma: no-cache
Cache-Control: no-cache

{
  "maximumPageSize": 50,
  "domain": "867530901",
  "taskList": {
    "name": "specialTaskList"
  },
  "reverseOrder": true,
  "identity": "Decider01"
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 1639
Content-Type: application/json
x-amzn-RequestId: 03db54cf-3f1e-11e1-b118-3bfa5e8e7fc3

{
  "previousStartedEventId": 0,
  "workflowExecution": {
    "workflowId": "20110927-T-1",
    "runId": "06b8f87a-24b3-40b6-9ceb-9676f28e9493"
  },
  "startedEventId": 3,
  "workflowType": {
    "version": "1.0",
    "name": "customerOrderWorkflow"
  },
  "events": [
    {
      "eventId": 3,
      "decisionTaskStartedEventAttributes": {
        "scheduledEventId": 2,
        "identity": "Decider01"
      },
      "eventTimestamp": 1326593394.566,
      "eventType": "DecisionTaskStarted"
    },
    {
      "eventId": 2,
```

```
      "eventType": "DecisionTaskScheduled",
      "decisionTaskScheduledEventAttributes": {
        "startToCloseTimeout": "600",
        "taskList": {
          "name": "specialTaskList"
        },
        "taskPriority": "100"
      },
      "eventTimestamp": 1326592619.474
    },
    {
      "eventId": 1,
      "eventType": "WorkflowExecutionStarted",
      "workflowExecutionStartedEventAttributes": {
        "taskList": {
          "name": "specialTaskList"
        },
        "parentInitiatedEventId": 0,
        "taskStartToCloseTimeout": "600",
        "childPolicy": "TERMINATE",
        "executionStartToCloseTimeout": "3600",
        "input": "arbitrary-string-that-is-meaningful-to-the-workflow",
        "workflowType": {
          "version": "1.0",
          "name": "customerOrderWorkflow"
        },
        "tagList": [
          "music purchase",
          "digital",
          "ricoh-the-dog"
        ]
      },
      "eventTimestamp": 1326592619.474
    }
  ],
  "taskToken": "AAAAKgAAAAEAAAAAAAAAATZDvCYwk/hP/X1ZGdJhb
+T6OWzcBx2DPhsIi5HF4aGQI4OXrDE7Ny3uM+aiAhGrmeNyVAa4yNIBQuoZuJA5G
+BoaB0JuHFBOynHDTnm7ayNH43KhMkfdrDG4elfHSz3m/
EtbLnFGueAr7+3NKDG6x4sTKg3cZpOtSguSx05yI1X3AtscS8ATcLB2Y3Aub1YonN/
i/k67voca/GFsSiwSz3AAnJj1IPvrujgIj9KUvckwRPC5ET7d33XJcRp
+gHYzZsBLVBaRmV3gEYAnp2ICslFn4YSjGy+dFXCNpOa4G1O8pczCbFUGbQ3+5wf0RSaa/
xMq2pfdBKnuFp0wp8kw1k+5ZsbtDZeZn8g5GyKCLiLms/xD0OxugGGUe5ZlAoHEkTWGxZj/
G32P7cMoCgrcACfFPdx1LNYYEre7YiGiyjGnfW2t5mW7VK9Np28vcXVbdpH4JNEB9OuB1xqL8N8ifPVtc72uxB1i9XE
fUkGucTUXQP2hhB+Gz"
}
```

RecordActivityTaskHeartbeat

Used by activity workers to report to the service that the ActivityTask (p. 145) represented by the specified `taskToken` is still making progress. The worker can also (optionally) specify details of the progress, for example percent complete, using the `details` parameter. This action can also be used by the worker as a mechanism to check if cancellation is being requested for the activity task. If a cancellation is being attempted for the specified task, then the boolean `cancelRequested` flag returned by the service is set to `true`.

This action resets the `taskHeartbeatTimeout` clock. The `taskHeartbeatTimeout` is specified in RegisterActivityType (p. 100).

This action does not in itself create an event in the workflow execution history. However, if the task times out, the workflow execution history will contain a `ActivityTaskTimedOut` event that contains the information from the last heartbeat generated by the activity worker.

> **Note**
> The `taskStartToCloseTimeout` of an activity type is the maximum duration of an activity task, regardless of the number of RecordActivityTaskHeartbeat (p. 96) requests received. The `taskStartToCloseTimeout` is also specified in RegisterActivityType (p. 100).

> **Note**
> This operation is only useful for long-lived activities to report liveliness of the task and to determine if a cancellation is being attempted.

> **Important**
> If the `cancelRequested` flag returns `true`, a cancellation is being attempted. If the worker can cancel the activity, it should respond with RespondActivityTaskCanceled (p. 116). Otherwise, it should ignore the cancellation request.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

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

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

details
If specified, contains details about the progress of the task.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

taskToken
The `taskToken` of the ActivityTask (p. 145).

Important
`taskToken` is generated by the service and should be treated as an opaque value. If the task is passed to another process, its `taskToken` must also be passed. This enables it to provide its progress and respond with results.

Type: String

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

Required: Yes

Response Syntax

```
{
    "cancelRequested": boolean
}
```

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.

cancelRequested
Set to `true` if cancellation of the task is requested.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

RecordActivityTaskHeartbeat Example

Sample Request

```
          POST / HTTP/1.1
          Host: swf.us-east-1.amazonaws.com
          User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
 rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
          Accept: application/json, text/javascript, */*
          Accept-Language: en-us,en;q=0.5
          Accept-Encoding: gzip,deflate
          Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
          Keep-Alive: 115
          Connection: keep-alive
          Content-Type: application/x-amz-json-1.0
          X-Requested-With: XMLHttpRequest
          X-Amz-Date: Mon, 16 Jan 2012 03:55:06 GMT
          X-Amz-Target: SimpleWorkflowService.RecordActivityTaskHeartbeat
          Content-Encoding: amz-1.0
          X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=DEA8rw5TqtpqCeTljl7eotZkuWTgmGZ1PWyDNZPehT0=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 623
          Pragma: no-cache
          Cache-Control: no-cache

          {"taskToken": "AAAAKgAAAAEAAAAAAAAAAX9p3pcp3857oLXFUuwdxRU5/
zmn9f40XaMF7VohAH4jOtjXpZu7GdOzEi0b3cWYHbG5b5dpdcTXHUDPVMHXiUxCgr+Nc/
wUW9016W4YxJGs/jmxzPln8qLftU+SW135Q0UuKp5XRGoRTJp3tbHn2pY1vC8gDB/
K69J6q668U1pd4Cd9o43//lGgOIjN0/Ihg+DO
+83HNcOuVEQMM28kNMXf7yePh31M4dMKJwQaQZG13huJXDwzJOoZQz
+XFuqFly+lPnCE4XvsnhfAvTsh50EtNDEtQzPCFJoUeld9g64V/
FS/39PHL3M93PBUuroPyHuCwHsNC6fZ7gM/XOKmW4kKnXPoQweEUkFV/
J6E6+M1reBO7nJADTrLSnajg6MY/viWsEYmMw/DS5FlquFaDIhFkLhWUWN
+V2KqiKS23GYwpzgZ7fgcWHQF2NLEY3zrjam4LW/
UW5VLCyM3FpVD3erCTi9IvUgslPzyVGuWNAoTmgJEWvimgwiHxJMxxc9JBDR390iMmImxVl3eeSDUWx8reQltiviadP
          "details": "starting task"}
```

Sample Response

```
          HTTP/1.1 200 OK
          Content-Length: 25
          Content-Type: application/json
          x-amzn-RequestId: e08622cd-3ff5-11e1-9b11-7182192d0b57

          {"cancelRequested":false}
```

RegisterActivityType

Registers a new *activity type* along with its configuration settings in the specified domain.

Important
A `TypeAlreadyExists` fault is returned if the type already exists in the domain. You cannot change any configuration settings of the type after its registration, and it must be registered as a new version.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `defaultTaskList.name`: String constraint. The key is `swf:defaultTaskList.name`.
  - `name`: String constraint. The key is `swf:name`.
  - `version`: String constraint. The key is `swf:version`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "defaultTaskHeartbeatTimeout": "string",
    "defaultTaskList": {
        "name": "string"
    },
    "defaultTaskPriority": "string",
    "defaultTaskScheduleToCloseTimeout": "string",
    "defaultTaskScheduleToStartTimeout": "string",
    "defaultTaskStartToCloseTimeout": "string",
    "description": "string",
    "domain": "string",
    "name": "string",
    "version": "string"
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

defaultTaskHeartbeatTimeout
If set, specifies the default maximum time before which a worker processing a task of this type must report progress by calling RecordActivityTaskHeartbeat (p. 96). If the timeout is exceeded, the activity task is automatically timed out. This default can be overridden when scheduling

an activity task using the `ScheduleActivityTask` Decision (p. 168). If the activity worker subsequently attempts to record a heartbeat or returns a result, the activity worker receives an `UnknownResource` fault. In this case, Amazon SWF no longer considers the activity task to be valid; the activity worker should clean up the activity task.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

defaultTaskList

If set, specifies the default task list to use for scheduling tasks of this activity type. This default task list is used if a task list is not provided when a task is scheduled through the `ScheduleActivityTask` Decision (p. 168).

Type: TaskList (p. 215) object

Required: No

defaultTaskPriority

The default task priority to assign to the activity type. If not assigned, then "0" will be used. Valid values are integers that range from Java's `Integer.MIN_VALUE` (-2147483648) to `Integer.MAX_VALUE` (2147483647). Higher numbers indicate higher priority.

For more information about setting task priority, see Setting Task Priority in the *Amazon Simple Workflow Developer Guide*.

Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

defaultTaskScheduleToCloseTimeout

If set, specifies the default maximum duration for a task of this activity type. This default can be overridden when scheduling an activity task using the `ScheduleActivityTask` Decision (p. 168).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

defaultTaskScheduleToStartTimeout

If set, specifies the default maximum duration that a task of this activity type can wait before being assigned to a worker. This default can be overridden when scheduling an activity task using the `ScheduleActivityTask` Decision (p. 168).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

defaultTaskStartToCloseTimeout
If set, specifies the default maximum duration that a worker can take to process tasks of this activity type. This default can be overridden when scheduling an activity task using the `ScheduleActivityTask` Decision (p. 168).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

description
A textual description of the activity type.

Type: String

Length constraints: Minimum length of 0. Maximum length of 1024.

Required: No

domain
The name of the domain in which this activity is to be registered.

Type: String

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

Required: Yes

name
The name of the activity type within the domain.

The specified string must not start or end with whitespace. It must not contain a `:` (colon), `/` (slash), `|` (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: String

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

Required: Yes

version
The version of the activity type.

> **Note**
> The activity type consists of the name and version, the combination of which must be unique within the domain.

The specified string must not start or end with whitespace. It must not contain a `:` (colon), `/` (slash), `|` (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: String

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

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. 239).

LimitExceededFault
Returned by any operation if a system imposed limitation has been reached. To address this fault you should either clean up unused resources or increase the limit by contacting AWS.

HTTP Status Code: 400

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

TypeAlreadyExistsFault
Returned if the type already exists in the specified domain. You will get this fault even if the existing type is in deprecated status. You can specify another version if the intent is to create a new distinct version of the type.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

RegisterActivityType Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Sun, 15 Jan 2012 00:14:06 GMT
X-Amz-Target: SimpleWorkflowService.RegisterActivityType
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=F9cptqaGWa2H7LW3dpctF9J5svsB6FRZ4krghCRnml0=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 343
Pragma: no-cache
```

```
Cache-Control: no-cache

{
  "domain": "867530901",
  "defaultTaskScheduleToStartTimeout": "300",
  "name": "activityVerify",
  "defaultTaskHeartbeatTimeout": "120",
  "defaultTaskPriority": "10",
  "defaultTaskStartToCloseTimeout": "600",
  "defaultTaskScheduleToCloseTimeout": "900",
  "version": "1.0",
  "defaultTaskList": {
    "name": "mainTaskList"
  },
  "description": "Verify the customer credit card"
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 0
Content-Type: application/json
x-amzn-RequestId: d68969c7-3f0d-11e1-9b11-7182192d0b57
```

RegisterDomain

Registers a new domain.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- You cannot use an IAM policy to control domain access for this action. The name of the domain being registered is available as the resource of this action.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "description": "string",
    "name": "string",
    "workflowExecutionRetentionPeriodInDays": "string"
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

description
A text description of the domain.

Type: String

Length constraints: Minimum length of 0. Maximum length of 1024.

Required: No

name
Name of the domain to register. The name must be unique in the region that the domain is registered in.

The specified string must not start or end with whitespace. It must not contain a `:` (colon), `/` (slash), `|` (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: String

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

Required: Yes

workflowExecutionRetentionPeriodInDays
The duration (in days) that records and histories of workflow executions on the domain should be kept by the service. After the retention period, the workflow execution is not available in the results of visibility calls.

If you pass the value `NONE` or `0` (zero), then the workflow execution history will not be retained. As soon as the workflow execution completes, the execution record and its history are deleted.

The maximum workflow execution retention period is 90 days. For more information about Amazon SWF service limits, see: Amazon SWF Service Limits in the *Amazon SWF Developer Guide*.

Type: String

Length constraints: Minimum length of 1. Maximum length of 8.

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. 239).

DomainAlreadyExistsFault
Returned if the specified domain already exists. You will get this fault even if the existing domain is in deprecated status.

HTTP Status Code: 400

LimitExceededFault
Returned by any operation if a system imposed limitation has been reached. To address this fault you should either clean up unused resources or increase the limit by contacting AWS.

HTTP Status Code: 400

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

Examples

RegisterDomain Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
```

```
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Fri, 13 Jan 2012 18:42:12 GMT
X-Amz-Target: SimpleWorkflowService.RegisterDomain
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-Encoding,Signature=tzjkF55lxAxPhzp/
BRGFYQRQRq6CqrM254dTDE/EncI=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 91
Pragma: no-cache
Cache-Control: no-cache

{"name": "867530902",
 "description": "music",
 "workflowExecutionRetentionPeriodInDays": "60"}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 0
Content-Type: application/json
x-amzn-RequestId: 4ec4ac3f-3e16-11e1-9b11-7182192d0b57
```

RegisterWorkflowType

Registers a new *workflow type* and its configuration settings in the specified domain.

The retention period for the workflow history is set by the RegisterDomain (p. 105) action.

Important
If the type already exists, then a `TypeAlreadyExists` fault is returned. You cannot change the configuration settings of a workflow type once it is registered and it must be registered as a new version.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `defaultTaskList.name`: String constraint. The key is `swf:defaultTaskList.name`.
  - `name`: String constraint. The key is `swf:name`.
  - `version`: String constraint. The key is `swf:version`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "defaultChildPolicy": "string",
    "defaultExecutionStartToCloseTimeout": "string",
    "defaultLambdaRole": "string",
    "defaultTaskList": {
        "name": "string"
    },
    "defaultTaskPriority": "string",
    "defaultTaskStartToCloseTimeout": "string",
    "description": "string",
    "domain": "string",
    "name": "string",
    "version": "string"
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

defaultChildPolicy
If set, specifies the default policy to use for the child workflow executions when a workflow execution of this type is terminated, by calling the TerminateWorkflowExecution (p. 139)

action explicitly or due to an expired timeout. This default can be overridden when starting a workflow execution using the StartWorkflowExecution (p. 133) action or the `StartChildWorkflowExecution` Decision (p. 168).

The supported child policies are:

- **TERMINATE:** the child executions will be terminated.
- **REQUEST_CANCEL:** a request to cancel will be attempted for each child execution by recording a `WorkflowExecutionCancelRequested` event in its history. It is up to the decider to take appropriate actions when it receives an execution history with this event.
- **ABANDON:** no action will be taken. The child executions will continue to run.

Type: String

Valid Values: `TERMINATE | REQUEST_CANCEL | ABANDON`

Required: No

defaultExecutionStartToCloseTimeout

If set, specifies the default maximum duration for executions of this workflow type. You can override this default when starting an execution through the StartWorkflowExecution (p. 133) Action or `StartChildWorkflowExecution` Decision (p. 168).

The duration is specified in seconds; an integer greater than or equal to 0. Unlike some of the other timeout parameters in Amazon SWF, you cannot specify a value of "NONE" for `defaultExecutionStartToCloseTimeout`; there is a one-year max limit on the time that a workflow execution can run. Exceeding this limit will always cause the workflow execution to time out.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

defaultLambdaRole

Type: String

Length constraints: Minimum length of 1. Maximum length of 1224.

Required: No

defaultTaskList

If set, specifies the default task list to use for scheduling decision tasks for executions of this workflow type. This default is used only if a task list is not provided when starting the execution through the StartWorkflowExecution (p. 133) Action or `StartChildWorkflowExecution` Decision (p. 168).

Type: TaskList (p. 215) object

Required: No

defaultTaskPriority

The default task priority to assign to the workflow type. If not assigned, then "0" will be used. Valid values are integers that range from Java's `Integer.MIN_VALUE` (-2147483648) to `Integer.MAX_VALUE` (2147483647). Higher numbers indicate higher priority.

For more information about setting task priority, see Setting Task Priority in the *Amazon Simple Workflow Developer Guide*.

Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

defaultTaskStartToCloseTimeout

If set, specifies the default maximum duration of decision tasks for this workflow type. This default can be overridden when starting a workflow execution using the StartWorkflowExecution (p. 133) action or the `StartChildWorkflowExecution` Decision (p. 168).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

description

Textual description of the workflow type.

Type: String

Length constraints: Minimum length of 0. Maximum length of 1024.

Required: No

domain

The name of the domain in which to register the workflow type.

Type: String

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

Required: Yes

name

The name of the workflow type.

The specified string must not start or end with whitespace. It must not contain a `:` (colon), `/` (slash), `|` (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: String

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

Required: Yes

version

The version of the workflow type.

> **Note**
> The workflow type consists of the name and version, the combination of which must be unique within the domain. To get a list of all currently registered workflow types, use the ListWorkflowTypes (p. 75) action.

The specified string must not start or end with whitespace. It must not contain a `:` (colon), `/` (slash), `|` (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: String

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

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. 239).

LimitExceededFault
Returned by any operation if a system imposed limitation has been reached. To address this fault you should either clean up unused resources or increase the limit by contacting AWS.

HTTP Status Code: 400

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

TypeAlreadyExistsFault
Returned if the type already exists in the specified domain. You will get this fault even if the existing type is in deprecated status. You can specify another version if the intent is to create a new distinct version of the type.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

RegisterWorkflowType Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Fri, 13 Jan 2012 18:59:33 GMT
X-Amz-Target: SimpleWorkflowService.RegisterWorkflowType
```

```
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=p5FUOoV3QXAafb7aK5z79Ztu5v0w9NeEqLu0ei+P9FA=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 300
Pragma: no-cache
Cache-Control: no-cache

{
  "defaultExecutionStartToCloseTimeout": "3600",
  "domain": "867530901",
  "name": "customerOrderWorkflow",
  "defaultChildPolicy": "TERMINATE",
  "defaultTaskPriority": "10",
  "defaultTaskStartToCloseTimeout": "600",
  "version": "1.0",
  "defaultTaskList": {
    "name": "mainTaskList"
  },
  "description": "Handle customer orders"
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 0
Content-Type: application/json
x-amzn-RequestId: bb469e67-3e18-11e1-9914-a356b6ea8bdf
```

RequestCancelWorkflowExecution

Records a `WorkflowExecutionCancelRequested` event in the currently running workflow execution identified by the given domain, workflowId, and runId. This logically requests the cancellation of the workflow execution as a whole. It is up to the decider to take appropriate actions when it receives an execution history with this event.

