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## FunctionFlow

## Execution Flow

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# Document conventions

| Style | Description | Example |
| --- | --- | --- |
| Danger | A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results. | Danger:<br>Resetting will result in the loss of user configuration data. |
| Warning | A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results. | Warning:<br>Restarting will cause business interruption. About 10 minutes are required to restart an instance. |
| Notice | A caution notice indicates warning information, supplementary instructions, and other content that the user must understand. | Notice:<br>If the weight is set to 0, the server no longer receives new requests. |
| Note | A note indicates supplemental instructions, best practices, tips, and other content. | Note:<br>You can use Ctrl + A to select all files. |
| > | Closing angle brackets are used to indicate a multi-level menu cascade. | Click **Settings**> **Network**> **Set network type**. |
| **Bold** | Bold formatting is used for buttons , menus, page names, and other UI elements. | Click **OK**. |
| `Courier font` | Courier font is used for commands | Run the `cd /d C:/window` command to enter the Windows system folder. |
| *Italic* | Italic formatting is used for parameters and variables. | `bae log list --instanceid`<br>*Instance_ID* |
| [] or [a\|b] | This format is used for an optional value, where only one item can be selected. | `ipconfig [-all\|-t]` |
| {} or {a\|b} | This format is used for a required value, where only one item can be selected. | `switch {active\|stand}` |

# Table of Contents

# 1.Execution introduction

This topic describes the basic information about executions, including the basic concepts, attributes, and event history of executions.

## Basic concepts

An execution is the specific running of a flow. You can execute a flow multiple times after creating it. In general, the input varies for each execution. For example, an order management flow is executed each time a user places an order, and the input of the execution is order information.

## Execution attributes

The following items are the execution attributes, in which the ExecutionName and Input attributes are the execution input, whereas the other attributes are the execution output.

- ExecutionName: the name of an execution. The execution name must be unique within a flow and comply with the following constraints:
  - A name can contain uppercase letters (A to Z), lowercase letters (a to z), digits (0 to 9), underscores (_), and hyphens (-).
  - The name must start with a letter or an underscore (_).
  - The name is case-sensitive.
  - The name must be 1 to 128 characters in length.
- Input: the input of an execution, which must be in JSON object format.
- Output: the output of an execution, which must be in JSON object format.
- FlowDefinition: the definition of a flow. For more information, see Overview. To ensure that the flow update does not affect the execution that has started, the definition of the corresponding flow is saved for each execution.
- Status: the status of an execution. Valid values: Starting, Running, Stopped, Succeeded, Failed, and TimedOut.
- StartedTime: the start time of an execution.
- StoppedTime: the end time of an execution.

## Event history of executions

In general, a flow contains multiple steps. During the flow, events are generated in each step. These events record the execution status of each step in detail. Based on these events, you can learn the information about a flow, such as steps, input, output, duration, and failure cause. In addition, Serverless workflow tracks the flow by using the status data to ensure the high availability of the system.

The following items are the event attributes, in which EventDetail is a string in JSON object format and event details vary with the value of Type.

- StepName: the step name. It corresponds to the step name in the Flow Definition Language (FDL).
- Type: the type of an event.
- EventDetail: the details of an event.
- Time: the time when an event occurs.

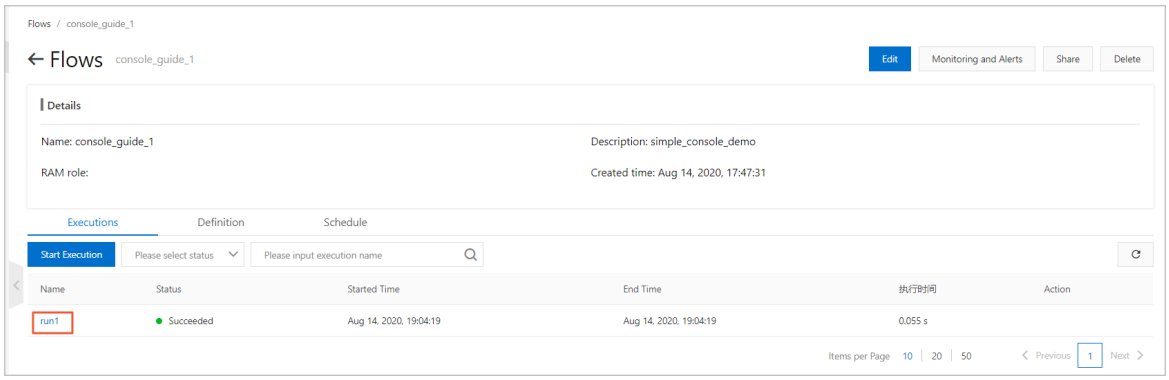
- EventId: the ID of an event.
- ScheduleEventId: the ID of the event that triggers the current event.

