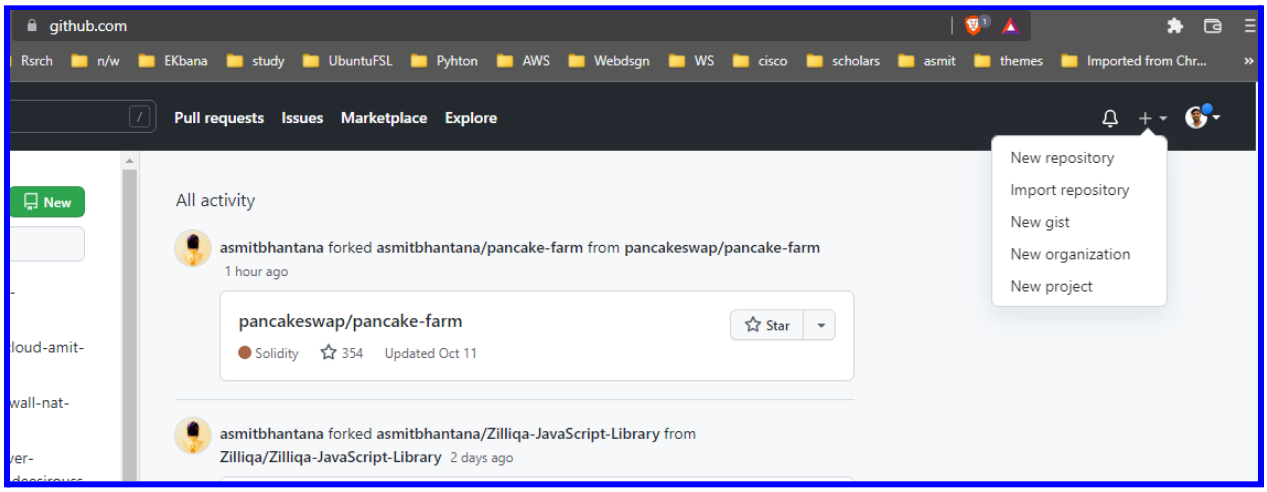
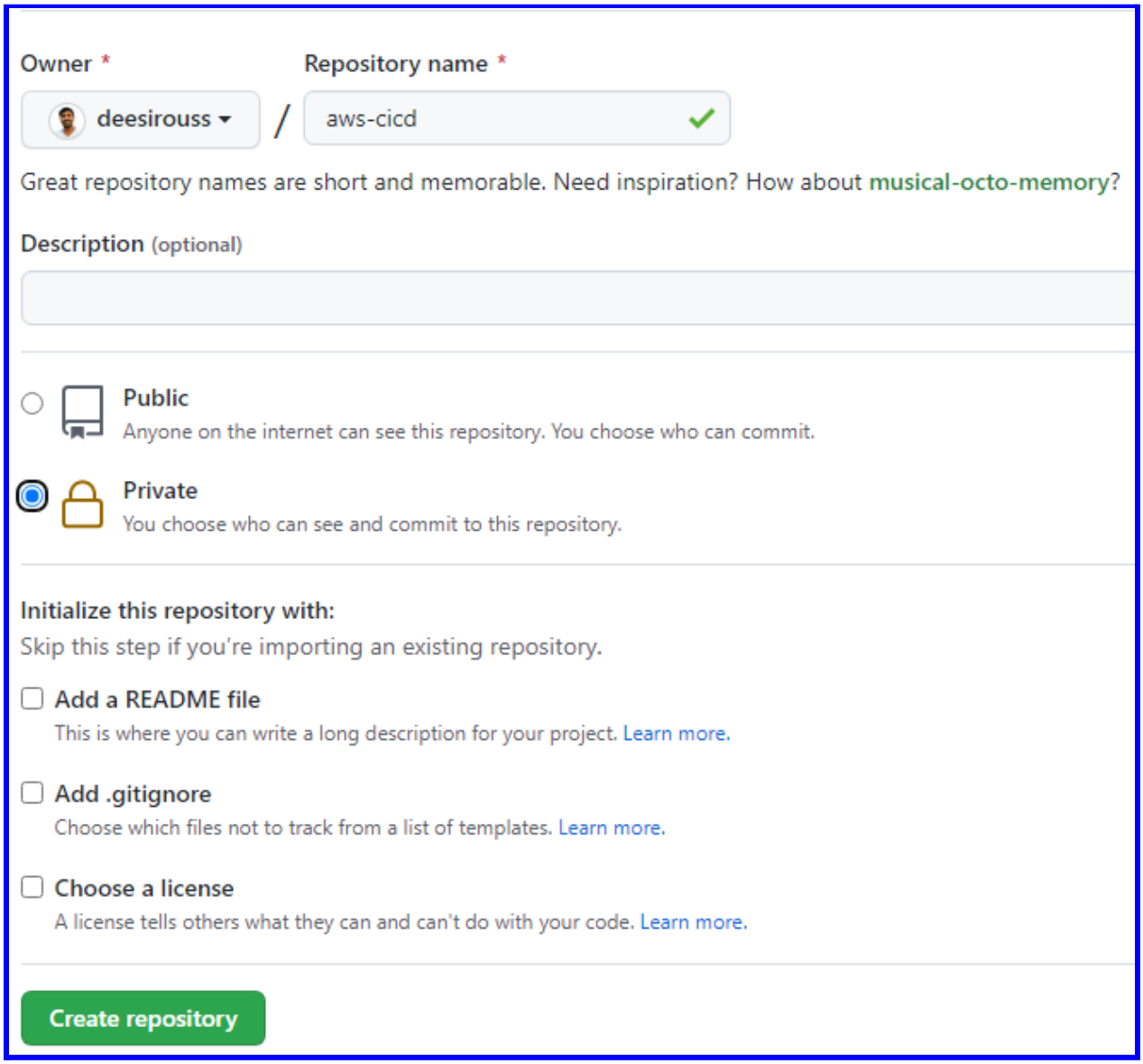
Integrate both these scripts with one of Jenkins, Github Actions, CircleCI or TravisCI

