# Project 2

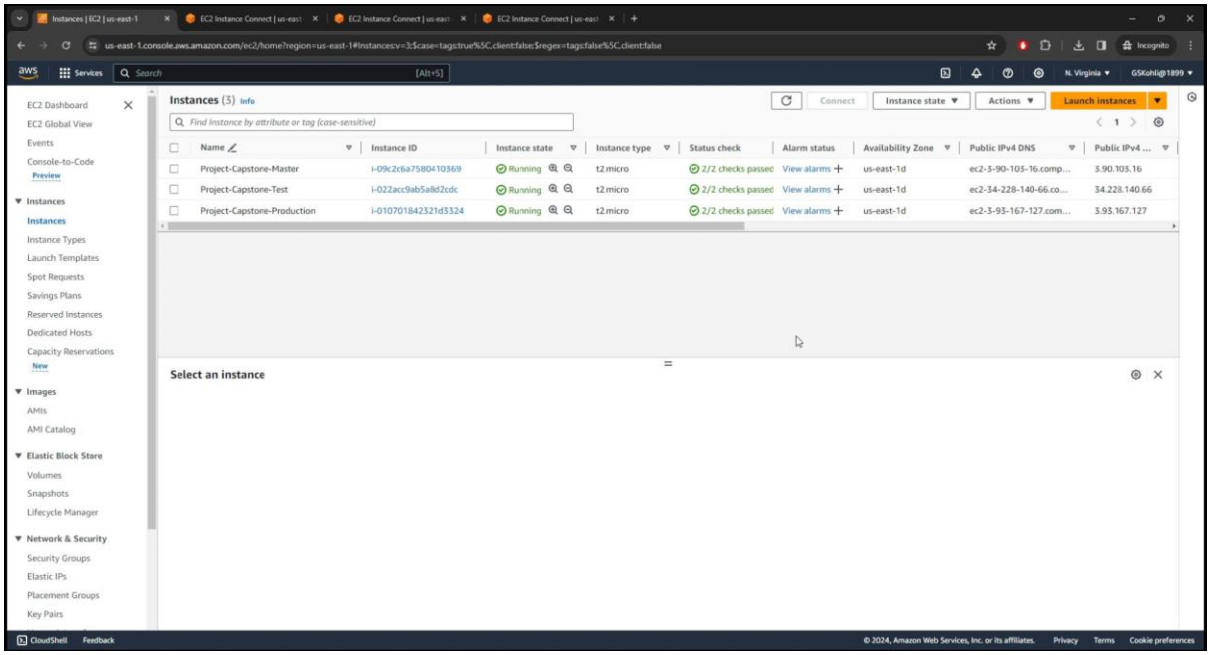
You have been hired as a Sr. DevOps Engineer in Abode Software. They want to implement DevOps Lifecycle in their company. You have been asked to implement this lifecycle as fast as possible. Abode Software is a product-based company and their product is available on this GitHub link.

https://github.com/hshar/website.git

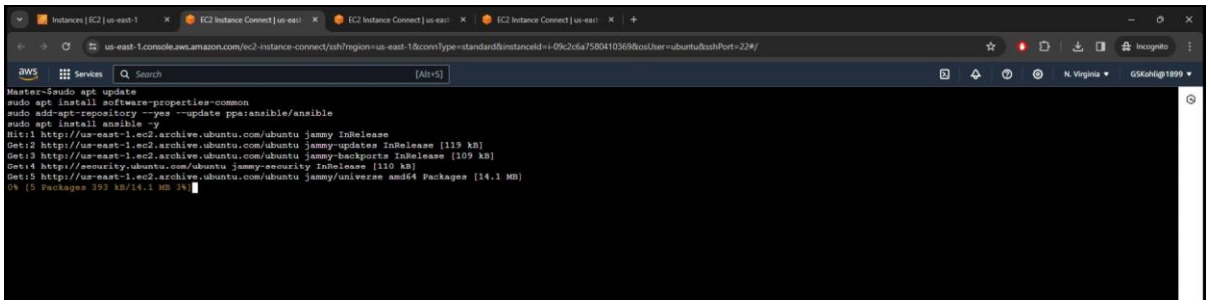
Following are the specifications of the lifecycle:

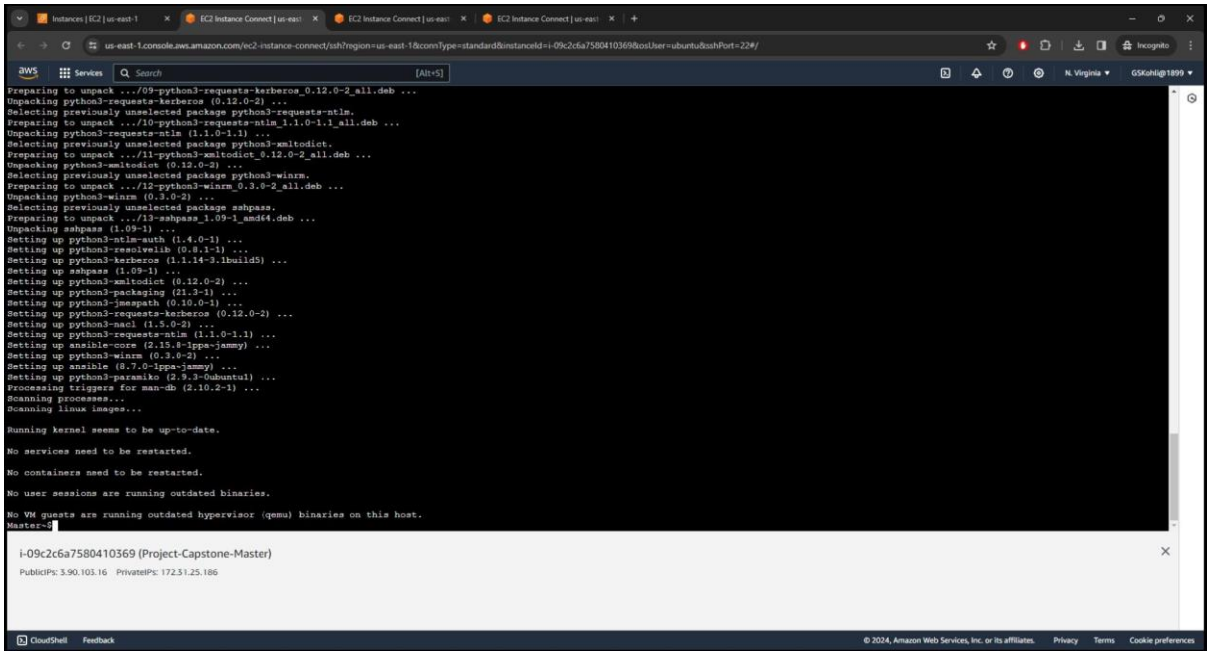
1. Install the necessary software on the machines using a configuration management tool
2. Git workflow has to be implemented
3. Code Build should automatically be triggered once a commit is made to master branch or develop branch.
    a. If a commit is made to master branch, test and push to prod
    b. If a commit is made to develop branch, just test the product, do not push to prod
4. The code should be containerized with the help of a Dockerfile. The Dockerfile should be built every time there is a push to GitHub.
1. Use the following pre-built container for your application: hshar/webapp
2. The code should reside in '/var/www/html'
5. The above tasks should be defined in a Jenkins Pipeline with the following jobs:
    a. Job1 : build
    b. Job2 : test
    c. Job3 : prod