# 2.View execution details

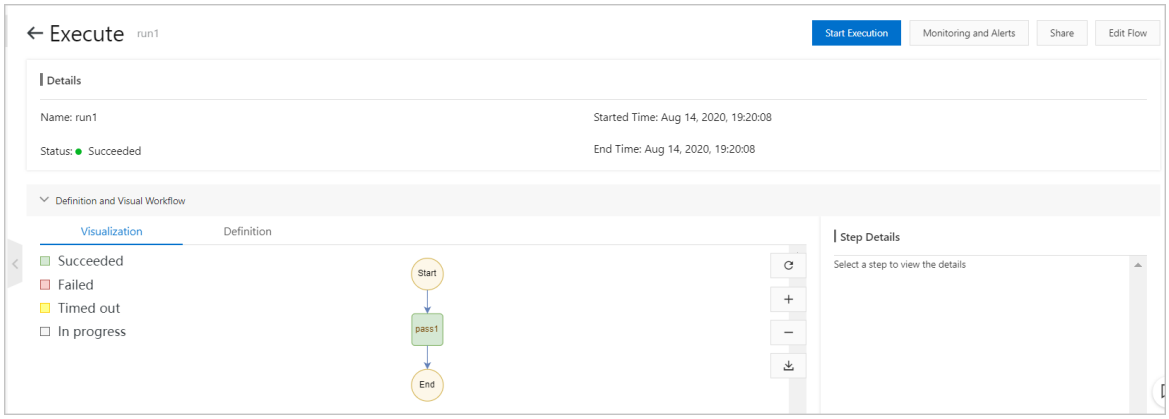
This topic describes how to view execution details in the Serverless Workflow console or by using a command line tool.

## View execution details in the Serverless Workflow console

1. Log on to the Serverless workflow console.
2. In the left-side navigation pane, click Flows. On the **Flows** page, click the name of the target flow.
3. On the **Details** page, click the name of the target execution.




4. On the **Execute** page, view the flow definition, result, visualization information, input, and output of the execution.




## View execution details by using a command line tool

- You can run **DescribeExecution** to view an execution.

```
$ aliyun fnf DescribeExecution --FlowName cli_guide_1 --ExecutionName run1
{
"Name": "run1",
"FlowName": "cli_guide_1",
"FlowDefinition": "version: v1\ntype: flow\nname: test\nsteps:\n - type: pass\n name: pass1",
"Input": "",
"Output": "",
"Status": "Succeeded",
"StartedTime": "2019-05-13T06:23:48.767Z",
"StoppedTime": "2019-05-13T06:23:54.403Z",
"RequestId": "xxxx"
}
```

- You can run **ListExecutions** to query all executions of a flow.

```
$ aliyun fnf ListExecutions --FlowName cli_guide_1 --Limit 1
{
"Executions": [
{
"Name": "run1",
"FlowName": "cli_guide_1",
"FlowDefinition": "version: v1\ntype: flow\nname: test\nsteps:\n - type: pass\n name: pass1",
"Input": "",
"Output": "",
"Status": "Succeeded",
"StartedTime": "2019-05-13T06:23:48.767Z",
"StoppedTime": "2019-05-13T06:23:54.403Z"
}
],
"NextToken": "run2",
"RequestId": "xxxx"
}
```

**Note** The Limit parameter specifies the number of executions you want to query. If an execution involves other data, the result contains `NextToken`. In the next query, you can use the `--NextToken` parameter to specify the starting position of the query.

