

Step Functions,

Overview of new features

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AWS
community
builders

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Schuberg Philis

My colleagues will be having sessions too, so make sure you do not miss out

14.30 Enri Peters – “Build your first CRUD API in 60 minutes with AWS CDK!”

16.45 Martijn van Dongen – “Fireside Chat with Dr. Werner Vogels”

19.00 Costas Tyfoxylos and Sayantan Khanra – “What's your landing zone energy label? Visualising your risk level using Security Hub”

19.45 Enri Peters – “How I failed to become an AWS Community Builder (but how I will succeed next time and how you could as well)”

20.30 Martijn van Dongen – “Cloud Education At Scale”

20.30 Jos Vliegenthart – “Cloud exit as a service (CEaaS): strategized and stress-free”



We are hiring

Visit our booth



Step functions

Overview

History

Designs

For today



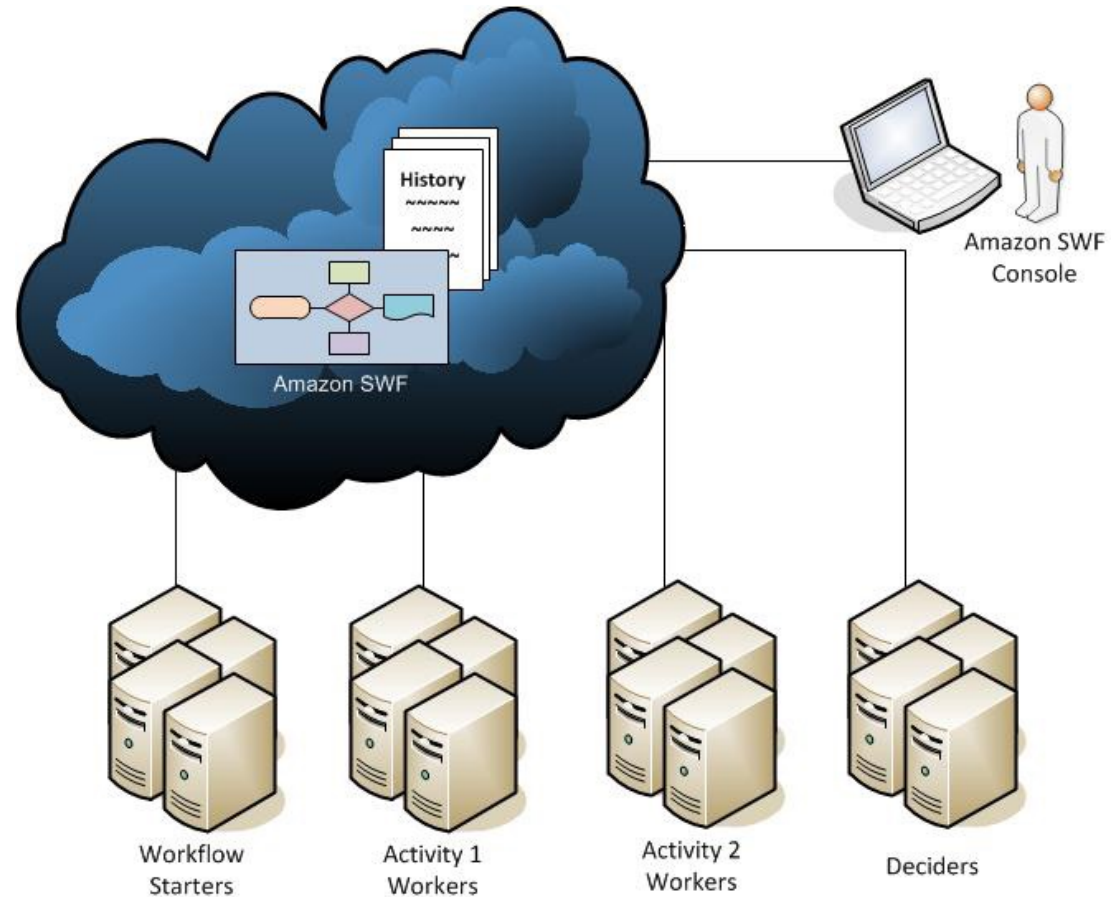
Before Step Functions

AWS Simple Workflow , released in Feb 2012.
One month after Dynamodb

Workflow orchestration tool

Decouple applications, based on tasks
Running on servers

Then came Lambda in Nov 2014



Step Functions was released at reinvent:2016

At the same time as CodeBuild, Rekognition, Athena and more

Serverless Orchestration



<https://www.awsgeek.com/AWS-History/>

Why

- **Serverless** Application across multiple AWS services
- Sequential actions
- Manage state between aws service calls
- Human intervention required

Use Case

- Data Processing
- Machine Learning
- Microservice Orchestration
- IT and security automation
-

DRY and Lean

- Move error Handling outside
- Don't Repeat Yourself
- Use less libraries = less memory
- Speed up



Patterns

Sequence

Retry failed

Parallel

Choose task based on result

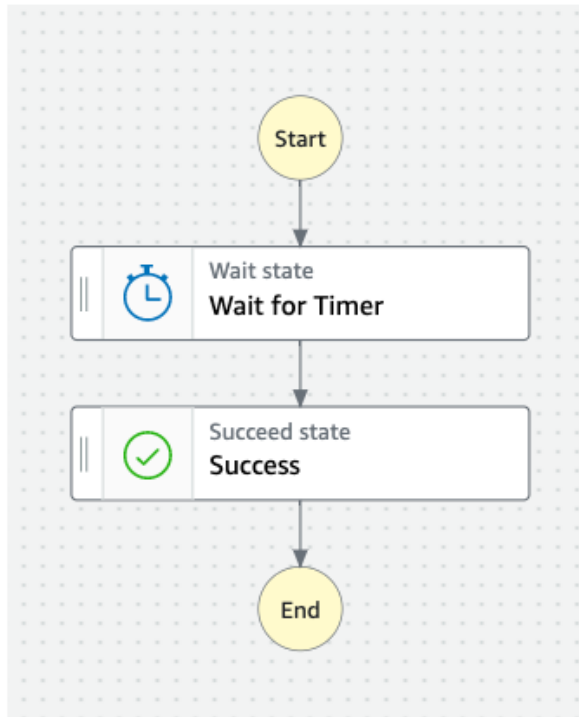
Error handling

Many more

Step Functions States

Pass	Forward Input to Output, for debugging
Task	A unit of work , calling a lambda, an API call etc
Task.Activity	Run work on a worker (ec2/ecs/etc)
Choice	Conditional Logic
Wait	Add a delay
Succeed	Stops with Success
Fail	Stops with Failure
Parallel	Create parallel execution branches
Map	Run a set of Step for each element in the input map

Sample Workflow



```
{  
  "Comment": "An example of the Amazon States Language for scheduling a task.",  
  "StartAt": "Wait for Timer",  
  "States": {  
    "Wait for Timer": {  
      "Type": "Wait",  
      "SecondsPath": "$.timer_seconds",  
      "Next": "Success"  
    },  
    "Success": {  
      "Type": "Succeed"  
    }  
  }  
}
```

Start execution

Start an execution using the latest definition of the state machine. [Learn more](#)

