

# DevOps Intern Assignment

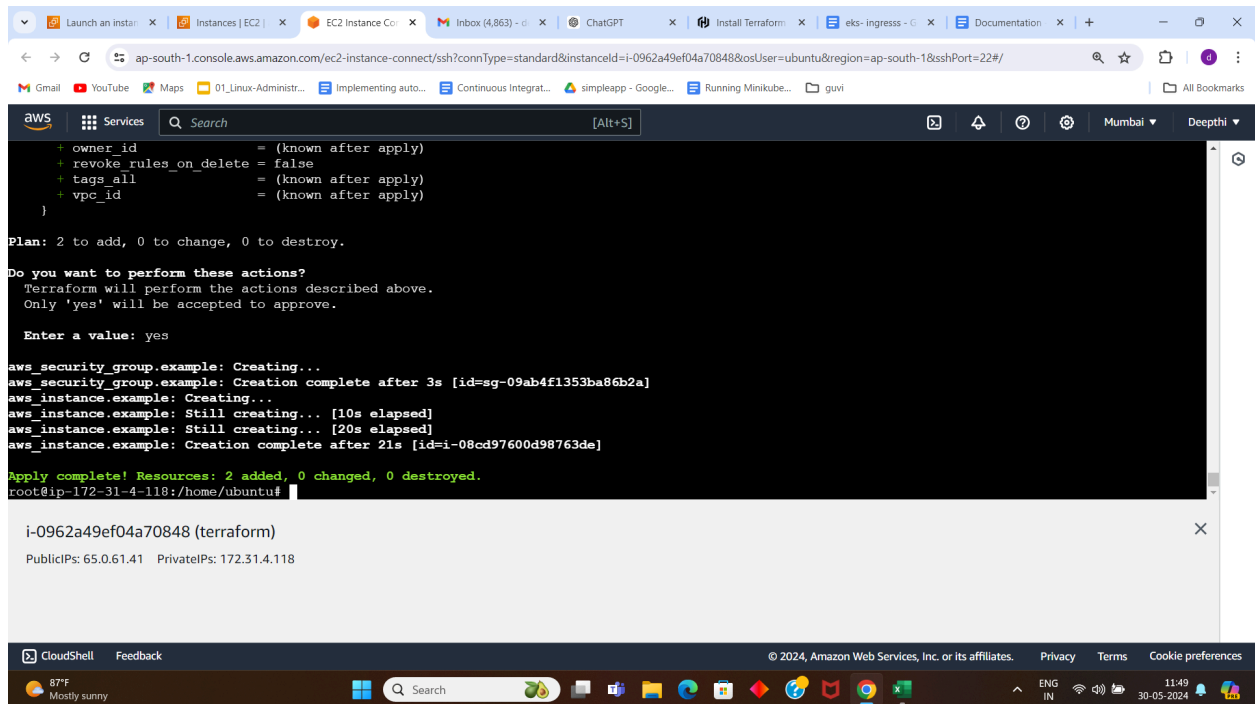
GITHUBREPO:<https://github.com/DEEPTHI-92/Assignment.git>

## Infrastructure as Code (IaC):

- Use Terraform to automate the provisioning of infrastructure.

Created ec2 and security group using main.tf file

Written scripts to set up the environment required for both Next.js and Django applications.



