

Implementing DevOps Lifecycle for Abode Software

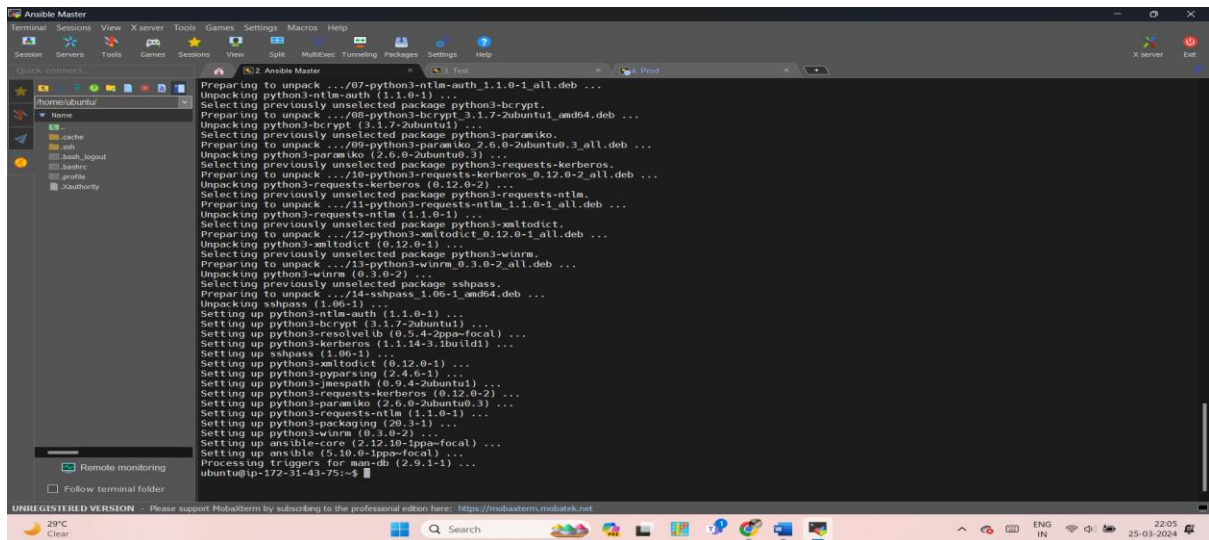
Deploying the product using Jenkins Pipelines, Docker, and GitHub to automate build, test, and deployment processes for a scalable

and secure infrastructure. The containerized code is built on every push to GitHub, ensuring consistency and reliability. The

deployment is managed through a streamlined CI/CD pipeline to enhance productivity and reduce manual errors.

Solution:

Installed 3 servers and connection among those was done with SSH key Gen method



```
Preparing to unpack .../07-python3-ntlm-auth_1.1.0-1_all.deb ...
Unpacking python3-ntlm-auth (1.1.0-1) ...
Selecting previously unselected package python3-bcrypt.
Preparing to unpack .../08-python3-bcrypt_3.1.7-2ubuntu1_amd64.deb ...
Unpacking python3-bcrypt (3.1.7-2ubuntu1) ...
Selecting previously unselected package python3-paramiko.
Preparing to unpack .../09-python3-paramiko_2.6.0-2ubuntu0.3_all.deb ...
Unpacking python3-paramiko (2.6.0-2ubuntu0.3) ...
Selecting previously unselected package python3-requests-kerberos.
Preparing to unpack .../10-python3-requests-kerberos_0.12.0-2_all.deb ...
Unpacking python3-requests-kerberos (0.12.0-2) ...
Selecting previously unselected package python3-requests-ntlm.
Preparing to unpack .../11-python3-requests-ntlm_1.1.0-1_all.deb ...
Unpacking python3-requests-ntlm (1.1.0-1) ...
Selecting previously unselected package python3-xmltodict.
Preparing to unpack .../12-python3-xmltodict_0.12.0-1_all.deb ...
Unpacking python3-xmltodict (0.12.0-1) ...
Selecting previously unselected package python3-winnm.
Preparing to unpack .../13-python3-winnm_0.3.0-2_all.deb ...
Unpacking python3-winnm (0.3.0-2) ...
Selecting previously unselected package sshpass.
Preparing to unpack .../14-sshpass_1.06-1_amd64.deb ...
Unpacking sshpass (1.06-1) ...
Setting up python3-ntlm-auth (1.1.0-1) ...
Setting up python3-bcrypt (3.1.7-2ubuntu1) ...
Setting up python3-paramiko (2.6.0-2ubuntu0.3) ...
Setting up sshpass (1.06-1) ...
Setting up python3-xmltodict (0.12.0-1) ...
Setting up python3-jmespath (0.9.4-2ubuntu1) ...
Setting up python3-requests-kerberos (0.12.0-2) ...
Setting up python3-requests-ntlm (1.1.0-1) ...
Setting up python3-pyparsing (2.4.0-1) ...
Setting up python3-packaging (20.3-1) ...
Setting up python3-winnm (0.3.0-2) ...
Setting up ansible-core (2.12.10-1ppa-focal) ...
Setting up ansible (5.10.0-1ppa-focal) ...
Processing triggers for man-db (2.9.1-1) ...
ubuntu@ip-172-31-43-75:~$
```

