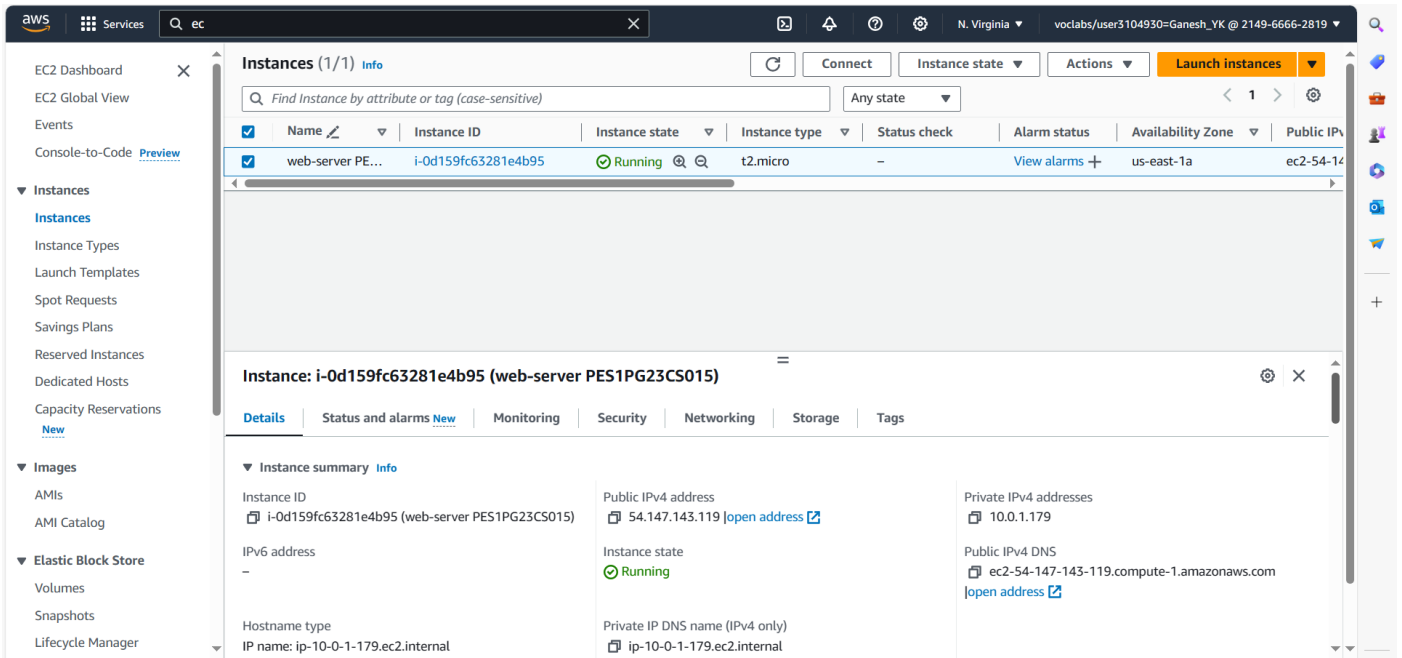


## Lab 2 – AWS EC2 Instance Deployment

**NAME:GANESH YK**

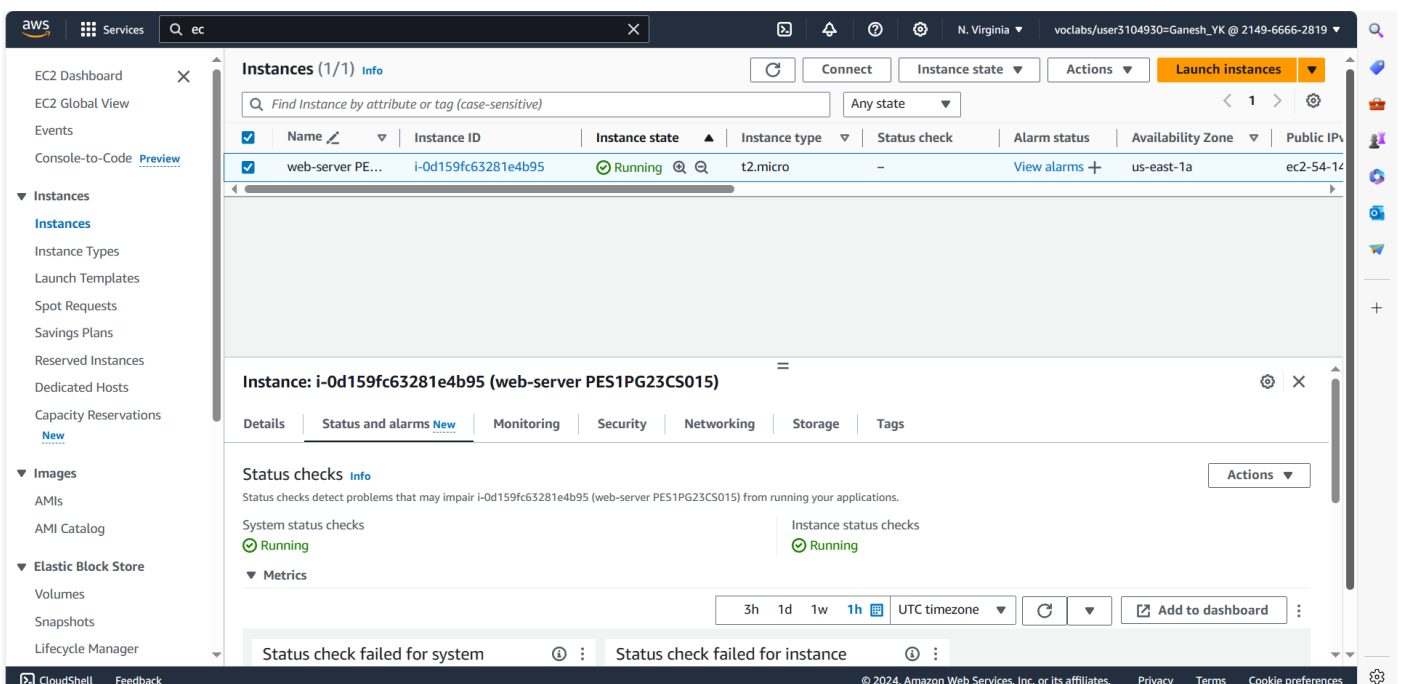
**SNR:PES1PG23CS015**

### Task 1: Accessing the AWS Management Console



### Task 2: Launching an EC2 Instance In Services menu of AWS Management Console, enter EC2 and choose it. Next, choose EC2 Dashboard and launch instance.

