

# Lab Assignment-2

## ECSE304L: Cloud Computing

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**Enroll no:** E18CSE187

**Batch:** EB02

**AWS Free Tier Name – Tanvi**

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### Lab 1 Activities:

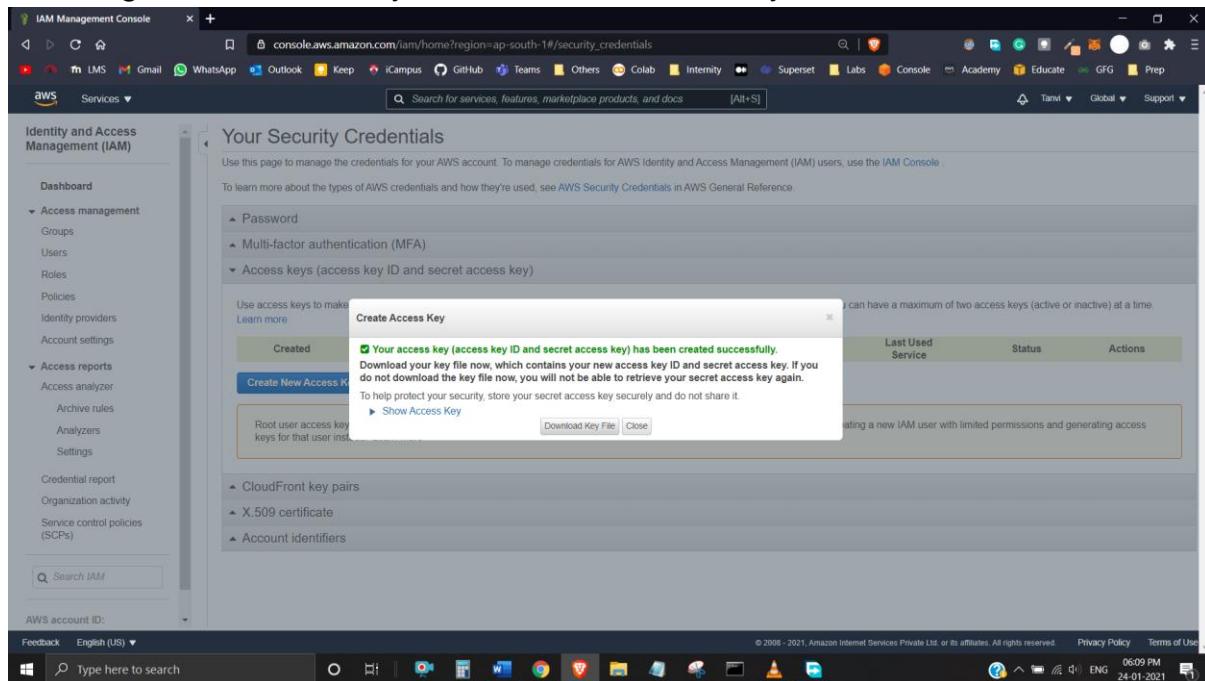
- **Task 4:** Working with AWS command line and perform Start, Stop and Terminate EC2 Instance using CLI.
- **Task 6:** Launch, the AWS Linux instance and connect it using PuTTY.

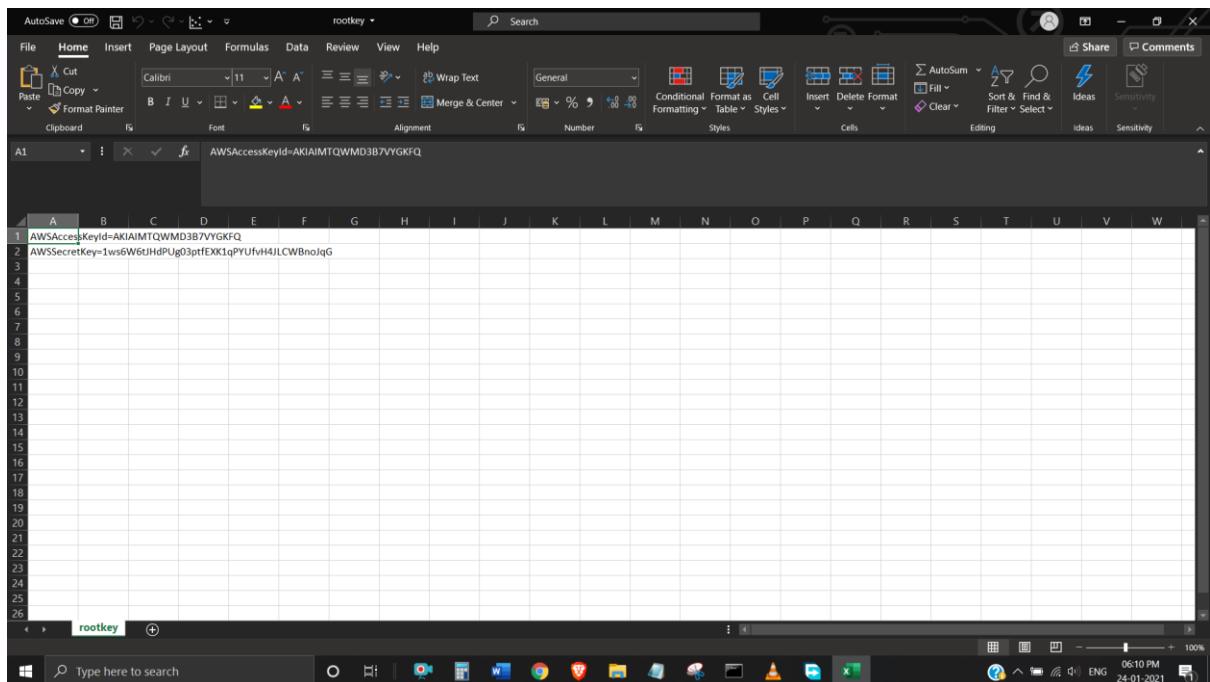
**Lab 2 Activities:** Working with Elastic Block Storage (EBS)

### Implementation Screenshots (Step-by-Step):

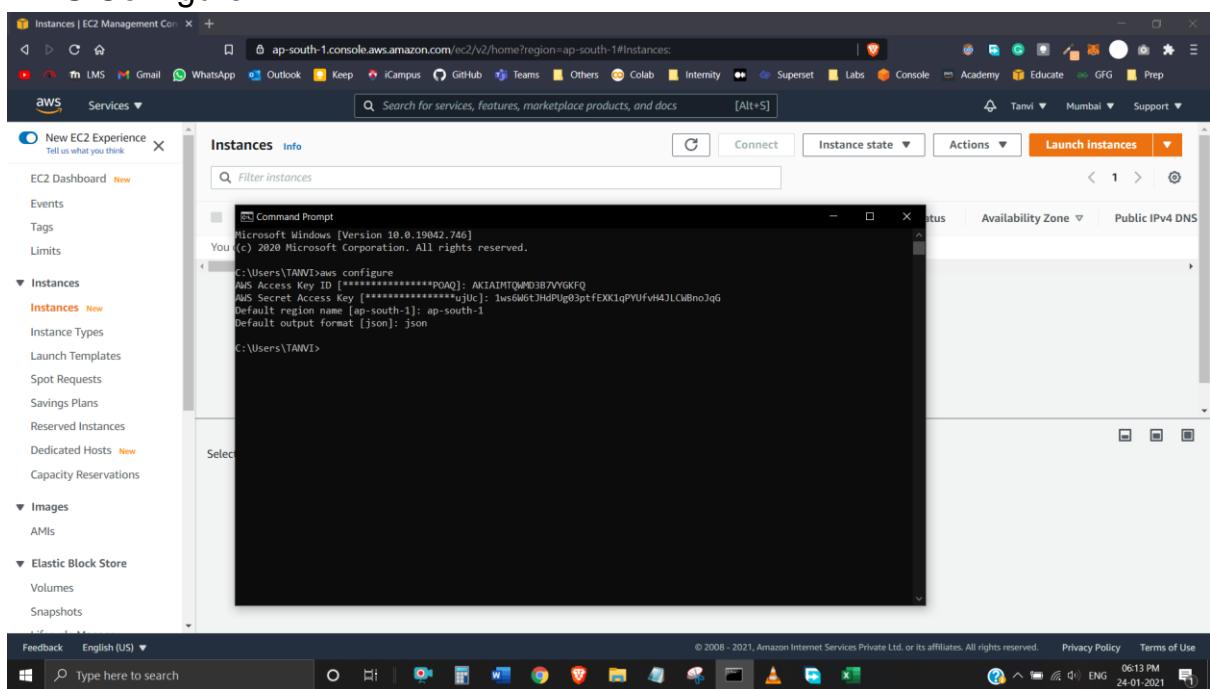
## Task-4

Creating New Access Key ID & Secret Access Key:





## AWS Configure



## Creating Key-Pair

The screenshot shows the AWS EC2 Management Console with the 'Key pairs' page open. The left sidebar shows navigation options like 'Instances', 'Images', and 'Elastic Block Store'. The main area displays a table of existing key pairs:

Name	Fingerprint	ID
E18CSE187Lab1CIS	cd:11:78:b3:9ac:7:70:13:73:d3:8d:e2:5...	key-0c3fc9896e8c65417
E18CSE187Lab2CLI	18:70:3cc8:9a:ee:8:19:ec:f2:e8:3c:81:52...	key-006d8816032080a4
ECSE187Lab1	38:09:26:ef:9c:d9:fab:1:55:48:9:f4:81:...	key-0fd06817405bbcf65

A command prompt window is overlaid on the bottom right, showing the execution of AWS CLI commands to create a new key pair:

```
C:\Users\TANVI>aws configure
AWS Access Key ID [*****]: AKIAIMTOHMD3B7VYGFQF
AWS Secret Access Key [*****]: 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
Default region name [ap-south-1]: ap-south-1
Default output format [json]: json

C:\Users\TANVI>aws ec2 create-key-pair --key-name E18CSE187Lab2CLI --query 'KeyMaterial' --output text >E18CSE187Lab2CLI.pem
```

## Creating Security Group

The screenshot shows the AWS EC2 Management Console with the 'Security Groups' page open. The left sidebar shows navigation options like 'Instances', 'Images', and 'Elastic Block Store'. The main area displays a table of existing security groups:

Name	Security group ID	Security group name	VPC ID	Description	Owner
-	sg-027442df99700aff2	E18CSE187Lab2SGCLI	vpc-f586699e	Security Group with CLI	63410282113
E18CSE187Lab1CCsg	sg-0869fc792e17c1d6e	launch-wizard-1	vpc-f586699e	launch-wizard-1 create...	63410282113
-	sg-0cc44157da54dfbe	ECSE187Lab1	vpc-f586699e	launch-wizard-1 create...	63410282113
-	sg-0eb9e0c4d7cd13cf4	launch-wizard-2	vpc-f586699e	launch-wizard-2 create...	63410282113
-	sg-8d6b6b6ea	default	vpc-f586699e	default VPC security gr...	63410282113

A command prompt window is overlaid on the bottom right, showing the execution of AWS CLI commands to create a new security group:

```
C:\Users\TANVI>aws configure
AWS Access Key ID [*****]: AKIAIMTOHMD3B7VYGFQF
AWS Secret Access Key [*****]: 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
Default region name [ap-south-1]: ap-south-1
Default output format [json]: json

C:\Users\TANVI>aws ec2 create-key-pair --key-name E18CSE187Lab2CLI --query 'KeyMaterial' --output text >E18CSE187Lab2CLI.pem

C:\Users\TANVI>aws ec2 create-security-group --group-name E18CSE187Lab2SGCLI --description "Security Group with CLI"
{
    "GroupId": "sg-027442df99700aff2"
}

C:\Users\TANVI>
```

## Running EC2 Instance

The screenshot shows the AWS EC2 Management Console with a single instance running. The instance details are as follows:

- Name:** i-Defccc391fbea85cf
- Instance ID:** i-0efccc391fbea85cf
- Instance state:** Running
- Instance type:** t2.micro
- Public IPv4 address:** 52.66.116.117
- Private IP address:** 172.31.13.71

A Command Prompt window is open, showing the output of a command that failed:

```
C:\Users\TANVI\aws ec2 run-instances --image-id ami-0231704d6e7036502 --count 1 --instance-type t2.micro --key-name E18CSE187Lab2CLI --security-group-ids sg-027442df997000ff2
An error occurred (Unsupported) when calling the RunInstances operation: The requested configuration is currently not supported. Please check the documentation for supported configurations.
```

System tray details: 06:46 PM, ENG, 24-01-2021.