The screenshot shows the AWS CloudShell interface with a terminal window. The terminal displays the output of a Terraform apply command. It shows the plan for adding two resources: an AWS security group and an AWS EC2 instance. The user confirms the actions, and the resources are successfully created. The output includes the IDs for the security group (sg-09ab4f1353ba86b2a) and the EC2 instance (i-0962a49ef04a70848).

```
aws_aws:
+ owner_id              = (known after apply)
+ revoke_rules_on_delete = false
+ tags_all              = (known after apply)
+ vpc_id                = (known after apply)
}

Plan: 2 to add, 0 to change, 0 to destroy.

Do you want to perform these actions?
Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.

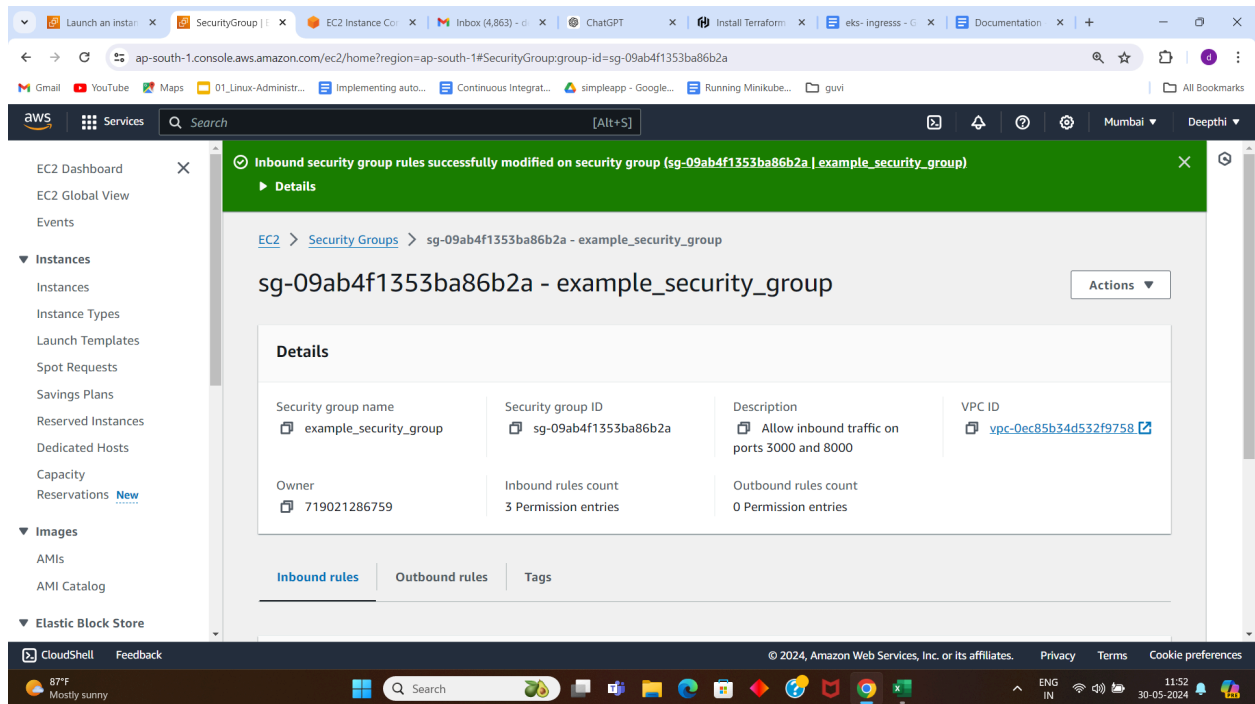
Enter a value: yes

aws_security_group.example: Creating...
aws_security_group.example: Creation complete after 3s [id=sg-09ab4f1353ba86b2a]
aws_instance.example: Creating...
aws_instance.example: Still creating... [10s elapsed]
aws_instance.example: Still creating... [20s elapsed]
aws_instance.example: Creation complete after 21s [id=i-0962a49ef04a70848]

Apply complete! Resources: 2 added, 0 changed, 0 destroyed.
root@ip-172-31-4-118:/home/ubuntu#
```

i-0962a49ef04a70848 (terraform)