I have used **GitHub Actions**

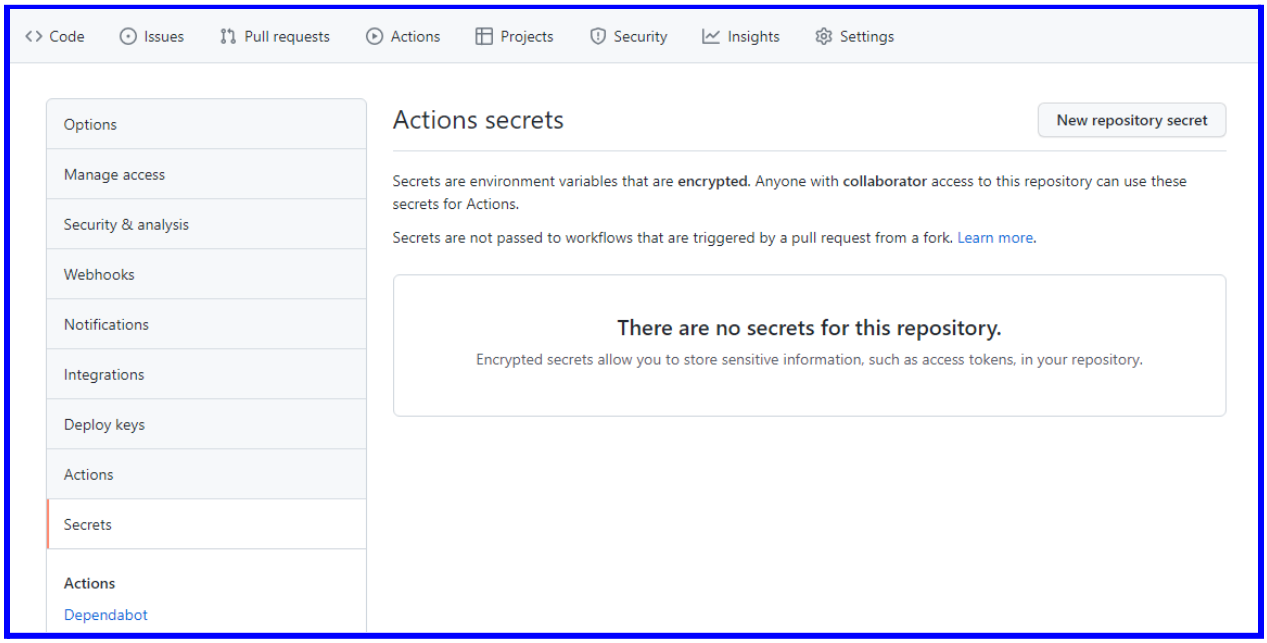
Creating new repository for Lambda CI/CD