Name - optional

d062cb04-6032-8c1b-1f25-877a703fd40a

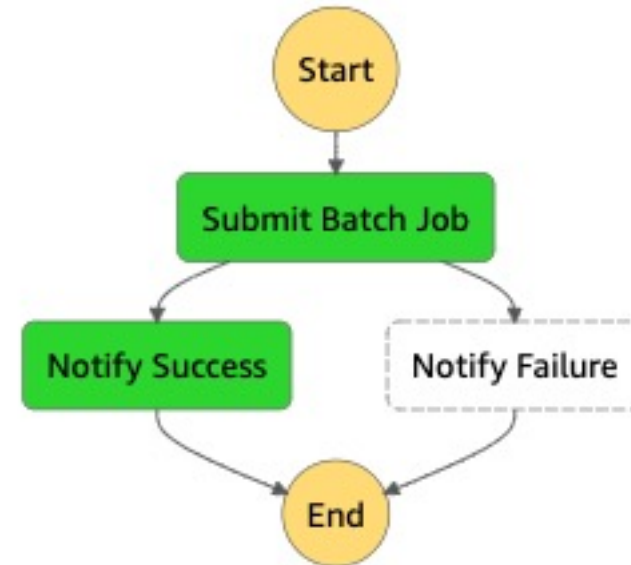
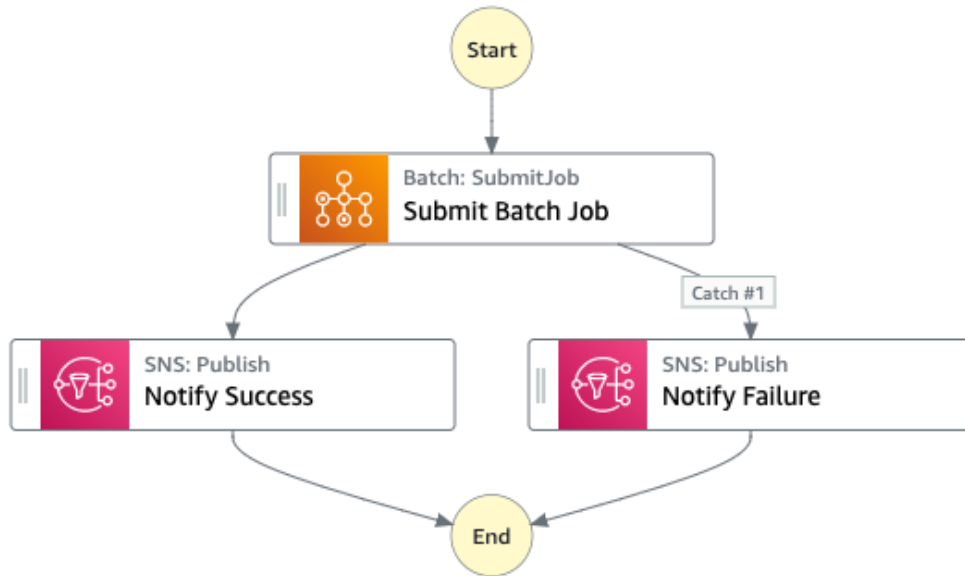
Input - optional

Enter input values for this execution in JSON format

1 ▾ { "timer_seconds": 5 }



Sample Workflow



<https://docs.aws.amazon.com/step-functions/latest/dg/create-sample-projects.html>

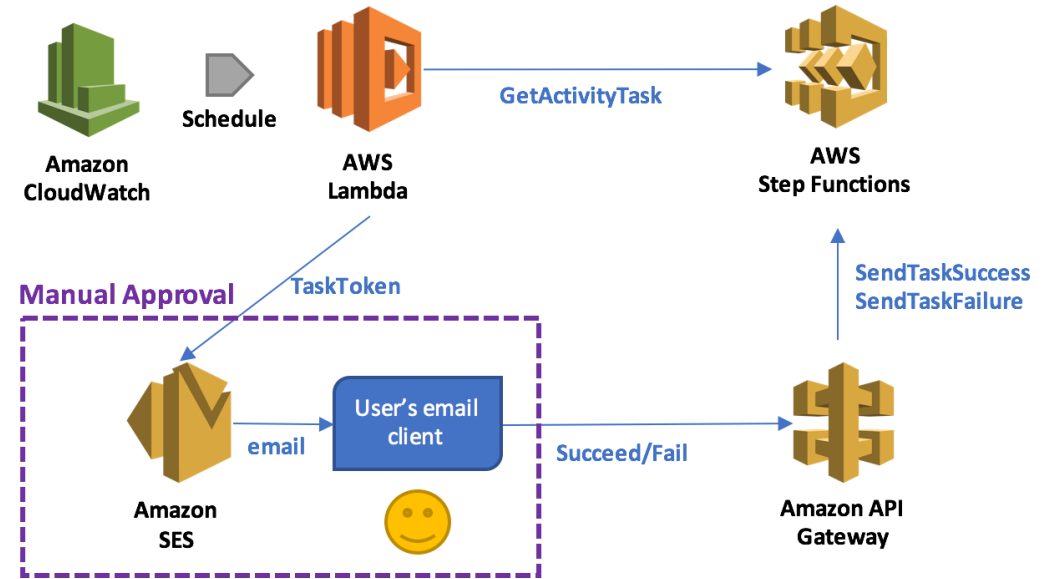
Back to the Future



2017

Cloud Formation Support
Api gateway Integration
Custom Errors for lambda
Cloudwatch Events as Target

Support for Updating state machines



<https://aws.amazon.com/blogs/compute/implementing-serverless-manual-approval-steps-in-aws-step-functions-and-amazon-api-gateway/>

2018

Higher Throughput

Integration:

- Amazon ECS
- AWS Fargate
- Amazon DynamoDB
- Amazon SNS
- Amazon SQS
- AWS Batch
- AWS Glue
- Amazon SageMaker.

<https://aws.amazon.com/about-aws/whats-new/2018/11/aws-step-functions-adds-eight-more-service-integrations/>

2019 Feb Develop and Test Local

Docker or Jar

Override Endpoints for other local testing

```
docker run -p 8083:8083 amazon/aws-stepfunctions-local
```

```
aws stepfunctions --endpoint-url http://localhost:8083 create-state-machine --definition "{\n  \"Comment\": \"A Hello World example of the Amazon States Language using a Pass state\", \n  \"StartAt\": \"HelloWorld\", \n  \"States\": {\n    \"HelloWorld\": {\n      \"Type\": \"Pass\", \n      \"End\": true\n    }\n  }\n}" --name "HelloWorld" --role-arn "arn:aws:iam::012345678901:role/DummyRole"
```

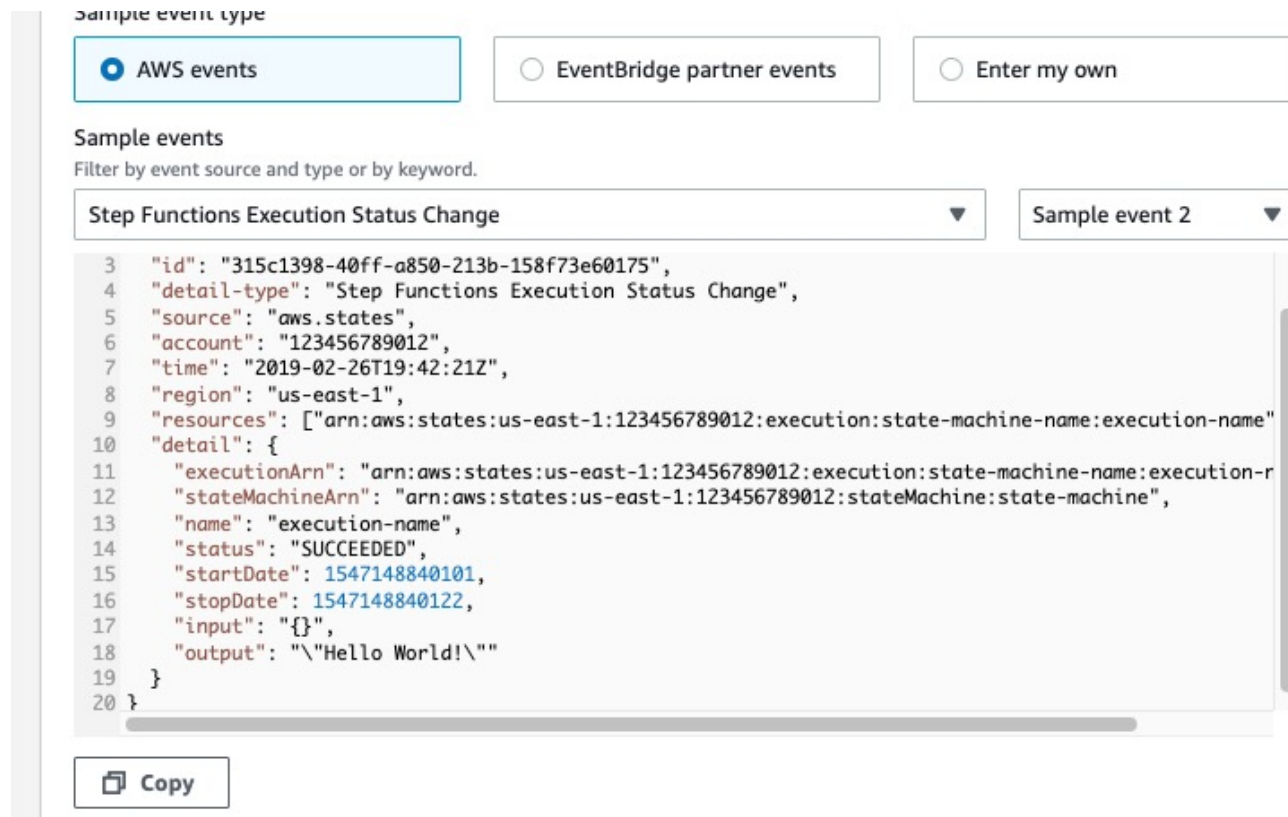
<https://aws.amazon.com/about-aws/whats-new/2019/02/develop-and-test-aws-step-functions-workflows-locally/>