Note
If the runId is not specified, the `WorkflowExecutionCancelRequested` event is recorded in the history of the current open workflow execution with the specified workflowId in the domain.

Note
Because this action allows the workflow to properly clean up and gracefully close, it should be used instead of TerminateWorkflowExecution (p. 139) when possible.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "runId": "string",
    "workflowId": "string"
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain containing the workflow execution to cancel.

Type: String

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

Required: Yes

runId
The runId of the workflow execution to cancel.

Type: String

Length constraints: Minimum length of 0. Maximum length of 64.

Required: No

workflowId

The workflowId of the workflow execution to cancel.

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. 239).

OperationNotPermittedFault

Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault

Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

RequestCancelWorkflowExecution Example

Sample Request

```
         POST / HTTP/1.1
         Host: swf.us-east-1.amazonaws.com
         User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
         Accept: application/json, text/javascript, */*
         Accept-Language: en-us,en;q=0.5
         Accept-Encoding: gzip,deflate
         Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
         Keep-Alive: 115
         Connection: keep-alive
         Content-Type: application/x-amz-json-1.0
         X-Requested-With: XMLHttpRequest
         X-Amz-Date: Mon, 16 Jan 2012 04:49:06 GMT
         X-Amz-Target: SimpleWorkflowService.RequestCancelWorkflowExecution
         Content-Encoding: amz-1.0
```

```
          X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=xODwV3kbpJbWVa6bQiV2zQAw9euGI3uXI82urc+bVeo=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 106
          Pragma: no-cache
          Cache-Control: no-cache

          {"domain": "867530901",
          "workflowId": "20110927-T-1",
          "runId": "94861fda-a714-4126-95d7-55ba847da8ab"}
```

Sample Response

```
          HTTP/1.1 200 OK
          Content-Length: 0
          Content-Type: application/json
          x-amzn-RequestId: 6bd0627e-3ffd-11e1-9b11-7182192d0b57
```

RespondActivityTaskCanceled

Used by workers to tell the service that the ActivityTask (p. 145) identified by the `taskToken` was successfully canceled. Additional `details` can be optionally provided using the `details` argument.

These `details` (if provided) appear in the `ActivityTaskCanceled` event added to the workflow history.

> **Important**
> Only use this operation if the `canceled` flag of a RecordActivityTaskHeartbeat (p. 96) request returns `true` and if the activity can be safely undone or abandoned.

A task is considered open from the time that it is scheduled until it is closed. Therefore a task is reported as open while a worker is processing it. A task is closed after it has been specified in a call to RespondActivityTaskCompleted (p. 119), RespondActivityTaskCanceled, RespondActivityTaskFailed (p. 122), or the task has timed out.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

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

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

details
Optional. Information about the cancellation.

Type: String

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

Required: No

taskToken
The `taskToken` of the ActivityTask (p. 145).

Important
`taskToken` is generated by the service and should be treated as an opaque value. If the task is passed to another process, its `taskToken` must also be passed. This enables it to provide its progress and respond with results.

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. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

RespondActivityTaskCanceled Example

Sample Request

```
         POST / HTTP/1.1
         Host: swf.us-east-1.amazonaws.com
         User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
         Accept: application/json, text/javascript, */*
         Accept-Language: en-us,en;q=0.5
         Accept-Encoding: gzip,deflate
         Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
         Keep-Alive: 115
         Connection: keep-alive
         Content-Type: application/x-amz-json-1.0
         X-Requested-With: XMLHttpRequest
         X-Amz-Date: Mon, 16 Jan 2012 04:36:44 GMT
         X-Amz-Target: SimpleWorkflowService.RespondActivityTaskCanceled
         Content-Encoding: amz-1.0
         X-Amzn-Authorization: AWS3
AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
```

```
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=7ZMb0Np0OyXw6hrFSBFDAfBnSaEP1TH7cAG29DL5BUI=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 640
          Pragma: no-cache
          Cache-Control: no-cache

          {"taskToken": "AAAAKgAAAAEAAAAAAAAAAQlFok8Ay875ki85gos/
Okm9kWg1Jm6DbwiBZgxyCrW2OS+DQQtrCTMr+KH1ouxrCVOkTXPOUY/M4Ujfr1CrsMi6S0DMD8/
N6yxzd34+PIIvRY8w9M5z89PbPQKjKHKbz2ocbTnHgRThaBO4ZmeadNyZWSeQyZXmsQFmFuHfaH9P2ibzrDS1dU
+s/iw/R9RBrRWArsph/FIfWdRUJfu/
FH9IFPSb3KYKMVaJAOyWhcR1KrRGywIGxPC7m9tQjapXqitoRYj42qgABydT4NVR5cLCkeYW0LKxUGVU46+gNvRaUfY
ERi10m6bamPJ3UcZfLFbM42mIINywmcTORMpQ/nPGLU1iECYrtnAV0YTlGZfGm
+Vi6Gcgwyi4hEjg7TCBjc6WBw3JuAfFvUPU5cfvAoX7quUZRA7JUnYGObE0y9zYuTnCx6C1GL7Ks2MEA0coIiAl4JZx
          "details": "customer canceled transaction"}
```

Sample Response

```
          HTTP/1.1 200 OK
          Content-Length: 0
          Content-Type: application/json
          x-amzn-RequestId: b1a001a6-3ffb-11e1-9b11-7182192d0b57
```

RespondActivityTaskCompleted

Used by workers to tell the service that the ActivityTask (p. 145) identified by the `taskToken` completed successfully with a `result` (if provided). The `result` appears in the `ActivityTaskCompleted` event in the workflow history.

> **Important**
> If the requested task does not complete successfully, use RespondActivityTaskFailed (p. 122) instead. If the worker finds that the task is canceled through the `canceled` flag returned by RecordActivityTaskHeartbeat (p. 96), it should cancel the task, clean up and then call RespondActivityTaskCanceled (p. 116).

A task is considered open from the time that it is scheduled until it is closed. Therefore a task is reported as open while a worker is processing it. A task is closed after it has been specified in a call to RespondActivityTaskCompleted, RespondActivityTaskCanceled (p. 116), RespondActivityTaskFailed (p. 122), or the task has timed out.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

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

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

result
The result of the activity task. It is a free form string that is implementation specific.

Type: String

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

Required: No

taskToken
The `taskToken` of the ActivityTask (p. 145).

Important
`taskToken` is generated by the service and should be treated as an opaque value. If the task is passed to another process, its `taskToken` must also be passed. This enables it to provide its progress and respond with results.

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. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

RespondActivityTaskCompleted Example

Sample Request

```
         POST / HTTP/1.1
         Host: swf.us-east-1.amazonaws.com
         User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
         Accept: application/json, text/javascript, */*
         Accept-Language: en-us,en;q=0.5
         Accept-Encoding: gzip,deflate
         Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
         Keep-Alive: 115
         Connection: keep-alive
         Content-Type: application/x-amz-json-1.0
         X-Requested-With: XMLHttpRequest
         X-Amz-Date: Mon, 16 Jan 2012 03:56:15 GMT
         X-Amz-Target: SimpleWorkflowService.RespondActivityTaskCompleted
         Content-Encoding: amz-1.0
         X-Amzn-Authorization: AWS3
AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
```

```
Amz-Date;X-Amz-Target;Content-Encoding,Signature=M+ygHbMHSHJiVrsAQTW/
BfkgHoNzLPnPD+dVywJiPXE=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 638
          Pragma: no-cache
          Cache-Control: no-cache

          {"taskToken": "AAAAKgAAAAEAAAAAAAAAAX9p3pcp3857oLXFUuwdxRU5/
zmn9f40XaMF7VohAH4jOtjXpZu7GdOzEi0b3cWYHbG5b5dpdcTXHUDPVMHXiUxCgr+Nc/
wUW9016W4YxJGs/jmxzPln8qLftU+SW135Q0UuKp5XRGoRTJp3tbHn2pY1vC8gDB/
K69J6q668U1pd4Cd9o43//lGgOIjN0/Ihg+DO
+83HNcOuVEQMM28kNMXf7yePh31M4dMKJwQaQZG13huJXDwzJOoZQz
+XFuqFly+lPnCE4XvsnhfAvTsh50EtNDEtQzPCFJoUeld9g64V/
FS/39PHL3M93PBUuroPyHuCwHsNC6fZ7gM/XOKmW4kKnXPoQweEUkFV/
J6E6+M1reBO7nJADTrLSnajg6MY/viWsEYmMw/DS5FlquFaDIhFkLhWUWN
+V2KqiKS23GYwpzgZ7fgcWHQF2NLEY3zrjam4LW/
UW5VLCyM3FpVD3erCTi9IvUgslPzyVGuWNAoTmgJEWvimgwiHxJMxxc9JBDR390iMmImxVl3eeSDUWx8reQltiviadP
          "result": "customer credit card verified"}
```

Sample Response

```
          HTTP/1.1 200 OK
          Content-Length: 0
          Content-Type: application/json
          x-amzn-RequestId: 0976f0f4-3ff6-11e1-9a27-0760db01a4a8
```

RespondActivityTaskFailed

Used by workers to tell the service that the ActivityTask (p. 145) identified by the `taskToken` has failed with `reason` (if specified). The `reason` and `details` appear in the `ActivityTaskFailed` event added to the workflow history.

A task is considered open from the time that it is scheduled until it is closed. Therefore a task is reported as open while a worker is processing it. A task is closed after it has been specified in a call to RespondActivityTaskCompleted (p. 119), RespondActivityTaskCanceled (p. 116), RespondActivityTaskFailed, or the task has timed out.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "details": "string",
    "reason": "string",
    "taskToken": "string"
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

details
Optional. Detailed information about the failure.

Type: String

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

Required: No

reason
Description of the error that may assist in diagnostics.

Type: String

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

Required: No

taskToken
The `taskToken` of the ActivityTask (p. 145).

> **Important**
> `taskToken` is generated by the service and should be treated as an opaque value. If the task is passed to another process, its `taskToken` must also be passed. This enables it to provide its progress and respond with results.

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. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

RespondActivityTaskFailed Example

Sample Request

```
         POST / HTTP/1.1
         Host: swf.us-east-1.amazonaws.com
         User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
         Accept: application/json, text/javascript, */*
         Accept-Language: en-us,en;q=0.5
         Accept-Encoding: gzip,deflate
         Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
         Keep-Alive: 115
         Connection: keep-alive
         Content-Type: application/x-amz-json-1.0
         X-Requested-With: XMLHttpRequest
         X-Amz-Date: Mon, 16 Jan 2012 04:17:24 GMT
         X-Amz-Target: SimpleWorkflowService.RespondActivityTaskFailed
```

```
          Content-Encoding: amz-1.0
          X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-Encoding,Signature=JC+/uds/
mFEq8qca2WFs5kfp2eAEONc70IqFgHErhpc=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 682
          Pragma: no-cache
          Cache-Control: no-cache

          {"taskToken":
 "AAAAKgAAAAEAAAAAAAAAAdG7j7YFEl9pfKdXRL3Cy3Q3c1Z8QwdOSX53bKiUV6MMGXvf3Lrinmmzj1HFFl5lcwHzE
lMt/RFJPumHXAnUqlYjZLODhrBqsIzDQFKcbCFMq7y4jm0EFzsV2Suv8iu/obcZ/
idU8qjd9uG/82zumG2xz1Z4IbOFwOTlpj2++5YVH4ftyycIcjlDw58r0O1vAo4PEondkqjyn
+YxBxyZLy1z1fvMi0zeO8Lh16w96y6v+KdVc/
ECoez1Og8sROaXG0l8ptW5YR733LIuUBK4sxWa12egF5i4e8AV8JloojOaq0jy4iFsIscRazOSQErjo15Guz89BK2XW
+X7nJjH0wwW55XGCs0jezvsEC8M6D9Ob7CgWr6RrnK3g1AKemcby2XqgQRN52DMIYxzV
+lMS/QBYKOqtkLoMY0NKeuRVwm9f1zCY00v6kxqK9m2zFvaxqlJ5/
JVCWMNWEWJfQZVtC3GzMWmzeCt7Auq8A5/Caq/DKyOhTIhY/
Go00iiDA6ecP8taTYiVzb8VR5xEiQ1uCxnECkwW",
          "reason": "could not verify customer credit card",
          "details": "card number invalid"}
```

Sample Response

```
          HTTP/1.1 200 OK
          Content-Length: 0
          Content-Type: application/json
          x-amzn-RequestId: feadaedd-3ff8-11e1-9e8f-57bb03e21482
```

RespondDecisionTaskCompleted

Used by deciders to tell the service that the DecisionTask (p. 172) identified by the `taskToken` has successfully completed. The `decisions` argument specifies the list of decisions made while processing the task.

A `DecisionTaskCompleted` event is added to the workflow history. The `executionContext` specified is attached to the event in the workflow execution history.

Access Control

If an IAM policy grants permission to use `RespondDecisionTaskCompleted`, it can express permissions for the list of decisions in the `decisions` parameter. Each of the decisions has one or more parameters, much like a regular API call. To allow for policies to be as readable as possible, you can express permissions on decisions as if they were actual API calls, including applying conditions to some parameters. For more information, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "decisions": [
        {
            "cancelTimerDecisionAttributes": {
                "timerId": "string"
            },
            "cancelWorkflowExecutionDecisionAttributes": {
                "details": "string"
            },
            "completeWorkflowExecutionDecisionAttributes": {
                "result": "string"
            },
            "continueAsNewWorkflowExecutionDecisionAttributes": {
                "childPolicy": "string",
                "executionStartToCloseTimeout": "string",
                "input": "string",
                "lambdaRole": "string",
                "tagList": [
                    "string"
                ],
                "taskList": {
                    "name": "string"
                },
                "taskPriority": "string",
                "taskStartToCloseTimeout": "string",
                "workflowTypeVersion": "string"
            },
            "decisionType": "string",
            "failWorkflowExecutionDecisionAttributes": {
                "details": "string",
                "reason": "string"
            },
            "recordMarkerDecisionAttributes": {
                "details": "string",
                "markerName": "string"
            },
            "requestCancelActivityTaskDecisionAttributes": {
```

```
        "activityId": "string"
    },
    "requestCancelExternalWorkflowExecutionDecisionAttributes": {
        "control": "string",
        "runId": "string",
        "workflowId": "string"
    },
    "scheduleActivityTaskDecisionAttributes": {
        "activityId": "string",
        "activityType": {
            "name": "string",
            "version": "string"
        },
        "control": "string",
        "heartbeatTimeout": "string",
        "input": "string",
        "scheduleToCloseTimeout": "string",
        "scheduleToStartTimeout": "string",
        "startToCloseTimeout": "string",
        "taskList": {
            "name": "string"
        },
        "taskPriority": "string"
    },
    "scheduleLambdaFunctionDecisionAttributes": {
        "id": "string",
        "input": "string",
        "name": "string",
        "startToCloseTimeout": "string"
    },
    "signalExternalWorkflowExecutionDecisionAttributes": {
        "control": "string",
        "input": "string",
        "runId": "string",
        "signalName": "string",
        "workflowId": "string"
    },
    "startChildWorkflowExecutionDecisionAttributes": {
        "childPolicy": "string",
        "control": "string",
        "executionStartToCloseTimeout": "string",
        "input": "string",
        "lambdaRole": "string",
        "tagList": [
            "string"
        ],
        "taskList": {
            "name": "string"
        },
        "taskPriority": "string",
        "taskStartToCloseTimeout": "string",
        "workflowId": "string",
        "workflowType": {
            "name": "string",
            "version": "string"
        }
    },
    "startTimerDecisionAttributes": {
        "control": "string",
```

```
                "startToFireTimeout": "string",
                "timerId": "string"
            }
        }
    ],
    "executionContext": "string",
    "taskToken": "string"
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

decisions
The list of decisions (possibly empty) made by the decider while processing this decision task. See the docs for the Decision (p. 168) structure for details.

Type: array of Decision (p. 168) objects

Required: No

executionContext
User defined context to add to workflow execution.

Type: String

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

Required: No

taskToken
The `taskToken` from the DecisionTask (p. 172).

> **Important**
> `taskToken` is generated by the service and should be treated as an opaque value. If the task is passed to another process, its `taskToken` must also be passed. This enables it to provide its progress and respond with results.