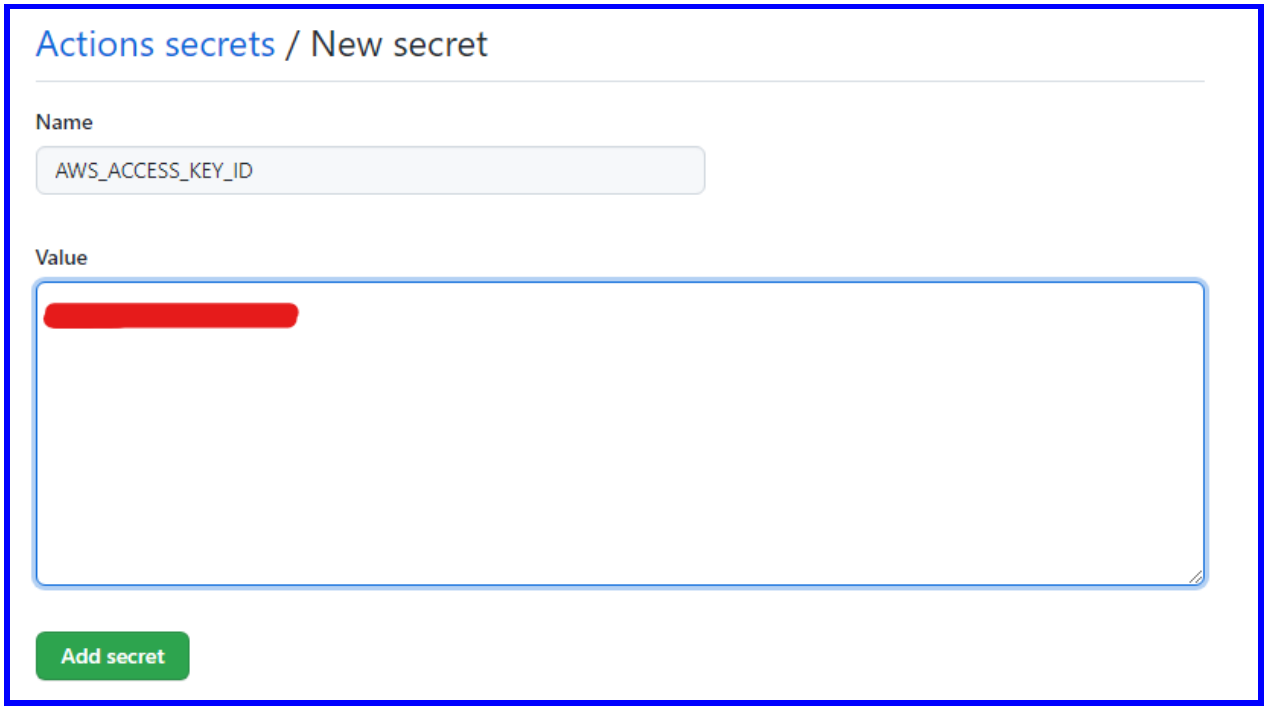


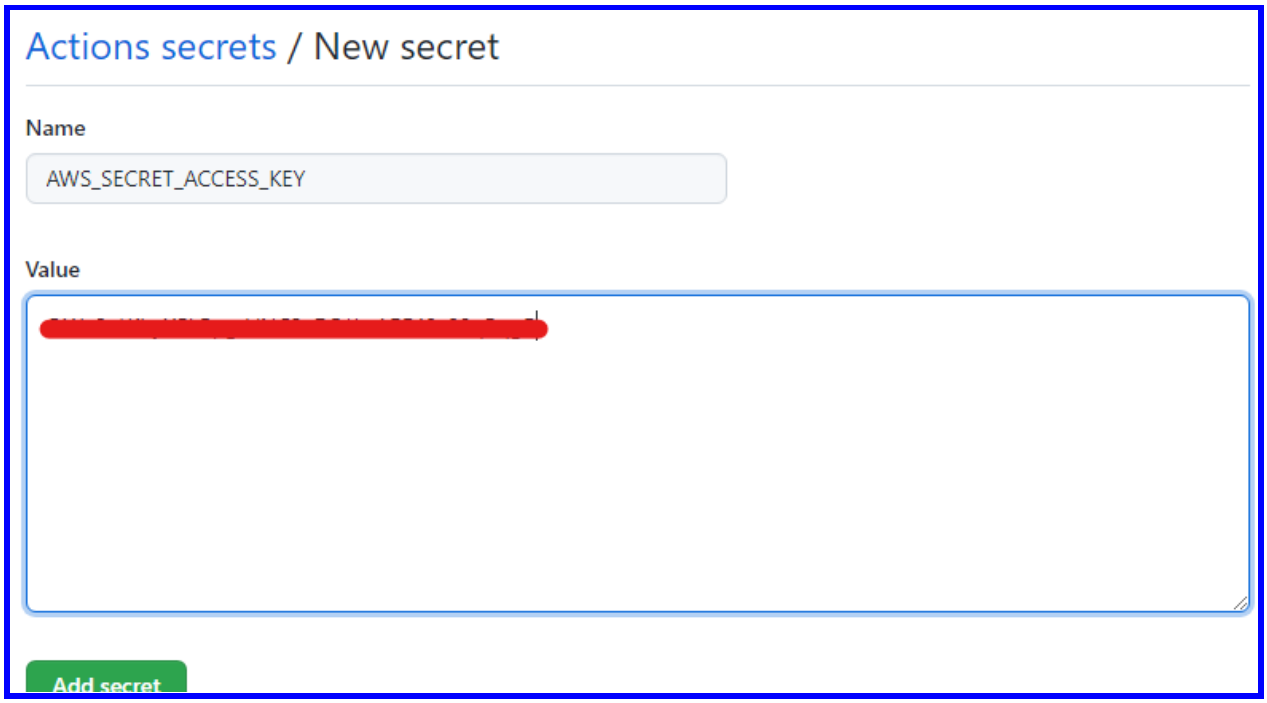
Name - aws-cicd, Private Repo