2019 May Workflow execution Events

Integration with Cloudwatch Events , now Event bridge

Have an event if the Step Function

Works
Error
Timeout



The screenshot shows the AWS console interface for selecting a sample event type. Under the heading "Sample event type", there are three radio button options: "AWS events" (which is selected), "EventBridge partner events", and "Enter my own". Below this, under "Sample events", there is a filter instruction and two dropdown menus. The first dropdown is set to "Step Functions Execution Status Change" and the second is set to "Sample event 2". A text area below displays a JSON event structure with line numbers 3 through 20. At the bottom of the text area is a "Copy" button.

```
3  "id": "315c1398-40ff-a850-213b-158f73e60175",
4  "detail-type": "Step Functions Execution Status Change",
5  "source": "aws.states",
6  "account": "123456789012",
7  "time": "2019-02-26T19:42:21Z",
8  "region": "us-east-1",
9  "resources": ["arn:aws:states:us-east-1:123456789012:execution:state-machine-name:execution-name"]
10 "detail": {
11   "executionArn": "arn:aws:states:us-east-1:123456789012:execution:state-machine-name:execution-r
12   "stateMachineArn": "arn:aws:states:us-east-1:123456789012:stateMachine:state-machine",
13   "name": "execution-name",
14   "status": "SUCCEEDED",
15   "startDate": 1547148840101,
16   "stopDate": 1547148840122,
17   "input": "{}",
18   "output": "\"Hello World!\""
19 }
20 }
```

<https://aws.amazon.com/about-aws/whats-new/2019/05/aws-step-functions-adds-support-for-workflow-execution-events/>

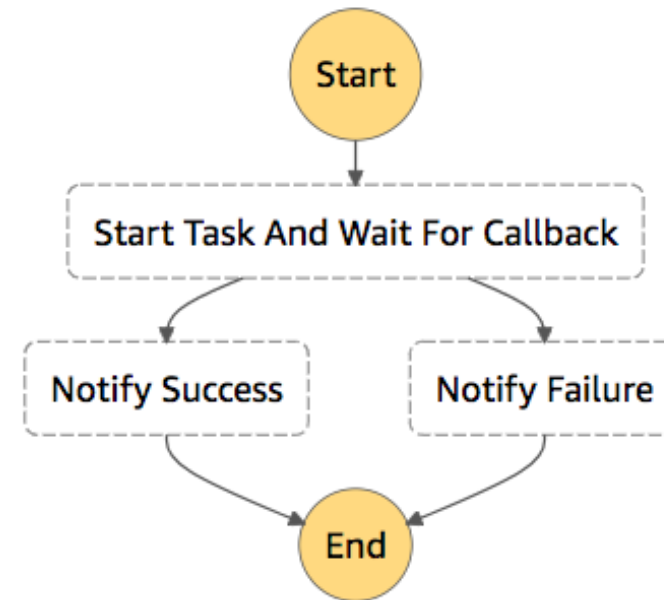
2019 May Callback Patterns

Pause the Workflow and pass the token to other service

Example:

pass token to SQS

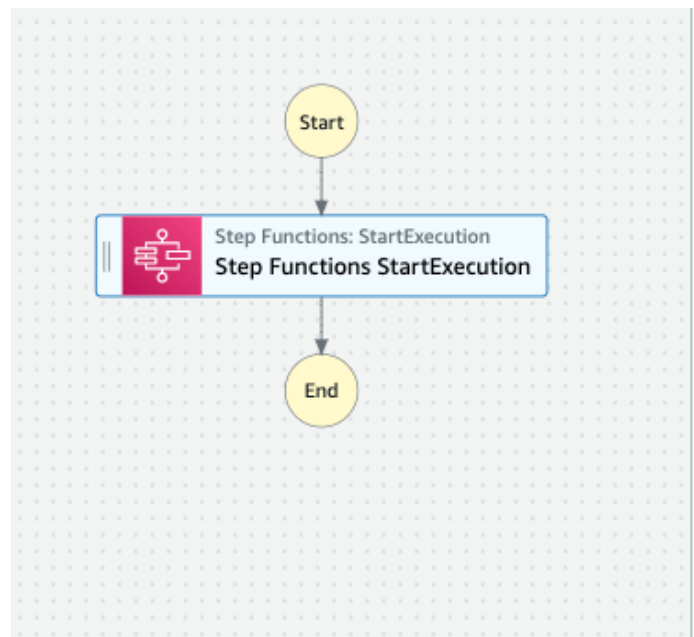
Wait for the application to pass
back the token



2019 Aug Nested Workflows

Build larger and complexer workflows

Re-use reoccurring parts as building blocks



Additional configuration

Integration pattern [Info](#)

Specify how Step Functions manages the API call.

Call and continue

Step Functions calls the API, receives an HTTP response, and continues to the next step.

Wait for child execution to complete

Pause the parent execution at this state and monitor the child execution. Resume the parent execution when the child execution is complete.

Wait for callback

Pause the execution at this state until the execution receives a callback from the `SendTaskSuccess` or `SendTaskFailure` APIs with the task token.

Response format

Specify the response format of the child execution.

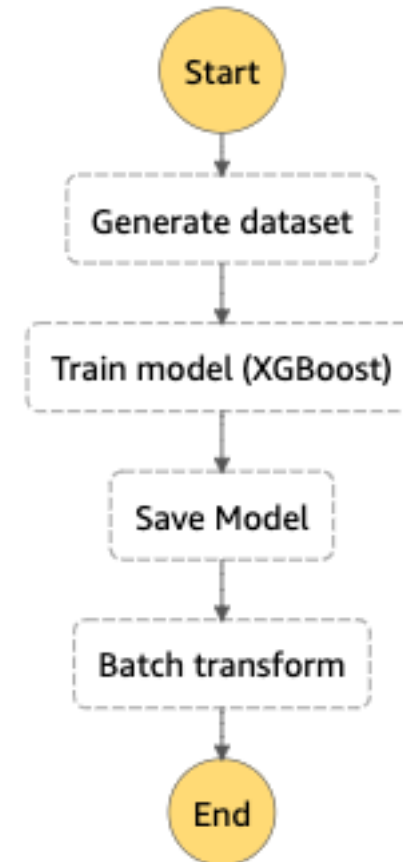
JSON

<https://aws.amazon.com/about-aws/whats-new/2019/08/aws-step-function-adds-support-for-nested-workflows/>

2019 Oct Sagemaker Integration

Move from Jupyter Notebooks to
Serverless machine learning workflow

ML-Ops



<https://aws.amazon.com/about-aws/whats-new/2019/10/aws-step-functions-expands-amazon-sagemaker-service-integration/>

2019 Nov Data Science SDK

Build a Step Function Workflow in Python
Predefined templates , TrainingPipeline, Inference Pipeline

Export to CloudFormation

Replaced by CDK?

Create the `TrainingStep` for the Workflow

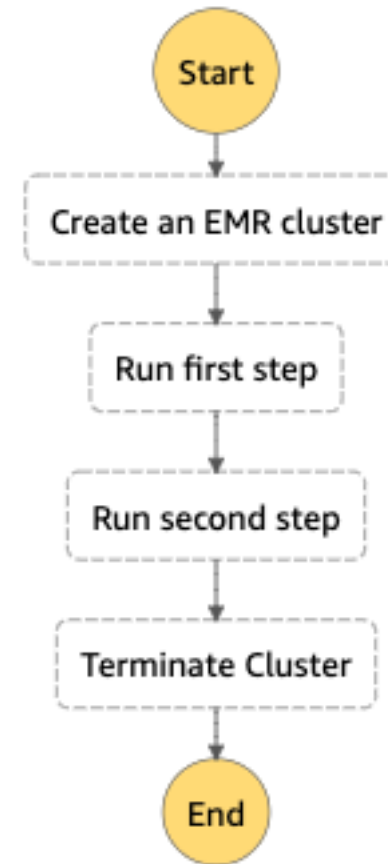
```
training_step = steps.TrainingStep(  
    "SageMaker Training Step",  
    estimator=sklearn,  
    data={"train": sagemaker.TrainingInput(preprocessed_training_data, content_type="text/csv")},  
    job_name=execution_input["TrainingJobName"],  
    wait_for_completion=True,  
)
```