Created a playbook to install all the required packages

```
# Here's another example of host ranges, this time there are no
# leading 0s:

## db-[99:101]-node.example.com

ubuntu@ip-172-31-43-75:/etc/ansible$ sudo nano hosts
ubuntu@ip-172-31-43-75:/etc/ansible$ ansible-playbook software_install.yaml

PLAY [Installations on Machine1] *****

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

TASK [Installing Jenkins, Java, and Docker] *****
changed: [localhost]

PLAY [Installations on Slave2] *****

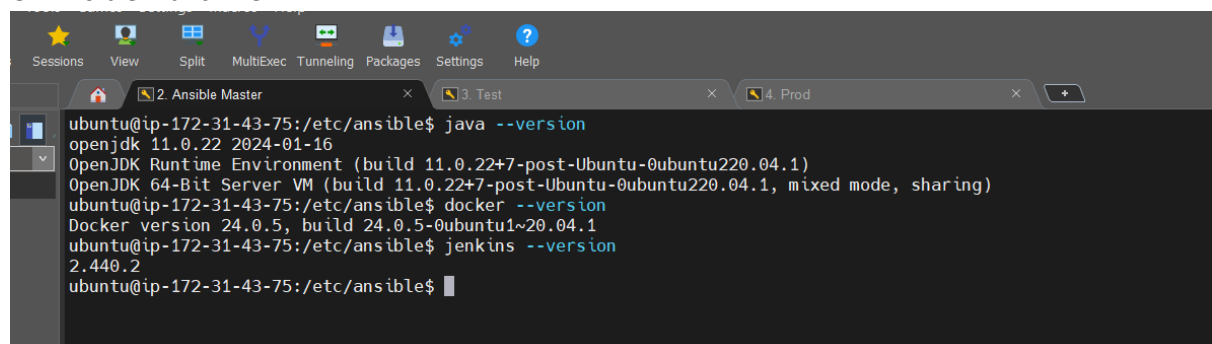
TASK [Gathering Facts] *****
ok: [54.83.160.152]
ok: [18.215.234.118]

TASK [Installing Java, and Docker] *****
changed: [54.83.160.152]
changed: [18.215.234.118]

PLAY RECAP *****
18.215.234.118      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0
54.83.160.152     : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0
localhost          : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0

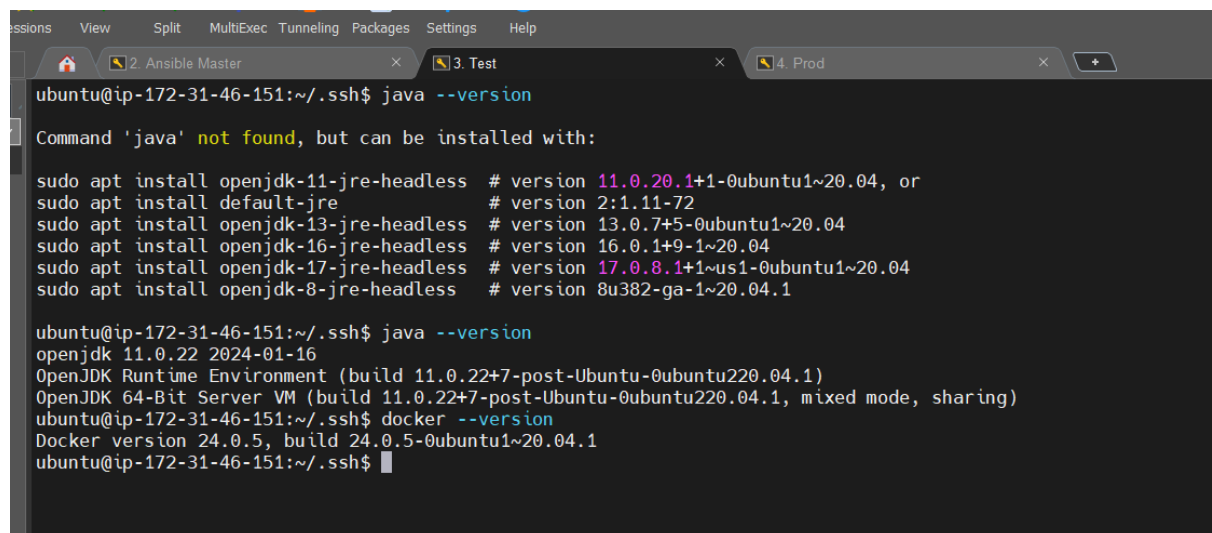
ubuntu@ip-172-31-43-75:/etc/ansible$
```

