
Amazon Simple Workflow Service

API Reference

API Version 2012-01-25



Amazon Simple Workflow Service: API Reference

Copyright © 2014 Amazon Web Services, Inc. and/or its affiliates. All rights reserved.

The following are trademarks of Amazon Web Services, Inc.: Amazon, Amazon Web Services Design, AWS, Amazon CloudFront, Cloudfront, CloudTrail, Amazon DevPay, DynamoDB, ElastiCache, Amazon EC2, Amazon Elastic Compute Cloud, Amazon Glacier, Kinesis, Kindle, Kindle Fire, AWS Marketplace Design, Mechanical Turk, Amazon Redshift, Amazon Route 53, Amazon S3, Amazon VPC. In addition, Amazon.com graphics, logos, page headers, button icons, scripts, and service names are trademarks, or trade dress of Amazon in the U.S. and/or other countries. Amazon's trademarks and trade dress may not be used in connection with any product or service that is not Amazon's, in any manner that is likely to cause confusion among customers, or in any manner that disparages or discredits Amazon.

All other trademarks not owned by Amazon are the property of their respective owners, who may or may not be affiliated with, connected to, or sponsored by Amazon.

Table of Contents

Welcome	1
Actions	2
CountClosedWorkflowExecutions	4
Request Syntax	4
Request Parameters	5
Response Syntax	6
Response Elements	6
Errors	6
Examples	7
CountOpenWorkflowExecutions	8
Request Syntax	8
Request Parameters	8
Response Syntax	9
Response Elements	9
Errors	10
Examples	10
CountPendingActivityTasks	12
Request Syntax	12
Request Parameters	12
Response Syntax	13
Response Elements	13
Errors	13
Examples	13
CountPendingDecisionTasks	15
Request Syntax	15
Request Parameters	15
Response Syntax	16
Response Elements	16
Errors	16
Examples	16
DeprecateActivityType	18
Request Syntax	18
Request Parameters	18
Response Elements	19
Errors	19
Examples	19
DeprecateDomain	21
Request Syntax	21
Request Parameters	21
Response Elements	21
Errors	22
Examples	22
DeprecateWorkflowType	24
Request Syntax	24
Request Parameters	24
Response Elements	25
Errors	25
Examples	25
DescribeActivityType	27
Request Syntax	27
Request Parameters	27
Response Syntax	28
Response Elements	28
Errors	28
Examples	29

DescribeDomain	31
Request Syntax	31
Request Parameters	31
Response Syntax	31
Response Elements	32
Errors	32
Examples	32
DescribeWorkflowExecution	34
Request Syntax	34
Request Parameters	34
Response Syntax	35
Response Elements	35
Errors	36
Examples	36
DescribeWorkflowType	39
Request Syntax	39
Request Parameters	39
Response Syntax	40
Response Elements	40
Errors	40
Examples	41
GetWorkflowExecutionHistory	43
Request Syntax	43
Request Parameters	43
Response Syntax	44
Response Elements	51
Errors	51
Examples	52
ListActivityTypes	56
Request Syntax	56
Request Parameters	56
Response Syntax	57
Response Elements	58
Errors	58
Examples	58
ListClosedWorkflowExecutions	60
Request Syntax	60
Request Parameters	61
Response Syntax	63
Response Elements	63
Errors	64
Examples	64
ListDomains	66
Request Syntax	66
Request Parameters	66
Response Syntax	67
Response Elements	67
Errors	68
Examples	68
ListOpenWorkflowExecutions	70
Request Syntax	70
Request Parameters	70
Response Syntax	72
Response Elements	72
Errors	73
Examples	73
ListWorkflowTypes	75
Request Syntax	75

Request Parameters	75
Response Syntax	76
Response Elements	77
Errors	77
Examples	77
PollForActivityTask	79
Request Syntax	79
Request Parameters	79
Response Syntax	80
Response Elements	80
Errors	81
Examples	81
PollForDecisionTask	83
Request Syntax	83
Request Parameters	83
Response Syntax	85
Response Elements	92
Errors	92
Examples	93
RecordActivityTaskHeartbeat	96
Request Syntax	96
Request Parameters	96
Response Syntax	97
Response Elements	97
Errors	97
Examples	98
RegisterActivityType	99
Request Syntax	99
Request Parameters	99
Response Elements	102
Errors	102
Examples	102
RegisterDomain	104
Request Syntax	104
Request Parameters	104
Response Elements	105
Errors	105
Examples	105
RegisterWorkflowType	107
Request Syntax	107
Request Parameters	107
Response Elements	109
Errors	110
Examples	110
RequestCancelWorkflowExecution	112
Request Syntax	112
Request Parameters	112
Response Elements	113
Errors	113
Examples	113
RespondActivityTaskCanceled	115
Request Syntax	115
Request Parameters	115
Response Elements	116
Errors	116
Examples	116
RespondActivityTaskCompleted	118
Request Syntax	118

Request Parameters	118
Response Elements	119
Errors	119
Examples	119
RespondActivityTaskFailed	121
Request Syntax	121
Request Parameters	121
Response Elements	122
Errors	122
Examples	122
RespondDecisionTaskCompleted	124
Request Syntax	124
Request Parameters	126
Response Elements	126
Errors	126
Examples	127
SignalWorkflowExecution	129
Request Syntax	129
Request Parameters	129
Response Elements	130
Errors	130
Examples	131
StartWorkflowExecution	132
Request Syntax	132
Request Parameters	133
Response Syntax	135
Response Elements	135
Errors	136
Examples	136
TerminateWorkflowExecution	138
Request Syntax	138
Request Parameters	138
Response Elements	140
Errors	140
Examples	140
Data Types	142
ActivityTask	144
Description	144
Contents	144
ActivityTaskCancelRequestedEventAttributes	145
Description	145
Contents	145
ActivityTaskCanceledEventAttributes	146
Description	146
Contents	146
ActivityTaskCompletedEventAttributes	146
Description	146
Contents	146
ActivityTaskFailedEventAttributes	147
Description	147
Contents	147
ActivityTaskScheduledEventAttributes	148
Description	148
Contents	148
ActivityTaskStartedEventAttributes	150
Description	150
Contents	150
ActivityTaskStatus	150

Description	150
Contents	150
ActivityTaskTimedOutEventAttributes	150
Description	150
Contents	151
ActivityType	151
Description	151
Contents	151
ActivityTypeConfiguration	152
Description	152
Contents	152
ActivityTypeDetail	153
Description	153
Contents	154
ActivityTypeInfo	154
Description	154
Contents	154
ActivityTypeInfos	155
Description	155
Contents	155
CancelTimerDecisionAttributes	155
Description	155
Contents	156
CancelTimerFailedEventAttributes	156
Description	156
Contents	156
CancelWorkflowExecutionDecisionAttributes	157
Description	157
Contents	157
CancelWorkflowExecutionFailedEventAttributes	157
Description	157
Contents	157
ChildWorkflowExecutionCanceledEventAttributes	158
Description	158
Contents	158
ChildWorkflowExecutionCompletedEventAttributes	159
Description	159
Contents	159
ChildWorkflowExecutionFailedEventAttributes	159
Description	159
Contents	160
ChildWorkflowExecutionStartedEventAttributes	160
Description	160
Contents	161
ChildWorkflowExecutionTerminatedEventAttributes	161
Description	161
Contents	161
ChildWorkflowExecutionTimedOutEventAttributes	162
Description	162
Contents	162
CloseStatusFilter	163
Description	163
Contents	163
CompleteWorkflowExecutionDecisionAttributes	163
Description	163
Contents	163
CompleteWorkflowExecutionFailedEventAttributes	164
Description	164

