

CLOUD COMPUTING – UE20CS351

SRN : PES1UG20CS825

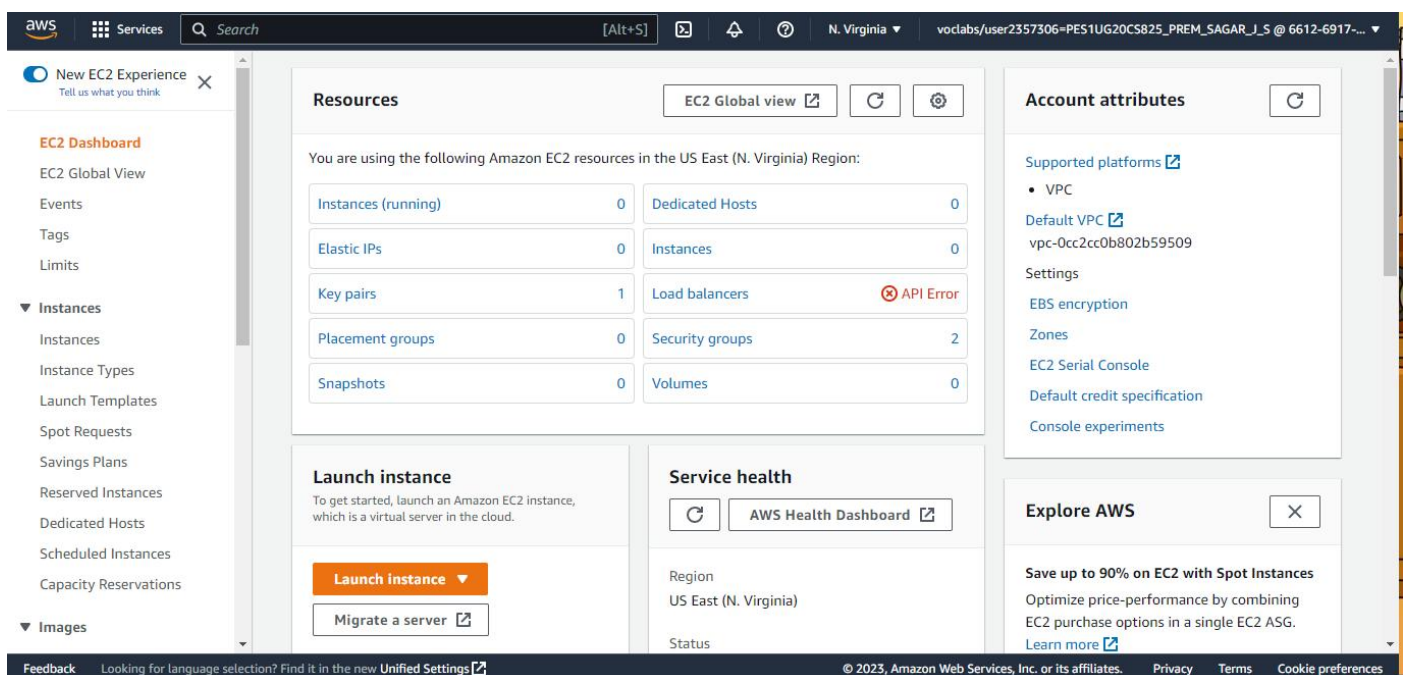
NAME : PREM SAGAR J S

SEC : 'H'

Lab Assignment - 1

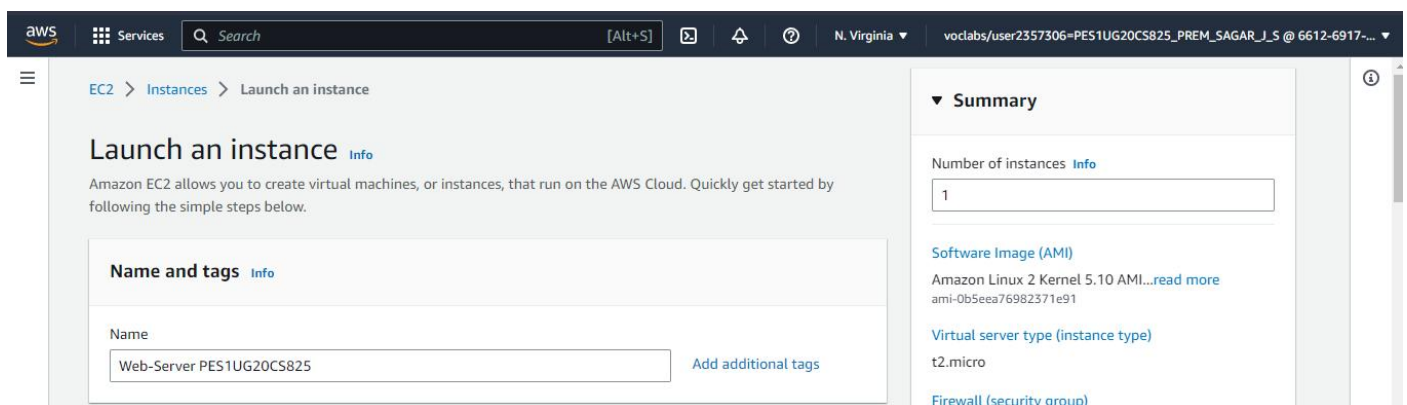
Introduction to AWS EC2 (Elastic Compute Cloud)