On Ansible manchine



```
ubuntu@ip-172-31-43-75:/etc/ansible$ java --version
openjdk 11.0.22 2024-01-16
OpenJDK Runtime Environment (build 11.0.22+7-post-Ubuntu-0ubuntu220.04.1)
OpenJDK 64-Bit Server VM (build 11.0.22+7-post-Ubuntu-0ubuntu220.04.1, mixed mode, sharing)
ubuntu@ip-172-31-43-75:/etc/ansible$ docker --version
Docker version 24.0.5, build 24.0.5-0ubuntu1~20.04.1
ubuntu@ip-172-31-43-75:/etc/ansible$ jenkins --version
2.440.2
ubuntu@ip-172-31-43-75:/etc/ansible$
```

On Test



```
ubuntu@ip-172-31-46-151:~/ssh$ java --version

Command 'java' not found, but can be installed with:

sudo apt install openjdk-11-jre-headless # version 11.0.20.1+1-0ubuntu1~20.04, or
sudo apt install default-jre           # version 2:1.11-72
sudo apt install openjdk-13-jre-headless # version 13.0.7+5-0ubuntu1~20.04
sudo apt install openjdk-16-jre-headless # version 16.0.1+9-1~20.04
sudo apt install openjdk-17-jre-headless # version 17.0.8.1+1~us1-0ubuntu1~20.04
sudo apt install openjdk-8-jre-headless  # version 8u382-ga-1~20.04.1

ubuntu@ip-172-31-46-151:~/ssh$ java --version
openjdk 11.0.22 2024-01-16
OpenJDK Runtime Environment (build 11.0.22+7-post-Ubuntu-0ubuntu220.04.1)
OpenJDK 64-Bit Server VM (build 11.0.22+7-post-Ubuntu-0ubuntu220.04.1, mixed mode, sharing)
ubuntu@ip-172-31-46-151:~/ssh$ docker --version
Docker version 24.0.5, build 24.0.5-0ubuntu1~20.04.1
ubuntu@ip-172-31-46-151:~/ssh$
```