# 3.View the execution history

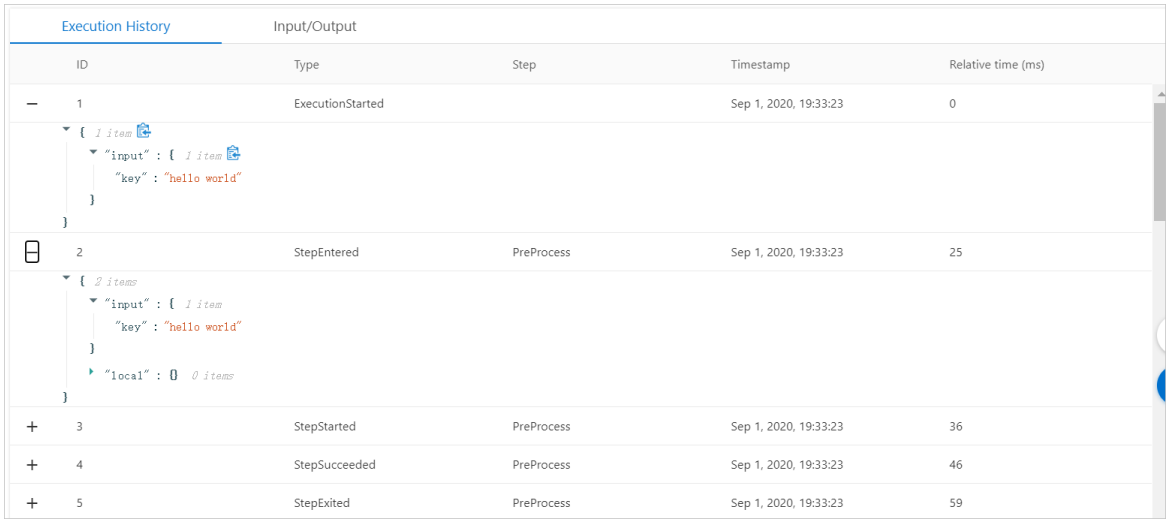
This topic describes how to view the execution history in the Serverless Workflow console or by using a command line tool.

## Context

The event history records the execution status of each step in detail. Based on these events, you can learn the information about a flow, such as steps, input, output, duration, and failure cause. In addition, Serverless workflow tracks the flow by using the status data to ensure the high availability of the system.

## View the execution history in the Serverless Workflow console

1. Log on to the Serverless workflow console.
2. In the left-side navigation pane, click Flows. On the **Flows** page, click the name of the target flow.
3. On the **Details** page, click the name of the target execution.
4. On the **Execution History** tab, view the execution history.




## View the execution history by using a command line tool

You can run **GetExecutionHistory** to view the execution history.

```
$ aliyun fnf GetExecutionHistory --FlowName cli_guide_1 --ExecutionName run1
{
"Events": [
{
"Type": "ExecutionStarted",
"EventId": 1,
"ScheduleEventId": 0,
"EventDetail": "{}",
"Time": "2019-05-13T06:23:48.767Z"
},
```

```
{
"StepName": "pass1",
"Type": "StepEntered",
"EventId": 2,
"ScheduleEventId": 1,
"EventDetail": "{}",
"Time": "2019-05-13T06:23:50.259Z"
},
{
"StepName": "pass1",
"Type": "StepStarted",
"EventId": 3,
"ScheduleEventId": 2,
"EventDetail": "{}",
"Time": "2019-05-13T06:23:51.287Z"
},
{
"StepName": "pass1",
"Type": "StepSucceeded",
"EventId": 4,
"ScheduleEventId": 3,
"EventDetail": "{}",
"Time": "2019-05-13T06:23:52.317Z"
},
{
"StepName": "pass1",
"Type": "StepExited",
"EventId": 5,
"ScheduleEventId": 4,
"EventDetail": "{}",
"Time": "2019-05-13T06:23:53.348Z"
},
{
"Type": "ExecutionSucceeded",
"EventId": 6,
"ScheduleEventId": 5,
"EventDetail": "{}",
"Time": "2019-05-13T06:23:54.376Z"
}
],
"RequestId": "xxxx"
```

```
  "requestId": "xxxx"
}
```

# 4.Execute flows

This topic describes how to execute flows in the Serverless Workflow console or by using a command line tool.

