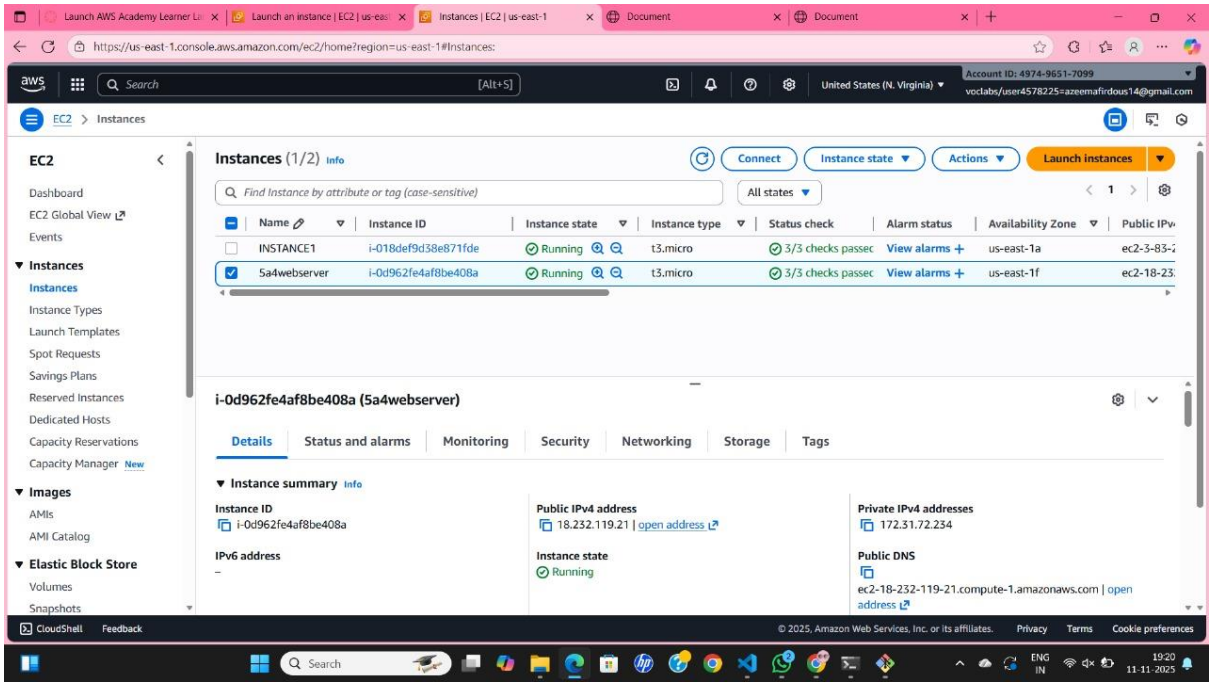
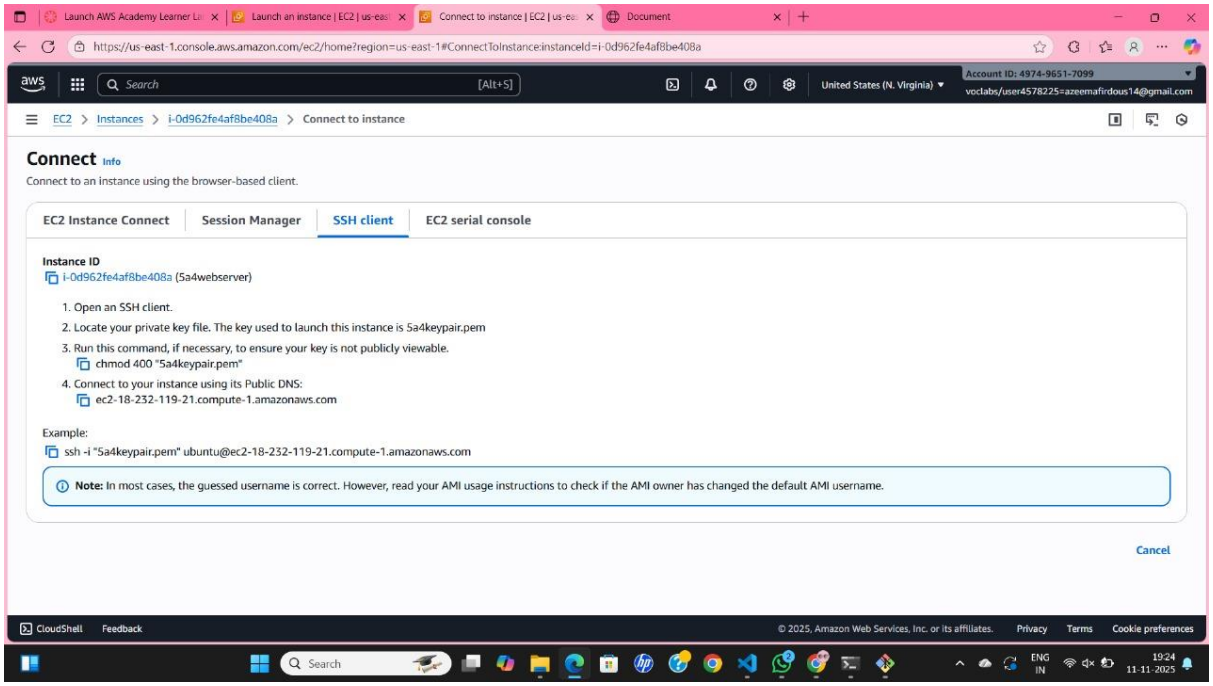
WEEK-12