#### Step 1: Name your EC2 instance



In the name textbox, enter Web-Server. In Resource types dropdown list, select Instances and Volumes.

## Step 2: Choose an Amazon Machine Image (AMI)

EC2 > Instances > Launch an instance > AMIs

### Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

**Selected AMI:** (ami-0440d3b780d96b29d) (Quickstart AMIs)

Q Windows Server 2019 Base

**Quickstart AMIs (1)**  
Commonly used AMIs

**My AMIs (0)**  
Created by me

**AWS Marketplace AMIs (127)**  
AWS & trusted third-party AMIs

**Community AMIs (17)**  
Published by anyone

**Refine results**

Clear all filters

☐ Free tier only info

▼ OS category

☐ All Linux/Unix

☒ All Windows

**Windows Server 2019 Base (1 filtered, 1 unfiltered)**

Microsoft Windows Server 2019 Base  
ami-06cc514f1012a7431 (64-bit (x86))

Windows  
Free tier eligible  
Verified provider

Microsoft Windows 2019 Datacenter edition. [English]  
Platform: windows Root device type: ebs Virtualization: hvm ENA enabled: Yes 64-bit (x86)

Select

In search box of AMI section, enter Windows Server 2019 Base and select.

## Step 3: Choose an instance type

Amazon Machine Image (AMI)  
Windows\_Server-2019-English-Full-Base-2024.02.14  
ami-06cc514f1012a7431

Verified provider Free tier eligible

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

Catalog	Published	Architecture	Virtualization	Root device type	ENA Enabled
Quickstart AMIs	2024-02-14T06:44:18.00Z	x86_64	hvm	ebs	Yes

▼ Instance type info | Get advice

Instance type

t2.micro Free tier eligible

Family: t2 1 vCPU 1 GiB Memory Current generation: true  
On-Demand Windows base pricing: 0.0162 USD per Hour  
On-Demand SUSE base pricing: 0.0116 USD per Hour  
On-Demand RHEL base pricing: 0.0716 USD per Hour  
On-Demand Linux base pricing: 0.0116 USD per Hour

Additional costs apply for AMIs with pre-installed software

All generations

Compare instance types

▼ Summary

Number of instances info  
1

Software Image (AMI)  
Microsoft Windows Server 2019 ...read more  
ami-06cc514f1012a7431

Virtual server type (instance type)  
t2.micro

Firewall (security group)  
New security group

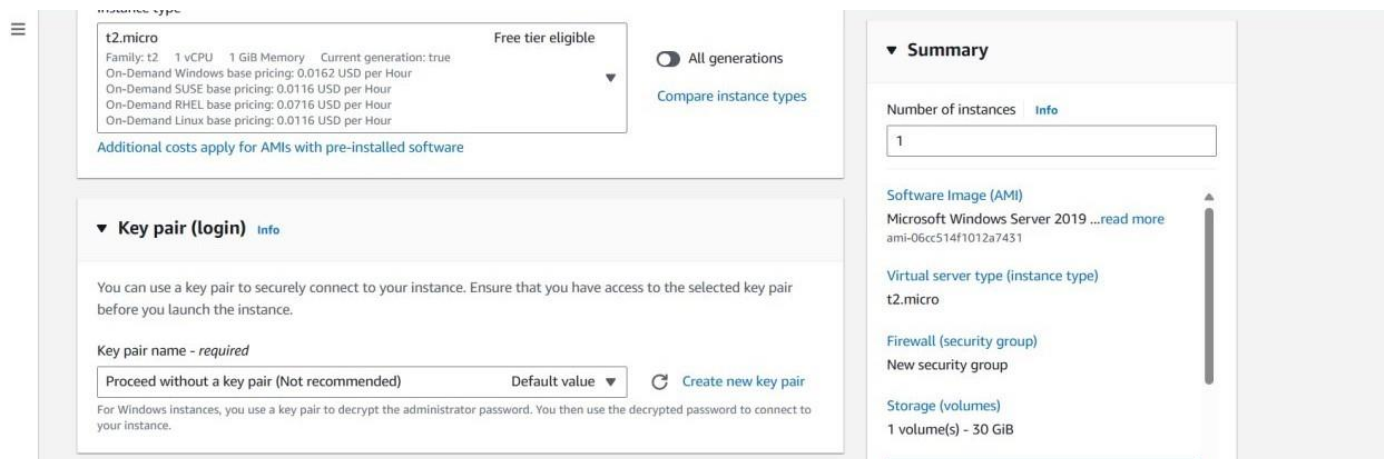
Storage (volumes)  
1 volume(s) - 30 GiB

Free tier: In your first year

Cancel Launch instance Review commands

In the **Instance type** section, keep the default instance type, **t2.micro**.

## Step 4: Configure a key pair



**t2.micro** Free tier eligible  
Family: t2 1 vCPU 1 GiB Memory Current generation: true  
On-Demand Windows base pricing: 0.0162 USD per Hour  
On-Demand SUSE base pricing: 0.0116 USD per Hour  
On-Demand RHEL base pricing: 0.0716 USD per Hour  
On-Demand Linux base pricing: 0.0116 USD per Hour  
Additional costs apply for AMIs with pre-installed software

**▼ 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](#)

For Windows instances, you use a key pair to decrypt the administrator password. You then use the decrypted password to connect to your instance.

**▼ Summary**

Number of instances Info  
1

Software Image (AMI)  
Microsoft Windows Server 2019 ...read more  
ami-06cc514f1012a7431