On Prod

```
ubuntu@ip-172-31-35-123:~/.ssh$ java --version
openjdk 11.0.22 2024-01-16
OpenJDK Runtime Environment (build 11.0.22+7-post-Ubuntu-0ubuntu220.04.1)
OpenJDK 64-Bit Server VM (build 11.0.22+7-post-Ubuntu-0ubuntu220.04.1, mixed mode, sharing)
ubuntu@ip-172-31-35-123:~/.ssh$ docker --version
Docker version 24.0.5, build 24.0.5-0ubuntu1~20.04.1
ubuntu@ip-172-31-35-123:~/.ssh$
```

In Ansible machine Installed Jenkins connected it to dashboard added prod and test to it as shown below!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

Q Search (CTRL+K)

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EDIGAGAGANASINDH

Nodes

+ New Node

Configure N

S	Name ↓	Architecture	Clock Difference	Free Disk Space	Free Swap Space	Free Temp Space	Resp.
	Built-In Node	Linux (amd64)	In sync	4.01 GiB	<div><div>!</div>0 B</div>	4.01 GiB	
	PROD	Linux (amd64)	In sync	5.04 GiB	<div><div>!</div>0 B</div>	5.04 GiB	
	TEST	Linux (amd64)	In sync	5.00 GiB	<div><div>!</div>0 B</div>	5.00 GiB	
Data obtained		18 sec	18 sec	18 sec	18 sec	18 sec	