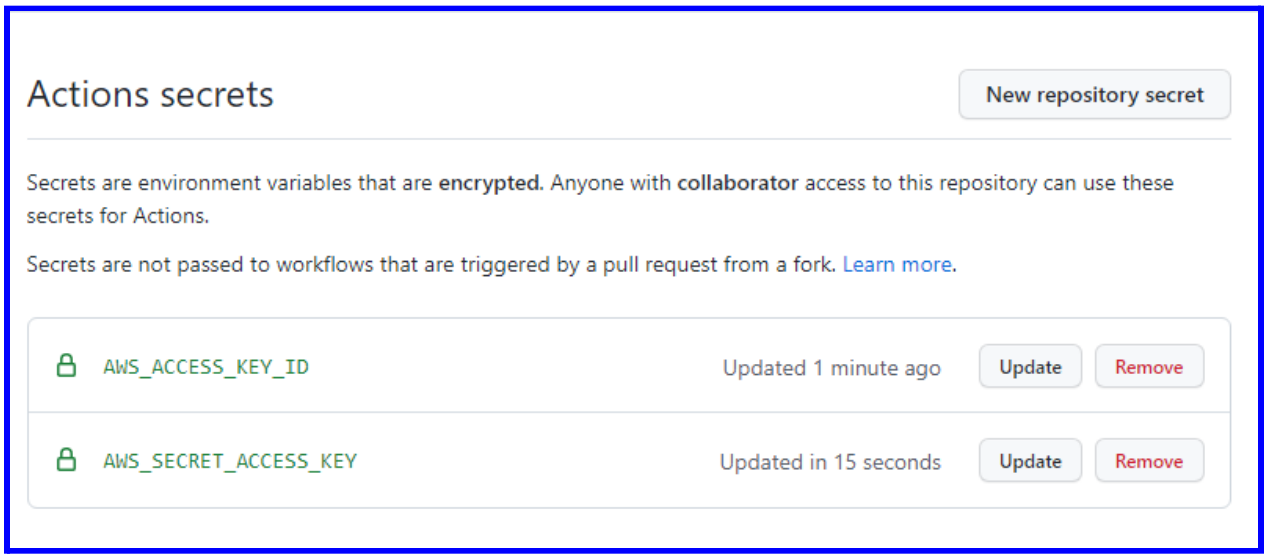
Creating Secret key for AWS Access key and Secret key



