ASSIGNMENT – 4

Cloud Computing Practical Assignment No 4
Working and Implementation of Infrastructure as a service

Task 1: Launch Your Amazon EC2 Instance. Write the shell script in User Data box. The script will: • Install an Apache web server (httpd) • Configure the web server to automatically start on boot • Run the Web server once it has finished installing • Create a simple web page

Task 2: Monitor Your Instance

Task 3: Update Your Security Group and Access the Web Server Task

4: Resize Your Instance: Instance Type and EBS Volume

Task 5: Test Termination Protection

Task 1: Launch Your Amazon EC2 Instance

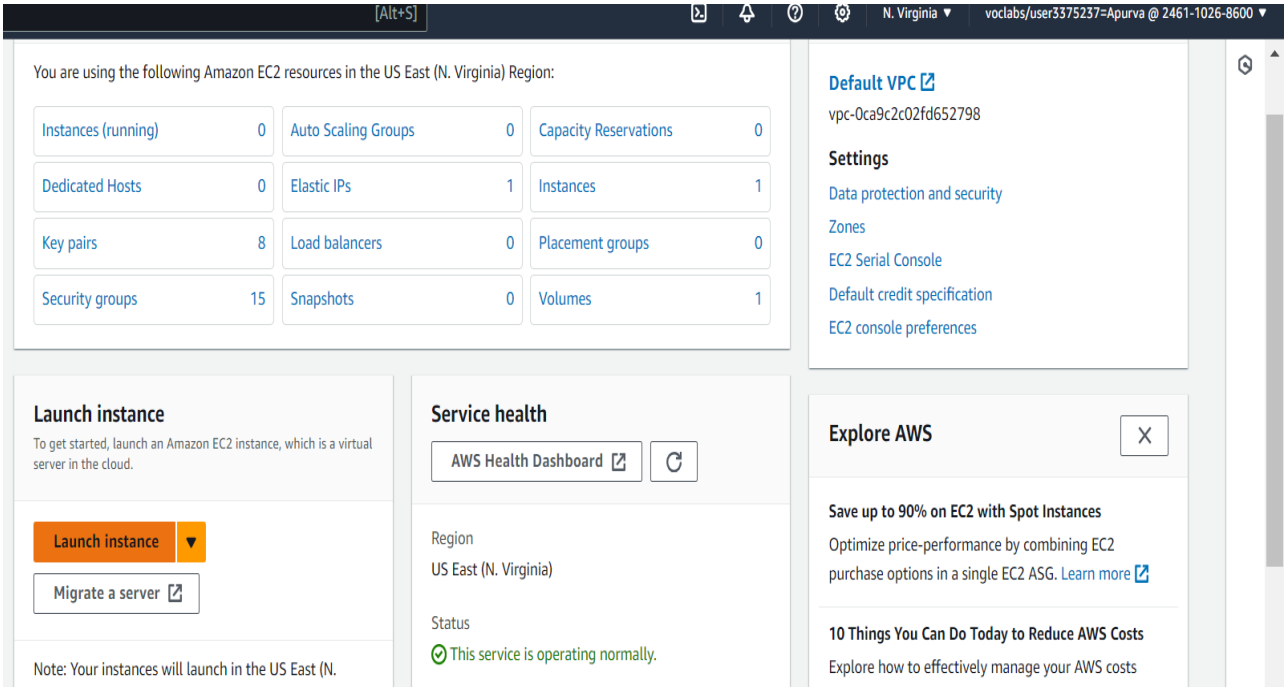
1.Open EC2 Console:

- Go to AWS Management Console, choose Services, then Compute, and select EC2.

- Ensure the region is set to N. Virginia (us-east-1).

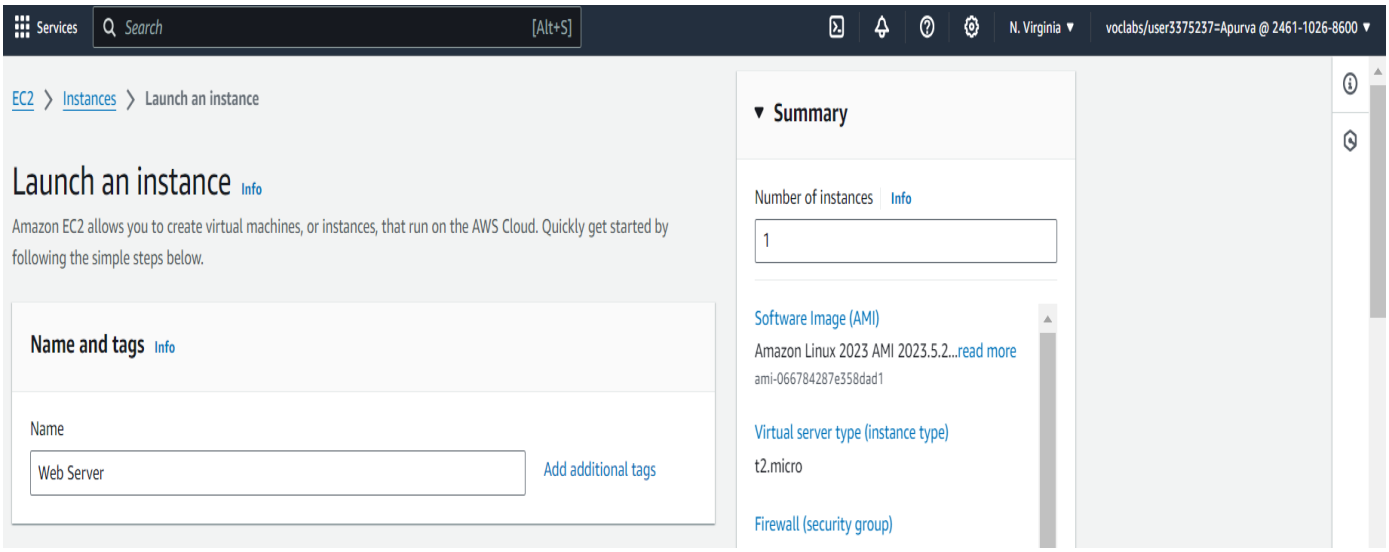
2. Launch Instance:

- Click Launch instance, then choose Launch instance.



