

Principles of Cloud Computing

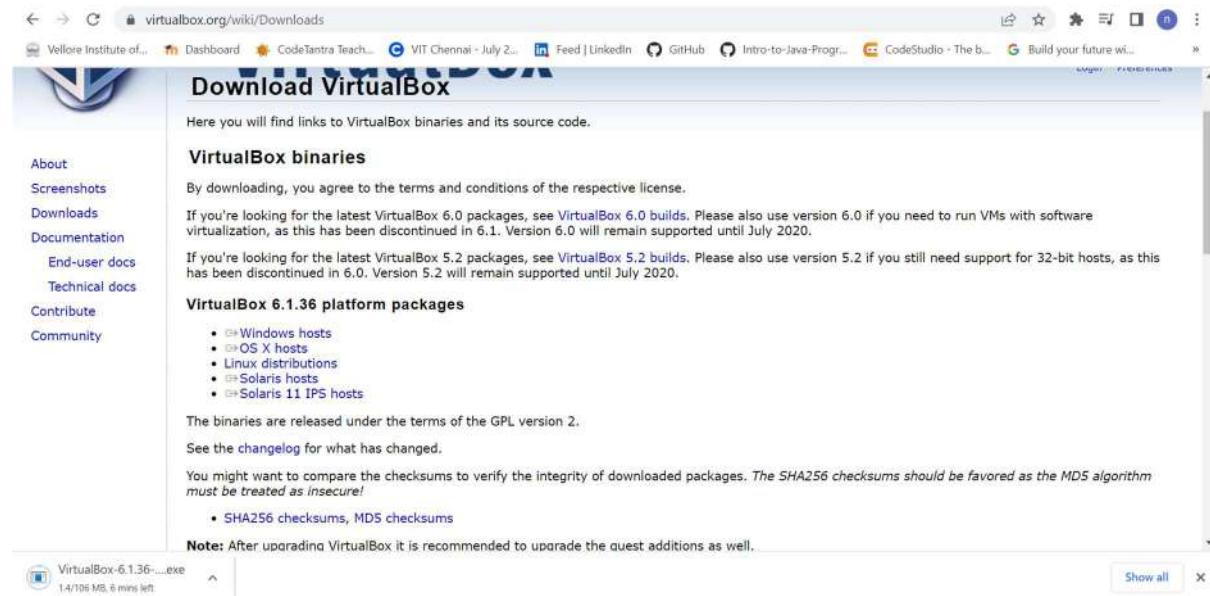
Tejas Rahul Rokade

20BDS0033

LAB-1

Using the below link download and install the oracle virtual box

<https://www.virtualbox.org/wiki/Downloads>



Download the ubuntu OS using the given below link

<https://ubuntu.com/download/desktop>

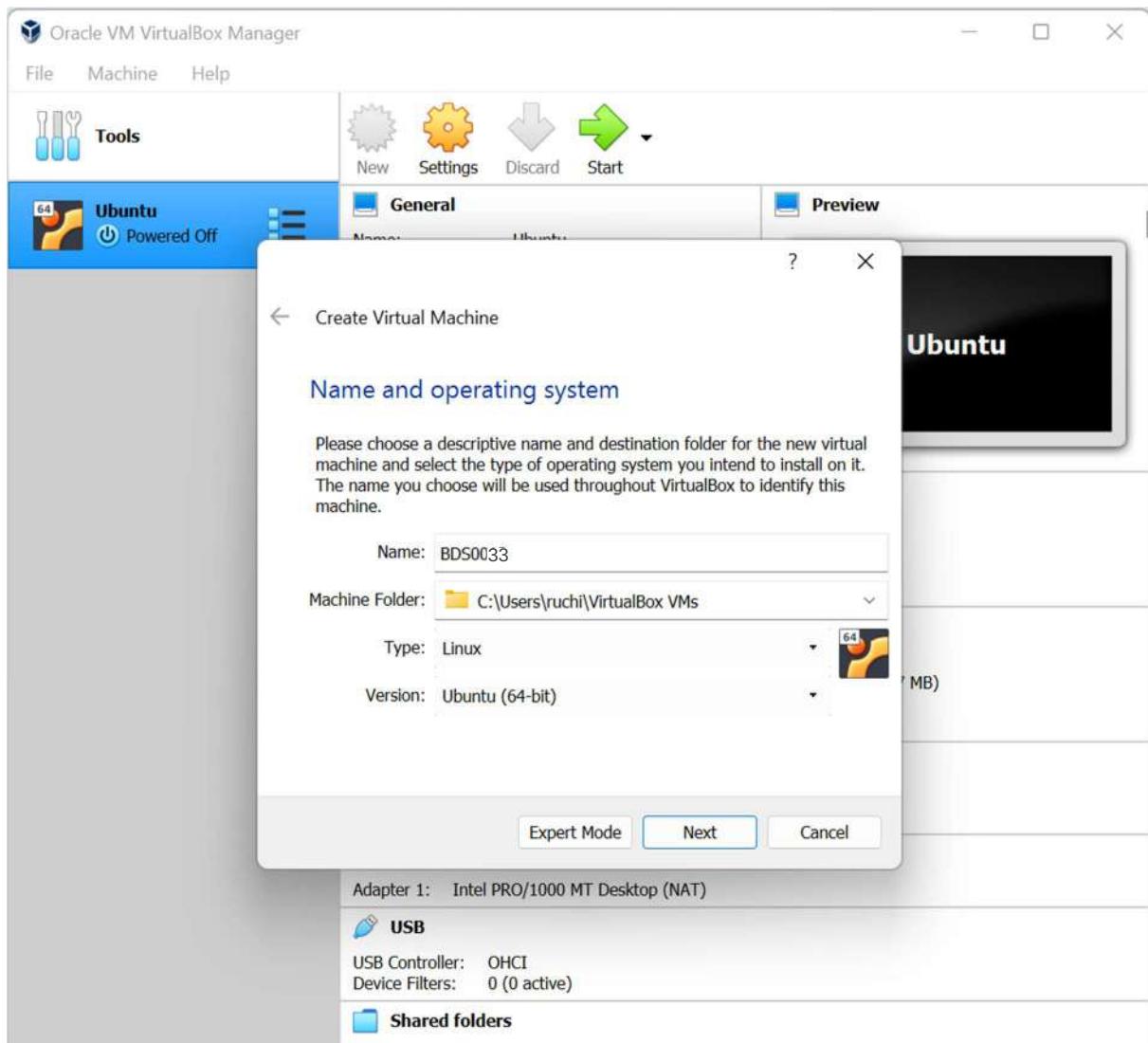
The screenshot shows a web browser window with the URL ubuntu.com/download/desktop. The page title is "Ubuntu 22.04 LTS". Below the title, there is a brief description: "Download the latest LTS version of Ubuntu, for desktop PCs and laptops. LTS stands for long-term support — which means five years, until April 2027, of free security and maintenance updates, guaranteed." To the right of the description is a large green "Download" button. Below the description, there are links to "Ubuntu 22.04 LTS release notes" and "Recommended system requirements". The system requirements list includes:

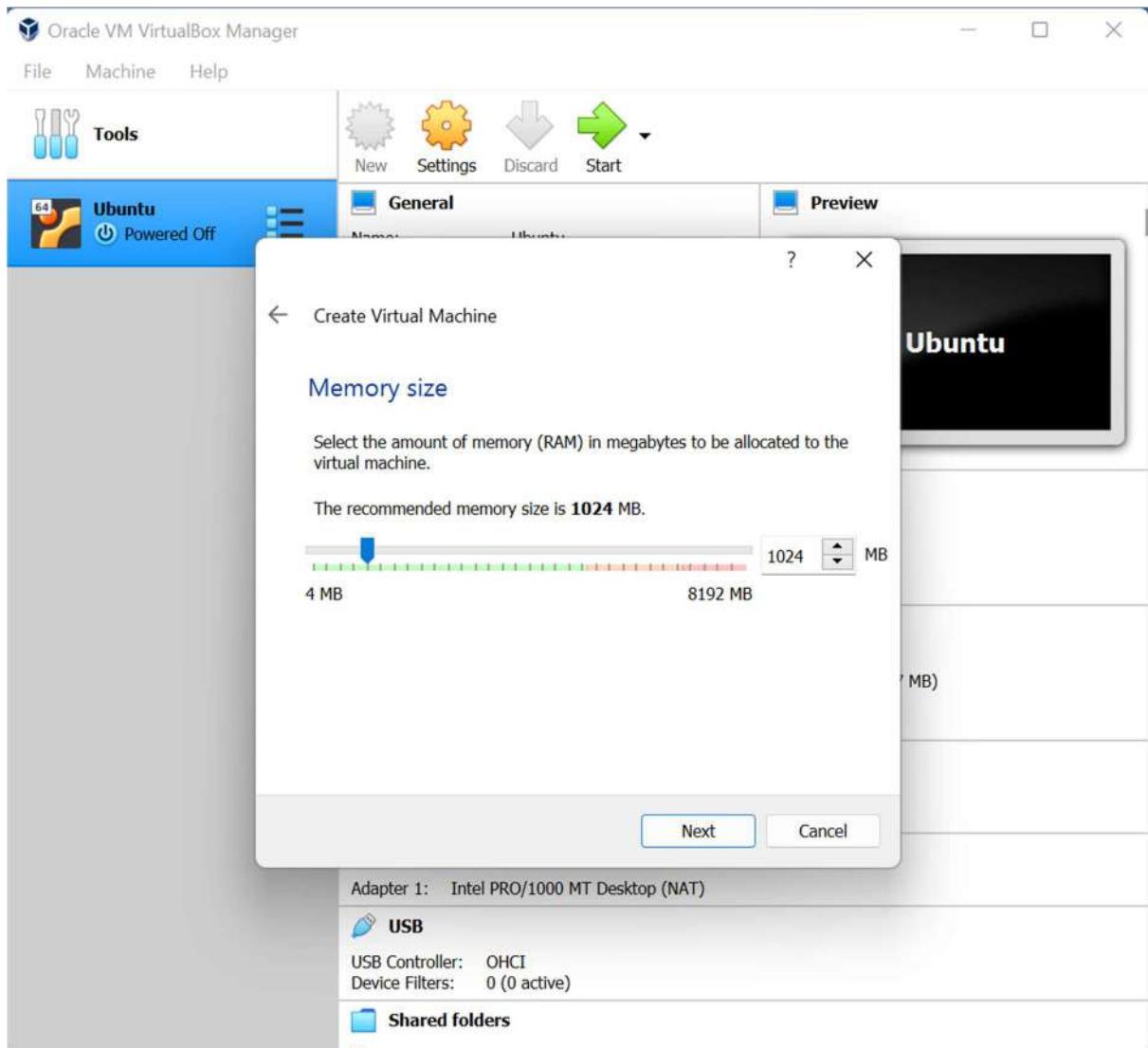
- 2 GHz dual-core processor or better
- 4 GB system memory
- 25 GB of free hard drive space
- Internet access is helpful
- Either a DVD drive or a USB port for the installer media

At the bottom of the page, there is a link to "Alternative downloads". The browser's address bar shows the URL <https://ubuntu.com/download/desktop/thank-you?version=22.04&architecture=amd64>.

The screenshot shows a web browser window with the URL <https://ubuntu.com/download/desktop/thank-you?version=22.04&architecture=amd64>. The page title is "Thank you". The main content is a large red banner with the text "Thank you for downloading Ubuntu Desktop". Below the banner, there is a message: "Your download should start automatically. If it doesn't, download now." and a link "You can verify your download, or get help on installing.". At the bottom of the page, there is a link to "Alternative downloads". The browser's address bar shows the URL <https://ubuntu.com/download/desktop/thank-you?version=22.04&architecture=amd64>.

iso file will be downloaded using this





Oracle VM VirtualBox Manager

File Machine Help



Tools



New



Settings



Discard



Start



Ubuntu

Powered Off

?

X

← Create Virtual Hard Disk

Hard disk file type

Please choose the type of file that you would like to use for the new virtual hard disk. If you do not need to use it with other virtualization software you can leave this setting unchanged.