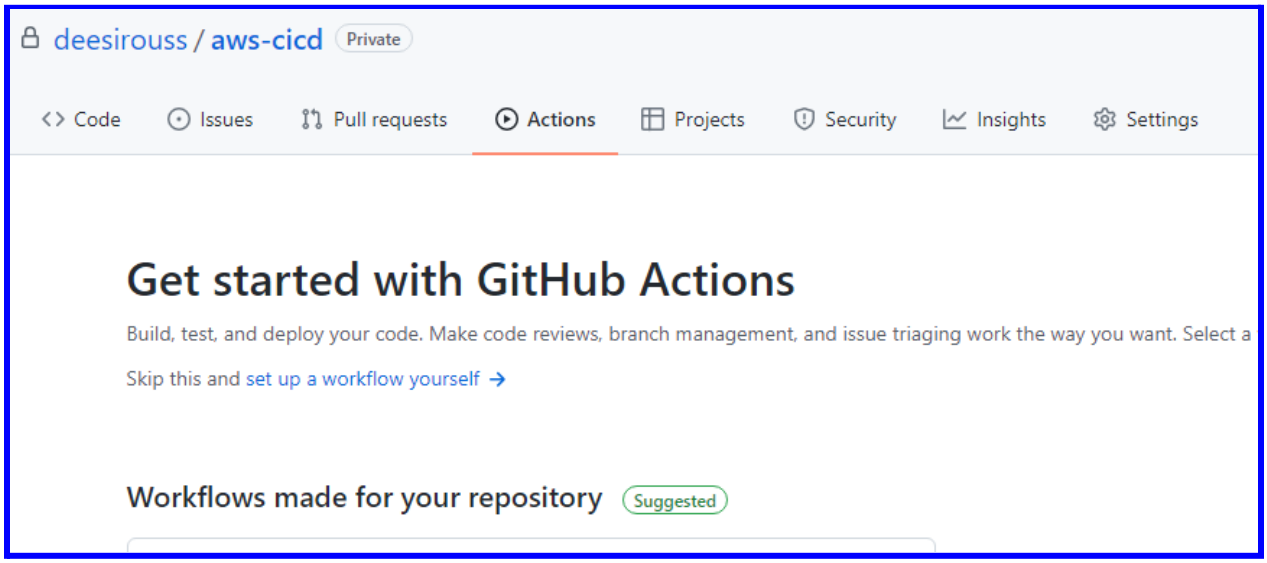




We have two Secrets



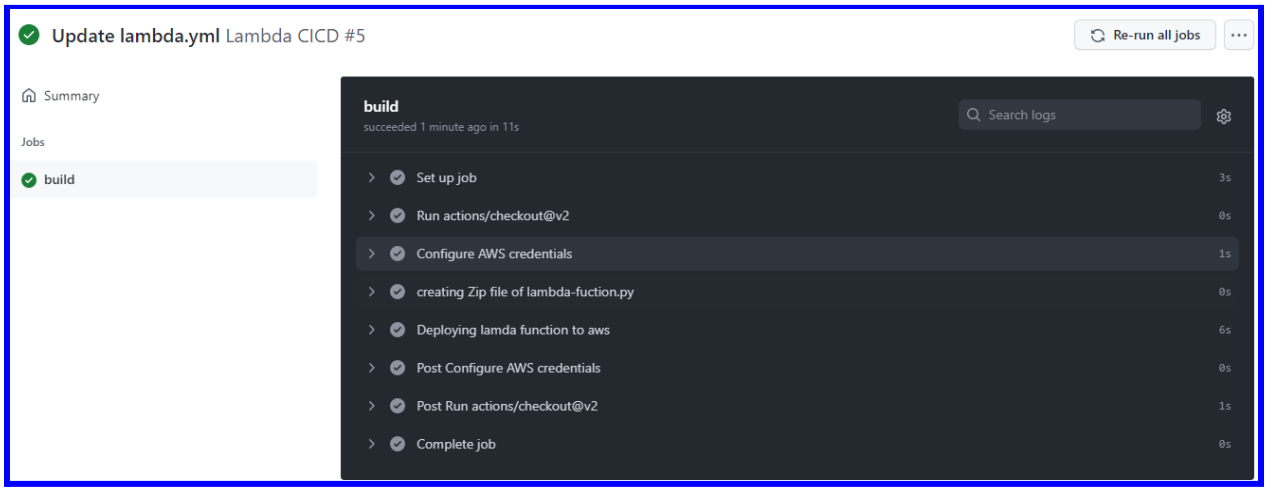
Creating Github Actions → Actions → Set up a Workflow yourself




```
# This is a basic workflow to help you get started with Actions

name: Lambda CICD

# Controls when the workflow will run
on:
  # Triggers the workflow on push or pull request events but only for the main branch
  push:
    branches: [ main ]
  pull_request:
    branches: [ main ]

  # Allows you to run this workflow manually from the Actions tab
  workflow_dispatch:

# A workflow run is made up of one or more jobs that can run sequentially or in parallel
jobs:
  # This workflow contains a single job called "build"
  build:
    # The type of runner that the job will run on
    runs-on: ubuntu-latest

    # Steps represent a sequence of tasks that will be executed as part of the job
    steps:
      # Checks-out your repository under $GITHUB_WORKSPACE, so your job can access it
      - uses: actions/checkout@v2

      #AWS credentials
      - name: Configure AWS credentials
```

```
    uses: aws-actions/configure-aws-credentials@v1
    with:
      aws-access-key-id: ${{ secrets.AWS_ACCESS_KEY_ID }}
      aws-secret-access-key: ${{ secrets.AWS_SECRET_ACCESS_KEY }}
      # TODO Change your AWS region here!
      aws-region: us-east-2

  - name: creating Zip file of lambda-fuction.py
    run: |
     zip lambda_function.zip lambda_function.py

