

Question : Explain the below aws architecture diagram in detail, also deploy the same aws architecture.

- For this assignment you need to take a look and study the documentation for SAM CLI, you need to deploy a Hello, World application on aws lambda.
- Make sure when you test the lambda url it will respond as Hello, World



Solution:

1. Installing SAM CLI on linux:

Commands:

- Wget https://github.com/aws/aws-sam-cli/releases/latest/download/aws-sam-cli-linux-x86_64.zip
- unzip aws-sam-cli-linux-x86_64.zip -d sam-installation
- sudo ./sam-installation/install
- sam --version

```
aws Services Search [Alt+S] Tokyo batman @ 6078-9723-9025
creating: sam-installation/aws-sam-cli-src/tests/unit/local/lambdafn/
extracting: sam-installation/aws-sam-cli-src/tests/unit/local/lambdafn/_init_.py
inflating: sam-installation/aws-sam-cli-src/tests/unit/local/lambdafn/test_config.py
inflating: sam-installation/aws-sam-cli-src/tests/unit/local/lambdafn/test_env_vars.py
inflating: sam-installation/aws-sam-cli-src/tests/unit/local/lambdafn/test_runtime.py
inflating: sam-installation/aws-sam-cli-src/tests/unit/local/lambdafn/test_zip.py
creating: sam-installation/aws-sam-cli-src/tests/unit/local/layers/
extracting: sam-installation/aws-sam-cli-src/tests/unit/local/layers/_init_.py
inflating: sam-installation/aws-sam-cli-src/tests/unit/local/layers/test_download_layers.py
creating: sam-installation/aws-sam-cli-src/tests/unit/local/services/
extracting: sam-installation/aws-sam-cli-src/tests/unit/local/services/_init_.py
inflating: sam-installation/aws-sam-cli-src/tests/unit/local/services/test_base_local_service.py
inflating: sam-installation/aws-sam-cli-src/tests/unit/test_yamlhelper.py
inflating: sam-installation/aws-sam-cli-src/THIRD-PARTY-LICENSES
[root@ip-172-31-2-131 ~]# sudo ./sam-installation/install
You can now run: /usr/local/bin/sam --version
[root@ip-172-31-2-131 ~]# sam --version
SAM CLI, version 1.76.0
[root@ip-172-31-2-131 ~]#
```

i-0e3a44e396aff394a (MyVM)
PublicIPs: 54.168.239.22 PrivateIPs: 172.31.2.131

2. Deploying a Hello World application

- **Sam init:**

```
Runtime: python3.9
Architectures: x86_64
Dependency Manager: pip
Application Template: hello-world
Output Directory: .
Configuration file: sam-app/samconfig.toml

Next steps can be found in the README file at sam-app/README.md

Commands you can use next
=====
[*] Create pipeline: cd sam-app && sam pipeline init --bootstrap
[*] Validate SAM template: cd sam-app && sam validate
[*] Test Function in the Cloud: cd sam-app && sam sync --stack-name {stack-name} --watch

[root@ip-172-31-2-131 ~]# cd sam-app/
[root@ip-172-31-2-131 sam-app]# ls
events  hello_world  init  .py  README.md  samconfig.toml  template.yaml  tests

i-0e3a44e396aff394a (MyVM)
PublicIPs: 54.168.239.22  PrivateIPs: 172.31.2.131
```

- **Sam build:**

```
aws Services Search [Alt+S] Tokyo batman @ 6078-9723
Missing for (HelloWorldFunction), downloading dependencies and copying/building source
Building codeuri: /root/.sam-app/hello_world runtime: python3.9 metadata: {} architecture: x86_64 functions: HelloWorldFunction
Running PythonPipBuilder:CleanUp
Running PythonPipBuilder:ResolveDependencies
Running PythonPipBuilder:CopySource
Running PythonPipBuilder:CopySource

Build Succeeded

Built Artifacts  : .aws-sam/build
Built Template   : .aws-sam/build/template.yaml

Commands you can use next
=====
[*] Validate SAM template: sam validate
[*] Invoke Function: sam local invoke
[*] Test Function in the Cloud: sam sync --stack-name {{stack-name}} --watch
[*] Deploy: sam deploy --guided

[root@ip-172-31-2-131 sam-app]#

i-0e3a44e396aff394a (MyVM)
PublicIPs: 54.168.239.22  PrivateIPs: 172.31.2.131
```