- VDI (VirtualBox Disk Image)
- VHD (Virtual Hard Disk)
- VMDK (Virtual Machine Disk)

Ubuntu

MB)

Expert Mode

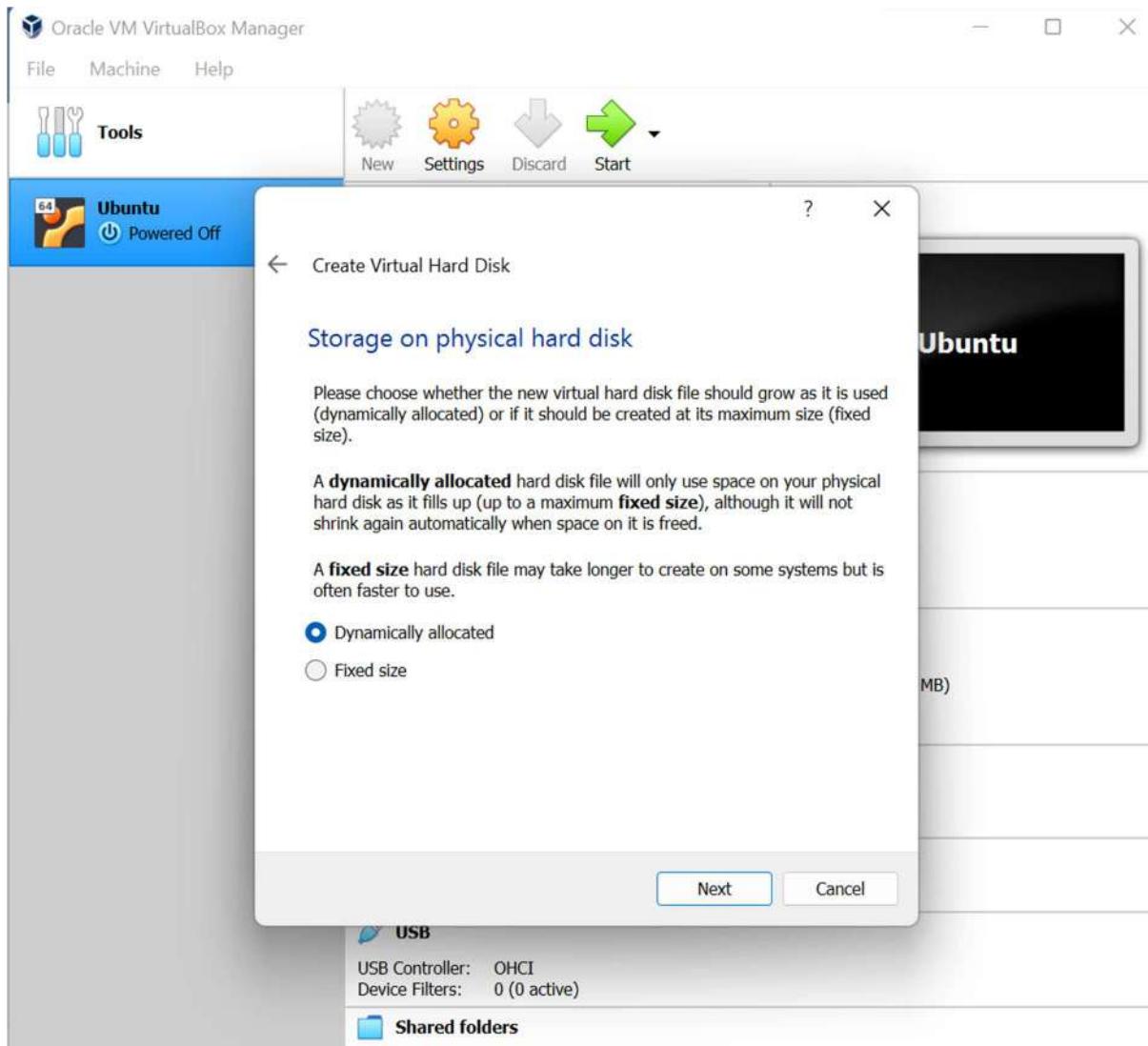