PublicIPs: 65.0.61.41 PrivateIPs: 172.31.4.118

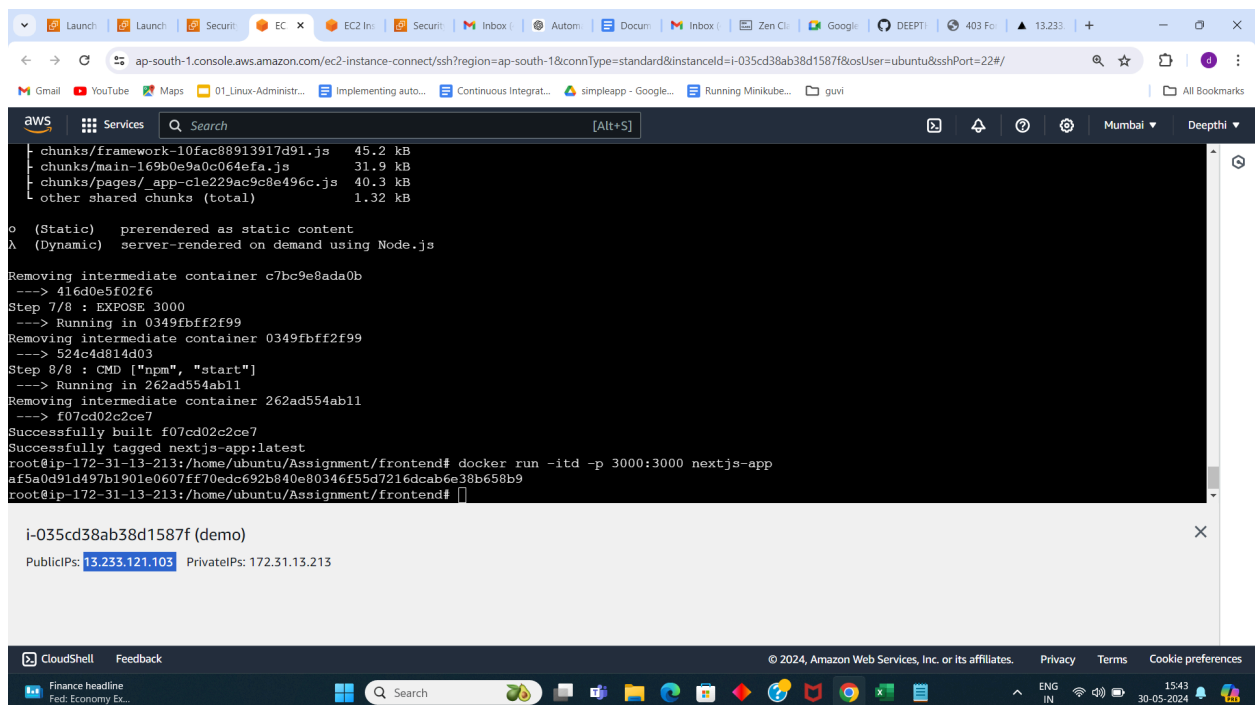


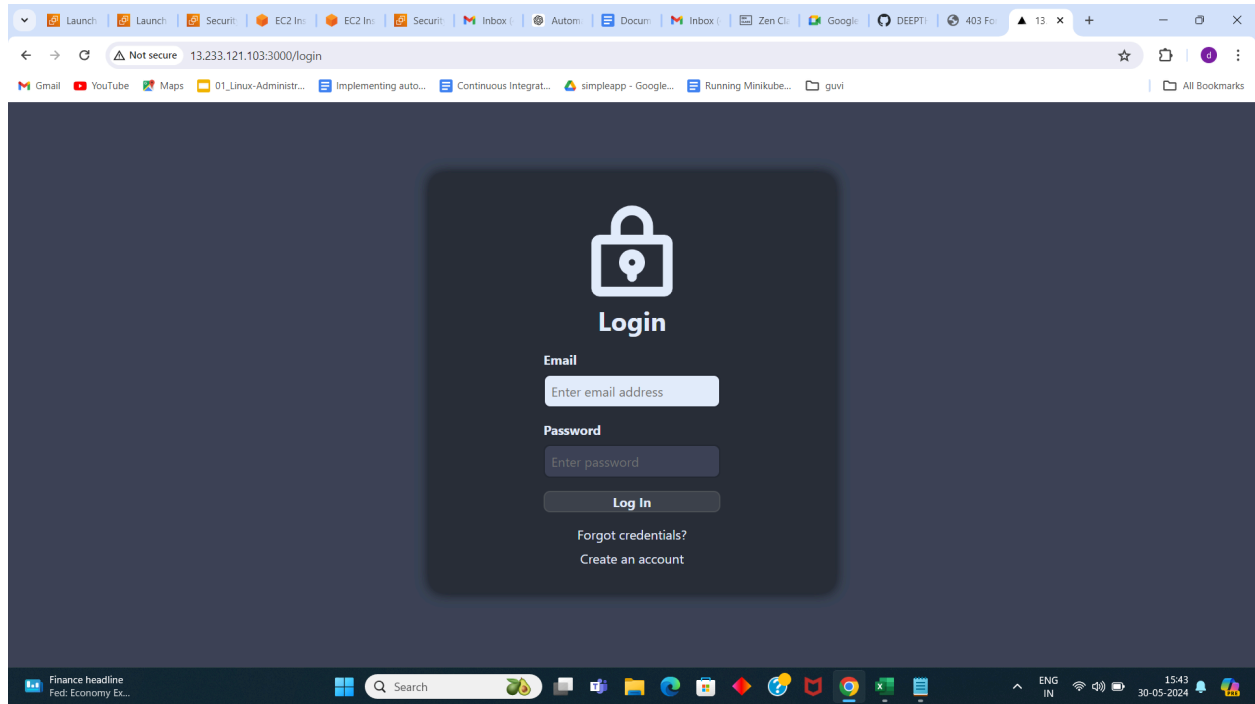
## Next.js Deployment:Frontend

Commands used

`docker build -t nextjs-app .`

`docker run -itd -p 3000:3000 nextjs-app`





## Django Deployment: Backend

Commands used

```
docker build -t django-app .
```

```
docker run -itd -p 8000:8000 django-app
```

Changed the settings.py and server.py file with the required hostid

Created django secretkey and added it in env.example file

The image shows two screenshots from a web browser. The top screenshot is an AWS CloudShell terminal window. The terminal output shows the following steps:

```
---> Using cache
---> 5dad5152b99
Step 9/12 : RUN python manage.py collectstatic --noinput
---> Using cache
---> 10a113e8a398
Step 10/12 : EXPOSE 8000
---> Using cache
---> 14e8caeeea14
Step 11/12 : RUN pip install gunicorn
---> Using cache
---> ced51bfcd8e
Step 12/12 : CMD ["uvicorn", "backend.asgi:application", "--host", "0.0.0.0", "--port", "8000", "--log-level", "info", "--reload"]
---> Using cache
---> 92817201d0c0
Successfully built 92817201d0c0
Successfully tagged django-app:latest
root@ip-172-31-13-213:/home/ubuntu/Assignment/backend# docker run -itd -p 8000:8000 django-app
0b78d9fa24b9149f08f9ab23bfd3de965336b428371f38bdfdd8f3e908820912
root@ip-172-31-13-213:/home/ubuntu/Assignment/backend# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED      STATUS      PORTS                               NAMES