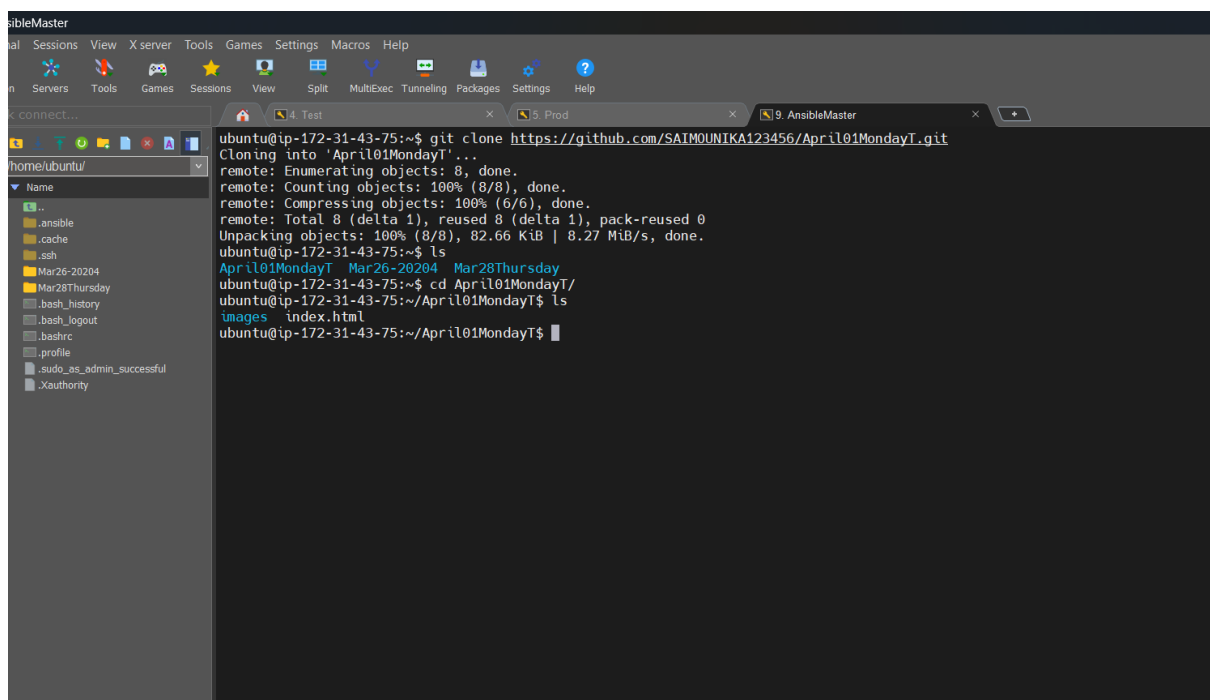
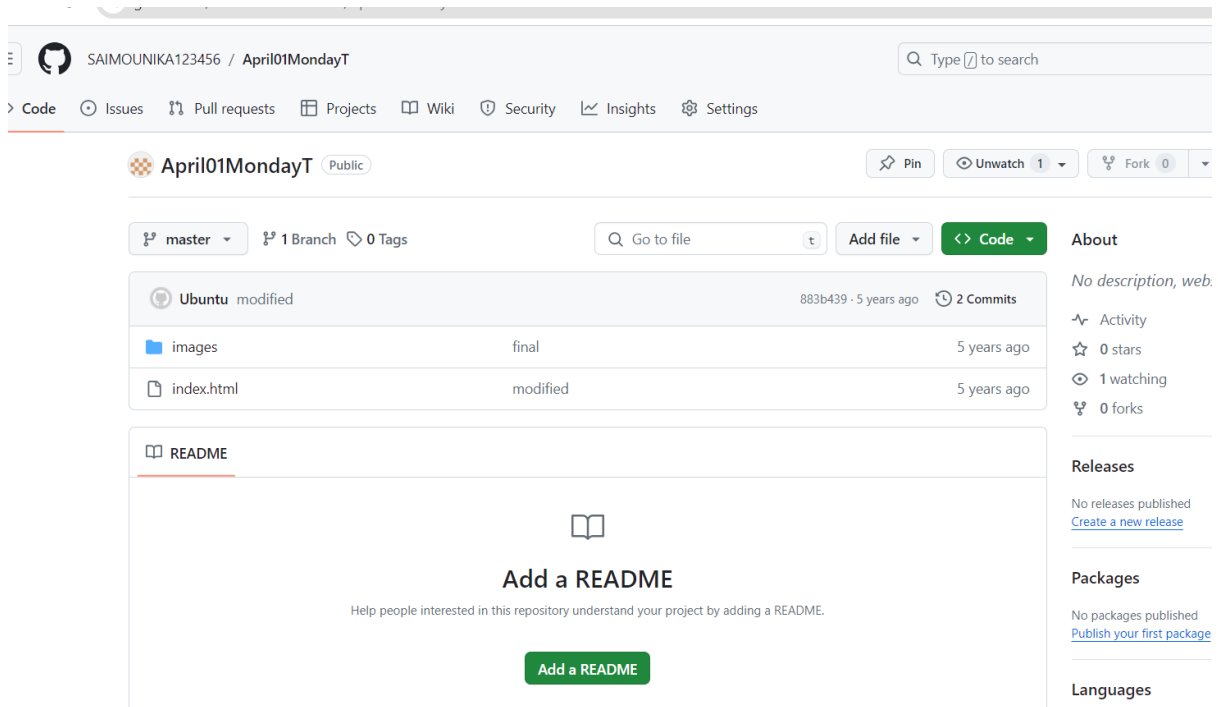
Icon:

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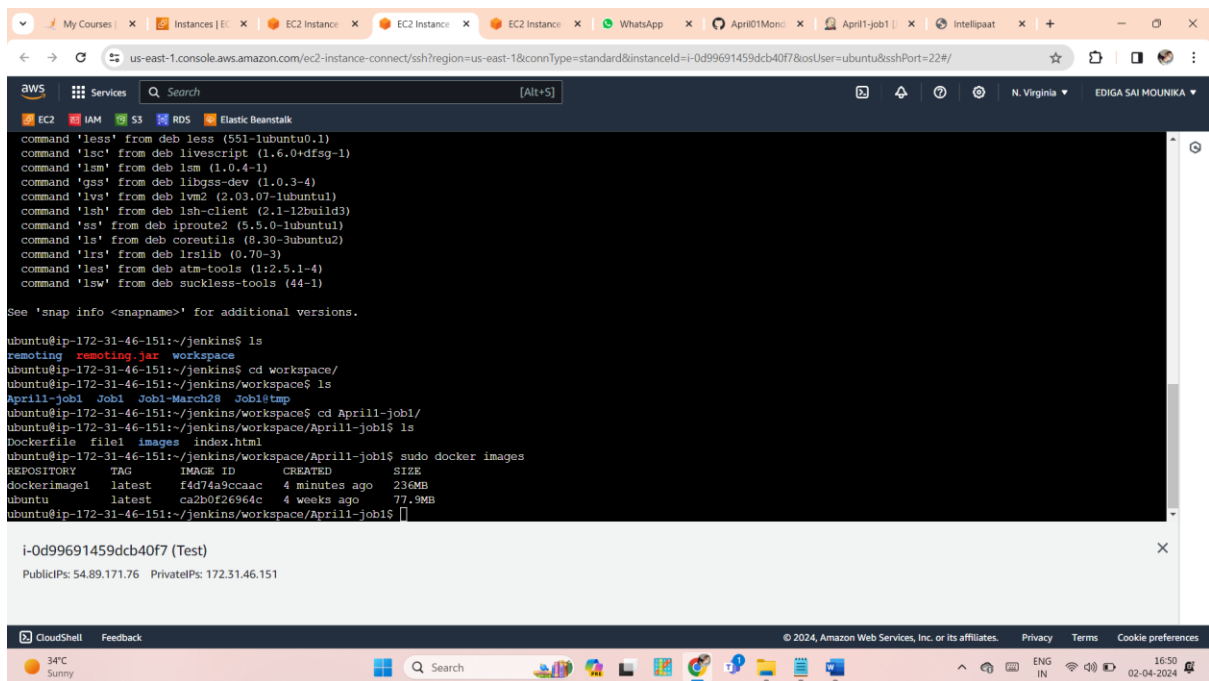
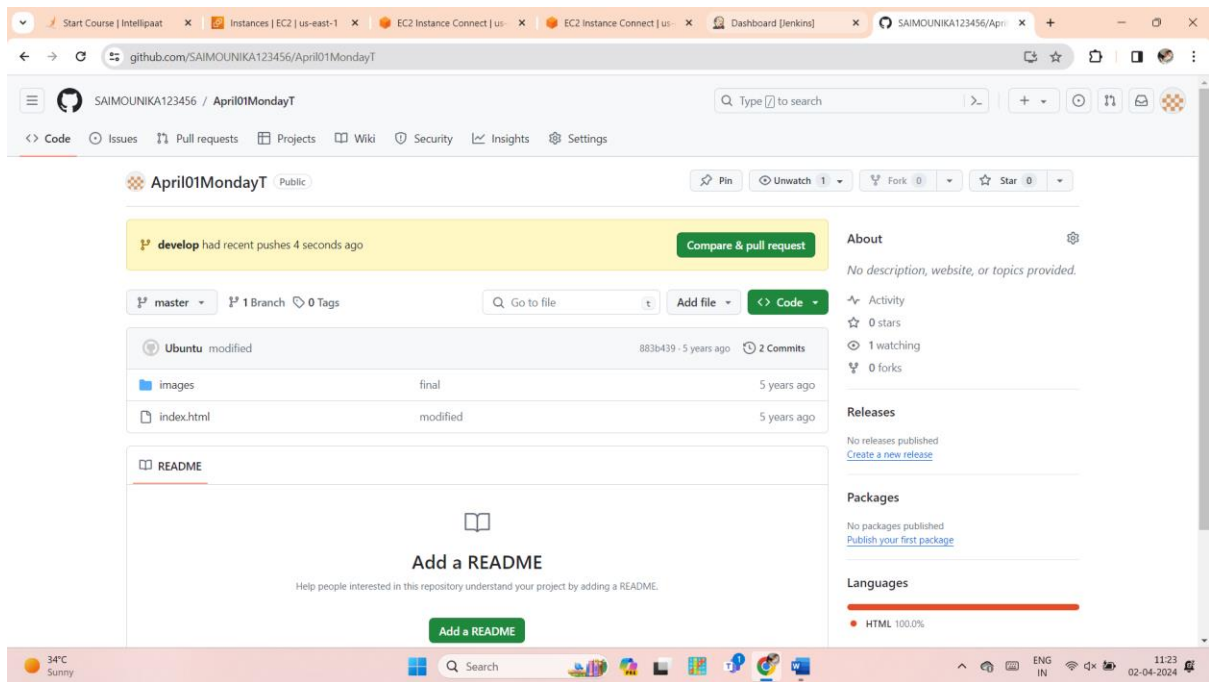
forked to my repo and cloned to Ansible server