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. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault

Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

RespondDecisionTaskCompleted Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Sun, 15 Jan 2012 23:31:06 GMT
X-Amz-Target: SimpleWorkflowService.RespondDecisionTaskCompleted
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-Encoding,Signature=FL4ouCb8n6j5egcKOXoa
+5Vctc8WmA91B2ekKnks2J8=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 1184
Pragma: no-cache
Cache-Control: no-cache

{
  "executionContext": "Black Friday",
  "decisions": [
    {
      "scheduleActivityTaskDecisionAttributes": {
        "control": "digital music",
        "taskList": {
          "name": "specialTaskList"
        },
        "scheduleToCloseTimeout": "900",
        "activityType": {
          "version": "1.0",
          "name": "activityVerify"
        },
        "heartbeatTimeout": "120",
        "activityId": "verification-27",
        "scheduleToStartTimeout": "300",
```

```
        "startToCloseTimeout": "600",
        "taskPriority": "100",
        "input": "5634-0056-4367-0923,12/12,437"
      },
      "decisionType": "ScheduleActivityTask"
    }
  ],
  "taskToken": "AAAAKgAAAAEAAAAAAAAAAQLPoqDSLcx4ksNCEQZCyEBqpKhE
+FgFSOvHd9zlCROacKYHh640MkANx2y9YM3CQnec0kEb1oRvB6DxKesTY3U/
UQhvBqPY7E4BYE6hkDj/NmSbt9EwEJ/a+WD+oc2sDNfeVz2x+6wjb5vQdFKwBoQ6MDWLFbAhcgK
+ymoRjoBHrPsrNLX3IA6sQaPmQRZQs3FRZonoVzP6uXMCZPnCZQULFjU1kTM8VHzH7ywqWKVmmdvnqyREOCT9VqmYbh
+scAvuNy17MCX9M9AJ7V/5qrLCeYdWA4FBQgY4Ew6IC+dge/UZdVMmpW/
uB7nvSk6owQIhapPh5pEUwwY/
yNnoVLTiPOz9KzZlANyw7uDchBRLvUJORFtpP9ZQIouNP8QOvFWm7Idc50ahwGEdTCiG
+KDXV8kAzx7wKHs7l1TXYkC15x0h3XPH0MdLeEjipv98EpZaMIVtgGSdRjluOjNWEL2zowZByitleI5bdvxZdgalAXX
rfLGReAJKdh2n0dmTMI+tK7uuxIWX6F4ocqSI1Xb2x5zZ"
}
```

Sample Response

```
        HTTP/1.1 200 OK
        Content-Length: 0
        Content-Type: application/json
        x-amzn-RequestId: feef79b5-3fd0-11e1-9a27-0760db01a4a8
```

SignalWorkflowExecution

Records a `WorkflowExecutionSignaled` event in the workflow execution history and creates a decision task for the workflow execution identified by the given domain, workflowId and runId. The event is recorded with the specified user defined signalName and input (if provided).

Note
If a runId is not specified, then the `WorkflowExecutionSignaled` event is recorded in the history of the current open workflow with the matching workflowId in the domain.

Note
If the specified workflow execution is not open, this method fails with `UnknownResource`.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "domain": "string",
    "input": "string",
    "runId": "string",
    "signalName": "string",
    "workflowId": "string"
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

domain
The name of the domain containing the workflow execution to signal.

Type: String

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

Required: Yes

input
Data to attach to the `WorkflowExecutionSignaled` event in the target workflow execution's history.

Type: String

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

Required: No

runId

The runId of the workflow execution to signal.

Type: String

Length constraints: Minimum length of 0. Maximum length of 64.

Required: No

signalName

The name of the signal. This name must be meaningful to the target workflow.

Type: String

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

Required: Yes

workflowId

The workflowId of the workflow execution to signal.

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. 239).

OperationNotPermittedFault

Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault

Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

SignalWorkflowExecution Example

Sample Request

```
          POST / HTTP/1.1
          Host: swf.us-east-1.amazonaws.com
          User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US;
 rv:1.9.2.25) Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
          Accept: application/json, text/javascript, */*
          Accept-Language: en-us,en;q=0.5
          Accept-Encoding: gzip,deflate
          Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
          Keep-Alive: 115
          Connection: keep-alive
          Content-Type: application/x-amz-json-1.0
          X-Requested-With: XMLHttpRequest
          X-Amz-Date: Sun, 15 Jan 2012 00:06:18 GMT
          X-Amz-Target: SimpleWorkflowService.SignalWorkflowExecution
          Content-Encoding: amz-1.0
          X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-Encoding,Signature=lQpBZezK7JNQrXeWuJE
+l7S0ZwjOEONCeRyImoyfX+E=
          Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
          Content-Length: 162
          Pragma: no-cache
          Cache-Control: no-cache

          {"domain": "867530901",
          "workflowId": "20110927-T-1",
          "runId": "f5ebbac6-941c-4342-ad69-dfd2f8be6689",
          "signalName": "CancelOrder",
          "input": "order 3553"}
```

Sample Response

```
          HTTP/1.1 200 OK
          Content-Length: 0
          Content-Type: application/json
          x-amzn-RequestId: bf78ae15-3f0c-11e1-9914-a356b6ea8bdf
```

StartWorkflowExecution

Starts an execution of the workflow type in the specified domain using the provided `workflowId` and input data.

This action returns the newly started workflow execution.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `tagList.member.0`: The key is `swf:tagList.member.0`.
  - `tagList.member.1`: The key is `swf:tagList.member.1`.
  - `tagList.member.2`: The key is `swf:tagList.member.2`.
  - `tagList.member.3`: The key is `swf:tagList.member.3`.
  - `tagList.member.4`: The key is `swf:tagList.member.4`.
  - `taskList`: String constraint. The key is `swf:taskList.name`.
  - `workflowType.name`: String constraint. The key is `swf:workflowType.name`.
  - `workflowType.version`: String constraint. The key is `swf:workflowType.version`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "childPolicy": "string",
    "domain": "string",
    "executionStartToCloseTimeout": "string",
    "input": "string",
    "lambdaRole": "string",
    "tagList": [
        "string"
    ],
    "taskList": {
        "name": "string"
    },
    "taskPriority": "string",
    "taskStartToCloseTimeout": "string",
    "workflowId": "string",
    "workflowType": {
        "name": "string",
        "version": "string"
    }
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

childPolicy
If set, specifies the policy to use for the child workflow executions of this workflow execution if it is terminated, by calling the TerminateWorkflowExecution (p. 139) action explicitly or due to an expired timeout. This policy overrides the default child policy specified when registering the workflow type using RegisterWorkflowType (p. 108).

The supported child policies are:

- **TERMINATE:** the child executions will be terminated.
- **REQUEST_CANCEL:** a request to cancel will be attempted for each child execution by recording a `WorkflowExecutionCancelRequested` event in its history. It is up to the decider to take appropriate actions when it receives an execution history with this event.
- **ABANDON:** no action will be taken. The child executions will continue to run.

> **Note**
> A child policy for this workflow execution must be specified either as a default for the workflow type or through this parameter. If neither this parameter is set nor a default child policy was specified at registration time then a fault will be returned.

Type: String

Valid Values: `TERMINATE | REQUEST_CANCEL | ABANDON`

Required: No

domain
The name of the domain in which the workflow execution is created.

Type: String

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

Required: Yes

executionStartToCloseTimeout
The total duration for this workflow execution. This overrides the defaultExecutionStartToCloseTimeout specified when registering the workflow type.

The duration is specified in seconds; an integer greater than or equal to 0. Exceeding this limit will cause the workflow execution to time out. Unlike some of the other timeout parameters in Amazon SWF, you cannot specify a value of "NONE" for this timeout; there is a one-year max limit on the time that a workflow execution can run.

> **Note**
> An execution start-to-close timeout must be specified either through this parameter or as a default when the workflow type is registered. If neither this parameter nor a default execution start-to-close timeout is specified, a fault is returned.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

input

The input for the workflow execution. This is a free form string which should be meaningful to the workflow you are starting. This `input` is made available to the new workflow execution in the `WorkflowExecutionStarted` history event.

Type: String

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

Required: No

lambdaRole

Type: String

Length constraints: Minimum length of 1. Maximum length of 1224.

Required: No

tagList

The list of tags to associate with the workflow execution. You can specify a maximum of 5 tags. You can list workflow executions with a specific tag by calling ListOpenWorkflowExecutions (p. 70) or ListClosedWorkflowExecutions (p. 60) and specifying a TagFilter (p. 214).

Type: array of Strings

Length constraints: Minimum of 0 item(s) in the list. Maximum of 5 item(s) in the list.

Required: No

taskList

The task list to use for the decision tasks generated for this workflow execution. This overrides the `defaultTaskList` specified when registering the workflow type.

> **Note**
> A task list for this workflow execution must be specified either as a default for the workflow type or through this parameter. If neither this parameter is set nor a default task list was specified at registration time then a fault will be returned.

The specified string must not start or end with whitespace. It must not contain a `:` (colon), `/` (slash), `|` (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: TaskList (p. 215) object

Required: No

taskPriority

The task priority to use for this workflow execution. This will override any default priority that was assigned when the workflow type was registered. If not set, then the default task priority for the workflow type will be used. Valid values are integers that range from Java's `Integer.MIN_VALUE` (-2147483648) to `Integer.MAX_VALUE` (2147483647). Higher numbers indicate higher priority.

For more information about setting task priority, see Setting Task Priority in the *Amazon Simple Workflow Developer Guide*.

Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

taskStartToCloseTimeout

Specifies the maximum duration of decision tasks for this workflow execution. This parameter overrides the `defaultTaskStartToCloseTimout` specified when registering the workflow type using RegisterWorkflowType (p. 108).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Note
A task start-to-close timeout for this workflow execution must be specified either as a default for the workflow type or through this parameter. If neither this parameter is set nor a default task start-to-close timeout was specified at registration time then a fault will be returned.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

workflowId
The user defined identifier associated with the workflow execution. You can use this to associate a custom identifier with the workflow execution. You may specify the same identifier if a workflow execution is logically a *restart* of a previous execution. You cannot have two open workflow executions with the same `workflowId` at the same time.

The specified string must not start or end with whitespace. It must not contain a `:` (colon), `/` (slash), `|` (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: String

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

Required: Yes

workflowType
The type of the workflow to start.

Type: WorkflowType (p. 231) object

Required: Yes

Response Syntax

```
{
    "runId": "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.

runId
The `runId` of a workflow execution. This Id is generated by the service and can be used to uniquely identify the workflow execution within a domain.

Type: String

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

Errors

For information about the errors that are common to all actions, see Common Errors (p. 239).

DefaultUndefinedFault
HTTP Status Code: 400

LimitExceededFault
Returned by any operation if a system imposed limitation has been reached. To address this fault you should either clean up unused resources or increase the limit by contacting AWS.

HTTP Status Code: 400

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

TypeDeprecatedFault
Returned when the specified activity or workflow type was already deprecated.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

WorkflowExecutionAlreadyStartedFault
Returned by StartWorkflowExecution (p. 133) when an open execution with the same workflowId is already running in the specified domain.

HTTP Status Code: 400

Examples

StartWorkflowExecution Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Sat, 14 Jan 2012 22:45:13 GMT
X-Amz-Target: SimpleWorkflowService.StartWorkflowExecution
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
```

```
Amz-Date;X-Amz-Target;Content-Encoding,Signature=aYxuqLX+TO91kPVg+jh
+aA8PWxQazQRN2+SZUGdOgU0=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 417
Pragma: no-cache
Cache-Control: no-cache

{
  "domain": "867530901",
  "taskList": {
    "name": "specialTaskList"
  },
  "taskPriority": "100",
  "taskStartToCloseTimeout": "600",
  "workflowId": "20110927-T-1",
  "childPolicy": "TERMINATE",
  "executionStartToCloseTimeout": "1800",
  "input": "arbitrary-string-that-is-meaningful-to-the-workflow",
  "workflowType": {
    "version": "1.0",
    "name": "customerOrderWorkflow"
  },
  "tagList": [
    "music purchase",
    "digital",
    "ricoh-the-dog"
  ]
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 48
Content-Type: application/json
x-amzn-RequestId: 6c25f6e6-3f01-11e1-9a27-0760db01a4a8

{
  "runId": "1e536162-f1ea-48b0-85f3-aade88eef2f7"
}
```

TerminateWorkflowExecution

Records a `WorkflowExecutionTerminated` event and forces closure of the workflow execution identified by the given domain, runId, and workflowId. The child policy, registered with the workflow type or specified when starting this execution, is applied to any open child workflow executions of this workflow execution.

> **Important**
> If the identified workflow execution was in progress, it is terminated immediately.

> **Note**
> If a runId is not specified, then the `WorkflowExecutionTerminated` event is recorded in the history of the current open workflow with the matching workflowId in the domain.

> **Note**
> You should consider using RequestCancelWorkflowExecution (p. 113) action instead because it allows the workflow to gracefully close while TerminateWorkflowExecution (p. 139) does not.

Access Control

You can use IAM policies to control this action's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Request Syntax

```
{
    "childPolicy": "string",
    "details": "string",
    "domain": "string",
    "reason": "string",
    "runId": "string",
    "workflowId": "string"
}
```

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 237).

The request requires the following data in JSON format.

childPolicy
If set, specifies the policy to use for the child workflow executions of the workflow execution being terminated. This policy overrides the child policy specified for the workflow execution at registration time or when starting the execution.

The supported child policies are:

- **TERMINATE:** the child executions will be terminated.
- **REQUEST_CANCEL:** a request to cancel will be attempted for each child execution by recording a `WorkflowExecutionCancelRequested` event in its history. It is up to the decider to take appropriate actions when it receives an execution history with this event.
- **ABANDON:** no action will be taken. The child executions will continue to run.

Note
A child policy for this workflow execution must be specified either as a default for the workflow type or through this parameter. If neither this parameter is set nor a default child policy was specified at registration time then a fault will be returned.

Type: String

Valid Values: `TERMINATE | REQUEST_CANCEL | ABANDON`

Required: No

details

Optional. Details for terminating the workflow execution.

Type: String

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

Required: No

domain

The domain of the workflow execution to terminate.

Type: String

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

Required: Yes

reason

Optional. A descriptive reason for terminating the workflow execution.

Type: String

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

Required: No

runId

The runId of the workflow execution to terminate.

Type: String

Length constraints: Minimum length of 0. Maximum length of 64.

Required: No

workflowId

The workflowId of the workflow execution to terminate.

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. 239).

OperationNotPermittedFault
Returned when the caller does not have sufficient permissions to invoke the action.

HTTP Status Code: 400

UnknownResourceFault
Returned when the named resource cannot be found with in the scope of this operation (region or domain). This could happen if the named resource was never created or is no longer available for this operation.

HTTP Status Code: 400

Examples

TerminateWorkflowExecution Example

Sample Request

```
POST / HTTP/1.1
Host: swf.us-east-1.amazonaws.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.2.25)
 Gecko/20111212 Firefox/3.6.25 ( .NET CLR 3.5.30729; .NET4.0E)
Accept: application/json, text/javascript, */*
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 115
Connection: keep-alive
Content-Type: application/x-amz-json-1.0
X-Requested-With: XMLHttpRequest
X-Amz-Date: Mon, 16 Jan 2012 04:56:34 GMT
X-Amz-Target: SimpleWorkflowService.TerminateWorkflowExecution
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3
 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=HmacSHA256,SignedHeaders=Host;X-
Amz-Date;X-Amz-Target;Content-
Encoding,Signature=JHMRAjN6JGPawEuhiANHfiCil9KOGfDF/cuXYmuu9S4=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 218
Pragma: no-cache
Cache-Control: no-cache

{"domain": "867530901",
 "workflowId": "20110927-T-1",
 "runId": "94861fda-a714-4126-95d7-55ba847da8ab",
 "reason": "transaction canceled",
```