<https://aws.amazon.com/about-aws/whats-new/2019/11/introducing-aws-step-functions-data-science-sdk-amazon-sagemaker/>

2019 Nov EMR Integration

Control EMR from Step Functions

On-Demand



<https://aws.amazon.com/about-aws/whats-new/2019/11/aws-step-functions-adds-amazon-emr-service-integration/>

2019 Re:invent Express Workflows

Cost Effective
Faster

- Api-gateway
- IOT
- Event Bridge

	Standard	Express
Maximum duration	1 year	5 minutes
Supported execution start rate	Over 2,000 per second*	Over 100,000 per second*
Supported state transition rate	Over 4,000 per second*	Nearly unlimited*
Pricing	Priced per state transition. A state transition is counted each time a step in your execution is completed. You are charged \$25 per million state transitions.**	Priced by the number of executions you run, their duration, and memory consumption. You are charged \$1 per million executions, and duration price from \$0.000004 to \$0.00001 per GB-second.
Execution history	Executions can be listed and described with Step Functions APIs, and visually debugged in the console.	Executions can be inspected in CloudWatch Logs by enabling logging on your state machine.
Execution semantics	Exactly-once workflow execution.	At-least-once workflow execution.
Service integrations	Supports all service integrations and patterns.	Supports all service integrations. Does not support Job-run (.sync) or Callback (.waitForTaskToken) patterns.
Step Functions activities	Supports Step Functions activities.	Does not support Step Functions activities.

<https://aws.amazon.com/about-aws/whats-new/2019/12/introducing-aws-step-functions-express-workflows/>

2019 Re:invent Private Link

Reach step function from inside the VPC

No need to traverse out to the internet

Number of VPC Interface endpoints per AWS region

Number of Availability Zones an Interface endpoint is deployed in

Total data processed by all VPCE Interface endpoints in the AWS region

Pricing Tiers -> 0-1PB @ 0.01/GB | 1-4PB @ 0.006/GB | 5+PB @ 0.004/GB

▼ Show calculations

1 VPC endpoints x 3 ENIs per VPC endpoint x 730 hours in a month x 0.01 USD = 21.90 USD (Monthly cost for endpoint ENI)

Monthly cost for Interface endpoints: 21.90 USD

Tiered price for: 100 GB

100 GB x 0.0100000000 USD = 1.00 USD

Total tier cost = 1.0000 USD (PrivateLink data processing cost)

Total data processing cost: 1 USD

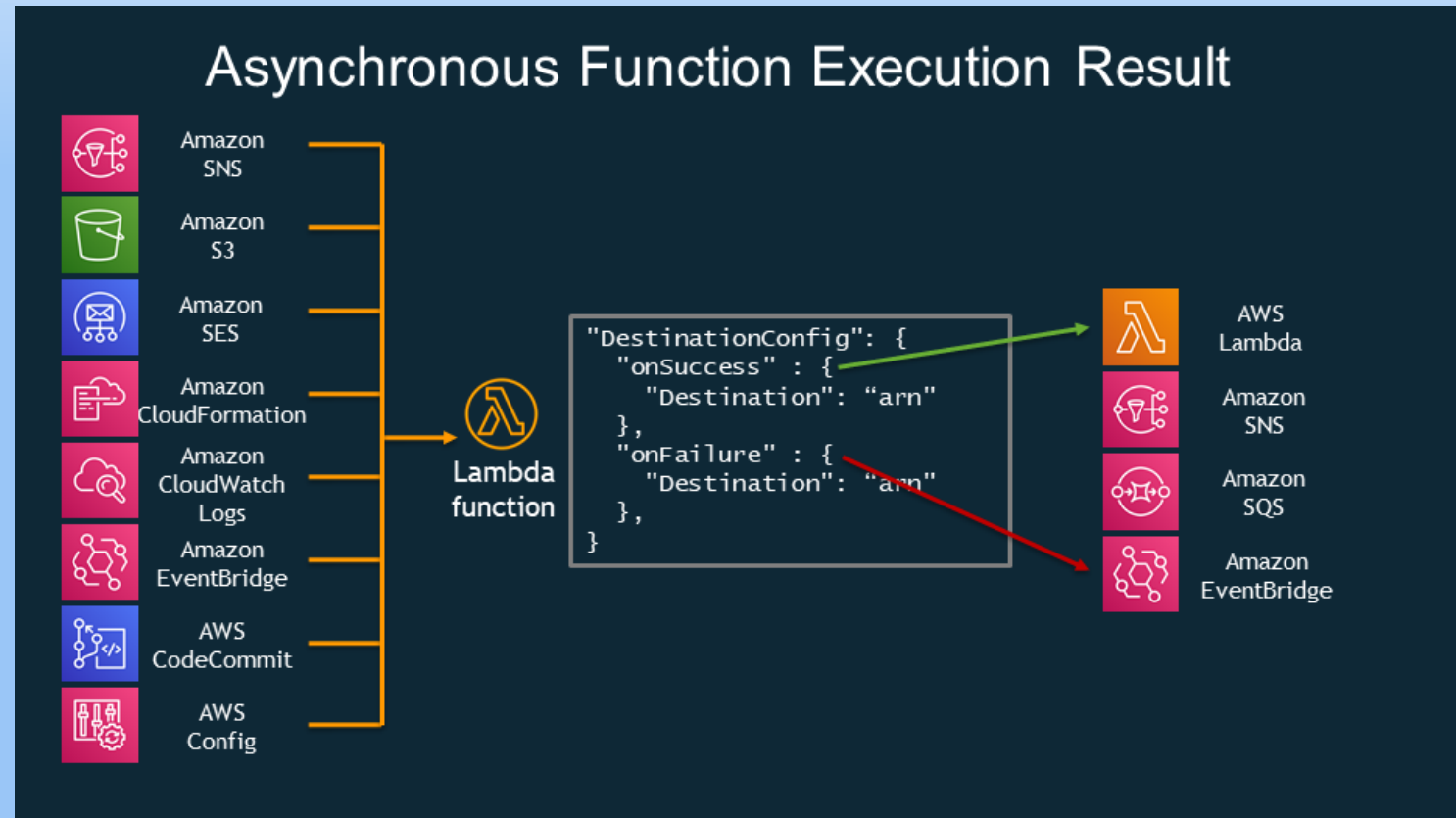
21.90 USD + 1 USD = 22.90 USD (Total PrivateLink Cost)

Total PrivateLink endpoints and data processing cost (monthly): 22.90 USD

<https://aws.amazon.com/about-aws/whats-new/2019/12/aws-step-functions-now-supports-aws-privatelink/>

2019 Re:invent Lambda Destinations

Simple workflow for Lambda's
Asynchronous



<https://aws.amazon.com/blogs/compute/introducing-aws-lambda-destinations/>

2020 Mar Visual Studio Code Support

Create, Edit, Debug

The screenshot displays the Visual Studio Code interface for editing an AWS Step Functions ASL document. The main editor shows the JSON configuration for a state machine named 'Hello-World.asl.json'. The configuration includes a 'Pass' state that transitions to a 'Hello World example?' state. A modal window is open, showing a list of task state types: Batch Task State, Choice State, ECS Task State, Fail State, Lambda Task State, Map State, Parallel State, Pass State, SNS Task State, SQS Task State, Succeed State, and Wait State. The 'Batch Task State' is selected, and a code snippet is displayed: 'Calls the AWS Batch SubmitJob API and resumes the execution once the job is complete.' To the right, a state machine graph visualizes the flow: Start -> Pass -> Hello World example? (decision) -> Yes -> Wait 3 sec -> Hello/World (parallel split) -> Hello World -> End. The No path from the decision state also leads to End. The status bar at the bottom indicates 'Ln 10, Col 9 Spaces: 2 UTF-8 LF Amazon States Language AWS Credentials: profile:office-hours'.