The screenshot shows the AWS EC2 Management Console with a single instance running. The instance details are as follows:

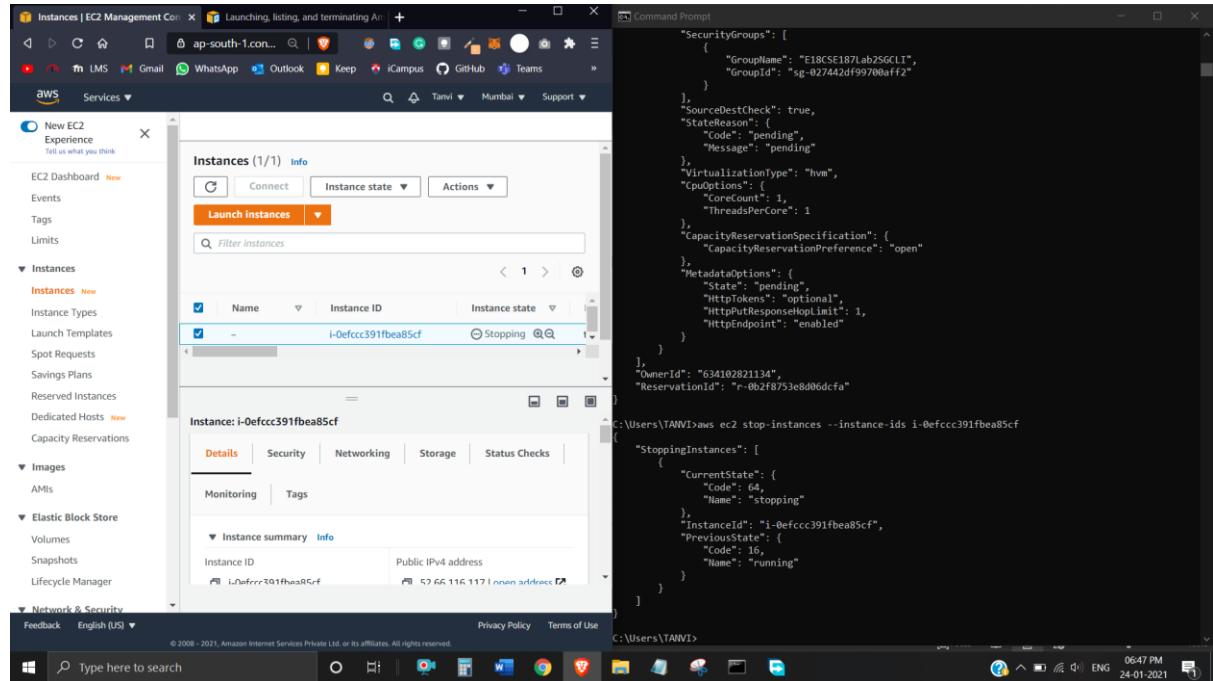
- Name:** i-Defccc391fbea85cf
- Instance ID:** i-0efccc391fbea85cf
- Instance state:** Running
- Instance type:** t2.micro
- Public IPv4 address:** 52.66.116.117
- Private IP address:** 172.31.13.71

The Networking tab is expanded, showing:

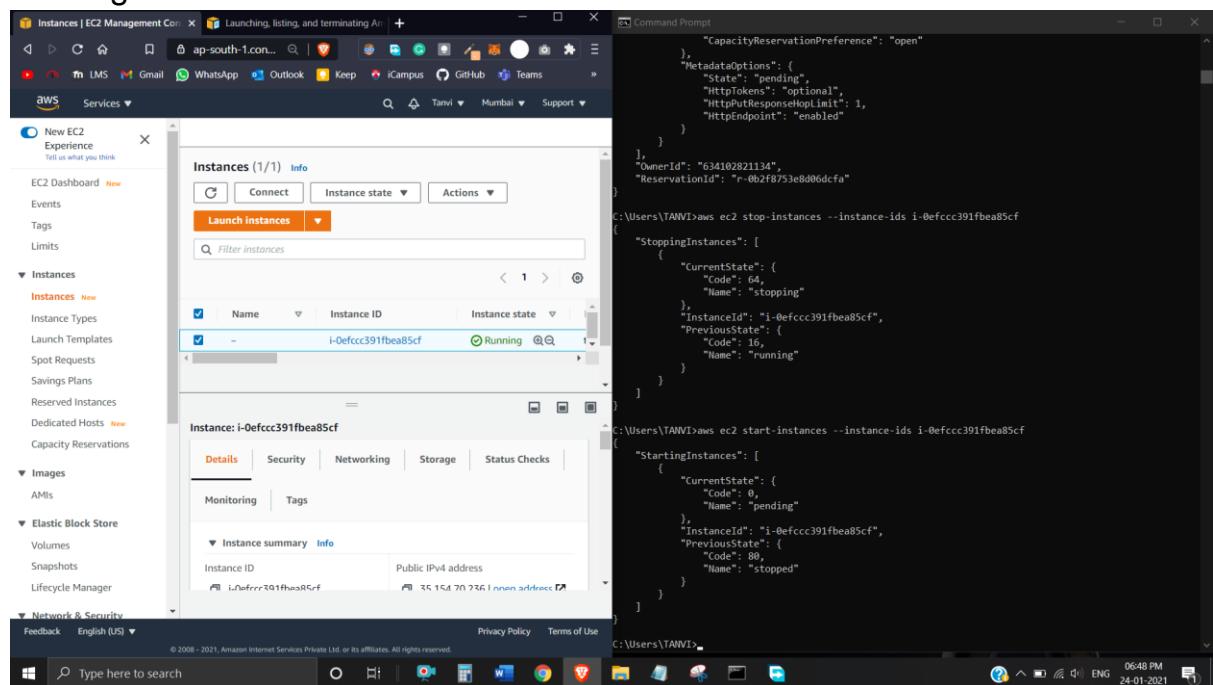
Public IPv4 DNS	Private IPv4 addresses
ec2-52-66-116-117.ap-south-1.compute.amazonaws.com	ip-172-31-13-71.ap-south-1.compute.internal

System tray details: 06:46 PM, ENG, 24-01-2021.

## Stopping EC2 Instance



## Starting EC2 Instance



## Terminating EC2 Instance

The screenshot shows the AWS EC2 Management Console and a Command Prompt window on a Windows desktop.

**AWS EC2 Management Console:**

- Left sidebar: Instances, Images, Elastic Block Store, Network & Security.
- Main pane: Instances (1/1) Info. An instance named "i-0efccc391fbea85cf" is listed, showing it is shutting down.
- Bottom right: Instance summary details, including Public IPv4 address: 25.151.20.236.1.

**Command Prompt:**

```
C:\Users\TANVI>aws ec2 start-instances --instance-ids i-0efccc391fbea85cf
{
    "StartingInstances": [
        {
            "InstanceState": {
                "Code": 0,
                "Name": "pending"
            },
            "InstanceId": "i-0efccc391fbea85cf",
            "PreviousState": {
                "Code": 80,
                "Name": "stopped"
            }
        }
    ]
}
C:\Users\TANVI>aws ec2 terminate-instances --instance-ids i-0efccc391fbea85cf
{
    "TerminatingInstances": [
        {
            "InstanceState": {
                "Code": 32,
                "Name": "shutting-down"
            },
            "InstanceId": "i-0efccc391fbea85cf",
            "PreviousState": {
                "Code": 16,
                "Name": "running"
            }
        }
    ]
}
```

The screenshot shows the AWS EC2 Management Console and a Command Prompt window on a Windows desktop.

**AWS EC2 Management Console:**

- Left sidebar: Instances, Images, Elastic Block Store, Network & Security.
- Main pane: Instances (1/1) Info. An instance named "i-0efccc391fbea85cf" is listed, showing it is terminating.
- Bottom right: Instance summary details, including Public IPv4 address: -.

**Command Prompt:**

```
C:\Users\TANVI>aws ec2 start-instances --instance-ids i-0efccc391fbea85cf
{
    "StartingInstances": [
        {
            "InstanceState": {
                "Code": 0,
                "Name": "pending"
            },
            "InstanceId": "i-0efccc391fbea85cf",
            "PreviousState": {
                "Code": 80,
                "Name": "stopped"
            }
        }
    ]
}
C:\Users\TANVI>aws ec2 terminate-instances --instance-ids i-0efccc391fbea85cf
{
    "TerminatingInstances": [
        {
            "InstanceState": {
                "Code": 32,
                "Name": "shutting-down"
            },
            "InstanceId": "i-0efccc391fbea85cf",
            "PreviousState": {
                "Code": 16,
                "Name": "running"
            }
        }
    ]
}
```

# Task-6

The screenshot shows the 'Launch instance wizard | EC2' window. The top navigation bar includes 'My Classrooms', 'Workbench', and the current page 'Launch instance wizard | EC2'. Below the navigation is a search bar with placeholder text 'Search for services, features, marketplace products, and docs'. A progress bar at the bottom indicates steps 1 through 7. Step 1, 'Choose AMI', is highlighted.

## Step 1: 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.

The screenshot shows the 'Choose AMI' step with a search term 'Windows' entered. The results list three AMIs:

- Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-0be2609ba883822ec** (64-bit x86) / ami-0c582118883b46f4f (64-bit Arm)  
Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is approaching end of life on December 31, 2020 and has been removed from this wizard.  
Root device type: ebs Virtualization type: hvm ENA Enabled: Yes  
Select button (radio buttons for 64-bit (x86) and 64-bit (Arm))
- macOS Catalina 10.15.7 - ami-0f981206a71da3cbc**  
The macOS Catalina AMI is an EBS-backed, AWS-supported image. This AMI includes the AWS Command Line Interface, Command Line Tools for Xcode, Amazon SSM Agent, and Homebrew. The AWS Homebrew Tap includes the latest versions of multiple AWS packages included in the AMI.  
Root device type: ebs Virtualization type: hvm ENA Enabled: Yes  
Select button (radio buttons for 64-bit (Mac))
- macOS Mojave 10.14.6 - ami-0859d6c12cf03dd72**  
The macOS Mojave AMI is an EBS-backed, AWS-supported image. This AMI includes the AWS Command Line Interface, Command Line Tools for Xcode, Amazon SSM Agent, and Homebrew. The AWS Homebrew Tap includes the latest versions of multiple AWS packages included in the AMI.  
Root device type: ebs Virtualization type: hvm ENA Enabled: Yes  
Select button (radio buttons for 64-bit (Mac))

The screenshot shows a Windows desktop environment. The taskbar includes icons for File Explorer, Task View, Start, Taskbar settings, and several pinned applications like Edge, File Explorer, and File History. The system tray shows network status, battery level, and system time (04:17 PM, 24-01-2021).

## Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. Learn more about instance types and how they can meet your computing needs.

The screenshot shows the 'Choose Instance Type' step. The top navigation bar includes 'My Classrooms', 'Workbench', and the current page 'Launch instance wizard | EC2'. Below the navigation is a search bar with placeholder text 'Search for services, features, marketplace products, and docs'. A progress bar at the bottom indicates steps 1 through 7. Step 2, 'Choose Instance Type', is highlighted.

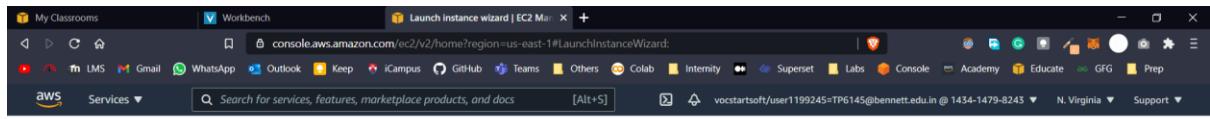
Filter by: All instance families Current generation Show/Hide Columns

Currently selected: t2.micro (- ECUs, 1 vCPUs, 2.5 GHz, ~ 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
	t2	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	t2	<b>t2.micro</b> Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
	t2	t2.small	1	2	EBS only	-	Low to Moderate	Yes
	t2	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
	t2	t2.large	2	8	EBS only	-	Low to Moderate	Yes
	t2	t2.xlarge	4	16	EBS only	-	Moderate	Yes
	t2	t2.2xlarge	8	32	EBS only	-	Moderate	Yes
	t3	t3.nano	2	0.5	EBS only	Yes	Up to 5 Gbitabit	Yes

Cancel Previous Review and Launch Next: Configure Instance Details

The screenshot shows a Windows desktop environment. The taskbar includes icons for File Explorer, Task View, Start, Taskbar settings, and several pinned applications like Edge, File Explorer, and File History. The system tray shows network status, battery level, and system time (04:18 PM, 24-01-2021).



### Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances  Launch into Auto Scaling Group

Purchasing option  Request Spot Instances

Network

Subnet

Auto-assign Public IP

Placement group  Add Instance to placement group

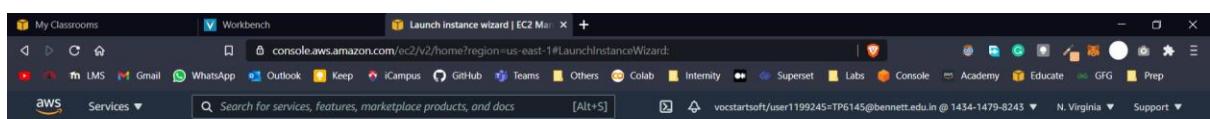
Capacity Reservation

Domain join directory

IAM role

CPU options  Specify CPU options

Shutdown behavior



### Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and Instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more about storage options in Amazon EC2](#).

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/xvda	snap-019159f1e06f32720	8	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

[Add New Volume](#)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more about free usage tier eligibility and usage restrictions](#).



My Classrooms Workbench Launch instance wizard | EC2 Mail +  
console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:  
AWS Services ▾ Search for services, features, marketplace products, and docs [Alt+S] vocstartsoft/user1199245=TP6145@bennett.edu.in @ 1434-1479-8243 ▾ N. Virginia ▾ Support ▾  
1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.  
A copy of a tag can be applied to volumes, instances or both.

Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key	(128 characters maximum)	Value	(256 characters maximum)	Instances	Volumes
Name	E18CSE187Linux				

Add another tag (Up to 50 tags maximum)

Cancel Previous Review and Launch Next: Configure Security Group

Feedback English (US) ▾ Type here to search © 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use 04:19 PM 24-01-2021 ENG

### Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group:  Create a new security group

Select an existing security group

Security group name: launch-wizard-1

Description: launch-wizard-1 created 2021-01-24T16:13:57.526+05:30

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom	0.0.0.0/0 e.g. SSH for Admin Desktop
HTTP	TCP	80	Anywhere	0.0.0.0/0, ::/0 e.g. SSH for Admin Desktop
HTTPS	TCP	443	Anywhere	0.0.0.0/0, ::/0 e.g. SSH for Admin Desktop

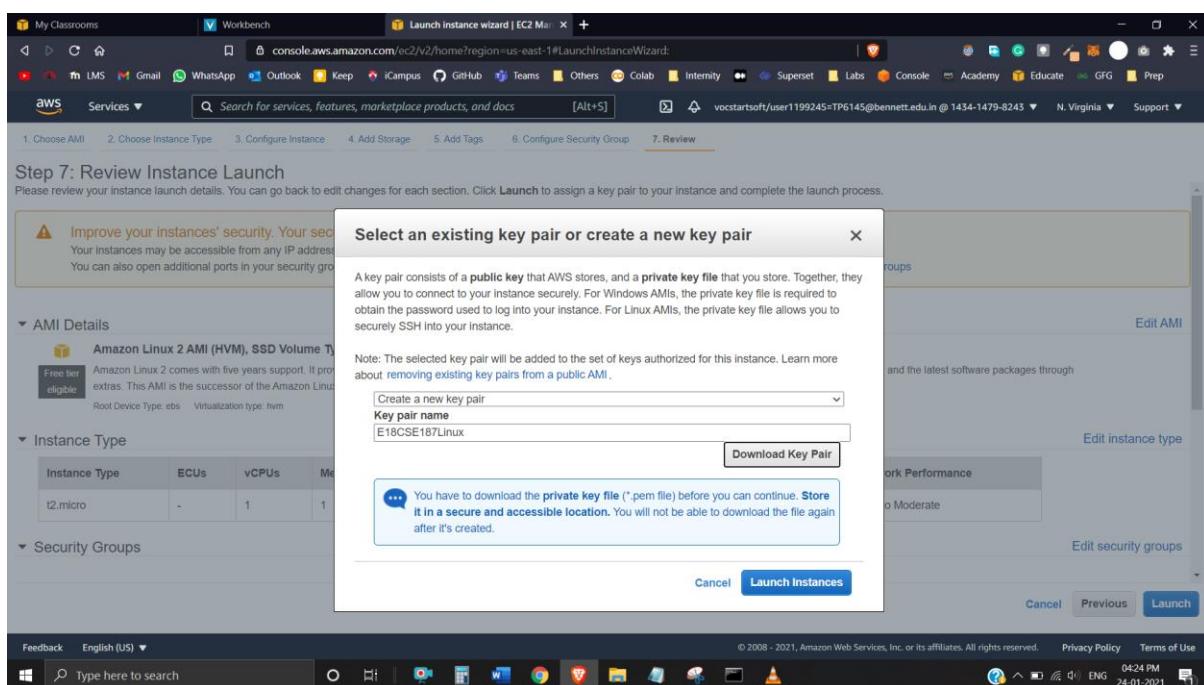
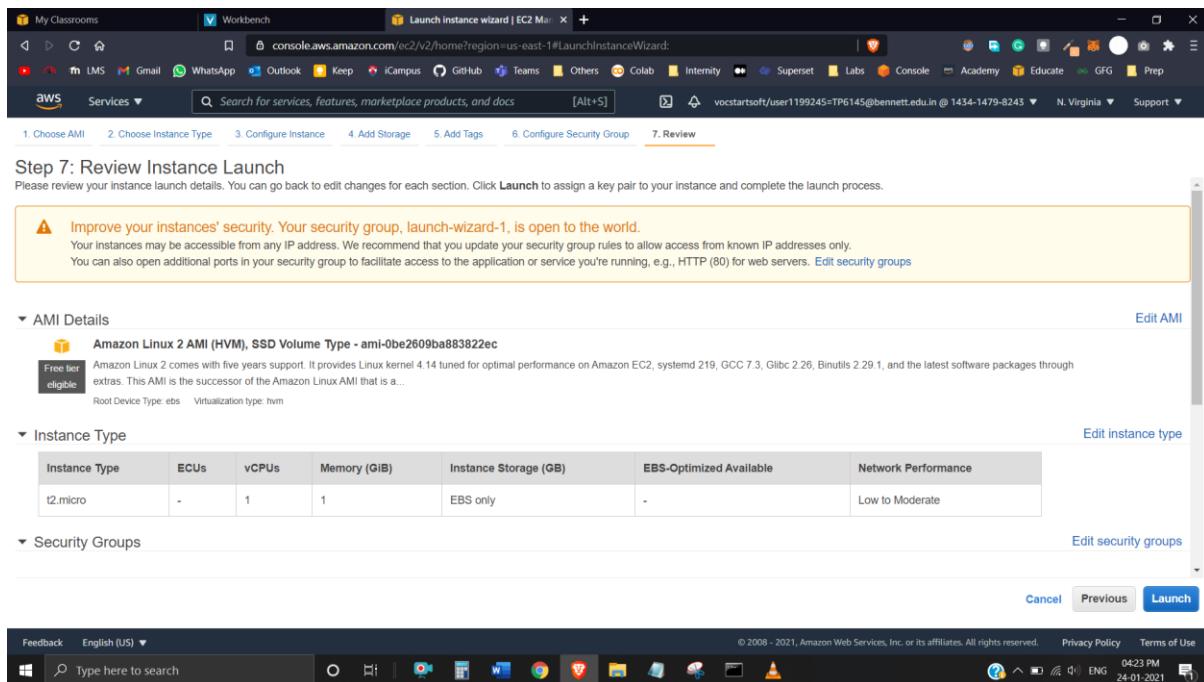
Add Rule

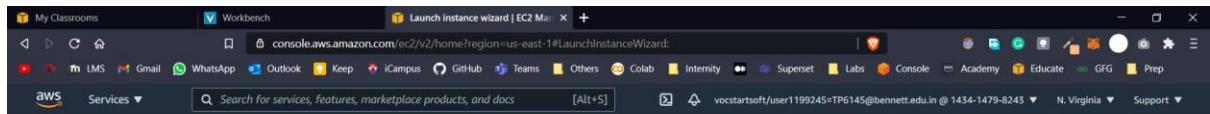


Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel Previous Review and Launch

Feedback English (US) ▾ Type here to search © 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use 04:21 PM 24-01-2021 ENG





## Launch Status

Your instances are now launching  
The following instance launches have been initiated: i-0b8479c638076625d [View launch log](#)

Get notified of estimated charges  
Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click [View Instances](#) to monitor your instances' status. Once your instances are in the **running** state, you can [connect](#) to them from the Instances screen. [Find out](#) how to connect to your instances.

Here are some helpful resources to get you started

- How to connect to your Linux instance
- Amazon EC2: User Guide
- Learn about AWS Free Usage Tier
- Amazon EC2: Discussion Forum

While your instances are launching you can also

- Create status check alarms to be notified when these instances fail status checks. (Additional charges may apply)
- Create and attach additional EBS volumes (Additional charges may apply)



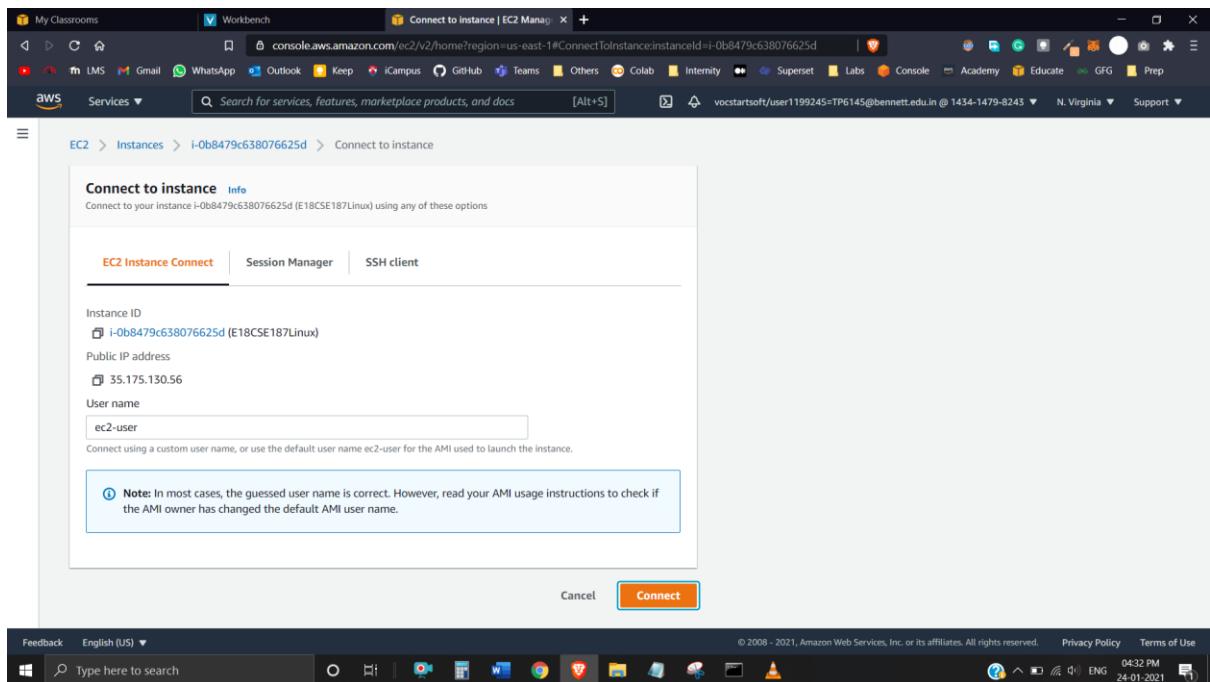
Welcome to the new instances experience!  
We're redesigning the EC2 console to make it easier to use. To switch between the old console and the new console, use the New EC2 Experience toggle above the navigation panel. We'll release updates continuously based on customer feedback.