Next

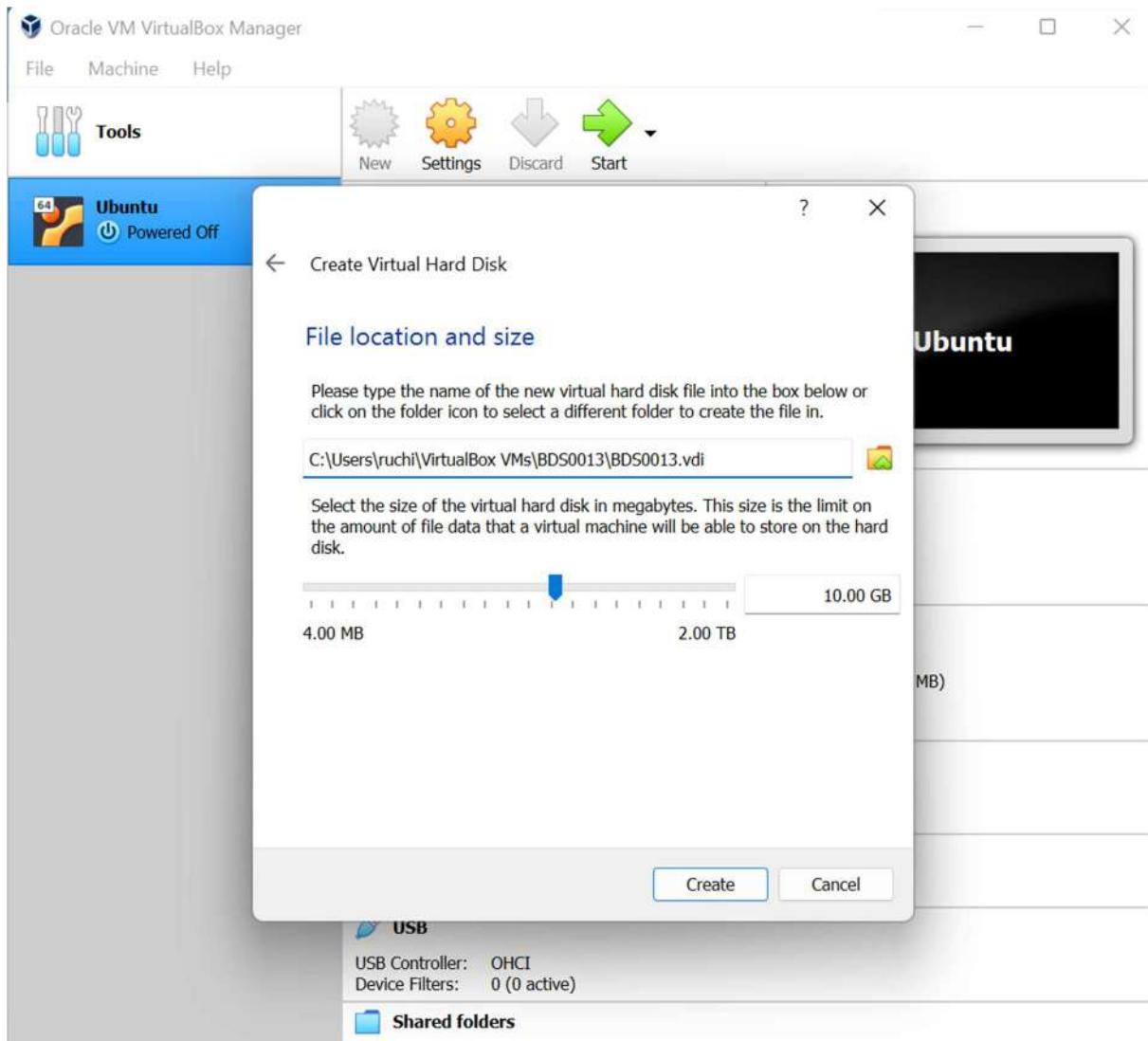
Cancel

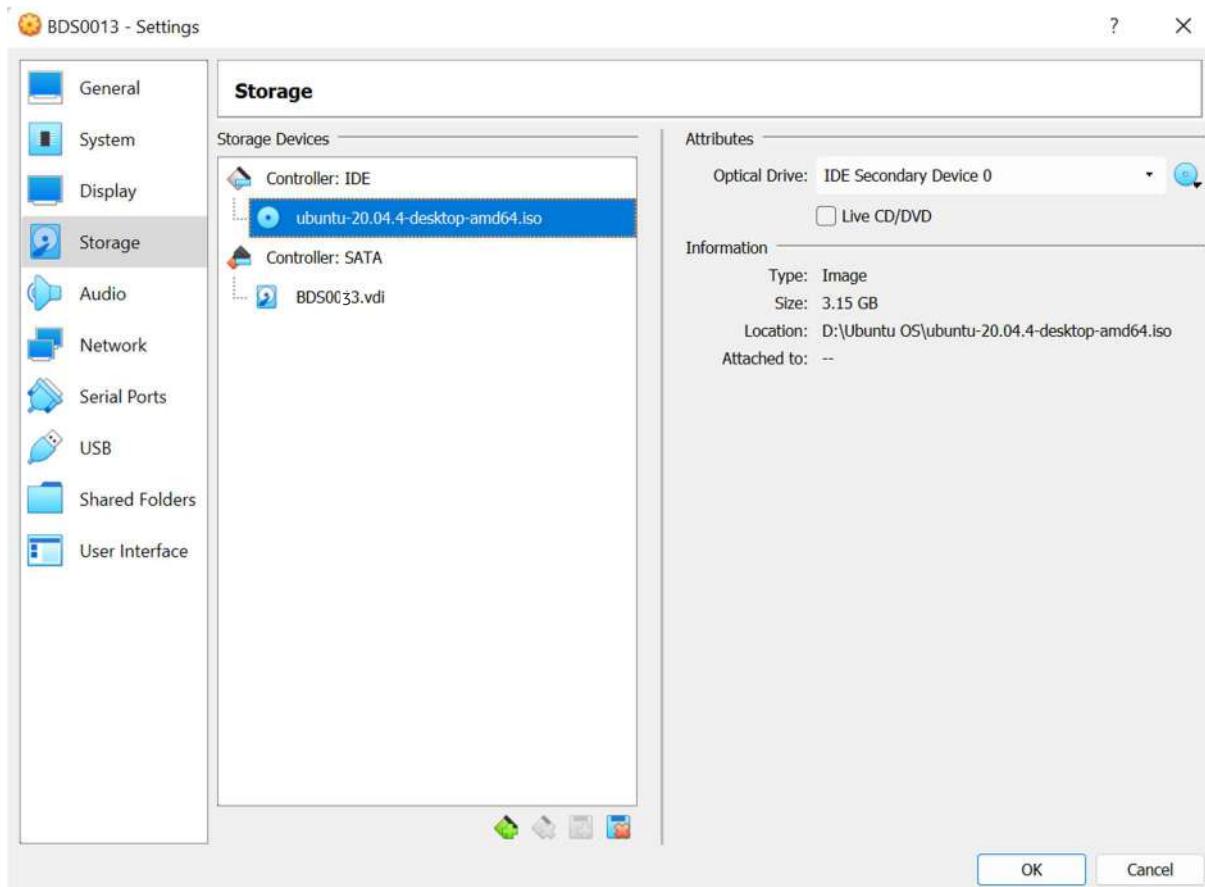
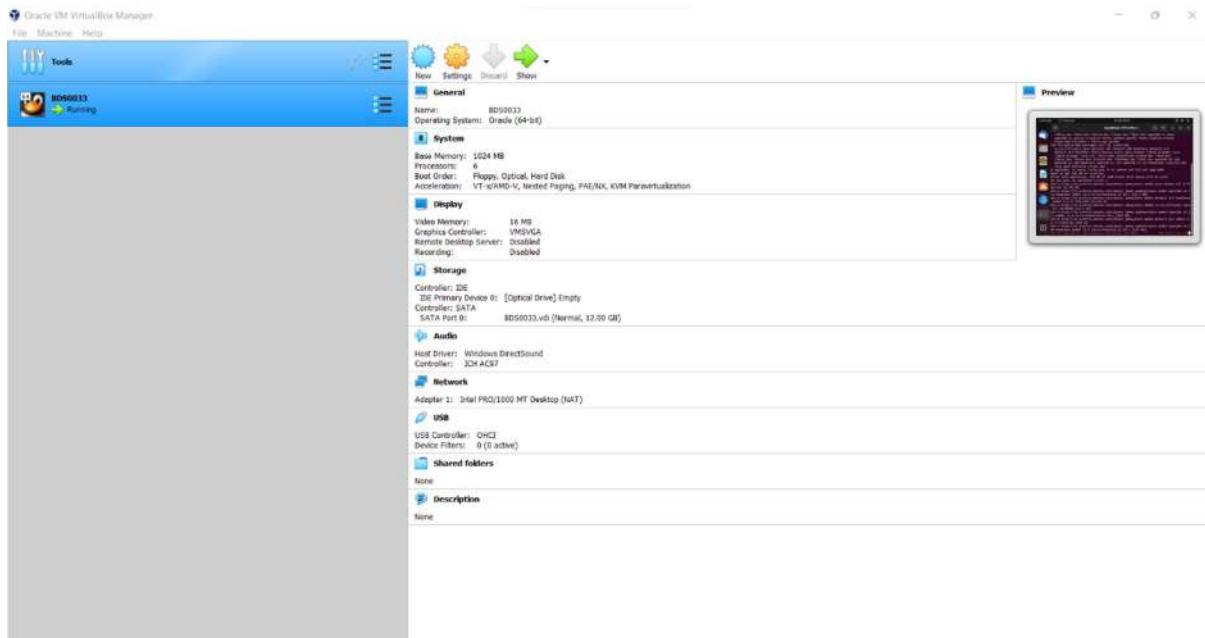