Task 1: Launching your EC2 instance



The screenshot shows the AWS Management Console for the 'US East (N. Virginia)' region. The left sidebar contains the 'EC2 Dashboard' and a list of resources including 'Instances', 'Launch Templates', 'Spot Requests', 'Savings Plans', 'Reserved Instances', 'Dedicated Hosts', 'Scheduled Instances', 'Capacity Reservations', and 'Images'. The main content area is titled 'Resources' and shows a table of EC2 resources in the 'US East (N. Virginia)' region. The table lists 'Instances (running)' (0), 'Elastic IPs' (0), 'Key pairs' (1), 'Placement groups' (0), 'Snapshots' (0), 'Dedicated Hosts' (0), 'Instances' (0), 'Load balancers' (1 with an API Error), 'Security groups' (2), and 'Volumes' (0). Below the table, there is a 'Launch instance' button and a 'Migrate a server' button. The right sidebar shows 'Account attributes' and 'Service health'.

Step 1: Name your EC2 instance



The screenshot shows the 'Launch an instance' page in the AWS Management Console. The page is titled 'Launch an instance' and includes a 'Summary' section. The 'Summary' section contains the following information: 'Number of instances' (1), 'Software Image (AMI)' (Amazon Linux 2 Kernel 5.10 AMI), 'Virtual server type (instance type)' (t2.micro), and 'Firewall (security group)'. The 'Name and tags' section shows the instance name 'Web-Server PES1UG20CS825'.

Step 2: Choose an Amazon Machine Image (AMI)

Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Quick Start

Amazon Linux macOS Ubuntu Windows Red Hat S

Browse more AMIs
Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type
ami-0b5eea76982371e91 (64-bit (x86)) / ami-03a45a5ac837f33b7 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

Description

Amazon Linux 2 Kernel 5.10 AMI 2.0.20221210.1 x86_64 HVM gp2

Summary

Number of instances Info
1

Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
ami-0b5eea76982371e91

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Cancel Launch instance

Step 3: Choose an instance type

Instance type Info

Instance type

t2.micro Free tier eligible
Family: t2 1 vCPU 1 GiB Memory
On-Demand Linux pricing: 0.0116 USD per Hour
On-Demand Windows pricing: 0.0162 USD per Hour

Compare instance types

Summary

Number of instances Info
1

Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more

Step 4: Configure a key pair

Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - required

Proceed without a key pair (Not recommended) Default value

Create new key pair

Step 5: Configure the network settings

The screenshot shows the 'Configure network settings' step in the AWS console. The left pane contains the following settings:

- VPC - required**: vpc-0bed3db2cb19a0cc4 (Lab VPC) 10.0.0.0/16
- Subnet**: subnet-0d792fddd9afcfaa9 (Public Subnet 1) VPC: vpc-0bed3db2cb19a0cc4 Owner: 661269174208 Availability Zone: us-east-1a IP addresses available: 251 CIDR: 10.0.1.0/24
- Auto-assign public IP**: Enable
- Firewall (security groups)**: ☒ Create security group ☐ Select existing security group
- Security group name - required**: launch-wizard-1
- Description - required**: (empty)

The right pane shows the 'Summary' section with the following details:

- Number of instances**: 1
- Software Image (AMI)**: Amazon Linux 2 Kernel 5.10 AMI...read more ami-0b5eea76982371e91
- Virtual server type (instance type)**: t2.micro
- Firewall (security group)**: New security group
- Storage (volumes)**: 1 volume(s) - 8 GiB

At the bottom right, there are 'Cancel' and 'Launch instance' buttons.

Step 6: Add storage

The screenshot shows the 'Configure storage' step in the AWS console. The main configuration area shows:

- 1x** 8 GiB gp2 Root volume (Not encrypted)

Below this, there is a blue information banner that reads: "Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage".

There is an 'Add new volume' button. At the bottom, it shows '0 x File systems' with an 'Edit' link.

Step 7: Configure advanced details

The screenshot shows the 'Configure advanced details' step in the AWS console. The 'Termination protection' setting is set to 'Enable'.

