

LAB AWS SAM — Hooks (pre-deploy & post-deploy)

1 Objectif du lab

- Déployer une **Lambda Python**
- Utiliser un **hook pre-deploy** pour :
 - valider le template
 - lancer des tests
- Utiliser un **hook post-deploy** pour :
 - lire les outputs CloudFormation
 - faire un smoke test

Le déploiement **échoue automatiquement** si un hook échoue.

2 Pré-requis

- AWS CLI configuré
- SAM CLI installé
- Python 3.10+
- pytest

```
sam --version  
aws sts get-caller-identity
```

2 Structure du projet (clé du lab)

```
sam-hooks-lab/  
├── template.yaml  
├── samconfig.toml  
└── .sam/  
    └── hooks.toml  
└── scripts/  
    ├── pre_deploy.sh  
    └── post_deploy.sh  
└── hello_world/  
    └── app.py
```

```
└── tests/
    └── test_handler.py
```

3 Lambda (simple mais testable)

```
hello_world/app.py
```

```
def lambda_handler(event, context):
    return {
        "statusCode": 200,
        "body": "Hello from SAM Hooks Lab"
    }
```

4 Template SAM

```
template.yaml
```

```
AWSTemplateFormatVersion: '2010-09-09'
Transform: AWS::Serverless-2016-10-31
Description: SAM Hooks Lab

Resources:
  HelloFunction:
    Type: AWS::Serverless::Function
    Properties:
      Runtime: python3.10
      Handler: app.lambda_handler
      CodeUri: hello_world/
      MemorySize: 128
      Timeout: 5
    Events:
      Api:
        Type: Api
        Properties:
          Path: /hello
          Method: get

Outputs:
  ApiUrl:
    Description: API endpoint
    Value: !Sub
      "https://${ServerlessRestApi}.execute-api.${AWS::Region}.amazonaws.com/Prod"
```

5 Test unitaire (pre-deploy)

```
tests/test_handler.py
```

```
from hello_world.app import lambda_handler

def test_lambda_handler():
```

```
response = lambda_handler({}, {})
assert response["statusCode"] == 200
```

6 Hook PRE-DEPLOY

```
.sam/hooks.toml

[hooks]

[hooks.pre_deploy]
commands = [
    "bash scripts/pre_deploy.sh"
]

[hooks.post_deploy]
commands = [
    "bash scripts/post_deploy.sh"
]

scripts/pre_deploy.sh

#!/bin/bash
set -e

echo "Validating SAM template"
sam validate

echo "Running unit tests"
pytest tests/

echo "Pre-deploy hook OK"
```

Si pytest échoue, sam deploy s'arrête.

7 Hook POST-DEPLOY

```
scripts/post_deploy.sh

#!/bin/bash
set -e

STACK_NAME=sam-hooks-lab

echo "Stack outputs:"
aws cloudformation describe-stacks \
--stack-name $STACK_NAME \
--query "Stacks[0].Outputs"

API_URL=$(aws cloudformation describe-stacks \
```

```
--stack-name $STACK_NAME \
--query "Stacks[0].Outputs[?OutputKey=='ApiUrl'].OutputValue" \
--output text)

echo " Smoke test API"
curl -f "$API_URL/hello"

echo " Post-deploy hook OK"
```

8 Déploiement du lab

```
sam build
sam deploy --guided
```

Lors du `sam deploy` :

1. **pre-deploy hook** s'exécute
2. CloudFormation déploie
3. **post-deploy hook** teste l'API