**Instances (1) Info**

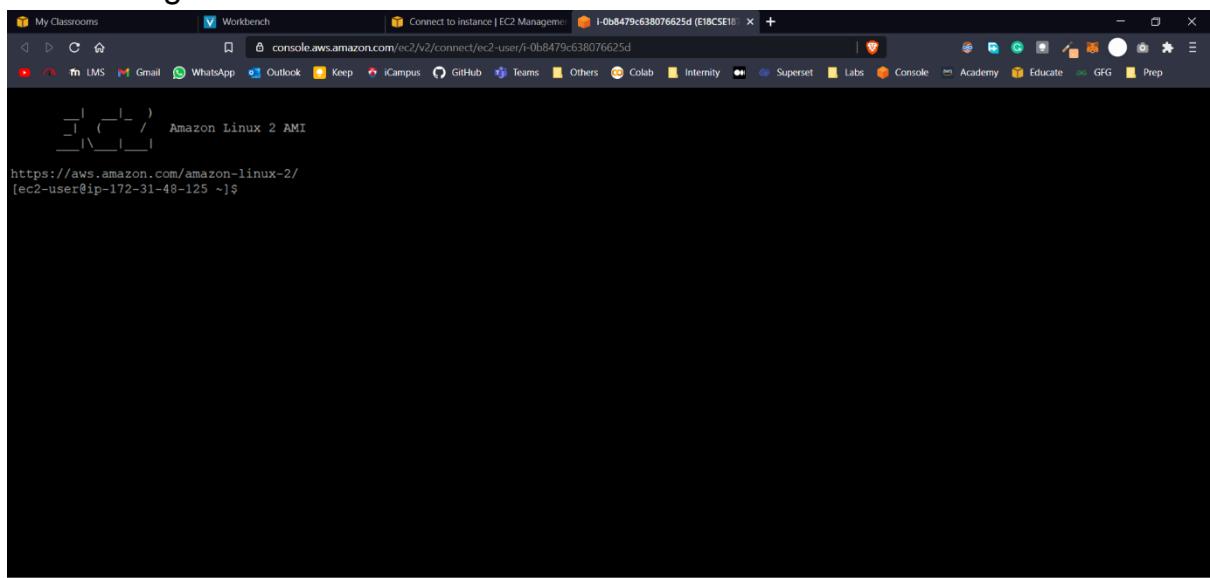
Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
E18CSE187Li...	i-0b8479c638076625d	Running	t2.micro	2/2 checks ...	1 alarm ...	us-east-1e	ec2-35-175-130-56

Select an instance above





## Connecting without PuTTY:



i-0b8479c638076625d (E18CSE187Linux)

Public IPs: 35.175.130.56      Private IPs: 172.31.48.125



## Connecting with PuTTY:

The screenshot shows the AWS Management Console interface for connecting to an EC2 instance. The main window displays the instance details: Instance ID i-0b8479c638076625d (E18CSE187Linux), Public IP address 35.175.130.56, and User name ec2-user. A note at the bottom states: "Note: In most cases, the guessed user name is correct. However, the AMI owner has changed the default AMI user name." Overlaid on this is the Putty Key Generator window, which contains the following information:

Key	Value
Public key for pasting into OpenSSH authorized_keys file	ssh-rsa AAAE... (long string of characters)
Key fingerprint	ssh-rsa 2048 36:3a:9a:3b:d9:08:64:b6:ef:79:6a:f3:a4:66:3d
Key comment	imported-openssh-key
Key passphrase	(empty)
Confirm passphrase	(empty)

Actions section:

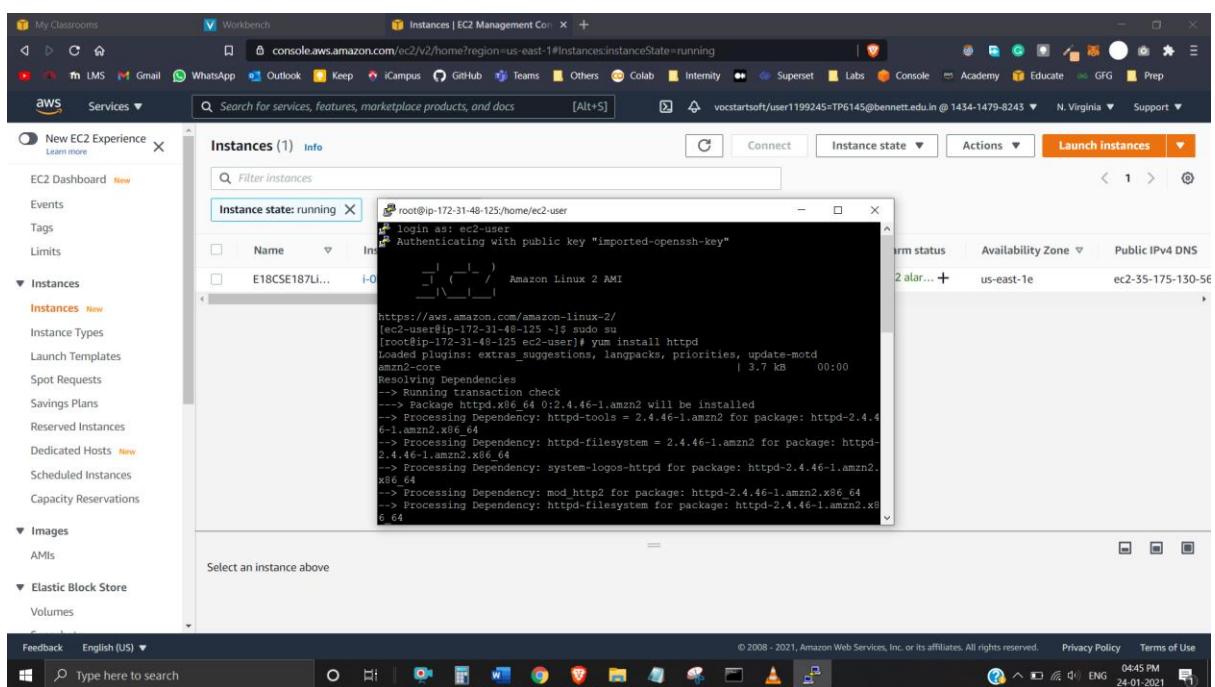
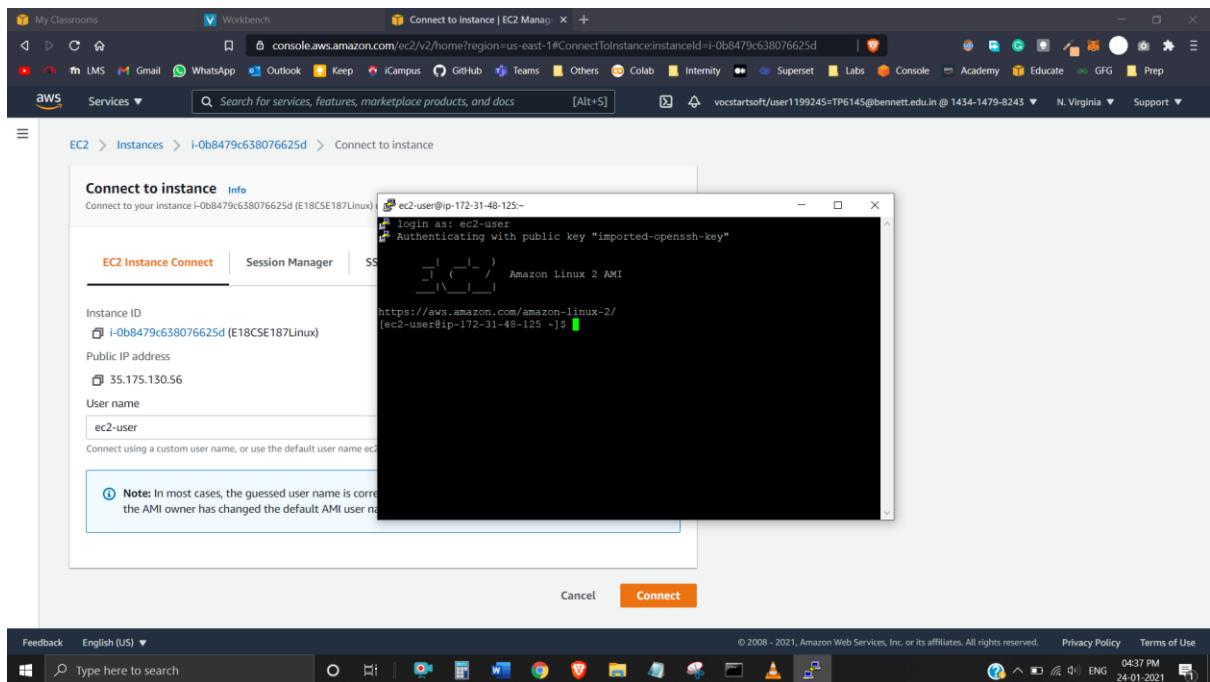
- Generate public/private key pair (disabled)
- Load an existing private key file (disabled)
- Save the generated key (disabled)
- Save public key (disabled)
- Save private key (disabled)

Parameters section:

- Type of key to generate:
  - RSA
  - DSA
  - ECDSA
  - SSH-1 (RSA)
- Number of bits in a generated key: 2048

At the bottom of the Putty Key Generator window are "Cancel" and "Connect" buttons.

The taskbar at the bottom of the screen shows the Windows Start button, a search bar, and various pinned icons like File Explorer, Edge, and File History. The system tray indicates the date and time as 24-01-2021 04:34 PM.



The screenshot shows the AWS EC2 Management Console with a terminal window open on an instance named E18CSE187Li... (IP: ip-172-31-48-125). The terminal output shows the installation of httpd and its startup:

```
root@ip-172-31-48-125:~# service httpd start
Redirecting to /bin/systemctl start httpd.service
[root@ip-172-31-48-125 ~]#
```

The screenshot shows the AWS EC2 Management Console with a terminal window open on the same instance (E18CSE187Li...). The terminal output shows the status of the httpd service and some log entries:

```
[root@ip-172-31-48-125:~]# service httpd status
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor prese
   Active: active (running) since Sun Jan 24 11:15:29 UTC; 22s ago
     Main PID: 3504 (httpd)
       Status: "total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes se
      rved/sec: 0 B/sec"
      CGroup: /system.slice/httpd.service
              └─3504 /usr/sbin/httpd -DFOREGROUND
Jan 24 11:15:29 ip-172-31-48-125.ec2.internal systemd[1]: Starting The Apache...
Jan 24 11:15:29 ip-172-31-48-125.ec2.internal systemd[1]: Started The Apache ...
Hint: Some lines were ellipsized, use -l to show in full.
[root@ip-172-31-48-125 ~]#
```

This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page, it means that the Apache HTTP server installed at this site is working properly.

If you are a member of the general public:  
The fact that you are seeing this page indicates that the website you just visited is either experiencing problems, or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

If you are the website administrator:  
You may now add content to the directory /var/www/html/. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this

```
[root@ip-172-31-48-125 ec2-user]# service httpd start
Redirecting to /bin/systemctl start httpd.service
[root@ip-172-31-48-125 ec2-user]# systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor prese
t: disabled)
   Active: active (running) since Sun 2021-01-24 11:15:29 UTC; 22s ago
     Docs: man:httpd.service(8)
 Main PID: 3504 (httpd)
   Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes se
rved/sec: 0 B/sec"
   CGroup: /system.slice/httpd.service
           ├─3504 /usr/sbin/httpd -DFOREGROUND
           ├─3505 /usr/sbin/httpd -DFOREGROUND
           ├─3506 /usr/sbin/httpd -DFOREGROUND
           ├─3507 /usr/sbin/httpd -DFOREGROUND
           ├─3508 /usr/sbin/httpd -DFOREGROUND
           └─3509 /usr/sbin/httpd -DFOREGROUND
Jan 24 11:15:29 ip-172-31-48-125.ec2.internal systemd[1]: Starting The Apache...
Jan 24 11:15:29 ip-172-31-48-125.ec2.internal systemd[1]: Started The Apache ...
Hint: Some lines were ellipsized, use -l to show in full.
[root@ip-172-31-48-125 ec2-user]#
```

This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page, it means that the Apache HTTP server installed at this site is working properly.

