

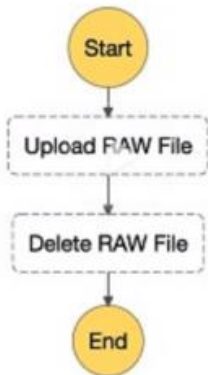
# Step Functions



**Step Functions** allows you to visualize and test your serverless applications. **Step Functions** provides a graphical console to arrange and visualize the components of your application as a series of steps. This makes it simple to build and run multistep applications. Step Functions automatically triggers and tracks each step, and retries when there are errors, so your application executes in order and as expected. Step Functions logs the state of each step, so when things do go wrong, you can diagnose and debug problems quickly.

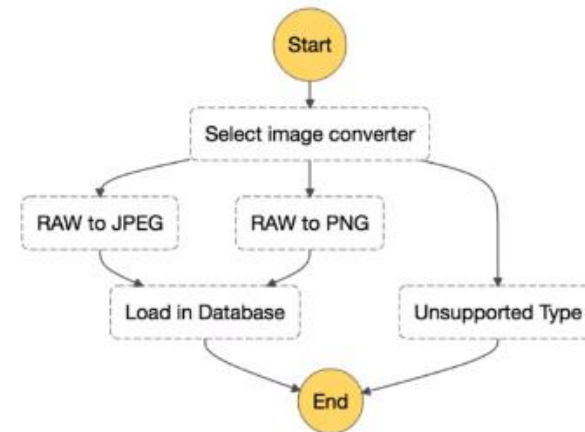
# Step Functions

## Sequential Steps



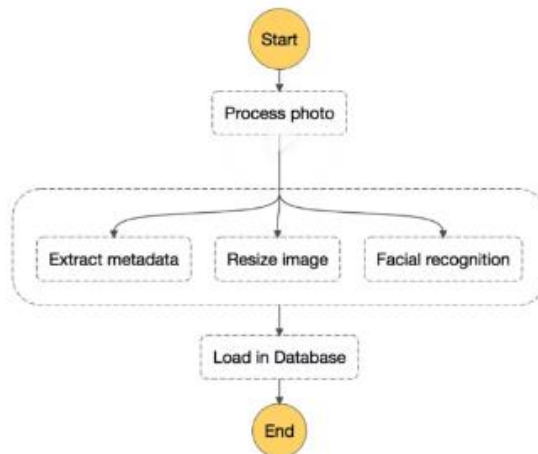
# Step Functions

## Branching Steps (Choice of Path)

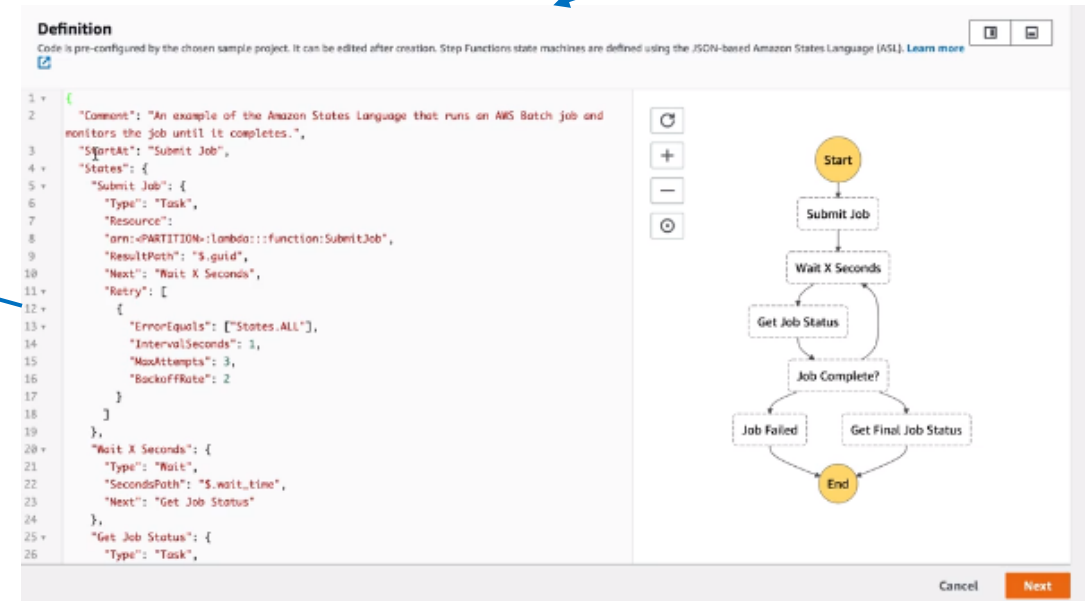
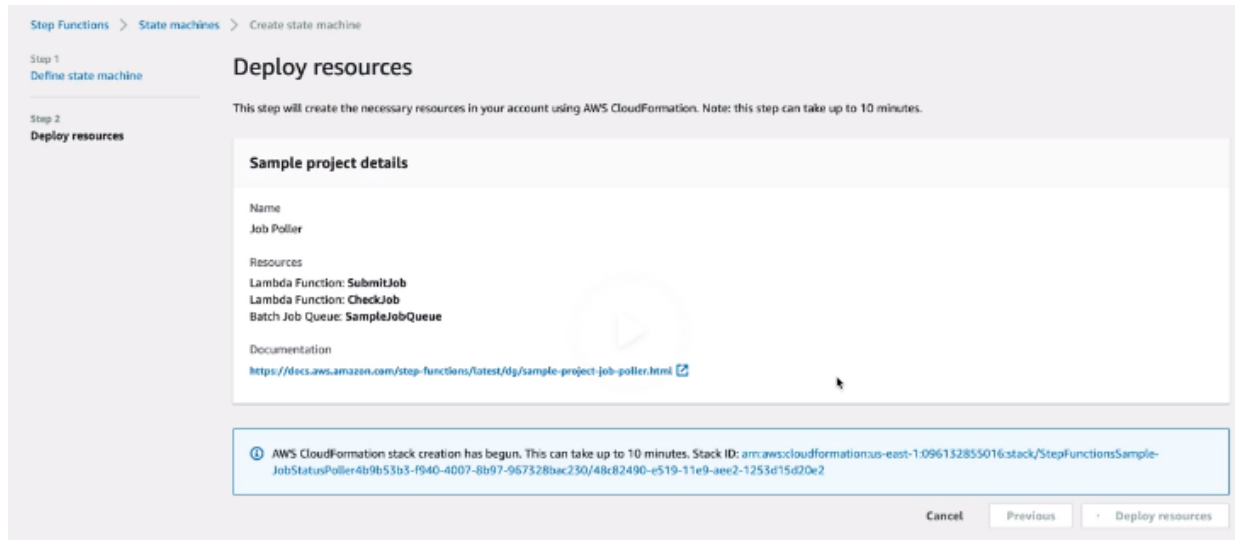
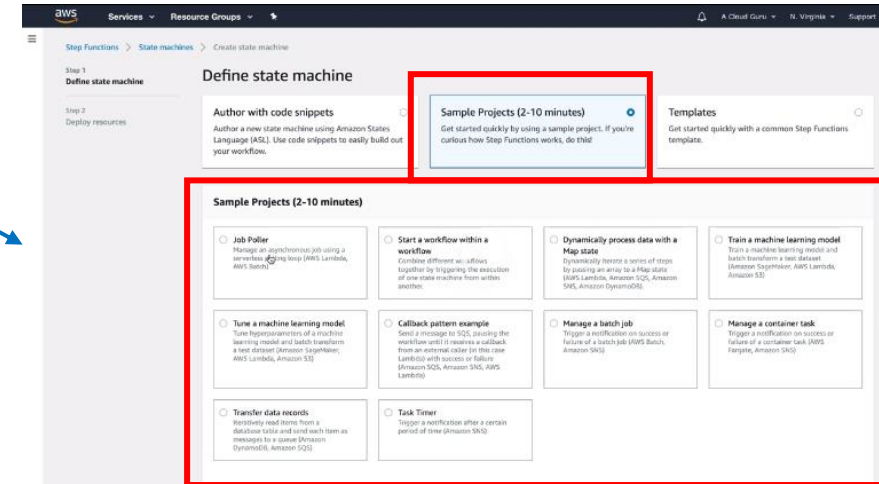
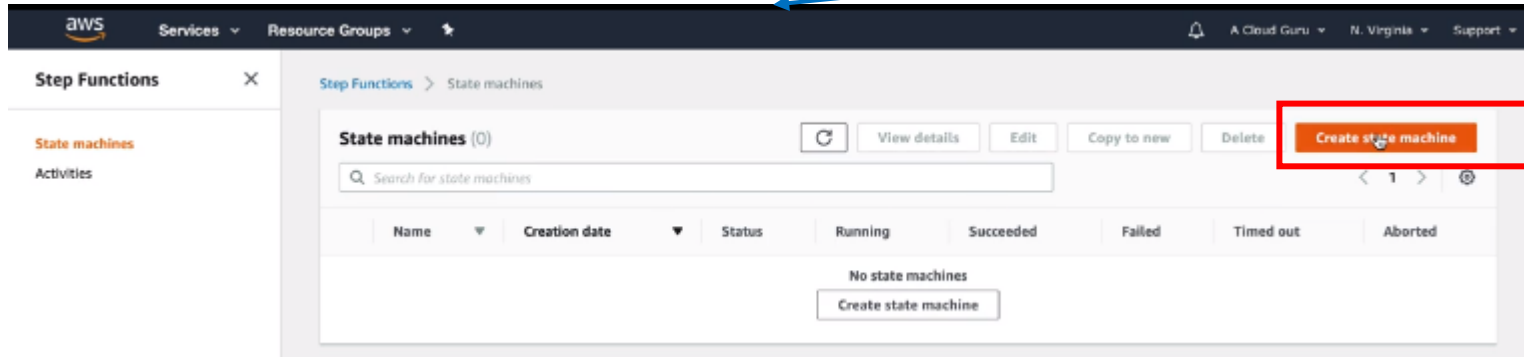