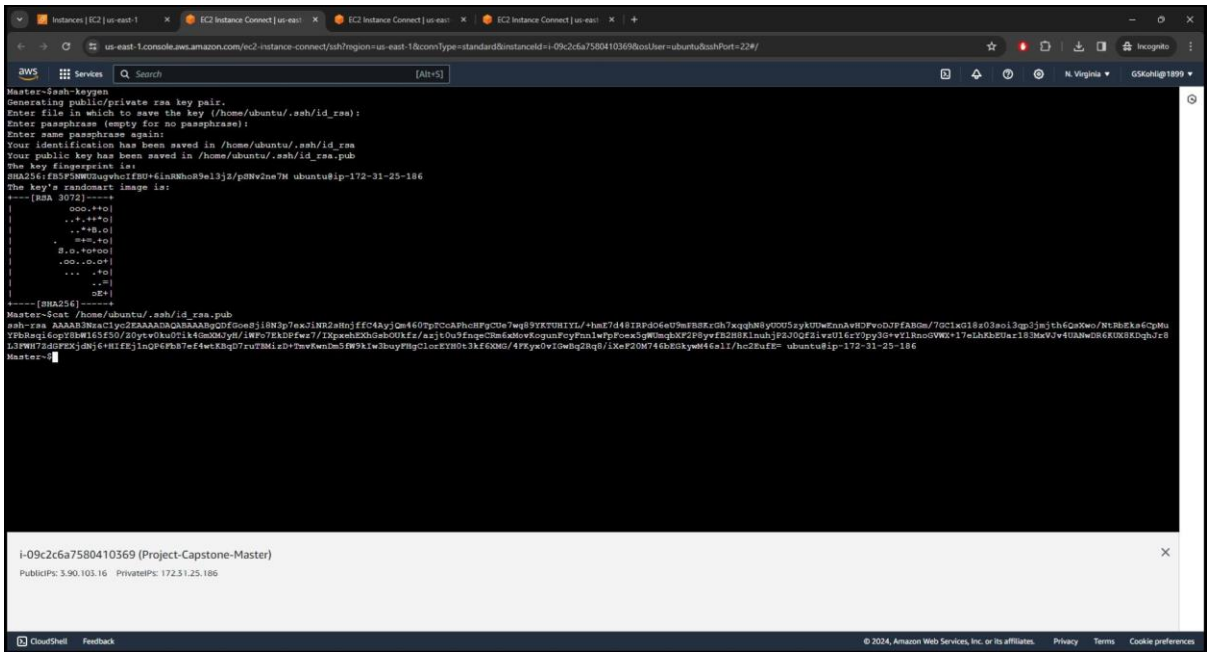
1. Setup 3 EC2 Master, Test and Production




2. Installing and configuring Ansible on Master.

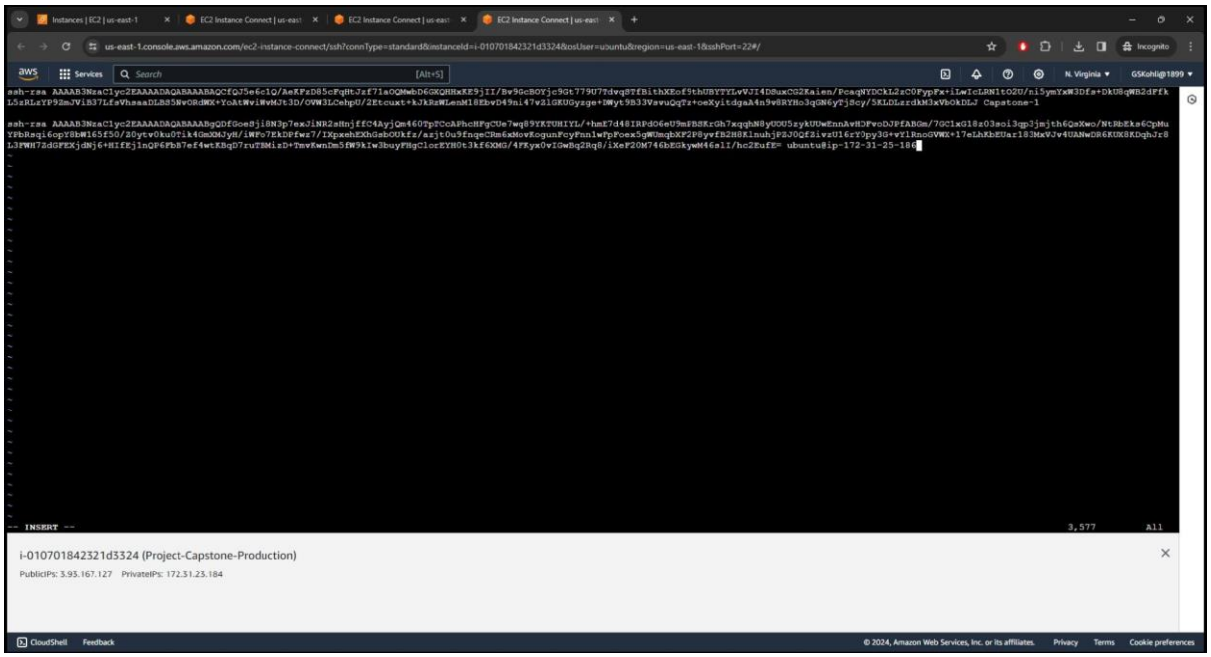





i-09c2c6a7580410369 (Project-Capstone-Master)

PublicIPs: 3.90.103.16 PrivateIPs: 172.31.25.186