Contents	164
ContinueAsNewWorkflowExecutionDecisionAttributes	164
Description	164
Contents	165
ContinueAsNewWorkflowExecutionFailedEventAttributes	166
Description	166
Contents	167
Decision	167
Description	167
Contents	169
DecisionTask	171
Description	171
Contents	171
DecisionTaskCompletedEventAttributes	172
Description	172
Contents	172
DecisionTaskScheduledEventAttributes	173
Description	173
Contents	173
DecisionTaskStartedEventAttributes	174
Description	174
Contents	174
DecisionTaskTimedOutEventAttributes	174
Description	174
Contents	174
DomainConfiguration	175
Description	175
Contents	175
DomainDetail	175
Description	175
Contents	175
DomainInfo	175
Description	175
Contents	176
DomainInfos	176
Description	176
Contents	176
ExecutionTimeFilter	177
Description	177
Contents	177
ExternalWorkflowExecutionCancelRequestedEventAttributes	177
Description	177
Contents	177
ExternalWorkflowExecutionSignaledEventAttributes	178
Description	178
Contents	178
FailWorkflowExecutionDecisionAttributes	178
Description	178
Contents	178
FailWorkflowExecutionFailedEventAttributes	179
Description	179
Contents	179
History	179
Description	179
Contents	179
HistoryEvent	180
Description	180
Contents	181

MarkerRecordedEventAttributes	188
Description	188
Contents	188
PendingTaskCount	188
Description	188
Contents	189
RecordMarkerDecisionAttributes	189
Description	189
Contents	189
RecordMarkerFailedEventAttributes	190
Description	190
Contents	190
RequestCancelActivityTaskDecisionAttributes	190
Description	190
Contents	191
RequestCancelActivityTaskFailedEventAttributes	191
Description	191
Contents	191
RequestCancelExternalWorkflowExecutionDecisionAttributes	192
Description	192
Contents	192
RequestCancelExternalWorkflowExecutionFailedEventAttributes	192
Description	192
Contents	193
RequestCancelExternalWorkflowExecutionInitiatedEventAttributes	194
Description	194
Contents	194
Run	194
Description	194
Contents	194
ScheduleActivityTaskDecisionAttributes	195
Description	195
Contents	195
ScheduleActivityTaskFailedEventAttributes	197
Description	197
Contents	198
SignalExternalWorkflowExecutionDecisionAttributes	198
Description	198
Contents	199
SignalExternalWorkflowExecutionFailedEventAttributes	200
Description	200
Contents	200
SignalExternalWorkflowExecutionInitiatedEventAttributes	201
Description	201
Contents	201
StartChildWorkflowExecutionDecisionAttributes	202
Description	202
Contents	202
StartChildWorkflowExecutionFailedEventAttributes	205
Description	205
Contents	205
StartChildWorkflowExecutionInitiatedEventAttributes	206
Description	206
Contents	206
StartTimerDecisionAttributes	208
Description	208
Contents	208
StartTimerFailedEventAttributes	209

Description	209
Contents	209
TagFilter	209
Description	209
Contents	210
TaskList	210
Description	210
Contents	210
TimerCanceledEventAttributes	210
Description	210
Contents	210
TimerFiredEventAttributes	211
Description	211
Contents	211
TimerStartedEventAttributes	211
Description	211
Contents	211
WorkflowExecution	212
Description	212
Contents	212
WorkflowExecutionCancelRequestedEventAttributes	213
Description	213
Contents	213
WorkflowExecutionCanceledEventAttributes	213
Description	213
Contents	213
WorkflowExecutionCompletedEventAttributes	214
Description	214
Contents	214
WorkflowExecutionConfiguration	214
Description	214
Contents	214
WorkflowExecutionContinuedAsNewEventAttributes	215
Description	215
Contents	216
WorkflowExecutionCount	217
Description	217
Contents	217
WorkflowExecutionDetail	218
Description	218
Contents	218
WorkflowExecutionFailedEventAttributes	218
Description	218
Contents	219
WorkflowExecutionFilter	219
Description	219
Contents	219
WorkflowExecutionInfo	219
Description	219
Contents	220
WorkflowExecutionInfos	221
Description	221
Contents	221
WorkflowExecutionOpenCounts	221
Description	221
Contents	222
WorkflowExecutionSignaledEventAttributes	222
Description	222

Contents	222
WorkflowExecutionStartedEventAttributes	223
Description	223
Contents	223
WorkflowExecutionTerminatedEventAttributes	225
Description	225
Contents	225
WorkflowExecutionTimedOutEventAttributes	226
Description	226
Contents	226
WorkflowType	226
Description	226
Contents	226
WorkflowTypeConfiguration	227
Description	227
Contents	227
WorkflowTypeDetail	228
Description	228
Contents	228
WorkflowTypeFilter	229
Description	229
Contents	229
WorkflowTypeInfo	229
Description	229
Contents	229
WorkflowTypeInfoInfos	230
Description	230
Contents	230
Common Parameters	232
.....	232
Common Errors	234
.....	234

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 17, 2014.

Actions

The following actions are supported:

- [CountClosedWorkflowExecutions](#) (p. 4)
- [CountOpenWorkflowExecutions](#) (p. 8)
- [CountPendingActivityTasks](#) (p. 12)
- [CountPendingDecisionTasks](#) (p. 15)
- [DeprecateActivityType](#) (p. 18)
- [DeprecateDomain](#) (p. 21)
- [DeprecateWorkflowType](#) (p. 24)
- [DescribeActivityType](#) (p. 27)
- [DescribeDomain](#) (p. 31)
- [DescribeWorkflowExecution](#) (p. 34)
- [DescribeWorkflowType](#) (p. 39)
- [GetWorkflowExecutionHistory](#) (p. 43)
- [ListActivityTypes](#) (p. 56)
- [ListClosedWorkflowExecutions](#) (p. 60)
- [ListDomains](#) (p. 66)
- [ListOpenWorkflowExecutions](#) (p. 70)
- [ListWorkflowTypes](#) (p. 75)
- [PollForActivityTask](#) (p. 79)
- [PollForDecisionTask](#) (p. 83)
- [RecordActivityTaskHeartbeat](#) (p. 96)
- [RegisterActivityType](#) (p. 99)
- [RegisterDomain](#) (p. 104)
- [RegisterWorkflowType](#) (p. 107)
- [RequestCancelWorkflowExecution](#) (p. 112)
- [RespondActivityTaskCanceled](#) (p. 115)
- [RespondActivityTaskCompleted](#) (p. 118)
- [RespondActivityTaskFailed](#) (p. 121)
- [RespondDecisionTaskCompleted](#) (p. 124)
- [SignalWorkflowExecution](#) (p. 129)
- [StartWorkflowExecution](#) (p. 132)

- [TerminateWorkflowExecution](#) (p. 138)

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 \(p. 232\)](#).

The request accepts 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 \(p. 219\)](#) 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 \(p. 209\)](#) 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 \(p. 229\)](#) object

Required: No

Response Syntax

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

Response Elements

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

count

The number of workflow executions.

Type: Number

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 \(p. 234\)](#).

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 within 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=Hmac
SHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signa
ture=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 \(p. 232\)](#).

The request accepts 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. 219) 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. 209) 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. 229) object

Required: No

Response Syntax

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

Response Elements

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

count

The number of workflow executions.

Type: Number

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 \(p. 234\)](#).

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 within 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 \(p. 232\)](#).

The request accepts 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 \(p. 210\)](#) object

Required: Yes

Response Syntax

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

Response Elements

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

count

The number of tasks in the task list.

