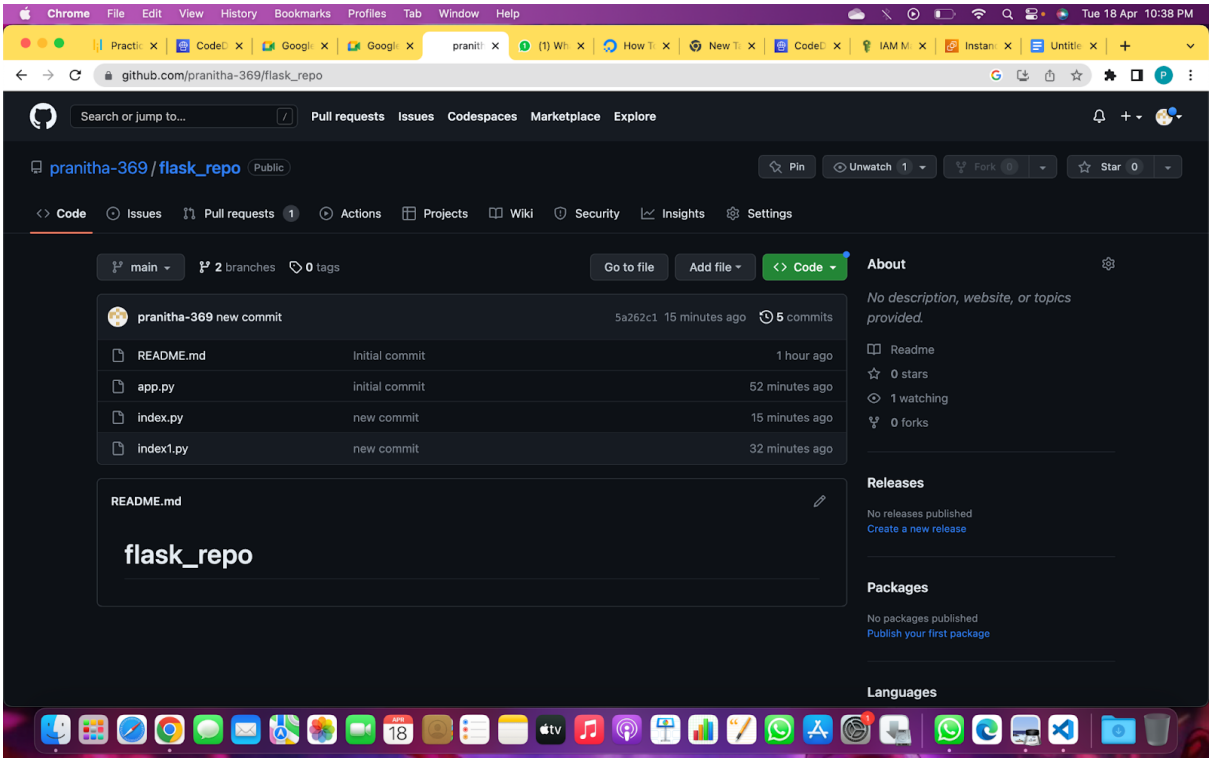
**DevOps Engineer Assessment**
**(CI/CD Pipeline)**
**Problem**:
**1) A server-side application built with Python Flask is on GitHub. This project is being worked on by a group of people. Anyone can commit directly to the master/main branch,**
**resulting in massive conflict and high error rates.**
2) The same application is running on an Amazon EC2 instance. Every time a new push is received, we must manually pull the code from GitHub and redeploy it. This results in an exorbitant time waste because even a minor change requires us to go through the entire process again.
Objective:
● On GitHub, no one should be allowed to push directly to the master/main branch. A push to the master/main branch should only happen through a pull request. The request should be reviewed and approved by another collaborator.
● Once the master/main branch gets updated, It should be deployed on the EC2 instance Automatically.