i-010701842321d3324 (Project-Capstone-Production)

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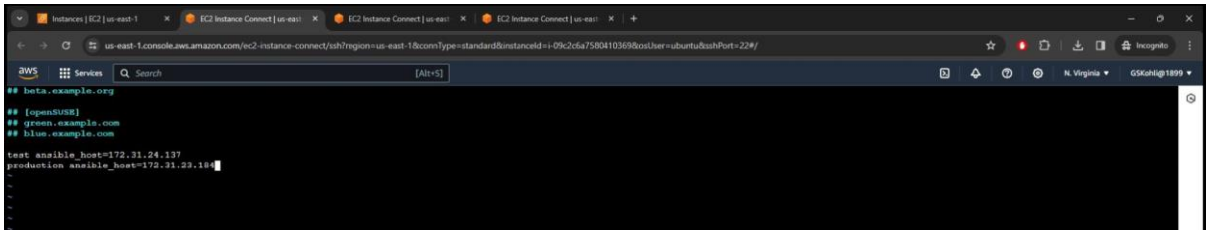
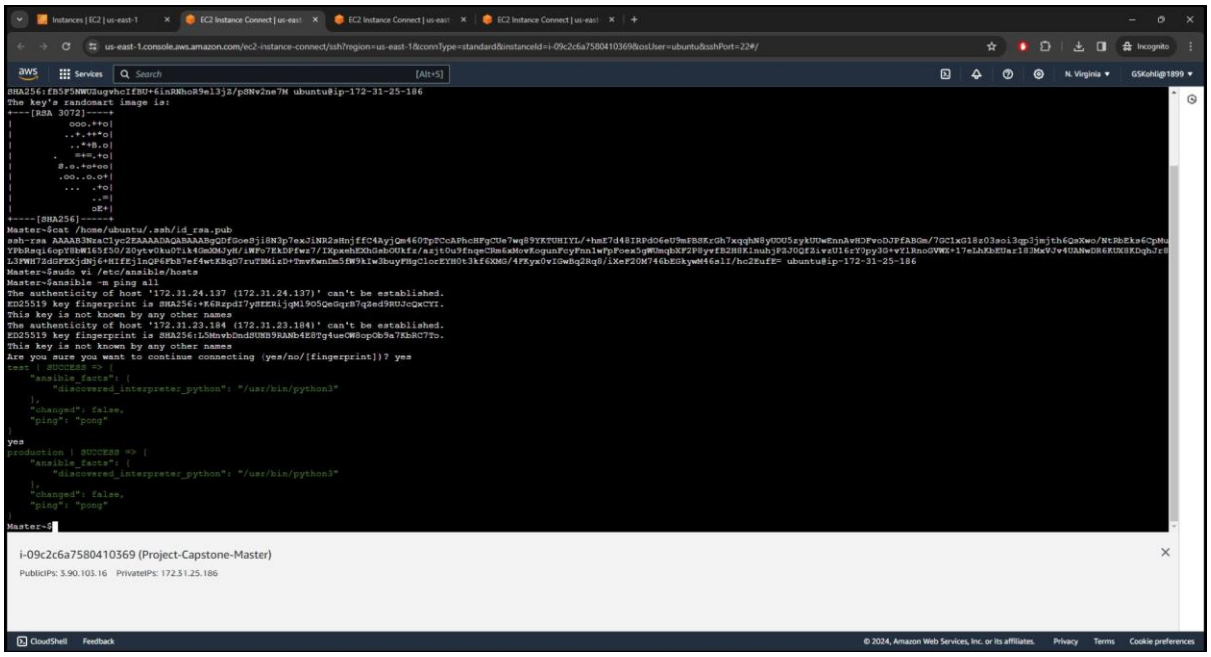
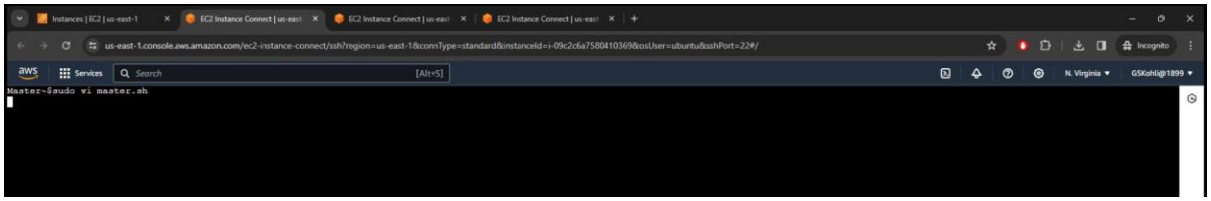
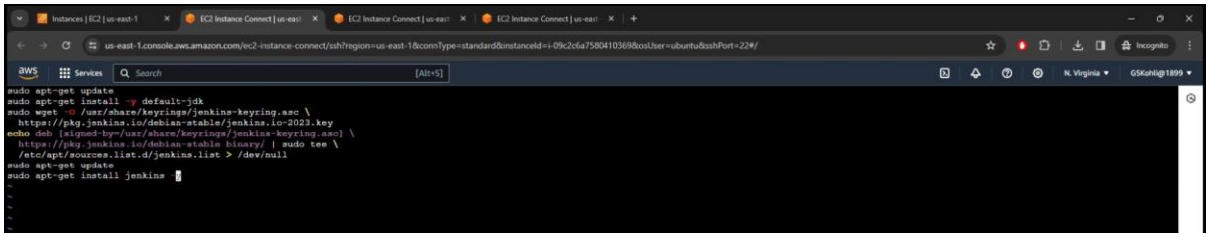
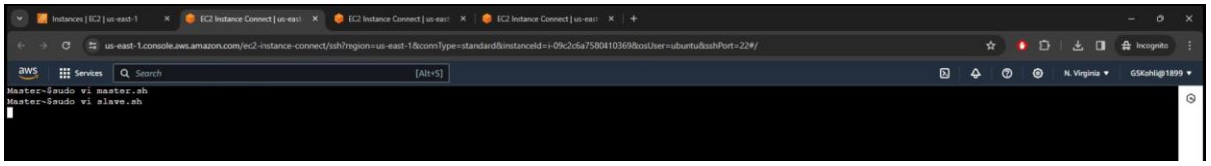