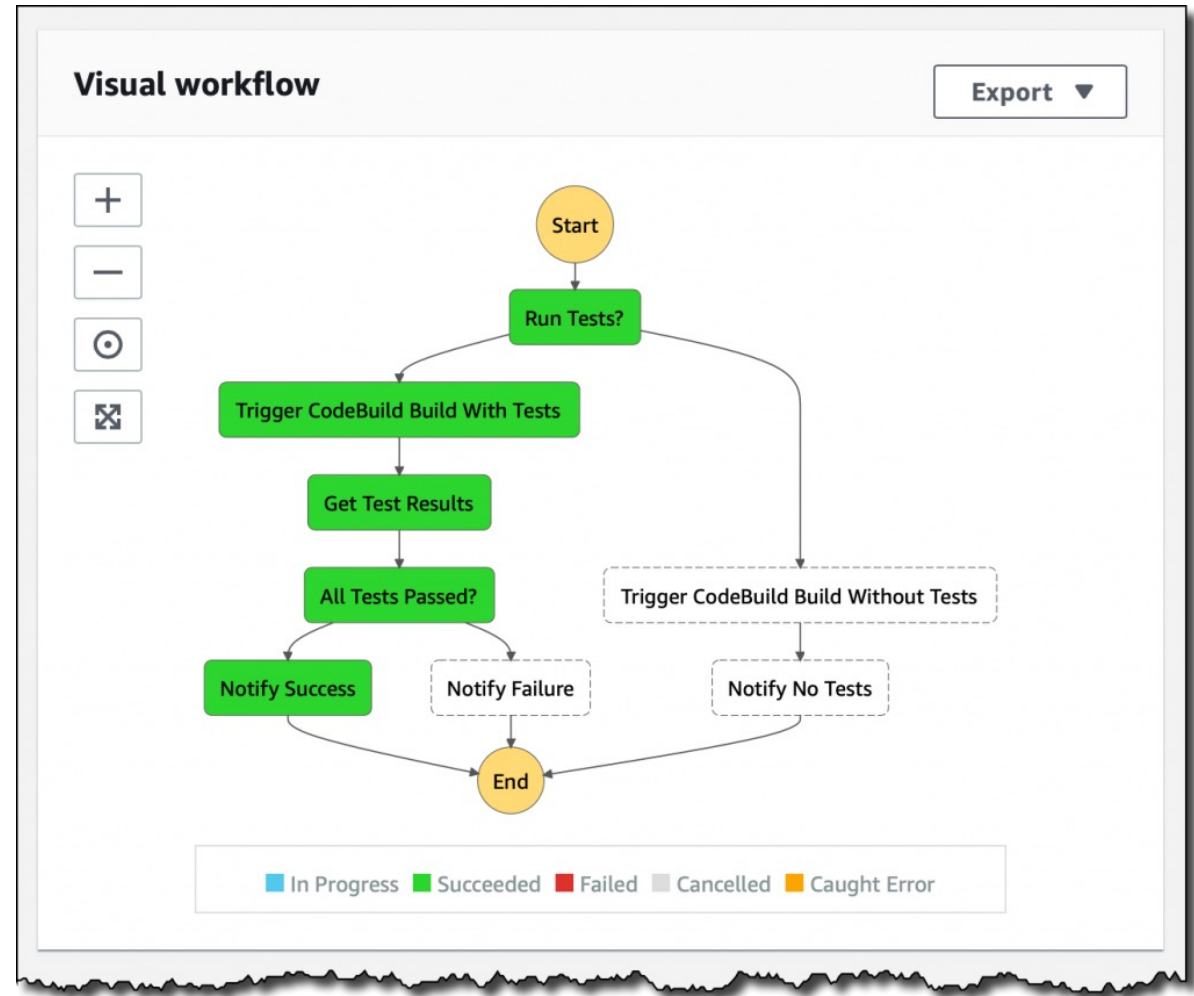
<https://aws.amazon.com/about-aws/whats-new/2020/03/aws-toolkit-for-visual-studio-code-supports-aws-step-functions/>

2020 May Code Build Support

Create a webhook, called from Github to run CodeBuild

Use Cloudwatch Events/Event Bridge to schedule builds

to schedule builds



<https://aws.amazon.com/about-aws/whats-new/2020/05/aws-step-functions-supports-aws-codebuild-service-integration/>

2020 May AWS Sam Support

Use SAM to deploy
your serverless workloads

```
YAML
Resources:
  SAMLogs:
    Type: AWS::Logs::LogGroup

  SimpleStateMachine:
    Type: AWS::Serverless::StateMachine
    Properties:
      Definition: {...}
      Logging:
        Destinations:
          - CloudWatchLogsLogGroup:
              LogGroupArn: !GetAtt SAMLogs.Arn
        IncludeExecutionData: true
        Level: ALL
      Policies:
        - CloudWatchLogsFullAccess
    Type: EXPRESS
```

<https://aws.amazon.com/about-aws/whats-new/2020/05/aws-sam-adds-support-for-aws-step-functions/>

2020 Aug

New Choice State Operators

- Test if Null
- Variable Exists
- Wildcarding
- Compare variables

- Dynamic Timeouts

- String and Array Construction
- String to Json
- Json to String

```
{  
  "Parameters": {  
    "foo.$": "States.Format('Hello, {} {}', $.firstName, $.lastName)"  
  }  
}
```

```
{  
  "Type": "Task",  
  "Resource": "arn:aws:states:::some.future.integration:run.sync",  
  "Parameters": {  
    "FieldThatNeedsToBeAString.$":  
      "States.JsonToString($.JSONInputField)",  
  }  
}
```

<https://aws.amazon.com/about-aws/whats-new/2020/08/aws-step-functions-support-string-manipulation-comparison-operators-improved-output-processing/>

2020 Sep increase Payload to 256K

From 32K to 256K

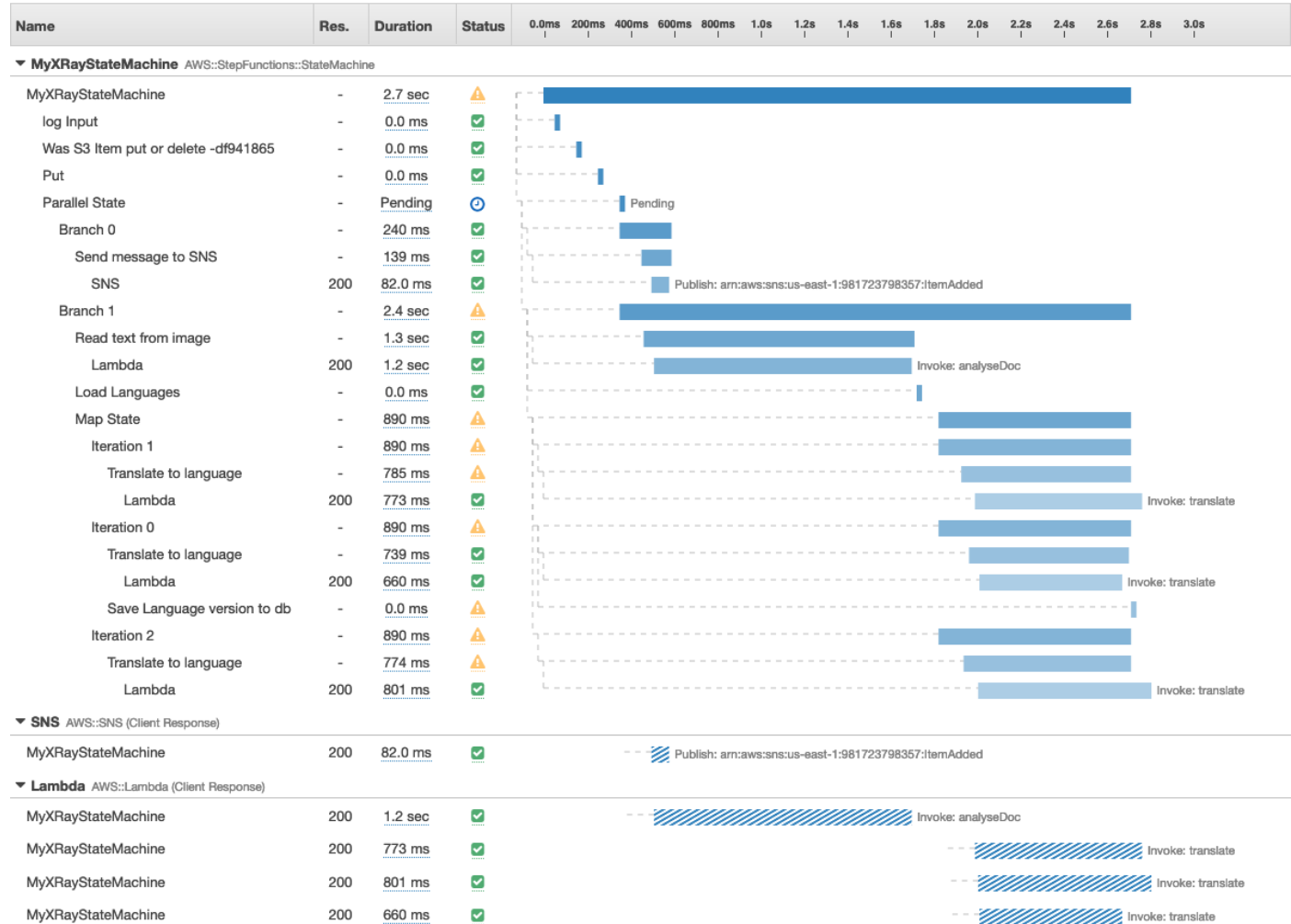
Handle more data in one execution

Same as services like DynamoDB, Lambda, SNS, SQS

2020 Sep AWS X-Ray Support

Detailed insights

Faster Troubleshooting



<https://aws.amazon.com/about-aws/whats-new/2020/09/aws-step-functions-adds-support-for-aws-x-ray/>

