

Documentation for CI/CD Pipeline to Deploy AWS Lambda Using GitHub Actions (DFH-BackEnd)

1. Set Up AWS IAM User

1. **Sign in to the AWS Management Console** and open the IAM console.
2. **Navigate to Users > Add user.**
3. **Enter user details:**
 - User name: your-username
 - Select **Programmatic access**.
4. **Permissions:**
 - Select **Attach existing policies directly**.
 - Search for **AmazonLambdaFullAccess** and check it.
5. **Review and create the user.** Note down the **Access key ID** and **Secret access key**.

2. Add AWS Credentials to GitHub Secrets

1. **Go to GitHub repository > Settings > Secrets and variables > Actions.**
2. **Add secrets:**
 - AWS_ACCESS_KEY_ID: Your AWS Access key ID
 - AWS_SECRET_ACCESS_KEY: Your AWS Secret access key

3. Create a New Branch for Staging

1. **Go to your GitHub repository.**
2. **Create new branch:** Type stage and press Enter.

4. Set Up GitHub Actions Workflow

1. **Create folder:** .github/workflows in your repository.
2. **Create file:** deploy-lambda.yml in the workflows folder.

5. Add Deployment Workflow

```
1. name: Deploy Lambda
2.
3. on:
4.   push:
5.     branches:
6.       - stage
7.       - dev
8.       - test
9.
10. jobs:
11.   deploy:
12.     name: deploy
13.     runs-on: ubuntu-latest
14.     strategy:
15.       matrix:
16.         node-version: [18.x]
17.
18.     steps:
19.       - uses: actions/checkout@v3
20.
21.       - name: Use Node.js ${ matrix.node-version }
22.         uses: actions/setup-node@v3
23.         with:
24.           node-version: ${ matrix.node-version }
25.
26.       - name: Set AWS Credentials
```

```
27.     run: |
28.         aws configure set aws_access_key_id ${{ secrets.AWS_ACCESS_KEY_ID }}
29.         aws configure set aws_secret_access_key ${{ secrets.AWS_SECRET_ACCESS_KEY
30.     }}
31.         aws configure set default.region us-east-1
32. - run: | # Step to navigate to backend-service directory and install dependencies
33.     cd backend-service/
34.     npm install
35.
36. - name: Install Serverless Framework
37.   run: npm install -g serverless
38.
39. - name: serverless deploy # Step to deploy using Serverless Framework
40.   run: |
41.     cd backend-service/
42.     serverless deploy
43.
44.   env:
45.     AWS_ACCESS_KEY_ID: ${{ secrets.AWS_ACCESS_KEY_ID }}
46.     AWS_SECRET_ACCESS_KEY: ${{ secrets.AWS_SECRET_ACCESS_KEY }}
```