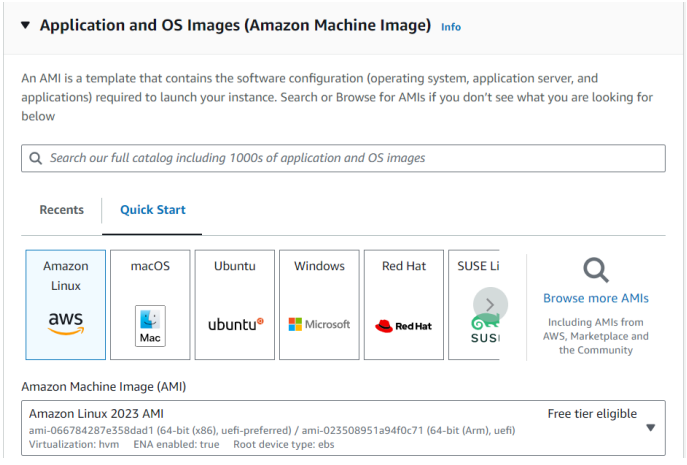
3. Name and Tags:

- Name the instance Web Server (this will create a tag with the key `Name` and value `Web Server`).



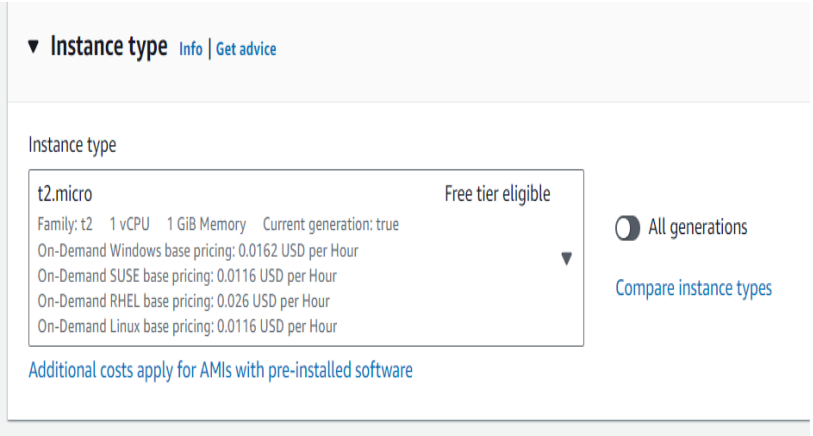
4. Select AMI:

- In Application and OS Images (AMI), keep the default Amazon Linux 2023 AMI selected.



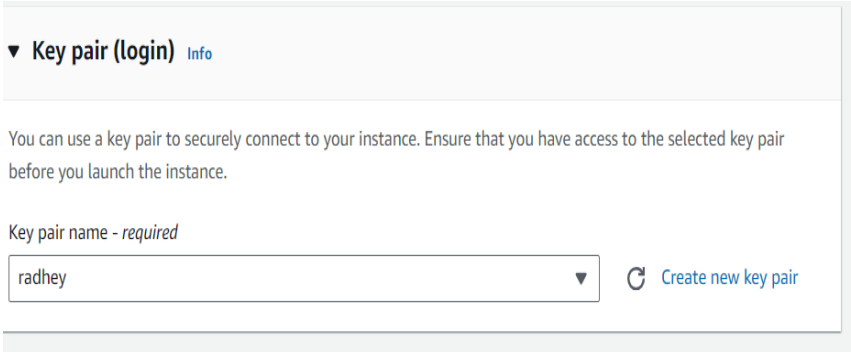
5. Select Instance Type:

- In Instance type, keep the default t2.micro selected.



6. Configure Key Pair:

- In Key pair (login), select radhey as the key pair.



7. Network Settings:

- Under Firewall (security groups), select Create security group.

- Name it Web Server security group with a description Security group for my web server.

- Remove any default inbound rules.

8. Configure Storage:

- In Configure storage, keep the default 8 GiB disk volume.

9. Advanced Details:

- Expand Advanced details.

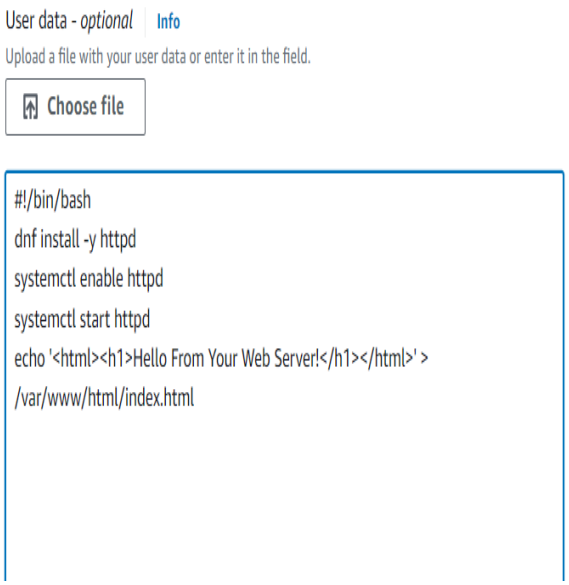
- Enable Termination protection.

- Copy and paste the following script in the User data box:

```
#!/bin/bash
dnf install -y httpd
systemctl enable httpd
```

systemctl start httpd

echo '<html><h1>Hello From Your Web Server!</h1></html>' > /var/www/html/index.html