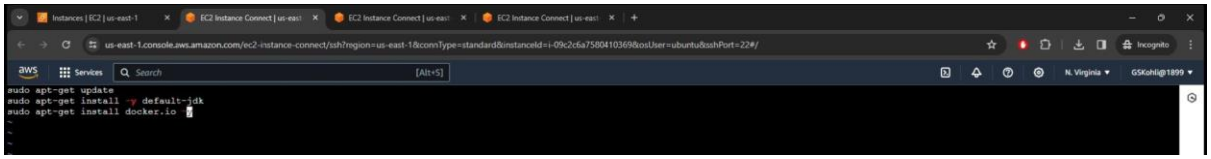



3. Making script to install necessary packages on all machine (including master)

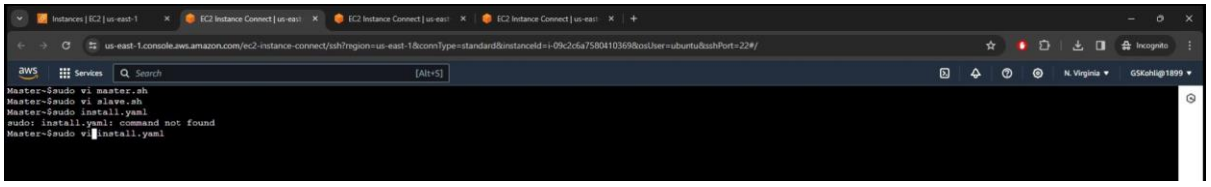


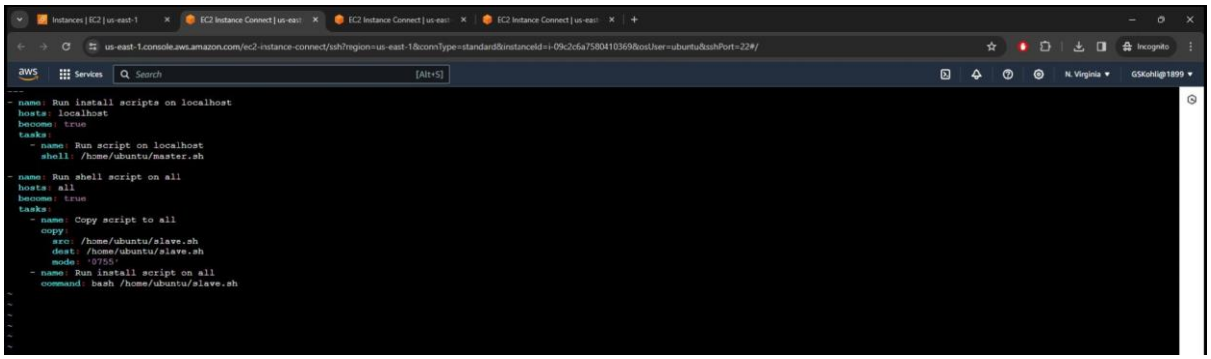




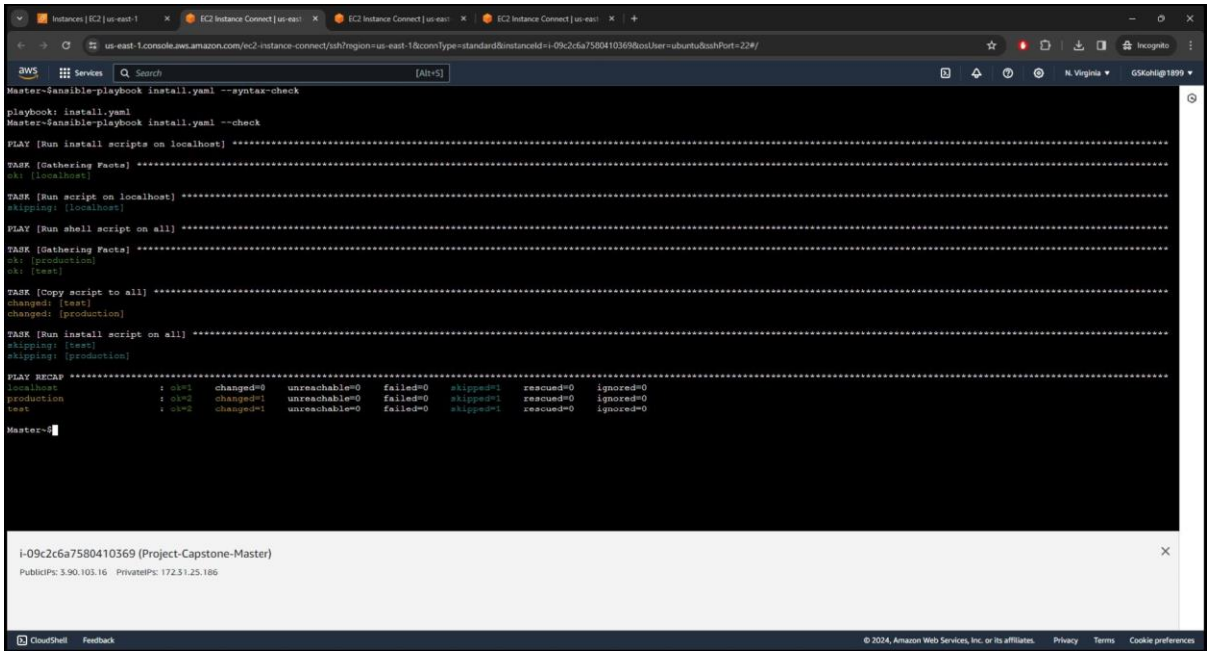


4. Creating yaml script to run installation script





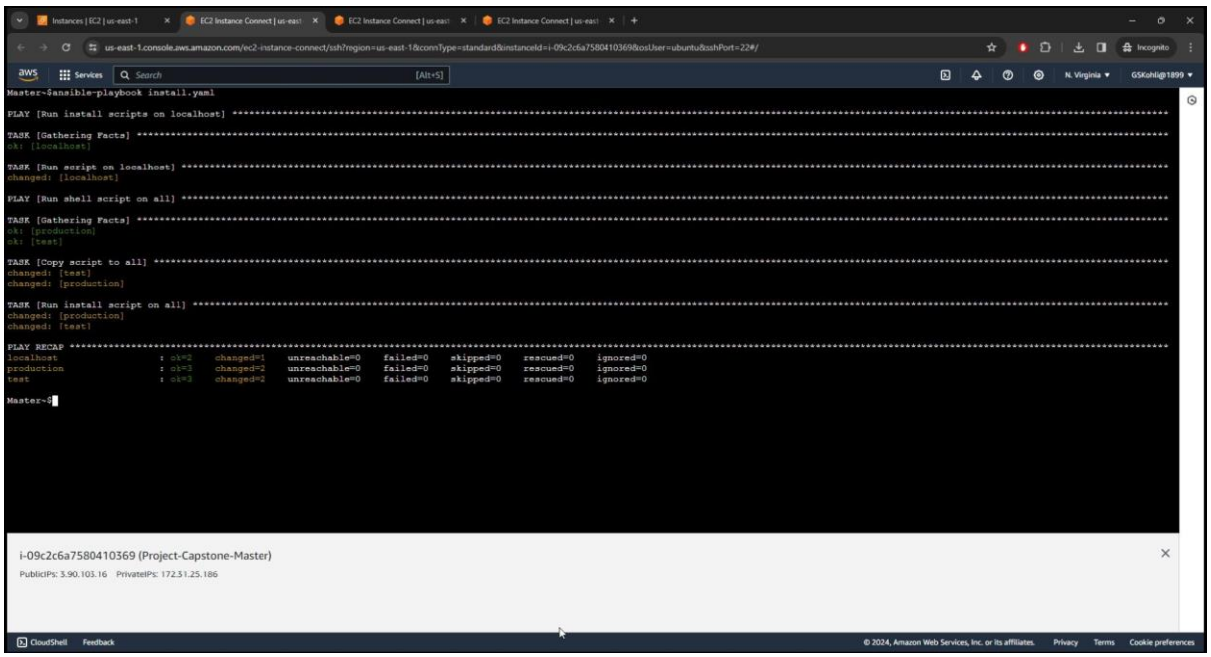
```
---
- name: Run install scripts on localhost
  hosts: localhost
  become: true
  tasks:
    - name: Run script on localhost
      shell: /home/ubuntu/master.sh

- name: Run shell script on all
  hosts: all
  become: true
  tasks:
    - name: Copy script to all
      copy:
        src: /home/ubuntu/slave.sh
        dest: /home/ubuntu/slave.sh
        mode: '0755'
    - name: Run install script on all
      command: bash /home/ubuntu/slave.sh
~
~
~
~
~
```



```
Master-$ansible-playbook install.yaml --syntax-check

playbook: install.yaml
Master-$ansible-playbook install.yaml --check

PLAY [Run install scripts on localhost] ****************************************

TASK [Gathering Facts] *********************************************************
ok: [localhost]

TASK [Run script on localhost] *************************************************
skipping: [localhost]

PLAY [Run shell script on all] *************************************************

TASK [Gathering Facts] *********************************************************
ok: [production]
ok: [test]

TASK [Copy script to all] ******************************************************
changed: [test]
changed: [production]

TASK [Run install script on all] ***********************************************
skipping: [test]
skipping: [production]

PLAY RECAP *********************************************************************
localhost                  : ok=1    changed=0    unreachable=0    failed=0    skipped=1    rescued=0    ignored=0
production                 : ok=2    changed=1    unreachable=0    failed=0    skipped=1    rescued=0    ignored=0
test                       : ok=2    changed=1    unreachable=0    failed=0    skipped=1    rescued=0    ignored=0

Master-$
```

i-09c2c6a7580410369 (Project-Capstone-Master)