```
 "details": "customer credit card declined",
 "childPolicy": "TERMINATE"}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 0
Content-Type: application/json
x-amzn-RequestId: 76d68a47-3ffe-11e1-b118-3bfa5e8e7fc3
```

Data Types

The Amazon Simple Workflow Service API contains several data types that various actions use. This section describes each data type in detail.

> **Note**
> The order of each element in the response is not guaranteed. Applications should not assume a particular order.

The following data types are supported:

ActivityTask

Description

Unit of work sent to an activity worker.

Contents

activityId
The unique ID of the task.

Type: String

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

Required: Yes

activityType
The type of this activity task.

Type: ActivityType (p. 152) object

Required: Yes

input
The inputs provided when the activity task was scheduled. The form of the input is user defined and should be meaningful to the activity implementation.

Type: String

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

Required: No

startedEventId
The id of the `ActivityTaskStarted` event recorded in the history.

Type: Long

Required: Yes

taskToken
The opaque string used as a handle on the task. This token is used by workers to communicate progress and response information back to the system about the task.

Type: String

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

Required: Yes

workflowExecution
The workflow execution that started this activity task.

Type: WorkflowExecution (p. 217) object

Required: Yes

ActivityTaskCanceledEventAttributes

Description

Provides details of the `ActivityTaskCanceled` event.

Contents

details
Details of the cancellation (if any).

Type: String

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

Required: No

latestCancelRequestedEventId
If set, contains the Id of the last `ActivityTaskCancelRequested` event recorded for this activity task. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: No

scheduledEventId
The id of the `ActivityTaskScheduled` event that was recorded when this activity task was scheduled. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

startedEventId
The Id of the `ActivityTaskStarted` event recorded when this activity task was started. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

ActivityTaskCancelRequestedEventAttributes

Description

Provides details of the `ActivityTaskCancelRequested` event.

Contents

activityId
The unique ID of the task.

Type: String

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

Required: Yes

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `RequestCancelActivityTask` decision for this cancellation request. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

ActivityTaskCompletedEventAttributes

Description

Provides details of the `ActivityTaskCompleted` event.

Contents

result
The results of the activity task (if any).

Type: String

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

Required: No

scheduledEventId
The id of the `ActivityTaskScheduled` event that was recorded when this activity task was scheduled. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

startedEventId
The Id of the `ActivityTaskStarted` event recorded when this activity task was started. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

ActivityTaskFailedEventAttributes

Description

Provides details of the `ActivityTaskFailed` event.

Contents

details
The details of the failure (if any).

Type: String

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

Required: No

reason
The reason provided for the failure (if any).

Type: String

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

Required: No

scheduledEventId
The id of the `ActivityTaskScheduled` event that was recorded when this activity task was scheduled. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

startedEventId
The Id of the `ActivityTaskStarted` event recorded when this activity task was started. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

ActivityTaskScheduledEventAttributes

Description

Provides details of the `ActivityTaskScheduled` event.

Contents

activityId
The unique id of the activity task.

Type: String

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

Required: Yes

activityType
The type of the activity task.

Type: ActivityType (p. 152) object

Required: Yes

control
Optional. Data attached to the event that can be used by the decider in subsequent workflow tasks. This data is not sent to the activity.

Type: String

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

Required: No

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision that resulted in the scheduling of this activity task. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

heartbeatTimeout
The maximum time before which the worker processing this task must report progress by calling RecordActivityTaskHeartbeat (p. 96). If the timeout is exceeded, the activity task is automatically

timed out. If the worker subsequently attempts to record a heartbeat or return a result, it will be ignored.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

input
The input provided to the activity task.

Type: String

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

Required: No

scheduleToCloseTimeout
The maximum amount of time for this activity task.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

scheduleToStartTimeout
The maximum amount of time the activity task can wait to be assigned to a worker.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

startToCloseTimeout
The maximum amount of time a worker may take to process the activity task.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

taskList
The task list in which the activity task has been scheduled.

Type: TaskList (p. 215) object

Required: Yes

taskPriority
Optional. The priority to assign to the scheduled activity task. If set, this will override any default priority value that was assigned when the activity type was registered.

Valid values are integers that range from Java's `Integer.MIN_VALUE` (-2147483648) to `Integer.MAX_VALUE` (2147483647). Higher numbers indicate higher priority.

For more information about setting task priority, see Setting Task Priority in the *Amazon Simple Workflow Developer Guide*.

Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

ActivityTaskStartedEventAttributes

Description

Provides details of the `ActivityTaskStarted` event.

Contents

identity
Identity of the worker that was assigned this task. This aids diagnostics when problems arise. The form of this identity is user defined.

Type: String

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

Required: No

scheduledEventId
The id of the `ActivityTaskScheduled` event that was recorded when this activity task was scheduled. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

ActivityTaskStatus

Description

Status information about an activity task.

Contents

cancelRequested
Set to `true` if cancellation of the task is requested.

Type: Boolean

Required: Yes

ActivityTaskTimedOutEventAttributes

Description

Provides details of the `ActivityTaskTimedOut` event.

Contents

details
Contains the content of the `details` parameter for the last call made by the activity to `RecordActivityTaskHeartbeat`.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

scheduledEventId
The id of the `ActivityTaskScheduled` event that was recorded when this activity task was scheduled. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

startedEventId
The Id of the `ActivityTaskStarted` event recorded when this activity task was started. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

timeoutType
The type of the timeout that caused this event.

Type: String

Valid Values: `START_TO_CLOSE | SCHEDULE_TO_START | SCHEDULE_TO_CLOSE | HEARTBEAT`

Required: Yes

ActivityType

Description

Represents an activity type.

Contents

name
The name of this activity.

> **Note**
> The combination of activity type name and version must be unique within a domain.

Type: String

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

Required: Yes

version
The version of this activity.

> **Note**
> The combination of activity type name and version must be unique with in a domain.

Type: String

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

Required: Yes

ActivityTypeConfiguration

Description

Configuration settings registered with the activity type.

Contents

defaultTaskHeartbeatTimeout
Optional. The default maximum time, in seconds, before which a worker processing a task must report progress by calling RecordActivityTaskHeartbeat (p. 96).

You can specify this value only when *registering* an activity type. The registered default value can be overridden when you schedule a task through the `ScheduleActivityTask` Decision (p. 168). If the activity worker subsequently attempts to record a heartbeat or returns a result, the activity worker receives an `UnknownResource` fault. In this case, Amazon SWF no longer considers the activity task to be valid; the activity worker should clean up the activity task.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

defaultTaskList
Optional. The default task list specified for this activity type at registration. This default is used if a task list is not provided when a task is scheduled through the `ScheduleActivityTask` Decision (p. 168). You can override the default registered task list when scheduling a task through the `ScheduleActivityTask` Decision (p. 168).

Type: TaskList (p. 215) object

Required: No

defaultTaskPriority
Optional. The default task priority for tasks of this activity type, specified at registration. If not set, then "0" will be used as the default priority. This default can be overridden when scheduling an activity task.

Valid values are integers that range from Java's `Integer.MIN_VALUE` (-2147483648) to `Integer.MAX_VALUE` (2147483647). Higher numbers indicate higher priority.

For more information about setting task priority, see Setting Task Priority in the *Amazon Simple Workflow Developer Guide*.

Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

defaultTaskScheduleToCloseTimeout
Optional. The default maximum duration, specified when registering the activity type, for tasks of this activity type. You can override this default when scheduling a task through the `ScheduleActivityTask` Decision (p. 168).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

defaultTaskScheduleToStartTimeout
Optional. The default maximum duration, specified when registering the activity type, that a task of an activity type can wait before being assigned to a worker. You can override this default when scheduling a task through the `ScheduleActivityTask` Decision (p. 168).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

defaultTaskStartToCloseTimeout
Optional. The default maximum duration for tasks of an activity type specified when registering the activity type. You can override this default when scheduling a task through the `ScheduleActivityTask` Decision (p. 168).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

ActivityTypeDetail

Description

Detailed information about an activity type.

Contents

configuration
The configuration settings registered with the activity type.

Type: ActivityTypeConfiguration (p. 153) object

Required: Yes

typeInfo
General information about the activity type.

The status of activity type (returned in the ActivityTypeInfo structure) can be one of the following.

- **REGISTERED**: The type is registered and available. Workers supporting this type should be running.
- **DEPRECATED**: The type was deprecated using DeprecateActivityType (p. 18), but is still in use. You should keep workers supporting this type running. You cannot create new tasks of this type.

Type: ActivityTypeInfo (p. 155) object

Required: Yes

ActivityTypeInfo

Description

Detailed information about an activity type.

Contents

activityType
The ActivityType (p. 152) type structure representing the activity type.

Type: ActivityType (p. 152) object

Required: Yes

creationDate
The date and time this activity type was created through RegisterActivityType (p. 100).

Type: DateTime

Required: Yes

deprecationDate
If DEPRECATED, the date and time DeprecateActivityType (p. 18) was called.

Type: DateTime

Required: No

description
The description of the activity type provided in RegisterActivityType (p. 100).

Type: String

Length constraints: Minimum length of 0. Maximum length of 1024.

Required: No

status
The current status of the activity type.

Type: String

Valid Values: `REGISTERED | DEPRECATED`

Required: Yes

ActivityTypeInfos

Description

Contains a paginated list of activity type information structures.

Contents

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

typeInfos
List of activity type information.

Type: array of ActivityTypeInfo (p. 155) objects

Required: Yes

CancelTimerDecisionAttributes

Description

Provides details of the `CancelTimer` decision.

Access Control

You can use IAM policies to control this decision's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Contents

timerId
Required. The unique Id of the timer to cancel.

Type: String

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

Required: Yes

CancelTimerFailedEventAttributes

Description

Provides details of the `CancelTimerFailed` event.

Contents

cause
The cause of the failure. This information is generated by the system and can be useful for diagnostic purposes.

Note
If **cause** is set to OPERATION_NOT_PERMITTED, the decision failed because it lacked sufficient permissions. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Type: String

Valid Values: `TIMER_ID_UNKNOWN | OPERATION_NOT_PERMITTED`

Required: Yes

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `CancelTimer` decision to cancel this timer. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

timerId
The timerId provided in the `CancelTimer` decision that failed.

Type: String

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

Required: Yes

CancelWorkflowExecutionDecisionAttributes

Description

Provides details of the `CancelWorkflowExecution` decision.

Access Control

You can use IAM policies to control this decision's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Contents

details
Optional. details of the cancellation.

Type: String

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

Required: No

CancelWorkflowExecutionFailedEventAttributes

Description

Provides details of the `CancelWorkflowExecutionFailed` event.

Contents

cause
The cause of the failure. This information is generated by the system and can be useful for diagnostic purposes.

Note
If **cause** is set to OPERATION_NOT_PERMITTED, the decision failed because it lacked sufficient permissions. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Type: String

Valid Values: `UNHANDLED_DECISION | OPERATION_NOT_PERMITTED`

Required: Yes

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `CancelWorkflowExecution` decision for this cancellation request. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

ChildWorkflowExecutionCanceledEventAttributes

Description

Provide details of the `ChildWorkflowExecutionCanceled` event.

Contents

details
Details of the cancellation (if provided).

Type: String

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

Required: No

initiatedEventId
The id of the `StartChildWorkflowExecutionInitiated` event corresponding to the `StartChildWorkflowExecution` Decision (p. 168) to start this child workflow execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

startedEventId
The Id of the `ChildWorkflowExecutionStarted` event recorded when this child workflow execution was started. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

workflowExecution
The child workflow execution that was canceled.

Type: WorkflowExecution (p. 217) object

Required: Yes

workflowType
The type of the child workflow execution.

Type: WorkflowType (p. 231) object

Required: Yes

ChildWorkflowExecutionCompletedEventAttributes

Description

Provides details of the `ChildWorkflowExecutionCompleted` event.

Contents

initiatedEventId
The id of the `StartChildWorkflowExecutionInitiated` event corresponding to the `StartChildWorkflowExecution` Decision (p. 168) to start this child workflow execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

result
The result of the child workflow execution (if any).

Type: String

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

Required: No

startedEventId
The Id of the `ChildWorkflowExecutionStarted` event recorded when this child workflow execution was started. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

workflowExecution
The child workflow execution that was completed.

Type: WorkflowExecution (p. 217) object

Required: Yes

workflowType
The type of the child workflow execution.

Type: WorkflowType (p. 231) object

Required: Yes

ChildWorkflowExecutionFailedEventAttributes

Description

Provides details of the `ChildWorkflowExecutionFailed` event.

Contents

details
The details of the failure (if provided).

Type: String

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

Required: No

initiatedEventId
The id of the `StartChildWorkflowExecutionInitiated` event corresponding to the `StartChildWorkflowExecution` Decision (p. 168) to start this child workflow execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

reason
The reason for the failure (if provided).

Type: String

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

Required: No

startedEventId
The Id of the `ChildWorkflowExecutionStarted` event recorded when this child workflow execution was started. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

workflowExecution
The child workflow execution that failed.

Type: WorkflowExecution (p. 217) object

Required: Yes

workflowType
The type of the child workflow execution.

Type: WorkflowType (p. 231) object

Required: Yes

ChildWorkflowExecutionStartedEventAttributes

Description

Provides details of the `ChildWorkflowExecutionStarted` event.

Contents

initiatedEventId
The id of the `StartChildWorkflowExecutionInitiated` event corresponding to the `StartChildWorkflowExecution` Decision (p. 168) to start this child workflow execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

workflowExecution
The child workflow execution that was started.

Type: WorkflowExecution (p. 217) object

Required: Yes

workflowType
The type of the child workflow execution.

Type: WorkflowType (p. 231) object

Required: Yes

ChildWorkflowExecutionTerminatedEventAttributes

Description

Provides details of the `ChildWorkflowExecutionTerminated` event.

Contents

initiatedEventId
The id of the `StartChildWorkflowExecutionInitiated` event corresponding to the `StartChildWorkflowExecution` Decision (p. 168) to start this child workflow execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

startedEventId
The Id of the `ChildWorkflowExecutionStarted` event recorded when this child workflow execution was started. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

workflowExecution
The child workflow execution that was terminated.

Type: WorkflowExecution (p. 217) object

Required: Yes

workflowType
The type of the child workflow execution.

Type: WorkflowType (p. 231) object

Required: Yes

ChildWorkflowExecutionTimedOutEventAttributes

Description

Provides details of the `ChildWorkflowExecutionTimedOut` event.

Contents

initiatedEventId
The id of the `StartChildWorkflowExecutionInitiated` event corresponding to the `StartChildWorkflowExecution` Decision (p. 168) to start this child workflow execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

startedEventId
The Id of the `ChildWorkflowExecutionStarted` event recorded when this child workflow execution was started. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

timeoutType
The type of the timeout that caused the child workflow execution to time out.

Type: String

Valid Values: `START_TO_CLOSE`

Required: Yes

workflowExecution
The child workflow execution that timed out.

Type: WorkflowExecution (p. 217) object

Required: Yes

workflowType
The type of the child workflow execution.

Type: WorkflowType (p. 231) object

Required: Yes

CloseStatusFilter

Description

Used to filter the closed workflow executions in visibility APIs by their close status.

Contents

status
Required. The close status that must match the close status of an execution for it to meet the criteria of this filter.

Type: String

Valid Values: `COMPLETED | FAILED | CANCELED | TERMINATED | CONTINUED_AS_NEW | TIMED_OUT`

Required: Yes

CompleteWorkflowExecutionDecisionAttributes

Description

Provides details of the `CompleteWorkflowExecution` decision.

Access Control

You can use IAM policies to control this decision's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Contents

result
The result of the workflow execution. The form of the result is implementation defined.

Type: String

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

Required: No

CompleteWorkflowExecutionFailedEventAttributes

Description

Provides details of the `CompleteWorkflowExecutionFailed` event.

Contents

cause
The cause of the failure. This information is generated by the system and can be useful for diagnostic purposes.

Note
If **cause** is set to OPERATION_NOT_PERMITTED, the decision failed because it lacked sufficient permissions. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Type: String

Valid Values: `UNHANDLED_DECISION | OPERATION_NOT_PERMITTED`

Required: Yes

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `CompleteWorkflowExecution` decision to complete this execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

ContinueAsNewWorkflowExecutionDecisionAttributes

Description

Provides details of the `ContinueAsNewWorkflowExecution` decision.

Access Control

You can use IAM policies to control this decision's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `tag`: *Optional.*. A tag used to identify the workflow execution
  - `taskList`: String constraint. The key is `swf:taskList.name`.
  - `workflowType.version`: String constraint. The key is `swf:workflowType.version`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Contents

childPolicy
If set, specifies the policy to use for the child workflow executions of the new execution if it is terminated by calling the TerminateWorkflowExecution (p. 139) action explicitly or due to an expired timeout. This policy overrides the default child policy specified when registering the workflow type using RegisterWorkflowType (p. 108).

The supported child policies are:

- **TERMINATE:** the child executions will be terminated.
- **REQUEST_CANCEL:** a request to cancel will be attempted for each child execution by recording a `WorkflowExecutionCancelRequested` event in its history. It is up to the decider to take appropriate actions when it receives an execution history with this event.
- **ABANDON:** no action will be taken. The child executions will continue to run.

Note
A child policy for this workflow execution must be specified either as a default for the workflow type or through this parameter. If neither this parameter is set nor a default child policy was specified at registration time then a fault will be returned.

Type: String

Valid Values: `TERMINATE` | `REQUEST_CANCEL` | `ABANDON`

Required: No

executionStartToCloseTimeout
If set, specifies the total duration for this workflow execution. This overrides the `defaultExecutionStartToCloseTimeout` specified when registering the workflow type.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

> **Note**
> An execution start-to-close timeout for this workflow execution must be specified either as a default for the workflow type or through this field. If neither this field is set nor a default execution start-to-close timeout was specified at registration time then a fault will be returned.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

input
The input provided to the new workflow execution.

Type: String

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

Required: No

lambdaRole
Type: String

Length constraints: Minimum length of 1. Maximum length of 1224.

Required: No

tagList
The list of tags to associate with the new workflow execution. A maximum of 5 tags can be specified. You can list workflow executions with a specific tag by calling ListOpenWorkflowExecutions (p. 70) or ListClosedWorkflowExecutions (p. 60) and specifying a TagFilter (p. 214).

Type: array of Strings

Length constraints: Minimum of 0 item(s) in the list. Maximum of 5 item(s) in the list.

Required: No

taskList
Represents a task list.

Type: TaskList (p. 215) object

Required: No

taskPriority
Optional. The task priority that, if set, specifies the priority for the decision tasks for this workflow execution. This overrides the defaultTaskPriority specified when registering the workflow type. Valid values are integers that range from Java's `Integer.MIN_VALUE` (-2147483648) to `Integer.MAX_VALUE` (2147483647). Higher numbers indicate higher priority.

