

# 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.

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## 2 Pré-requis

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

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

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## 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
```

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## 3 Lambda (simple mais testable)

hello\_world/app.py

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

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## 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"
```

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## 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
```

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## 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.**

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## 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"
```

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## 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