PublicIPs: 3.90.103.16 PrivateIPs: 172.31.25.186

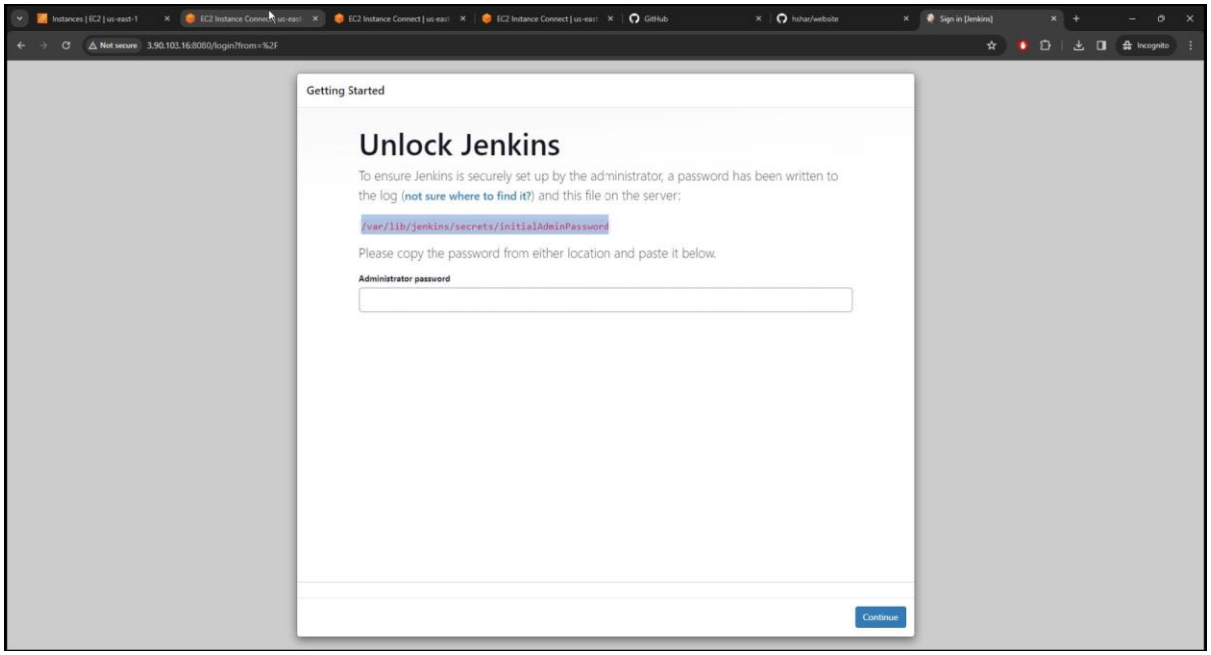


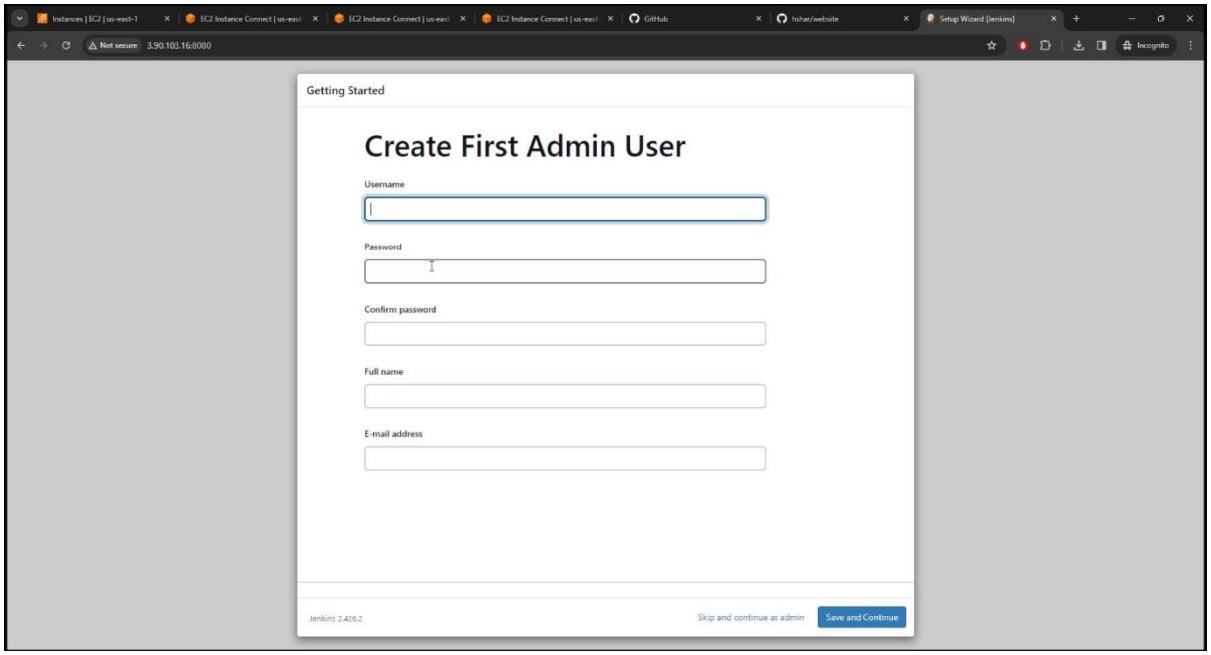
```
Master-$ansible-playbook install.yaml

PLAY [Run install scripts on localhost] ****************************************

TASK [Gathering Facts] *********************************************************
ok: [localhost]

TASK [Run script on localhost] *************************************************
changed: [localhost]

PLAY [Run shell script on all] *************************************************

TASK [Gathering Facts] *********************************************************
ok: [production]
ok: [test]

TASK [Copy script to all] ******************************************************
changed: [test]
changed: [production]

TASK [Run install script on all] ***********************************************
changed: [production]
changed: [test]

PLAY RECAP *********************************************************************
localhost                  : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
production                 : ok=3    changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
test                       : ok=3    changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

Master-$
```

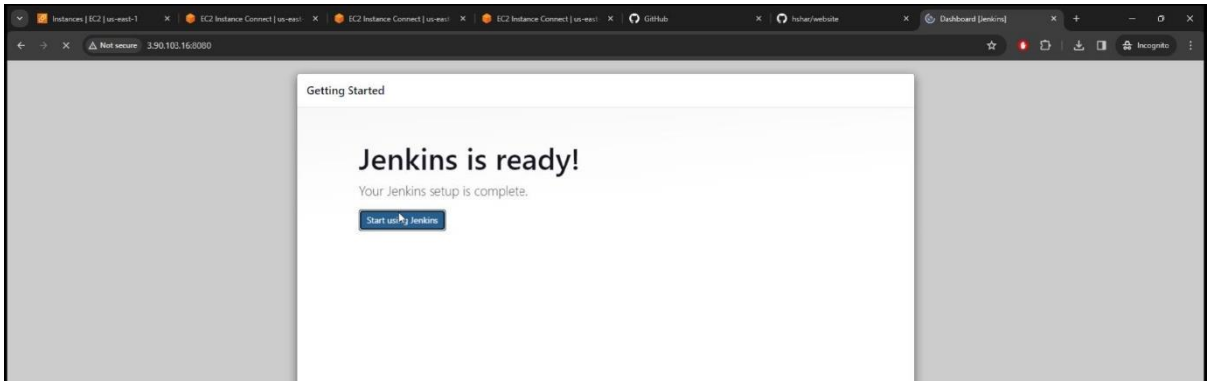
i-09c2c6a7580410369 (Project-Capstone-Master)

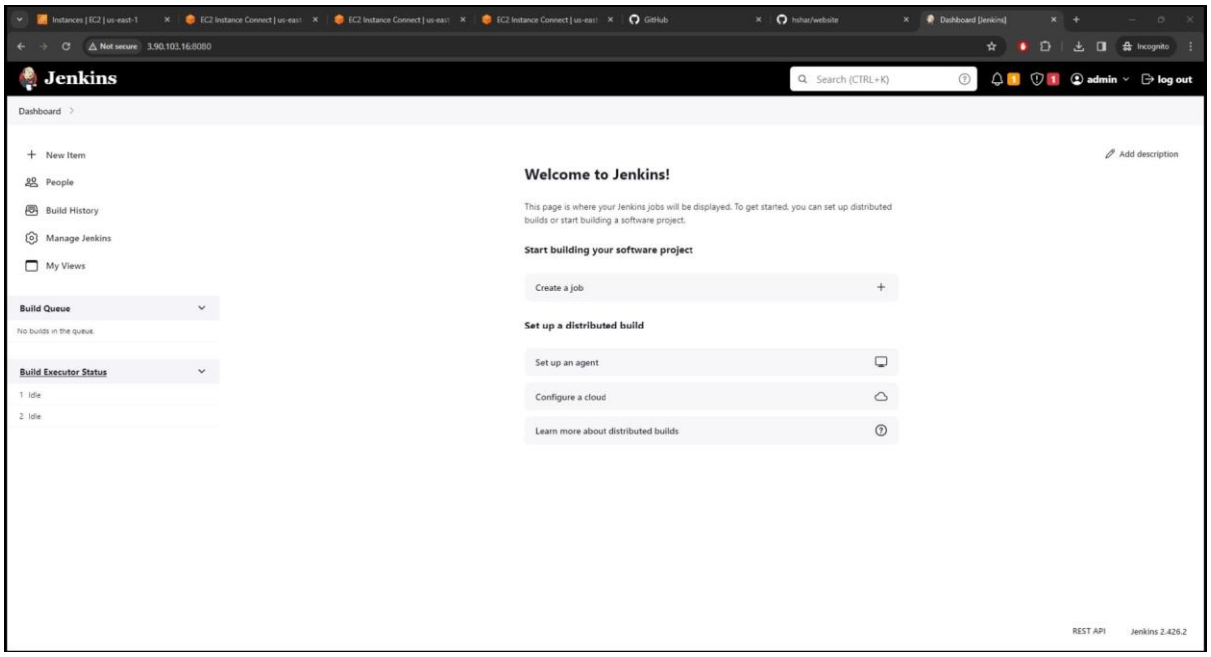
PublicIPs: 3.90.103.16 PrivateIPs: 172.31.25.186