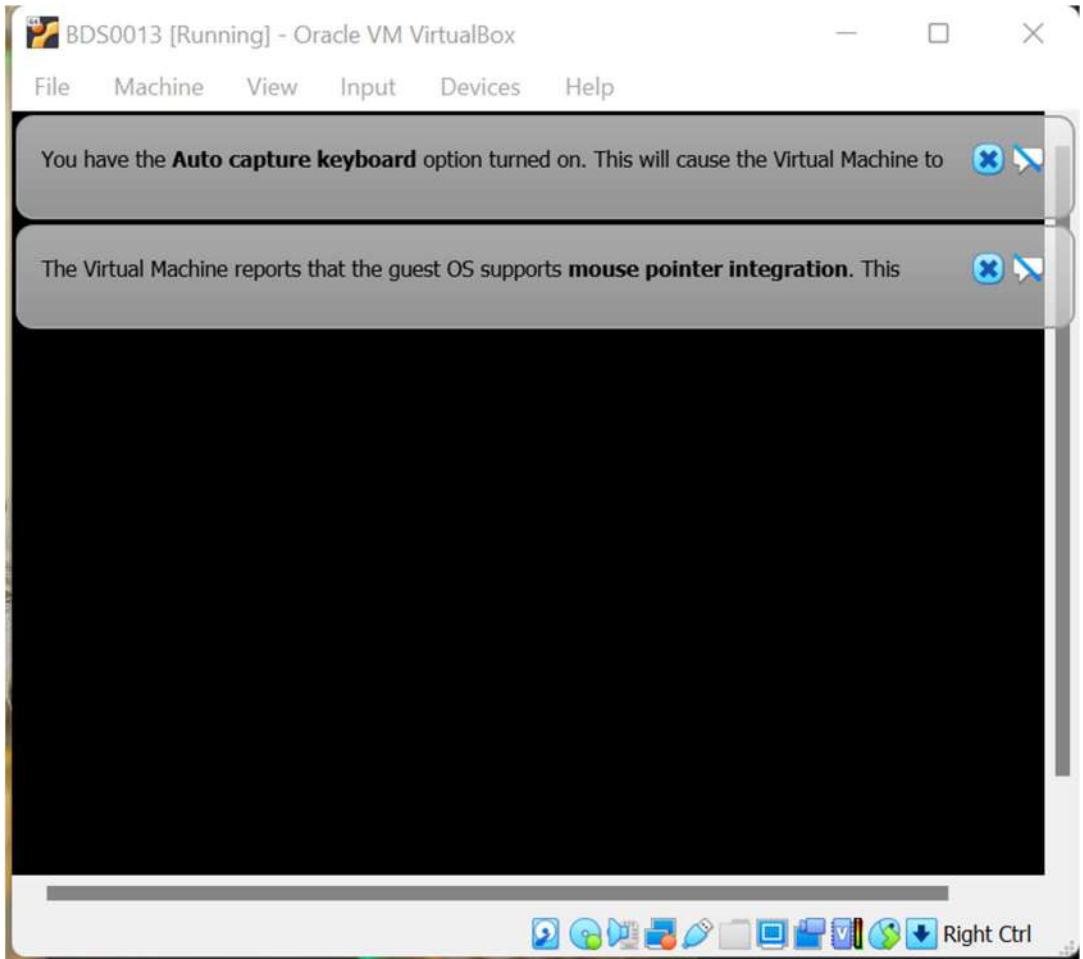
USB Controller: OHCI
Device Filters: 0 (0 active)