Type: Number

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 \(p. 234\)](#).

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 within 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,Al
gorithm=HmacSHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encod
ing,Signature=eCNiyy15qmP0gGQ0hM8LqeRzxEvVZ0LAjE4oxVzzk9w=
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 \(p. 232\)](#).

The request accepts 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 \(p. 210\)](#) object

Required: Yes

Response Syntax

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

Response Elements

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

count

The number of tasks in the task list.

Type: Number

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 \(p. 234\)](#).

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 within 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,Al
gorithm=HmacSHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encod
ing,Signature=i9tUkWnZBLfn/T6BOymajCtwArAll6StuhlX2C4dbsE=
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 \(p. 232\)](#).

The request accepts the following data in JSON format.

activityType

The activity type to deprecate.

Type: [ActivityType \(p. 151\)](#) 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 \(p. 234\)](#).

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 within 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 \(p. 232\)](#).

The request accepts 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 \(p. 234\)](#).

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 within 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=Hmac
SHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signature=BkJDtbH9uZvrrarqXTkBEYuYHO7PPygRI8ykV29Dz/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 \(p. 232\)](#).

The request accepts 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. 226) 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. 234).

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 within 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=BGrrldjQvp+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 \(p. 232\)](#).

The request accepts 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 \(p. 151\)](#) 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

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

configuration

The configuration settings registered with the activity type.

Type: [ActivityTypeConfiguration](#) (p. 152) 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. 154) object

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 234).

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 within 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=Hmac
SHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signature=Xi
GRwOZNLt+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 \(p. 232\)](#).

The request accepts 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

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. 175) object

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 234).

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 within 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=Hmac
SHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signa
ture=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 \(p. 232\)](#).

The request accepts 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 \(p. 212\)](#) object

Required: Yes

Response Syntax

```
{
  "executionConfiguration": {
    "childPolicy": "string",
    "executionStartToCloseTimeout": "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",
    "openTimers": "number"
  }
}
```

Response Elements

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. 214) object

executionInfo

Information about the workflow execution.

Type: [WorkflowExecutionInfo](#) (p. 219) 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. 124).

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. 221) object

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 234).

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 within 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=Hmac
SHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signa
ture=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 \(p. 232\)](#).

The request accepts 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 \(p. 226\)](#) object

Required: Yes

Response Syntax

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

Response Elements

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

configuration

Configuration settings of the workflow type registered through [RegisterWorkflowType \(p. 107\)](#)

Type: [WorkflowTypeConfiguration \(p. 227\)](#) 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 \(p. 229\)](#) object

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 234\)](#).

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 within 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=Hmac
SHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signa
ture=IGt8t830mrURqu0pKYbcW6mNdjXbFomevCBPUPQEbaM=
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 \(p. 232\)](#).

The request accepts 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 \(p. 212\)](#) object

Required: Yes

maximumPageSize

The maximum number of results that will be returned per call. `nextPageToken` can be used to obtain further pages of results. The default is 100, which is the maximum allowed page size. You can, however, specify a page size *smaller* than 100.

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

Type: Number

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"
},
"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"
    },
    "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",
  "tagList": [
    "string"
  ],
  "taskList": {
    "name": "string"
  },
  "taskPriority": "string",
  "taskStartToCloseTimeout": "string",
  "workflowId": "string",
  "workflowType": {
    "name": "string",
    "version": "string"
  }
},
"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",
    "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",
    "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

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. 234).

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 within 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-Amzn-Date: Mon, 16 Jan 2012 03:44:00 GMT
X-Amzn-Target: SimpleWorkflowService.GetWorkflowExecutionHistory
Content-Encoding: amz-1.0
X-Amzn-Authorization: AWS3 AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE,Algorithm=Hmac
SHA256,SignedHeaders=Host;X-Amzn-Date;X-Amzn-Target;Content-Encoding,Signa
ture=90GENeUWJbEAMWuVI0dcWatHjltMWddXfLj10MbNOzM=
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": "AAAAKgAAAAEAAAAAAAAAAATeTvAyvqlQz34ctbGhM5nglW
mjk0hGuHf0g4EO4CblQFku70ukjPgrAHy7Tnp7FaZ0okP8EEWnk
fg8gi3Fqy/WVrXyxQaa525D3lcIqlowXK21CKR6SQ0Job87G8SHvvqvP7yjLGHlHrRGZUCb
JgeEuV4Rp/yW+vKhc8dJ54x7wvpQMwZ+ssG6stTyX26vulgIDuspk13UrDZa4TbLOfDM0aAocHe3xklK
MtD/B4ithem6BWm6CBl/UF7lMfNccwUYEityplKht/YrcD9zbJktlFSt4Y6pgt0njAh4FKRO9nyRyvLmb
```

```
vgtQXEIQz8hdbjwj3xE1+9ocYwXOCAhVkrSh3OD6F8KHilKfdwg4Xz1jtLXOh4lsCecNb8dS7J9hbREr
Rbw3rhlSv415U2Ye23Oeff4Jv7JznpmEyzuq8d2bMyOLjAInQVFK4tltPo5FAhzdIC
CXBhRq6Wkt++W9sRQXqqX/HTX5kNomHySZloylPuY5gL5zRj39frInfZk4EXWHwrI+18+erGIHO4nBQp
MzO64dMP+A/KtVGCn59rAMmilD6wEE9rH8RuZ03Wkvm9yrJvjrlI8/6358n8TMB8OcHoqILkMCAXYiIppn
Flm+NWVQxalHLKOrrNzEZM6qsz3Qj3HVlcpy9P7fnS9QAxrgsAYBoDmdOaFkS3ktAkRa0Sle8STf
Hi4zKbfIGS7rg==" ,
  "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 \(p. 232\)](#).

The request accepts 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 further pages of results. The default is 100, which is the maximum allowed page size. You can, however, specify a page size *smaller* than 100.

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

Type: Number

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

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. 154) objects

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 234).

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 within 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: 11b6fbbeb-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 \(p. 232\)](#).

The request accepts 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 \(p. 219\)](#) object

Required: No

maximumPageSize

The maximum number of results that will be returned per call. `nextPageToken` can be used to obtain further pages of results. The default is 100, which is the maximum allowed page size. You can, however, specify a page size *smaller* than 100.

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

Type: Number

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 \(p. 209\)](#) 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 \(p. 229\)](#) 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

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

executionInfos

The list of workflow information structures.

Type: array of [WorkflowExecutionInfo](#) (p. 219) 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 \(p. 234\)](#).

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 within 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+loGVgNL0/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-alc0-4831acbdalcd",
"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 \(p. 232\)](#).

The request accepts the following data in JSON format.

maximumPageSize

The maximum number of results that will be returned per call. `nextPageToken` can be used to obtain further pages of results. The default is 100, which is the maximum allowed page size. You can, however, specify a page size *smaller* than 100.

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

Type: Number

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

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

domainInfos

A list of `DomainInfo` structures.

Type: array of [DomainInfo](#) (p. 175) 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 \(p. 234\)](#).

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=Hmac
SHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signature=ZC
prC72dUxF9ca3w/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": "zsxfvgxscv", "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 \(p. 232\)](#).

The request accepts 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. 219) object

Required: No

maximumPageSize

The maximum number of results that will be returned per call. `nextPageToken` can be used to obtain further pages of results. The default is 100, which is the maximum allowed page size. You can, however, specify a page size *smaller* than 100.

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

Type: Number

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. 209) 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. 229) 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

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

executionInfos

The list of workflow information structures.

Type: array of [WorkflowExecutionInfo](#) (p. 219) 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. 234).

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 within 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,Al
gorithm=HmacSHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encod
ing,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 \(p. 232\)](#).