For more information about setting task priority, see Setting Task Priority in the *Amazon Simple Workflow Developer Guide*.

Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

taskStartToCloseTimeout
Specifies the maximum duration of decision tasks for the new workflow execution. This parameter overrides the `defaultTaskStartToCloseTimout` specified when registering the workflow type using RegisterWorkflowType (p. 108).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Note
A task start-to-close timeout for the new workflow execution must be specified either as a default for the workflow type or through this parameter. If neither this parameter is set nor a default task start-to-close timeout was specified at registration time then a fault will be returned.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

workflowTypeVersion
Type: String

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

Required: No

ContinueAsNewWorkflowExecutionFailedEventAttributes

Description

Provides details of the `ContinueAsNewWorkflowExecutionFailed` event.

Contents

cause
The cause of the failure. This information is generated by the system and can be useful for diagnostic purposes.

Note
If **cause** is set to OPERATION_NOT_PERMITTED, the decision failed because it lacked sufficient permissions. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Type: String

Valid Values: `UNHANDLED_DECISION | WORKFLOW_TYPE_DEPRECATED | WORKFLOW_TYPE_DOES_NOT_EXIST | DEFAULT_EXECUTION_START_TO_CLOSE_TIMEOUT_UNDEFINED | DEFAULT_TASK_START_TO_CLOSE_TIMEOUT_UNDEFINED | DEFAULT_TASK_LIST_UNDEFINED | DEFAULT_CHILD_POLICY_UNDEFINED | CONTINUE_AS_NEW_WORKFLOW_EXECUTION_RATE_EXCEEDED | OPERATION_NOT_PERMITTED`

Required: Yes

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `ContinueAsNewWorkflowExecution` decision that started this execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

Decision

Description

Specifies a decision made by the decider. A decision can be one of these types:

- **CancelTimer**: cancels a previously started timer and records a `TimerCanceled` event in the history.
- **CancelWorkflowExecution**: closes the workflow execution and records a `WorkflowExecutionCanceled` event in the history.
- **CompleteWorkflowExecution**: closes the workflow execution and records a `WorkflowExecutionCompleted` event in the history .
- **ContinueAsNewWorkflowExecution**: closes the workflow execution and starts a new workflow execution of the same type using the same workflow id and a unique run Id. A `WorkflowExecutionContinuedAsNew` event is recorded in the history.
- **FailWorkflowExecution**: closes the workflow execution and records a `WorkflowExecutionFailed` event in the history.
- **RecordMarker**: records a `MarkerRecorded` event in the history. Markers can be used for adding custom information in the history for instance to let deciders know that they do not need to look at the history beyond the marker event.
- **RequestCancelActivityTask**: attempts to cancel a previously scheduled activity task. If the activity task was scheduled but has not been assigned to a worker, then it will be canceled. If the activity task was already assigned to a worker, then the worker will be informed that cancellation has been requested in the response to RecordActivityTaskHeartbeat (p. 96).
- **RequestCancelExternalWorkflowExecution**: requests that a request be made to cancel the specified external workflow execution and records a `RequestCancelExternalWorkflowExecutionInitiated` event in the history.
- **ScheduleActivityTask**: schedules an activity task.
- **SignalExternalWorkflowExecution**: requests a signal to be delivered to the specified external workflow execution and records a `SignalExternalWorkflowExecutionInitiated` event in the history.
- **StartChildWorkflowExecution**: requests that a child workflow execution be started and records a `StartChildWorkflowExecutionInitiated` event in the history. The child workflow execution is a separate workflow execution with its own history.
- **StartTimer**: starts a timer for this workflow execution and records a `TimerStarted` event in the history. This timer will fire after the specified delay and record a `TimerFired` event.

Access Control

If you grant permission to use `RespondDecisionTaskCompleted`, you can use IAM policies to express permissions for the list of decisions returned by this action as if they were members of the API. Treating decisions as a pseudo API maintains a uniform conceptual model and helps keep policies readable. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Decision Failure

Decisions can fail for several reasons

- The ordering of decisions should follow a logical flow. Some decisions might not make sense in the current context of the workflow execution and will therefore fail.
- A limit on your account was reached.
- The decision lacks sufficient permissions.

One of the following events might be added to the history to indicate an error. The event attribute's **cause** parameter indicates the cause. If **cause** is set to OPERATION_NOT_PERMITTED, the decision failed because it lacked sufficient permissions. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

- **ScheduleActivityTaskFailed**: a ScheduleActivityTask decision failed. This could happen if the activity type specified in the decision is not registered, is in a deprecated state, or the decision is not properly configured.
- **RequestCancelActivityTaskFailed**: a RequestCancelActivityTask decision failed. This could happen if there is no open activity task with the specified activityId.
- **StartTimerFailed**: a StartTimer decision failed. This could happen if there is another open timer with the same timerId.
- **CancelTimerFailed**: a CancelTimer decision failed. This could happen if there is no open timer with the specified timerId.
- **StartChildWorkflowExecutionFailed**: a StartChildWorkflowExecution decision failed. This could happen if the workflow type specified is not registered, is deprecated, or the decision is not properly configured.
- **SignalExternalWorkflowExecutionFailed**: a SignalExternalWorkflowExecution decision failed. This could happen if the `workflowID` specified in the decision was incorrect.
- **RequestCancelExternalWorkflowExecutionFailed**: a RequestCancelExternalWorkflowExecution decision failed. This could happen if the `workflowID` specified in the decision was incorrect.
- **CancelWorkflowExecutionFailed**: a CancelWorkflowExecution decision failed. This could happen if there is an unhandled decision task pending in the workflow execution.
- **CompleteWorkflowExecutionFailed**: a CompleteWorkflowExecution decision failed. This could happen if there is an unhandled decision task pending in the workflow execution.
- **ContinueAsNewWorkflowExecutionFailed**: a ContinueAsNewWorkflowExecution decision failed. This could happen if there is an unhandled decision task pending in the workflow execution or the ContinueAsNewWorkflowExecution decision was not configured correctly.
- **FailWorkflowExecutionFailed**: a FailWorkflowExecution decision failed. This could happen if there is an unhandled decision task pending in the workflow execution.

The preceding error events might occur due to an error in the decider logic, which might put the workflow execution in an unstable state The cause field in the event structure for the error event indicates the cause of the error.

> **Note**
> A workflow execution may be closed by the decider by returning one of the following decisions when completing a decision task: `CompleteWorkflowExecution`, `FailWorkflowExecution`, `CancelWorkflowExecution` and `ContinueAsNewWorkflowExecution`. An UnhandledDecision fault will be returned if a workflow closing decision is specified and a signal or activity event had been added to the history while the decision task was being performed by the decider. Unlike the above situations which are logic issues, this fault is always possible because of race conditions in a distributed system. The right action here is to call RespondDecisionTaskCompleted (p. 125) without any decisions. This would result in another decision task with these new events

included in the history. The decider should handle the new events and may decide to close the workflow execution.

How to Code a Decision

You code a decision by first setting the decision type field to one of the above decision values, and then set the corresponding attributes field shown below:

- ScheduleActivityTaskDecisionAttributes (p. 198)
- RequestCancelActivityTaskDecisionAttributes (p. 194)
- CompleteWorkflowExecutionDecisionAttributes (p. 164)
- FailWorkflowExecutionDecisionAttributes (p. 178)
- CancelWorkflowExecutionDecisionAttributes (p. 157)
- ContinueAsNewWorkflowExecutionDecisionAttributes (p. 165)
- RecordMarkerDecisionAttributes (p. 192)
- StartTimerDecisionAttributes (p. 213)
- CancelTimerDecisionAttributes (p. 156)
- SignalExternalWorkflowExecutionDecisionAttributes (p. 203)
- RequestCancelExternalWorkflowExecutionDecisionAttributes (p. 195)
- StartChildWorkflowExecutionDecisionAttributes (p. 206)

Contents

cancelTimerDecisionAttributes
Provides details of the `CancelTimer` decision. It is not set for other decision types.

Type: CancelTimerDecisionAttributes (p. 156) object

Required: No

cancelWorkflowExecutionDecisionAttributes
Provides details of the `CancelWorkflowExecution` decision. It is not set for other decision types.

Type: CancelWorkflowExecutionDecisionAttributes (p. 157) object

Required: No

completeWorkflowExecutionDecisionAttributes
Provides details of the `CompleteWorkflowExecution` decision. It is not set for other decision types.

Type: CompleteWorkflowExecutionDecisionAttributes (p. 164) object

Required: No

continueAsNewWorkflowExecutionDecisionAttributes
Provides details of the `ContinueAsNewWorkflowExecution` decision. It is not set for other decision types.

Type: ContinueAsNewWorkflowExecutionDecisionAttributes (p. 165) object

Required: No

decisionType
Specifies the type of the decision.

Type: String

Valid Values: `ScheduleActivityTask | RequestCancelActivityTask | CompleteWorkflowExecution | FailWorkflowExecution | CancelWorkflowExecution | ContinueAsNewWorkflowExecution | RecordMarker | StartTimer | CancelTimer | SignalExternalWorkflowExecution | RequestCancelExternalWorkflowExecution | StartChildWorkflowExecution | ScheduleLambdaFunction`

Required: Yes

failWorkflowExecutionDecisionAttributes
Provides details of the `FailWorkflowExecution` decision. It is not set for other decision types.

Type: FailWorkflowExecutionDecisionAttributes (p. 178) object

Required: No

recordMarkerDecisionAttributes
Provides details of the `RecordMarker` decision. It is not set for other decision types.

Type: RecordMarkerDecisionAttributes (p. 192) object

Required: No

requestCancelActivityTaskDecisionAttributes
Provides details of the `RequestCancelActivityTask` decision. It is not set for other decision types.

Type: RequestCancelActivityTaskDecisionAttributes (p. 194) object

Required: No

requestCancelExternalWorkflowExecutionDecisionAttributes
Provides details of the `RequestCancelExternalWorkflowExecution` decision. It is not set for other decision types.

Type: RequestCancelExternalWorkflowExecutionDecisionAttributes (p. 195) object

Required: No

scheduleActivityTaskDecisionAttributes
Provides details of the `ScheduleActivityTask` decision. It is not set for other decision types.

Type: ScheduleActivityTaskDecisionAttributes (p. 198) object

Required: No

scheduleLambdaFunctionDecisionAttributes
Decision attributes specified in `scheduleLambdaFunctionDecisionAttributes` within the list of decisions `decisions` passed to RespondDecisionTaskCompleted (p. 125).

Type: ScheduleLambdaFunctionDecisionAttributes (p. 202) object

Required: No

signalExternalWorkflowExecutionDecisionAttributes
Provides details of the `SignalExternalWorkflowExecution` decision. It is not set for other decision types.

Type: SignalExternalWorkflowExecutionDecisionAttributes (p. 203) object

Required: No

startChildWorkflowExecutionDecisionAttributes
Provides details of the `StartChildWorkflowExecution` decision. It is not set for other decision types.

Type: StartChildWorkflowExecutionDecisionAttributes (p. 206) object

Required: No

startTimerDecisionAttributes
Provides details of the `StartTimer` decision. It is not set for other decision types.

Type: StartTimerDecisionAttributes (p. 213) object

Required: No

DecisionTask

Description

A structure that represents a decision task. Decision tasks are sent to deciders in order for them to make decisions.

Contents

events
A paginated list of history events of the workflow execution. The decider uses this during the processing of the decision task.

Type: array of HistoryEvent (p. 180) objects

Required: Yes

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

previousStartedEventId
The id of the DecisionTaskStarted event of the previous decision task of this workflow execution that was processed by the decider. This can be used to determine the events in the history new since the last decision task received by the decider.

Type: Long

Required: No

startedEventId
The id of the `DecisionTaskStarted` event recorded in the history.

Type: Long

Required: Yes

taskToken
The opaque string used as a handle on the task. This token is used by workers to communicate progress and response information back to the system about the task.

Type: String

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

Required: Yes

workflowExecution
The workflow execution for which this decision task was created.

Type: WorkflowExecution (p. 217) object

Required: Yes

workflowType
The type of the workflow execution for which this decision task was created.

Type: WorkflowType (p. 231) object

Required: Yes

DecisionTaskCompletedEventAttributes

Description

Provides details of the `DecisionTaskCompleted` event.

Contents

executionContext
User defined context for the workflow execution.

Type: String

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

Required: No

scheduledEventId
The id of the `DecisionTaskScheduled` event that was recorded when this decision task was scheduled. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

startedEventId
The Id of the `DecisionTaskStarted` event recorded when this decision task was started. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

DecisionTaskScheduledEventAttributes

Description

Provides details about the `DecisionTaskScheduled` event.

Contents

startToCloseTimeout
The maximum duration for this decision task. The task is considered timed out if it does not completed within this duration.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

taskList
The name of the task list in which the decision task was scheduled.

Type: TaskList (p. 215) object

Required: Yes

taskPriority
Optional. A task priority that, if set, specifies the priority for this decision task. Valid values are integers that range from Java's `Integer.MIN_VALUE` (-2147483648) to `Integer.MAX_VALUE` (2147483647). Higher numbers indicate higher priority.

For more information about setting task priority, see Setting Task Priority in the *Amazon Simple Workflow Developer Guide*.

Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

DecisionTaskStartedEventAttributes

Description

Provides details of the `DecisionTaskStarted` event.

Contents

identity
Identity of the decider making the request. This enables diagnostic tracing when problems arise. The form of this identity is user defined.

Type: String

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

Required: No

scheduledEventId
The id of the `DecisionTaskScheduled` event that was recorded when this decision task was scheduled. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

DecisionTaskTimedOutEventAttributes

Description

Provides details of the `DecisionTaskTimedOut` event.

Contents

scheduledEventId
The id of the `DecisionTaskScheduled` event that was recorded when this decision task was scheduled. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

startedEventId
The Id of the `DecisionTaskStarted` event recorded when this decision task was started. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

timeoutType
The type of timeout that expired before the decision task could be completed.

Type: String

Valid Values: `START_TO_CLOSE`

Required: Yes

DomainConfiguration

Description

Contains the configuration settings of a domain.

Contents

workflowExecutionRetentionPeriodInDays
The retention period for workflow executions in this domain.

Type: String

Length constraints: Minimum length of 1. Maximum length of 8.

Required: Yes

DomainDetail

Description

Contains details of a domain.

Contents

configuration
Contains the configuration settings of a domain.

Type: DomainConfiguration (p. 175) object

Required: Yes

domainInfo
Contains general information about a domain.

Type: DomainInfo (p. 176) object

Required: Yes

DomainInfo

Description

Contains general information about a domain.

Contents

description
The description of the domain provided through RegisterDomain (p. 105).

Type: String

Length constraints: Minimum length of 0. Maximum length of 1024.

Required: No

name
The name of the domain. This name is unique within the account.

Type: String

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

Required: Yes

status
The status of the domain:

- **REGISTERED**: The domain is properly registered and available. You can use this domain for registering types and creating new workflow executions.
- **DEPRECATED**: The domain was deprecated using DeprecateDomain (p. 21), but is still in use. You should not create new workflow executions in this domain.

Type: String

Valid Values: `REGISTERED | DEPRECATED`

Required: Yes

DomainInfos

Description

Contains a paginated collection of DomainInfo structures.

Contents

domainInfos
A list of DomainInfo structures.

Type: array of DomainInfo (p. 176) objects

Required: Yes

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

ExecutionTimeFilter

Description

Used to filter the workflow executions in visibility APIs by various time-based rules. Each parameter, if specified, defines a rule that must be satisfied by each returned query result. The parameter values are in the Unix Time format. For example: `"oldestDate": 1325376070.`

Contents

latestDate
Specifies the latest start or close date and time to return.

Type: DateTime

Required: No

oldestDate
Specifies the oldest start or close date and time to return.

Type: DateTime

Required: Yes

ExternalWorkflowExecutionCancelRequestedEventAttribut

Description

Provides details of the `ExternalWorkflowExecutionCancelRequested` event.

Contents

initiatedEventId
The id of the `RequestCancelExternalWorkflowExecutionInitiated` event corresponding to the `RequestCancelExternalWorkflowExecution` decision to cancel this external workflow execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

workflowExecution
The external workflow execution to which the cancellation request was delivered.

Type: WorkflowExecution (p. 217) object

Required: Yes

ExternalWorkflowExecutionSignaledEventAttributes

Description

Provides details of the `ExternalWorkflowExecutionSignaled` event.

Contents

initiatedEventId
The id of the `SignalExternalWorkflowExecutionInitiated` event corresponding to the `SignalExternalWorkflowExecution` decision to request this signal. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

workflowExecution
The external workflow execution that the signal was delivered to.

Type: WorkflowExecution (p. 217) object

Required: Yes

FailWorkflowExecutionDecisionAttributes

Description

Provides details of the `FailWorkflowExecution` decision.

Access Control

You can use IAM policies to control this decision's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Contents

details
Optional. Details of the failure.

Type: String

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

Required: No

reason
A descriptive reason for the failure that may help in diagnostics.

Type: String

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

Required: No

FailWorkflowExecutionFailedEventAttributes

Description

Provides details of the `FailWorkflowExecutionFailed` event.

Contents

cause
The cause of the failure. This information is generated by the system and can be useful for diagnostic purposes.

> **Note**
> If **cause** is set to OPERATION_NOT_PERMITTED, the decision failed because it lacked sufficient permissions. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Type: String

Valid Values: `UNHANDLED_DECISION | OPERATION_NOT_PERMITTED`

Required: Yes

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `FailWorkflowExecution` decision to fail this execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

History

Description

Paginated representation of a workflow history for a workflow execution. This is the up to date, complete and authoritative record of the events related to all tasks and events in the life of the workflow execution.

Contents

events
The list of history events.

Type: array of HistoryEvent (p. 180) objects

Required: Yes

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

HistoryEvent

Description

Event within a workflow execution. A history event can be one of these types:

- **ActivityTaskCancelRequested**: A `RequestCancelActivityTask` decision was received by the system.
- **ActivityTaskCanceled**: The activity task was successfully canceled.
- **ActivityTaskCompleted**: An activity worker successfully completed an activity task by calling RespondActivityTaskCompleted (p. 119).
- **ActivityTaskFailed**: An activity worker failed an activity task by calling RespondActivityTaskFailed (p. 122).

- **ActivityTaskScheduled**: An activity task was scheduled for execution.
- **ActivityTaskStarted**: The scheduled activity task was dispatched to a worker.
- **ActivityTaskTimedOut**: The activity task timed out.
- **CancelTimerFailed**: Failed to process CancelTimer decision. This happens when the decision is not configured properly, for example no timer exists with the specified timer Id.
- **CancelWorkflowExecutionFailed**: A request to cancel a workflow execution failed.
- **ChildWorkflowExecutionCanceled**: A child workflow execution, started by this workflow execution, was canceled and closed.
- **ChildWorkflowExecutionCompleted**: A child workflow execution, started by this workflow execution, completed successfully and was closed.
- **ChildWorkflowExecutionFailed**: A child workflow execution, started by this workflow execution, failed to complete successfully and was closed.
- **ChildWorkflowExecutionStarted**: A child workflow execution was successfully started.
- **ChildWorkflowExecutionTerminated**: A child workflow execution, started by this workflow execution, was terminated.
- **ChildWorkflowExecutionTimedOut**: A child workflow execution, started by this workflow execution, timed out and was closed.
- **CompleteWorkflowExecutionFailed**: The workflow execution failed to complete.
- **ContinueAsNewWorkflowExecutionFailed**: The workflow execution failed to complete after being continued as a new workflow execution.
- **DecisionTaskCompleted**: The decider successfully completed a decision task by calling RespondDecisionTaskCompleted (p. 125).
- **DecisionTaskScheduled**: A decision task was scheduled for the workflow execution.
- **DecisionTaskStarted**: The decision task was dispatched to a decider.
- **DecisionTaskTimedOut**: The decision task timed out.
- **ExternalWorkflowExecutionCancelRequested**: Request to cancel an external workflow execution was successfully delivered to the target execution.
- **ExternalWorkflowExecutionSignaled**: A signal, requested by this workflow execution, was successfully delivered to the target external workflow execution.
- **FailWorkflowExecutionFailed**: A request to mark a workflow execution as failed, itself failed.
- **MarkerRecorded**: A marker was recorded in the workflow history as the result of a `RecordMarker` decision.
- **RecordMarkerFailed**: A `RecordMarker` decision was returned as failed.
- **RequestCancelActivityTaskFailed**: Failed to process RequestCancelActivityTask decision. This happens when the decision is not configured properly.
- **RequestCancelExternalWorkflowExecutionFailed**: Request to cancel an external workflow execution failed.
- **RequestCancelExternalWorkflowExecutionInitiated**: A request was made to request the cancellation of an external workflow execution.
- **ScheduleActivityTaskFailed**: Failed to process ScheduleActivityTask decision. This happens when the decision is not configured properly, for example the activity type specified is not registered.
- **SignalExternalWorkflowExecutionFailed**: The request to signal an external workflow execution failed.
- **SignalExternalWorkflowExecutionInitiated**: A request to signal an external workflow was made.
- **StartActivityTaskFailed**: A scheduled activity task failed to start.
- **StartChildWorkflowExecutionFailed**: Failed to process StartChildWorkflowExecution decision. This happens when the decision is not configured properly, for example the workflow type specified is not registered.