# Step Functions

## Parallel Steps



# Services → application integration → step function → get started → state machines



New execution

Enter an execution name - optional

Enter your execution id here

MyTestExecution

Input - optional

Enter input values for this execution in JSON format

```
1 {
2   "jobName": "my-job",
3   "jobDefinition": "arn:aws:batch:us-east-1:673164704829:job-definition/samplejobdefinition-3189b478a725dfb:1",
4   "jobQueue": "arn:aws:batch:us-east-1:673164704829:job-queue/samplejobqueue-18995236f9ebdab",
5   "wait_time": 60
6 }
```

☒ Open in a new browser tab

Cancel

Start execution

Step Functions

State machines

Activities

Execution details

Execution Status

Running

Execution ARN

arn:aws:states:us-east-1:673164704829:execution:JobStatusPollerStateMachine-I4Qe3LNxGyZ:MyTestExecution

Input

Started

Jun 13, 2018 10:03:27.617 AM

End Time

-

Output

Visual workflow

Code

Success

Failed

Cancelled

In Progress

```
graph TD
    Start([Start]) --> SubmitJob[Submit Job]
    SubmitJob --> WaitXSeconds[Wait X Seconds]
    WaitXSeconds --> GetJobStatus[Get Job Status]
    GetJobStatus --> JobComplete{Job Complete?}
    JobComplete --> JobFailed[Job Failed]
    JobComplete --> GetFinalJobStatus[Get Final Job Status]
    GetFinalJobStatus --> End([End])
```

Step details (Wait X Seconds)

Status

In Progress

Resource

-

Input

Output

Exception

AWS Batch  
Dashboard  
Jobs  
Job definitions  
Job queues  
Compute environments

Services → Batch → Jobs / Dashboard

Create job

Job queues

Name	Priority	SUBMITTED	PENDING	RUNNABLE	STARTING	RUNNING	FAILED	SUCCEEDED
SampleJobQueue-18995236f9ebdab	1	0	0	1	0	0	0	0

Compute environments

Name	Type	Minimum vCPUs	Desired vCPUs	Maximum vCPUs
SampleComputeEnvironmen-e06b596dad558bd	MANAGED	0	0	64