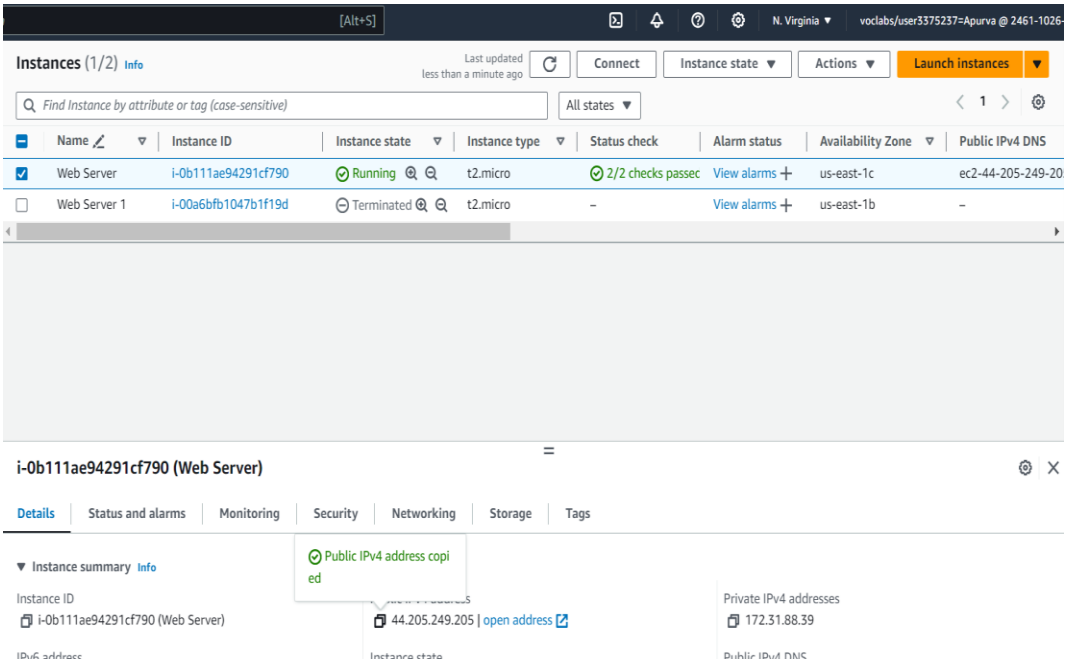


10. Launch Instance:

- Scroll down and click Launch instance.

- Once launched, click View all instances and select Web Server.

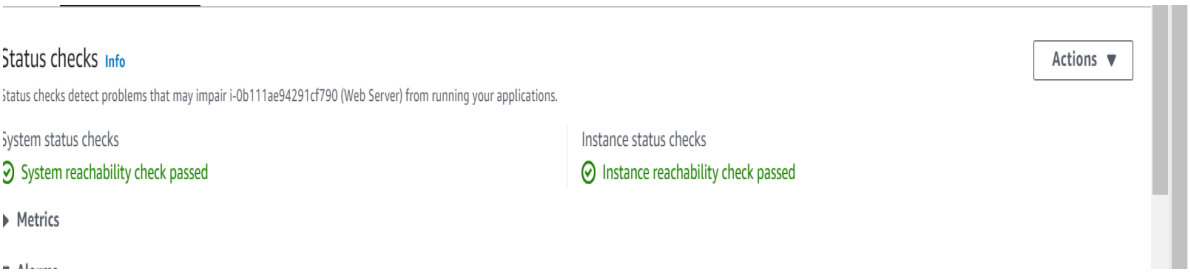
- Wait until the instance state is Running with 2/2 status checks passed.



Task 2: Monitor Your Instance

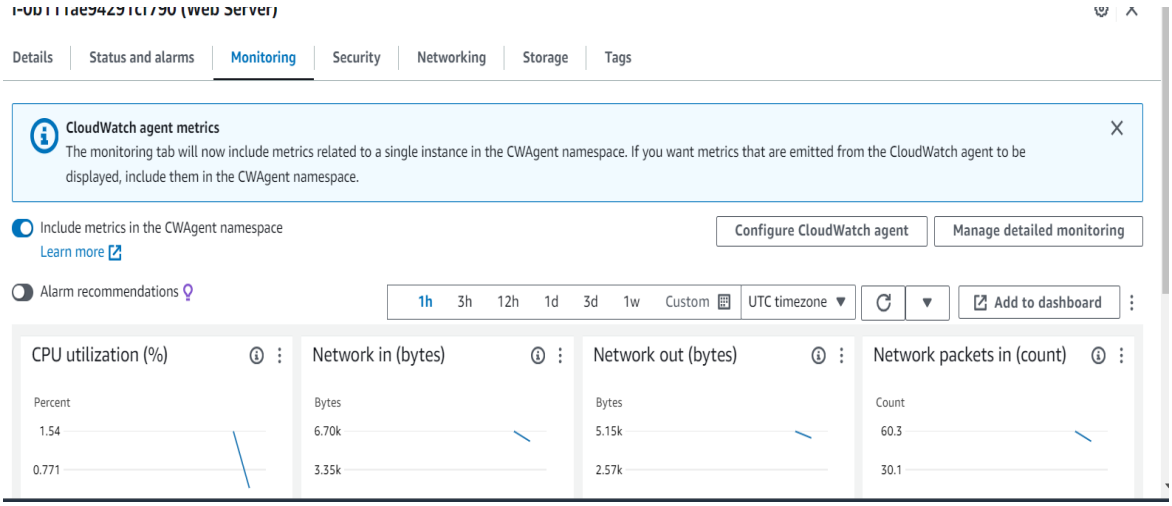
1. Status Checks:

- Select the Status checks tab to verify that System reachability and Instance reachability checks have passed.