If you are a member of the general public:  
The fact that you are seeing this page indicates that the website you just visited is either experiencing problems, or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

If you are the website administrator:  
You may now add content to the directory /var/www/html/. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this page from ever being used, follow the instructions in the file /etc/httpd/conf.d/welcome.conf.

You are free to use the image below on web sites powered by the Apache HTTP Server:

```
[root@ip-172-31-48-125 ~]# service httpd start
Redirecting to /bin/systemctl start httpd.service
[root@ip-172-31-48-125 ~]# systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor prese
t: disabled)
   Active: active (running) since Sun 2021-01-24 11:15:29 UTC; 22s ago
     Docs: man:httpd.service(8)
 Main PID: 3504 (httpd)
   Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes se
rved/sec: 0 B/sec"
   CGroup: /system.slice/httpd.service
           ├─3504 /usr/sbin/httpd -DFOREGROUND
           ├─3505 /usr/sbin/httpd -DFOREGROUND
           ├─3506 /usr/sbin/httpd -DFOREGROUND
           ├─3507 /usr/sbin/httpd -DFOREGROUND
           ├─3508 /usr/sbin/httpd -DFOREGROUND
           └─3509 /usr/sbin/httpd -DFOREGROUND
Jan 24 11:15:29 ip-172-31-48-125.ec2.internal systemd[1]: Starting The Apache...
Jan 24 11:15:29 ip-172-31-48-125.ec2.internal systemd[1]: Started The Apache ...
Hint: Some lines were ellipsized, use -l to show in full.
[root@ip-172-31-48-125 ~]#
```

The screenshot shows the AWS EC2 Management Console. On the left, the navigation pane includes 'Instances' under 'Instances' (New), 'Images', and 'Elastic Block Store'. The main area displays a table of instances with one row selected. The terminal window shows the following command and its output:

```
[root@ip-172-31-48-125 ec2-user]# service httpd status
Redirecting to /bin/systemctl status httpd.service
● httpd.service - The Apache HTTP Server
  Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor prese
t: disabled)
  Active: active (running) since Sun Jan 24 11:15:29 UTC 2021; 22s ago
    Docs: manhttpd.service(8)
  Main PID: 3504 (httpd)
  Status: "Total requests: 0; Idle/Busy workers 100/0; Requests/sec: 0; Bytes se
rved/sec: 0 B/sec"
  CGroup: /system.slice/httpd.service
         ├─3504 /usr/sbin/httpd -DFOREGROUND
         ├─3505 /usr/sbin/httpd -DFOREGROUND
         ├─3506 /usr/sbin/httpd -DFOREGROUND
         ├─3507 /usr/sbin/httpd -DFOREGROUND
         ├─3508 /usr/sbin/httpd -DFOREGROUND
         └─3509 /usr/sbin/httpd -DFOREGROUND
```

The instance summary shows the instance state as 'Running' and the instance type as 't2.micro'. The VPC ID is listed as 'vpc-1ef55563'.

## Lab-2

The screenshot shows the 'Launch Instance wizard | EC2' page. Step 1: Choose an Amazon Machine Image (AMI). The search bar shows 'windows'. The results list several Windows AMIs:

- Microsoft Windows Server 2019 Base** - ami-0f5761c546ea1265a (Free tier eligible)
- Microsoft Windows Server 2019 Base with Containers** - ami-07df9d1e2a40d2856 (Free tier eligible)
- Microsoft Windows Server 2019 with SQL Server 2017 Standard** - ami-08247a35d50a7771a (Free tier eligible)
- Microsoft Windows Server 2019 with SQL Server 2017 Enterprise** - ami-0e901139c6f1e1267 (Free tier eligible)

The bottom of the screen shows the Windows taskbar and system tray.

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. Learn more about instance types and how they can meet your computing needs.

Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
t2	i2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<b>t2</b>	<b>i2.micro</b> Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
t2	i2.small	1	2	EBS only	-	Low to Moderate	Yes
t2	i2.medium	2	4	EBS only	-	Low to Moderate	Yes
t2	i2.large	2	8	EBS only	-	Low to Moderate	Yes
t2	i2.xlarge	4	16	EBS only	-	Moderate	Yes
t2	i2.2xlarge	8	32	EBS only	-	Moderate	Yes
t3	i3.nano	2	0.5	EBS only	Yes	Up to 5 Gigabit	Yes
t3	i3.micro	2	1	EBS only	Yes	Up to 5 Gigabit	Yes
t3	i3.small	2	2	FRS only	Yes	Up to 5 Gigabit	Yes

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Cancel Previous Review and Launch Next: Configure Instance Details

04:49 PM ENG 24-01-2021

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of Instances	1	Launch into Auto Scaling Group
Purchasing option	<input type="checkbox"/> Request Spot instances	
Network	vpc-1ef35563 (default)	<input type="checkbox"/> Create new VPC
Subnet	No preference (default subnet in any Availability Zone)	<input type="checkbox"/> Create new subnet
Auto-assign Public IP	Use subnet setting (Enable)	
Placement group	<input type="checkbox"/> Add instance to placement group	
Capacity Reservation	Open	
Domain join directory	No directory	
IAM role	None	
CPU options	<input type="checkbox"/> Specify CPU options	
Shutdown behavior	Stop	
Stop - Hibernate behavior	<input type="checkbox"/> Enable hibernation as an additional stop behavior	
Enable termination protection	<input type="checkbox"/> Protect against accidental termination	
Monitoring	<input type="checkbox"/> Enable CloudWatch detailed monitoring	

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Cancel Previous Review and Launch Next: Add Storage

04:52 PM ENG 24-01-2021

My Classrooms Workbench Launch instance wizard | EC2 Mai +

console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

LMS Gmail WhatsApp Outlook Keep iCampus GitHub Teams Others Colab Intimacy Superset Labs Console Academy Educate GFG Prep

AWS Services Search for services, features, marketplace products, and docs [Alt+S]

voestsofts/user1199245=TP6145@bennett.edu.in@1434-1479-8243 N. Virginia Support

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

**Step 4: Add Storage**

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. Learn more about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/sda1	snap-0213c79a1ead1f22d	30	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted
EBS	xvdb	Search (case-insensitiv)	8	Magnetic (standard)	N/A	N/A	<input type="checkbox"/>	Not Encrypted

Add New Volume

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. Learn more about free usage tier eligibility and usage restrictions.

Cancel Previous Review and Launch Next: Add Tags

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My Classrooms Workbench Launch instance wizard | EC2 Mai +

console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

LMS Gmail WhatsApp Outlook Keep iCampus GitHub Teams Others Colab Intimacy Superset Labs Console Academy Educate GFG Prep

AWS Services Search for services, features, marketplace products, and docs [Alt+S]

voestsofts/user1199245=TP6145@bennett.edu.in@1434-1479-8243 N. Virginia Support

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

**Step 5: Add Tags**

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. A copy of a tag can be applied to volumes, instances or both. Tags will be applied to all instances and volumes. Learn more about tagging your Amazon EC2 resources.

Key	(128 characters maximum)	Value	(256 characters maximum)	Instances	Volumes
Name	E18CSE187Lab2_CC			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add another tag (Up to 50 tags maximum)

Cancel Previous Review and Launch Next: Configure Security Group

Feedback English (US) ▾

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My Classrooms Workbench Launch instance wizard | EC2 Mai +

console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

Search for services, features, marketplace products, and docs [Alt+S]

AWS Services ▾

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

**Step 6: Configure Security Group**

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. Learn more about Amazon EC2 security groups.

Assign a security group:  Create a new security group  Select an existing security group

Security group name: launch-wizard-2

Description: launch-wizard-2 created 2021-01-24T16:58:46.746+05:30

Type	Protocol	Port Range	Source	Description
RDP	TCP	3389	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
HTTP	TCP	80	Anywhere 0.0.0.0/0	e.g. SSH for Admin Desktop

Add Rule

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

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console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

Search for services, features, marketplace products, and docs [Alt+S]

vocstartsoft/user1199245=TP6145@bennett.edu.in @ 1434-1479-8243 N. Virginia Support

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

**Step 7: Review Instance Launch**

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

**⚠ Improve your instances' security. Your security group, launch-wizard-2, is open to the world.**  
Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only.  
You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

**⚠ Your instance configuration is not eligible for the free usage tier.**  
To launch an instance that's eligible for the free usage tier, check your AMI selection, instance type, configuration options, or storage devices. Learn more about [free usage tier](#) eligibility and usage restrictions.

**AMI Details** [Edit AMI](#)

Microsoft Windows Server 2019 Base - ami-0f5761c546ea1265a  
Free tier eligible Microsoft Windows 2019 Datacenter edition. [English]  
Root Device Type: ebs Virtualization type: hvm

If you plan to use this AMI for an application that benefits from Microsoft License Mobility, fill out the [License Mobility Form](#). Don't show me this again

**Instance Type** [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
I2 micro	-	1	1	EBS only	-	Low to Moderate

**Security Groups** [Edit security groups](#)

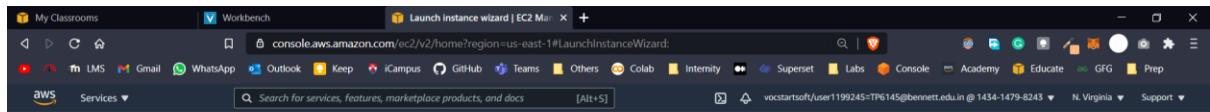
**Cancel Previous Launch**

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Type here to search

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05:00 PM ENG 24-01-2021



## Launch Status

Your instances are now launching  
The following instance launches have been initiated: i-0e059dc961a9bb73a [View launch log](#)

**Get notified of estimated charges**  
Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

**How to connect to your instances**

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances. Click [View Instances](#) to monitor your instances' status. Once your instances are in the **running** state, you can [connect](#) to them from the Instances screen. [Find out](#) how to connect to your instances.

Here are some helpful resources to get you started

- How to connect to your Windows instance
- Learn about AWS Free Usage Tier
- Amazon EC2: User Guide
- Amazon EC2: Microsoft Windows Guide
- Amazon EC2: Discussion Forum

While your instances are launching you can also

- Create status check alarms to be notified when these instances fail status checks. (Additional charges may apply)
- Create and attach additional EBS volumes (Additional charges may apply)
- Manage security groups

[View Instances](#)



Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4
E18CSE187L...	i-0b8479c638076625d	Running	t2.micro	2/2 checks ...	1 alarm...	us-east-1e	ec2-35-175-130-56.co...	35.175.130.
E18CSE187L...	i-0e059dc961a9bb73a	Running	t2.micro	2/2 checks ...	1 alarm...	us-east-1a	ec2-18-205-247-103.c...	18.205.247.

Screenshot of the AWS EC2 Management Console showing the Volumes page. The sidebar shows 'EC2 Dashboard' and 'Instances'. The main table lists three volumes:

Name	Volume ID	Size	Volume Type	IOPS	Throughput	Snapshot	Created	Availability Zone	State	Alarm Status	Attachment Information
E18CSE187...	vol-042690455baffd4cc	30 GiB	gp2	100	-	snap-0bf5b3d4...	January 24, 2021 at...	us-east-1a	in-use	None	i-0e059dc961a9bb73...
E18CSE187...	vol-0915e06...	8 GiB	standard	-	-		January 24, 2021 at...	us-east-1a	in-use	None	i-0e059dc961a9bb73...
E18CSE187...	vol-071a200f...	8 GiB	gp2	100	-	snap-019159f1...	January 24, 2021 at...	us-east-1e	in-use	None	i-08479c538078625...