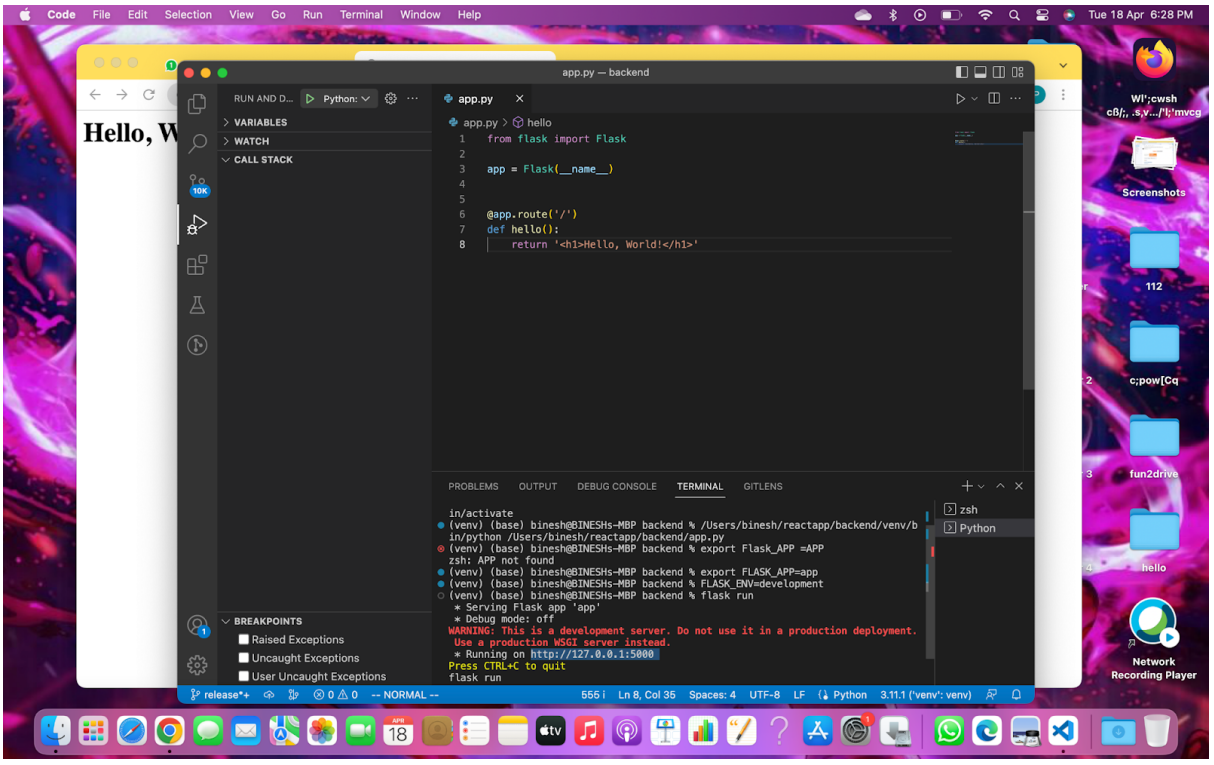



**Create a flask repository**
**In this flask repository**
**Add a new file**
**And commit the changes to the git repository**