User data [Info](#)

```
#!/bin/bash
yum -y install httpd
systemctl enable httpd
systemctl start httpd
echo '<html><h1>Hello From Your Web Server PES1UG20CS825!</h1></html>' >
/var/www/html/index.html
```

Step 8: Launch an EC2 instance

▼

voclabs/user2357306=PES1UG20CS825_PREM_SAGAR_J_S @ 6

▼ Summary

Number of instances [Info](#)

Software Image (AMI)

Amazon Linux 2 Kernel 5.10 AMI...[read more](#)
ami-0b5eea76982371e91

Virtual server type (instance type)

t2.micro

Firewall (security group)

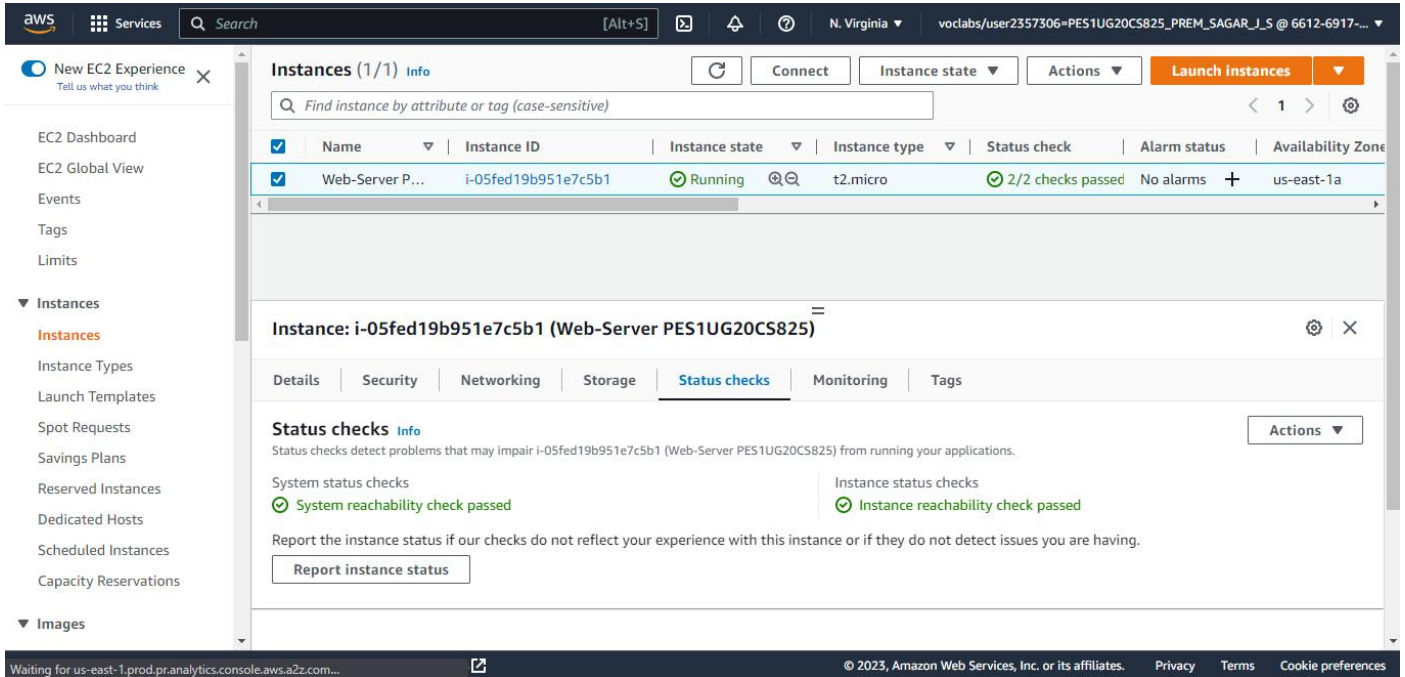
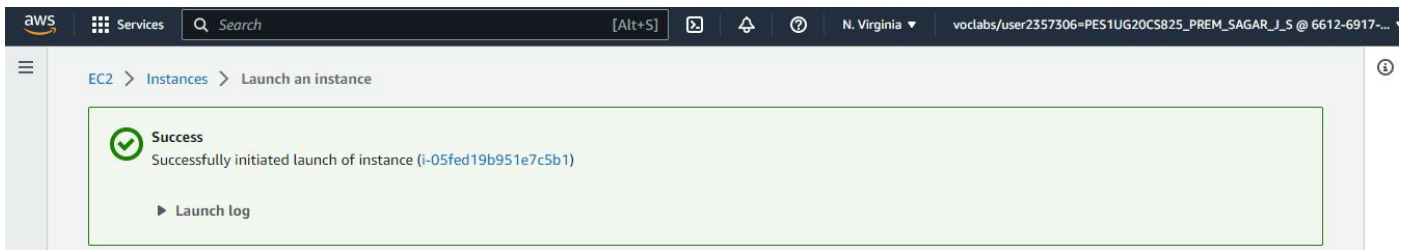
New security group

Storage (volumes)