Execution event history					
ID	Type	Step	Resource	Elapsed Time (ms)	Timestamp
▶ 1	ExecutionStarted		-	0	Jun 13, 2018 10:03:27.617 AM
▶ 2	TaskStateEntered	Submit Job	-	26	Jun 13, 2018 10:03:27.643 AM
▶ 3	LambdaFunctionScheduled	Submit Job	Lambda   CloudWatch logs	26	Jun 13, 2018 10:03:27.643 AM
▶ 4	LambdaFunctionStarted	Submit Job	Lambda   CloudWatch logs	84	Jun 13, 2018 10:03:27.701 AM
▶ 5	LambdaFunctionSucceeded	Submit Job	Lambda   CloudWatch logs	1148	Jun 13, 2018 10:03:28.765 AM
▶ 6	TaskStateExited	Submit Job	-	1148	Jun 13, 2018 10:03:28.765 AM
▶ 7	WaitStateEntered	Wait X Seconds	-	1158	Jun 13, 2018 10:03:28.775 AM
▶ 8	WaitStateExited	Wait X Seconds	-	61158	Jun 13, 2018 10:04:28.775 AM
▶ 9	TaskStateEntered	Get Job Status	-	61177	Jun 13, 2018 10:04:28.794 AM
▶ 10	LambdaFunctionScheduled	Get Job Status	Lambda   CloudWatch logs	61177	Jun 13, 2018 10:04:28.794 AM
▶ 11	LambdaFunctionStarted	Get Job Status	Lambda   CloudWatch logs	61211	Jun 13, 2018 10:04:28.828 AM
▶ 12	LambdaFunctionSucceeded	Get Job Status	Lambda   CloudWatch logs	61989	Jun 13, 2018 10:04:29.606 AM
▶ 13	TaskStateExited	Get Job Status	-	61989	Jun 13, 2018 10:04:29.606 AM
▶ 14	ChoiceStateEntered	Job Complete?	-	61999	Jun 13, 2018 10:04:29.616 AM

AWS Lambda x

Lambda > Functions

Dashboard  
Functions

Functions (8)

Filter by tags and attributes or search by keyword

Function name	Description	Runtime	Code size	Last Modified
PostReader_GetPosts		Python 2.7	383 bytes	5 days ago
StepFunctionsSample-JobStatusPoll-SubmitJobFunction-1TB1T8CLKQ0H		Python 3.6	653 bytes	14 minutes ago
PostReader_ConvertToAudio	This Function Generates Our Mp3s And Stores Them in S3	Python 2.7	1.3 kB	5 days ago
StepFunctionsSample-JobStatusPoll-CheckJobFunction-1G62OL8UPXBQQ		Python 3.6	477 bytes	14 minutes ago
MyServerlessWebsite		Python 3.6	298 bytes	6 days ago
helloCloudGurus		Node.js 6.10	205 bytes	36 minutes ago
PostReader_NewPosts	This function inserts data in to DynamoDB	Python 2.7	545 bytes	5 days ago
aws-serverless-repository-alexaskillskithowtoskill-1Q42858T4JHS	Demonstrate a basic howto skill built with the ASK NodeJS SDK	Node.js 8.10	275.6 kB	2 days ago

Delete step function

CloudFormation Stacks

Create Stack Actions Design template

Filter: Active

Stack Name	Created Time	Status	Description
StepFunctionsSample-JobStatusPoller-34b8acb1-5cbe-a1cb-3cb0-6512bc615d7e	2018-06-13 09:53:04 UTC+0100	CREATE_COMPLETE	An example job status poller template.
aws-serverless-repository-alexaskillskithowtoskill-1Q42858T4JHS	2018-06-11 11:51:08 UTC+0100	CREATE_COMPLETE	Demonstrate a basic how-to skill built with the ASK NodeJS SDK

Showing 2 stacks

Overview Outputs Resources Events Template Parameters Tags Stack Policy Change Sets Rollback Triggers

Stack name: StepFunctionsSample-JobStatusPoller-34b8acb1-5cbe-a1cb-3cb0-6512bc615d7e

Stack ID: arn:aws:cloudformation:us-east-1:673164704829:stack/StepFunctionsSample-JobStatusPoller-34b8acb1-5cbe-a1cb-3cb0-6512bc615d7e/272a9260-6ee7-11e6-b369-500c2890321e

Status: CREATE\_COMPLETE

Status reason:

Termination protection: Disabled

IAM role:

Description: An example job status poller template.

# Step Functions



- Great way to visualize your serverless application.
- Step Functions automatically triggers and tracks each step.
- Step Functions logs the state of each step so if something goes wrong you can track what went wrong and where.