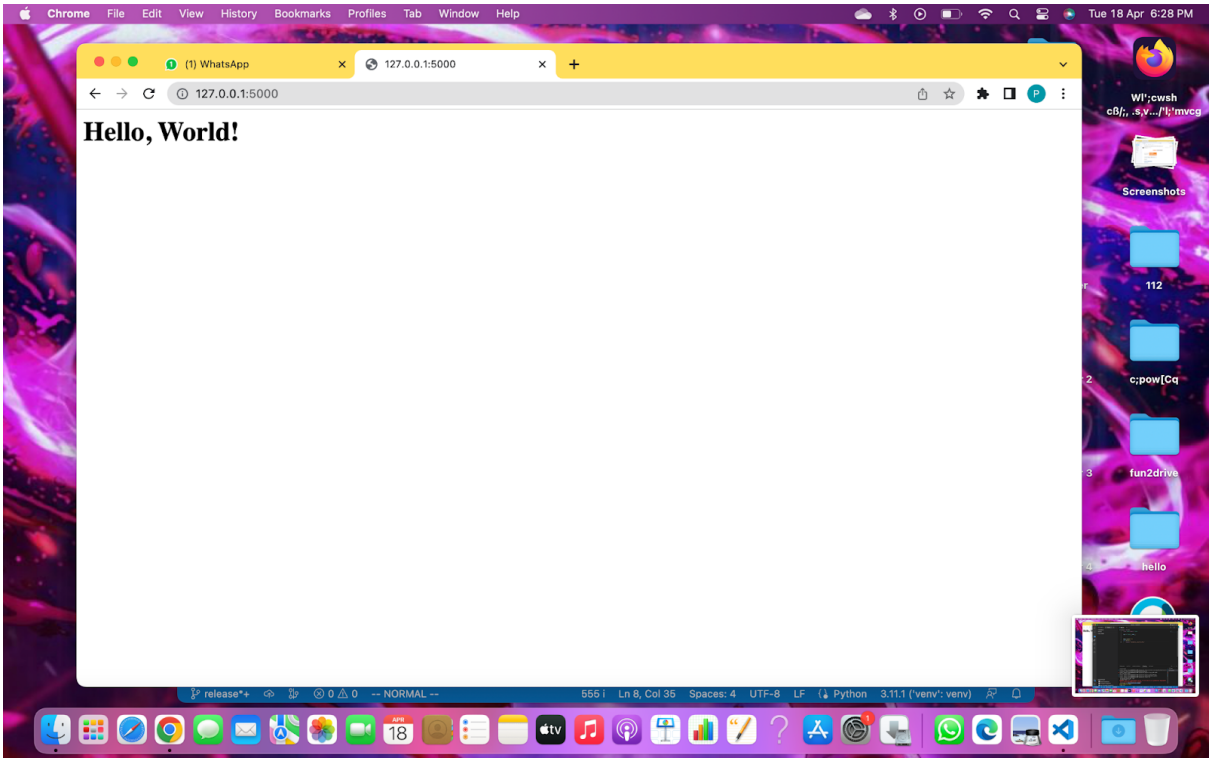
**Git init**

**Git add file name**

Git commit to save the file

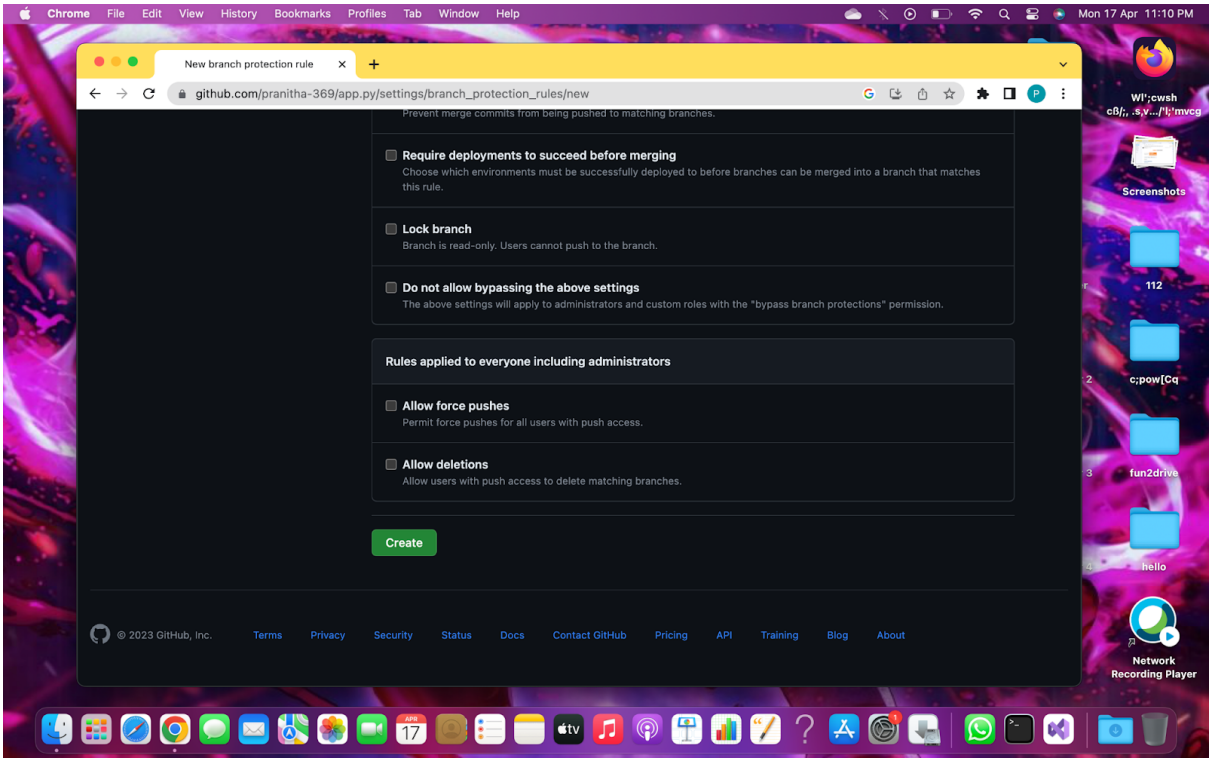


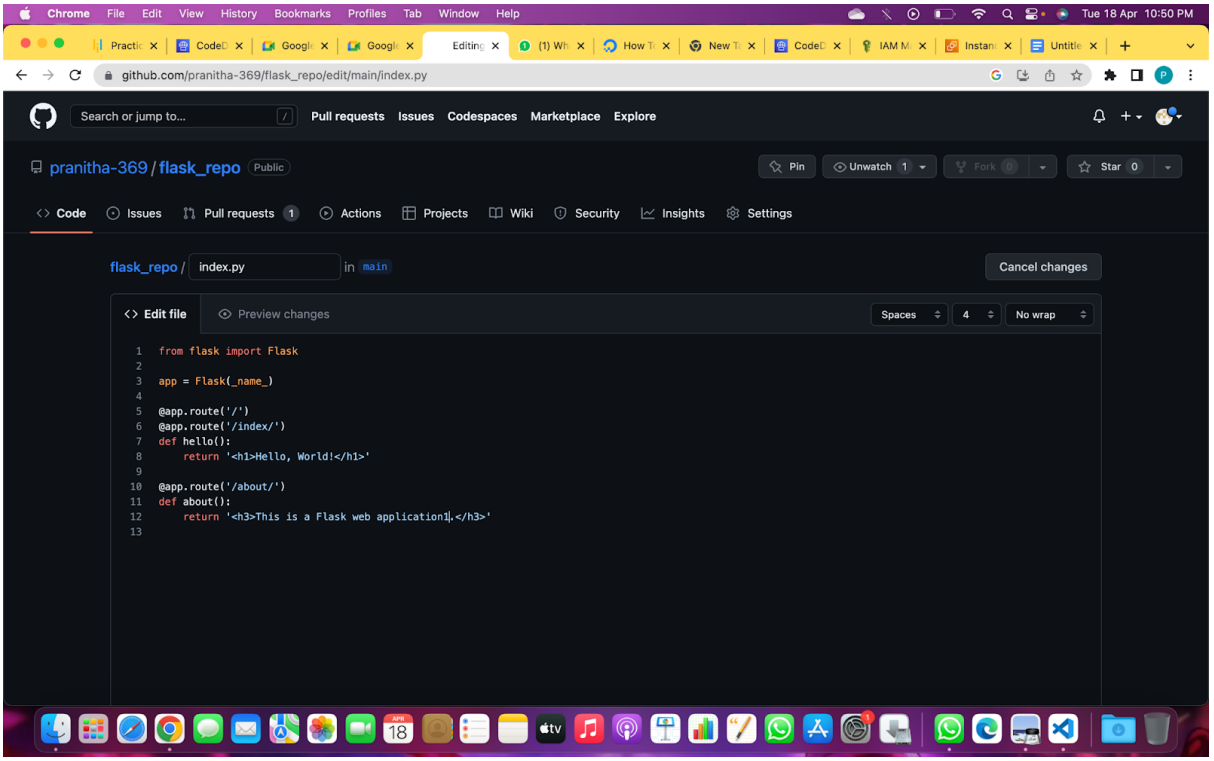

Run a sample application in visual studio code and check whether it is running properly