  - name: Deploying lambda function to aws
    run: |
     aws lambda create-function --function-name bibek-demo-deployment \
     --runtime python3.9 --zip-file fileb://lambda_function.zip \
     --role arn:aws:iam::949263681218:role/service-role/bibek-api-gw-default-role-mof54wmn \
     --handler lambda_function.lambda_handler
```

If we see the build result, all jobs have been executed successfully



Deploying Lambda function to aws Job details

Deploying lamda function to aws 6s

```
13 ▶ Run aws lambda create-function --function-name bibek-demo-deployment \
24 {
25     "FunctionName": "bibek-demo-deployment",
26     "FunctionArn": "arn:aws:lambda:us-east-2:***:function:bibek-demo-deployment",
27     "Runtime": "python3.9",
28     "Role": "arn:aws:iam::***:role/service-role/bibek-api-gw-default-role-mof54wmn",
29     "Handler": "lambda_function.lambda_handler",
30     "CodeSize": 334,
31     "Description": "",
32     "Timeout": 3,
33     "MemorySize": 128,
34     "LastModified": "2021-12-17T06:42:51.627+0000",
35     "CodeSha256": "0qIxWI+9yvwBEZs/RShqigY7Qluw1gN2CTa1fbbqSP4=",
36     "Version": "$LATEST",
37     "TracingConfig": {
26         "Mode": "PassThrough"
27     },
28     "RevisionId": "8dcd94dd-82f6-47d6-a5ea-d42dc95333a4",
29     "State": "Pending",
30     "StateReason": "The function is being created.",
31     "StateReasonCode": "Creating",
32     "PackageType": "Zip",
```

