

ASSIGNMENT – 8

CREATING TEMPLATE (HELLO WORLD)

```
Activities Terminal Jan 12 08:25
abi@abi-X555LAB: ~/Desktop
abi@abi-X555LAB:~/Desktop$ sam init
You can preselect a particular runtime or package type when using the 'sam init' experience.
Call 'sam init --help' to learn more.

Which template source would you like to use?
 1 - AWS Quick Start Templates
 2 - Custom Template Location
Choice: 1

Cloning from https://github.com/aws/aws-sam-cli-app-templates (process may take a moment)

Choose an AWS Quick Start application template
 1 - Hello World Example
 2 - Multi-step workflow
 3 - Serverless API
 4 - Scheduled task
 5 - Standalone function
 6 - Data processing
 7 - Infrastructure event management
 8 - Serverless Connector Hello World Example
 9 - Multi-step workflow with Connectors
10 - Lambda EFS example
11 - Machine Learning
Template: 1

Use the most popular runtime and package type? (Python and zip) [y/N]: y

Would you like to enable X-Ray tracing on the function(s) in your application? [y/N]: n

Would you like to enable monitoring using CloudWatch Application Insights?
For more info, please view https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/cloudwatch-application-insights.html [y/N]: n

Project name [sam-app]: assignment

-----
Generating application:
-----
Name: assignment
Runtime: python3.9
Architectures: x86_64
Dependency Manager: pip
Application Template: hello-world
Output Directory: .

Next steps can be found in the README file at ./assignment/README.md
```

Activities Files		Jan 12 08:26	
		Home / Desktop / assignment	
		Name	Size Modified
Recent Starred Home Documents Downloads Music Pictures Videos Trash Other Locations		tests	4 items 07:52 ☆
		hello_world	3 items 07:52 ☆
		events	1 item 07:52 ☆
		README.md	8.4 kB 07:52 ☆
		template.yaml	1.7 kB 07:52 ☆
		samconfig.toml	315 bytes 07:56 ☆
		__init__.py	0 bytes 07:52 ☆

BUILDING MY APPLICATION

```
Activities Terminal Jan 12 08:30
abi@abi-X555LAB: ~/Desktop/assignment

abi@abi-X555LAB:~/Desktop/assignment$ sam build
/usr/lib/python3/dist-packages/paramiko/transport.py:236: CryptographyDeprecationWarning: Blowfish has been deprecated
"class": algorithms.Blowfish,
Building codeuri: /home/abi/Desktop/assignment/hello_world runtime: python3.9 metadata: {} architecture: x86_64 functions: HelloWorldFunction
Running PythonPipBuilder:ResolveDependencies
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
abi@abi-X555LAB:~/Desktop/assignment$ sam validate
2023-01-12 07:53:32 Loading policies from IAM...
2023-01-12 07:53:39 Finished loading policies from IAM.
/home/abi/Desktop/assignment/template.yaml is a valid SAM Template
abi@abi-X555LAB:~/Desktop/assignment$ sam deploy --guided
/usr/lib/python3/dist-packages/paramiko/transport.py:236: CryptographyDeprecationWarning: Blowfish has been deprecated
"class": algorithms.Blowfish,

Configuring SAM deploy
=====

Looking for config file [samconfig.toml] : Not found

Setting default arguments for 'sam deploy'
=====
Stack Name [sam-app]: sam-app
AWS Region [us-east-1]: us-east-1
#Shows you resources changes to be deployed and require a 'Y' to initiate deploy
Confirm changes before deploy [y/N]: y
#SAM needs permission to be able to create roles to connect to the resources in your template
Allow SAM CLI IAM role creation [Y/n]: y
#Preserves the state of previously provisioned resources when an operation fails
Disable rollback [y/N]: y
HelloWorldFunction may not have authorization defined, Is this okay? [y/N]: y
Save arguments to configuration file [Y/n]: y
SAM configuration file [samconfig.toml]: samconfig.toml
SAM configuration environment [default]: default

Looking for resources needed for deployment:
Creating the required resources...
Successfully created!
Managed S3 bucket: aws-sam-cli-managed-default-samclisourcebucket-14rlx209nshoo
A different default S3 bucket can be set in samconfig.toml

Saved arguments to config file
Running 'sam deploy' for future deployments will use the parameters saved above.
The above parameters can be changed by modifying samconfig.toml
```