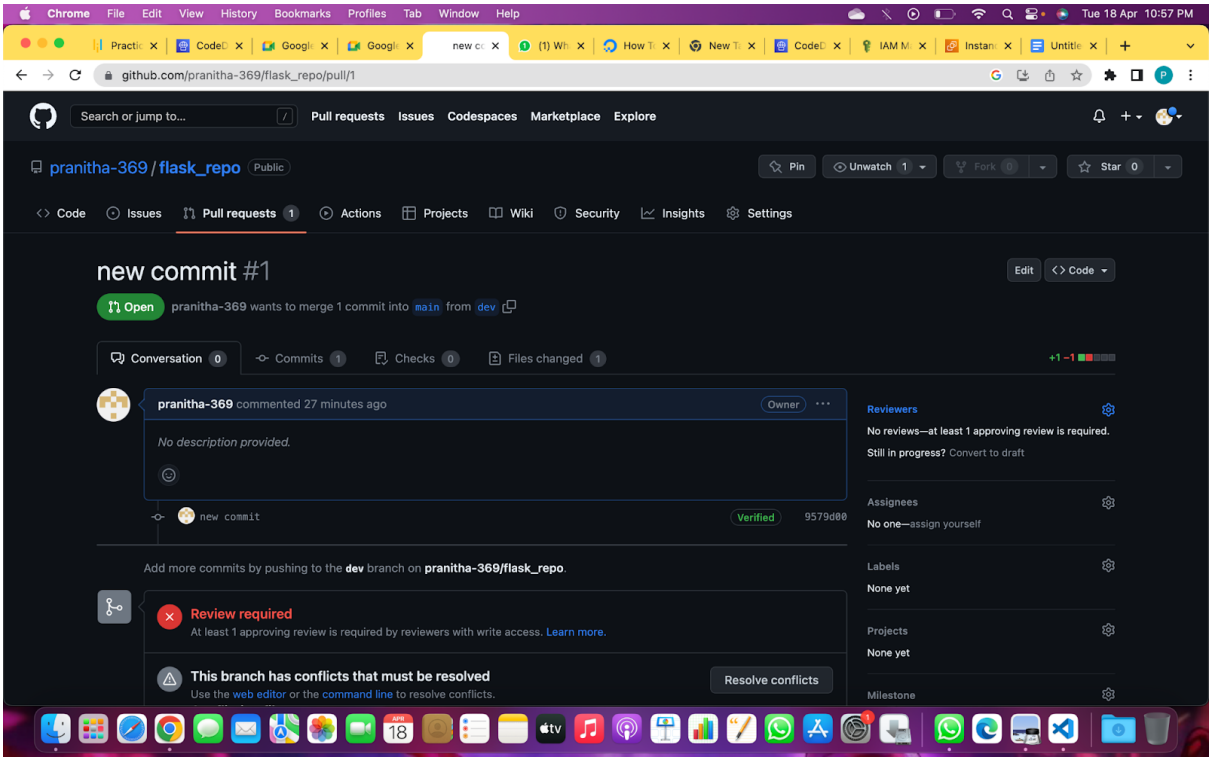

**HOW TO DISABLE DIRECT PUSH REQUEST TO MASTER AND MAIN GITHUB**

First create a repository on the github
In the name of
In the setting
Go to the branches and add protection rule
it should be require a pull request before merging
On GitHub, no one should be allowed to push directly to the master/main branch. A push **to the master/main branch should only happen through a pull request. The request should be reviewed and approved by another collaborator.**