2020 Oct Amazon Athena Integration

Query Data
use for other processes

```
"Start an Athena query": {  
  "Type": "Task",  
  "Resource": "arn:aws:states:::athena:startQueryExecution.sync",  
  "Parameters": {  
    "QueryString": "SELECT * FROM \"myDatabase\".\"myTable\" limit 1",  
    "WorkGroup": "primary",  
    "ResultConfiguration": {  
      "OutputLocation": "s3://athenaQueryResult"  
    }  
  },  
  "Next": "Get results of the query"  
}
```

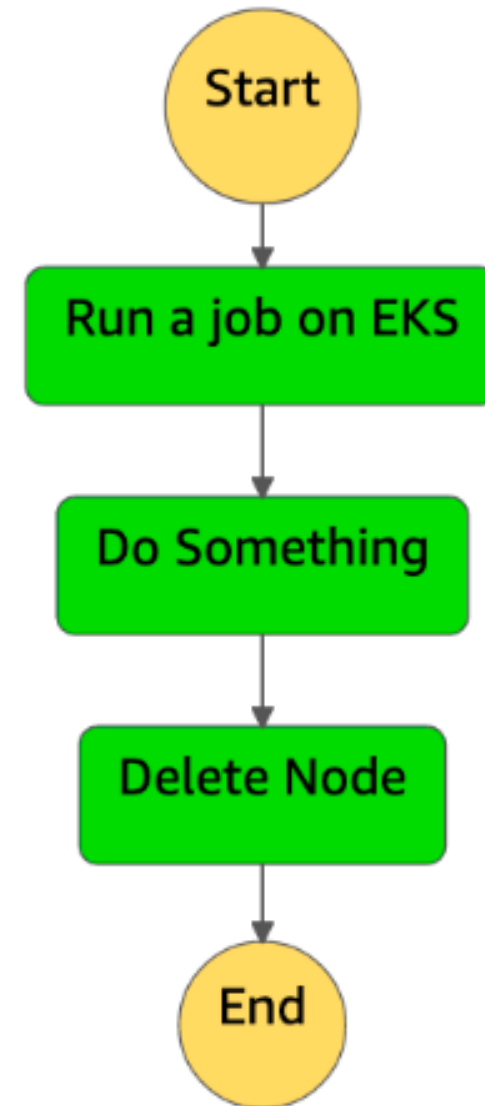
<https://aws.amazon.com/about-aws/whats-new/2020/10/aws-step-functions-now-supports-amazon-athena-service-integration/>

2020 Nov EKS Integration

Run Job

Call EKS API

Create/DeleteCluster
Create/DeleteNodeGroup

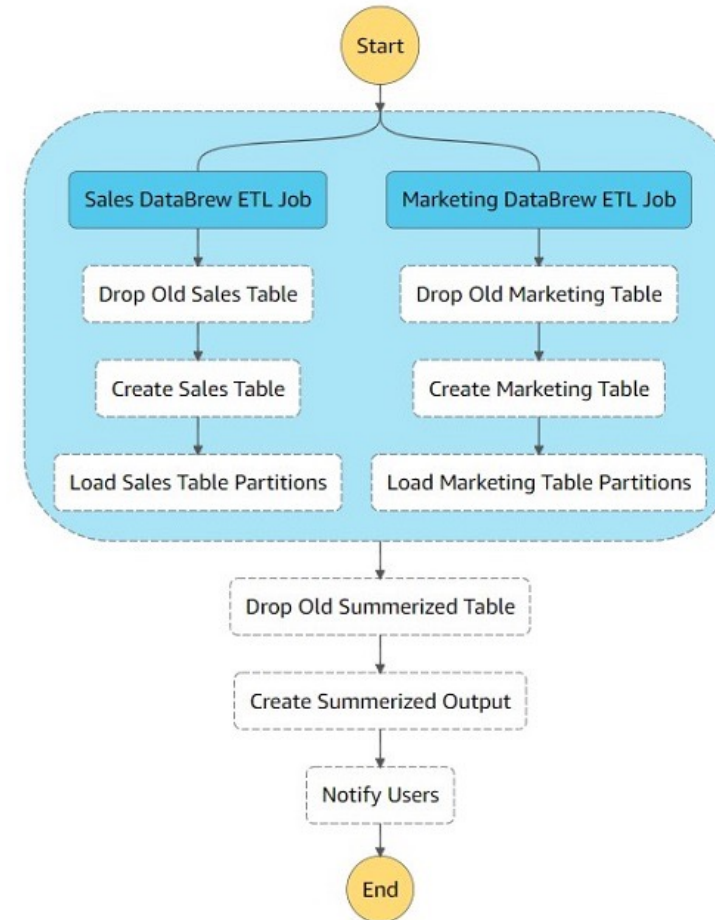


<https://aws.amazon.com/about-aws/whats-new/2020/11/aws-step-functions-now-supports-amazon-eks-service-integration/>

2021 Jan Glue DataBrew Support

Visual Data Preparation

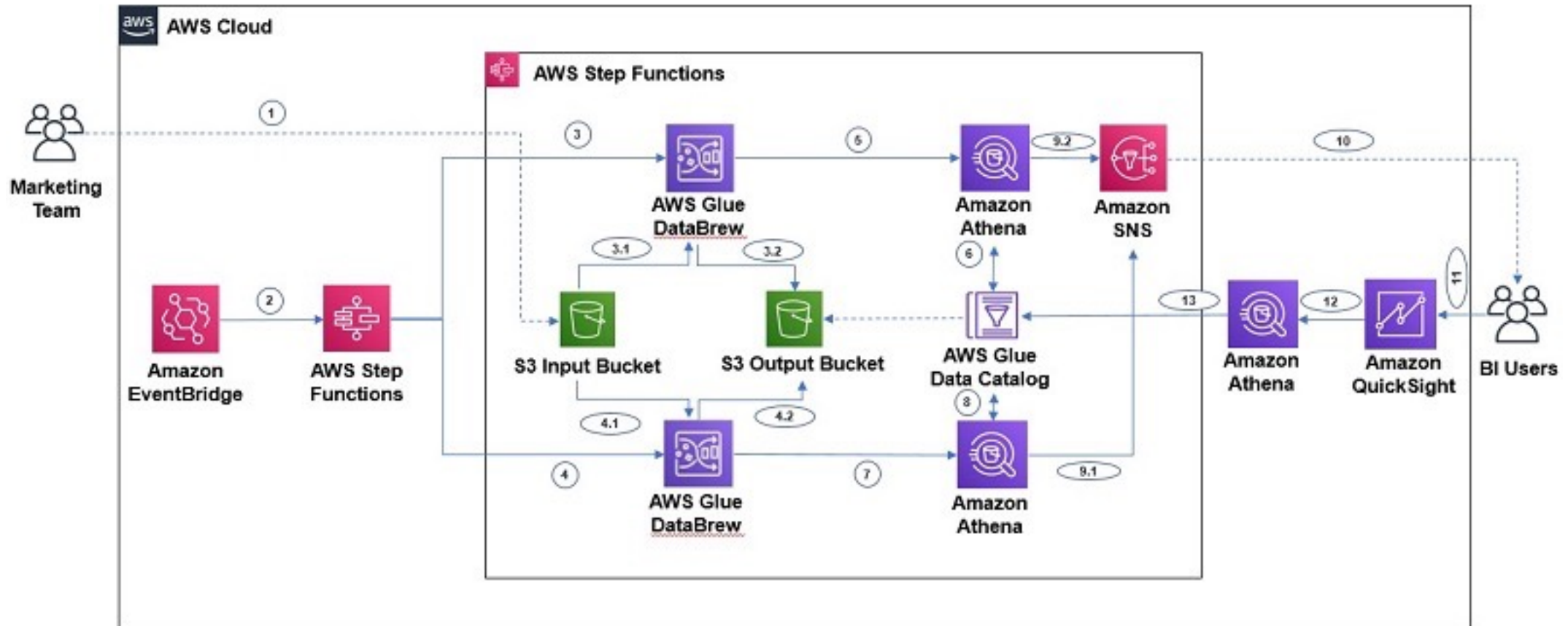
Separate Responsibility



■ In Progress ■ Succeeded ■ Failed ■ Cancelled ■ Caught Error

<https://aws.amazon.com/blogs/big-data/orchestrating-an-aws-glue-databrew-job-and-amazon-athena-query-with-aws-step-functions/>