Details for Volume ID vol-042690455baffd4cc (E18CSE187Lab2\_CC):

Description	Status Checks	Monitoring	Tags
Volume ID: vol-042690455baffd4cc	Alarm status: None	Snapshot: snap-0bf5b3d4b631b5f033	Outposts ARN: -
Availability Zone: us-east-1a	Encryption: Not Encrypted	Created: January 24, 2021 at 5:01 08 PM UTC+5:30	Size: 30 GiB
		State: in-use	
		Attachment information: i-0e059dc961a9bb73a (E18CSE187Lab2_CC)/dev/sda1 (attached)	

Screenshot of the AWS EC2 Management Console showing the Connect to instance page. The sidebar shows 'EC2 > Instances > i-0e059dc961a9bb73a > Connect to instance'. The main content area displays connection details for the instance:

Connect to instance info

Connect to your instance i-0e059dc961a9bb73a (E18CSE187Lab2\_CC) using any of these options

Session Manager | RDP client (selected)

You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below.

[Download remote desktop file](#)

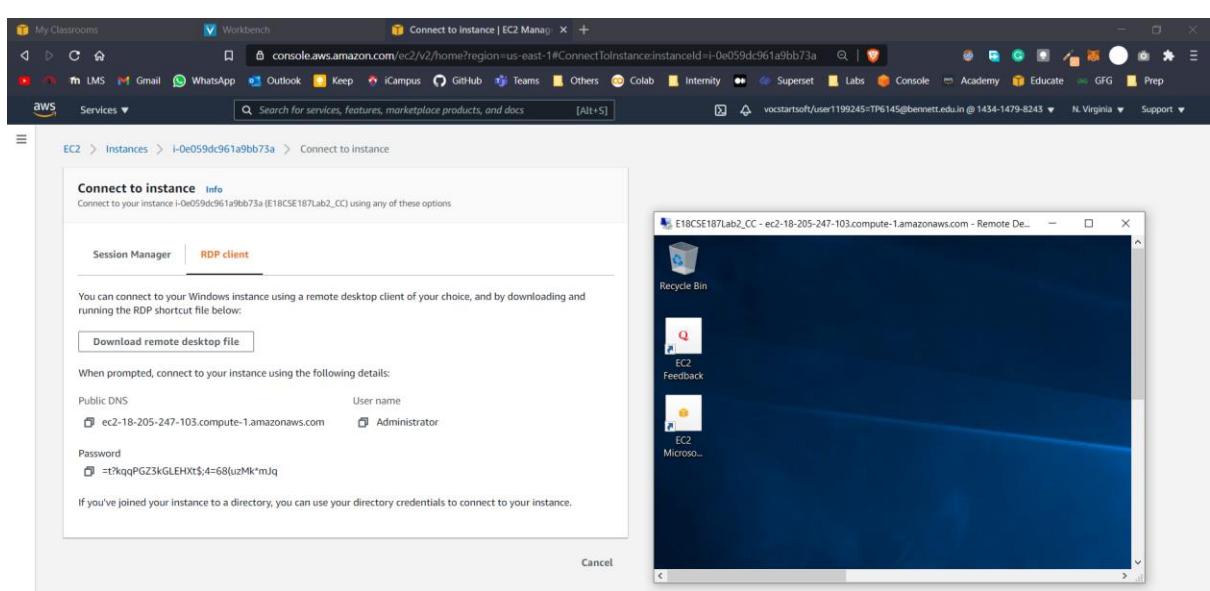
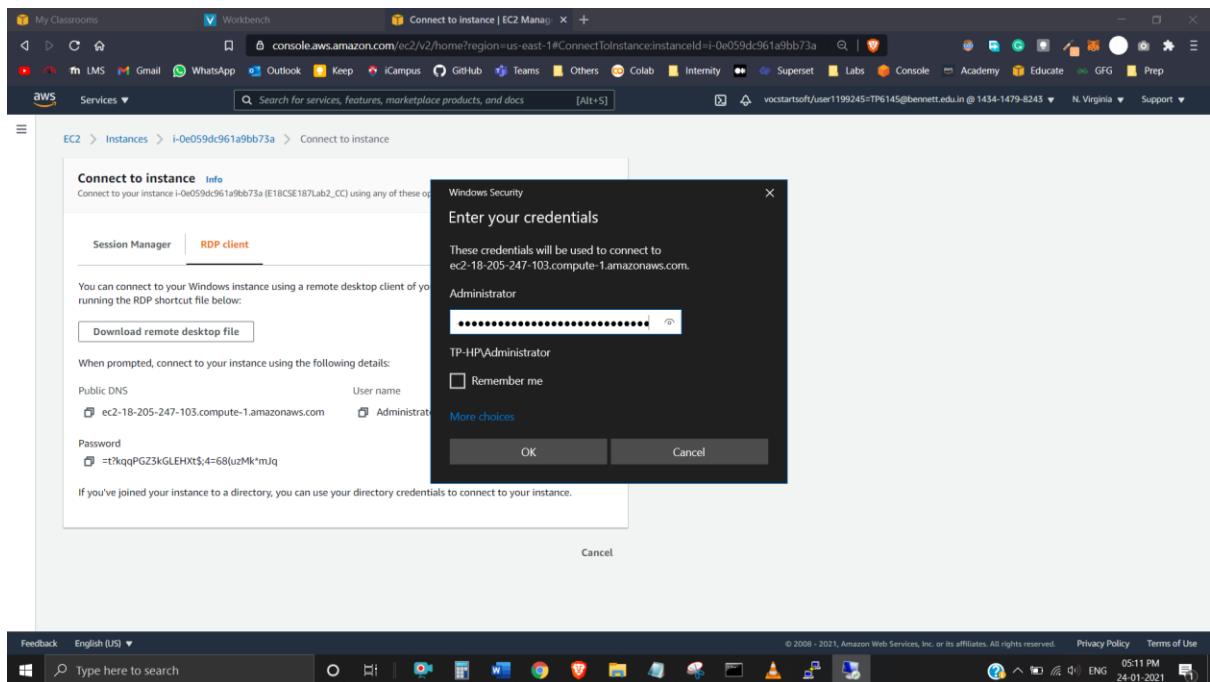
When prompted, connect to your instance using the following details:

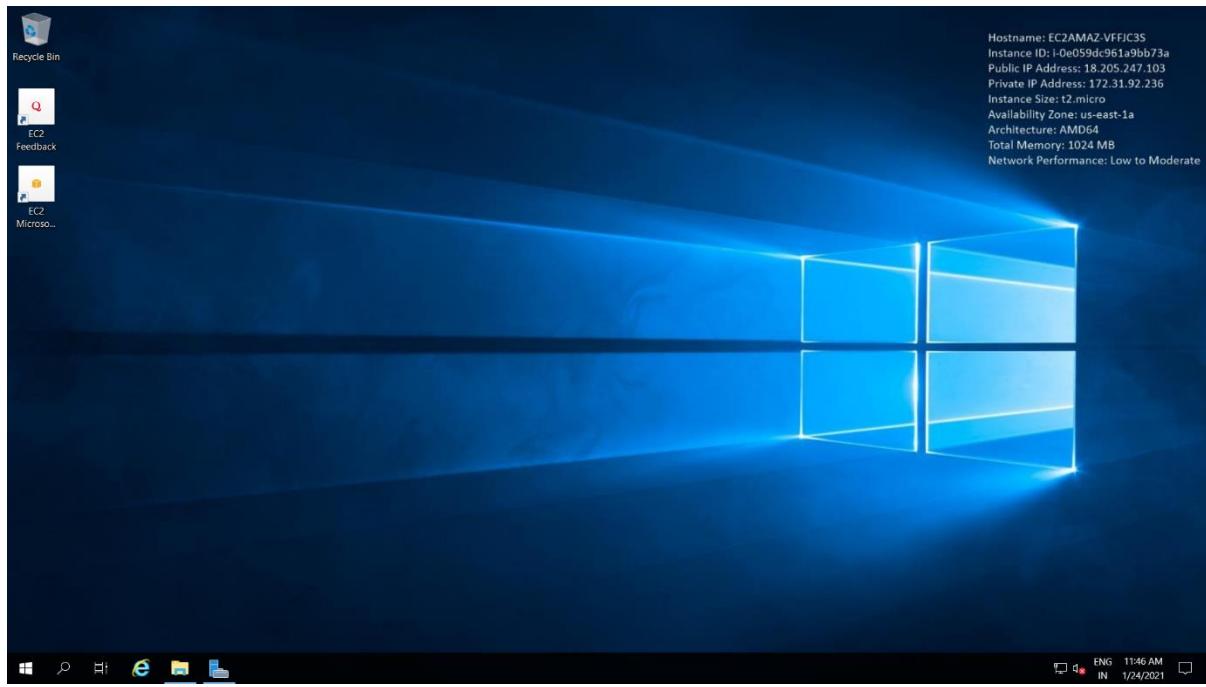
Public DNS	User name
ec2-18-205-247-103.compute-1.amazonaws.com	Administrator
Password	!t?kqqPGZ3kGLEHxt\$4=68(uzMk`mJq

If you've joined your instance to a directory, you can use your directory credentials to connect to your instance.

Cancel







A screenshot of the Server Manager Dashboard. The title bar says "Server Manager &gt; Dashboard". The main area is titled "WELCOME TO SERVER MANAGER" and features a "QUICK START" section with five numbered steps: 1. Configure this local server, 2. Add roles and features, 3. Add other servers to manage, 4. Create a server group, and 5. Connect this server to cloud services. Below this is a "WHAT'S NEW" section and a "LEARN MORE" button. To the right, there's a "Hide" link. At the bottom, there's a "ROLES AND SERVER GROUPS" section showing three groups: "File and Storage Services" (1 item), "Local Server" (1 item), and "All Servers" (1 item). Each group has a "Manageability" link and lists "Events", "Performance", and "BPA results". The bottom taskbar shows the same icons as the first screenshot, with the date 1/24/2021 and time 11:45 AM.

Server Manager

Server Manager > File and Storage Services > Volumes >

Servers Volumes Disks Storage Pools

**VOLUMES**  
All volumes | 1 total

Volume	Status	File System Label	Provisioning	Capacity	Free Space	Deduplication Rate	Deduplication Savings	Percent Used
EC2AMAZ-VFFJC3S (1)	Fixed	C:	30.0 GB	15.9 GB				

Last refreshed on 1/24/2021 11:47:35 AM

**SHARES**  
No related shares are available.

To use this functionality, install the File Server role service.  
Start the Add Roles and Features Wizard.

**DISK**  
C: on EC2AMAZ-VFFJC3S

AWS PVDISK	Capacity:
30.0 GB	30.0 GB Allocated 0.00 B Unallocated

Status: Online Bus Type: SAS

Go to Disks Overview >

**iSCSI VIRTUAL DISKS**  
No related iSCSI virtual disks are available.

11:47 AM ENG IN 1/24/2021

Server Manager

Server Manager > File and Storage Services > Volumes > Disks

Servers Volumes Disks Storage Pools

**DISKS**  
All disks | 2 total

Number	Virtual Disk	Status	Capacity	Unallocated	Partition	Read Only	Clustered	Subsystem	Bus Type	Name
0	EC2AMAZ-VFFJC3S (2)	Online	30.0 GB	0.00 B	MBR				SAS	AWS PVDISK
1		Offline	8.00 GB	8.00 GB	Unknown	✓			SAS	AWS PVDISK

Last refreshed on 1/24/2021 11:48:28 AM

**VOLUMES**  
Related Volumes | 1 total

Volume	Status	Provisioning	Capacity	Free Space	Deduplication Rate	Deduplication Saving
EC2AMAZ-VFFJC3S (1)	Fixed	C:	30.0 GB	15.9 GB		

Go to Volumes Overview >

**STORAGE POOL**  
AWS PVDISK on EC2AMAZ-VFFJC3S

No related storage pool exists.

11:48 AM ENG IN 1/24/2021

Server Manager

Server Manager > File and Storage Services > Volumes > Disks

**DISKS**

All disks | 2 total

Number	Virtual Disk	Status	Capacity	Unallocated	Partition	Read Only	Clustered	Subsystem	Bus Type	Name
0	EC2AMAZ-VFFJC3S (2)	Online	30.0 GB	0.00 B	MBR				SAS	AWS PVDSK
1		Online	8.00 GB	8.00 GB	Unknown				SAS	AWS PVDSK

Last refreshed on 1/24/2021 11:48:28 AM

**VOLUMES**

Related Volumes | 0 total

No volumes exist.

To create a volume, start the New Volume Wizard.