1 volume(s) - 8 GiB

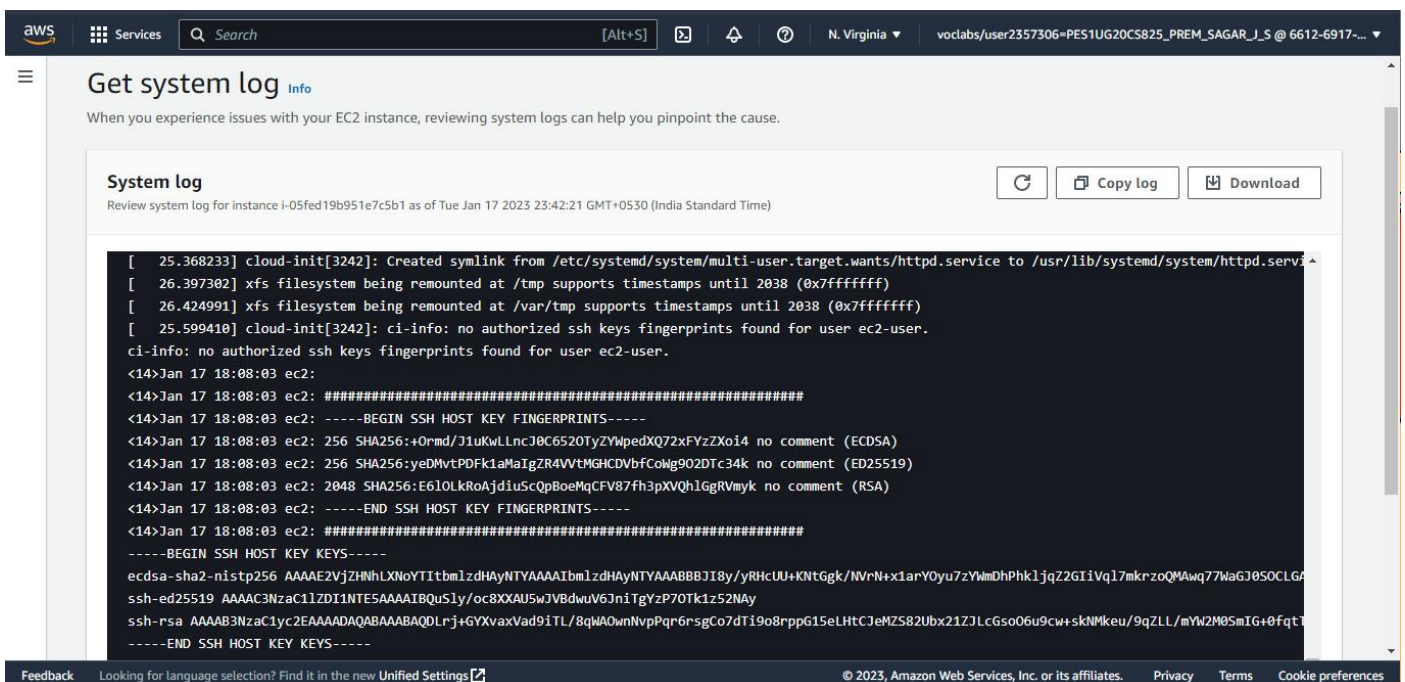
Cancel

Launch instance

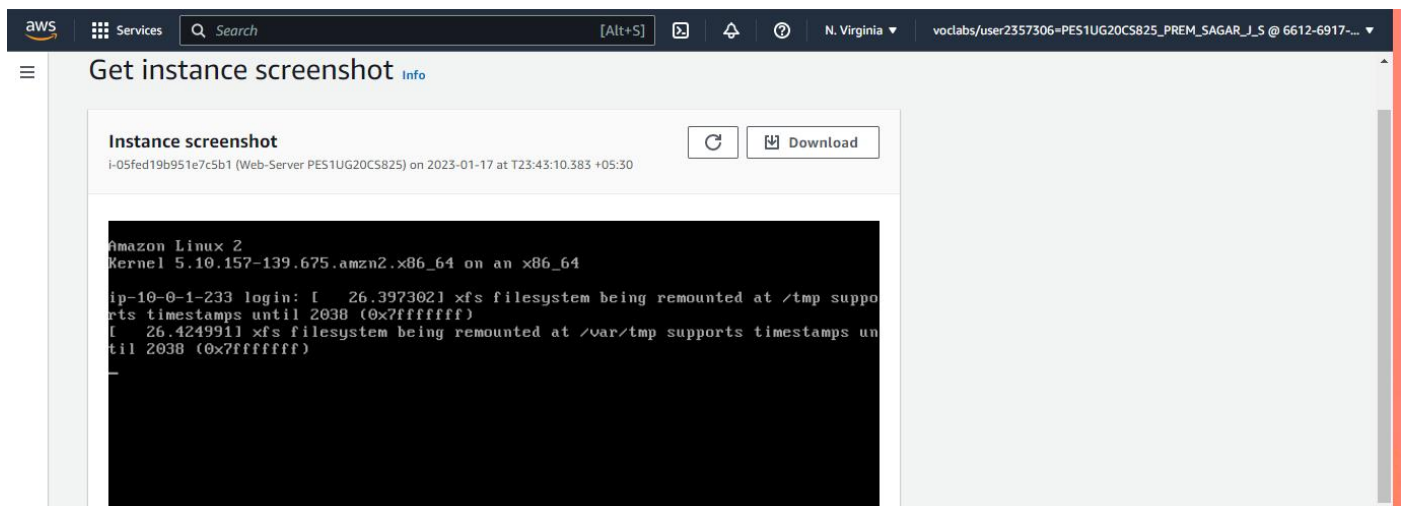


Task 2: Monitoring your instance

Getting the system log

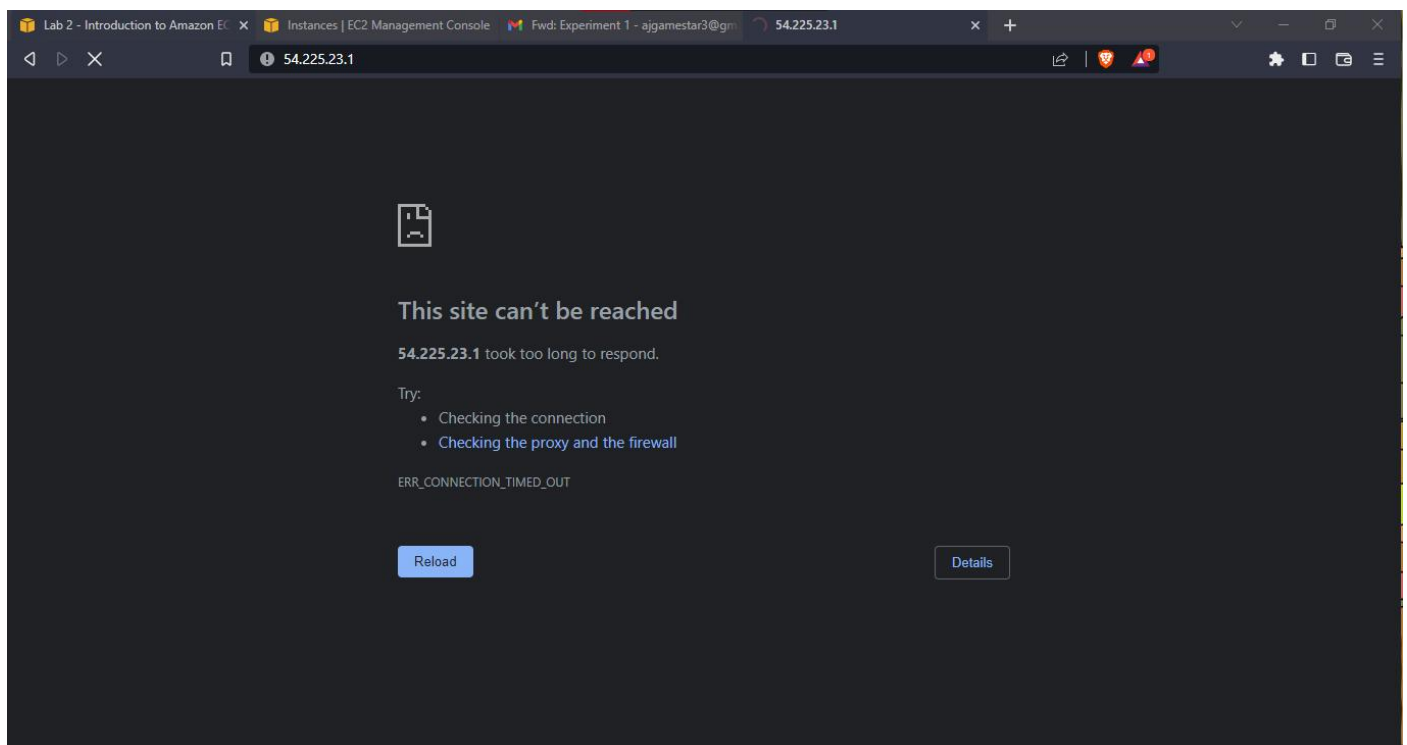


Getting the instance screenshot



Task 3: Updating your security group and accessing the web server

In your web browser, open a new tab, paste the IP address that you just copied, and then press Enter.