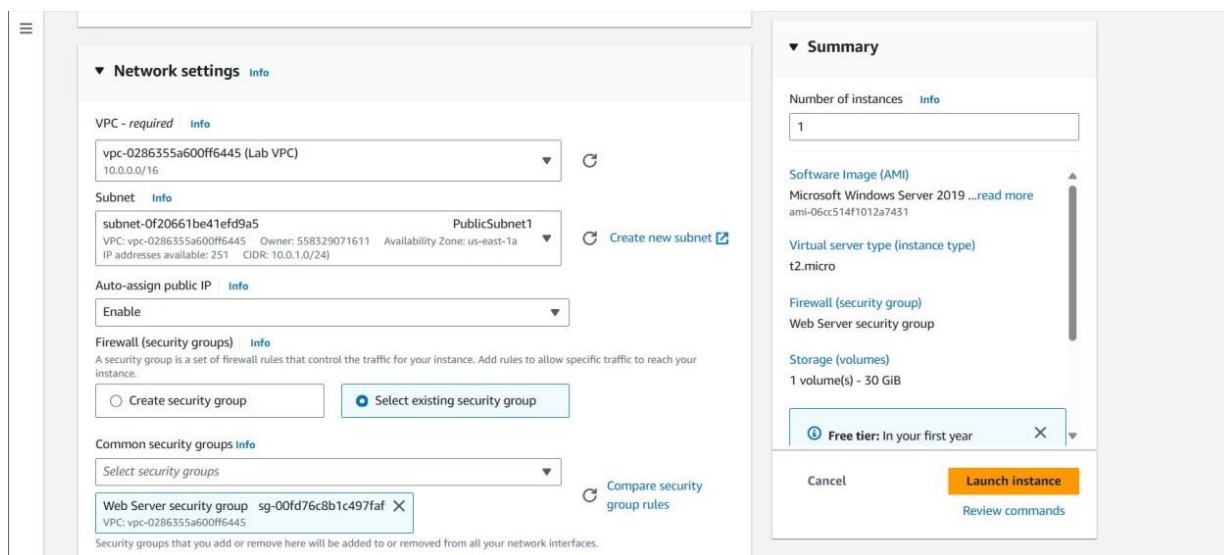
Virtual server type (instance type)  
t2.micro

Firewall (security group)  
New security group

Storage (volumes)  
1 volume(s) - 30 GiB

In the **Key pair name - *required*** dropdown list, choose **Proceed without a key pair (not recommended)**.

## Step 5: Configure the network settings



**▼ Network settings** Info

VPC - *required* Info  
vpc-0286355a600ff6445 (Lab VPC)  
10.0.0.0/16

Subnet Info  
subnet-0f20661be41efd9a5 PublicSubnet1  
VPC: vpc-0286355a600ff6445 Owner: 558329071611 Availability Zone: us-east-1a  
IP addresses available: 251 CIDR: 10.0.1.0/24

Auto-assign public IP Info  
Enable

Firewall (security groups) Info  
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☐ Create security group ☒ Select existing security group

Common security groups Info  
Select security groups

Web Server security group sg-00fd76c8b1c497faf X  
VPC: vpc-0286355a600ff6445

Security groups that you add or remove here will be added to or removed from all your network interfaces.

**▼ Summary**

Number of instances Info  
1

Software Image (AMI)  
Microsoft Windows Server 2019 ...read more  
ami-06cc514f1012a7431

Virtual server type (instance type)  
t2.micro

Firewall (security group)  
Web Server security group

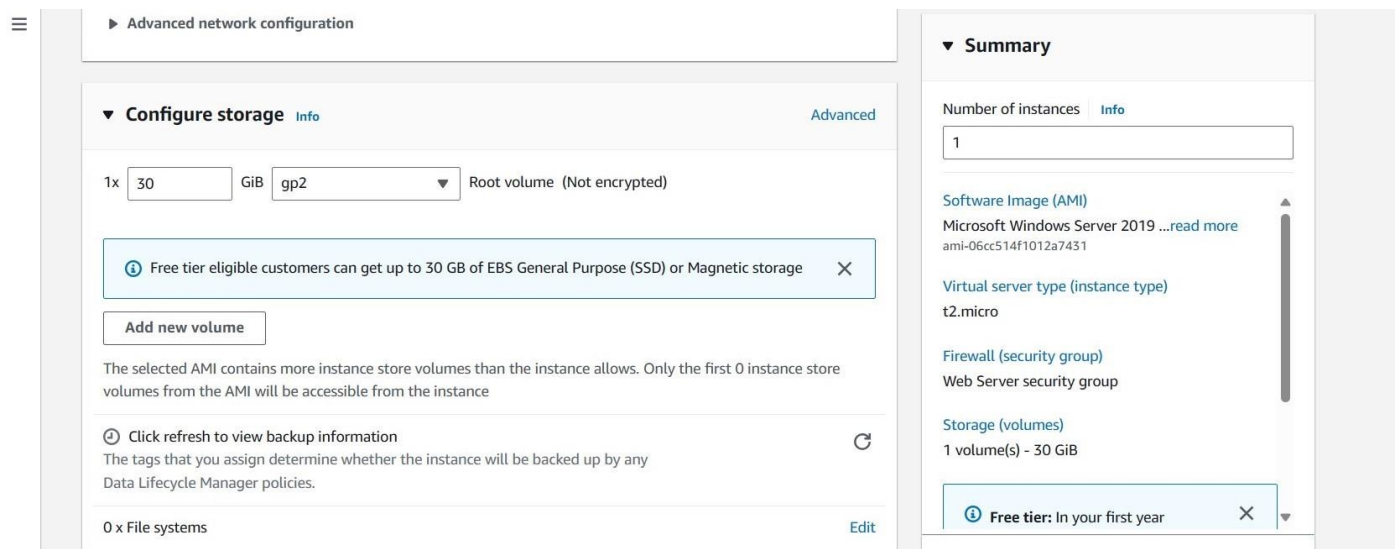
Storage (volumes)  
1 volume(s) - 30 GiB

**Free tier:** In your first year X

Cancel **Launch instance**  
[Review commands](#)

In the **VPC-required** dropdown list of the network settings, choose **Lab VPC**. Select **Web Server security group** from Common security groups. A security group acts as a virtual firewall that controls the traffic for one or more instances.

## Step 6: Add storage



Advanced network configuration

▼ Configure storage [Info](#) [Advanced](#)

1x 30 GiB gp2 Root volume (Not encrypted)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

Add new volume

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 instance store volumes from the AMI will be accessible from the instance

Click refresh to view backup information  
The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems [Edit](#)

▼ Summary

Number of instances [Info](#)

1

Software Image (AMI)  
Microsoft Windows Server 2019 ...[read more](#)  
ami-06cc514f1012a7431