The request accepts 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 further pages of results. The default is 100, which is the maximum allowed page size. You can, however, specify a page size *smaller* than 100.

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

Type: Number

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

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. 229) objects

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 234).

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 within 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,Al
gorithm=HmacSHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encod
ing,Signature=uIeWQSyVVf0+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. 144) 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. 232).

The request accepts 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. 210) 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

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. 151) 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. 212) object

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 234).

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 within 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=dv0HlRPYucoIcRckspW00f8xG120MWZRkmj305/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": "AAAAKgAAAAE
AAAAAAAAAAX9p3pcp3857oLXFUuwdxRU5/zmn9f40XaMF7VohAH4jOtjXpZu7GdOzEi0b3cWYHbG5b5dp
dcTXHUDPVVMHXiUxCgr+Nc/wUW9016W4YxJGs/jmxzPln8qLftU+SW135Q0UuKp5XR
GoRTJp3tbHn2pYlvC8gDB/K69J6q668Ulpd4Cd9o43//lGgOIjN0/Ihg+DO+83HNcOuVEQMM28kN
MXf7yePh31M4dMKJwQaQZG13huJXDwzJOoZQz+XFuqFly+lPnCE4XvsnhfAvTsh50EtNDEtQzPCF
JoUeld9g64V/FS/39PHL3M93PBUuroPyHuCwHsNC6fZ7gM/XOKmW4kKnXPoQweEUK
FV/J6E6+MlreBO7nJADTrLSnaja6MY/viWsEYmMw/DS5FlquFaDIhFkLhWUWN+V2KqiKS23GY
wpzgZ7fgcWHQF2NLEY3zrjam4LW/UW5VLCyM3FpVD3erCTi9IvUgslPzyVGuWNAoTmgJEWvimg
wiHxJMxxc9JBDR390iMmImxVl3eeSDUWx8reQltiviadPDjyRmVhYP8",
 "workflowExecution":
 {"runId": "cfa2bd33-31b0-4b75-b131-255bb0d97b3f",
  "workflowId": "20110927-T-1"}
}
```

PollForDecisionTask

Used by deciders to get a [DecisionTask](#) (p. 171) 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. 232).

The request accepts 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 further pages of results. The default is 100, which is the maximum allowed page size. You can, however, specify a page size *smaller* than 100.

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

Type: Number

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. 210) 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"
      },
      "control": "string",
      "decisionTaskCompletedEventId": "number",
      "heartbeatTimeout": "string",
      "input": "string",
      "scheduleToCloseTimeout": "string",
      "scheduleToStartTimeout": "string",
      "startToCloseTimeout": "string",
      "taskList": {
        "name": "string"
      },
      "taskPriority": "string"
    },
    {
      "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"
      },
      "control": "string",
      "decisionTaskCompletedEventId": "number",
      "heartbeatTimeout": "string",
      "input": "string",
      "scheduleToCloseTimeout": "string",
      "scheduleToStartTimeout": "string",
      "startToCloseTimeout": "string",
      "taskList": {
        "name": "string"
      },
      "taskPriority": "string"
    },
    {
      "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"
      },
      "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"
    },
    "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"
    },
    "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",
      "tagList": [
        "string"
      ],
      "taskList": {
        "name": "string"
      },
      "taskPriority": "string",
      "taskStartToCloseTimeout": "string",
      "workflowId": "string",
      "workflowType": {
        "name": "string",
        "version": "string"
      }
    },
    "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",
    "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",
      "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

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. 212) object

workflowType

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

Type: [WorkflowType](#) (p. 226) object

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 234).

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 within 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=Hmac
SHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signature=R3CJ2HMLSVpc2p6eafeztZCZWcgza+h6lgSUWx15gw=
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": "AAAAKgAAAAEAAAAAAAAAAATZDvCYwk/hP/XlZGdJhb+T6OWzcBx2DPh
sIi5HF4aGQI4OXrDE7Ny3uM+aiAhGrmeNyVaa4yNIBQuoZuJA5G+BoaB0JuHFB0ynHDTnm7ayNH43Kh
MkfdrDG4elfHSz3m/EtbLnFGueAr7+3NKDG6x4sTKg3cZpOtS
guSx05yI1X3AtscS8ATcLB2Y3Aub1YonN/i/k67voca/GFsSiwSz3AAAnJj1IPvrujgIj9KUvck
wRPC5ET7d33XJcRp+gHYzZsBLVBaRmV3gEYAnp2ICslFn4YSjGy+dFXCNpOa4G108pczCbFUG
bQ3+5wf0RSaa/xMq2pfdBKnuFp0wp8kw1k+5ZsbtDZeZn8g5GyKCLiLms/xD0OxugGGUe5ZlAoHEkT
WGxZj/G32P7cMoCgrcACfFPdx1LNYYEre7YiGiyjGnfW2t5mW7VK9Np28vcXVb
dpH4JNEB9OuBlxqL8N8ifPVtc72uxBli9XEdq/8rkXasSEw4TubB2FwggnuJstmfEhpOdb5HfhR6Owm
nHuk9eszO/fUkGucTUXQP2hhB+Gz "
}
```

RecordActivityTaskHeartbeat

Used by activity workers to report to the service that the [ActivityTask](#) (p. 144) 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. 99).

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. 99).

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. 115). 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. 232).

The request accepts 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. 144).

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

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. 234).

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 within 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=DEA8rw5TqtpqCeTlj17eotZkuWTgmGZlPWYDNZPehT0=
Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
Content-Length: 623
Pragma: no-cache
Cache-Control: no-cache

{"taskToken": "AAAAKgAAAAE
AAAAAAAAAAAX9p3pcp3857oLXFUuwdxRU5/zmn9f40XaMF7VohAH4jOtjXpZu7GdOzEi0b3cWYHbG5b5dp
dcTXHUDPVMHXiUxCgr+Nc/wUW9016W4YxJGs/jmxzPln8qLftU+SW135Q0UuKp5XR
GoRTJp3tbHn2pYlvC8gDB/K69J6q668U1pd4Cd9o43//lGgOIjN0/Ihg+DO+83HNcOuVEQMM28kN
MXf7yePh31M4dMKJwQaQZG13huJXDwzJOoZQz+XFuqFly+lPnCE4XvsnhfAvTsh50EtNDEtQzPCF
JoUeld9g64V/FS/39PHL3M93PBUuroPyHuCwHsNC6fZ7gM/XOKmW4kKnXPoQweEUk
FV/J6E6+MlreBO7nJADTrLSnaja6MY/viWsEYmMw/DS5FlquFaDIhFkLhWUWN+V2KqiKS23GY
wpzgZ7fgcWHQF2NLEY3zrjam4LW/UW5VLCyM3FpVD3erCTi9IvUgslPzyVGuWNAoTmgJEWvimg
wiHxJMxxc9JBDR390iMmImxVl3eeSDUWx8reQltiviadPDjyRmVhYP8",
  "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 \(p. 232\)](#).

The request accepts 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. 167). 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. 167).

Type: [TaskList](#) (p. 210) 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. 167).

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. 167).

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. 167).

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 \(p. 234\)](#).

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 within 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=Hmac
SHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signa
ture=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 \(p. 232\)](#).

The request accepts 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 \(p. 234\)](#).

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=Hmac
SHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signa
ture=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. 104) 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",
  "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. 232).

The request accepts 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. 138) action explicitly or due

to an expired timeout. This default can be overridden when starting a workflow execution using the [StartWorkflowExecution \(p. 132\)](#) action or the [StartChildWorkflowExecution Decision \(p. 167\)](#).