0b78d9fa24b9   django-app    "uvicorn backend.asgi..." 8 seconds ago Up 7 seconds 0.0.0.0:8000->8000/tcp, :::8000->8000/tcp   vigilant_mcclintock
af5a0d91d497   nextjs-app    "docker-entrypoint.s..." 24 minutes ago Up 24 minutes 0.0.0.0:3000->3000/tcp, :::3000->3000/tcp   boring_agnes1
root@ip-172-31-13-213:/home/ubuntu/Assignment/backend#
```

Below the terminal output, the instance details for `i-035cd38ab38d1587f (demo)` are shown, with PublicIPs: `13.233.121.103` and PrivateIPs: `172.31.13.213`.

The bottom screenshot shows the Django administration login page. The URL bar indicates the address `13.200.229.214:8000/admin/login/?next=/admin/`. The page has a title bar that says "Django administration" and contains a login form with fields for "Email:" and "Password:", and a "Log in" button.

## CI/CD Pipeline:

Downloaded jenkins and configured it .added the script in github

Launch an...SecurityGr...EC2 Instan...Document...Automate...DEEPTHI-0...Inbox (4,8...Compare...About pul...pipeline C...

←→↻Not secure3.110.193.1:8080/job/pipeline/configure☆🔒📌🔑

GmailYouTubeMaps01\_Linux-Administr...Implementing auto...Continuous Integrat...simpleapp - Google...Running Minikube...guviAll Bookmarks

Dashboard > pipeline > Configuration

Configure

General

Advanced Project Options

Pipeline

Pipeline script from SCM

SCM ?  
Git

Repositories ?

Repository URL ?  
https://github.com/DEEPTHI-92/Assignment.git

Credentials ?  
DEEPTHI-92/\*\*\*\*\* (git)  
+ Add  
Advanced  
Add Repository

Branches to build ?

Save

Apply

88°F  
Mostly sunny

Search

🌴🖨️📅📁🌐📧📌📄

ENG  
IN📶🔊🔋12:40  
31-05-2024🔔👤