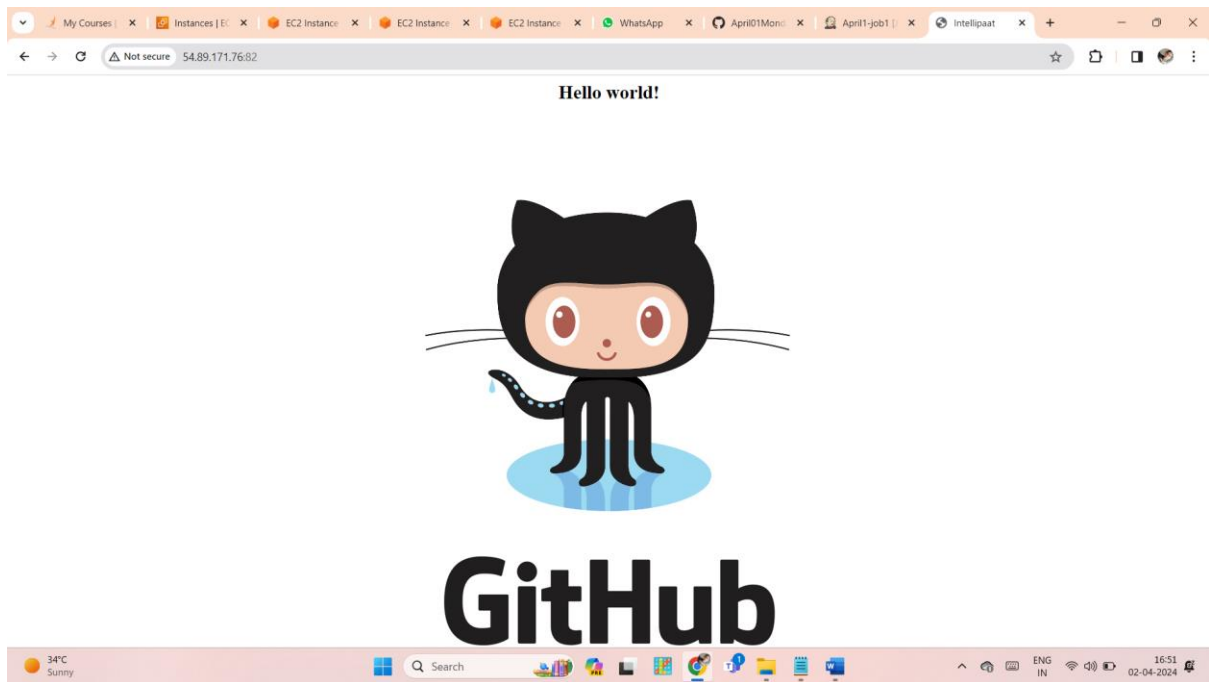


April 01MondayT

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

Successfully pushed develop branch and able to see changes there ,





Pushed master branch because we don't have Dockerfile in it #in same test node only