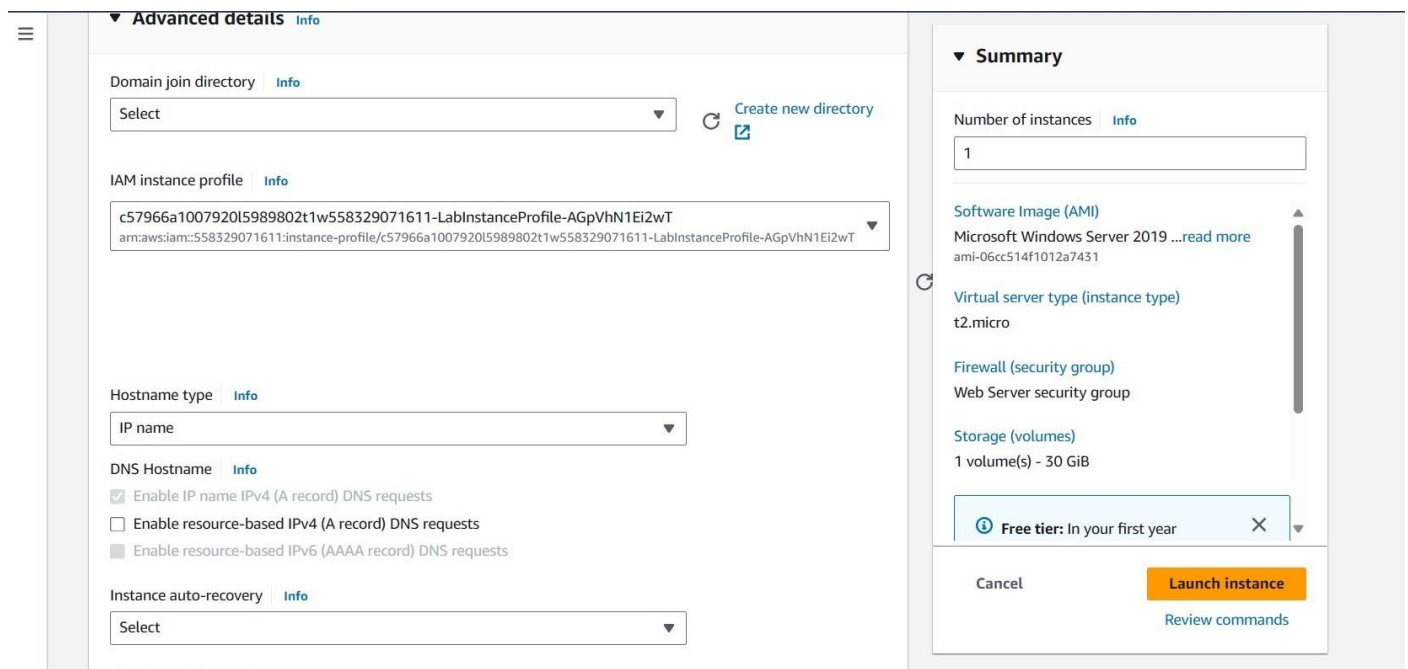
Virtual server type (instance type)  
t2.micro

Firewall (security group)  
Web Server security group

Storage (volumes)  
1 volume(s) - 30 GiB

Free tier: In your first year

## Step 7: Configure advanced details



▼ Advanced details [Info](#)

Domain join directory [Info](#)

Select [Create new directory](#)

IAM instance profile [Info](#)

c57966a100792015989802t1w558329071611-LabInstanceProfile-AgPvHn1Ei2wT  
arn:aws:iam::558329071611:instance-profile/c57966a100792015989802t1w558329071611-LabInstanceProfile-AgPvHn1Ei2wT

Hostname type [Info](#)

IP name

DNS Hostname [Info](#)

☒ Enable IP name IPv4 (A record) DNS requests  
☐ Enable resource-based IPv4 (A record) DNS requests  
☐ Enable resource-based IPv6 (AAAA record) DNS requests

Instance auto-recovery [Info](#)

Select

▼ Summary

Number of instances [Info](#)

1

Software Image (AMI)  
Microsoft Windows Server 2019 ...[read more](#)  
ami-06cc514f1012a7431

Virtual server type (instance type)  
t2.micro

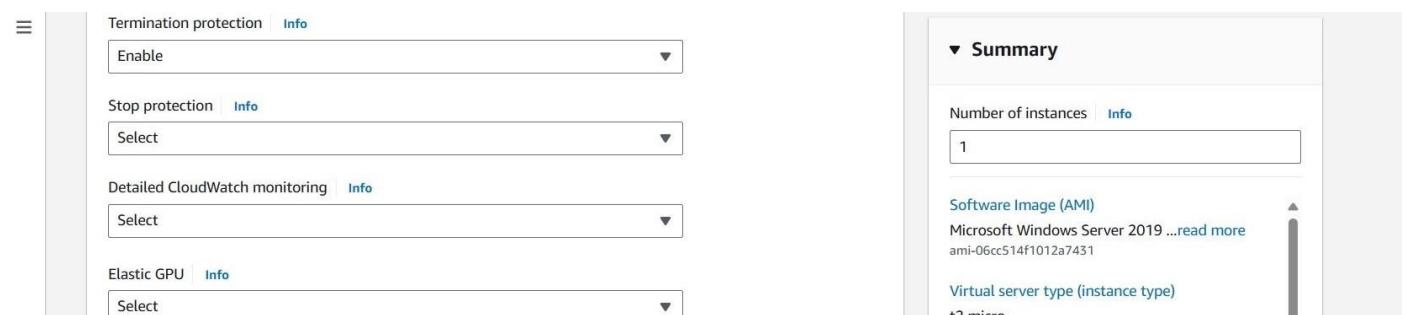
Firewall (security group)  
Web Server security group

Storage (volumes)  
1 volume(s) - 30 GiB

Free tier: In your first year

Cancel [Launch instance](#) [Review commands](#)

Choose the IAM instance profile as **LabInstanceProfile**.



Termination protection [Info](#)

Enable

Stop protection [Info](#)

Select

Detailed CloudWatch monitoring [Info](#)

Select

Elastic GPU [Info](#)

Select

▼ Summary

Number of instances [Info](#)

1

Software Image (AMI)  
Microsoft Windows Server 2019 ...[read more](#)  
ami-06cc514f1012a7431

Virtual server type (instance type)  
t2.micro

**Enable** termination protection

## Step 8: Launch an EC2 instance

Allow tags in metadata [Info](#)

Select

User data - optional [Info](#)

Upload a file with your user data or enter it in the field.