VALIDATE AND DEPLOYING THE APPLICATION

- sam template file is valid so next step is to deploy the application

```
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abi@abi-X555LAB: ~/Desktop/assignment

[*] Test Function in the Cloud: sam sync --stack-name {{stack-name}} --watch
[*] Deploy: sam deploy --guided
abi@abi-X555LAB:~/Desktop/assignment$ sam validate
2023-01-12 07:53:32 Loading policies from IAM...
2023-01-12 07:53:39 Finished loading policies from IAM.
/home/abi/Desktop/assignment/template.yaml is a valid SAM Template
abi@abi-X555LAB:~/Desktop/assignment$ sam deploy --guided
/usr/lib/python3/dist-packages/paramiko/transport.py:236: CryptographyDeprecationWarning: Blowfish has been deprecated
"class": algorithms.Blowfish,

Configuring SAM deploy
=====

Looking for config file [samconfig.toml] : Not found

Setting default arguments for 'sam deploy'
=====
Stack Name [sam-app]: sam-app
AWS Region [us-east-1]: us-east-1
#Shows you resources changes to be deployed and require a 'Y' to initiate deploy
Confirm changes before deploy [y/N]: y
#SAM needs permission to be able to create roles to connect to the resources in your template
Allow SAM CLI IAM role creation [Y/n]: y
#Preserves the state of previously provisioned resources when an operation fails
Disable rollback [y/N]: y
HelloWorldFunction may not have authorization defined, Is this okay? [y/N]: y
Save arguments to configuration file [Y/n]: y
SAM configuration file [samconfig.toml]: samconfig.toml
SAM configuration environment [default]: default

Looking for resources needed for deployment:
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```

```
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Deploying with following values
=====
Stack name      : sam-app
Region         : us-east-1
Confirm changeset : True
Disable rollback : True
Deployment s3 bucket : aws-sam-cli-managed-default-samclisourcebucket-14rlx209nshoo
Capabilities    : ["CAPABILITY_IAM"]
Parameter overrides : {}
Signing Profiles : {}

Initiating deployment
=====
Uploading to sam-app/7624246b873ab8cc10f16c4636aeb223.template 1206 / 1206 (100.00%)

Waiting for changeset to be created..
CloudFormation stack changeset
-----
Operation      LogicalResourceId      ResourceType      Replacement
-----
+ Add          HelloWorldFunctionHelloWorldPermis
               sionProd              AWS::Lambda::Permission      N/A
+ Add          HelloWorldFunctionRole   AWS::IAM::Role              N/A
+ Add          HelloWorldFunction       AWS::Lambda::Function        N/A
+ Add          ServerlessRestApiDeployment47fc2d5
               f9d                    AWS::ApiGateway::Deployment   N/A
+ Add          ServerlessRestApiProdStage
               ServerlessRestApi       AWS::ApiGateway::Stage        N/A
+ Add          ServerlessRestApi       AWS::ApiGateway::RestApi      N/A
-----

Changeset created successfully. arn:aws:cloudformation:us-east-1:456532073387:changeSet/samcli-deploy1673490370/678e0fc2-7029-4764-bec4-b23572041681

Previewing CloudFormation changeset before deployment
=====
Deploy this changeset? [y/N]: y

2023-01-12 07:56:41 - Waiting for stack create/update to complete
```

```
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Previewing CloudFormation changeset before deployment
=====
Deploy this changeset? [y/N]: y

2023-01-12 07:56:41 - Waiting for stack create/update to complete

CloudFormation events from stack operations (refresh every 0.5 seconds)
-----
ResourceStatus      ResourceType      LogicalResourceId      ResourceStatusReason
-----
CREATE_IN_PROGRESS  AWS::IAM::Role    HelloWorldFunctionRole -
CREATE_IN_PROGRESS  AWS::IAM::Role    HelloWorldFunctionRole - Resource creation Initiated
CREATE_COMPLETE      AWS::IAM::Role    HelloWorldFunctionRole -
CREATE_IN_PROGRESS  AWS::Lambda::Function HelloWorldFunction -
CREATE_IN_PROGRESS  AWS::Lambda::Function HelloWorldFunction - Resource creation Initiated
CREATE_COMPLETE      AWS::Lambda::Function HelloWorldFunction -
CREATE_IN_PROGRESS  AWS::ApiGateway::RestApi ServerlessRestApi -
CREATE_IN_PROGRESS  AWS::ApiGateway::RestApi ServerlessRestApi - Resource creation Initiated
CREATE_COMPLETE      AWS::ApiGateway::RestApi ServerlessRestApi -
CREATE_IN_PROGRESS  AWS::ApiGateway::Deployment ServerlessRestApiDeployment47fc2d5
               f9d                    -
CREATE_IN_PROGRESS  AWS::Lambda::Permission HelloWorldFunctionHelloWorldPermis
               sionProd              -
CREATE_IN_PROGRESS  AWS::Lambda::Permission HelloWorldFunctionHelloWorldPermis
               sionProd              - Resource creation Initiated
CREATE_IN_PROGRESS  AWS::ApiGateway::Deployment ServerlessRestApiDeployment47fc2d5
               f9d                    - Resource creation Initiated
CREATE_COMPLETE      AWS::ApiGateway::Deployment ServerlessRestApiDeployment47fc2d5
               f9d                    -
CREATE_IN_PROGRESS  AWS::ApiGateway::Stage ServerlessRestApiProdStage -
CREATE_IN_PROGRESS  AWS::ApiGateway::Stage ServerlessRestApiProdStage - Resource creation Initiated
CREATE_COMPLETE      AWS::ApiGateway::Stage ServerlessRestApiProdStage -
CREATE_COMPLETE      AWS::Lambda::Permission HelloWorldFunctionHelloWorldPermis
               sionProd              -
CREATE_COMPLETE      AWS::CloudFormation::Stack sam-app -