We can see the new lambda function has been deployed recently

Lambda > Functions

Functions (11) Last fetched 17 seconds ago Actions Create function

Filter by tags and attributes or search by keyword 1 2

Function name	Description	Package type	Runtime	Code size	Last modified
bibek-demo-deployment	-	Zip	Python 3.9	334.0 byte	41 seconds ago

Code source Info

File Edit Find View Go Tools Window Test Deploy Changes deployed

Go to Anything (Ctrl-P) lambda_function

Environment

bibek-demo-deployr

lambda_function.py

```python
import json

def lambda_handler(event, context):
    # TODO implement
    return {
        'statusCode': 200,
        'body': json.dumps({"Hello": "Default from Bibek Mishra"})
    }
```

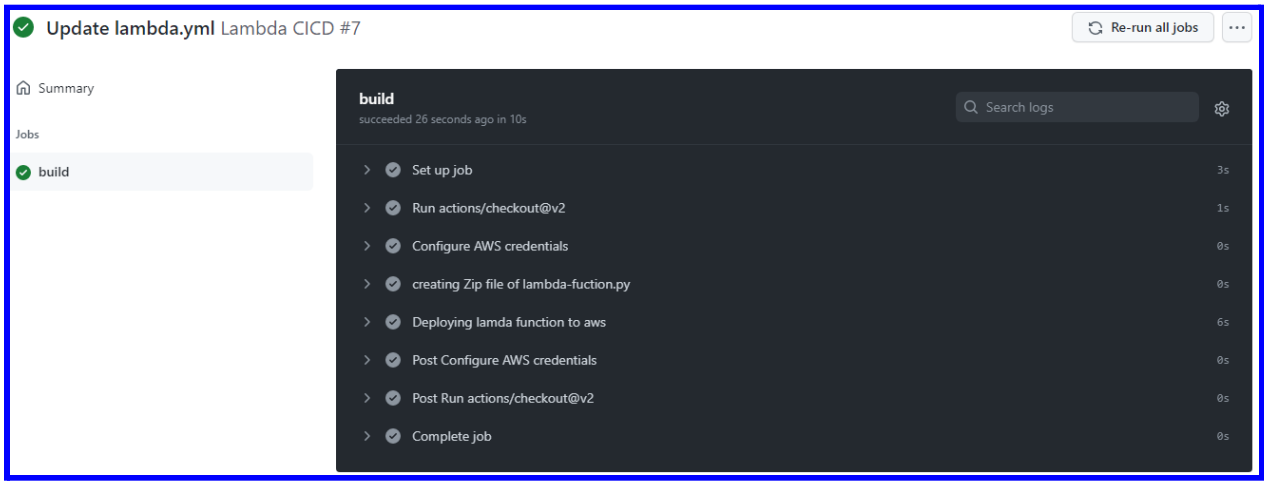
Slight changes in json file for message

```
import json
def lambda_handler(event, context):
    # TODO implement
    return {
        'statusCode': 200,
        'body': json.dumps({"Hello": "CI/CD from Bibek Mishra"})
    }
```

Changing the workflow to update the created function

```
#AWS credentials
    - name: Configure AWS credentials
      uses: aws-actions/configure-aws-credentials@v1
      with:
        aws-access-key-id: ${{ secrets.AWS_ACCESS_KEY_ID }}
        aws-secret-access-key: ${{ secrets.AWS_SECRET_ACCESS_KEY }}
        # TODO Change your AWS region here!
        aws-region: us-east-2

    - name: creating Zip file of lambda-fuction.py
      run: |
       zip lambda_function.zip lambda_function.py

    - name: Deploying lambda function to aws
      run: |
       aws lambda update-function-code --function-name bibek-demo-deployment \
       --zip-file fileb://lambda_function.zip
```