Choose file

```
<powershell>
# Installing web server
Install-WindowsFeature -name Web-Server -IncludeManagementTools
# Getting website code
wget https://aws-tc-largeobjects.s3.us-west-2.amazonaws.com/CUR-TF-100-EDCOMP-1-DEV/lab-01-ec2/code.zip -outfile
"C:\Users\Administrator\Downloads\code.zip"
# Unzipping website code
Add-Type -AssemblyName System.IO.Compression.FileSystem
function Unzip
{
    param([string]$zipfile, [string]$outpath)
    [System.IO.Compression.ZipFile]::ExtractToDirectory($zipfile, $outpath)
}
Unzip "C:\Users\Administrator\Downloads\code.zip" "C:\inetpub\"
```

☐ User data has already been base64 encoded

**Summary**

Number of instances [Info](#)

1

Software Image (AMI)

Microsoft Windows Server 2019 ...[read more](#)

ami-06cc514f1012a7431

Virtual server type (instance type)

t2.micro

Firewall (security group)

Web Server security group

Storage (volumes)

1 volume(s) - 30 GiB

Free tier: In your first year

Cancel

Launch instance

[Review commands](#)

## Click Launch instance

aws Services ec

EC2 Dashboard

EC2 Global View

Events

Console-to-Code [Preview](#)

Instances

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations

Images

AMIs

AMI Catalog

Elastic Block Store

Volumes

Snapshots

Lifecycle Manager

Instances (1/1) [Info](#)

Find Instance by attribute or tag (case-sensitive)

Any state

web-server PE... i-0d159fc63281e4b95 Running t2.micro - View alarms us-east-1a ec2-54-147-143-119.compute-1.amazonaws.com

Instance: i-0d159fc63281e4b95 (web-server PES1PG23CS015)

Details Status and alarms [New](#) Monitoring Security Networking Storage Tags

**Instance summary** [Info](#)

Instance ID

i-0d159fc63281e4b95 (web-server PES1PG23CS015)

Public IPv4 address

54.147.143.119 [open address](#)

Private IPv4 addresses

10.0.1.179

IPv6 address

-

Instance state

Running

Public IPv4 DNS

ec2-54-147-143-119.compute-1.amazonaws.com [open address](#)

Hostname type

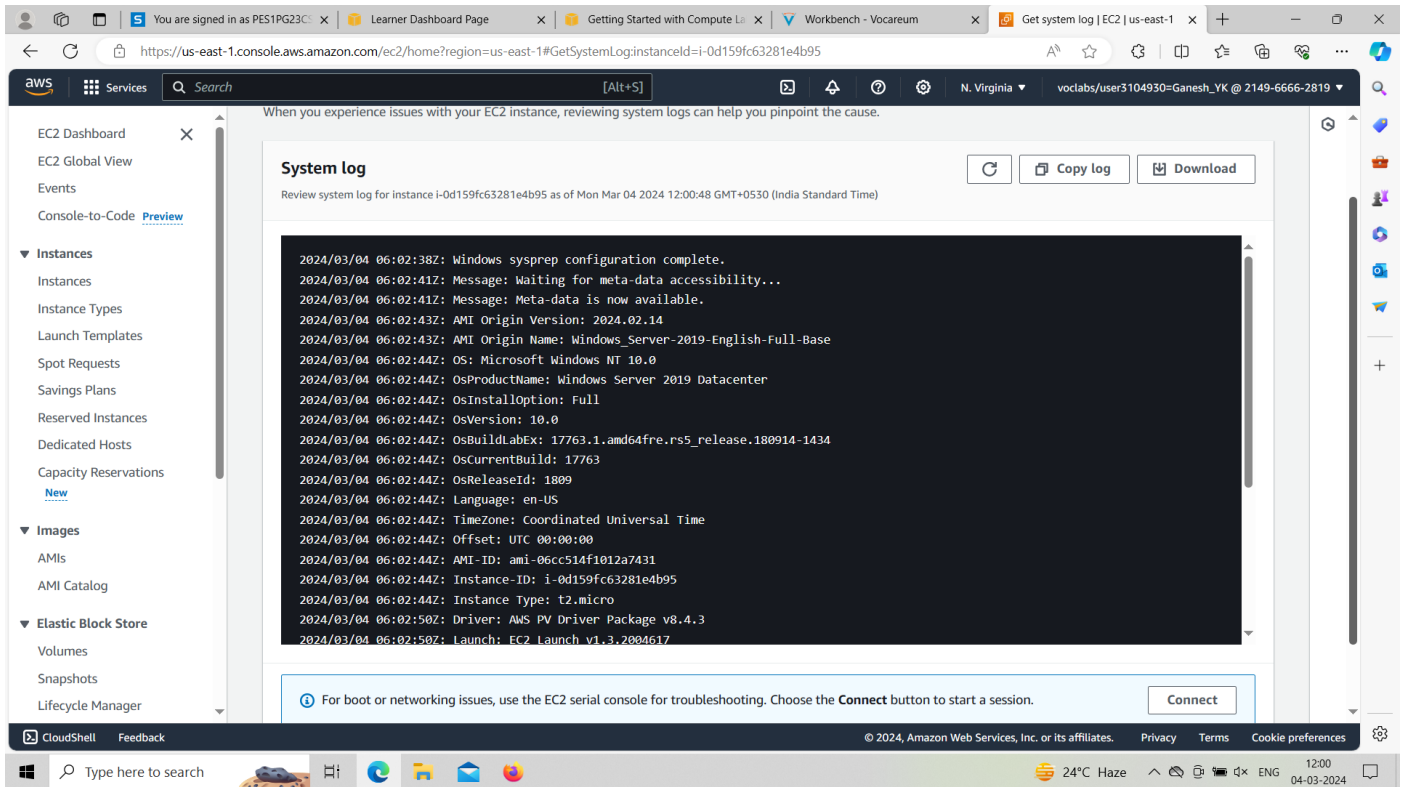
IP name: ip-10-0-1-179.ec2.internal

Private IP DNS name (IPv4 only)