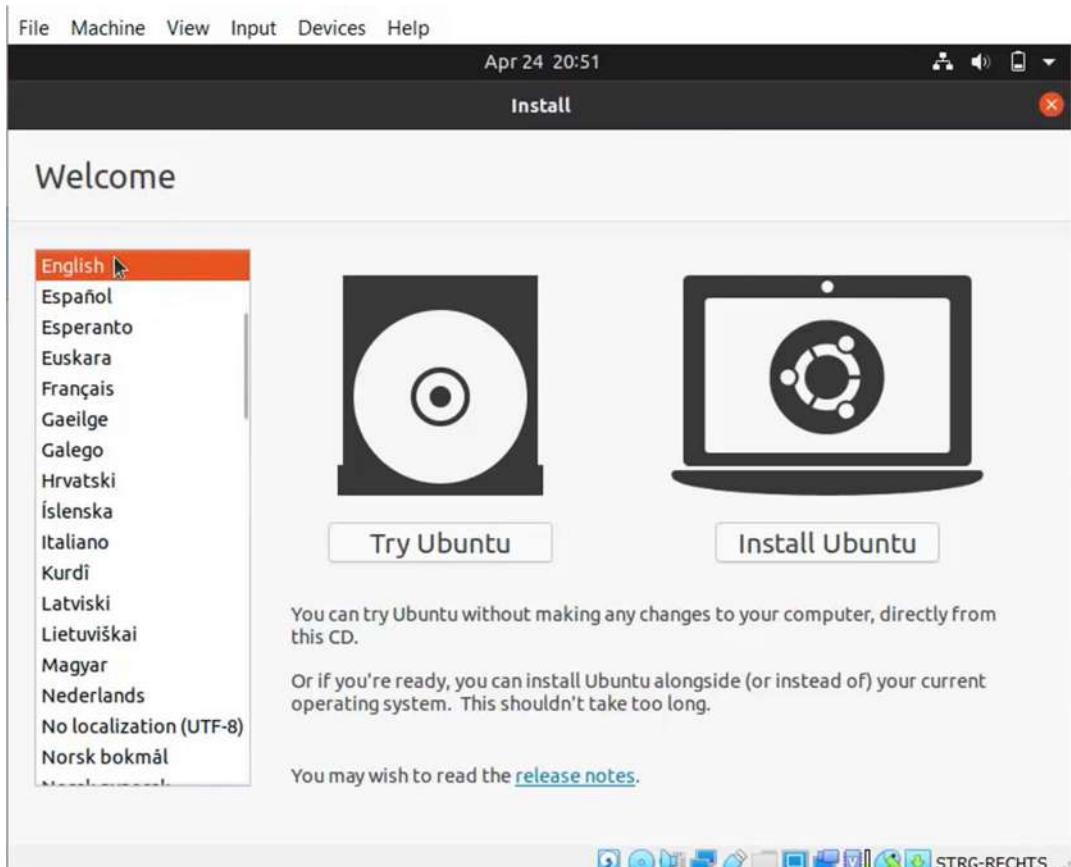


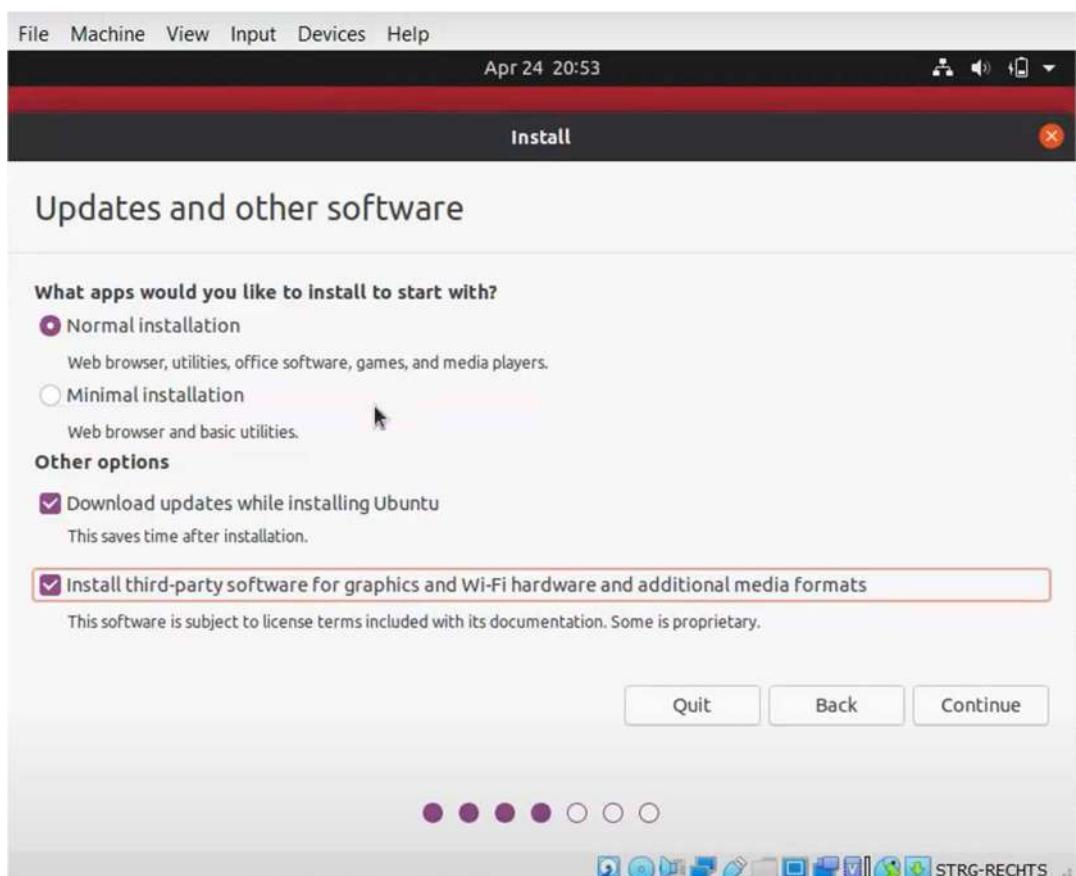
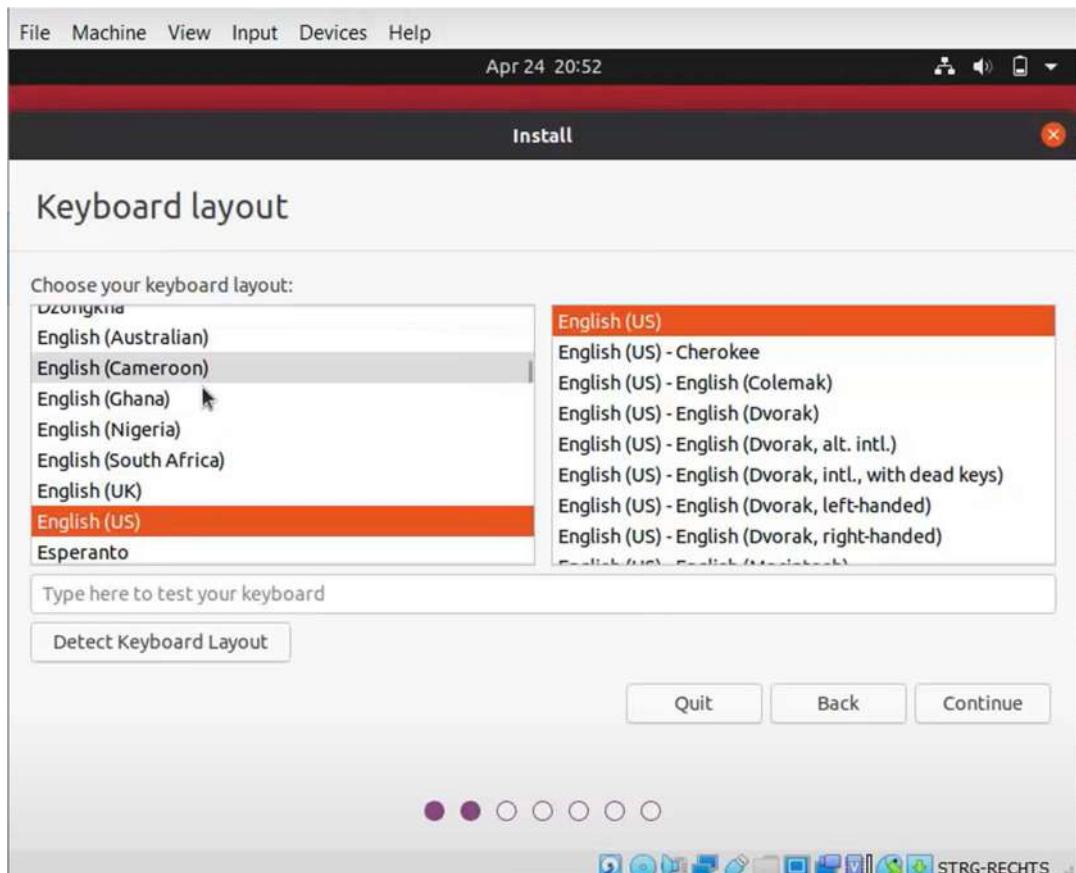