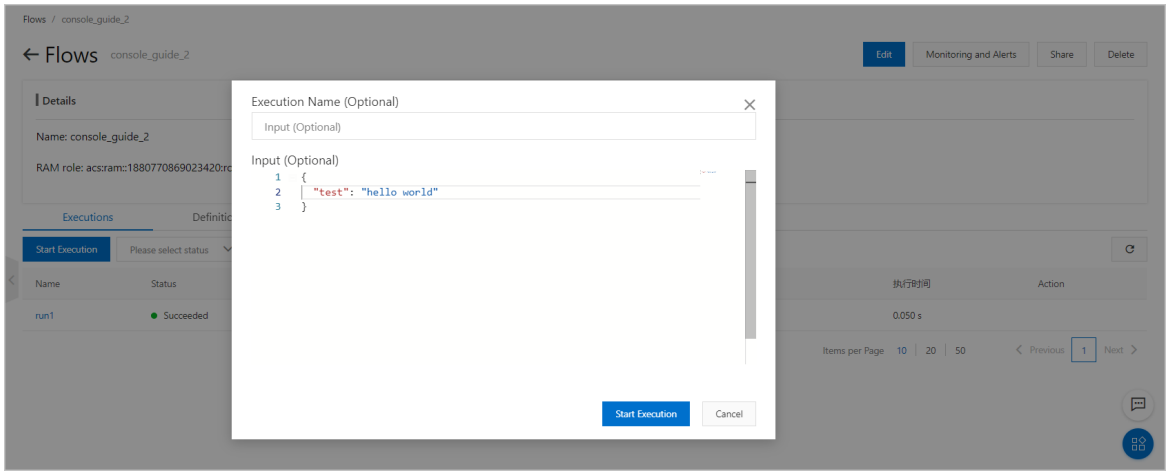
## Context

To execute a flow, you must specify the name of the flow to be executed, the name of the execution, and the input of the execution. The execution name and input are optional. Flow execution is an asynchronous operation. You can run **DescribeExecution** to view the flow execution result and run **GetExecutionHistory** to view the execution history.

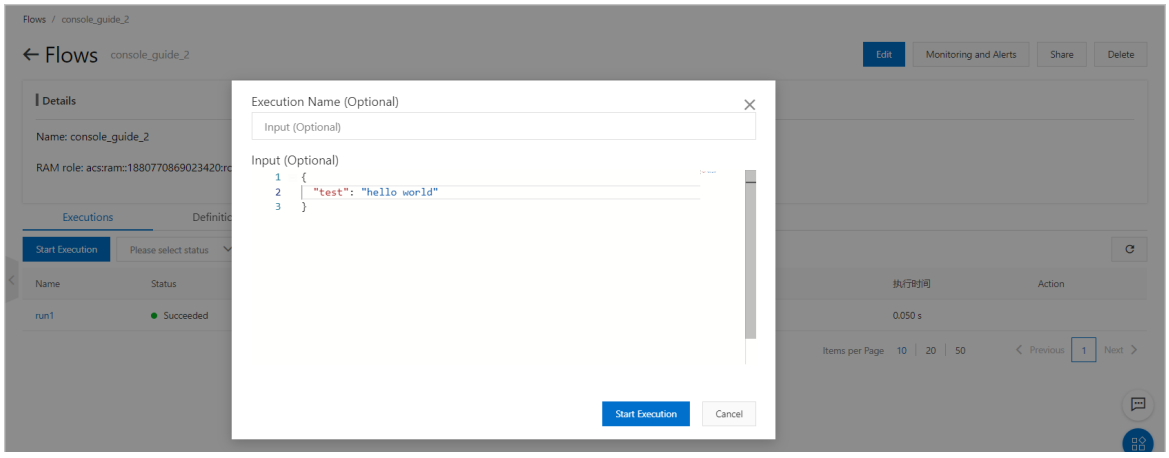
- Each execution name in a flow must be unique.
- If the execution name is not specified, Serverless workflow automatically generates an execution name.
- The input must be in JSON object format.

## Execute flows in the Serverless Workflow console

1. Log on to the Serverless workflow console.
2. In the left-side navigation pane, click Flows. On the **Flows** page, click the name of the target flow.
3. On the **Details** page, click **Start Execution**.




4. Set **Execution Name (Optional)** and **Input (Optional)**. Click **Start Execution**.



## Execute flows by using a command line tool

You can run **StartExecution** to execute a flow.