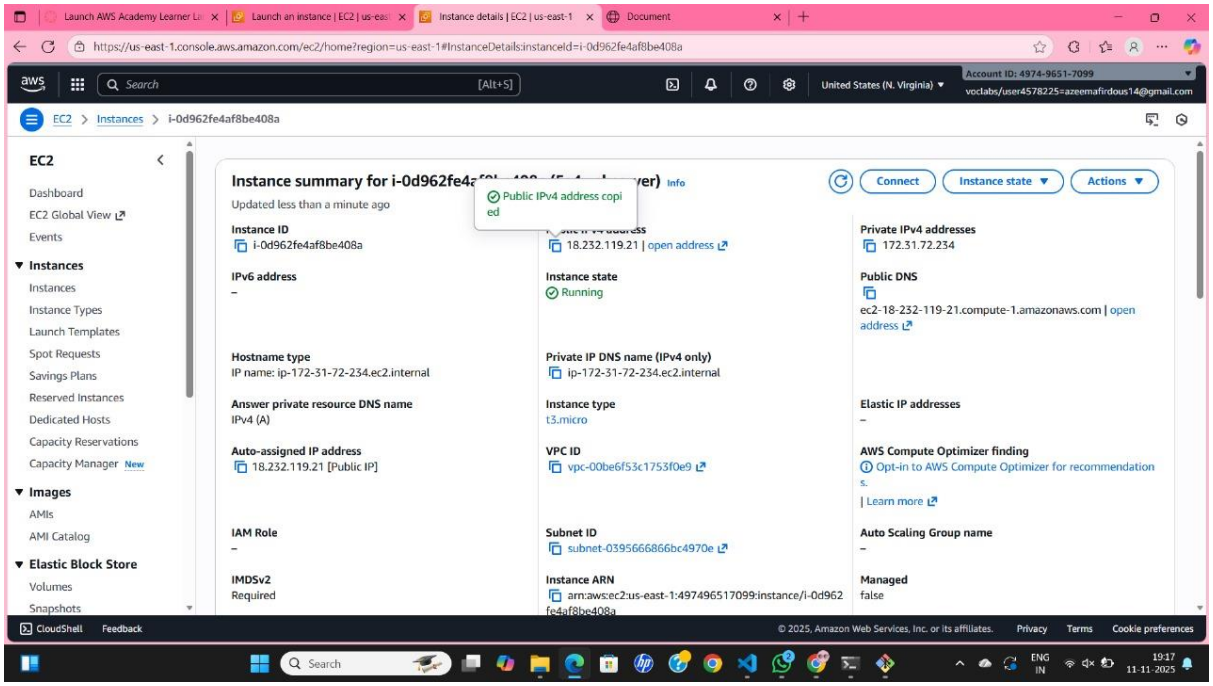
Instance: 5a4webserver



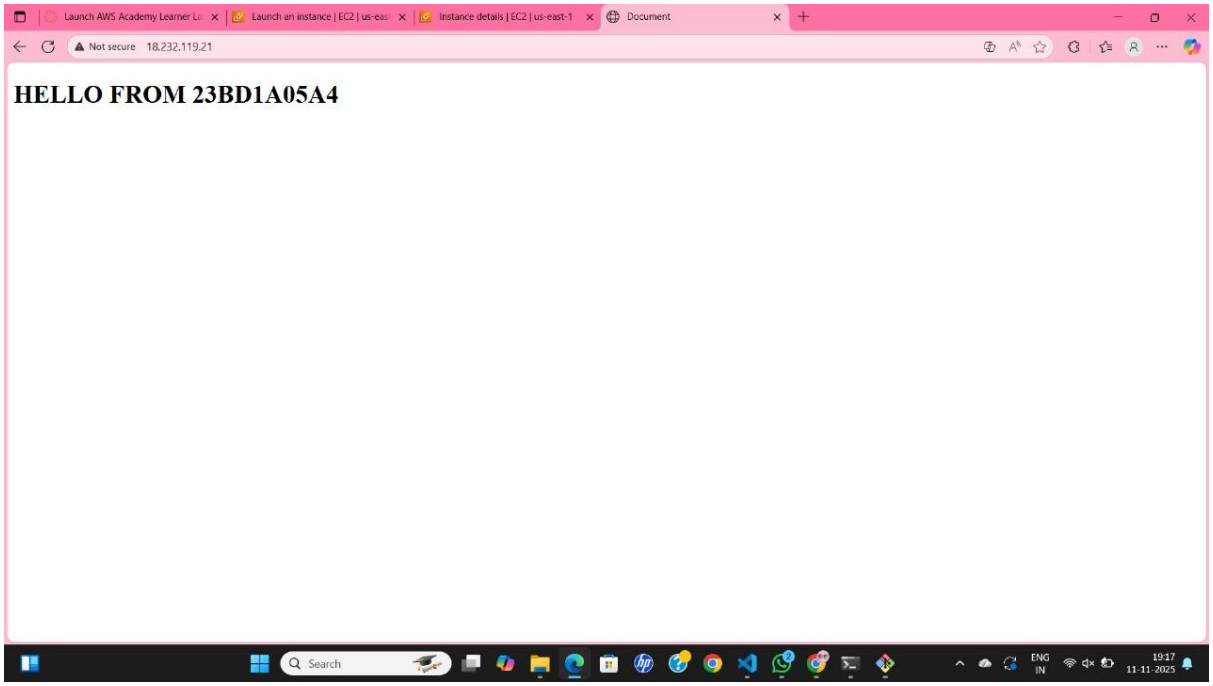

```
 System information as of Thu Nov 13 06:46:52 UTC 2025

  System load:  0.53              Temperature:           -273.1 C
  Usage of /:   25.8% of 6.71GB   Processes:             117
  Memory usage: 24%               Users logged in:       0
  Swap usage:   0%                IPv4 address for ens5: 172.31.68.98

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status


The list of available updates is more than a week old.
To check for new updates run: sudo apt update


The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
```