2. Monitoring:

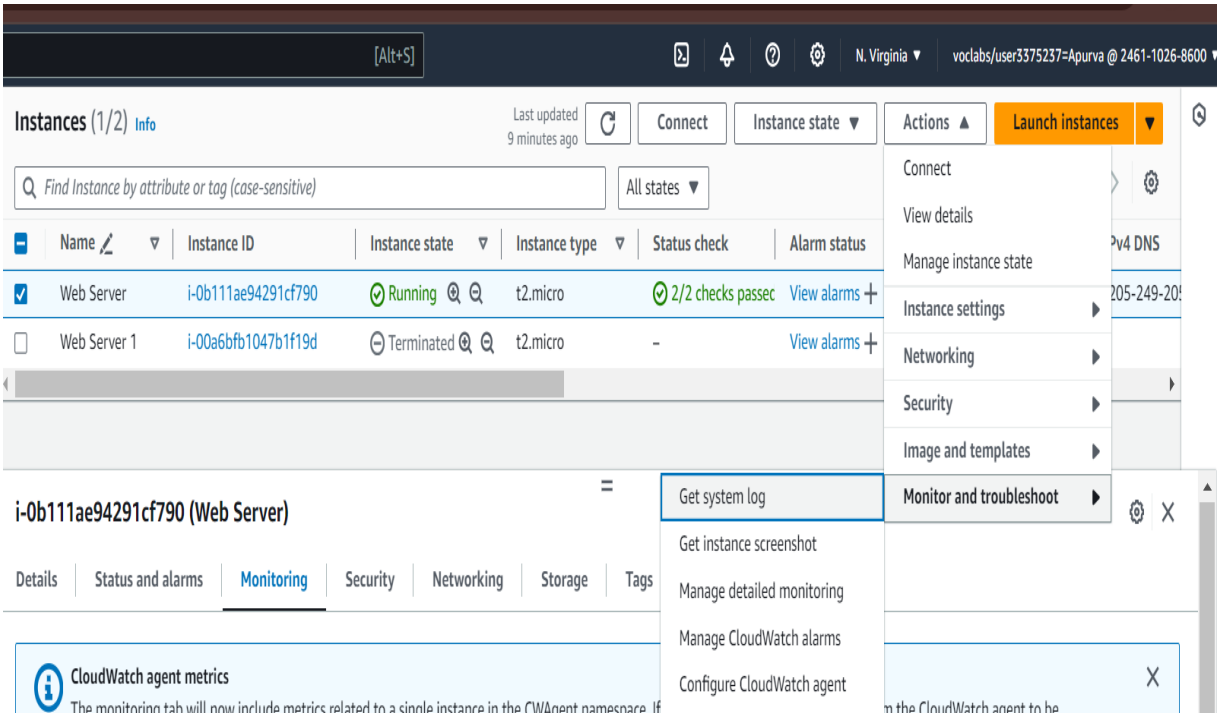
- Select the Monitoring tab to view Amazon CloudWatch metrics for your instance.

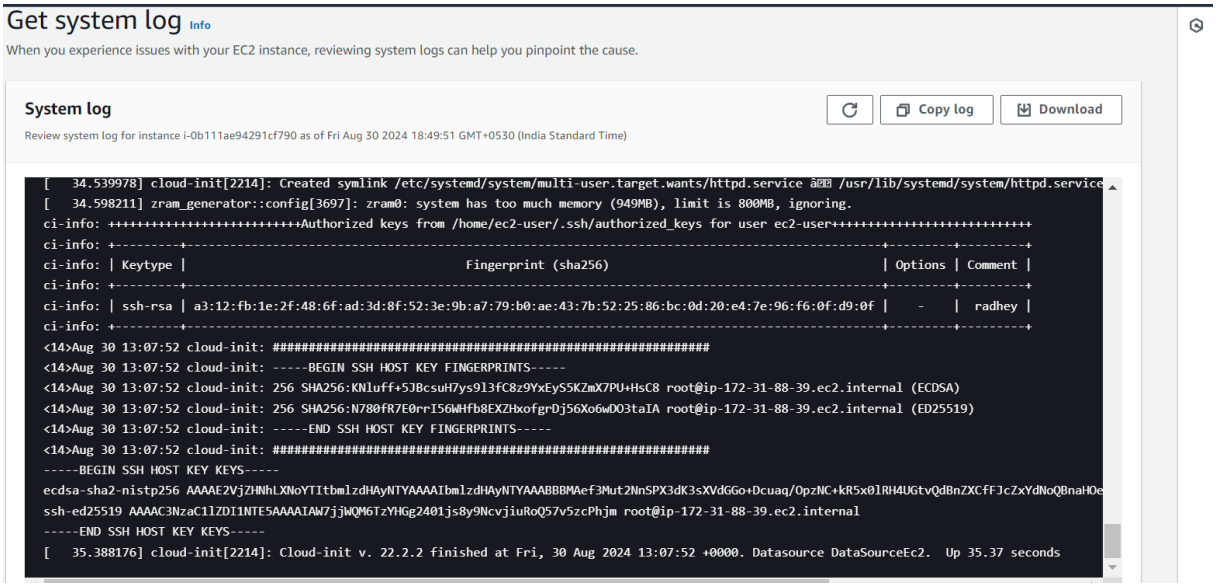


3. System Log:

- In the Actions menu, select Monitor and troubleshoot > Get system log.

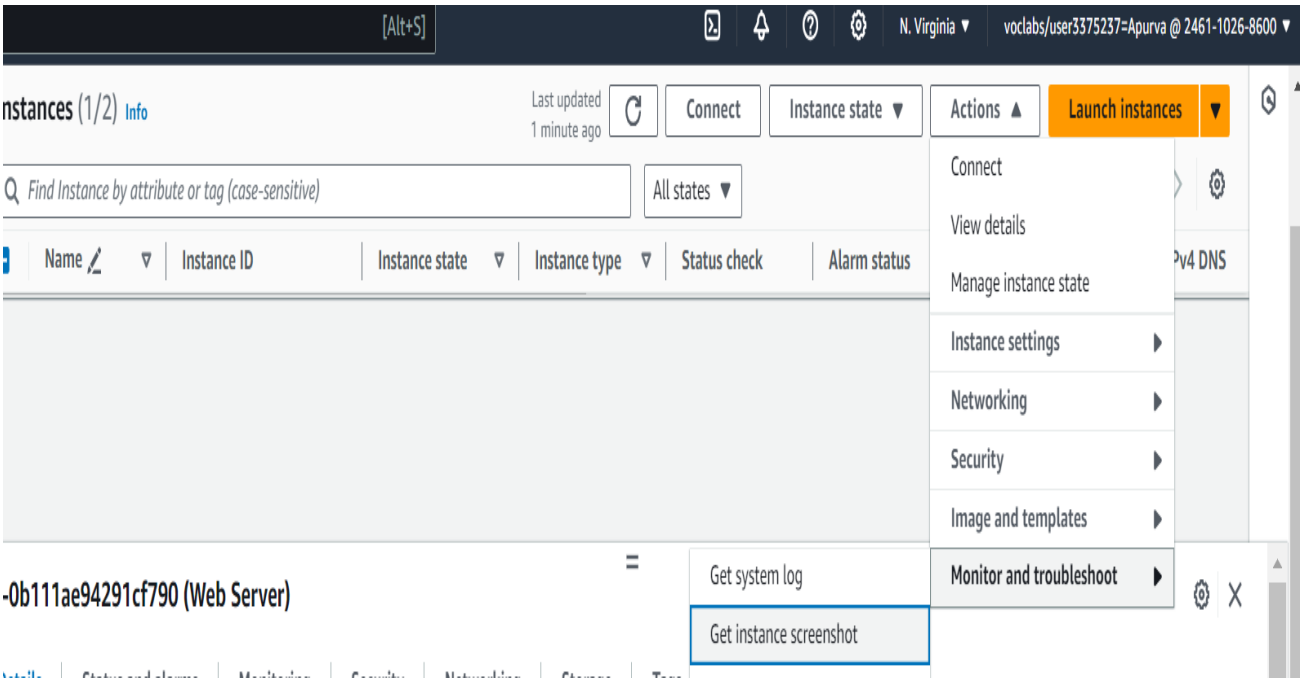
- Scroll through the output to confirm that the HTTP package was installed.