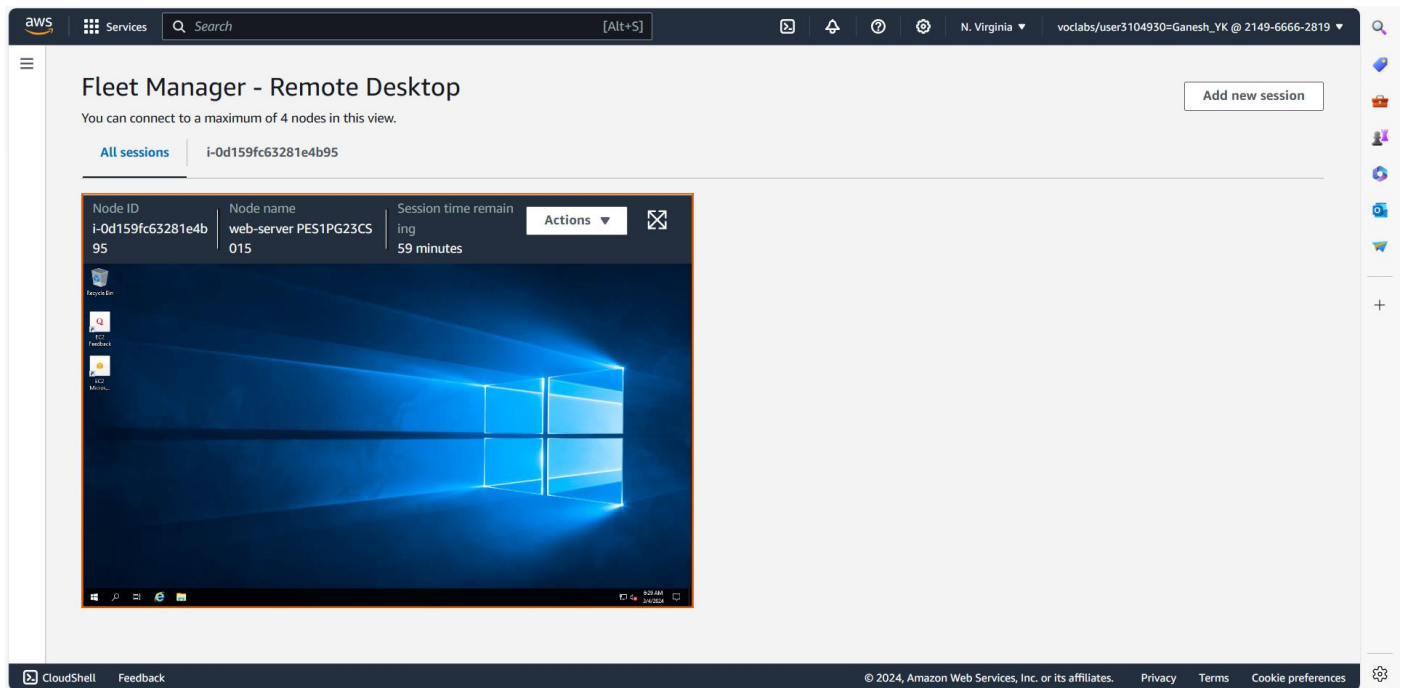
ip-10-0-1-179.ec2.internal

## Task 3: Monitoring your instance

### Screenshot 1: Getting the system log



### Screenshot 2: Getting the instance screenshot





## Task 4: Updating your security group and accessing the web server

### Question: Are you able to access your web server? If not, then why?

EC2 > Security Groups > sg-00fd76c8b1c497faf > Edit inbound rules

### Edit inbound rules Info

Inbound rules control the incoming traffic that's allowed to reach the instance.

#### Inbound rules Info

Security group rule ID	Type <small>Info</small>	Protocol <small>Info</small>	Port range <small>Info</small>	Source <small>Info</small>	Description - optional <small>Info</small>	
-	HTTP	TCP	80	Anyw...		Delete

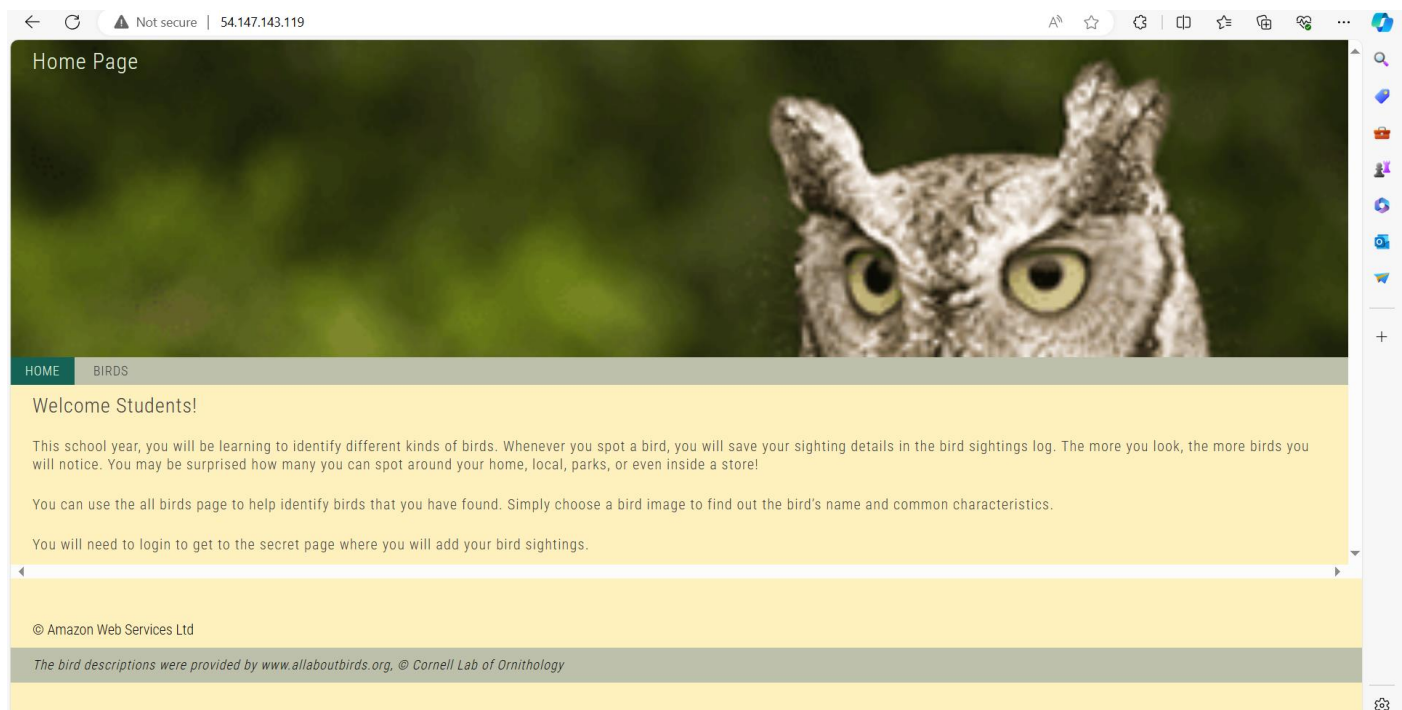
Add rule

Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel Preview changes Save rules