- **StartChildWorkflowExecutionInitiated**: A request was made to start a child workflow execution.

- **StartTimerFailed**: Failed to process StartTimer decision. This happens when the decision is not configured properly, for example a timer already exists with the specified timer Id.
- **TimerCanceled**: A timer, previously started for this workflow execution, was successfully canceled.
- **TimerFired**: A timer, previously started for this workflow execution, fired.
- **TimerStarted**: A timer was started for the workflow execution due to a `StartTimer` decision.
- **WorkflowExecutionCancelRequested**: A request to cancel this workflow execution was made.
- **WorkflowExecutionCanceled**: The workflow execution was successfully canceled and closed.
- **WorkflowExecutionCompleted**: The workflow execution was closed due to successful completion.
- **WorkflowExecutionContinuedAsNew**: The workflow execution was closed and a new execution of the same type was created with the same workflowId.
- **WorkflowExecutionFailed**: The workflow execution closed due to a failure.
- **WorkflowExecutionSignaled**: An external signal was received for the workflow execution.
- **WorkflowExecutionStarted**: The workflow execution was started.
- **WorkflowExecutionTerminated**: The workflow execution was terminated.
- **WorkflowExecutionTimedOut**: The workflow execution was closed because a time out was exceeded.

Contents

activityTaskCanceledEventAttributes
If the event is of type `ActivityTaskCanceled` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ActivityTaskCanceledEventAttributes (p. 146) object

Required: No

activityTaskCancelRequestedEventAttributes
If the event is of type `ActivityTaskcancelRequested` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ActivityTaskCancelRequestedEventAttributes (p. 147) object

Required: No

activityTaskCompletedEventAttributes
If the event is of type `ActivityTaskCompleted` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ActivityTaskCompletedEventAttributes (p. 147) object

Required: No

activityTaskFailedEventAttributes
If the event is of type `ActivityTaskFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ActivityTaskFailedEventAttributes (p. 148) object

Required: No

activityTaskScheduledEventAttributes
If the event is of type `ActivityTaskScheduled` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ActivityTaskScheduledEventAttributes (p. 149) object

Required: No

activityTaskStartedEventAttributes
If the event is of type `ActivityTaskStarted` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ActivityTaskStartedEventAttributes (p. 151) object

Required: No

activityTaskTimedOutEventAttributes
If the event is of type `ActivityTaskTimedOut` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ActivityTaskTimedOutEventAttributes (p. 151) object

Required: No

cancelTimerFailedEventAttributes
If the event is of type `CancelTimerFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: CancelTimerFailedEventAttributes (p. 157) object

Required: No

cancelWorkflowExecutionFailedEventAttributes
If the event is of type `CancelWorkflowExecutionFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: CancelWorkflowExecutionFailedEventAttributes (p. 158) object

Required: No

childWorkflowExecutionCanceledEventAttributes
If the event is of type `ChildWorkflowExecutionCanceled` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ChildWorkflowExecutionCanceledEventAttributes (p. 158) object

Required: No

childWorkflowExecutionCompletedEventAttributes
If the event is of type `ChildWorkflowExecutionCompleted` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ChildWorkflowExecutionCompletedEventAttributes (p. 159) object

Required: No

childWorkflowExecutionFailedEventAttributes
If the event is of type `ChildWorkflowExecutionFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ChildWorkflowExecutionFailedEventAttributes (p. 160) object

Required: No

childWorkflowExecutionStartedEventAttributes
If the event is of type `ChildWorkflowExecutionStarted` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ChildWorkflowExecutionStartedEventAttributes (p. 161) object

Required: No

childWorkflowExecutionTerminatedEventAttributes
If the event is of type `ChildWorkflowExecutionTerminated` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ChildWorkflowExecutionTerminatedEventAttributes (p. 162) object

Required: No

childWorkflowExecutionTimedOutEventAttributes
If the event is of type `ChildWorkflowExecutionTimedOut` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ChildWorkflowExecutionTimedOutEventAttributes (p. 162) object

Required: No

completeWorkflowExecutionFailedEventAttributes
If the event is of type `CompleteWorkflowExecutionFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: CompleteWorkflowExecutionFailedEventAttributes (p. 164) object

Required: No

continueAsNewWorkflowExecutionFailedEventAttributes
If the event is of type `ContinueAsNewWorkflowExecutionFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ContinueAsNewWorkflowExecutionFailedEventAttributes (p. 167) object

Required: No

decisionTaskCompletedEventAttributes
If the event is of type `DecisionTaskCompleted` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: DecisionTaskCompletedEventAttributes (p. 173) object

Required: No

decisionTaskScheduledEventAttributes
If the event is of type `DecisionTaskScheduled` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: DecisionTaskScheduledEventAttributes (p. 173) object

Required: No

decisionTaskStartedEventAttributes
If the event is of type `DecisionTaskStarted` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: DecisionTaskStartedEventAttributes (p. 174) object

Required: No

decisionTaskTimedOutEventAttributes
If the event is of type `DecisionTaskTimedOut` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: DecisionTaskTimedOutEventAttributes (p. 175) object

Required: No

eventId
The system generated id of the event. This id uniquely identifies the event with in the workflow execution history.

Type: Long

Required: Yes

eventTimestamp
The date and time when the event occurred.

Type: DateTime

Required: Yes

eventType
The type of the history event.

Type: String

Valid Values: `WorkflowExecutionStarted | WorkflowExecutionCancelRequested | WorkflowExecutionCompleted | CompleteWorkflowExecutionFailed | WorkflowExecutionFailed | FailWorkflowExecutionFailed | WorkflowExecutionTimedOut | WorkflowExecutionCanceled | CancelWorkflowExecutionFailed | WorkflowExecutionContinuedAsNew | ContinueAsNewWorkflowExecutionFailed | WorkflowExecutionTerminated | DecisionTaskScheduled | DecisionTaskStarted | DecisionTaskCompleted | DecisionTaskTimedOut | ActivityTaskScheduled | ScheduleActivityTaskFailed | ActivityTaskStarted | ActivityTaskCompleted | ActivityTaskFailed | ActivityTaskTimedOut | ActivityTaskCanceled | ActivityTaskCancelRequested | RequestCancelActivityTaskFailed | WorkflowExecutionSignaled | MarkerRecorded | RecordMarkerFailed | TimerStarted | StartTimerFailed | TimerFired | TimerCanceled | CancelTimerFailed | StartChildWorkflowExecutionInitiated | StartChildWorkflowExecutionFailed | ChildWorkflowExecutionStarted | ChildWorkflowExecutionCompleted | ChildWorkflowExecutionFailed | ChildWorkflowExecutionTimedOut | ChildWorkflowExecutionCanceled | ChildWorkflowExecutionTerminated | SignalExternalWorkflowExecutionInitiated | SignalExternalWorkflowExecutionFailed | ExternalWorkflowExecutionSignaled | RequestCancelExternalWorkflowExecutionInitiated | RequestCancelExternalWorkflowExecutionFailed | ExternalWorkflowExecutionCancelRequested | LambdaFunctionScheduled | LambdaFunctionStarted | LambdaFunctionCompleted | LambdaFunctionFailed | LambdaFunctionTimedOut | ScheduleLambdaFunctionFailed | StartLambdaFunctionFailed`

Required: Yes

externalWorkflowExecutionCancelRequestedEventAttributes
If the event is of type `ExternalWorkflowExecutionCancelRequested` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ExternalWorkflowExecutionCancelRequestedEventAttributes (p. 178) object

Required: No

externalWorkflowExecutionSignaledEventAttributes
If the event is of type `ExternalWorkflowExecutionSignaled` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ExternalWorkflowExecutionSignaledEventAttributes (p. 178) object

Required: No

failWorkflowExecutionFailedEventAttributes
If the event is of type `FailWorkflowExecutionFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: FailWorkflowExecutionFailedEventAttributes (p. 179) object

Required: No

lambdaFunctionCompletedEventAttributes
Type: LambdaFunctionCompletedEventAttributes (p. 189) object

Required: No

lambdaFunctionFailedEventAttributes
Type: LambdaFunctionFailedEventAttributes (p. 189) object

Required: No

lambdaFunctionScheduledEventAttributes
Type: LambdaFunctionScheduledEventAttributes (p. 190) object

Required: No

lambdaFunctionStartedEventAttributes
Type: LambdaFunctionStartedEventAttributes (p. 190) object

Required: No

lambdaFunctionTimedOutEventAttributes
Type: LambdaFunctionTimedOutEventAttributes (p. 191) object

Required: No

markerRecordedEventAttributes
If the event is of type `MarkerRecorded` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: MarkerRecordedEventAttributes (p. 191) object

Required: No

recordMarkerFailedEventAttributes
If the event is of type `DecisionTaskFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: RecordMarkerFailedEventAttributes (p. 193) object

Required: No

requestCancelActivityTaskFailedEventAttributes
If the event is of type `RequestCancelActivityTaskFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: RequestCancelActivityTaskFailedEventAttributes (p. 194) object

Required: No

requestCancelExternalWorkflowExecutionFailedEventAttributes
If the event is of type `RequestCancelExternalWorkflowExecutionFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: RequestCancelExternalWorkflowExecutionFailedEventAttributes (p. 196) object

Required: No

requestCancelExternalWorkflowExecutionInitiatedEventAttributes
If the event is of type `RequestCancelExternalWorkflowExecutionInitiated` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: RequestCancelExternalWorkflowExecutionInitiatedEventAttributes (p. 197) object

Required: No

scheduleActivityTaskFailedEventAttributes
If the event is of type `ScheduleActivityTaskFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: ScheduleActivityTaskFailedEventAttributes (p. 201) object

Required: No

scheduleLambdaFunctionFailedEventAttributes
Type: ScheduleLambdaFunctionFailedEventAttributes (p. 202) object

Required: No

signalExternalWorkflowExecutionFailedEventAttributes
If the event is of type `SignalExternalWorkflowExecutionFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: SignalExternalWorkflowExecutionFailedEventAttributes (p. 204) object

Required: No

signalExternalWorkflowExecutionInitiatedEventAttributes
If the event is of type `SignalExternalWorkflowExecutionInitiated` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: SignalExternalWorkflowExecutionInitiatedEventAttributes (p. 205) object

Required: No

startChildWorkflowExecutionFailedEventAttributes
If the event is of type `StartChildWorkflowExecutionFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: StartChildWorkflowExecutionFailedEventAttributes (p. 209) object

Required: No

startChildWorkflowExecutionInitiatedEventAttributes
If the event is of type `StartChildWorkflowExecutionInitiated` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: StartChildWorkflowExecutionInitiatedEventAttributes (p. 210) object

Required: No

startLambdaFunctionFailedEventAttributes
Type: StartLambdaFunctionFailedEventAttributes (p. 212) object

Required: No

startTimerFailedEventAttributes
If the event is of type `StartTimerFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: StartTimerFailedEventAttributes (p. 214) object

Required: No

timerCanceledEventAttributes
If the event is of type `TimerCanceled` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: TimerCanceledEventAttributes (p. 215) object

Required: No

timerFiredEventAttributes
If the event is of type `TimerFired` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: TimerFiredEventAttributes (p. 216) object

Required: No

timerStartedEventAttributes
If the event is of type `TimerStarted` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: TimerStartedEventAttributes (p. 216) object

Required: No

workflowExecutionCanceledEventAttributes
If the event is of type `WorkflowExecutionCanceled` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: WorkflowExecutionCanceledEventAttributes (p. 217) object

Required: No

workflowExecutionCancelRequestedEventAttributes
If the event is of type `WorkflowExecutionCancelRequested` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: WorkflowExecutionCancelRequestedEventAttributes (p. 218) object

Required: No

workflowExecutionCompletedEventAttributes
If the event is of type `WorkflowExecutionCompleted` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: WorkflowExecutionCompletedEventAttributes (p. 218) object

Required: No

workflowExecutionContinuedAsNewEventAttributes
If the event is of type `WorkflowExecutionContinuedAsNew` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: WorkflowExecutionContinuedAsNewEventAttributes (p. 220) object

Required: No

workflowExecutionFailedEventAttributes
If the event is of type `WorkflowExecutionFailed` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: WorkflowExecutionFailedEventAttributes (p. 223) object

Required: No

workflowExecutionSignaledEventAttributes
If the event is of type `WorkflowExecutionSignaled` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: WorkflowExecutionSignaledEventAttributes (p. 227) object

Required: No

workflowExecutionStartedEventAttributes
If the event is of type `WorkflowExecutionStarted` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: WorkflowExecutionStartedEventAttributes (p. 228) object

Required: No

workflowExecutionTerminatedEventAttributes
If the event is of type `WorkflowExecutionTerminated` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: WorkflowExecutionTerminatedEventAttributes (p. 230) object

Required: No

workflowExecutionTimedOutEventAttributes
If the event is of type `WorkflowExecutionTimedOut` then this member is set and provides detailed information about the event. It is not set for other event types.

Type: WorkflowExecutionTimedOutEventAttributes (p. 231) object

Required: No

LambdaFunctionCompletedEventAttributes

Description

No action documentation available.

Contents

result
Type: String

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

Required: No

scheduledEventId
Type: Long

Required: Yes

startedEventId
Type: Long

Required: Yes

LambdaFunctionFailedEventAttributes

Description

No action documentation available.

Contents

details
Type: String

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

Required: No

reason
Type: String

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

Required: No

scheduledEventId
Type: Long

Required: Yes

startedEventId
Type: Long

Required: Yes

LambdaFunctionScheduledEventAttributes

Description

No action documentation available.

Contents

decisionTaskCompletedEventId
Type: Long

Required: Yes

id
Type: String

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

Required: Yes

input
Type: String

Length constraints: Minimum length of 1. Maximum length of 32768.

Required: No

name
Type: String

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

Required: Yes

startToCloseTimeout
Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

LambdaFunctionStartedEventAttributes

Description

No action documentation available.

Contents

scheduledEventId
Type: Long

Required: Yes

LambdaFunctionTimedOutEventAttributes

Description

No action documentation available.

Contents

scheduledEventId
Type: Long

Required: Yes

startedEventId
Type: Long

Required: Yes

timeoutType
Type: String

Valid Values: `START_TO_CLOSE`

Required: No

MarkerRecordedEventAttributes

Description

Provides details of the `MarkerRecorded` event.

Contents

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `RecordMarker` decision that requested this marker. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

details
Details of the marker (if any).

Type: String

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

Required: No

markerName
The name of the marker.

Type: String

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

Required: Yes

PendingTaskCount

Description

Contains the count of tasks in a task list.

Contents

count
The number of tasks in the task list.

Type: Number

Valid range: Minimum value of 0.

Required: Yes

truncated
If set to true, indicates that the actual count was more than the maximum supported by this API and the count returned is the truncated value.

Type: Boolean

Required: No

RecordMarkerDecisionAttributes

Description

Provides details of the `RecordMarker` decision.

Access Control

You can use IAM policies to control this decision's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Contents

details
Optional. details of the marker.

Type: String

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

Required: No

markerName
Required. The name of the marker.

Type: String

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

Required: Yes

RecordMarkerFailedEventAttributes

Description

Provides details of the `RecordMarkerFailed` event.

Contents

cause
The cause of the failure. This information is generated by the system and can be useful for diagnostic purposes.

> **Note**
> If **cause** is set to OPERATION_NOT_PERMITTED, the decision failed because it lacked sufficient permissions. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Type: String

Valid Values: `OPERATION_NOT_PERMITTED`

Required: Yes

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `RecordMarkerFailed` decision for this cancellation request. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

markerName
The marker's name.

Type: String

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

Required: Yes

RequestCancelActivityTaskDecisionAttributes

Description

Provides details of the `RequestCancelActivityTask` decision.

Access Control

You can use IAM policies to control this decision's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Contents

activityId
The `activityId` of the activity task to be canceled.

Type: String

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

Required: Yes

RequestCancelActivityTaskFailedEventAttributes

Description

Provides details of the `RequestCancelActivityTaskFailed` event.

Contents

activityId
The activityId provided in the `RequestCancelActivityTask` decision that failed.

Type: String

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

Required: Yes

cause
The cause of the failure. This information is generated by the system and can be useful for diagnostic purposes.

Note
If **cause** is set to OPERATION_NOT_PERMITTED, the decision failed because it lacked sufficient permissions. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Type: String

Valid Values: `ACTIVITY_ID_UNKNOWN | OPERATION_NOT_PERMITTED`

Required: Yes

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `RequestCancelActivityTask` decision for this cancellation request. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

RequestCancelExternalWorkflowExecutionDecisionAttribu

Description

Provides details of the `RequestCancelExternalWorkflowExecution` decision.

Access Control

You can use IAM policies to control this decision's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Contents

control
Optional. Data attached to the event that can be used by the decider in subsequent workflow tasks.

Type: String

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

Required: No

runId
The `runId` of the external workflow execution to cancel.

Type: String

Length constraints: Minimum length of 0. Maximum length of 64.

Required: No

workflowId
Required. The `workflowId` of the external workflow execution to cancel.

Type: String

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

Required: Yes

RequestCancelExternalWorkflowExecutionFailedEventAttr

Description

Provides details of the `RequestCancelExternalWorkflowExecutionFailed` event.

Contents

cause
The cause of the failure. This information is generated by the system and can be useful for diagnostic purposes.

> **Note**
> If **cause** is set to OPERATION_NOT_PERMITTED, the decision failed because it lacked sufficient permissions. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Type: String

Valid Values: `UNKNOWN_EXTERNAL_WORKFLOW_EXECUTION | REQUEST_CANCEL_EXTERNAL_WORKFLOW_EXECUTION_RATE_EXCEEDED | OPERATION_NOT_PERMITTED`

Required: Yes

control
Type: String

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

Required: No

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `RequestCancelExternalWorkflowExecution` decision for this cancellation request. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

initiatedEventId
The id of the `RequestCancelExternalWorkflowExecutionInitiated` event corresponding to the `RequestCancelExternalWorkflowExecution` decision to cancel this external workflow execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

runId
The `runId` of the external workflow execution.

Type: String

Length constraints: Minimum length of 0. Maximum length of 64.

Required: No

workflowId
The `workflowId` of the external workflow to which the cancel request was to be delivered.

Type: String

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

Required: Yes

RequestCancelExternalWorkflowExecutionInitiatedEventA

Description

Provides details of the `RequestCancelExternalWorkflowExecutionInitiated` event.

Contents

control
Optional. Data attached to the event that can be used by the decider in subsequent workflow tasks.

Type: String

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

Required: No

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `RequestCancelExternalWorkflowExecution` decision for this cancellation request. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

runId
The `runId` of the external workflow execution to be canceled.

Type: String

Length constraints: Minimum length of 0. Maximum length of 64.

Required: No

workflowId
The `workflowId` of the external workflow execution to be canceled.

Type: String

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

Required: Yes

Run

Description

Specifies the `runId` of a workflow execution.

Contents

runId
The `runId` of a workflow execution. This Id is generated by the service and can be used to uniquely identify the workflow execution within a domain.

Type: String

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

Required: No

ScheduleActivityTaskDecisionAttributes

Description

Provides details of the `ScheduleActivityTask` decision.

Access Control

You can use IAM policies to control this decision's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `activityType.name`: String constraint. The key is `swf:activityType.name`.
  - `activityType.version`: String constraint. The key is `swf:activityType.version`.
  - `taskList`: String constraint. The key is `swf:taskList.name`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Contents

activityId
Required. The `activityId` of the activity task.

The specified string must not start or end with whitespace. It must not contain a `:` (colon), `/` (slash), `|` (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: String

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

Required: Yes

activityType
Required. The type of the activity task to schedule.

Type: ActivityType (p. 152) object

Required: Yes

control
Optional. Data attached to the event that can be used by the decider in subsequent workflow tasks. This data is not sent to the activity.

Type: String

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

Required: No

heartbeatTimeout
If set, specifies the maximum time before which a worker processing a task of this type must report progress by calling RecordActivityTaskHeartbeat (p. 96). If the timeout is exceeded, the activity task is automatically timed out. If the worker subsequently attempts to record a heartbeat or returns a result, it will be ignored. This overrides the default heartbeat timeout specified when registering the activity type using RegisterActivityType (p. 100).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

input
The input provided to the activity task.

Type: String

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

Required: No

scheduleToCloseTimeout
The maximum duration for this activity task.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

> **Note**
> A schedule-to-close timeout for this activity task must be specified either as a default for the activity type or through this field. If neither this field is set nor a default schedule-to-close timeout was specified at registration time then a fault will be returned.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

scheduleToStartTimeout