- **sam deploy --guided:**

```
Gmail YouTube Maps Az-400 dumps resume sql server Social sites SSIS job Power BI .NET SSAS Azure DevOps Oth
aws Services Search [Alt+S] Tokyo batman @ 6078-9723
Outputs
-----
Key: HelloWorldFunctionIamRole
Description: Implicit IAM Role created for Hello World function
Value: arn:aws:iam::607897239025:role/sam-app-HelloWorldFunctionRole-1SQZN39Y2C3MY

Key: HelloWorldApi
Description: API Gateway endpoint URL for Prod stage for Hello World function
Value: https://ou8tc8ziqj.execute-api.us-east-1.amazonaws.com/Prod/hello/

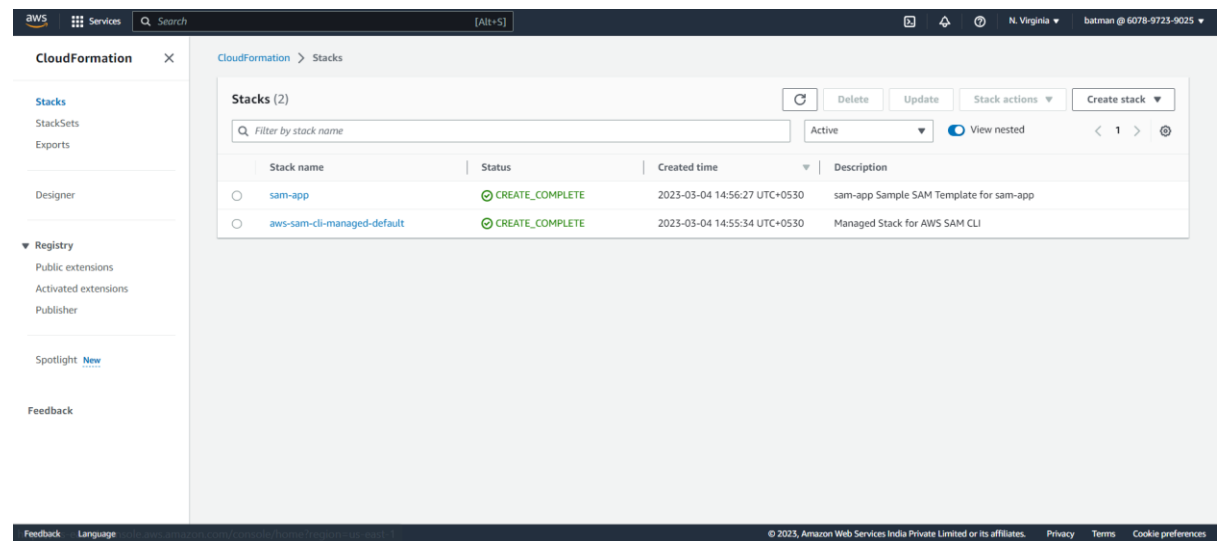
Key: HelloWorldFunction
Description: Hello World Lambda Function ARN
Value: arn:aws:lambda:us-east-1:607897239025:function:sam-app-HelloWorldFunction-10G3IR2SURbF
-----

Successfully created/updated stack - sam-app in us-east-1

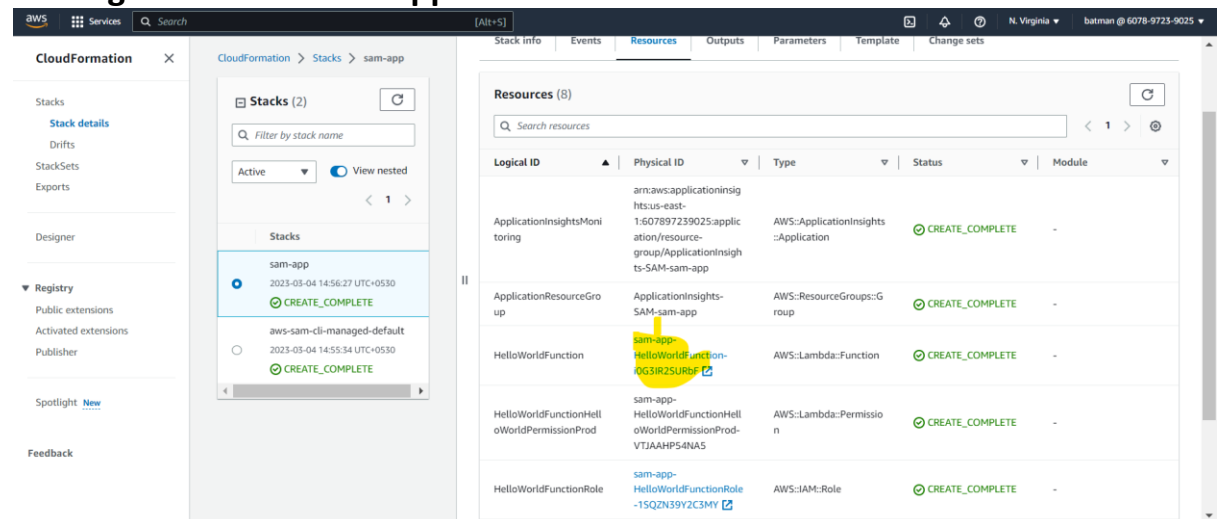
[root@ip-172-31-2-131 sam-app]#

i-0e3a44e396aff394a (MyVM)
PublicIPs: 54.168.239.22  PrivateIPs: 172.31.2.131
```