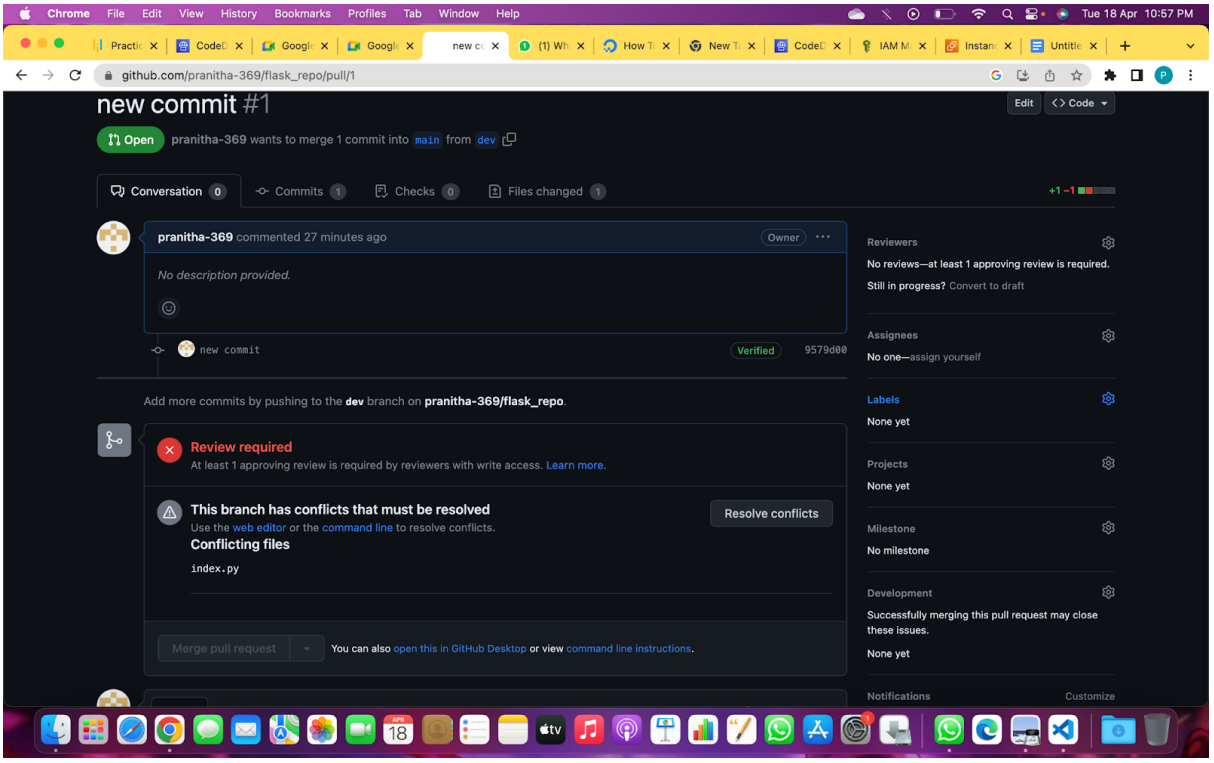


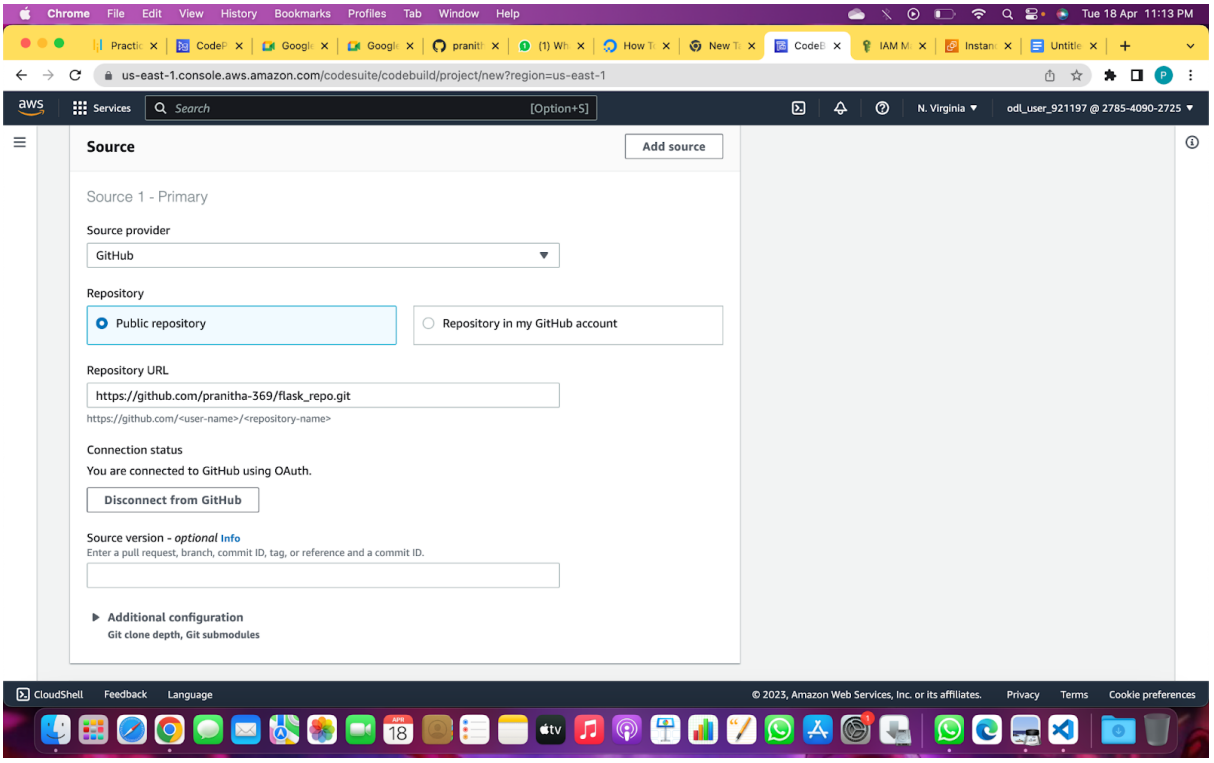



Change some code in github and commit the code in github
Create a push request and push the code from main to dev
It will not automatically pull the code from main to master
Review is required atleast by one member or different member