IPv4 address: 18.232.119.21



Web Server Running on EC2 – 18.232.119.21



SCENARIO BASED QUESTIONS

1. You have a simple index.html file on your laptop and you launched an EC2 instance with Amazon Linux 2. The instance is running but when you open the public IP in browser, the page doesn't load. What steps will you take to host the index.html?

- Connect to the instance using SSH:
- ssh -i key.pem ec2-user@<public-ip>
- Install Apache web server:
- sudo yum install httpd -y
- Start Apache service:
- sudo systemctl start httpd
- Enable Apache on boot:
- sudo systemctl enable httpd
- Copy index.html to web directory:
- sudo cp index.html /var/www/html/

- Allow inbound traffic on port **80 (HTTP)** in the **Security Group**.
- Finally, access the site via:
- http://<public-ip>/

2. You deployed your index.html to /var/www/html/ directory on EC2, but the web page still isn't loading. What are two possible issues you would check?

1. **Security Group issue:** HTTP (port 80) might not be open to the public.
2. **Apache not running:** The Apache service might be stopped. Check using:
3. sudo systemctl status httpd

3. You installed Apache HTTP server on EC2 to host index.html, but the service stops after instance reboot. What command should you run to ensure it auto-starts on boot?

sudo systemctl enable httpd

4. You are deploying a Maven web application onto an EC2 instance. Maven is not installed on the instance. What commands or steps will you follow to install Maven on Amazon Linux/Ubuntu EC2?

Answer:
For Amazon Linux:

sudo yum install maven -y

For Ubuntu:

sudo apt update

sudo apt install maven -y

5. You built a Maven project on EC2, and a .war file generated inside target/. You want to deploy it using Tomcat. Where will you place the .war file and why?

Answer:
Place the .war file inside:

/usr/share/tomcat/webapps/

Because Tomcat automatically deploys any .war file placed in the **webapps** directory.

6. Your Maven web app is deployed to Tomcat on EC2, but accessing it via browser gives 404 error. What configuration or path issues will you check?

- Verify .war file is deployed correctly inside /usr/share/tomcat/webapps/.
- Ensure Tomcat service is running:
- sudo systemctl status tomcat
- Check the app's **context path**. For example, if your WAR file is myapp.war, open:
- http://<public-ip>:8080/myapp/

7. You can access your web application locally on the EC2 instance using curl localhost:8080 but not from your browser. What AWS setting is likely missing or misconfigured?

The **Security Group** inbound rule for port **8080 (HTTP alternate port)** is missing.
→ Add inbound rule:

Type: Custom TCP

Port: 8080

Source: 0.0.0.0/0

8. You have deployed your web app on EC2 successfully, but after shutting down your local Wi-Fi and reconnecting, the public IP changed and the app is not opening. What AWS feature helps avoid this issue?

Use an **Elastic IP (EIP)**.
It's a static public IP that remains the same even after stopping or restarting the EC2 instance.

9. You want to automate deployment of your index.html whenever you restart the EC2 instance. Which EC2 feature can be used to run commands automatically during instance setup?

Use **User Data scripts**.
Example:

```
#!/bin/bash

yum install httpd -y

systemctl start httpd

systemctl enable httpd

echo "Welcome" > /var/www/html/index.html
```

10. Your Maven application needs external dependencies during build but EC2 has no internet. What AWS service or change can allow the EC2 instance to download dependencies securely?

Answer:
Use a **NAT Gateway** (or **NAT Instance**) inside a public subnet, so private EC2 instances can access the internet securely to download Maven dependencies.

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(AZEEMA FIRDOUS)