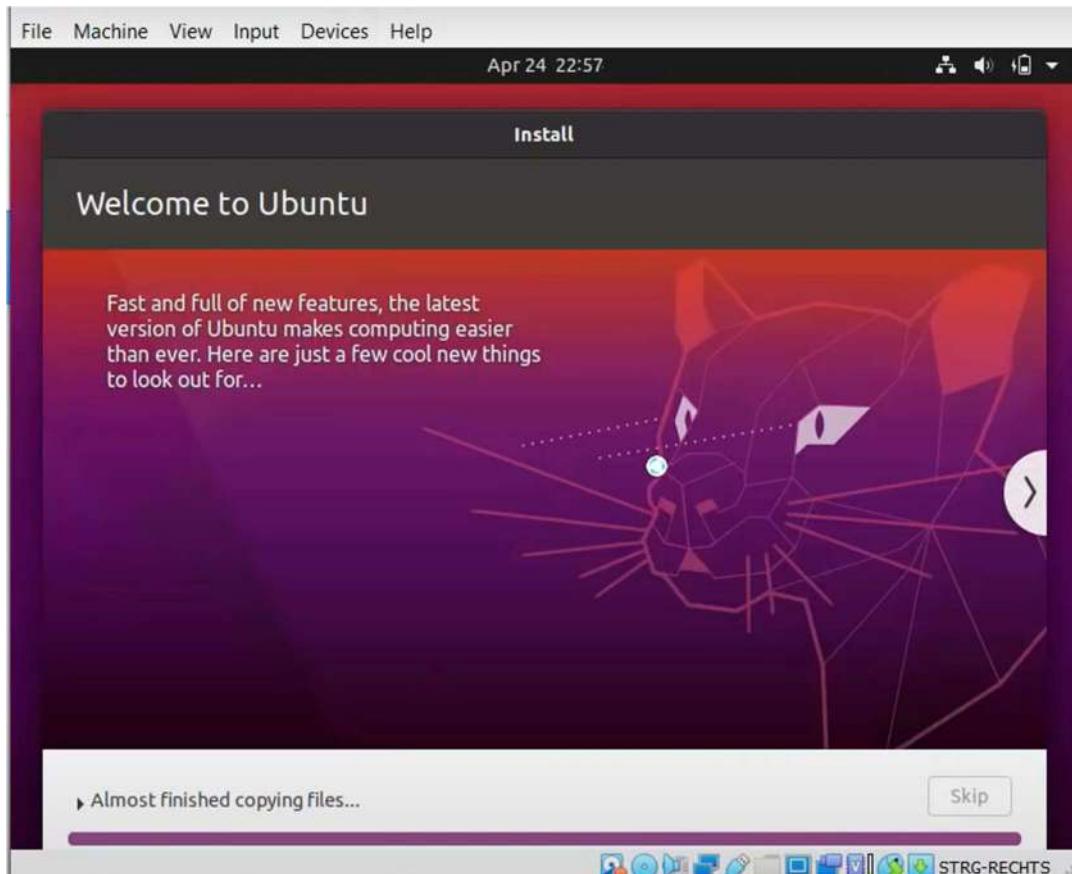
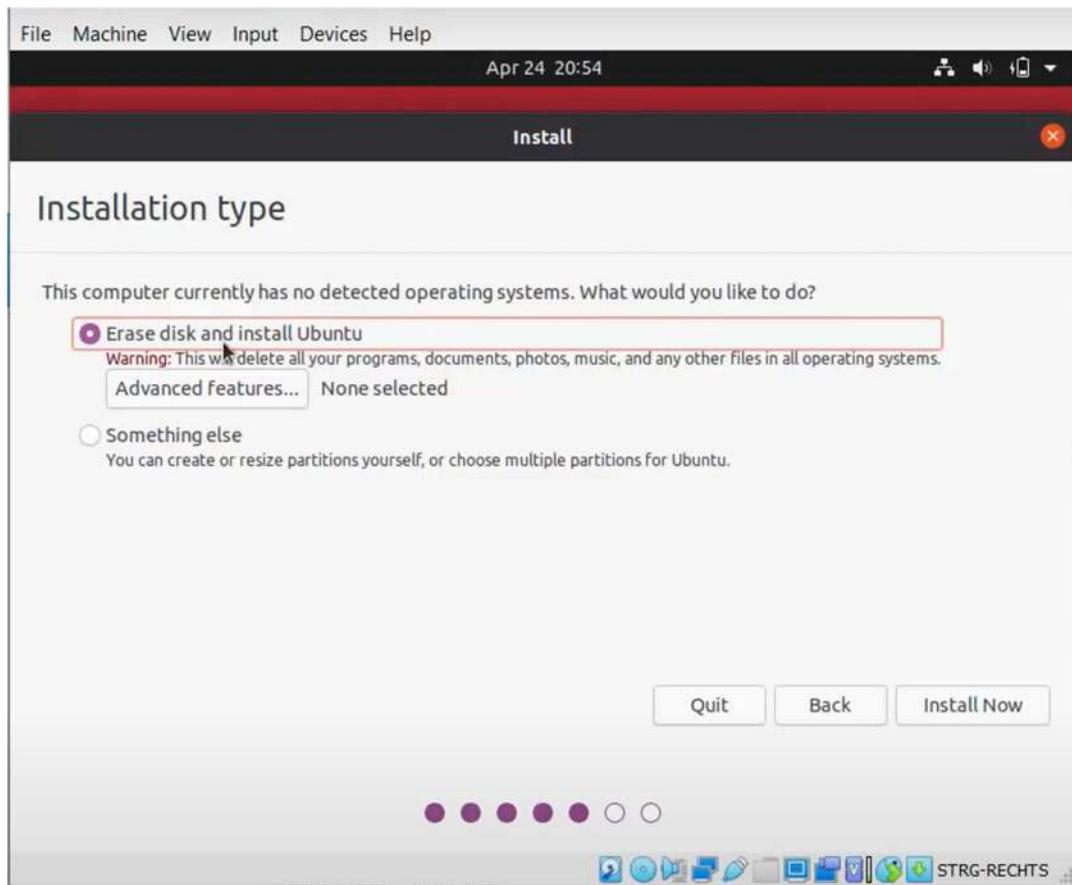