4. Instance Screenshot:

- In the Actions menu, select Monitor and troubleshoot > Get instance screenshot to view the instance console.



Task 3: Update Your Security Group and Access the Web Server

1. Copy Public IP:

   - In the Details tab, copy the instance's Public IPv4 address.

2. Test Web Server Access:

   - Open a new browser tab, paste the copied IP, and press Enter.

   - Confirm that you cannot access the server yet.

3. Update Security Group:

   - Go back to the EC2 Console, choose Security Groups in the left pane.

   - Select Web Server security group.

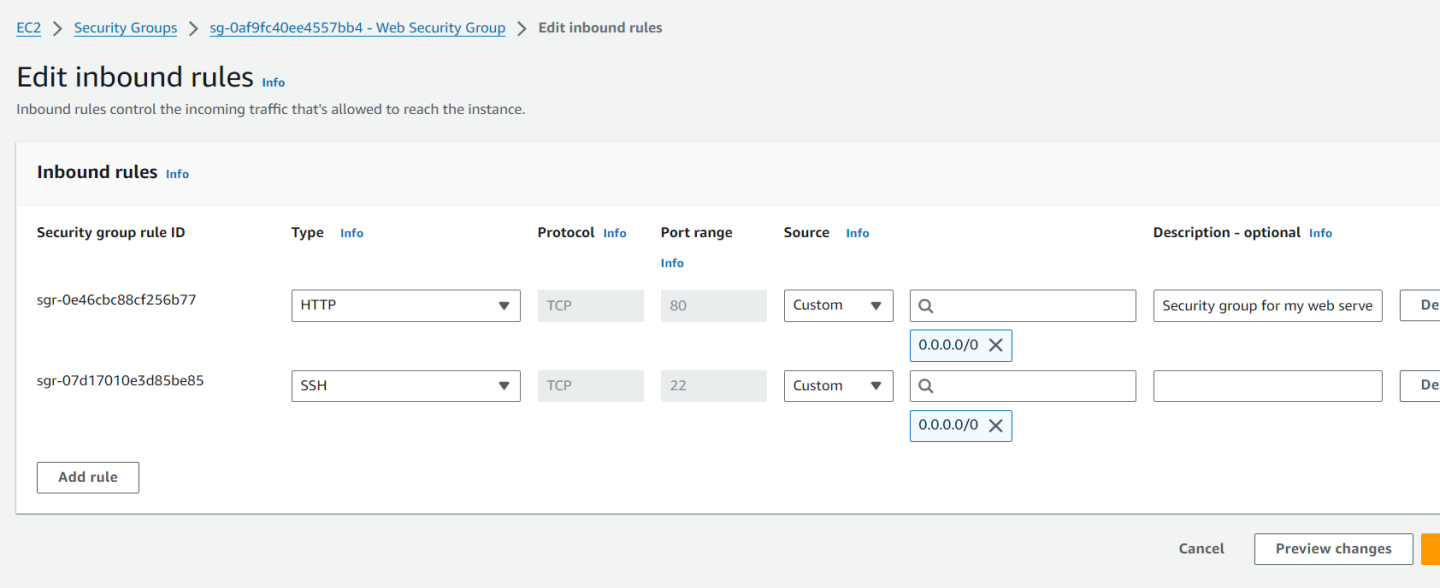
   - In the Inbound rules tab, click Edit inbound rules.

   - Add a rule:

- Type:HTTP

- Source: Anywhere-IPv4

- Save the rules.



4. Access Web Server:

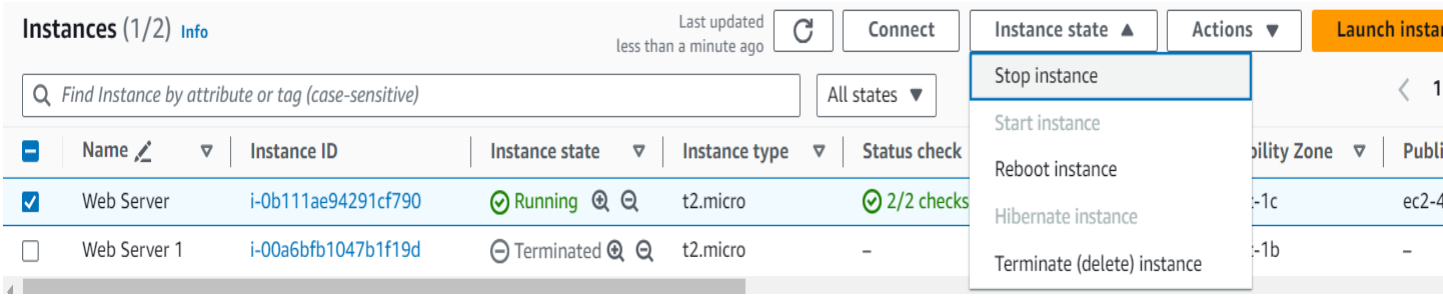
- Return to the web server tab in your browser and refresh the page.

- You should now see the message "Hello From Your Web Server!".