Workflow triggered itself



Update function completed

build

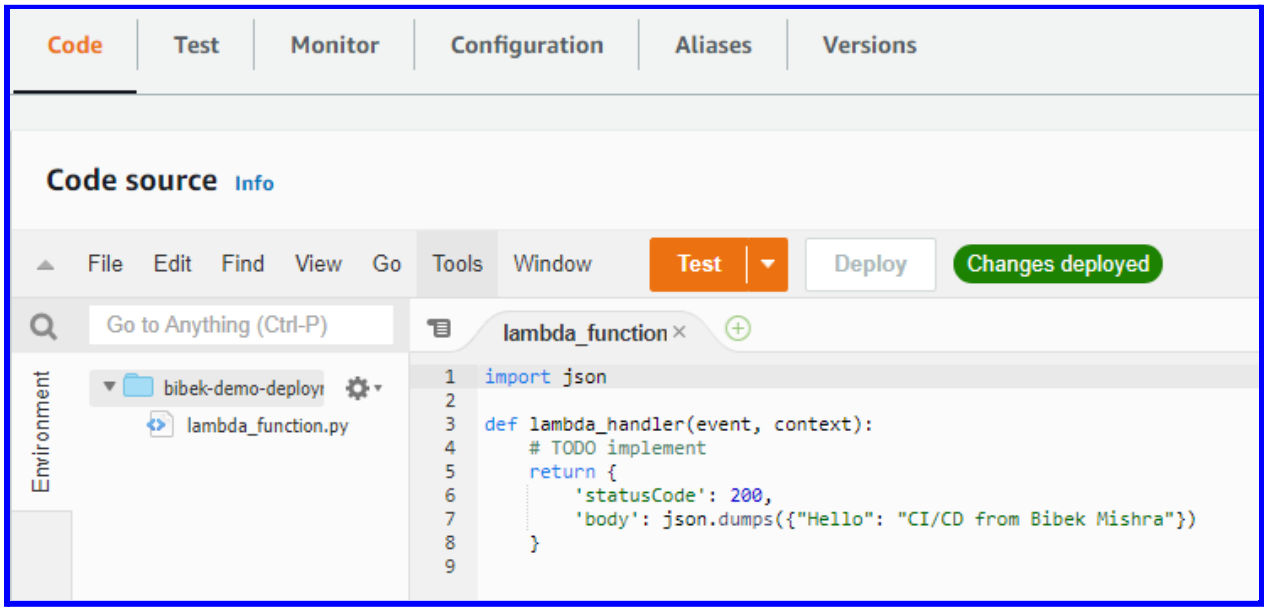
succeeded 26 seconds ago in 10s

creating Zip file of lambda-fuction.py

Deploying lamda function to aws

```
1  ▶ Run aws lambda update-function-code --function-name bibek-demo-deployment \
10 {
11     "FunctionName": "bibek-demo-deployment",
12     "FunctionArn": "arn:aws:lambda:us-east-2:***:function:bibek-demo-deployment",
13     "Runtime": "python3.9",
14     "Role": "arn:aws:iam::***:role/service-role/bibek-api-gw-default-role-mof54wmn",
15     "Handler": "lambda_function.lambda_handler",
16     "CodeSize": 334,
17     "Description": "",
18     "Timeout": 3,
19     "MemorySize": 128,
20     "LastModified": "2021-12-17T06:51:47.000+0000",
21     "CodeSha256": "Oy72nJGrU91D2Ve56ATV1OeveP6pqeM7ZA6rEJ4D6Z8=",
22     "Version": "$LATEST",
23     "TracingConfig": {
24         "Mode": "PassThrough"
25     },
26     "RevisionId": "ab0d8b78-1afd-47ab-98fd-f8b72fc244fa",
27     "State": "Active",
28     "LastUpdateStatus": "InProgress",
29     "LastUpdateStatusReason": "The function is being created.",
30     "LastUpdateStatusReasonCode": "Creating",
```

If we see the code of lambda function it has been changed successfully



In this way we can build a pipeline through Github Actions which can update the lambda function whenever any changes are pushed to the main branch