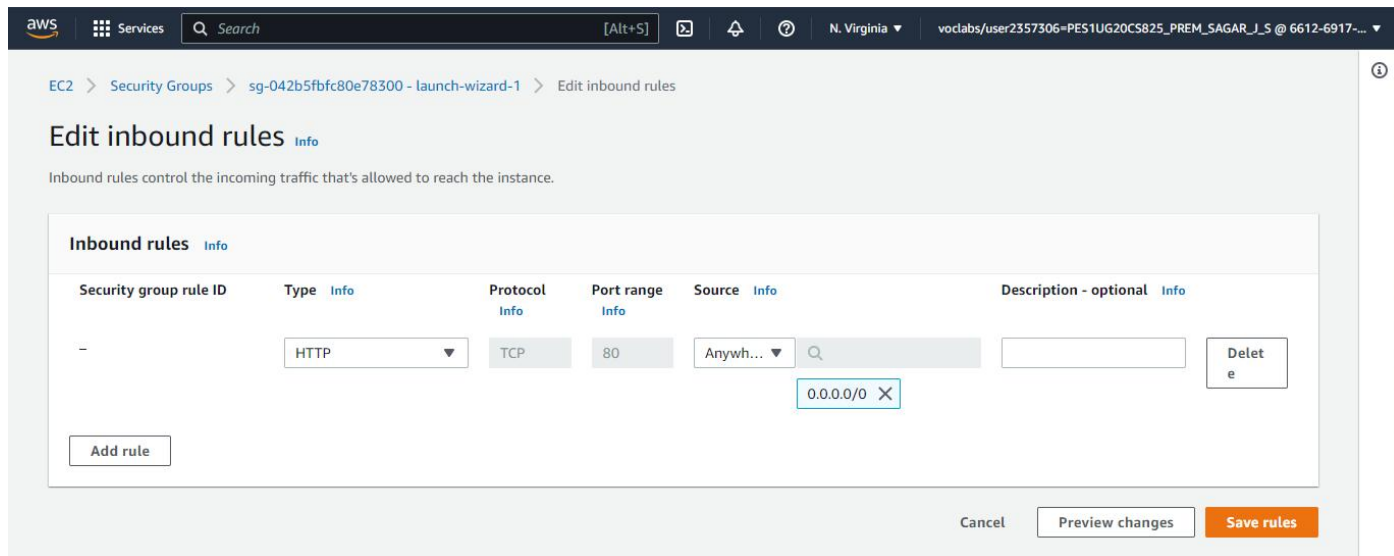


Question: Are you able to access your web server? Why not?

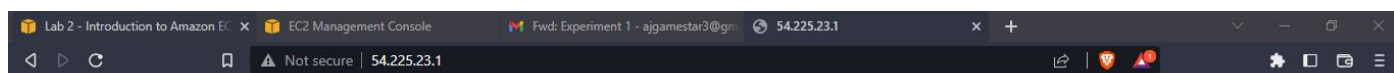
You are not currently able to access your web server because the security group is not permitting inbound traffic on port 80, which is used for HTTP web requests. This is a

demonstration of how to use a security group as a firewall to restrict the network traffic that is allowed in and out of an instance.

Adding Inbound Rules



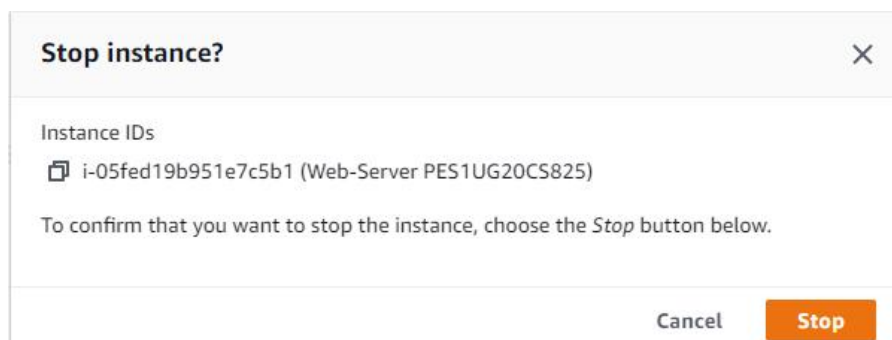
Accessing the Public IP after adding inbound rule



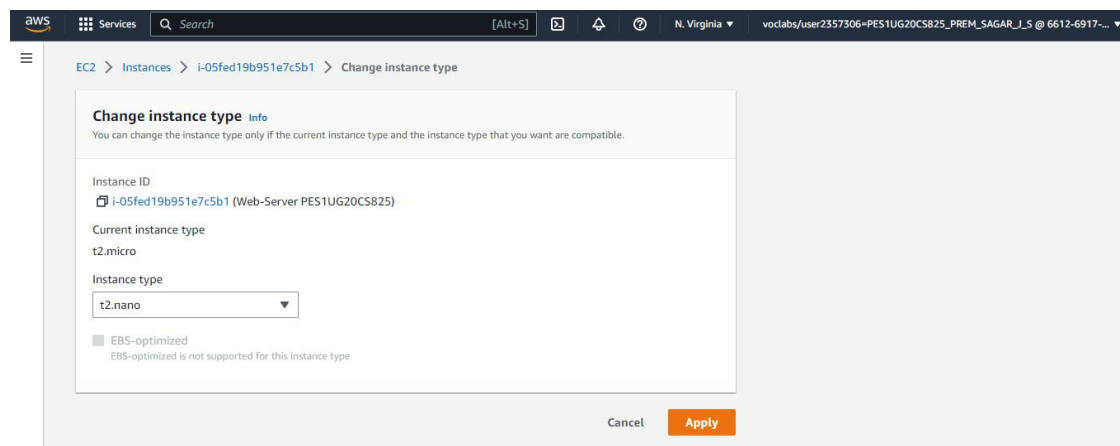
Hello From Your Web Server PES1UG20CS825!