5. Configuring Jenkins

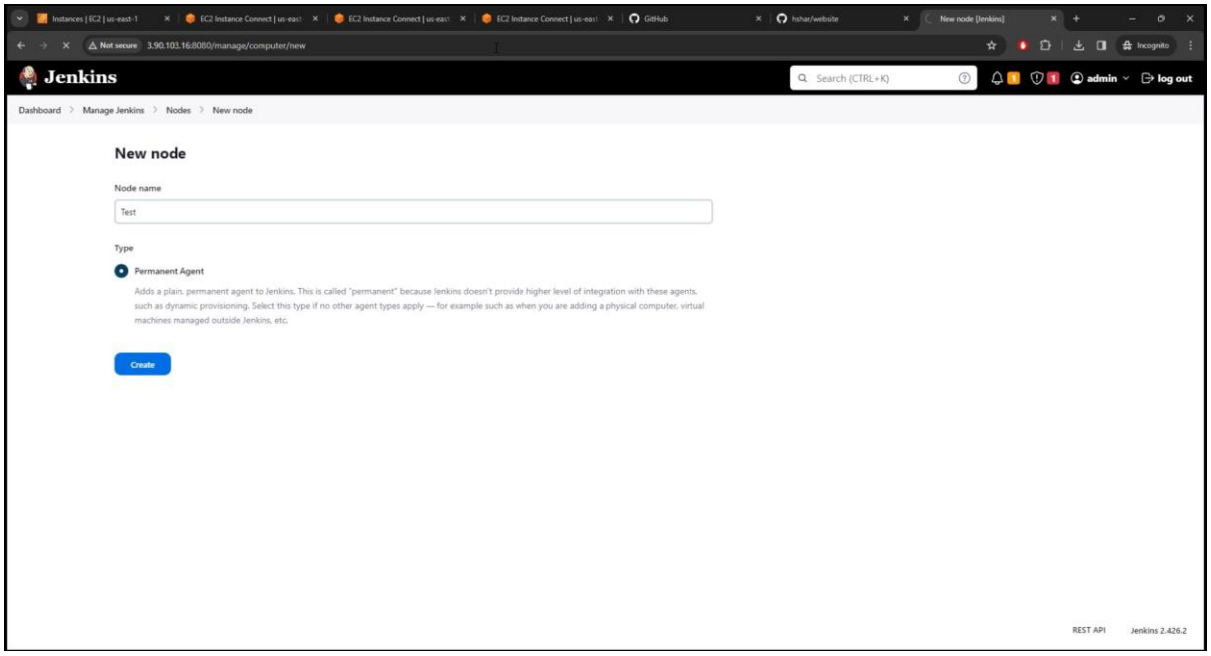


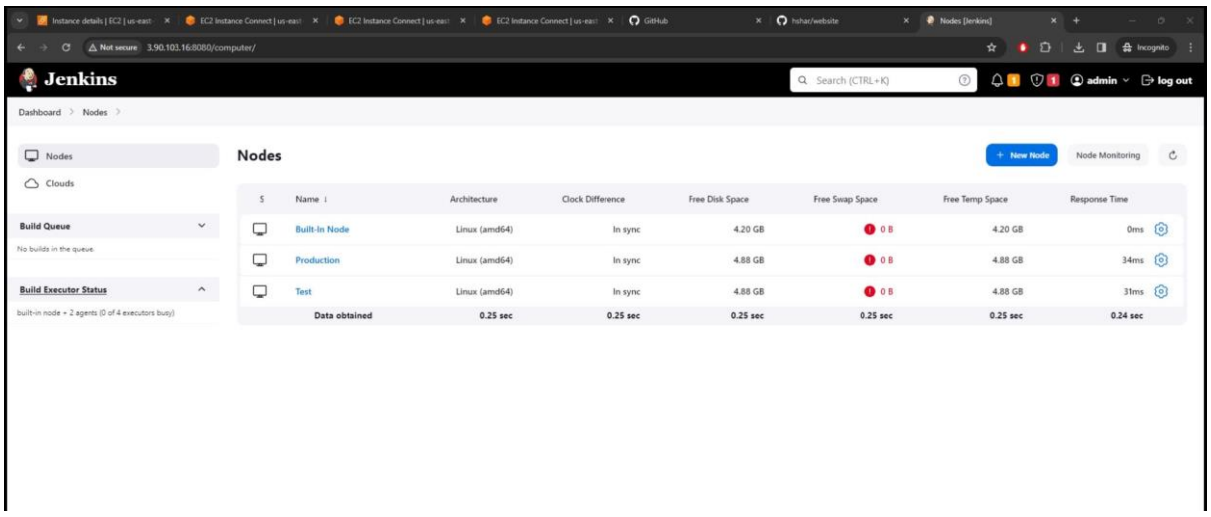



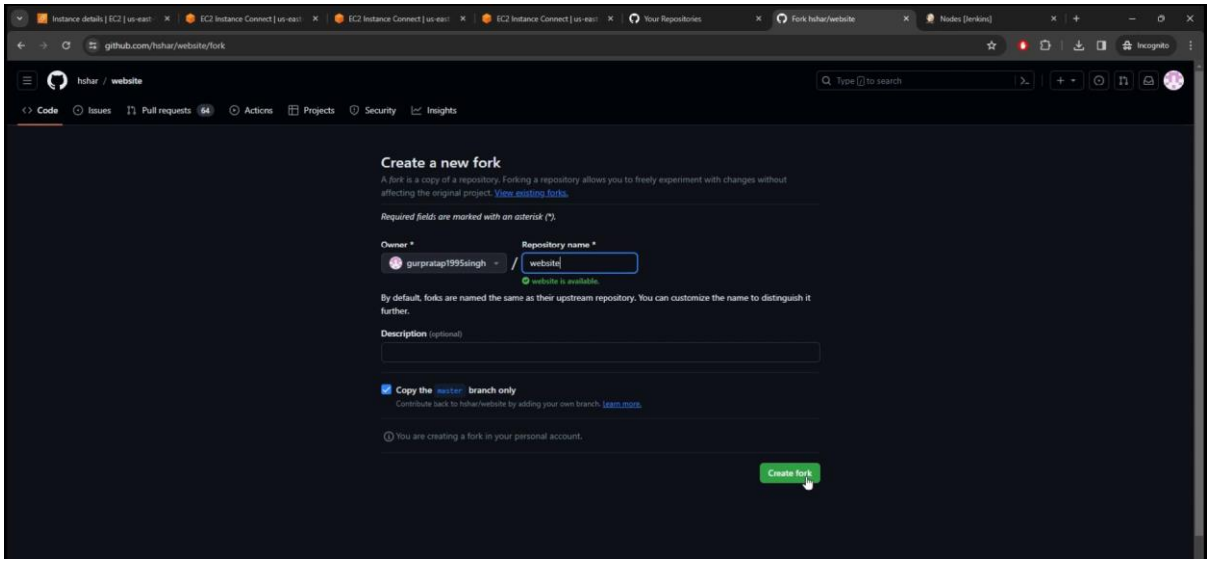



6. Adding nods (Test and Production)

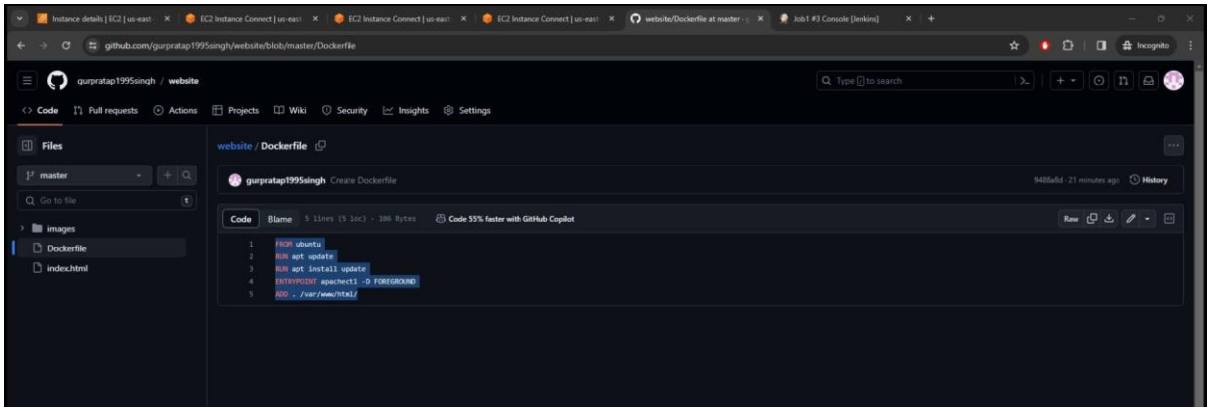


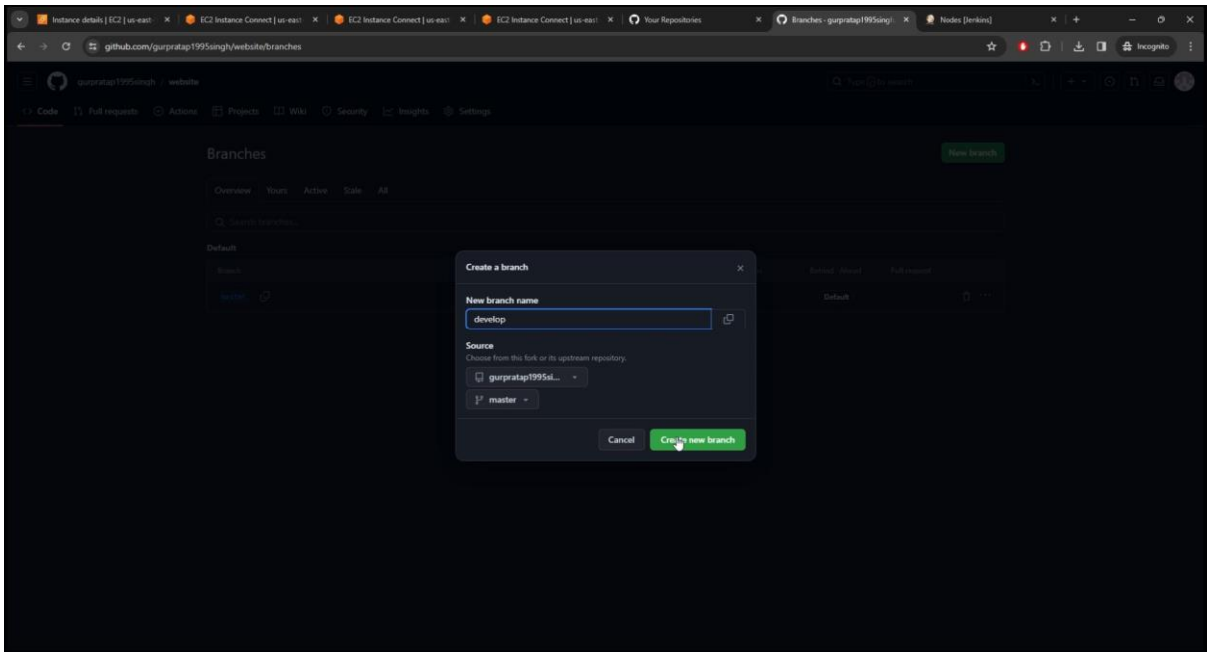
7. Cloning git repository



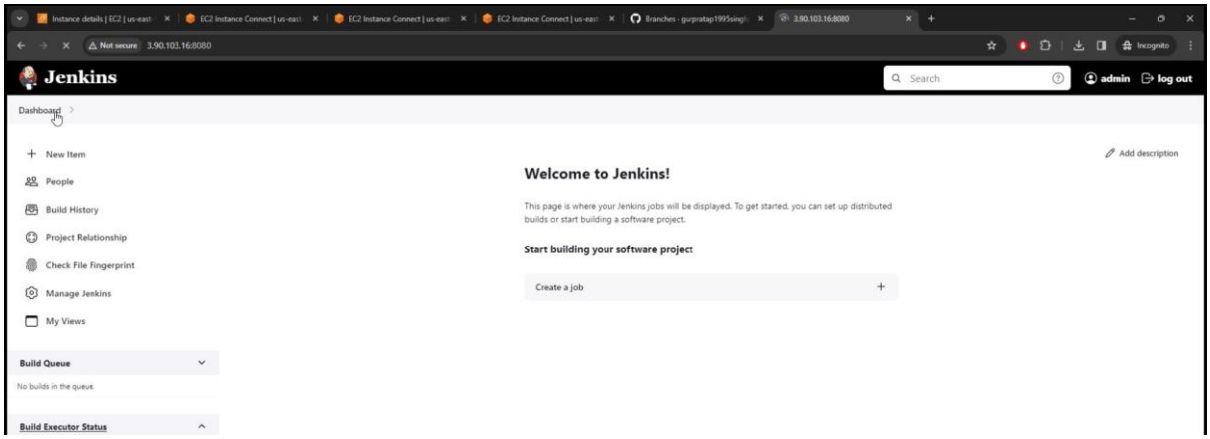

8. Adding Docker file

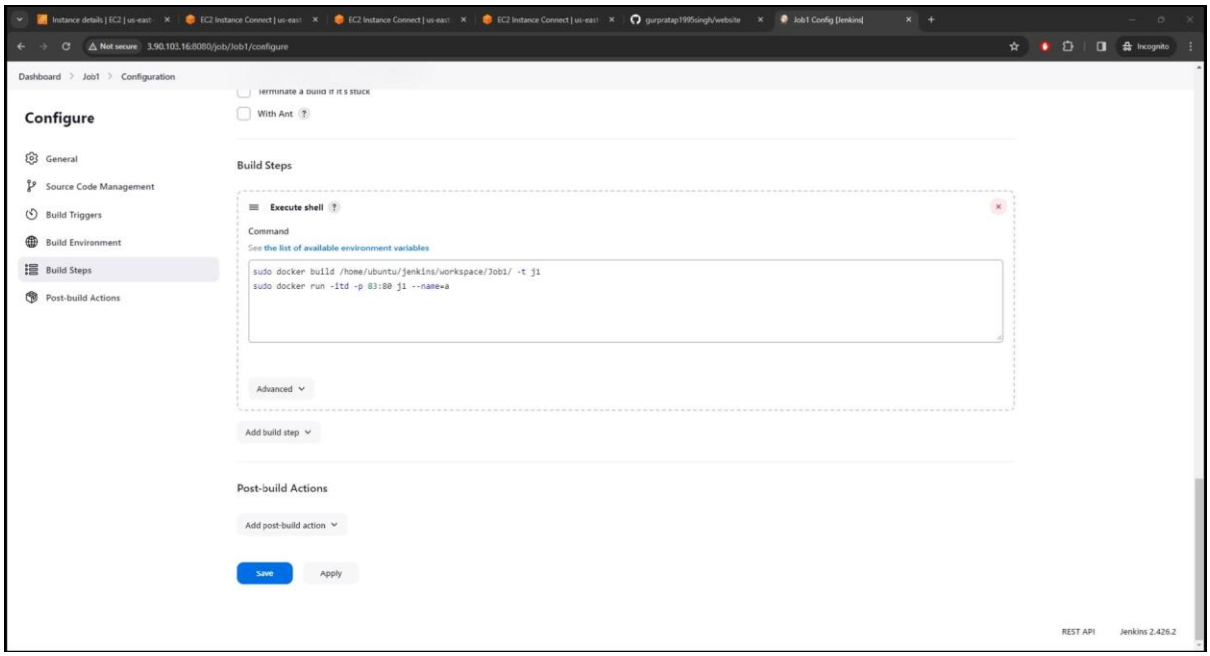


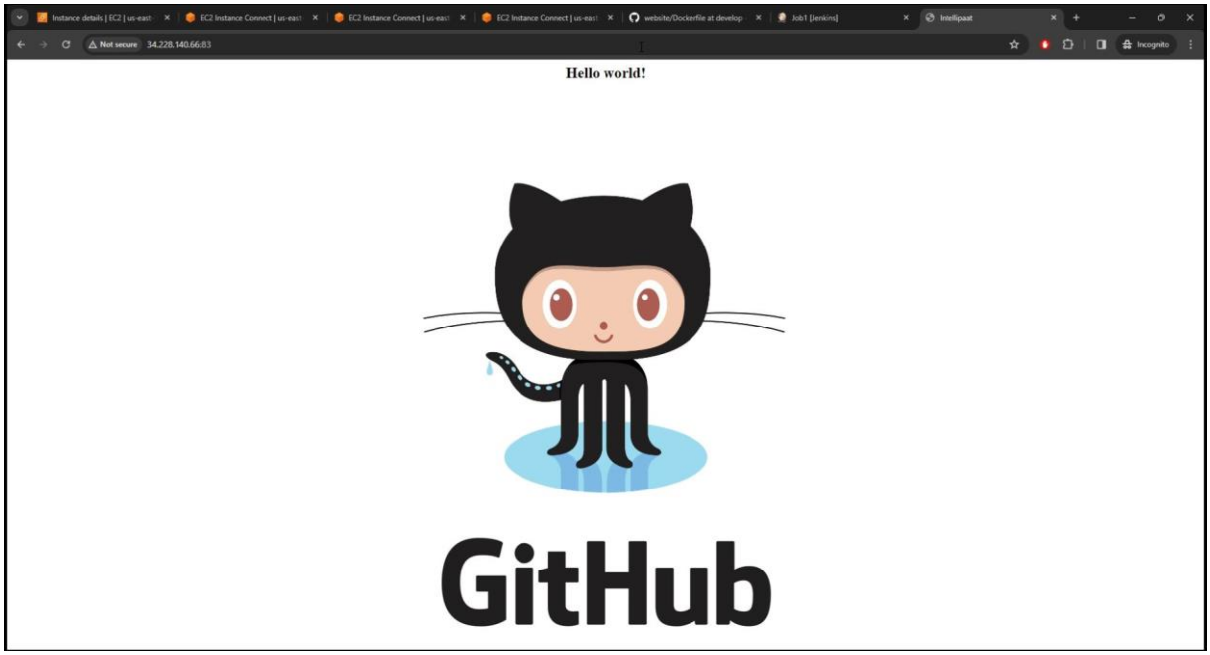

9. Creating Develop branch

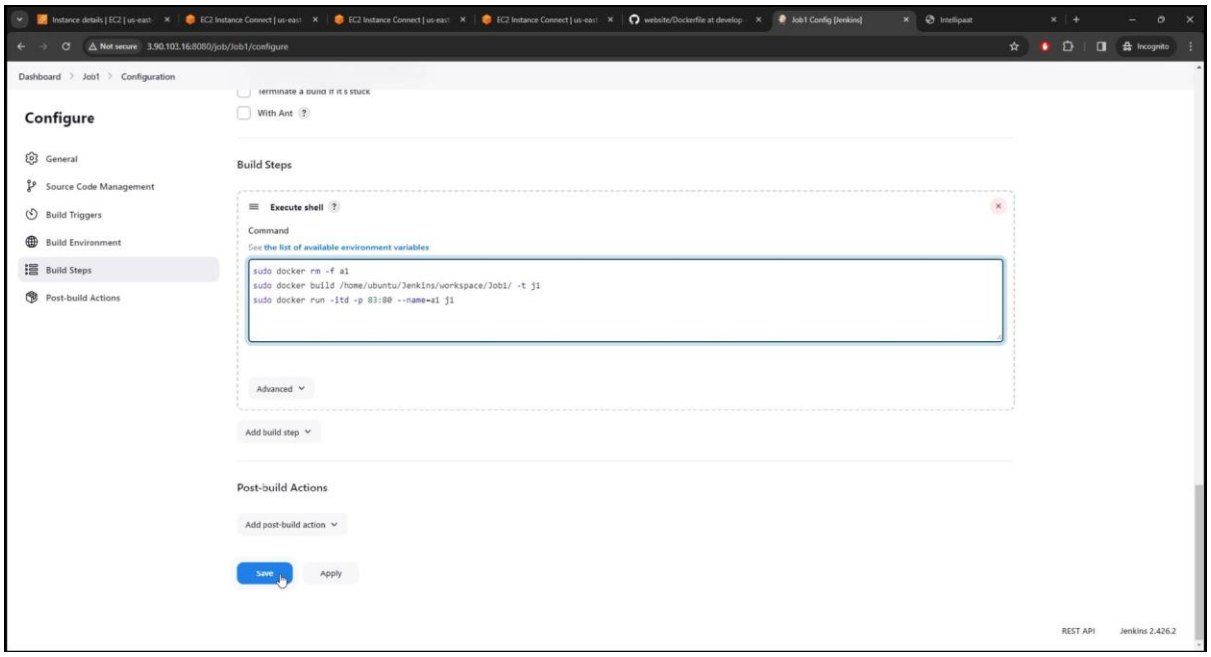


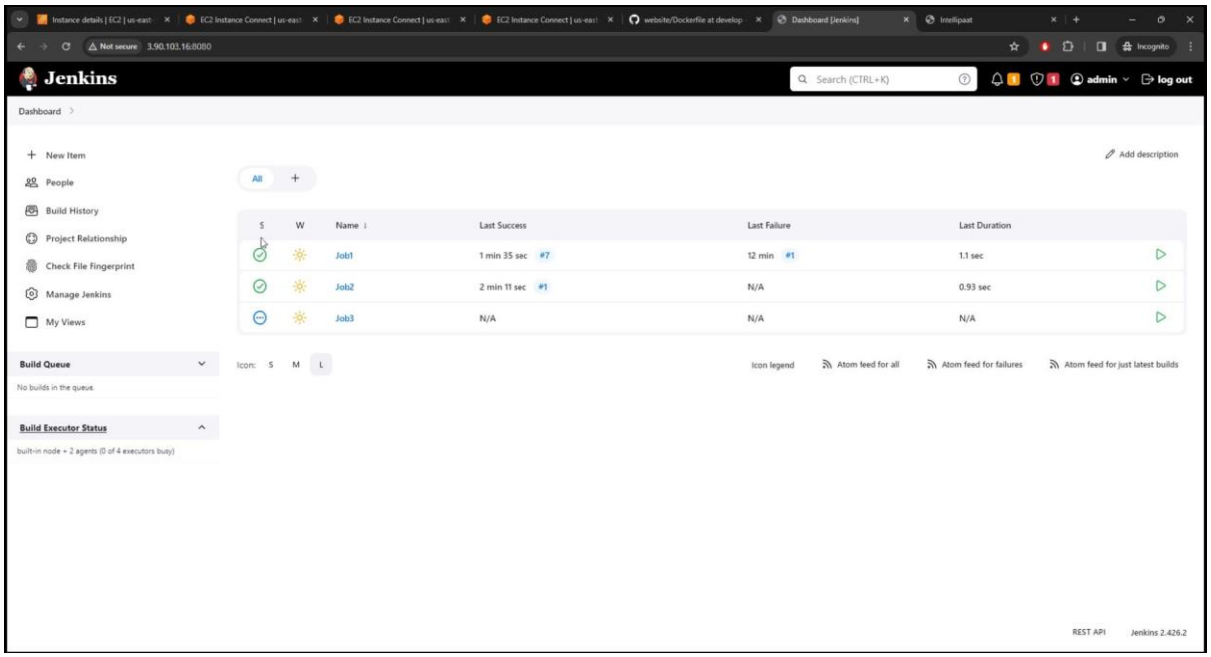
10. Creating Job in Jenkins

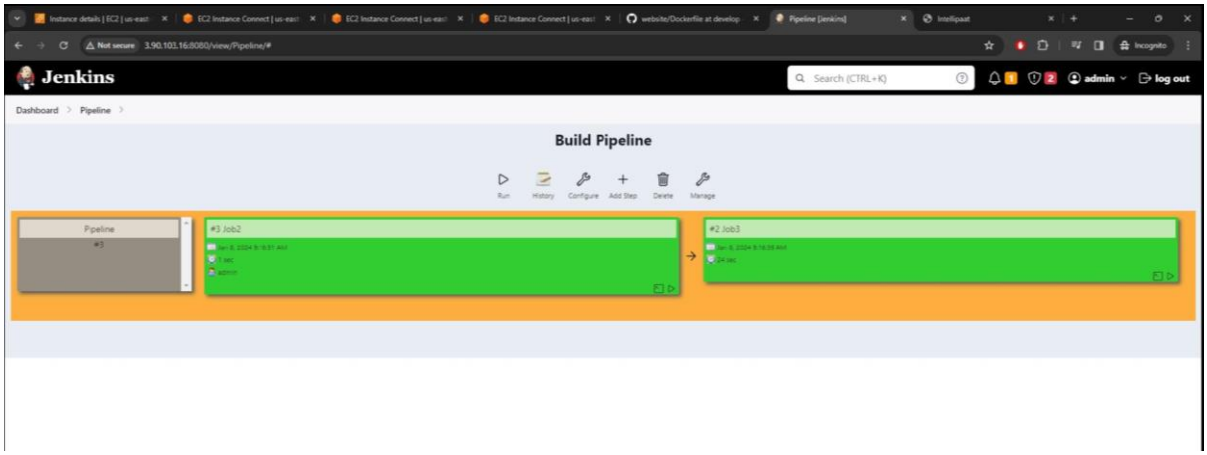