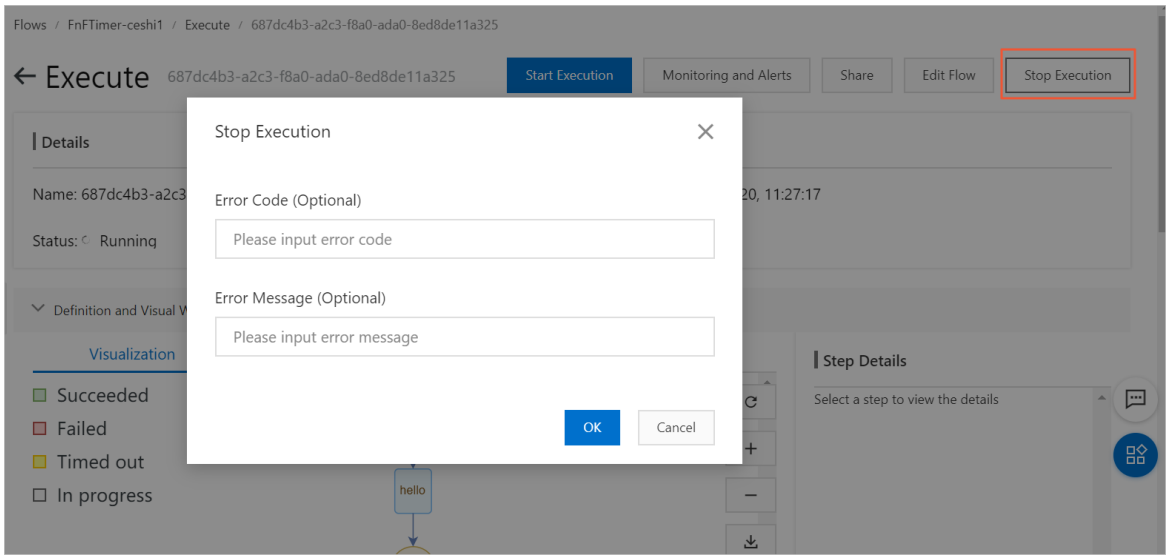
```
$ aliyun fnf StartExecution --FlowName cli_guide_1 --ExecutionName run1
{
"Name": "run1",
"FlowName": "cli_guide_1",
"FlowDefinition": "version: v1\ntype: flow\nname: test\nsteps:\n - type: pass\n name: pass1",
"Input": "",
"Output": "",
"Status": "",
"StartedTime": "2019-05-13T06:23:48.767Z",
"StoppedTime": "1970-01-01T00:00:00Z",
"RequestId": "xxxx"
}
```

# 5.Stop executions

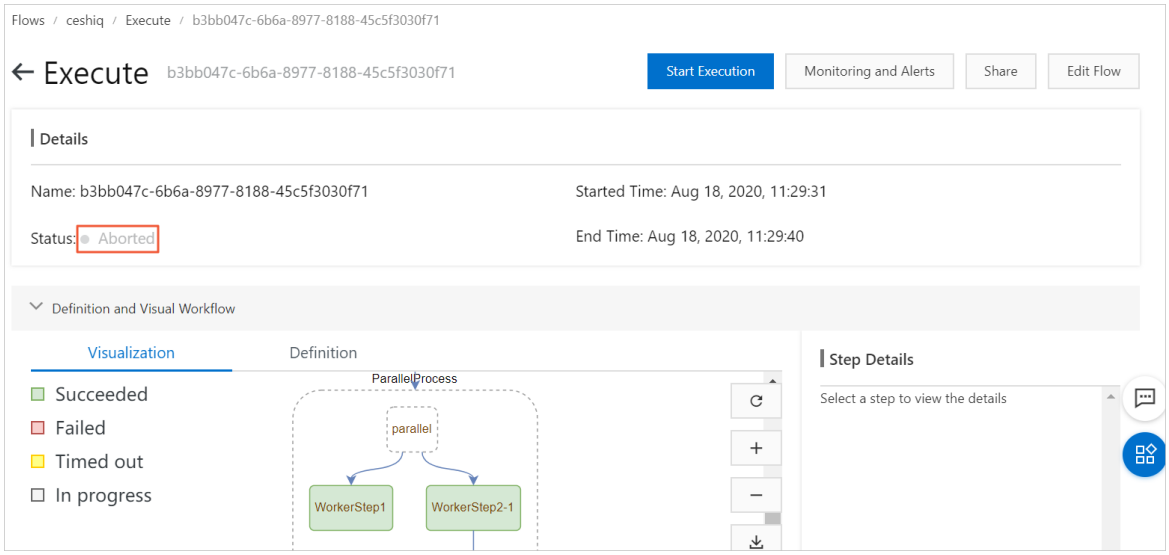
This topic describes how to stop executions in the Serverless Workflow console or by using a command line tool.