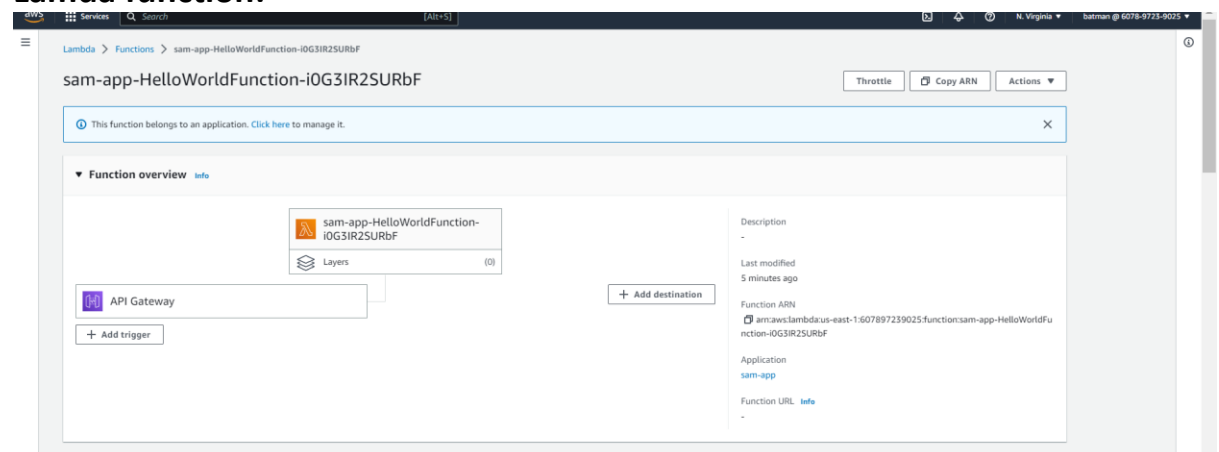
Resource creating using AWS SAM CLI:



Testing the Hello World Application:



Lambda function:



API Gateway

+ Add trigger

Layers

00

+ Add destination

Description

-

Last modified

6 minutes ago

Function ARN

arn:aws:lambda:us-east-1:607887239025:function:sam-app-HelloWorldFunction-DG3RZ5URBF

Application

sam-app

Function URL

info

-

Code

Test

Monitor

Configuration

Aliases

Versions

Execution result: succeeded [logs](#)

▼ Details

The area below shows the last 4 KB of the execution log.

```
{
  "statusCode": 200,
  "body": "{\"message\": \"Hello world!\"}"
}
```

Summary

Code SHA-256

ko18Lj7IQ77N6vAuoGkgH2Kn2jybyv5pc5vH-RuLUDv

Request ID

2u79c0ff-8a37-47db-8924-a227c016a4c

YAWT Traced

1-64031067-5111c0953377463046d722

init duration

102.08 ms

Duration

2.77 ms

Billed duration

3 ms

Resources configured

1.28 MB

Max memory used

35 MB