[Go to Volumes Overview >](#)

**STORAGE POOL**

AWS PVDSK on EC2AMAZ-VFFJC3S

No related storage pool exists.

[Go to Storage Pools Overview >](#)

Windows taskbar: Start, Search, File Explorer, Task View, Taskbar settings, ENG IN, 11:49 AM, 1/24/2021

Server Manager

Server Manager > File and Storage Services > Volumes > Disks

**DISKS**

All disks | 2 total

New Volume Wizard

**Completion**

You have successfully completed the New Volume Wizard.

Task	Progress	Status
Gather information	<div style="width: 100%;"> </div>	Completed
Create new partition	<div style="width: 100%;"> </div>	Completed
Format volume	<div style="width: 100%;"> </div>	Completed
Add access path	<div style="width: 100%;"> </div>	Completed
Update cache	<div style="width: 100%;"> </div>	Completed

Before You Begin  
Server and Disk  
Size  
Drive Letter or Folder  
File System Settings  
Configurations  
Results

< Previous | Next > | Close | Cancel

[Go to Volumes Overview >](#) | [Go to Storage Pools Overview >](#)

Windows taskbar: Start, Search, File Explorer, Task View, Taskbar settings, ENG IN, 11:54 AM, 1/24/2021

Server Manager

Server Manager > File and Storage Services > Volumes > Disks

**DISKS**

All disks | 2 total

Number	Virtual Disk	Status	Capacity	Unallocated	Partition	Read Only	Clustered	Subsystem	Bus Type	Name
0	Online	30.0 GB	0.00 B	MBR					SAS	AWS PVDISK
1	Online	8.00 GB	0.00 B	GPT					SAS	AWS PVDISK

Last refreshed on 1/24/2021 11:48:28 AM

**VOLUMES**

Select a disk to display the related volumes.

[Go to Volumes Overview >](#)

**STORAGE POOL**

No volume is selected.

Select a disk to display its related storage pool.

[Go to Storage Pools Overview >](#)

Windows Taskbar: ENG IN 11:55 AM 1/24/2021

Server Manager

Server Manager > File and Storage Services > Volumes

**VOLUMES**

All volumes | 2 total

Volume	Status	File System Label	Provisioning	Capacity	Free Space	Deduplication Rate	Deduplication Savings	Percent Used
C:	Fixed	30.0 GB	15.9 GB					
D:	Extra Volume	Fixed	7.98 GB	7.95 GB				

Last refreshed on 1/24/2021 11:52:38 AM

**SHARES**

No related shares are available.

To use this functionality, install the File Server role service.

Start the Add Roles and Features Wizard.

**DISK**

C:\ on EC2AMAZ-VFFJC3S

AWS PVDISK	Capacity:
30.0 GB	30.0 GB Allocated 0.00 B Unallocated

100% Allocated

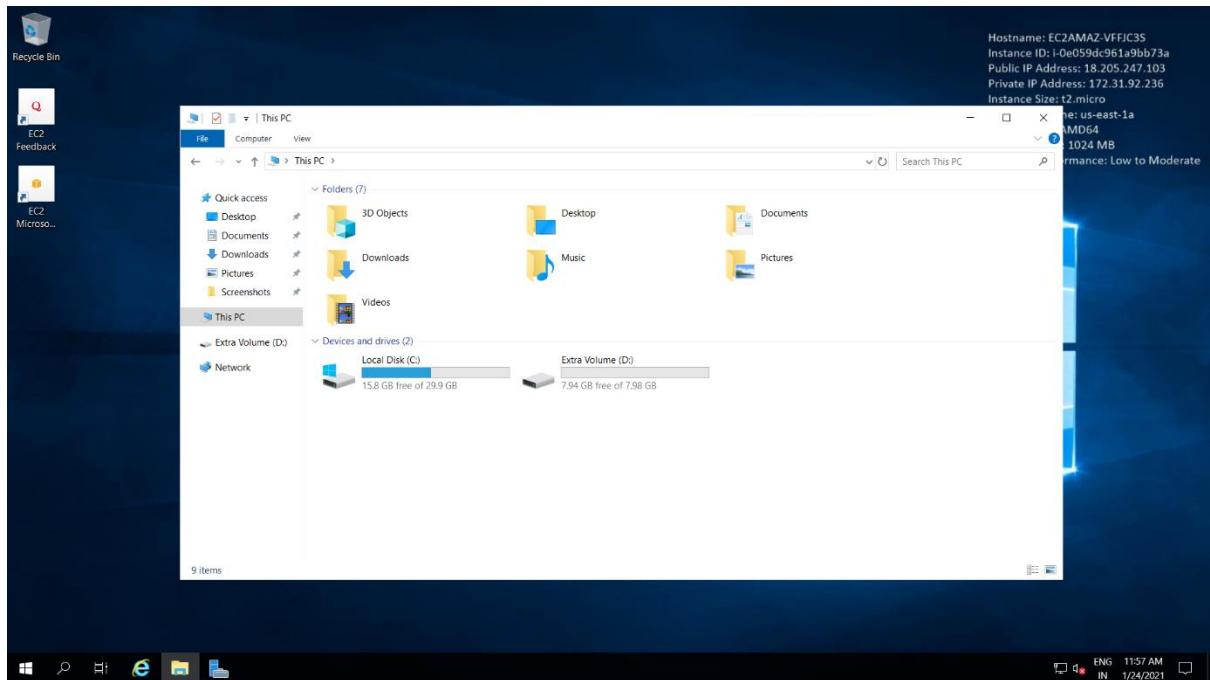
Status: Online  
Bus Type: SAS

[Go to Disks Overview >](#)

**iSCSI VIRTUAL DISKS**

No related iSCSI virtual disks are available.

Windows Taskbar: ENG IN 11:56 AM 1/24/2021



My Classrooms Workbench Instances | EC2 Management Con...

console.aws.amazon.com/ec2/v2/home?region=us-east-1#Instances:

New EC2 Experience

EC2 Dashboard Events Tags Limits

Instances (1/2) Info

Filter instances

Name Instance ID

E18CSE187LJ... i-0b8479c65

E18CSE187L... i-0e059dc961a9bb73a

Connect Instance state Actions Launch instances

Public IPv4

56.co... 35.175.130.

103.c... 18.205.247.

Instances (1/2) Info

Filter instances

Name Instance ID

E18CSE187LJ... i-0b8479c65

E18CSE187L... i-0e059dc961a9bb73a (E18CS...

Details Security Networking

Instance summary Info

Instance ID: i-0e059dc961a9bb73a (E18CS...

Instance state: Running

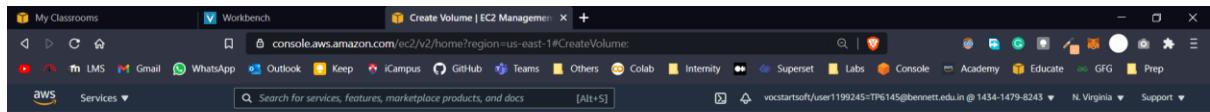
Instance type

Feedback English (US)

Type here to search

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05:29 PM 24-01-2021



Volumes > Create Volume

## Create Volume

Volume Type: Magnetic (standard)

Size (GiB): 2 (Min: 1 GiB, Max: 1024 GiB)

IOPS: Not applicable

Throughput (MB/s): Not applicable

Availability Zone\*: us-east-1a

Snapshot ID: Select a snapshot

Encryption:  Encrypt this volume

Tags:

Key	(128 characters maximum)	Value	(256 characters maximum)
Name	ExtraE18CSE187		

Add Tag | 49 remaining (Up to 50 tags maximum)

\* Required

Cancel | **Creates Volume**



Volumes > Create Volume

## Create Volume

Volume created successfully

Volume ID: vol-01fb5ecef3b763de4

**Close**



My Classrooms Workbench Volumes | EC2 Management Con...

console.aws.amazon.com/ec2/v2/home?region=us-east-1#Volumes:sort=desc:createTime

Search for services, features, marketplace products, and docs [Alt+S]

vocstartsoft/user1199245=TP6145@bennett.edu.in @ 1434-1479-8245 N. Virginia Support

New EC2 Experience

EC2 Dashboard Events Tags Limits Instances Instances Instance Types Launch Templates Spot Requests Savings Plans Reserved Instances Dedicated Hosts Scheduled Instances Capacity Reservations Images AMIs Elastic Block Store Volumes Snapshots Lifecycle Manager

Create Volume Actions

Filter by tags and attributes or search by keyword

Name	Volume ID	Size	Volume Type	IOPS	Throughput	Snapshot	Created	Availability Zone	State	Alarm Status	Attachment Information
ExtraE18CS...	vol-01fb5ece...	2 GiB	standard	-	-	snap-0bf5b3d4...	January 24, 2021 at...	us-east-1a	available	None	i-0e059dc961a9b73...
E18CSE187...	vol-0426904...	30 GiB	gp2	100	-	snap-0bf5b3d4...	January 24, 2021 at...	us-east-1a	in-use	None	i-0e059dc961a9b73...
E18CSE187...	vol-0915e06...	8 GiB	standard	-	-	snap-019159f1...	January 24, 2021 at...	us-east-1a	in-use	None	i-0e059dc961a9b73...
E18CSE187...	vol-071a200f...	8 GiB	gp2	100	-	snap-019159f1...	January 24, 2021 at...	us-east-1e	in-use	None	i-0b8479c538076625...

Select a volume above

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05:35 PM 24-01-2021

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E18CSE187...	vol-0426904...	30 GiB	gp2	100	-	snap-0bf5b3d4...	January 24, 2021 at...	us-east-1a	in-use	None	i-0e059dc961a9b73...
E18CSE187...	vol-0915e06...	8 GiB	standard	-	-	snap-019159f1...	January 24, 2021 at...	us-east-1a	in-use	None	i-0e059dc961a9b73...
E18CSE187...	vol-071a200f...	8 GiB	gp2	100	-	snap-019159f1...	January 24, 2021 at...	us-east-1e	in-use	None	i-0b8479c538076625...

Volumes: vol-01fb5ecef3b763de4 (ExtraE18CSE187)

Description Status Checks Monitoring Tags

Volume ID	vol-01fb5ecef3b763de4	Outputs ARN	-
Alarm status	None	Size	2 GiB
Snapshot	-	Created	January 24, 2021 at 5:35:15 PM UTC+5:30
Availability Zone	us-east-1a	State	in-use
Encryption	Not Encrypted	Attachment information	i-0e059dc961a9b73a (E18CSE187Lab2_CC).xvdf (attached)

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05:39 PM 24-01-2021

Server Manager

Server Manager > File and Storage Services > Volumes > Disks

DISKS

Number	Virtual Disk	Status	Capacity	Unallocated	Partition	Read Only	Clustered	Subsystem	Bus Type	Name
0		Online	30.0 GB	0.00 B	MBR				SAS	AWS PVIDISK
1		Online	8.00 GB	0.00 B	GPT				SAS	AWS PVIDISK
2		Offline	2.00 GB	2.00 GB	Unknown	✓			SAS	AWS PVIDISK

Last refreshed on 1/24/2021 12:12:15 PM.

VOLUMES

Volume	Status	Provisioning	Capacity	Free Space	Deduplication Rate	Deduplication Saving
C:	Fixed		30.0 GB	15.9 GB		

STORAGE POOL

AWS PVIDISK on EC2AMAZ-VFFJC3S

No related storage pool exists.

Go to Volumes Overview >

Go to Storage Pools Overview >

Windows taskbar: Start, Search, Task View, File Explorer, Taskbar settings, Network, System, User ENG US 12:13 PM 1/24/2021

Server Manager

Server Manager > File and Storage Services > Volumes > Disks

DISKS

Number	Virtual Disk	Status	Capacity	Unallocated	Partition	Read Only	Clustered	Subsystem	Bus Type	Name
0		Online	30.0 GB	0.00 B	MBR				SAS	AWS PVIDISK
1		Online	8.00 GB	0.00 B	GPT				SAS	AWS PVIDISK
2		Online	2.00 GB	2.00 GB	Unknown				SAS	AWS PVIDISK

Last refreshed on 1/24/2021 12:12:15 PM.

VOLUMES

Volume	Status	Provisioning	Capacity	Free Space	Deduplication Rate	Deduplication Saving
No volumes exist.						