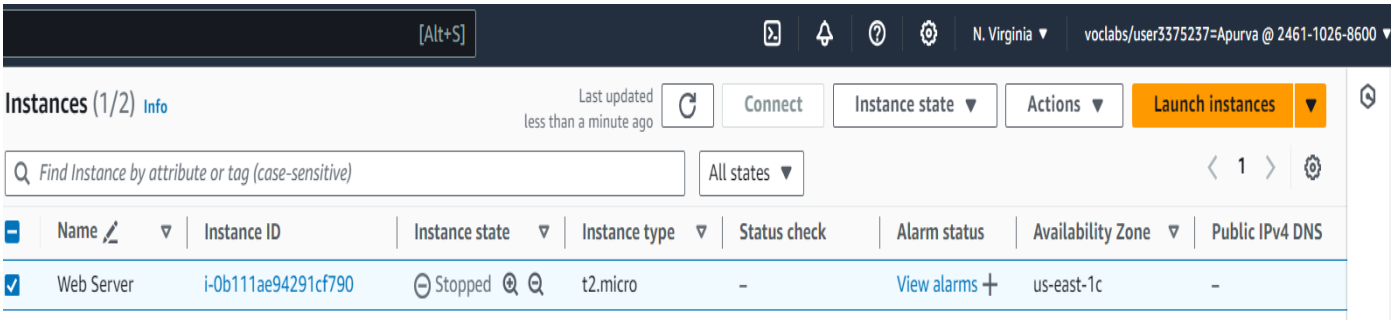
Task 4: Resize Your Instance: Instance Type and EBS Volume

1. Stop the Instance:

- Select the Web Server instance.



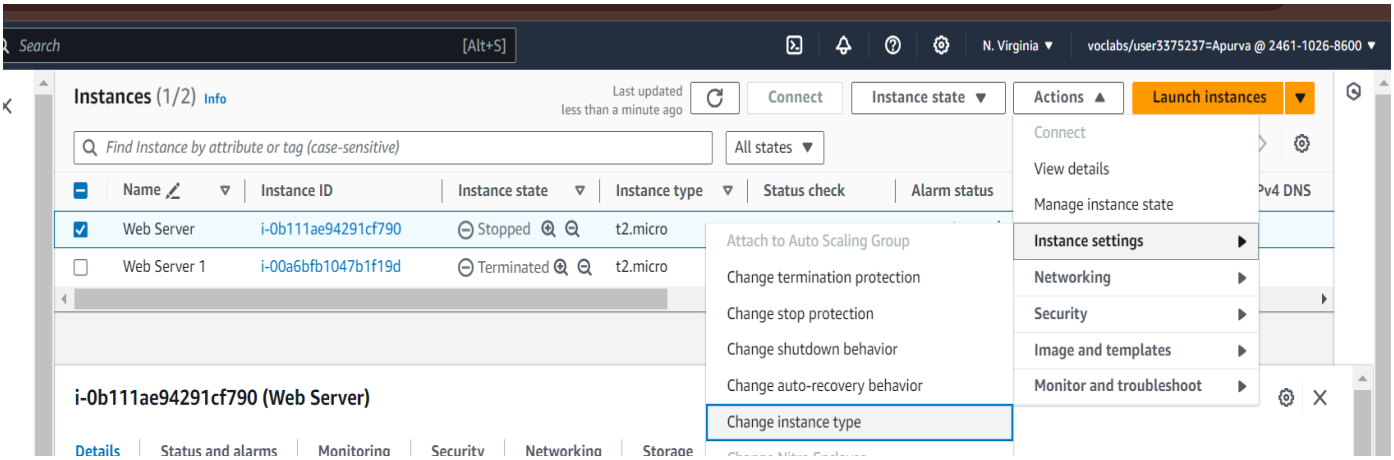
- In the Instance state menu, choose Stop instance and confirm the action.



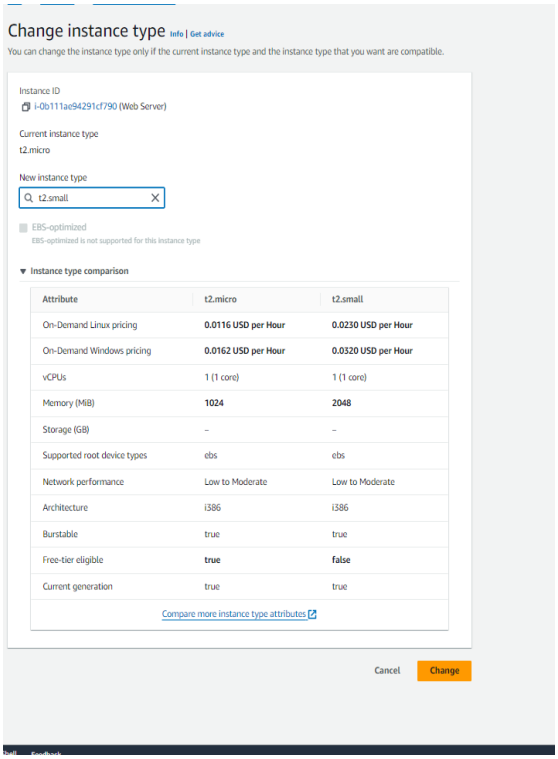
2. Change Instance Type:

- Once the instance is stopped, go to the Actions menu.

- Select Instance settings > Change instance type.

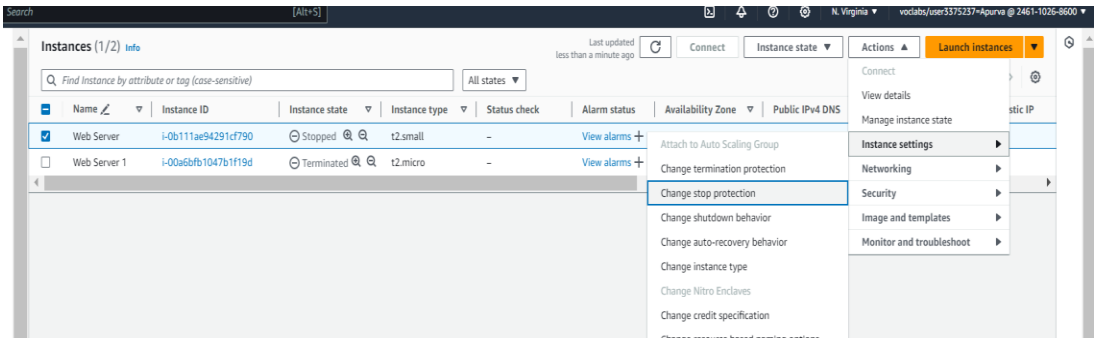


- Change Instance Type to t2.small and click Apply.