Task 4: Re-sizing your instance – instance type and EBS volume

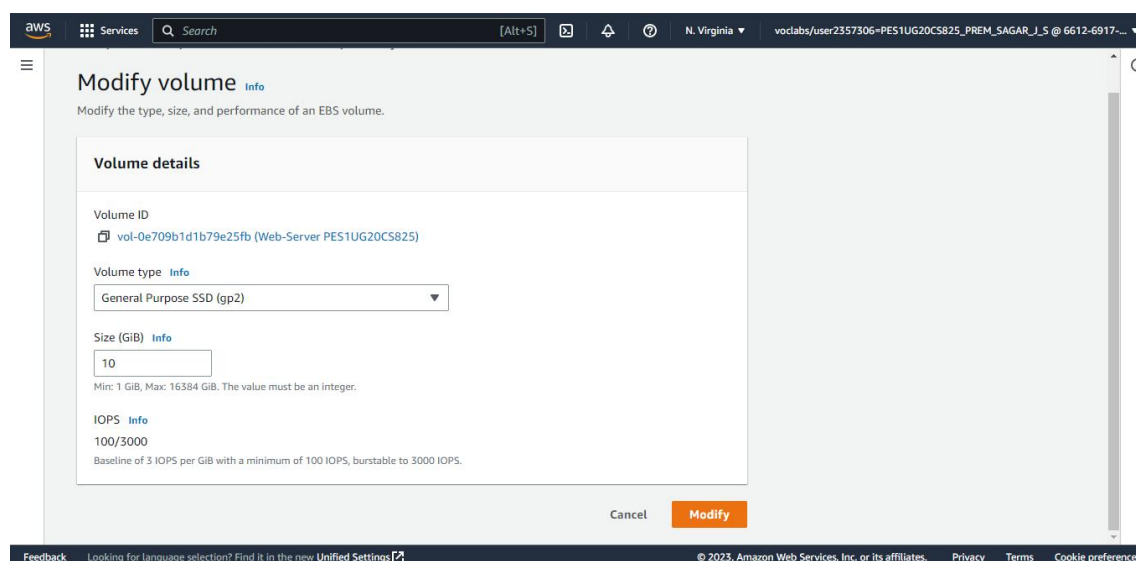
Stop your instance



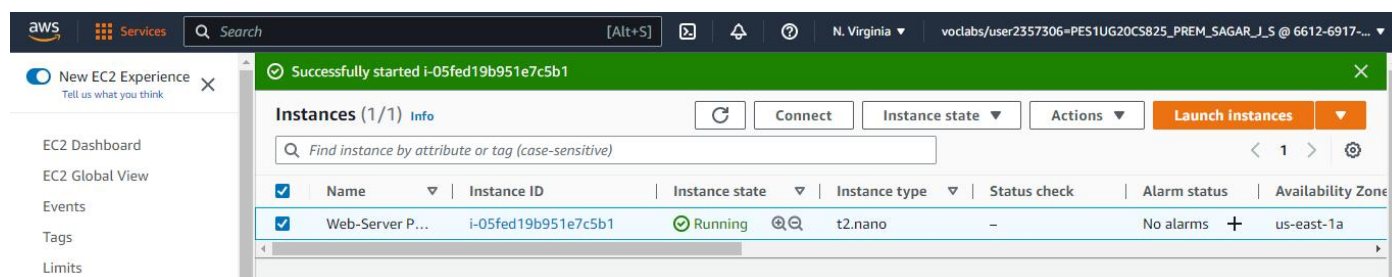
Change the instance type



Resize the EBS volume



Start the resized instance



Task 5: Exploring EC2 limits

Exploring the EC2 Limits

The screenshot shows the AWS Limits console. The left sidebar contains navigation links: EC2 Dashboard, EC2 Global View, Events, Tags, Limits (selected), Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Scheduled Instances, Capacity Reservations, and Images. The main panel displays a table of limits.