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 \(p. 132\)](#) Action or [StartChildWorkflowExecution Decision \(p. 167\)](#).

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

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 \(p. 132\)](#) Action or [StartChildWorkflowExecution Decision \(p. 167\)](#).

Type: [TaskList \(p. 210\)](#) 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 \(p. 132\)](#) action or the [StartChildWorkflowExecution Decision \(p. 167\)](#).

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 \(p. 234\)](#).

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 within 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=Hmac
SHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signa
ture=p5FU0oV3QXAafb7aK5z79Ztu5v0w9NeEqLu0ei+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. 138) 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. 232).

The request accepts 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 \(p. 234\)](#).

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 within 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,Al
gorithm=HmacSHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encod
ing,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. 144) 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. 118), `RespondActivityTaskCanceled`, [RespondActivityTaskFailed](#) (p. 121), 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. 232).

The request accepts 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. 144).

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 \(p. 234\)](#).

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 within 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,Al
```

```
gorithm=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/Okm9kWg1Jm6Db
wiBZgxyCrW2OS+DQQtrCTMr+KH1ouxrCVOkTXPOUY/M4Uj
fr1CrSMi6S0DMD8/N6yxzd34+PIIvRY8w9M5z89PbPQKjKHKbz2ocbTnHgRThaB04ZmeadNyZWSeQyZXm
sQFmFuHfah9P2ibzrDSldU+s/iw/R9RBrRWArSph/FIfWdRUJfu/FH9IFPSb3KYKMVaJA0yWhcR1Kr
RGywIGxPC7m9tQjapXqitoRYj42qgABYdT4NVR5cLCkeYW0LKxUGVU46+gNvRaUfYzP31JVAR
Qh5d0j7S/ERil0m6bamPJ3UcZfLFbM42mIINywmcTORMpQ/nPGLUliECYrtnAV0YTlGZfGm+Vi6Gcg
wyi4hEjg7TCBjc6WBw3JuAfFvUPU5cfvAoX7quUZRA7JUnYGObE0y9zYuTnCxC6C1GL7Ks2MEA0coIi
Al4JZx6qsGYfeKjIGntTsoCEelzjp5gRqfeD74kfeZg0HmqA0xiFGZ400HbImnF5YHsedY
fLk6u09SAkQMD8iJhT8",
  "details": "customer canceled transaction"}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Length: 0
Content-Type: application/json
x-amzn-RequestId: bla001a6-3ffb-11e1-9b11-7182192d0b57
```


RespondActivityTaskCompleted

Used by workers to tell the service that the [ActivityTask](#) (p. 144) 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. 121) 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. 115).

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. 115), [RespondActivityTaskFailed](#) (p. 121), 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. 232).

The request accepts 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. 144).

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 \(p. 234\)](#).

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 within 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,Al
```

```
gorithm=HmacSHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signature=M+ygHbMHSJiVrsAQTW/BfkgHoNzLPnPD+dVywJiPXE=
  Referer: http://swf.us-east-1.amazonaws.com/explorer/index.html
  Content-Length: 638
  Pragma: no-cache
  Cache-Control: no-cache

  {"taskToken": "AAAAKgAAAAE
AAAAAAAAAAX9p3pcp3857oLXFUuwdxRU5/zmn9f40XaMF7VohAH4jOtjXpzu7GdOzEi0b3cWYHbG5b5dp
dcTXHUDPVMHXiUxCgr+Nc/wUW9016W4YxJGs/jmxzPln8qLftU+SW135Q0UuKp5XR
GoRTJp3tbHn2pY1vC8gDB/K69J6q668U1pd4Cd9o43//lGgOIjN0/Ihg+DO+83HNcOuVEQMM28kN
MXf7yePh31M4dMKJwQaQZG13huJXDwzJOoZQz+XFuqFly+lPnCE4XvsnhfAvTsh50EtNDEtQzPCF
JoUeld9g64V/FS/39PHL3M93PBUuroPyHuCwHsNC6fZ7gM/XOKmW4kKnXPoQweEUK
FV/J6E6+M1reBO7nJADTrLSnaja6MY/viWsEYmMw/DS5FlquFaDIhFkLhWUWN+V2KqiKS23GY
wpzgZ7fgcWHQF2NLEY3zrjam4LW/UW5VLCyM3FpVD3erCTi9IvUgslPzyVGuWNAoTmgJEWvimg
wiHxJMxxc9JBDR390iMmImxVl3eeSDUWx8reQltiviadPDjyRmVhYP8",
  "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. 144) 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. 118), [RespondActivityTaskCanceled](#) (p. 115), `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. 232).

The request accepts 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. 144).

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. 234).

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 within 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,Al
gorithm=HmacSHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encod
ing,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": "AAAAKgAAAAEAAAAAAAAAAAdG7j7YfEl9pfKdXRL3Cy3Q3c1Z8Qw
dOSX53bKiUV6MMGXvf3Lrinmmzj1HFFl5lchwHzEFxLbMaSZ/lMt/RFJPumHXAnUqlYjZLODhrBqs
IzDQFKcbCFMq7y4jm0EFzsV2Suv8iu/obcZ/idU8qjd9uG/82zumG2xz1Z4IbOFwOTlpj2++5YVH4ftyy
cIcjlDw58r00lvAo4PEondkqjyn+YxBxyZLy1zl1fvMi0zeO8Lh16w96y6v+KdVc/ECoez1Og8sROaXG0l8ptW5YR733LIuUBK4sxWal2egF5i4e8AV8JloojOaq0jy4iFsIs
cRazOSQErjo15Guz89BK2XW911P3I+X7nJjh0wwW55XGCs0jezvseC8M6D9Ob7CgWr6RrnK3g1AKem
cby2XqgQRN52DMIYxzV+lMS/QBYKOqtKLoMY0NKeuRVwm9flzCY00v6kxqK9m2zFvaxqlJ5/JVCWMN
WEWJfQZVtC3GzMWmzeCt7Auq8A5/Caq/DKyOhTihY/Go00iiDA6ecP8taTYiVzb8VR5xEiQ1uCxnECk
wW",

  "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. 171) 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",
        "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"
    },
    "signalExternalWorkflowExecutionDecisionAttributes": {
        "control": "string",
        "input": "string",
        "runId": "string",
        "signalName": "string",
        "workflowId": "string"
    },
    "startChildWorkflowExecutionDecisionAttributes": {
        "childPolicy": "string",
        "control": "string",
        "executionStartToCloseTimeout": "string",
        "input": "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 \(p. 232\)](#).

The request accepts 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 \(p. 167\)](#) structure for details.

Type: array of [Decision \(p. 167\)](#) 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 \(p. 171\)](#).

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 \(p. 234\)](#).

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 within 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=Hmac
SHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signa
ture=FL4ouCb8n6j5egcKOXoa+5Vctc8WmA9lB2ekKnks2J8=
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+FgFSOvHd9z1
CROacKYHh640MkANx2y9YM3CQnec0kEb1oRvB6DxKestY3U/UQhvbqPY7E4BYE6hkDj/NmS
bt9EwEJ/a+WD+oc2sDNfeVz2x+6wjb5vQdFKwBoQ6MDWLFbAhcgK+ymoRjoBHRPsrNLX3IA6sQaPm
QRZQs3FRZonoVzP6uXMCZPn CZQULFjU1kTM8VHzH7ywqWKVmmdvncyREOCT9VqmYbhLntJXsDj+scAv
uNyl7MCX9M9AJ7V/5qrLCeYdWA4FBQgY4Ew6IC+dge/UzdVMmpW/uB7nvSk6owQIhapPh5pEUwwY/yN
noVLTiPOz9KzZlANyw7uDchBRLvUJORFtpP9ZQIouNP8QOvFWm7Idc50ah
wGEdTciG+KDXV8kAzz7wKhs7l1TXYkC15x0h3XPH0MdLeEjipv98EpZaMIvtgGSdRjluOjNWEL2zowZBy
itleI5bdvxZdgalAXXKENbYE6/rfLGRaAJKdh2n0dmTMI+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 \(p. 232\)](#).

The request accepts 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 \(p. 234\)](#).

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 within 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,Al
gorithm=HmacSHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encod
ing,Signature=lQpBZezK7JNqrXeWuJE+17S0ZwjOEONCeRyImoyfX+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",
  "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 \(p. 232\)](#).

The request accepts 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 \(p. 138\)](#) action explicitly or due to an expired timeout. This policy overrides the default child policy specified when registering the workflow type using [RegisterWorkflowType \(p. 107\)](#).

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 default `ExecutionStartToCloseTimeout` 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

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. 209).

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. 210) 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 `defaultTaskStartToCloseTimeout` specified when registering the workflow type using [RegisterWorkflowType](#) (p. 107).

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. 226) object

Required: Yes

Response Syntax