Optional. If set, specifies the maximum duration the activity task can wait to be assigned to a worker. This overrides the default schedule-to-start timeout specified when registering the activity type using RegisterActivityType (p. 100).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

> **Note**
> A schedule-to-start timeout for this activity task must be specified either as a default for the activity type or through this field. If neither this field is set nor a default schedule-to-start timeout was specified at registration time then a fault will be returned.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

startToCloseTimeout
If set, specifies the maximum duration a worker may take to process this activity task. This overrides the default start-to-close timeout specified when registering the activity type using RegisterActivityType (p. 100).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

> **Note**
> A start-to-close timeout for this activity task must be specified either as a default for the activity type or through this field. If neither this field is set nor a default start-to-close timeout was specified at registration time then a fault will be returned.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

taskList
If set, specifies the name of the task list in which to schedule the activity task. If not specified, the `defaultTaskList` registered with the activity type will be used.

> **Note**
> A task list for this activity task must be specified either as a default for the activity type or through this field. If neither this field is set nor a default task list was specified at registration time then a fault will be returned.

The specified string must not start or end with whitespace. It must not contain a `:` (colon), `/` (slash), `|` (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: TaskList (p. 215) object

Required: No

taskPriority
Optional. If set, specifies the priority with which the activity task is to be assigned to a worker. This overrides the defaultTaskPriority specified when registering the activity type using RegisterActivityType (p. 100). Valid values are integers that range from Java's `Integer.MIN_VALUE` (-2147483648) to `Integer.MAX_VALUE` (2147483647). Higher numbers indicate higher priority.

For more information about setting task priority, see Setting Task Priority in the *Amazon Simple Workflow Developer Guide*.

Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

ScheduleActivityTaskFailedEventAttributes

Description

Provides details of the `ScheduleActivityTaskFailed` event.

Contents

activityId
The activityId provided in the `ScheduleActivityTask` decision that failed.

Type: String

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

Required: Yes

activityType
The activity type provided in the `ScheduleActivityTask` decision that failed.

Type: ActivityType (p. 152) object

Required: Yes

cause
The cause of the failure. This information is generated by the system and can be useful for diagnostic purposes.

> **Note**
> If **cause** is set to OPERATION_NOT_PERMITTED, the decision failed because it lacked sufficient permissions. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Type: String

Valid Values: `ACTIVITY_TYPE_DEPRECATED | ACTIVITY_TYPE_DOES_NOT_EXIST | ACTIVITY_ID_ALREADY_IN_USE | OPEN_ACTIVITIES_LIMIT_EXCEEDED | ACTIVITY_CREATION_RATE_EXCEEDED | DEFAULT_SCHEDULE_TO_CLOSE_TIMEOUT_UNDEFINED | DEFAULT_TASK_LIST_UNDEFINED | DEFAULT_SCHEDULE_TO_START_TIMEOUT_UNDEFINED | DEFAULT_START_TO_CLOSE_TIMEOUT_UNDEFINED | DEFAULT_HEARTBEAT_TIMEOUT_UNDEFINED | OPERATION_NOT_PERMITTED`

Required: Yes

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision that resulted in the scheduling of this activity task. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

ScheduleLambdaFunctionDecisionAttributes

Description

Decision attributes specified in `scheduleLambdaFunctionDecisionAttributes` within the list of decisions `decisions` passed to RespondDecisionTaskCompleted (p. 125).

Contents

id
(Required) A string that identifies the Lambda function execution in the event history.

Type: String

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

Required: Yes

input
Optional input data that will be supplied to the Lambda function.

Type: String

Length constraints: Minimum length of 1. Maximum length of 32768.

Required: No

name
(Required) The name, or ARN, of the Lambda function to schedule.

Type: String

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

Required: Yes

startToCloseTimeout
The timeout value, in seconds, after which the Lambda function is considered to be failed once it has started. This can be any integer from 1-300 (1s-5m). If no value is supplied, than a default value of 300s is assumed.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

ScheduleLambdaFunctionFailedEventAttributes

Description

No action documentation available.

Contents

cause
Type: String

Valid Values: `ID_ALREADY_IN_USE | OPEN_LAMBDA_FUNCTIONS_LIMIT_EXCEEDED | LAMBDA_FUNCTION_CREATION_RATE_EXCEEDED | LAMBDA_SERVICE_NOT_AVAILABLE_IN_REGION`

Required: Yes

decisionTaskCompletedEventId
Type: Long

Required: Yes

id
Type: String

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

Required: Yes

name
Type: String

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

Required: Yes

SignalExternalWorkflowExecutionDecisionAttributes

Description

Provides details of the `SignalExternalWorkflowExecution` decision.

Access Control

You can use IAM policies to control this decision's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Contents

control
Optional. Data attached to the event that can be used by the decider in subsequent decision tasks.

Type: String

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

Required: No

input
Optional. Input data to be provided with the signal. The target workflow execution will use the signal name and input data to process the signal.

Type: String

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

Required: No

runId
The `runId` of the workflow execution to be signaled.

Type: String

Length constraints: Minimum length of 0. Maximum length of 64.

Required: No

signalName
Required. The name of the signal.The target workflow execution will use the signal name and input to process the signal.

Type: String

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

Required: Yes

workflowId
Required. The `workflowId` of the workflow execution to be signaled.

Type: String

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

Required: Yes

SignalExternalWorkflowExecutionFailedEventAttributes

Description

Provides details of the `SignalExternalWorkflowExecutionFailed` event.

Contents

cause
The cause of the failure. This information is generated by the system and can be useful for diagnostic purposes.

> **Note**
> If **cause** is set to OPERATION_NOT_PERMITTED, the decision failed because it lacked sufficient permissions. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Type: String

Valid Values: `UNKNOWN_EXTERNAL_WORKFLOW_EXECUTION | SIGNAL_EXTERNAL_WORKFLOW_EXECUTION_RATE_EXCEEDED | OPERATION_NOT_PERMITTED`

Required: Yes

control
Type: String

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

Required: No

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `SignalExternalWorkflowExecution` decision for this signal. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

initiatedEventId
The id of the `SignalExternalWorkflowExecutionInitiated` event corresponding to the `SignalExternalWorkflowExecution` decision to request this signal. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

runId
The `runId` of the external workflow execution that the signal was being delivered to.

Type: String

Length constraints: Minimum length of 0. Maximum length of 64.

Required: No

workflowId
The `workflowId` of the external workflow execution that the signal was being delivered to.

Type: String

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

Required: Yes

SignalExternalWorkflowExecutionInitiatedEventAttributes

Description

Provides details of the `SignalExternalWorkflowExecutionInitiated` event.

Contents

control
Optional. data attached to the event that can be used by the decider in subsequent decision tasks.

Type: String

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

Required: No

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `SignalExternalWorkflowExecution` decision for this signal. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

input
Input provided to the signal (if any).

Type: String

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

Required: No

runId
The `runId` of the external workflow execution to send the signal to.

Type: String

Length constraints: Minimum length of 0. Maximum length of 64.

Required: No

signalName
The name of the signal.

Type: String

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

Required: Yes

workflowId
The `workflowId` of the external workflow execution.

Type: String

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

Required: Yes

StartChildWorkflowExecutionDecisionAttributes

Description

Provides details of the `StartChildWorkflowExecution` decision.

Access Control

You can use IAM policies to control this decision's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- Constrain the following parameters by using a `Condition` element with the appropriate keys.
  - `tagList.member.N`: The key is "swf:tagList.N" where N is the tag number from 0 to 4, inclusive.
  - `taskList`: String constraint. The key is `swf:taskList.name`.
  - `workflowType.name`: String constraint. The key is `swf:workflowType.name`.
  - `workflowType.version`: String constraint. The key is `swf:workflowType.version`.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will

be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Contents

childPolicy

Optional. If set, specifies the policy to use for the child workflow executions if the workflow execution being started is terminated by calling the TerminateWorkflowExecution (p. 139) action explicitly or due to an expired timeout. This policy overrides the default child policy specified when registering the workflow type using RegisterWorkflowType (p. 108).

The supported child policies are:

- **TERMINATE:** the child executions will be terminated.
- **REQUEST_CANCEL:** a request to cancel will be attempted for each child execution by recording a `WorkflowExecutionCancelRequested` event in its history. It is up to the decider to take appropriate actions when it receives an execution history with this event.
- **ABANDON:** no action will be taken. The child executions will continue to run.

> **Note**
> A child policy for this workflow execution must be specified either as a default for the workflow type or through this parameter. If neither this parameter is set nor a default child policy was specified at registration time then a fault will be returned.

Type: String

Valid Values: `TERMINATE | REQUEST_CANCEL | ABANDON`

Required: No

control

Optional. Data attached to the event that can be used by the decider in subsequent workflow tasks. This data is not sent to the child workflow execution.

Type: String

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

Required: No

executionStartToCloseTimeout

The total duration for this workflow execution. This overrides the defaultExecutionStartToCloseTimeout specified when registering the workflow type.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

> **Note**
> An execution start-to-close timeout for this workflow execution must be specified either as a default for the workflow type or through this parameter. If neither this parameter is set nor a default execution start-to-close timeout was specified at registration time then a fault will be returned.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

input

The input to be provided to the workflow execution.

Type: String

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

Required: No

lambdaRole

Type: String

Length constraints: Minimum length of 1. Maximum length of 1224.

Required: No

tagList

The list of tags to associate with the child workflow execution. A maximum of 5 tags can be specified. You can list workflow executions with a specific tag by calling ListOpenWorkflowExecutions (p. 70) or ListClosedWorkflowExecutions (p. 60) and specifying a TagFilter (p. 214).

Type: array of Strings

Length constraints: Minimum of 0 item(s) in the list. Maximum of 5 item(s) in the list.

Required: No

taskList

The name of the task list to be used for decision tasks of the child workflow execution.

> **Note**
> A task list for this workflow execution must be specified either as a default for the workflow type or through this parameter. If neither this parameter is set nor a default task list was specified at registration time then a fault will be returned.

The specified string must not start or end with whitespace. It must not contain a `:` (colon), `/` (slash), `|` (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: TaskList (p. 215) object

Required: No

taskPriority

Optional. A task priority that, if set, specifies the priority for a decision task of this workflow execution. This overrides the defaultTaskPriority specified when registering the workflow type. Valid values are integers that range from Java's `Integer.MIN_VALUE` (-2147483648) to `Integer.MAX_VALUE` (2147483647). Higher numbers indicate higher priority.

For more information about setting task priority, see Setting Task Priority in the *Amazon Simple Workflow Developer Guide*.

Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

taskStartToCloseTimeout

Specifies the maximum duration of decision tasks for this workflow execution. This parameter overrides the `defaultTaskStartToCloseTimout` specified when registering the workflow type using RegisterWorkflowType (p. 108).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

> **Note**
> A task start-to-close timeout for this workflow execution must be specified either as a default for the workflow type or through this parameter. If neither this parameter is set nor

a default task start-to-close timeout was specified at registration time then a fault will be returned.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

workflowId
Required. The `workflowId` of the workflow execution.

The specified string must not start or end with whitespace. It must not contain a `:` (colon), `/` (slash), `|` (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: String

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

Required: Yes

workflowType
Required. The type of the workflow execution to be started.

Type: WorkflowType (p. 231) object

Required: Yes

StartChildWorkflowExecutionFailedEventAttributes

Description

Provides details of the `StartChildWorkflowExecutionFailed` event.

Contents

cause
The cause of the failure. This information is generated by the system and can be useful for diagnostic purposes.

Note
If **cause** is set to OPERATION_NOT_PERMITTED, the decision failed because it lacked sufficient permissions. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Type: String

Valid Values: `WORKFLOW_TYPE_DOES_NOT_EXIST | WORKFLOW_TYPE_DEPRECATED | OPEN_CHILDREN_LIMIT_EXCEEDED | OPEN_WORKFLOWS_LIMIT_EXCEEDED | CHILD_CREATION_RATE_EXCEEDED | WORKFLOW_ALREADY_RUNNING | DEFAULT_EXECUTION_START_TO_CLOSE_TIMEOUT_UNDEFINED | DEFAULT_TASK_LIST_UNDEFINED | DEFAULT_TASK_START_TO_CLOSE_TIMEOUT_UNDEFINED | DEFAULT_CHILD_POLICY_UNDEFINED | OPERATION_NOT_PERMITTED`

Required: Yes

control
Type: String

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

Required: No

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `StartChildWorkflowExecution` Decision (p. 168) to request this child workflow execution. This information can be useful for diagnosing problems by tracing back the cause of events.

Type: Long

Required: Yes

initiatedEventId
The id of the `StartChildWorkflowExecutionInitiated` event corresponding to the `StartChildWorkflowExecution` Decision (p. 168) to start this child workflow execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

workflowId
The `workflowId` of the child workflow execution.

Type: String

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

Required: Yes

workflowType
The workflow type provided in the `StartChildWorkflowExecution` Decision (p. 168) that failed.

Type: WorkflowType (p. 231) object

Required: Yes

StartChildWorkflowExecutionInitiatedEventAttributes

Description

Provides details of the `StartChildWorkflowExecutionInitiated` event.

Contents

childPolicy
The policy to use for the child workflow executions if this execution gets terminated by explicitly calling the TerminateWorkflowExecution (p. 139) action or due to an expired timeout.

The supported child policies are:

- **TERMINATE:** the child executions will be terminated.
- **REQUEST_CANCEL:** a request to cancel will be attempted for each child execution by recording a `WorkflowExecutionCancelRequested` event in its history. It is up to the decider to take appropriate actions when it receives an execution history with this event.
- **ABANDON:** no action will be taken. The child executions will continue to run.

Type: String

Valid Values: `TERMINATE` | `REQUEST_CANCEL` | `ABANDON`

Required: Yes

control
Optional. Data attached to the event that can be used by the decider in subsequent decision tasks. This data is not sent to the activity.

Type: String

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

Required: No

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `StartChildWorkflowExecution` Decision (p. 168) to request this child workflow execution. This information can be useful for diagnosing problems by tracing back the cause of events.

Type: Long

Required: Yes

executionStartToCloseTimeout
The maximum duration for the child workflow execution. If the workflow execution is not closed within this duration, it will be timed out and force terminated.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

input
The inputs provided to the child workflow execution (if any).

Type: String

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

Required: No

lambdaRole
Type: String

Length constraints: Minimum length of 1. Maximum length of 1224.

Required: No

tagList
The list of tags to associated with the child workflow execution.

Type: array of Strings

Length constraints: Minimum of 0 item(s) in the list. Maximum of 5 item(s) in the list.

Required: No

taskList
The name of the task list used for the decision tasks of the child workflow execution.

Type: TaskList (p. 215) object

Required: Yes

taskPriority
Optional. The priority assigned for the decision tasks for this workflow execution. Valid values are integers that range from Java's `Integer.MIN_VALUE` (-2147483648) to `Integer.MAX_VALUE` (2147483647). Higher numbers indicate higher priority.

For more information about setting task priority, see Setting Task Priority in the *Amazon Simple Workflow Developer Guide*.

Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

taskStartToCloseTimeout
The maximum duration allowed for the decision tasks for this workflow execution.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

workflowId
The `workflowId` of the child workflow execution.

Type: String

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

Required: Yes

workflowType
The type of the child workflow execution.

Type: WorkflowType (p. 231) object

Required: Yes

StartLambdaFunctionFailedEventAttributes

Description

No action documentation available.

Contents

cause
Type: String

Valid Values: `ASSUME_ROLE_FAILED`

Required: No

message
Type: String

Length constraints: Minimum length of 0. Maximum length of 1728.

Required: No

scheduledEventId
Type: Long

Required: No

StartTimerDecisionAttributes

Description

Provides details of the `StartTimer` decision.

Access Control

You can use IAM policies to control this decision's access to Amazon SWF resources as follows:

- Use a `Resource` element with the domain name to limit the action to only specified domains.
- Use an `Action` element to allow or deny permission to call this action.
- You cannot use an IAM policy to constrain this action's parameters.

If the caller does not have sufficient permissions to invoke the action, or the parameter values fall outside the specified constraints, the action fails. The associated event attribute's **cause** parameter will be set to OPERATION_NOT_PERMITTED. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Contents

control
Optional. Data attached to the event that can be used by the decider in subsequent workflow tasks.

Type: String

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

Required: No

startToFireTimeout
Required. The duration to wait before firing the timer.

The duration is specified in seconds; an integer greater than or equal to 0.

Type: String

Length constraints: Minimum length of 1. Maximum length of 8.

Required: Yes

timerId
Required. The unique Id of the timer.

The specified string must not start or end with whitespace. It must not contain a `:` (colon), `/` (slash), `|` (vertical bar), or any control characters (\u0000-\u001f | \u007f - \u009f). Also, it must not contain the literal string "arn".

Type: String

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

Required: Yes

StartTimerFailedEventAttributes

Description

Provides details of the `StartTimerFailed` event.

Contents

cause
The cause of the failure. This information is generated by the system and can be useful for diagnostic purposes.

Note
If **cause** is set to OPERATION_NOT_PERMITTED, the decision failed because it lacked sufficient permissions. For details and example IAM policies, see Using IAM to Manage Access to Amazon SWF Workflows.

Type: String

Valid Values: `TIMER_ID_ALREADY_IN_USE | OPEN_TIMERS_LIMIT_EXCEEDED | TIMER_CREATION_RATE_EXCEEDED | OPERATION_NOT_PERMITTED`

Required: Yes

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `StartTimer` decision for this activity task. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

timerId
The timerId provided in the `StartTimer` decision that failed.

Type: String

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

Required: Yes

TagFilter

Description

Used to filter the workflow executions in visibility APIs based on a tag.

Contents

tag
Required. Specifies the tag that must be associated with the execution for it to meet the filter criteria.

Type: String

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

Required: Yes

TaskList

Description

Represents a task list.

Contents

name
The name of the task list.

Type: String

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

Required: Yes

TimerCanceledEventAttributes

Description

Provides details of the `TimerCanceled` event.

Contents

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `CancelTimer` decision to cancel this timer. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

startedEventId
The id of the `TimerStarted` event that was recorded when this timer was started. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

timerId
The unique Id of the timer that was canceled.

Type: String

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

Required: Yes

TimerFiredEventAttributes

Description

Provides details of the `TimerFired` event.

Contents

startedEventId
The id of the `TimerStarted` event that was recorded when this timer was started. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

timerId
The unique Id of the timer that fired.

Type: String

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

Required: Yes

TimerStartedEventAttributes

Description

Provides details of the `TimerStarted` event.

Contents

control
Optional. Data attached to the event that can be used by the decider in subsequent workflow tasks.

Type: String

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

Required: No

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `StartTimer` decision for this activity task. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

startToFireTimeout
The duration of time after which the timer will fire.

The duration is specified in seconds; an integer greater than or equal to 0.

Type: String

Length constraints: Minimum length of 1. Maximum length of 8.

Required: Yes

timerId
The unique Id of the timer that was started.

Type: String

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

Required: Yes

WorkflowExecution

Description

Represents a workflow execution.

Contents

runId
A system-generated unique identifier for the workflow execution.

Type: String

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

Required: Yes

workflowId
The user defined identifier associated with the workflow execution.

Type: String

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

Required: Yes

WorkflowExecutionCanceledEventAttributes

Description

Provides details of the `WorkflowExecutionCanceled` event.

Contents

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `CancelWorkflowExecution` decision for this cancellation request. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

details