Not secure 3.90.103.16:8080/job/Job1/configure
Dashboard > Job1 > Configuration
Configure
General
Source Code Management
Build Triggers
Build Environment
Build Steps
Post-build Actions
With Ant
Build Steps
Execute shell
Command
See the list of available environment variables
sudo docker rm -f a1
sudo docker build /home/ubuntu/Jenkins/workspace/Job1/ -t j1
sudo docker run -itd -p 83:80 --name=a1 j1
Advanced
Add build step
Post-build Actions
Add post-build action
Save
Apply
REST API
Jenkins 2.426.2


Not secure 3.90.103.16:8080
Jenkins
Search (CTRL+K)
admin
log out
Dashboard
New Item
People
Build History
Project Relationship
Check File Fingerprint
Manage Jenkins
My Views
Add description
All
S
W
Name
Last Success
Last Failure
Last Duration
Job1
1 min 35 sec #7
12 min #1
1.1 sec
Job2
2 min 11 sec #1
N/A
0.93 sec
Job3
N/A
N/A
N/A
Build Queue
No builds in the queue.
Build Executor Status
built-in node + 2 agents (0 of 4 executors busy)
Icon: S M L
Icon legend
Atom feed for all
Atom feed for failures
Atom feed for just latest builds
REST API
Jenkins 2.426.2


Not secure 3.90.103.16:8080/view/Pipeline/#
Jenkins
Search (CTRL+K)
admin
log out
Dashboard
Pipeline
Build Pipeline
Run
History
Configure
Add Step
Delete
Manage
Pipeline
#3
#3 Job2
#2 Job3

11. Adding webhook to auto trigger the jobs