```
{
  "runId": "string"
}
```

Response Elements

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 \(p. 234\)](#).

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 within 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 \(p. 132\)](#) 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=Hmac
```

```
SHA256,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. 112) action instead because it allows the workflow to gracefully close while [TerminateWorkflowExecution](#) (p. 138) 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. 232).

The request accepts 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 \(p. 234\)](#).

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 within 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=Hmac
SHA256,SignedHeaders=Host;X-Amz-Date;X-Amz-Target;Content-Encoding,Signature=JH
MRAjN6JGPawEuhIANHfiCil9KOGfDF/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](#) (p. 144)
- [ActivityTaskCancelRequestedEventAttributes](#) (p. 145)
- [ActivityTaskCanceledEventAttributes](#) (p. 146)
- [ActivityTaskCompletedEventAttributes](#) (p. 146)
- [ActivityTaskFailedEventAttributes](#) (p. 147)
- [ActivityTaskScheduledEventAttributes](#) (p. 148)
- [ActivityTaskStartedEventAttributes](#) (p. 150)
- [ActivityTaskStatus](#) (p. 150)
- [ActivityTaskTimedOutEventAttributes](#) (p. 150)
- [ActivityType](#) (p. 151)
- [ActivityTypeConfiguration](#) (p. 152)
- [ActivityTypeDetail](#) (p. 153)
- [ActivityTypeInfo](#) (p. 154)
- [ActivityTypeInfos](#) (p. 155)
- [CancelTimerDecisionAttributes](#) (p. 155)
- [CancelTimerFailedEventAttributes](#) (p. 156)
- [CancelWorkflowExecutionDecisionAttributes](#) (p. 157)
- [CancelWorkflowExecutionFailedEventAttributes](#) (p. 157)
- [ChildWorkflowExecutionCanceledEventAttributes](#) (p. 158)
- [ChildWorkflowExecutionCompletedEventAttributes](#) (p. 159)
- [ChildWorkflowExecutionFailedEventAttributes](#) (p. 159)
- [ChildWorkflowExecutionStartedEventAttributes](#) (p. 160)
- [ChildWorkflowExecutionTerminatedEventAttributes](#) (p. 161)
- [ChildWorkflowExecutionTimedOutEventAttributes](#) (p. 162)

- [CloseStatusFilter](#) (p. 163)
- [CompleteWorkflowExecutionDecisionAttributes](#) (p. 163)
- [CompleteWorkflowExecutionFailedEventAttributes](#) (p. 164)
- [ContinueAsNewWorkflowExecutionDecisionAttributes](#) (p. 164)
- [ContinueAsNewWorkflowExecutionFailedEventAttributes](#) (p. 166)
- [Decision](#) (p. 167)
- [DecisionTask](#) (p. 171)
- [DecisionTaskCompletedEventAttributes](#) (p. 172)
- [DecisionTaskScheduledEventAttributes](#) (p. 173)
- [DecisionTaskStartedEventAttributes](#) (p. 174)
- [DecisionTaskTimedOutEventAttributes](#) (p. 174)
- [DomainConfiguration](#) (p. 175)
- [DomainDetail](#) (p. 175)
- [DomainInfo](#) (p. 175)
- [DomainInfos](#) (p. 176)
- [ExecutionTimeFilter](#) (p. 177)
- [ExternalWorkflowExecutionCancelRequestedEventAttributes](#) (p. 177)
- [ExternalWorkflowExecutionSignaledEventAttributes](#) (p. 178)
- [FailWorkflowExecutionDecisionAttributes](#) (p. 178)
- [FailWorkflowExecutionFailedEventAttributes](#) (p. 179)
- [History](#) (p. 179)
- [HistoryEvent](#) (p. 180)
- [MarkerRecordedEventAttributes](#) (p. 188)
- [PendingTaskCount](#) (p. 188)
- [RecordMarkerDecisionAttributes](#) (p. 189)
- [RecordMarkerFailedEventAttributes](#) (p. 190)
- [RequestCancelActivityTaskDecisionAttributes](#) (p. 190)
- [RequestCancelActivityTaskFailedEventAttributes](#) (p. 191)
- [RequestCancelExternalWorkflowExecutionDecisionAttributes](#) (p. 192)
- [RequestCancelExternalWorkflowExecutionFailedEventAttributes](#) (p. 192)
- [RequestCancelExternalWorkflowExecutionInitiatedEventAttributes](#) (p. 194)
- [Run](#) (p. 194)
- [ScheduleActivityTaskDecisionAttributes](#) (p. 195)
- [ScheduleActivityTaskFailedEventAttributes](#) (p. 197)
- [SignalExternalWorkflowExecutionDecisionAttributes](#) (p. 198)
- [SignalExternalWorkflowExecutionFailedEventAttributes](#) (p. 200)
- [SignalExternalWorkflowExecutionInitiatedEventAttributes](#) (p. 201)
- [StartChildWorkflowExecutionDecisionAttributes](#) (p. 202)
- [StartChildWorkflowExecutionFailedEventAttributes](#) (p. 205)
- [StartChildWorkflowExecutionInitiatedEventAttributes](#) (p. 206)
- [StartTimerDecisionAttributes](#) (p. 208)
- [StartTimerFailedEventAttributes](#) (p. 209)
- [TagFilter](#) (p. 209)
- [TaskList](#) (p. 210)
- [TimerCanceledEventAttributes](#) (p. 210)
- [TimerFiredEventAttributes](#) (p. 211)

- [TimerStartedEventAttributes](#) (p. 211)
- [WorkflowExecution](#) (p. 212)
- [WorkflowExecutionCancelRequestedEventAttributes](#) (p. 213)
- [WorkflowExecutionCanceledEventAttributes](#) (p. 213)
- [WorkflowExecutionCompletedEventAttributes](#) (p. 214)
- [WorkflowExecutionConfiguration](#) (p. 214)
- [WorkflowExecutionContinuedAsNewEventAttributes](#) (p. 215)
- [WorkflowExecutionCount](#) (p. 217)
- [WorkflowExecutionDetail](#) (p. 218)
- [WorkflowExecutionFailedEventAttributes](#) (p. 218)
- [WorkflowExecutionFilter](#) (p. 219)
- [WorkflowExecutionInfo](#) (p. 219)
- [WorkflowExecutionInfos](#) (p. 221)
- [WorkflowExecutionOpenCounts](#) (p. 221)
- [WorkflowExecutionSignaledEventAttributes](#) (p. 222)
- [WorkflowExecutionStartedEventAttributes](#) (p. 223)
- [WorkflowExecutionTerminatedEventAttributes](#) (p. 225)
- [WorkflowExecutionTimedOutEventAttributes](#) (p. 226)
- [WorkflowType](#) (p. 226)
- [WorkflowTypeConfiguration](#) (p. 227)
- [WorkflowTypeDetail](#) (p. 228)
- [WorkflowTypeFilter](#) (p. 229)
- [WorkflowTypeInfo](#) (p. 229)
- [WorkflowTypeInfos](#) (p. 230)

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. 151) 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. 212) object

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

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

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 \(p. 151\)](#) 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 \(p. 210\)](#) object

Required: Yes

taskPriority

Optional. The priority to assign to the scheduled activity task. This will override any default priority that was assigned when the activity type was registered. If not set, then the priority set on the activity type is used as the task priority.

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 within 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. 167). 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. 167). You can override the default registered task list when scheduling a task through the `ScheduleActivityTask` [Decision](#) (p. 167).

Type: [TaskList](#) (p. 210) 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 \(p. 167\)](#).

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 \(p. 167\)](#).

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 \(p. 167\)](#).

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 \(p. 152\)](#) 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 \(p. 154\)](#) object

Required: Yes

ActivityTypeInfo

Description

Detailed information about an activity type.

Contents

activityType

The [ActivityType \(p. 151\)](#) type structure representing the activity type.

Type: [ActivityType \(p. 151\)](#) object

Required: Yes

creationDate

The date and time this activity type was created through [RegisterActivityType \(p. 99\)](#).

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 \(p. 99\)](#).

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. 154) 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 \(p. 167\)](#) 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 \(p. 212\)](#) object

Required: Yes

workflowType

The type of the child workflow execution.

Type: [WorkflowType \(p. 226\)](#) object

Required: Yes

ChildWorkflowExecutionCompletedEventAttributes

Description

Provides details of the `ChildWorkflowExecutionCompleted` event.

Contents

initiatedEventId

The id of the `StartChildWorkflowExecutionInitiated` event corresponding to the `StartChildWorkflowExecution` [Decision \(p. 167\)](#) 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 \(p. 212\)](#) object

Required: Yes

workflowType

The type of the child workflow execution.

Type: [WorkflowType \(p. 226\)](#) 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 \(p. 167\)](#) 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 \(p. 212\)](#) object

Required: Yes

workflowType

The type of the child workflow execution.

Type: [WorkflowType \(p. 226\)](#) object

Required: Yes

ChildWorkflowExecutionStartedEventAttributes

Description

Provides details of the `ChildWorkflowExecutionStarted` event.

Contents

initiatedEventId

The id of the `StartChildWorkflowExecutionInitiated` event corresponding to the `StartChildWorkflowExecution` [Decision \(p. 167\)](#) 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 \(p. 212\)](#) object

Required: Yes

workflowType

The type of the child workflow execution.

Type: [WorkflowType \(p. 226\)](#) object

Required: Yes

ChildWorkflowExecutionTerminatedEventAttributes

Description