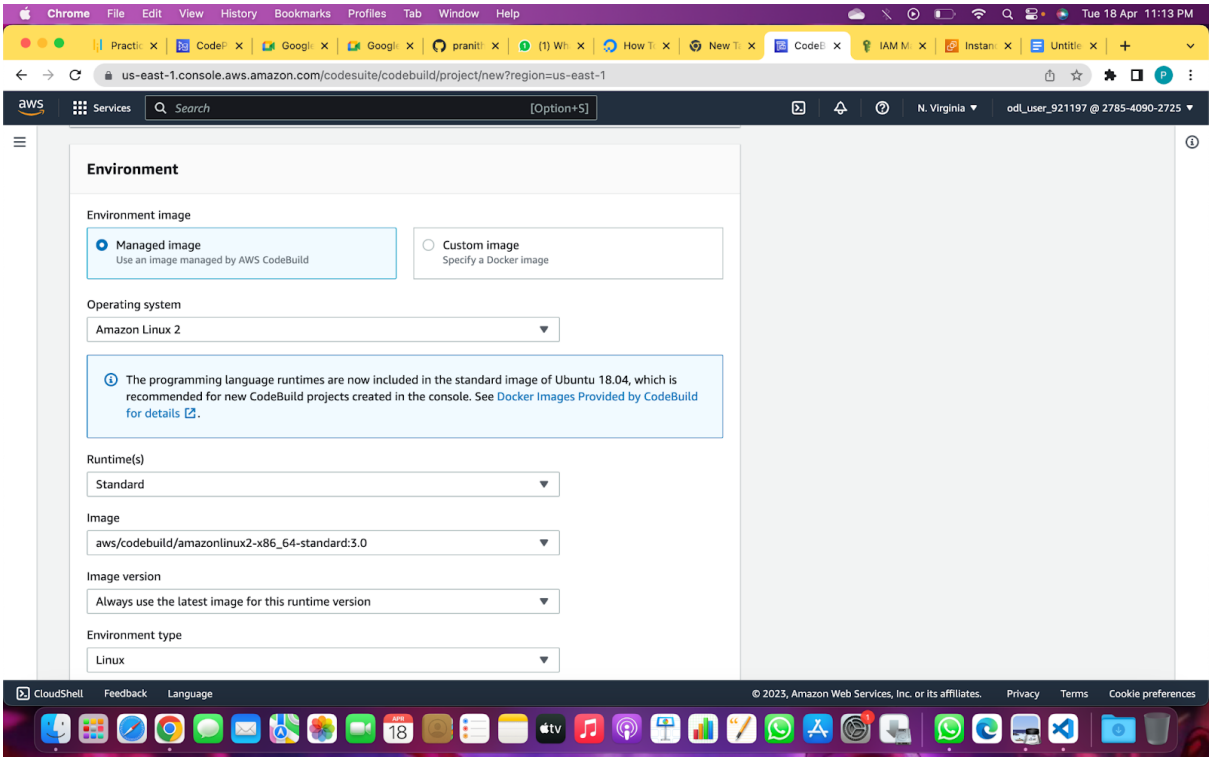


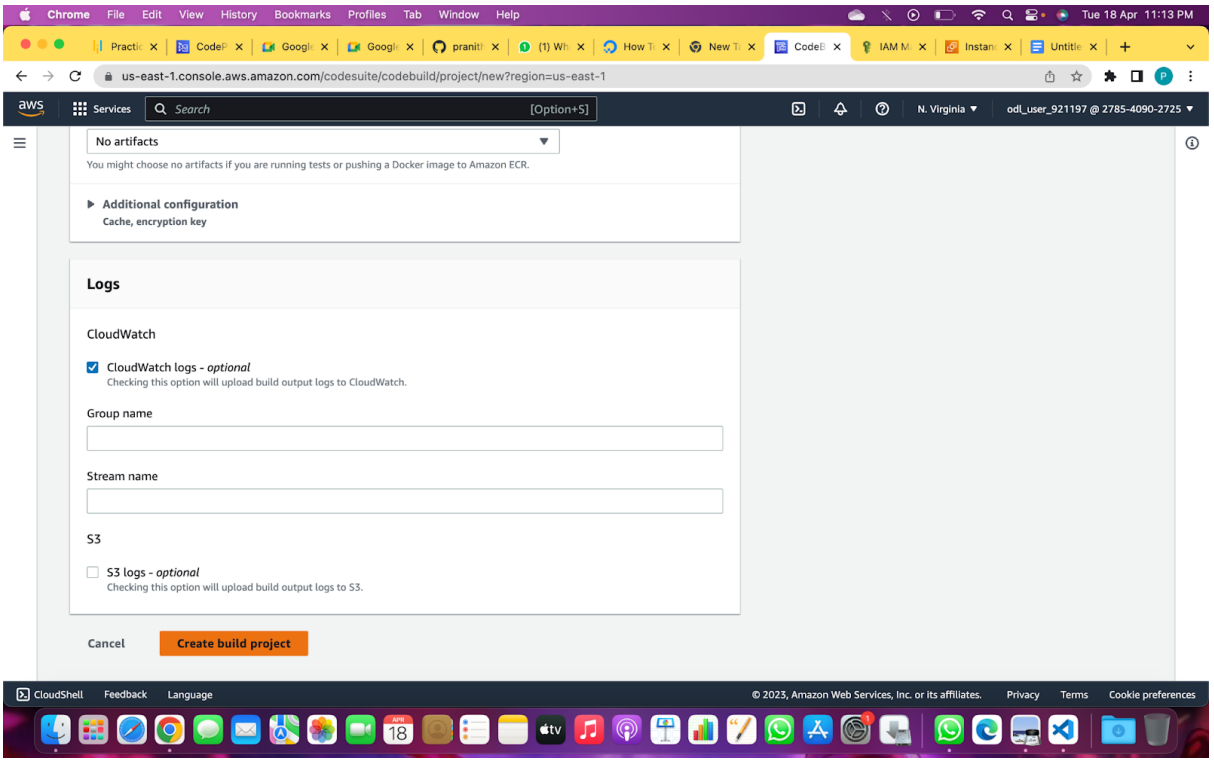

In the cicd pipeline
In the build stage



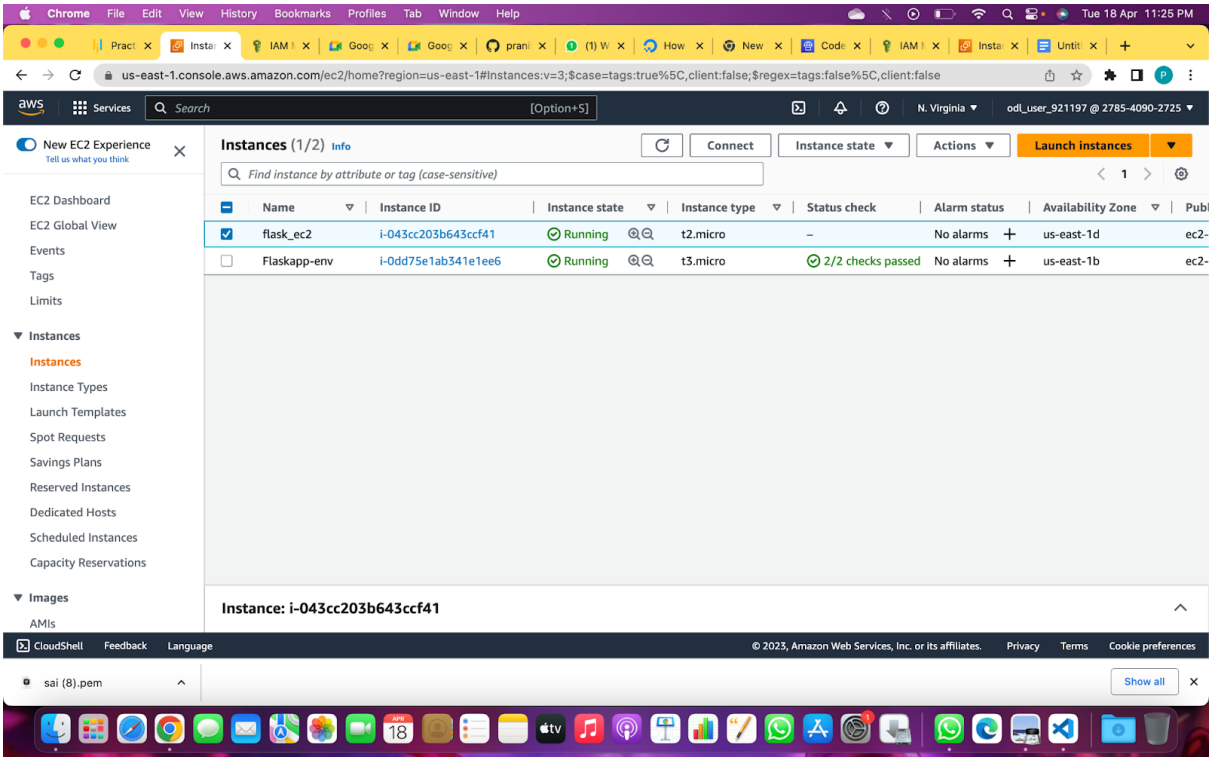



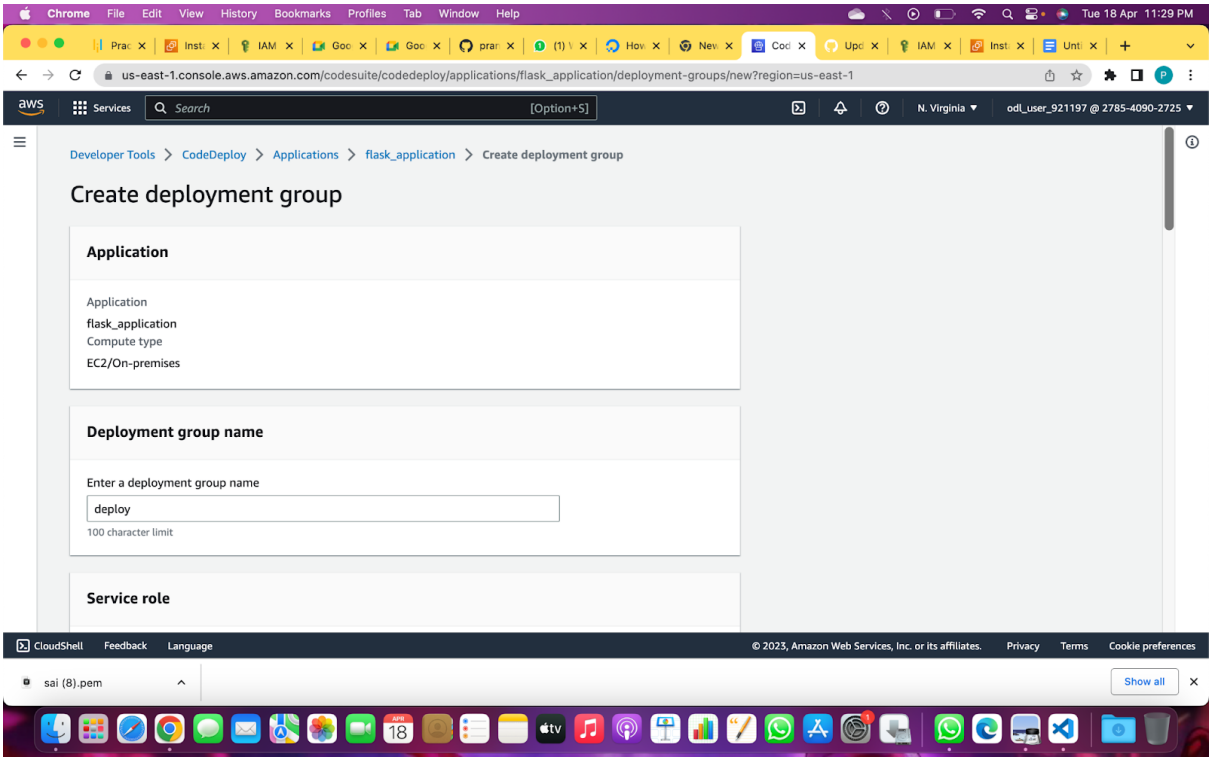

Go to the cicd pipeline in the aws account