CloudFormation outputs from deployed stack
```

```
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CREATE_IN_PROGRESS AWS::Lambda::Permission HelloWorldFunctionHelloWorldPermis -
CREATE_IN_PROGRESS AWS::Lambda::Permission HelloWorldFunctionHelloWorldPermis Resource creation Initiated
CREATE_IN_PROGRESS AWS::ApiGateway::Deployment ServerlessRestApiDeployment47fc2d5 Resource creation Initiated
CREATE_COMPLETE AWS::ApiGateway::Deployment ServerlessRestApiDeployment47fc2d5 -
CREATE_IN_PROGRESS AWS::ApiGateway::Stage ServerlessRestApiProdStage -
CREATE_IN_PROGRESS AWS::ApiGateway::Stage ServerlessRestApiProdStage Resource creation Initiated
CREATE_COMPLETE AWS::ApiGateway::Stage ServerlessRestApiProdStage -
CREATE_COMPLETE AWS::Lambda::Permission HelloWorldFunctionHelloWorldPermis -
CREATE_COMPLETE AWS::CloudFormation::Stack sam-app -

-----
CloudFormation outputs from deployed stack
-----
Outputs
-----
Key HelloWorldFunctionIamRole
Description Implicit IAM Role created for Hello World function
Value arn:aws:iam::456532073387:role/sam-app-HelloWorldFunctionRole-14FHAJXANN5D4

Key HelloWorldApi
Description API Gateway endpoint URL for Prod stage for Hello World function
Value https://7od82ahoqe.execute-api.us-east-1.amazonaws.com/Prod/hello/

Key HelloWorldFunction
Description Hello World Lambda Function ARN
Value arn:aws:lambda:us-east-1:456532073387:function:sam-app-HelloWorldFunction-SoE80XxaYfny

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

abi@abi-X555LAB:~/Desktop/assignment$ curl https://7od82ahoqe.execute-api.us-east-1.amazonaws.com/Prod/hello/
abi@abi-X555LAB:~/Desktop/assignment$ curl https://7od82ahoqe.execute-api.us-east-1.amazonaws.com/Prod/hello/
{"message": "hello world"}abi@abi-X555LAB:~/Desktop/assignment$
```

IT RESPONDING AS HELLO WORLD

```
Activities Terminal Jan 12 08:34
abi@abi-X555LAB: ~/Desktop/assignment

-----
Key HelloWorldFunctionIamRole
Description Implicit IAM Role created for Hello World function
Value arn:aws:iam::456532073387:role/sam-app-HelloWorldFunctionRole-14FHAJXANN5D4

Key HelloWorldApi
Description API Gateway endpoint URL for Prod stage for Hello World function
Value https://7od82ahoqe.execute-api.us-east-1.amazonaws.com/Prod/hello/

Key HelloWorldFunction
Description Hello World Lambda Function ARN
Value arn:aws:lambda:us-east-1:456532073387:function:sam-app-HelloWorldFunction-SoE80XxaYfny

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

abi@abi-X555LAB:~/Desktop/assignment$ curl https://7od82ahoqe.execute-api.us-east-1.amazonaws.com/Prod/hello/
abi@abi-X555LAB:~/Desktop/assignment$ curl https://7od82ahoqe.execute-api.us-east-1.amazonaws.com/Prod/hello/
abi@abi-X555LAB:~/Desktop/assignment$ curl https://7od82ahoqe.execute-api.us-east-1.amazonaws.com/Prod/hello/
{"message": "hello world"}abi@abi-X555LAB:~/Desktop/assignment$
```