2021 Jan Glue Databrew Support



<https://aws.amazon.com/about-aws/whats-new/2021/01/aws-step-functions-support-aws-glue-databrew-jobs-data-analytics-machine-learning-workflows/>

2021 Mar Yaml Support

Until now only JSON was support

```
Comment: "Example Workflow"  
StartAt: exampleStep  
States:  
  exampleStep:  
    Type: Task  
    Resource: !GetAtt example-step-lambda.Arn  
    TimeoutSeconds: 28  
    End: true
```

<https://aws.amazon.com/about-aws/whats-new/2021/03/aws-step-functions-adds-tooling-support-for-yaml/>

2021 April Data Flow Simulator

Test your workflow

InputPath

Parameters

ResultSelector

OutputPath

ResultPath.

The screenshot shows the AWS Step Functions Data Flow Simulator interface. The browser address bar shows the URL: eu-west-1.console.aws.amazon.com/states/home?region=eu-west-1#/simulator. The left sidebar contains a navigation menu with 'Data flow simulator' highlighted by a red box and labeled '1.'. The main content area is titled 'Data flow simulator' and includes a 'Give feedback' link. Below the title, there is an introductory paragraph and a list of use cases. A red box labeled '2.' highlights a breadcrumb navigation bar with the following steps: State Input > InputPath > Parameters > Task Result > ResultSelector > ResultPath > OutputPath > State Output. The 'State input' section is active, showing a text area with a JSON object:

```
1 + {
2   "version": 4,
3   "library": {
4     "movies": [
5       {
6         "genre": "crime",
7         "director": "Quentin Tarantino",
8         "title": "Reservoir Dogs",
9         "year": 1992
10      },
11     {
12       "genre": "action",
13       "director": "Brian De Palma",
14       "title": "Mission: Impossible",
15     }
16   ]
17 }
18 
```

 A red box labeled '3.' highlights a 'Next' button at the bottom right of the text area. The footer contains 'Feedback', 'English (US)', and copyright information.

<https://aws.amazon.com/about-aws/whats-new/2021/04/aws-step-functions-adds-new-data-flow-simulator-for-modelling-input-and-output-processing/>

2021 May Custom Event Bridge Support

YAML

```
Send an EventBridge custom event:  
  Type: Task  
  Resource: 'arn:aws:states:::events:  
  Parameters:  
    Entries:  
      - Detail:  
          Message: 'Hello from Step F  
          DetailType: MyDetailType  
          EventBusName: MyEventBusName  
          Source: MySource  
  Next: NEXT_STATE
```

Fire and forget
Standard & Express

YAML

```
Send an EventBridge custom event:  
  Type: Task  
  Resource: 'arn:aws:states:::events:putEvents.waitForTaskToken'  
  Parameters:  
    Entries:  
      - Detail:  
          Message: 'Hello from Step Functions!'  
          TaskToken.$: $$ .Task.Token  
          DetailType: MyDetailType  
          EventBusName: MyEventBusName  
          Source: MySource  
  Next: NEXT_STATE
```

Wait for answer
Standard

<https://aws.amazon.com/about-aws/whats-new/2021/05/aws-step-functions-now-supports-amazon-custom-events-eventbridge/>



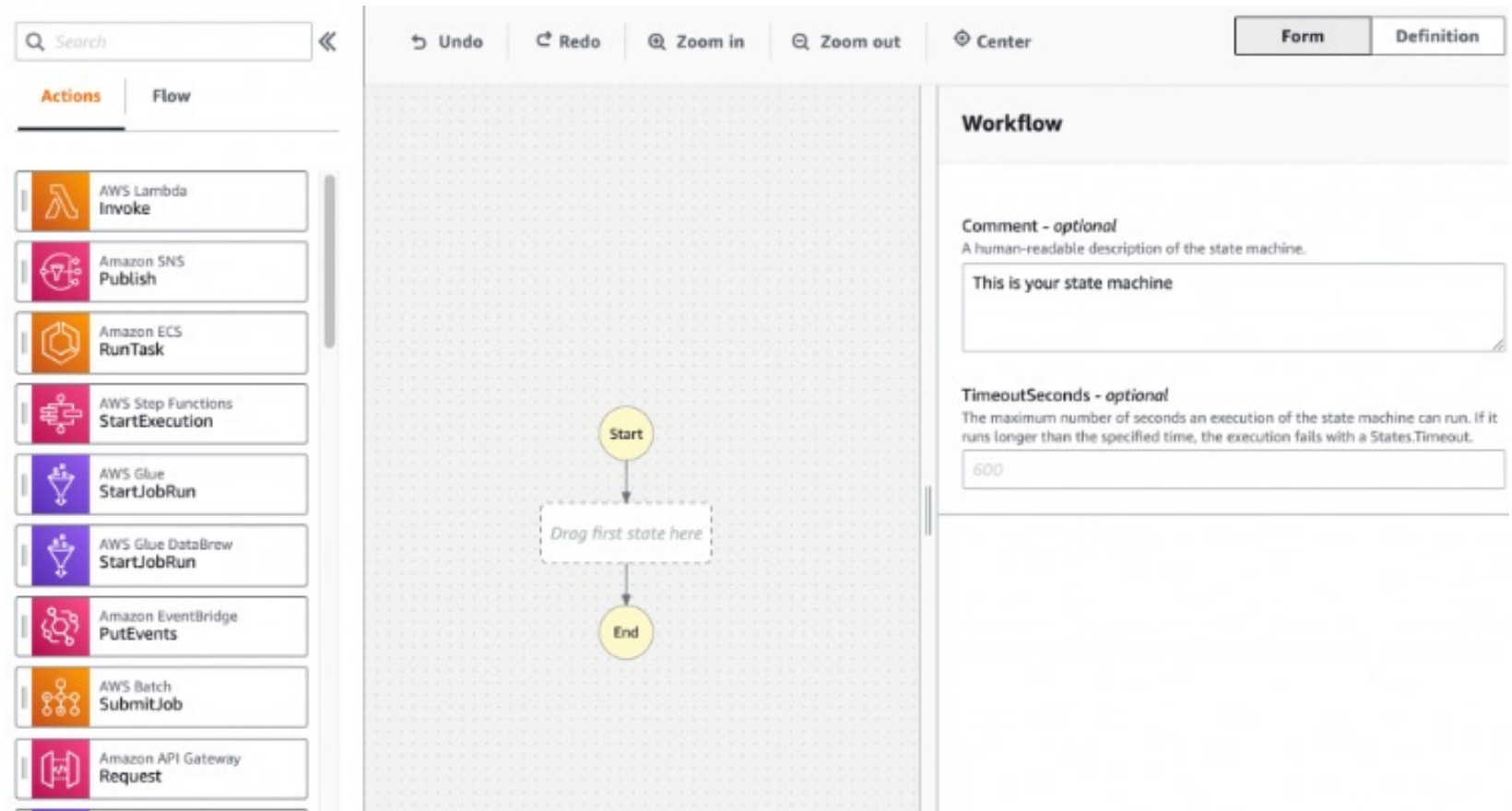
June 2021 Game Changer

SCHUBERG
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2021 June Workflow Studio

Drag & Drop

All parameters visible



<https://aws.amazon.com/about-aws/whats-new/2021/07/announcing-workflow-studio-a-new-low-code-visual-workflow-designer-for-aws-step-functions/>

2021 Sept > 200 AWS Services SDK Integrations

Call API directly and work with the response

Example: Dynamodb GetItem, S3 GetObject

```
"GetTranscriptionText": {  
  "Type": "Task",  
  "Resource": "arn:aws:states:::aws-sdk:s3:getObject",  
  "Parameters": {  
    "Bucket.$": "$.S3BucketName",  
    "Key": "transcribe.json"  
  },  
  "ResultSelector": {  
    "filecontent.$": "States.StringToJson($.Body)"  
  },  
  "ResultPath": "$.transcription",  
  "Next": "PrepareTranscriptTest"  
},
```

arn:aws:states:::aws-sdk:serviceName:apiAction.[serviceIntegrationPattern]