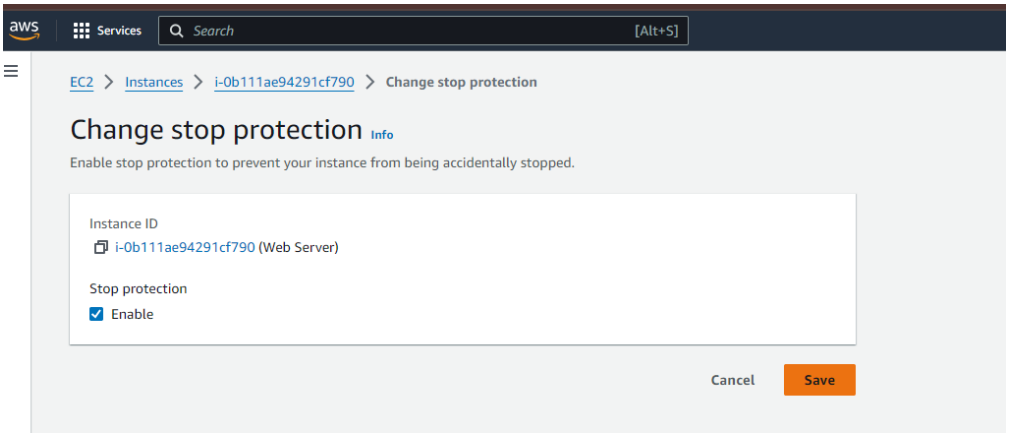


3. Enable Stop Protection:

- In the Actions menu, select Instance settings > Change stop protection.



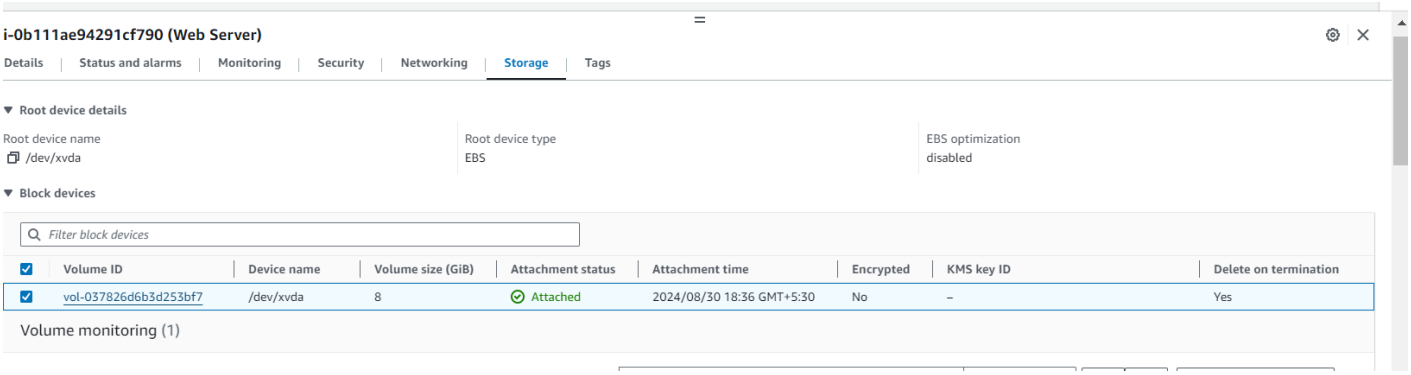
- Enable stop protection and save the changes.



4. Resize EBS Volume:

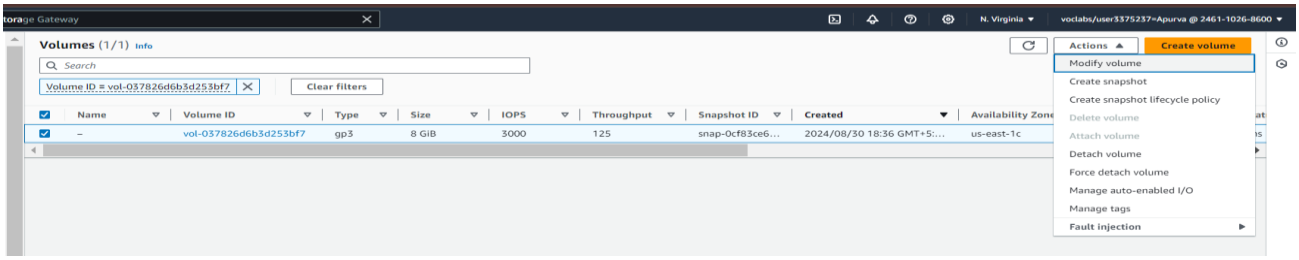
- With the instance still selected, go to the Storage tab.

- Click on the Volume ID to view volumes, then check the volume.



- In the Actions menu, select Modify volume.

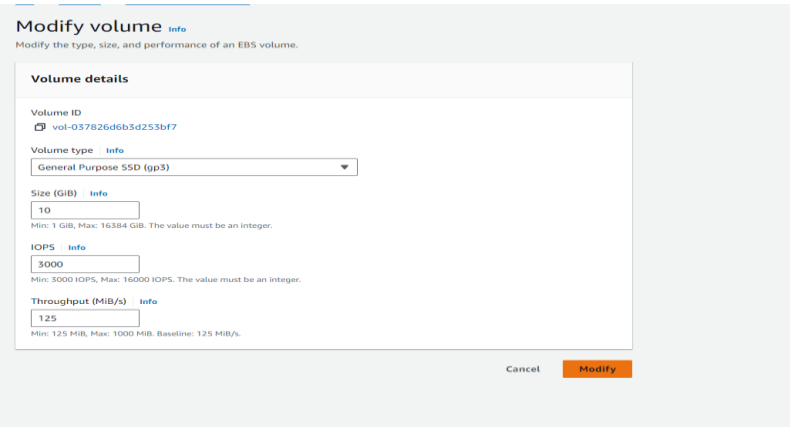
- Change the size to 10 GiB and confirm the modification.