## Stop executions in the Serverless Workflow console

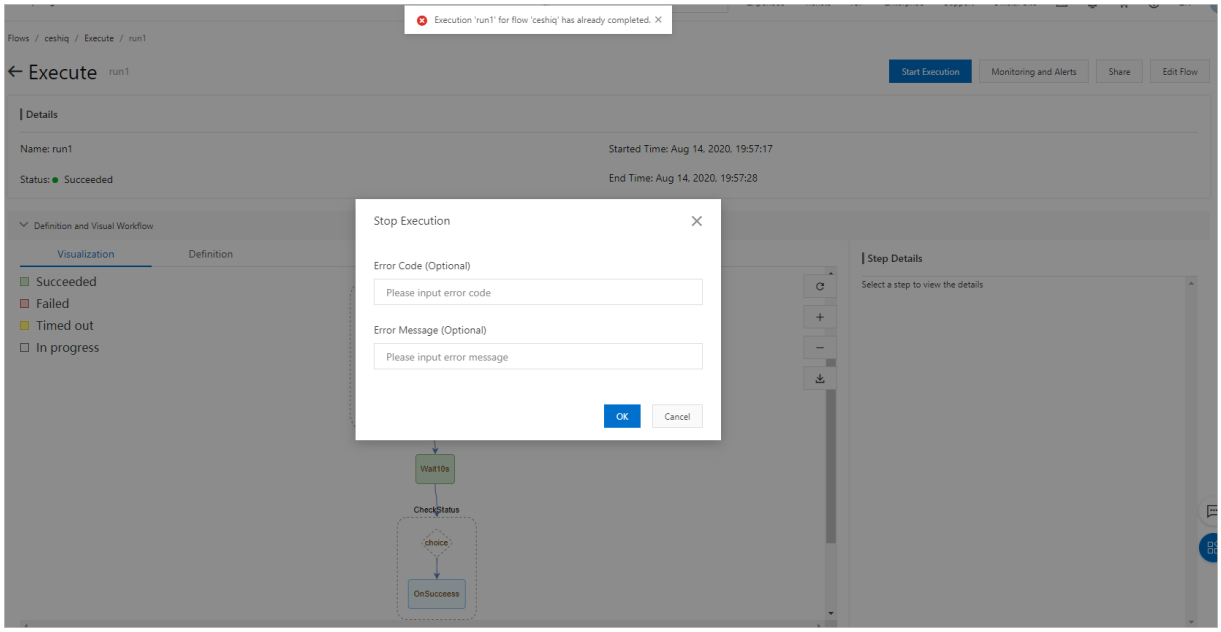
1. Log on to the Serverless workflow console.
2. In the left-side navigation pane, click Flows. On the **Flows** page, click the name of the target flow.
3. On the **Details** page, click the name of the target execution.
4. On the **Execute** page, click **Stop Execution**. In the **Stop Execution** dialog box, click **OK** to stop the execution.




Then, the execution is in the **Aborted** state.




**Note** If the execution is complete, an error is returned when you stop it.




## Stop executions by using a command line tool

- You can run **StopExecution** to stop an execution.

```
$ aliyun fnf StopExecution --FlowName cli_guide_1 --ExecutionName run2 --Error Cancel --Cause "exe
cution is not needed"
{
"Name": "run2",
"FlowName": "cli_guide_1",
"FlowDefinition": "version: v1\ntype: flow\nsteps:\n - type: pass\n name: pass1",
"Input": "",
"Output": "",
"Status": "Running",
"StartedTime": "2019-06-24T22:00:30.365Z",
"StoppedTime": "2019-06-24T22:00:32.862Z",
"RequestId": "xxxx"
}
```

- Then, run **DescribeExecution** to view the execution. The execution is in the Stopped state.

```
$ aliyun fnf DescribeExecution --FlowName cli_guide_1 --ExecutionName run2
{
"Name": "run2",
"FlowName": "cli_guide_1",
"FlowDefinition": "version: v1\ntype: flow\nsteps:\n - type: pass\n name: pass1",
"Input": "",
"Output": "",
"Status": "Stopped",
"StartedTime": "2019-06-24T22:00:30.365Z",
"StoppedTime": "2019-06-24T22:00:32.866Z",
"RequestId": "xxxx"
}
```