<https://aws.amazon.com/about-aws/whats-new/2021/09/aws-step-functions-200-aws-sdk-integration/>

2022 Jan Local Mocking for Workflows

Create local mocking

Provide test cases for
All kinds of situations

CI/CD

```
{
  "StateMachines": {
    "LocalTesting": {
      "TestCases": {
        "HappyPathTest": {
          "Check Identity": "CheckIdentityLambdaMockedSuccess",
          "Check Address": "CheckAddressLambdaMockedSuccess",
          "DetectSentiment": "DetectSentimentPositive",
          "Add to FollowUp": "AddToFollowUpSuccess",
          "CustomerAddedToFollowup": "CustomerAddedToFollowupSuccess"
        },
        "NegativeSentimentTest": {
          "Check Identity": "CheckIdentityLambdaMockedSuccess",
          "Check Address": "CheckAddressLambdaMockedSuccess",
          "DetectSentiment": "DetectSentimentNegative",
          "NegativeSentimentDetected": "NegativeSentimentDetectedSuccess"
        },
      },
    },
  },
}
```

2022 May Observability Features

Advanced insights

Graph view Table view Event view

Table view Data flow simulator ⚙️

🔍 Filter by properties or search by keyword 📅 Filter by a date and time range

	Name	Type	Status	Resource	Duration	Timeline	Started After
<input type="radio"/>	DynamoDB Get Shop st...	Task	✅ Succeeded	dynamodb	161 ms		38 ms
<input type="radio"/>	Shop Open?	Choice	✅ Succeeded	-	0 ms		199 ms
<input type="radio"/>	ListExecutions	Task	✅ Succeeded	aws-sdk:sfn	575 ms		199 ms
<input type="radio"/>	Is capacity available?	Choice	✅ Succeeded	-	0 ms		774 ms
<input checked="" type="radio"/>	Emit - Workflow Starte...	Task	⚠️ Caught error	Eventbridge event bus	15 min		774 ms
<input type="radio"/>	Customer timeout	Pass	✅ Succeeded	-	0 ms		15 min
<input type="radio"/>	Emit - error timeout	Task	⋮ Not started	-	0 ms		15 min

<https://aws.amazon.com/about-aws/whats-new/2022/05/announcing-new-workflow-observability-features-aws-step-functions/>

2022 June Step Functions Workshop

AWS Workshops

This website lists workshops created by the teams at Amazon Web Services (AWS). Workshops are hands-on events designed to teach or introduce practical skills, techniques, or concepts which you can use to solve business problems. You can filter by topic using the toolbar above.



- ▶ Module 1 - Hello World
- ▶ **Module 2 - Request Response**
- ▶ Module 3 - Run a Job (.sync)
- ▶ Module 4 - Wait for a Callback with the Task Token
- ▶ Module 5 - Choice State and Map State
- ▶ Module 6 - Input and Output Processing
- ▶ Module 7 - API Gateway, Parallel State, Express workflows
- ▶ Module 8 - Error Handling
- ▶ Module 9 - AWS SDK service integrations
- ▶ Module 10 - Deploy with AWS CDK
- ▶ Module 11 - Deploy with AWS SAM

<https://aws.amazon.com/about-aws/whats-new/2022/06/aws-step-functions-interactive-workshop-building-deploying-application-workflows/>

Aug 2022 14 new intrinsic functions

Support for
220 AWS Services
10.000 API actions
18 intrinsic functions

Array
Json
Math
Strings
UUID
Template

```
States.Format('Hello, my name is {}. ', $.name)
```

<https://aws.amazon.com/about-aws/whats-new/2022/08/aws-step-functions-14-new-intrinsic-features-process-data-workflows/>

Sep 2022 AWS Controllers for Kubernetes (ACK)

Deploy AWS Resources from K8S with kubectl/helm

RDS, Lambda, managed Prometheus, KMS
S3, Sagemaker, Dynamodb, ECR, Api Gateway

```
apiVersion: sfn.services.k8s.aws/v1alpha1
kind: StateMachine
metadata:
  name: $STATE_MACHINE_NAME
spec:
  name: $STATE_MACHINE_NAME
  roleARN: $SFN_EXECUTION_ROLE_ARN
  definition: "{ \"StartAt\": \"HelloWorld\", \"States\": { \"HelloWorld\": { \"Type\": \"Pass\", \"Result\": \"Hello World!\", \"End\": true } } }"
  tags:
  - key: k1
    value: v1
  - key: k2
    value: v2
  - key: k3
    value: v3
```

<https://aws.amazon.com/about-aws/whats-new/2022/09/aws-controllers-kubernetes-ack-rds-lambda-step-functions-prometheus-kms/>



DAY
21
9

22

22

AUGUST
WEDNESDAY

MARCH
TUESDAY

JANUARY
THURSDAY

MARCH
DAY
APRIL
WEDNESDAY

23

24

10
1

OCTOBER
FRIDAY

3

29

DAY

6

SEPTEMBER
FRIDAY

TUESDAY

16

AUGUST
SUNDAY

30

NOVEMBER
MONDAY

5

DECEMBER
TUESDAY

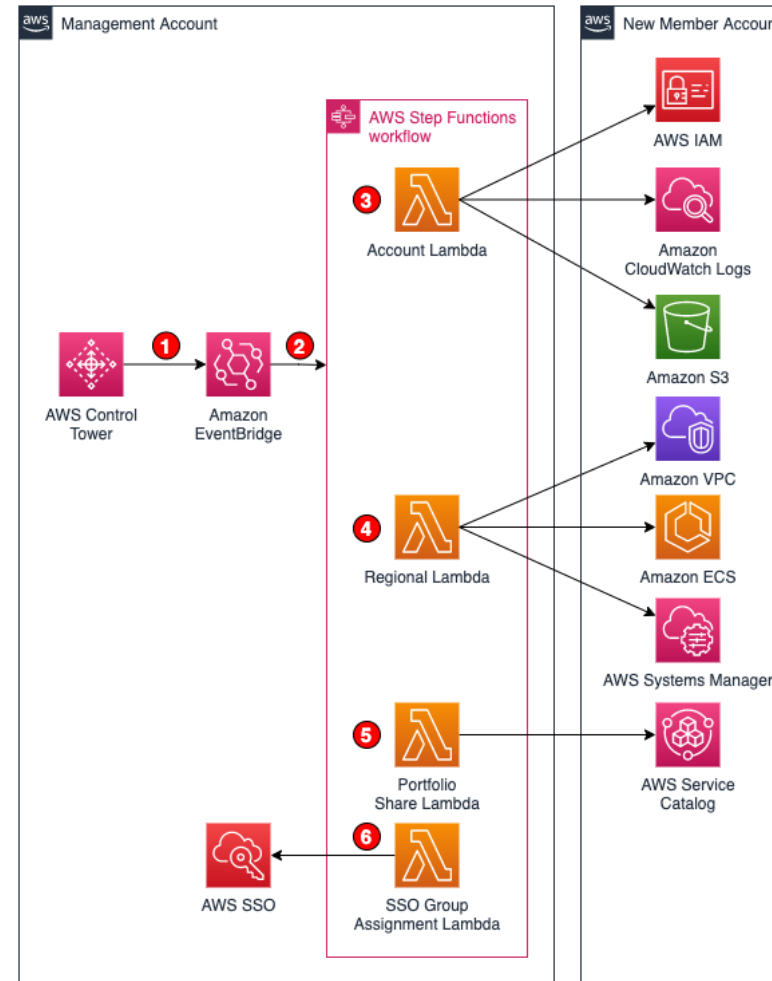
JUNE
MONDAY

7

9

Example: Account Setup

Run a set of actions
After account creation Event is received



<https://github.com/aws-samples/aws-control-tower-account-setup-using-step-functions>

Functionless

CDK Extension to infer domain specific Languages
Amazon State Language, Velocity Templates, Event Bridge Patterns

```
// Step Function workflow that validates the contents of a Post and deletes it if bad
const validatePostWorkflow = new StepFunction(
  this,
  "ValidatePostWorkflow",
  async (post: Post) => {
    const validationResult = await validatePost(post);
    if (validationResult.status === "Not Cool") {
      await $AWS.DynamoDB.DeleteItem({
        Table: postTable,
        Key: {
          postId: {
            S: post.postId,
          },
        },
      });
    }
  }
);
```

<https://functionless.org/>

Resume

Conclusions





Questions