To create a volume, start the New Volume Wizard.

STORAGE POOL

AWS PVIDISK on EC2AMAZ-VFFJC3S

No related storage pool exists.

Go to Volumes Overview >

Go to Storage Pools Overview >

Windows taskbar: Start, Search, Task View, File Explorer, Taskbar settings, Network, System, User ENG US 12:13 PM 1/24/2021

Server Manager

Server Manager > File and Storage Services > Volumes > Disks

**DISKS**

All disks | 3 total

Number	Virtual Disk	Status	Capacity	Unallocated	Partition	Read Only	Clustered	Subsystem	Bus Type	Name
0		Online	30.0 GB	0.00 B	MBR				SAS	AWS PVDISK
1		Online	8.00 GB	0.00 B	GPT				SAS	AWS PVDISK
2		Online	2.00 GB	0.00 B	GPT				SAS	AWS PVDISK

Last refreshed on 1/24/2021 12:12:15 PM

**VOLUMES**

Select a disk to display the related volumes.

[Go to Volumes Overview >](#)

**STORAGE POOL**

No volume is selected.

Select a disk to display its related storage pool.

[Go to Storage Pools Overview >](#)

Windows Taskbar: 12:13 PM, 1/24/2021

Server Manager

Server Manager > File and Storage Services > Volumes >

**VOLUMES**

All volumes | 3 total

Volume	Status	File System Label	Provisioning	Capacity	Free Space	Deduplication Rate	Deduplication Savings	Percent Used
C:	Fixed		30.0 GB	15.9 GB				
D:	Extra Volume	Fixed	7.98 GB	7.95 GB				
E:	New Volume	Fixed	1.98 GB	1.96 GB				

Last refreshed on 1/24/2021 12:13:29 PM

**SHARES**

No related shares are available.

To use this functionality, install the File Server role service.

Start the Add Roles and Features Wizard.

**DISK**

C:\ on EC2AMAZ-VFFJC3S

AWS PVDISK	Capacity:
30.0 GB	30.0 GB Allocated 0.00 B Unallocated

100% Allocated

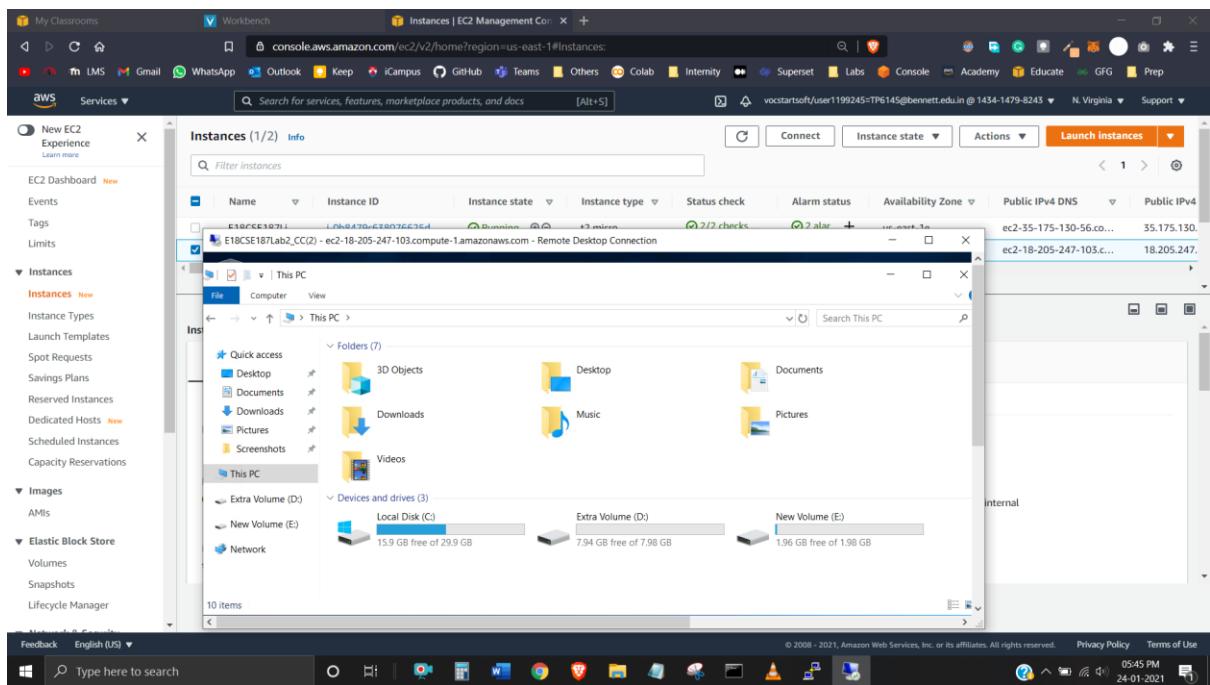
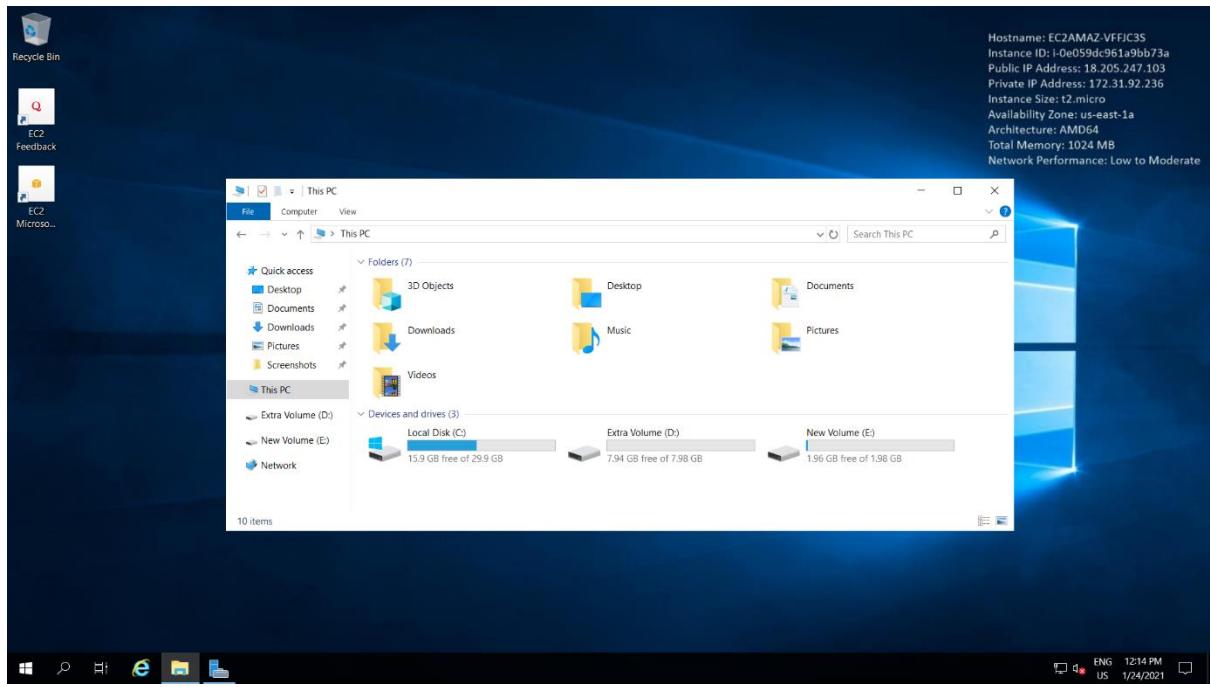
Status: Online Bus Type: SAS

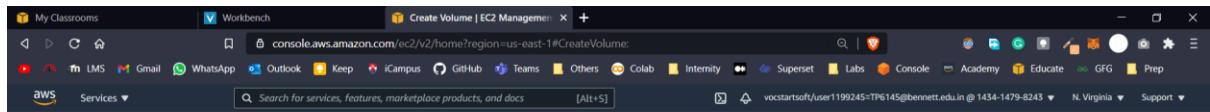
[Go to Disks Overview >](#)

**iSCSI VIRTUAL DISKS**

No related iSCSI virtual disks are available.

Windows Taskbar: 12:14 PM, 1/24/2021





Volumes > Create Volume

## Create Volume

Volume Type: Magnetic (standard)

Size (GiB): 2 (Min: 1 GiB, Max: 1024 GiB)

IOPS: Not applicable

Throughput (MB/s): Not applicable

Availability Zone\*: us-east-1e

Snapshot ID: Select a snapshot

Encryption:  Encrypt this volume

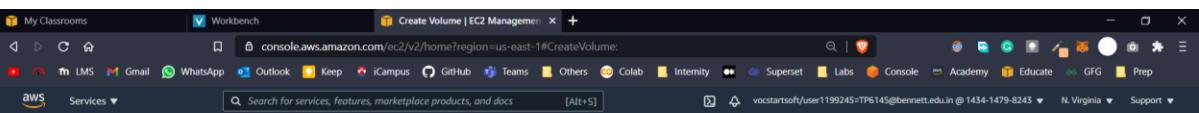
Tags:

Key	(128 characters maximum)	Value	(256 characters maximum)
Name		ExtraE18CSE187Linux	

Add Tag | 49 remaining (Up to 50 tags maximum)

\* Required

Cancel | **Creates Volume**



Volumes > Create Volume

## Create Volume

Volume created successfully

Volume ID: vol-0fe30af0d08d27e7ac

**Close**



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Images AMIs

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Network & Security Security Groups New Elastic IPs New Placement Groups Key Pairs Network Interfaces New

Load Balancing Load Balancers Target Groups New

Auto Scaling Launch Configurations Auto Scaling Groups

Create Volume Actions

Filter by tags and attributes or search by keyword

Name	Volume ID	Size	Volume Type	IOPS	Throughput	Snapshot	Created	Availability Zone	State	Alarm Status	Attachment Information
ExtraE18CS...	vol-0fe30af...	2 GiB	standard	-	-	-	January 24, 2021 at...	us-east-1e	available	None	i-0e059dc961a9b73...
ExtraE18CS...	vol-01fb5eoe...	2 GiB	standard	-	-	-	January 24, 2021 at...	us-east-1a	in-use	None	i-0e059dc961a9b73...
E18CSE187...	vol-0426904...	30 GiB	gp2	100	-	snap-0bf5b3d4...	January 24, 2021 at...	us-east-1a	in-use	None	i-0e059dc961a9b73...
E18CSE187...	vol-0915e06...	8 GiB	standard	-	-	-	January 24, 2021 at...	us-east-1a	in-use	None	i-0e059dc961a9b73...
E18CSE187...	vol-071a200f...	8 GiB	gp2	100	-	snap-019159f1...	January 24, 2021 at...	us-east-1e	in-use	None	i-0b8479c538079625...

Select a volume above

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Filter by tags and attributes or search by keyword

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ExtraE18CS...	vol-0fe30af...	2 GiB	standard	-	-	-	January 24, 2021 at...	us-east-1e	in-use	None	i-0b8479c538079625...
ExtraE18CS...	vol-01fb5eoe...	2 GiB	standard	-	-	-	January 24, 2021 at...	us-east-1a	in-use	None	i-0e059dc961a9b73...
E18CSE187...	vol-0426904...	30 GiB	gp2	100	-	snap-0bf5b3d4...	January 24, 2021 at...	us-east-1a	in-use	None	i-0e059dc961a9b73...
E18CSE187...	vol-0915e06...	8 GiB	standard	-	-	-	January 24, 2021 at...	us-east-1a	in-use	None	i-0e059dc961a9b73...
E18CSE187...	vol-071a200f...	8 GiB	gp2	100	-	snap-019159f1...	January 24, 2021 at...	us-east-1e	in-use	None	i-0b8479c538079625...

Volumes: vol-0fe30af08d27e7ac (ExtraE18CSE187Linux)

Description Status Checks Monitoring Tags

Volume ID	vol-0fe30af08d27e7ac	Outputs ARN	-
Alarm status	None	Size	2 GiB
Snapshot	-	Created	January 24, 2021 at 5:52:03 PM UTC+5:30
Availability Zone	us-east-1e	State	in-use
Encryption	Not Encrypted	Attachment information	i-0b8479c538079625d (E18CSE187Linux)/dev/sdf (attached)

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