Name	Limit type	Current limit	Description
Running R3 Dedicated Hosts	Dedicated Hosts	1	—
Running R4 Dedicated Hosts	Dedicated Hosts	1	—
Running R5 Dedicated Hosts	Dedicated Hosts	1	—
Running M5N Dedicated H...	Dedicated Hosts	1	—
Running X2IDN Dedicated ...	Dedicated Hosts	0	—
Running M6A Dedicated H...	Dedicated Hosts	0	—
Running R6IN Dedicated H...	Dedicated Hosts	1	—
Running M6G Dedicated H...	Dedicated Hosts	1	—
Running X2GD Dedicated H...	Dedicated Hosts	1	—
Running P4D Dedicated Ho...	Dedicated Hosts	0	—
Running M6I Dedicated Hosts	Dedicated Hosts	0	—

Task 6: Testing termination protection

I'm not able to terminate instance because termination protection is on.

The screenshot shows the AWS Management Console 'Instances' page. A table lists instances, with one instance 'Web-Server P...' in the 'Running' state. A context menu is open over this instance, showing actions: Stop instance, Start instance, Reboot instance, Hibernate instance, and Terminate instance. The 'Terminate instance' option is disabled.

The screenshot shows an error message from AWS: "Failed to disable termination protection for instance i-05fed19b951e7c5b1". The message states: "You are not authorized to perform this operation. Encoded authorization failure message: tTOwHLakOSWuSuKXBk4dsvouFtCZewjKsFOJOYTUORaldpJw2EsXRC373B4zXjKgTME7rDqQI_ZGoOVlg1oh9-Mxdtf00qdDltvYGHVPrzVZF8i7XnXUEoB7Zi9uxT4rN2Q_DGKrQlcD102FoBAICs9D6rte3Hn4Bi_puls5izZYSCnHHYwX63ip2vMr6C3w5RzGI25oK14sTkoyEg80EcA_6GG_Kfxf531RWICfihx7ebPgHsLPN6NdHmje3oDvOHvw97M6EJa884OFI5v1eVBWlhcYx2DSnidjSoCvz59nsUGEpMUjNgUa6u1QXxgXQTyO4_rzJXmM1ZpyYigk0NKuDUXrqSsOUT35PhrGe2FGxtqt0jSf80w-zJz3rV6bZUFBIT5UheUaFsRmRAYW2V1JoVoWq5P3E2IDAbJoEFWfs88zgYi1FfzsHAQRGI1-b3fPi19F-5l76ul8ei24FMT4fiwAad93r1VjmqCJnBjQV41VB2Aga51kr9jyFdG33tZTbn7AjlG8pvsOUZzMBzfumk0k140cEjrUZDt8Kz_ppWUJ0mok9MHwrRCWyZXOLXuGDFz7lFVsuJdEvxVJlZvDV3tK7oFDDOM_-lHHZdseEqAVdXVUyusaUwRP-HDSikm4MFEUjh_S-rEZIIS9931Q2schdGkKwKUZw_tyTSbDYyEvM6olliEwopawQuAhMoXYOLkc7EGGhn5D0vUxGmg3KxDUJ67x8AsrdB7EHDuVStLaK3NsQAHFK09ZK34sGYkQwGwpxm1e3D7xkhxZdUEDJoay2v-H9K5C-xKQuxygOXTpXNn5p5-2NuUHaGct0TOqTlnNLRApJfxUHUKAE3j8kYyqcC3QR4j_cwFJ4_Cjxxk8D2vAk21OD08awKOLF94TRhhDYeBWhidjRloPhXMJvBVSPgal4j5IShBAVvJYVZ4bLHKuhdu81zaXlZGhXXvGsyZGum2qEMHFQWv73dC5y20zwP9qe-_BztCW7GPw7X8S5qHhESxxx4CpEgKg56dUTnrY".

Turning off termination protection


Change termination protection

×

To prevent your instance from being accidentally terminated, you can enable termination protection for the instance. [Learn more](#)

Instance ID
i-05fed19b951e7c5b1 (Web-Server PES1UG20CS825)

Termination protection
☐ Enable



Termination protection disabled.
The instance is no longer protected against accidental termination. If the instance is terminated, data stored on ephemeral storage is lost.


Cancel

Save

Terminating Instance

Terminate instance?

×



On an EBS-backed instance, the default action is for the root EBS volume to be deleted when the instance is terminated. Storage on any local drives will be lost.

Are you sure you want to terminate these instances?

i-0d4559bfd4c42dc85 (Web-Server PES1UG20CS825)

To confirm that you want to terminate the instances, choose the terminate button below. Terminating the instance cannot be undone.

Cancel

Terminate

aws

Services

Search

[Alt+S]

N. Virginia

voclabs/user2357306+PES1UG20CS825_PREM_SAGAR_J_S @ 6921-9764...

New EC2 Experience

Tell us what you think

EC2 Dashboard

EC2 Global View

Events

Tags

Limits

Successfully terminated i-0d4559bfd4c42dc85

×

Instances (1/1) Info

Refresh

Connect

Instance state

Actions

Launch instances

Find instance by attribute or tag (case-sensitive)

< 1 >

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input checked="" type="checkbox"/>	Web-Server P...	i-0d4559bfd4c42dc85	Shutting-down	t2.nano	-	No alarms	us-east-1d