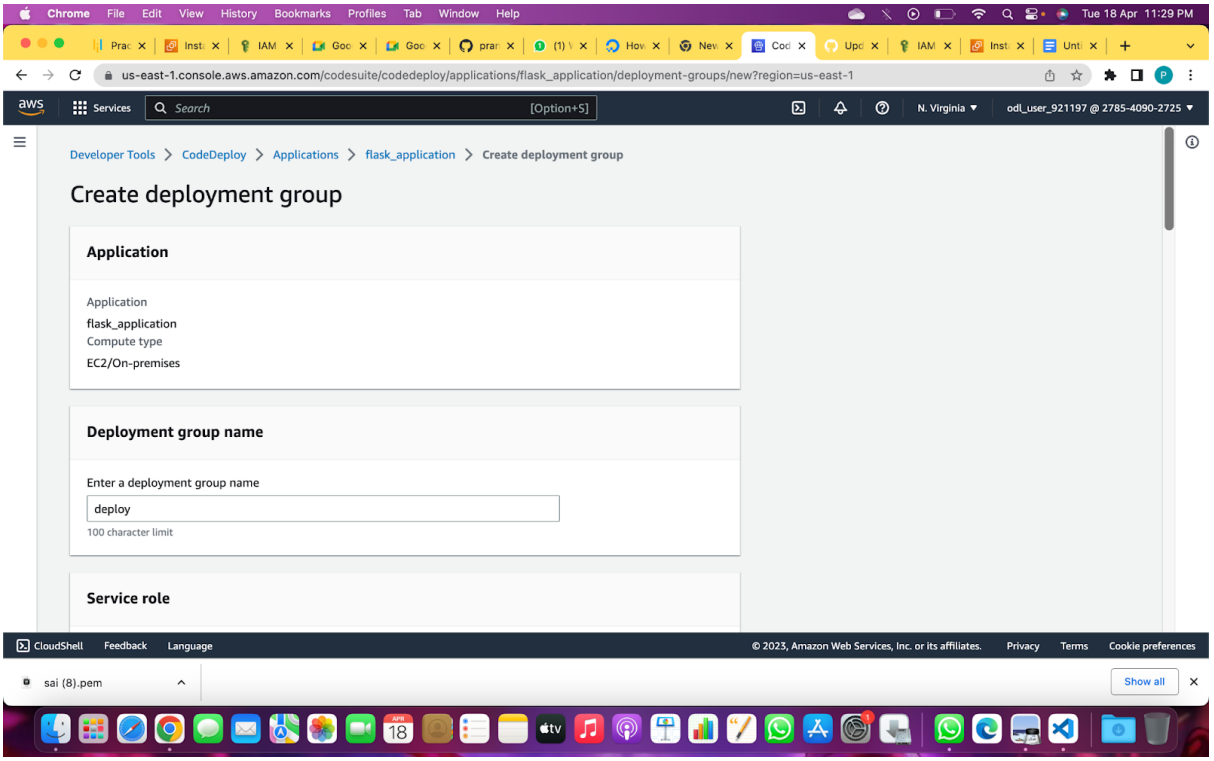



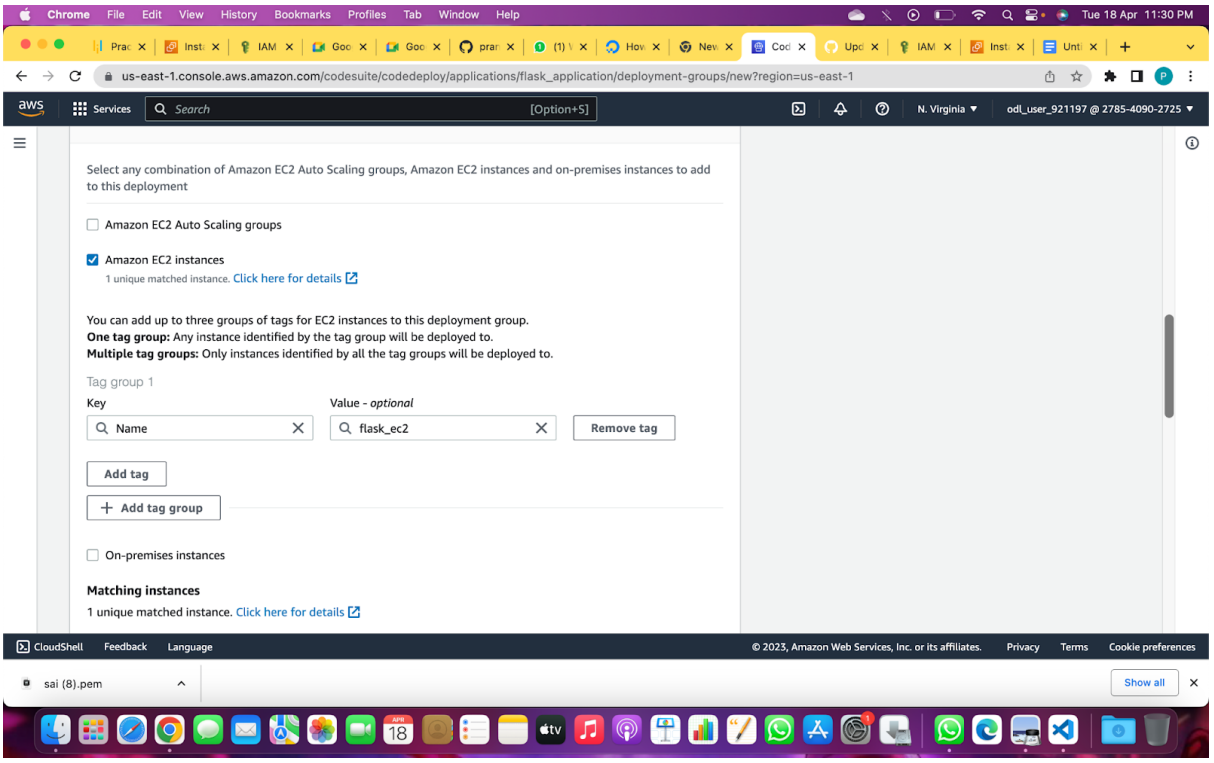

Create a ec2 instance




Create a deployment group




Go to the code pipeline
Choose code pipeline Name
In the artifact setting choose  default location
Encryption is managed by aws
Create
In the source
Choose source provider: github (version 1 or version 2)
Choose a connection with github

Connect to github
Choose the github repo name
Branch name
Choose the code build if created
Choose the already created code deploy