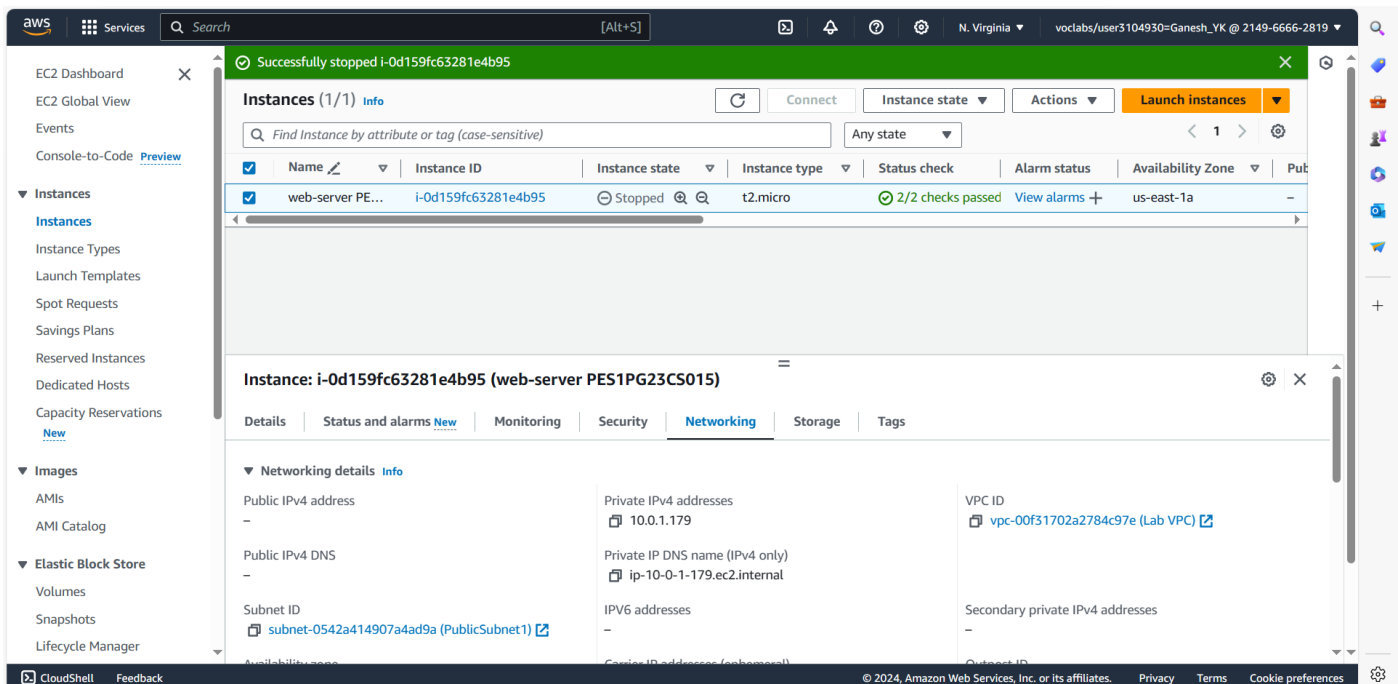
Add rule by selecting type as **HTTP** and source as **Anywhere-IPv4**.