5. Start the Resized Instance:

- Go back to Instances in the left pane.

- Select the Web Server instance, then choose Start instance from the Instance state menu.



Task 5: Test Stop Protection

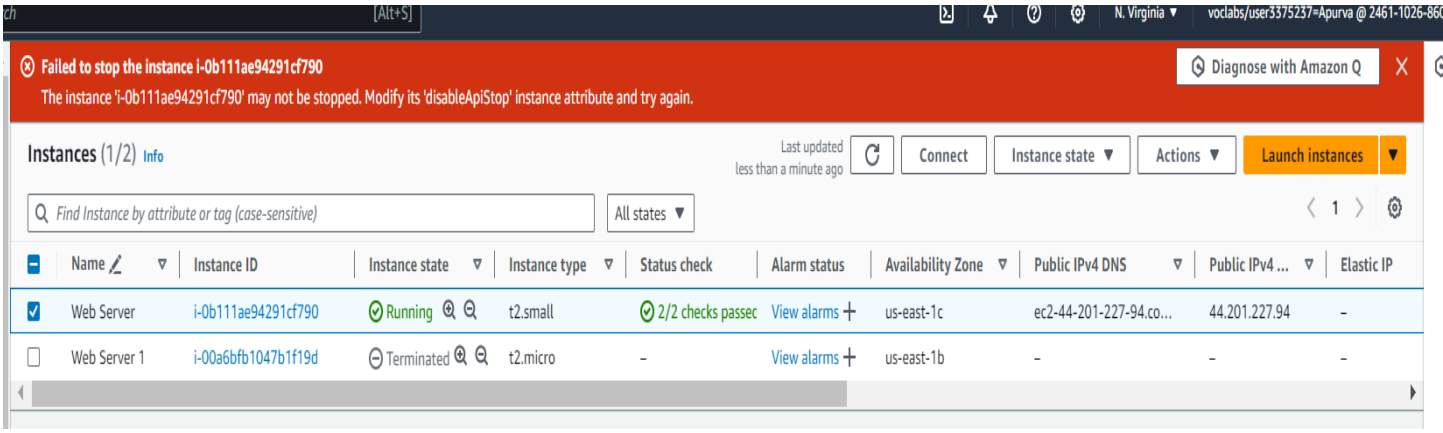
1. Attempt to Stop Instance:

   - In the EC2 Console, select Web Server.

   - From the Instance state menu, choose Stop instance.

2. Observe Error:

   - You will see a message indicating that the instance cannot be stopped due to enabled stop protection.



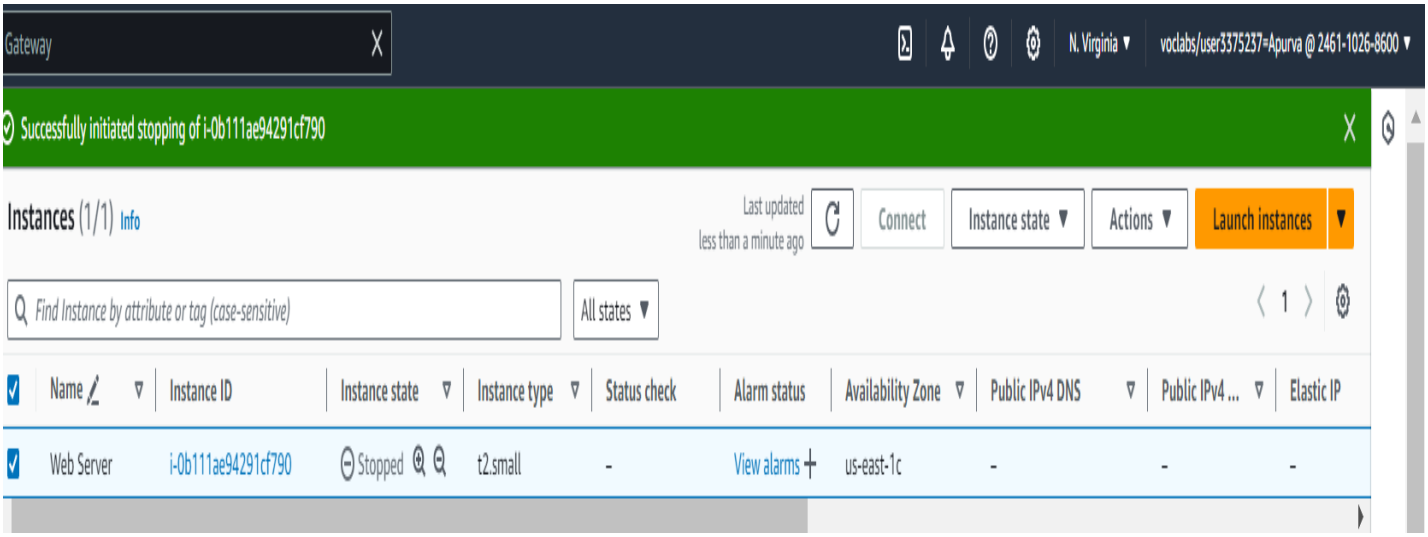
3. Disable Stop Protection:

- In the Actions menu, select Instance settings > Change stop protection.

- Disable stop protection and save.

4. Stop the Instance:

- Again, select Stop instance from the Instance state menu to successfully stop the instance.


Gateway
N. Virginia
voclabs/user3375237=Apurva @ 2461-1026-8600
Successfully initiated stopping of i-0b111ae94291cf790
Instances (1/1) Info
Last updated less than a minute ago
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
1
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Public IPv4 DNS
Public IPv4 ...
Elastic IP
Web Server
i-0b111ae94291cf790
Stopped
t2.small
-
View alarms
us-east-1c
-
-
-