Provides details of the `ChildWorkflowExecutionTerminated` event.

Contents

initiatedEventId

The id of the `StartChildWorkflowExecutionInitiated` event corresponding to the `StartChildWorkflowExecution` [Decision \(p. 167\)](#) 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 \(p. 212\)](#) object

Required: Yes

workflowType

The type of the child workflow execution.

Type: [WorkflowType](#) (p. 226) 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. 167) 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. 212) object

Required: Yes

workflowType

The type of the child workflow execution.

Type: [WorkflowType](#) (p. 226) 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. 138) action explicitly or due to an expired timeout. This policy overrides the default child policy specified when registering the workflow type using [RegisterWorkflowType](#) (p. 107).

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

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. 209).

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. 210) 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 `defaultTaskStartToCloseTimeout` specified when registering the workflow type using [RegisterWorkflowType](#) (p. 107).

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. 124) 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. 195)
- [RequestCancelActivityTaskDecisionAttributes](#) (p. 190)
- [CompleteWorkflowExecutionDecisionAttributes](#) (p. 163)
- [FailWorkflowExecutionDecisionAttributes](#) (p. 178)
- [CancelWorkflowExecutionDecisionAttributes](#) (p. 157)
- [ContinueAsNewWorkflowExecutionDecisionAttributes](#) (p. 164)
- [RecordMarkerDecisionAttributes](#) (p. 189)
- [StartTimerDecisionAttributes](#) (p. 208)
- [CancelTimerDecisionAttributes](#) (p. 155)
- [SignalExternalWorkflowExecutionDecisionAttributes](#) (p. 198)
- [RequestCancelExternalWorkflowExecutionDecisionAttributes](#) (p. 192)
- [StartChildWorkflowExecutionDecisionAttributes](#) (p. 202)

Contents

cancelTimerDecisionAttributes

Provides details of the `CancelTimer` decision. It is not set for other decision types.

Type: [CancelTimerDecisionAttributes](#) (p. 155) 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. 163) object

Required: No

continueAsNewWorkflowExecutionDecisionAttributes

Provides details of the `ContinueAsNewWorkflowExecution` decision. It is not set for other decision types.

Type: [ContinueAsNewWorkflowExecutionDecisionAttributes](#) (p. 164) 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`

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. 189) object

Required: No

requestCancelActivityTaskDecisionAttributes

Provides details of the `RequestCancelActivityTask` decision. It is not set for other decision types.

Type: [RequestCancelActivityTaskDecisionAttributes](#) (p. 190) object

Required: No

requestCancelExternalWorkflowExecutionDecisionAttributes

Provides details of the `RequestCancelExternalWorkflowExecution` decision. It is not set for other decision types.

Type: [RequestCancelExternalWorkflowExecutionDecisionAttributes](#) (p. 192) object

Required: No

scheduleActivityTaskDecisionAttributes

Provides details of the `ScheduleActivityTask` decision. It is not set for other decision types.

Type: [ScheduleActivityTaskDecisionAttributes](#) (p. 195) object

Required: No

signalExternalWorkflowExecutionDecisionAttributes

Provides details of the `SignalExternalWorkflowExecution` decision. It is not set for other decision types.

Type: [SignalExternalWorkflowExecutionDecisionAttributes](#) (p. 198) object

Required: No

startChildWorkflowExecutionDecisionAttributes

Provides details of the `StartChildWorkflowExecution` decision. It is not set for other decision types.

Type: [StartChildWorkflowExecutionDecisionAttributes](#) (p. 202) object

Required: No

startTimerDecisionAttributes

Provides details of the `StartTimer` decision. It is not set for other decision types.

Type: [StartTimerDecisionAttributes](#) (p. 208) 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. 212) object

Required: Yes

workflowType

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

Type: [WorkflowType](#) (p. 226) 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. 210) 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. 175) object

Required: Yes

DomainInfo

Description

Contains general information about a domain.

Contents

description

The description of the domain provided through [RegisterDomain \(p. 104\)](#).

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 \(p. 175\)](#) 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

ExternalWorkflowExecutionCancelRequestedEventAttributes

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. 212) 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. 212) 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:

- **WorkflowExecutionStarted**: The workflow execution was started.
- **WorkflowExecutionCompleted**: The workflow execution was closed due to successful completion.
- **WorkflowExecutionFailed**: The workflow execution closed due to a failure.
- **WorkflowExecutionTimedOut**: The workflow execution was closed because a time out was exceeded.
- **WorkflowExecutionCanceled**: The workflow execution was successfully canceled and closed.
- **WorkflowExecutionTerminated**: The workflow execution was terminated.
- **WorkflowExecutionContinuedAsNew**: The workflow execution was closed and a new execution of the same type was created with the same workflowId.
- **WorkflowExecutionCancelRequested**: A request to cancel this workflow execution was made.
- **DecisionTaskScheduled**: A decision task was scheduled for the workflow execution.
- **DecisionTaskStarted**: The decision task was dispatched to a decider.
- **DecisionTaskCompleted**: The decider successfully completed a decision task by calling [RespondDecisionTaskCompleted](#) (p. 124).
- **DecisionTaskTimedOut**: The decision task timed out.
- **ActivityTaskScheduled**: An activity task was scheduled for 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.
- **ActivityTaskStarted**: The scheduled activity task was dispatched to a worker.
- **ActivityTaskCompleted**: An activity worker successfully completed an activity task by calling [RespondActivityTaskCompleted](#) (p. 118).
- **ActivityTaskFailed**: An activity worker failed an activity task by calling [RespondActivityTaskFailed](#) (p. 121).
- **ActivityTaskTimedOut**: The activity task timed out.
- **ActivityTaskCanceled**: The activity task was successfully canceled.
- **ActivityTaskCancelRequested**: A `RequestCancelActivityTask` decision was received by the system.
- **RequestCancelActivityTaskFailed**: Failed to process `RequestCancelActivityTask` decision. This happens when the decision is not configured properly.

- **WorkflowExecutionSignaled:** An external signal was received for the workflow execution.
- **MarkerRecorded:** A marker was recorded in the workflow history as the result of a `RecordMarker` decision.
- **TimerStarted:** A timer was started for the workflow execution due to a `StartTimer` decision.
- **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.
- **TimerFired:** A timer, previously started for this workflow execution, fired.
- **TimerCanceled:** A timer, previously started for this workflow execution, was successfully canceled.
- **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.
- **StartChildWorkflowExecutionInitiated:** A request was made to start a child workflow execution.
- **StartChildWorkflowExecutionFailed:** Failed to process `StartChildWorkflowExecution` decision. This happens when the decision is not configured properly, for example the workflow type specified is not registered.
- **ChildWorkflowExecutionStarted:** A child workflow execution was successfully started.
- **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.
- **ChildWorkflowExecutionTimedOut:** A child workflow execution, started by this workflow execution, timed out and was closed.
- **ChildWorkflowExecutionCanceled:** A child workflow execution, started by this workflow execution, was canceled and closed.
- **ChildWorkflowExecutionTerminated:** A child workflow execution, started by this workflow execution, was terminated.
- **SignalExternalWorkflowExecutionInitiated:** A request to signal an external workflow was made.
- **ExternalWorkflowExecutionSignaled:** A signal, requested by this workflow execution, was successfully delivered to the target external workflow execution.
- **SignalExternalWorkflowExecutionFailed:** The request to signal an external workflow execution failed.
- **RequestCancelExternalWorkflowExecutionInitiated:** A request was made to request the cancellation of an external workflow execution.
- **ExternalWorkflowExecutionCancelRequested:** Request to cancel an external workflow execution was successfully delivered to the target execution.