## Screenshot 2: Accessing the Public IP after adding inbound rule

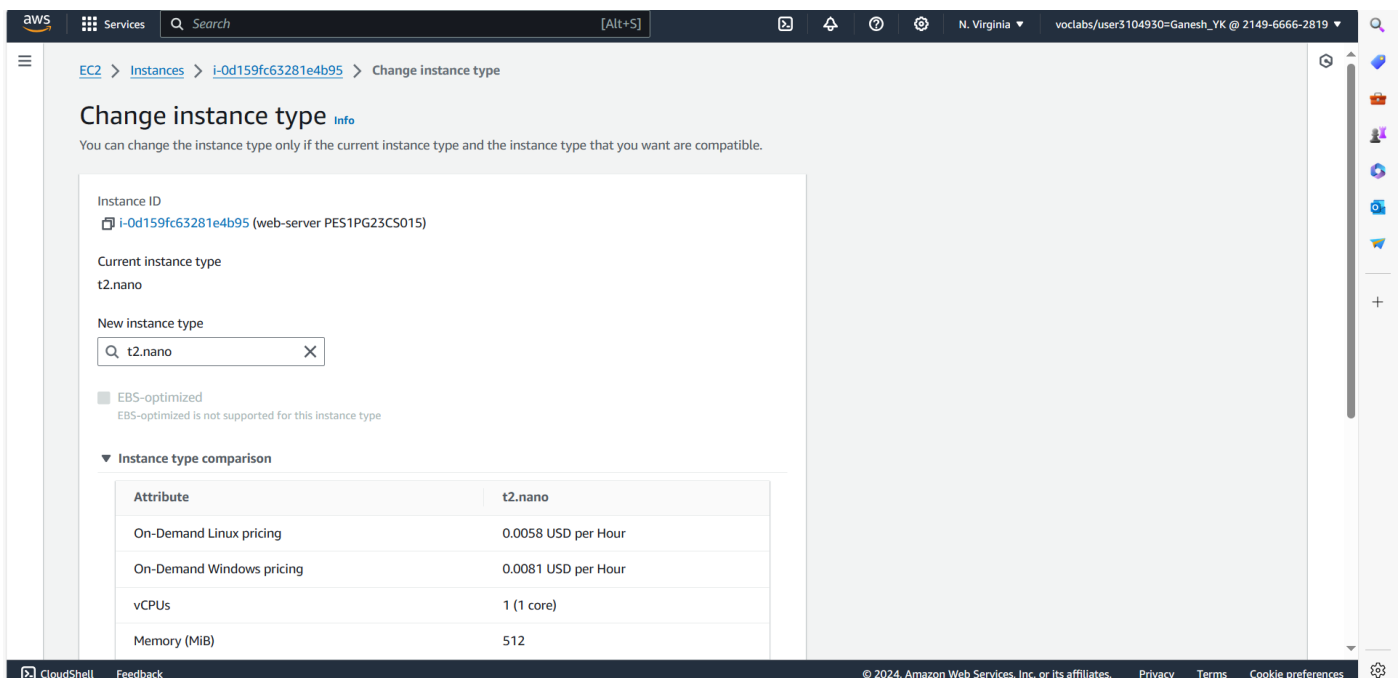


## Task 5: Resizing your instance - instance type and EBS volume

### Screenshot 1: Stop your instance



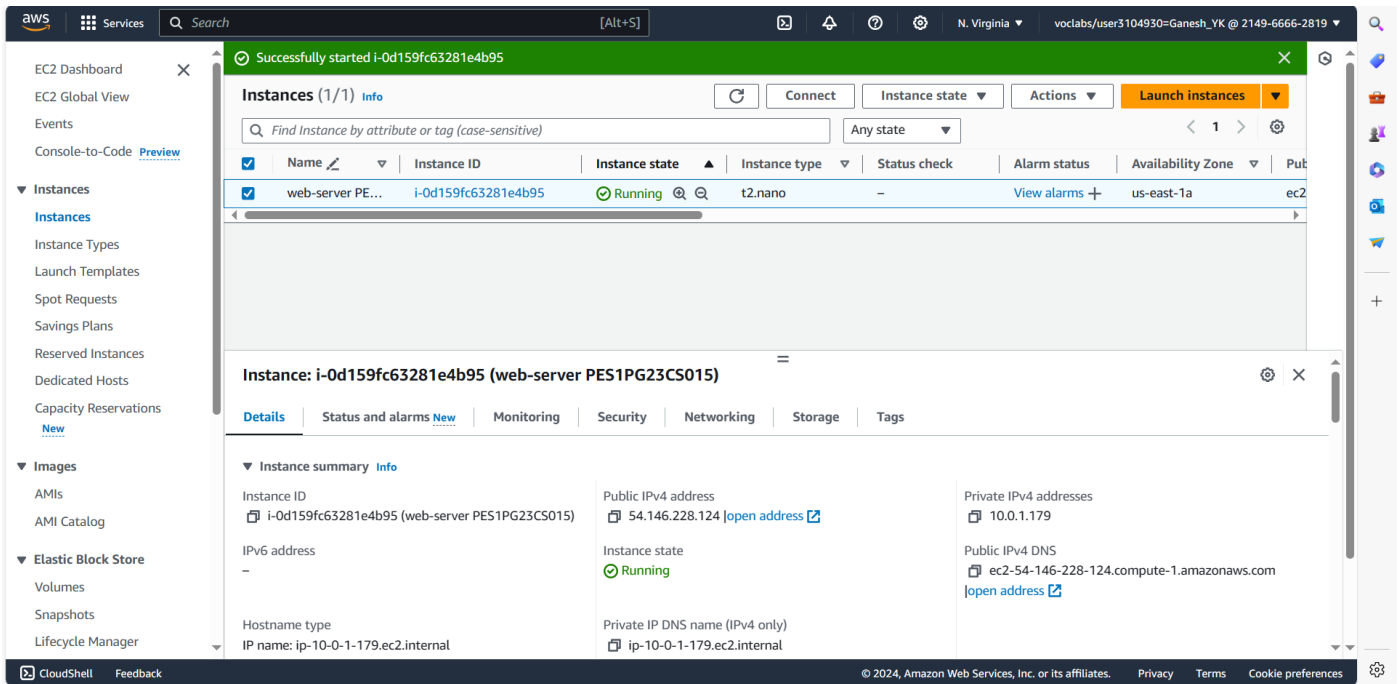
### Screenshot 2: Change the instance type



Change the instance type **t2.nano**.



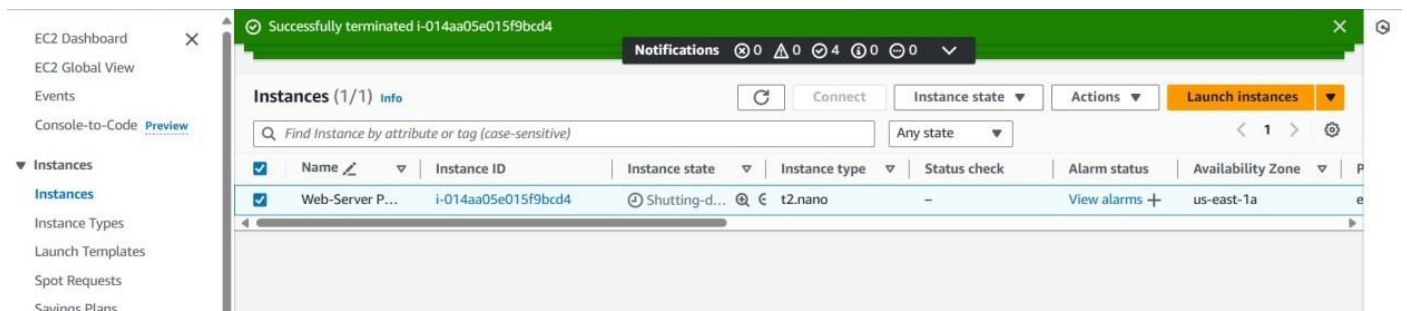
# Screenshot 4: Start the resized instance



## Task 6: Testing termination protection

Question: Are you able to terminate? Yes, or No? If “No,” why?

### Screenshot: Termination of instance



Termination protection is enabled and doesn't allow to terminate an instance. Hence, change terminal protection to disable mode and save. Now, the termination is possible.

## Task 7: Exploring EC2 limits

Service Quotas

Dashboard

AWS services

Quota request history

▼ Organization

Quota request template

Service Quotas > AWS services

AWS services

Amazon Elastic Compute Cloud

1 match

Service

Amazon Elastic Compute Cloud (Amazon EC2)

**Amazon Elastic Compute Cloud** is chosen in AWS Services. AWS Service is selected in **Service Quotas**.

Service Quotas

Dashboard

AWS services

Quota request history

▼ Organization

Quota request template

Service Quotas > AWS services > Amazon Elastic Compute Cloud (Amazon EC2)

Amazon Elastic Compute Cloud (Amazon EC2)

Amazon Elastic Compute Cloud (EC2) provides resizable compute capacity through virtual machines (VM's or instances) in the cloud.

Service quotas info

View your applied quota values, default quota values, and request quota increases for quotas. [Learn more](#)

Search by quota name

< 1 2 3 4 5 6 7 >

	Quota name ▲	Applied account-level quota value ▼	AWS default quota value ▼	Adjustability ▼
<input type="radio"/>	<a href="#">All DL Spot Instance Requests</a>	96	0	Account-level
<input type="radio"/>	<a href="#">All F Spot Instance Requests</a>	64	0	Account-level
<input type="radio"/>	<a href="#">All G and VT Spot Instance Requests</a>	0	0	Account-level
<input type="radio"/>	<a href="#">All Inf Spot Instance Requests</a>	8	0	Account-level
<input type="radio"/>	<a href="#">All P4, P3 and P2 Spot Instance Requests</a>	0	0	Account-level
<input type="radio"/>	<a href="#">All P5 Spot Instance Requests</a>	0	0	Account-level
<input type="radio"/>	<a href="#">All Standard (A, C, D, H, I, M, R, T, Z) Spot Instance Requests</a>	256	5	Account-level

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Issuer: Amazon Web Services Training and Certification

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or view details by clicking:  
<https://www.credly.com/go/8RZ2RQhNwXT6qexqRXbCg>

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You can use the following URL to manage your profile: <https://www.credly.com/earner/settings>.

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