Details for the cancellation (if any).

Type: String

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

Required: No

WorkflowExecutionCancelRequestedEventAttributes

Description

Provides details of the `WorkflowExecutionCancelRequested` event.

Contents

cause
If set, indicates that the request to cancel the workflow execution was automatically generated, and specifies the cause. This happens if the parent workflow execution times out or is terminated, and the child policy is set to cancel child executions.

Type: String

Valid Values: `CHILD_POLICY_APPLIED`

Required: No

externalInitiatedEventId
The id of the `RequestCancelExternalWorkflowExecutionInitiated` event corresponding to the `RequestCancelExternalWorkflowExecution` decision to cancel this workflow execution.The source event with this Id can be found in the history of the source workflow execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: No

externalWorkflowExecution
The external workflow execution for which the cancellation was requested.

Type: WorkflowExecution (p. 217) object

Required: No

WorkflowExecutionCompletedEventAttributes

Description

Provides details of the `WorkflowExecutionCompleted` event.

Contents

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `CompleteWorkflowExecution` decision to complete this execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

result
The result produced by the workflow execution upon successful completion.

Type: String

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

Required: No

WorkflowExecutionConfiguration

Description

The configuration settings for a workflow execution including timeout values, tasklist etc. These configuration settings are determined from the defaults specified when registering the workflow type and those specified when starting the workflow execution.

Contents

childPolicy
The policy to use for the child workflow executions if this workflow execution is terminated, by calling the TerminateWorkflowExecution (p. 139) action explicitly or due to an expired timeout.

The supported child policies are:

- **TERMINATE:** the child executions will be terminated.
- **REQUEST_CANCEL:** a request to cancel will be attempted for each child execution by recording a `WorkflowExecutionCancelRequested` event in its history. It is up to the decider to take appropriate actions when it receives an execution history with this event.
- **ABANDON:** no action will be taken. The child executions will continue to run.

Type: String

Valid Values: `TERMINATE | REQUEST_CANCEL | ABANDON`

Required: Yes

executionStartToCloseTimeout
The total duration for this workflow execution.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 1. Maximum length of 8.

Required: Yes

lambdaRole
Type: String

Length constraints: Minimum length of 1. Maximum length of 1224.

Required: No

taskList
The task list used for the decision tasks generated for this workflow execution.

Type: TaskList (p. 215) object

Required: Yes

taskPriority
The priority assigned to decision tasks for this workflow execution. Valid values are integers that range from Java's `Integer.MIN_VALUE` (-2147483648) to `Integer.MAX_VALUE` (2147483647). Higher numbers indicate higher priority.

For more information about setting task priority, see Setting Task Priority in the *Amazon Simple Workflow Developer Guide*.

Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

taskStartToCloseTimeout
The maximum duration allowed for decision tasks for this workflow execution.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 1. Maximum length of 8.

Required: Yes

WorkflowExecutionContinuedAsNewEventAttributes

Description

Provides details of the `WorkflowExecutionContinuedAsNew` event.

Contents

childPolicy
The policy to use for the child workflow executions of the new execution if it is terminated by calling the TerminateWorkflowExecution (p. 139) action explicitly or due to an expired timeout.

The supported child policies are:

- **TERMINATE:** the child executions will be terminated.
- **REQUEST_CANCEL:** a request to cancel will be attempted for each child execution by recording a `WorkflowExecutionCancelRequested` event in its history. It is up to the decider to take appropriate actions when it receives an execution history with this event.
- **ABANDON:** no action will be taken. The child executions will continue to run.

Type: String

Valid Values: `TERMINATE` | `REQUEST_CANCEL` | `ABANDON`

Required: Yes

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `ContinueAsNewWorkflowExecution` decision that started this execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

executionStartToCloseTimeout
The total duration allowed for the new workflow execution.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

input
The input provided to the new workflow execution.

Type: String

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

Required: No

lambdaRole
Type: String

Length constraints: Minimum length of 1. Maximum length of 1224.

Required: No

newExecutionRunId
The `runId` of the new workflow execution.

Type: String

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

Required: Yes

tagList
The list of tags associated with the new workflow execution.

Type: array of Strings

Length constraints: Minimum of 0 item(s) in the list. Maximum of 5 item(s) in the list.

Required: No

taskList
Represents a task list.

Type: TaskList (p. 215) object

Required: Yes

taskPriority
Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

taskStartToCloseTimeout
The maximum duration of decision tasks for the new workflow execution.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

workflowType
Represents a workflow type.

Type: WorkflowType (p. 231) object

Required: Yes

WorkflowExecutionCount

Description

Contains the count of workflow executions returned from CountOpenWorkflowExecutions (p. 8) or CountClosedWorkflowExecutions (p. 4)

Contents

count
The number of workflow executions.

Type: Number

Valid range: Minimum value of 0.

Required: Yes

truncated
If set to true, indicates that the actual count was more than the maximum supported by this API and the count returned is the truncated value.

Type: Boolean

Required: No

WorkflowExecutionDetail

Description

Contains details about a workflow execution.

Contents

executionConfiguration
The configuration settings for this workflow execution including timeout values, tasklist etc.

Type: WorkflowExecutionConfiguration (p. 219) object

Required: Yes

executionInfo
Information about the workflow execution.

Type: WorkflowExecutionInfo (p. 224) object

Required: Yes

latestActivityTaskTimestamp
The time when the last activity task was scheduled for this workflow execution. You can use this information to determine if the workflow has not made progress for an unusually long period of time and might require a corrective action.

Type: DateTime

Required: No

latestExecutionContext
The latest executionContext provided by the decider for this workflow execution. A decider can provide an executionContext (a free-form string) when closing a decision task using RespondDecisionTaskCompleted (p. 125).

Type: String

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

Required: No

openCounts
The number of tasks for this workflow execution. This includes open and closed tasks of all types.

Type: WorkflowExecutionOpenCounts (p. 226) object

Required: Yes

WorkflowExecutionFailedEventAttributes

Description

Provides details of the `WorkflowExecutionFailed` event.

Contents

decisionTaskCompletedEventId
The id of the `DecisionTaskCompleted` event corresponding to the decision task that resulted in the `FailWorkflowExecution` decision to fail this execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: Yes

details
The details of the failure (if any).

Type: String

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

Required: No

reason
The descriptive reason provided for the failure (if any).

Type: String

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

Required: No

WorkflowExecutionFilter

Description

Used to filter the workflow executions in visibility APIs by their `workflowId`.

Contents

workflowId
The workflowId to pass of match the criteria of this filter.

Type: String

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

Required: Yes

WorkflowExecutionInfo

Description

Contains information about a workflow execution.

Contents

cancelRequested
Set to true if a cancellation is requested for this workflow execution.

Type: Boolean

Required: No

closeStatus
If the execution status is closed then this specifies how the execution was closed:

- `COMPLETED`: the execution was successfully completed.
- `CANCELED`: the execution was canceled.Cancellation allows the implementation to gracefully clean up before the execution is closed.

- `TERMINATED`: the execution was force terminated.
- `FAILED`: the execution failed to complete.
- `TIMED_OUT`: the execution did not complete in the alloted time and was automatically timed out.
- `CONTINUED_AS_NEW`: the execution is logically continued. This means the current execution was completed and a new execution was started to carry on the workflow.

Type: String

Valid Values: `COMPLETED | FAILED | CANCELED | TERMINATED | CONTINUED_AS_NEW | TIMED_OUT`

Required: No

closeTimestamp
The time when the workflow execution was closed. Set only if the execution status is CLOSED.

Type: DateTime

Required: No

execution
The workflow execution this information is about.

Type: WorkflowExecution (p. 217) object

Required: Yes

executionStatus
The current status of the execution.

Type: String

Valid Values: `OPEN | CLOSED`

Required: Yes

parent
If this workflow execution is a child of another execution then contains the workflow execution that started this execution.

Type: WorkflowExecution (p. 217) object

Required: No

startTimestamp
The time when the execution was started.

Type: DateTime

Required: Yes

tagList
The list of tags associated with the workflow execution. Tags can be used to identify and list workflow executions of interest through the visibility APIs. A workflow execution can have a maximum of 5 tags.

Type: array of Strings

Length constraints: Minimum of 0 item(s) in the list. Maximum of 5 item(s) in the list.

Required: No

workflowType
The type of the workflow execution.

Type: WorkflowType (p. 231) object

Required: Yes

WorkflowExecutionInfos

Description

Contains a paginated list of information about workflow executions.

Contents

executionInfos
The list of workflow information structures.

Type: array of WorkflowExecutionInfo (p. 224) objects

Required: Yes

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

WorkflowExecutionOpenCounts

Description

Contains the counts of open tasks, child workflow executions and timers for a workflow execution.

Contents

openActivityTasks
The count of activity tasks whose status is OPEN.

Type: Number

Valid range: Minimum value of 0.

Required: Yes

openChildWorkflowExecutions
The count of child workflow executions whose status is OPEN.

Type: Number

Valid range: Minimum value of 0.

Required: Yes

openDecisionTasks
The count of decision tasks whose status is OPEN. A workflow execution can have at most one open decision task.

Type: Number

Valid range: Minimum value of 0. Maximum value of 1.

Required: Yes

openLambdaFunctions
Type: Number

Valid range: Minimum value of 0.

Required: No

openTimers
The count of timers started by this workflow execution that have not fired yet.

Type: Number

Valid range: Minimum value of 0.

Required: Yes

WorkflowExecutionSignaledEventAttributes

Description

Provides details of the `WorkflowExecutionSignaled` event.

Contents

externalInitiatedEventId
The id of the `SignalExternalWorkflowExecutionInitiated` event corresponding to the `SignalExternalWorkflow` decision to signal this workflow execution.The source event with this Id can be found in the history of the source workflow execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event. This field is set only if the signal was initiated by another workflow execution.

Type: Long

Required: No

externalWorkflowExecution
The workflow execution that sent the signal. This is set only of the signal was sent by another workflow execution.

Type: WorkflowExecution (p. 217) object

Required: No

input
Inputs provided with the signal (if any). The decider can use the signal name and inputs to determine how to process the signal.

Type: String

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

Required: No

signalName
The name of the signal received. The decider can use the signal name and inputs to determine how to the process the signal.

Type: String

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

Required: Yes

WorkflowExecutionStartedEventAttributes

Description

Provides details of `WorkflowExecutionStarted` event.

Contents

childPolicy
The policy to use for the child workflow executions if this workflow execution is terminated, by calling the TerminateWorkflowExecution (p. 139) action explicitly or due to an expired timeout.

The supported child policies are:

- **TERMINATE:** the child executions will be terminated.
- **REQUEST_CANCEL:** a request to cancel will be attempted for each child execution by recording a `WorkflowExecutionCancelRequested` event in its history. It is up to the decider to take appropriate actions when it receives an execution history with this event.
- **ABANDON:** no action will be taken. The child executions will continue to run.

Type: String

Valid Values: `TERMINATE | REQUEST_CANCEL | ABANDON`

Required: Yes

continuedExecutionRunId
If this workflow execution was started due to a `ContinueAsNewWorkflowExecution` decision, then it contains the `runId` of the previous workflow execution that was closed and continued as this execution.

Type: String

Length constraints: Minimum length of 0. Maximum length of 64.

Required: No

executionStartToCloseTimeout
The maximum duration for this workflow execution.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

input
The input provided to the workflow execution (if any).

Type: String

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

Required: No

lambdaRole
Type: String

Length constraints: Minimum length of 1. Maximum length of 1224.

Required: No

parentInitiatedEventId
The id of the `StartChildWorkflowExecutionInitiated` event corresponding to the `StartChildWorkflowExecution` Decision (p. 168) to start this workflow execution. The source event with this Id can be found in the history of the source workflow execution. This information can be useful for diagnosing problems by tracing back the chain of events leading up to this event.

Type: Long

Required: No

parentWorkflowExecution
The source workflow execution that started this workflow execution. The member is not set if the workflow execution was not started by a workflow.

Type: WorkflowExecution (p. 217) object

Required: No

tagList
The list of tags associated with this workflow execution. An execution can have up to 5 tags.

Type: array of Strings

Length constraints: Minimum of 0 item(s) in the list. Maximum of 5 item(s) in the list.

Required: No

taskList
The name of the task list for scheduling the decision tasks for this workflow execution.

Type: TaskList (p. 215) object

Required: Yes

taskPriority
Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

taskStartToCloseTimeout
The maximum duration of decision tasks for this workflow type.

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

workflowType
The workflow type of this execution.

Type: WorkflowType (p. 231) object

Required: Yes

WorkflowExecutionTerminatedEventAttributes

Description

Provides details of the `WorkflowExecutionTerminated` event.

Contents

cause
If set, indicates that the workflow execution was automatically terminated, and specifies the cause. This happens if the parent workflow execution times out or is terminated and the child policy is set to terminate child executions.

Type: String

Valid Values: `CHILD_POLICY_APPLIED | EVENT_LIMIT_EXCEEDED | OPERATOR_INITIATED`

Required: No

childPolicy
The policy used for the child workflow executions of this workflow execution.

The supported child policies are:

- **TERMINATE:** the child executions will be terminated.
- **REQUEST_CANCEL:** a request to cancel will be attempted for each child execution by recording a `WorkflowExecutionCancelRequested` event in its history. It is up to the decider to take appropriate actions when it receives an execution history with this event.
- **ABANDON:** no action will be taken. The child executions will continue to run.

Type: String

Valid Values: `TERMINATE | REQUEST_CANCEL | ABANDON`

Required: Yes

details
The details provided for the termination (if any).

Type: String

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

Required: No

reason
The reason provided for the termination (if any).

Type: String

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

Required: No

WorkflowExecutionTimedOutEventAttributes

Description

Provides details of the `WorkflowExecutionTimedOut` event.

Contents

childPolicy
The policy used for the child workflow executions of this workflow execution.

The supported child policies are:

- **TERMINATE:** the child executions will be terminated.
- **REQUEST_CANCEL:** a request to cancel will be attempted for each child execution by recording a `WorkflowExecutionCancelRequested` event in its history. It is up to the decider to take appropriate actions when it receives an execution history with this event.
- **ABANDON:** no action will be taken. The child executions will continue to run.

Type: String

Valid Values: `TERMINATE | REQUEST_CANCEL | ABANDON`

Required: Yes

timeoutType
The type of timeout that caused this event.

Type: String

Valid Values: `START_TO_CLOSE`

Required: Yes

WorkflowType

Description

Represents a workflow type.

Contents

name
Required. The name of the workflow type.

Note
The combination of workflow type name and version must be unique with in a domain.

Type: String

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

Required: Yes

version
Required. The version of the workflow type.

Note
The combination of workflow type name and version must be unique with in a domain.

Type: String

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

Required: Yes

WorkflowTypeConfiguration

Description

The configuration settings of a workflow type.

Contents

defaultChildPolicy
Optional. The default policy to use for the child workflow executions when a workflow execution of this type is terminated, by calling the TerminateWorkflowExecution (p. 139) action explicitly or due to an expired timeout. This default can be overridden when starting a workflow execution using the StartWorkflowExecution (p. 133) action or the `StartChildWorkflowExecution` Decision (p. 168).

The supported child policies are:

- **TERMINATE:** the child executions will be terminated.
- **REQUEST_CANCEL:** a request to cancel will be attempted for each child execution by recording a `WorkflowExecutionCancelRequested` event in its history. It is up to the decider to take appropriate actions when it receives an execution history with this event.
- **ABANDON:** no action will be taken. The child executions will continue to run.

Type: String

Valid Values: `TERMINATE | REQUEST_CANCEL | ABANDON`

Required: No

defaultExecutionStartToCloseTimeout
Optional. The default maximum duration, specified when registering the workflow type, for executions of this workflow type. This default can be overridden when starting a workflow execution using the StartWorkflowExecution (p. 133) action or the `StartChildWorkflowExecution` Decision (p. 168).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

defaultLambdaRole
Type: String

Length constraints: Minimum length of 1. Maximum length of 1224.

Required: No

defaultTaskList
Optional. The default task list, specified when registering the workflow type, for decisions tasks scheduled for workflow executions of this type. This default can be overridden when starting a workflow execution using the StartWorkflowExecution (p. 133) action or the `StartChildWorkflowExecution` Decision (p. 168).

Type: TaskList (p. 215) object

Required: No

defaultTaskPriority
Optional. The default task priority, specified when registering the workflow type, for all decision tasks of this workflow type. This default can be overridden when starting a workflow execution using the StartWorkflowExecution (p. 133) action or the `StartChildWorkflowExecution` decision.

Valid values are integers that range from Java's `Integer.MIN_VALUE` (-2147483648) to `Integer.MAX_VALUE` (2147483647). Higher numbers indicate higher priority.

For more information about setting task priority, see Setting Task Priority in the *Amazon Simple Workflow Developer Guide*.

Type: String

Length constraints: Minimum length of 0. Maximum length of 11.

Required: No

defaultTaskStartToCloseTimeout
Optional. The default maximum duration, specified when registering the workflow type, that a decision task for executions of this workflow type might take before returning completion or failure. If the task does not close in the specified time then the task is automatically timed out and rescheduled. If the decider eventually reports a completion or failure, it is ignored. This default can be overridden when starting a workflow execution using the StartWorkflowExecution (p. 133) action or the `StartChildWorkflowExecution` Decision (p. 168).

The duration is specified in seconds; an integer greater than or equal to 0. The value "NONE" can be used to specify unlimited duration.

Type: String

Length constraints: Minimum length of 0. Maximum length of 8.

Required: No

WorkflowTypeDetail

Description

Contains details about a workflow type.

Contents

configuration
Configuration settings of the workflow type registered through RegisterWorkflowType (p. 108)

Type: WorkflowTypeConfiguration (p. 232) object

Required: Yes

typeInfo
General information about the workflow type.

The status of the workflow type (returned in the WorkflowTypeInfo structure) can be one of the following.

- **REGISTERED**: The type is registered and available. Workers supporting this type should be running.
- **DEPRECATED**: The type was deprecated using DeprecateWorkflowType (p. 24), but is still in use. You should keep workers supporting this type running. You cannot create new workflow executions of this type.

Type: WorkflowTypeInfo (p. 234) object

Required: Yes

WorkflowTypeFilter

Description

Used to filter workflow execution query results by type. Each parameter, if specified, defines a rule that must be satisfied by each returned result.

Contents

name
Required. Name of the workflow type.

Type: String

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

Required: Yes

version
Version of the workflow type.

Type: String

Length constraints: Minimum length of 0. Maximum length of 64.

Required: No

WorkflowTypeInfo

Description

Contains information about a workflow type.

Contents

creationDate
The date when this type was registered.

Type: DateTime

Required: Yes

deprecationDate
If the type is in deprecated state, then it is set to the date when the type was deprecated.

Type: DateTime

Required: No

description
The description of the type registered through RegisterWorkflowType (p. 108).

Type: String

Length constraints: Minimum length of 0. Maximum length of 1024.

Required: No

status
The current status of the workflow type.

Type: String

Valid Values: `REGISTERED | DEPRECATED`

Required: Yes

workflowType
The workflow type this information is about.

Type: WorkflowType (p. 231) object

Required: Yes

WorkflowTypeInfos

Description

Contains a paginated list of information structures about workflow types.

Contents

nextPageToken
If a `NextPageToken` was returned by a previous call, there are more results available. To retrieve the next page of results, make the call again using the returned token in `nextPageToken`. Keep all other arguments unchanged.

The configured `maximumPageSize` determines how many results can be returned in a single call.

Type: String

Length constraints: Minimum length of 0. Maximum length of 2048.

Required: No

typeInfos
The list of workflow type information.

Type: array of WorkflowTypeInfo (p. 234) objects

Required: Yes

Common Parameters

The following table lists the parameters that all actions use for signing Signature Version 4 requests. Any action-specific parameters are listed in the topic for that action. To view sample requests, see Examples of Signed Signature Version 4 Requests or Signature Version 4 Test Suite 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. For a list of services that support AWS Security Token Service, go to Using Temporary Security Credentials to Access AWS in *Using Temporary Security Credentials*.

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 common errors that all actions return. Any action-specific errors are listed in the topic for the action.

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

Throttling
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