- **RequestCancelExternalWorkflowExecutionFailed:** Request to cancel an external workflow execution failed.

Contents

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. 145) object

Required: No

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

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 \(p. 146\)](#) 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 \(p. 147\)](#) 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 \(p. 148\)](#) 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 \(p. 150\)](#) 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 \(p. 150\)](#) 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 \(p. 156\)](#) 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 \(p. 157\)](#) 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 \(p. 159\)](#) 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 \(p. 160\)](#) 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 \(p. 161\)](#) 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 \(p. 166\)](#) 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 \(p. 172\)](#) 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. 174) 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`

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. 177) 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

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. 188) 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. 190) 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. 191) 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. 192) 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. 194) 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 \(p. 197\)](#) 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 \(p. 200\)](#) 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 \(p. 201\)](#) 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 \(p. 205\)](#) 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 \(p. 206\)](#) 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 \(p. 209\)](#) 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 \(p. 210\)](#) 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 \(p. 211\)](#) 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 \(p. 211\)](#) 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 \(p. 213\)](#) 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 \(p. 213\)](#) 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 \(p. 214\)](#) 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 \(p. 215\)](#) 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 \(p. 218\)](#) 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 \(p. 222\)](#) 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 \(p. 223\)](#) 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. 225) 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. 226) object

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

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

RequestCancelExternalWorkflowExecutionDecisionAttributes

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

RequestCancelExternalWorkflowExecutionFailedEventAttributes

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

RequestCancelExternalWorkflowExecutionInitiatedEventAttributes

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. 151) 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 \(p. 99\)](#).

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 \(p. 99\)](#).

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. 99).

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. 210) 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. 99). 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 \(p. 151\)](#) 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

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 \(p. 138\)](#) action explicitly or due to an expired timeout. This policy overrides the default child policy specified when registering the workflow type using [RegisterWorkflowType \(p. 107\)](#).

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 default `ExecutionStartToCloseTimeout` 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

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. 209).

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. 210) 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 defaultTaskStartToCloseTimeout specified when registering the workflow type using [RegisterWorkflowType](#) (p. 107).

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. 226) 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 \(p. 167\)](#) 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 \(p. 167\)](#) 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 \(p. 167\)](#) that failed.

Type: [WorkflowType \(p. 226\)](#) 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 \(p. 138\)](#) 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 \(p. 167\)](#) 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

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 \(p. 210\)](#) 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. 226) object

Required: Yes

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

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. 212) object

Required: No

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

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. 138) 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

taskList

The task list used for the decision tasks generated for this workflow execution.

Type: [TaskList \(p. 210\)](#) 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. 138) 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

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 \(p. 210\)](#) 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 \(p. 226\)](#) 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

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. 214) object

Required: Yes

executionInfo

Information about the workflow execution.

Type: [WorkflowExecutionInfo](#) (p. 219) 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. 124).

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. 221) 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 allotted 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 \(p. 212\)](#) 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 \(p. 212\)](#) 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. 226) 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. 219) 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

Required: Yes

openChildWorkflowExecutions

The count of child workflow executions whose status is OPEN.

Type: Number

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

Required: Yes

openTimers

The count of timers started by this workflow execution that have not fired yet.

Type: Number

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 if the signal was sent by another workflow execution.

Type: [WorkflowExecution](#) (p. 212) 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 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 \(p. 138\)](#) 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

parentInitiatedEventId

The id of the `StartChildWorkflowExecutionInitiated` event corresponding to the `StartChildWorkflowExecution` [Decision \(p. 167\)](#) 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 \(p. 212\)](#) 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 \(p. 210\)](#) 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. 226) 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 within 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 within 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 \(p. 138\)](#) action explicitly or due to an expired timeout. This default can be overridden when starting a workflow execution using the [StartWorkflowExecution \(p. 132\)](#) action or the [StartChildWorkflowExecution Decision \(p. 167\)](#).

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 \(p. 132\)](#) action or the [StartChildWorkflowExecution Decision \(p. 167\)](#).

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 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 \(p. 132\)](#) action or the `StartChildWorkflowExecution` [Decision \(p. 167\)](#).

Type: [TaskList \(p. 210\)](#) 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 \(p. 132\)](#) 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 \(p. 132\)](#) action or the `StartChildWorkflowExecution` [Decision \(p. 167\)](#).

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 \(p. 107\)](#)

Type: [WorkflowTypeConfiguration \(p. 227\)](#) 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 \(p. 229\)](#) 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 \(p. 107\)](#).

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 \(p. 226\)](#) object

Required: Yes

WorkflowTypeInfo

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. 229) 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