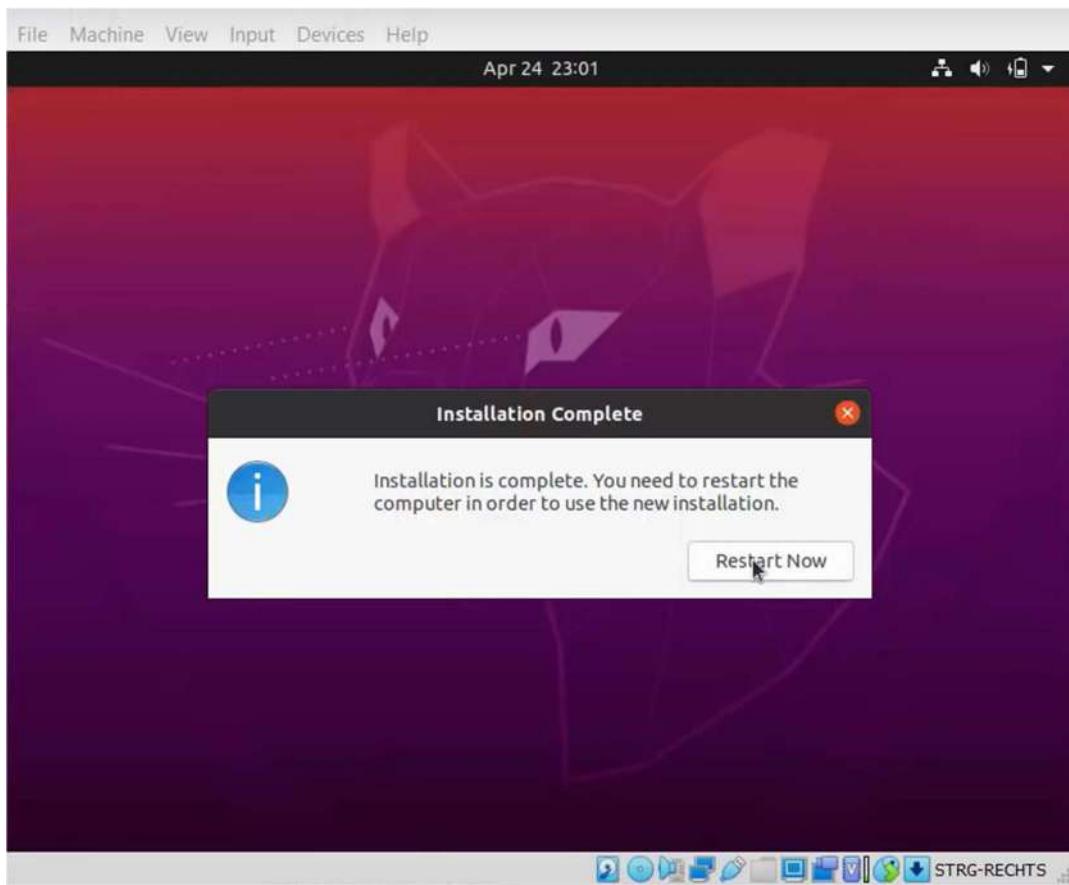












Linux Commands :

A screenshot of an Ubuntu desktop environment showing a terminal window. The terminal window has a title bar "Activities Terminal" and a status bar "tejas@tejas-VirtualBox: ~ Jul 27 23:45". The terminal content shows a series of Linux commands entered by the user "tejas":

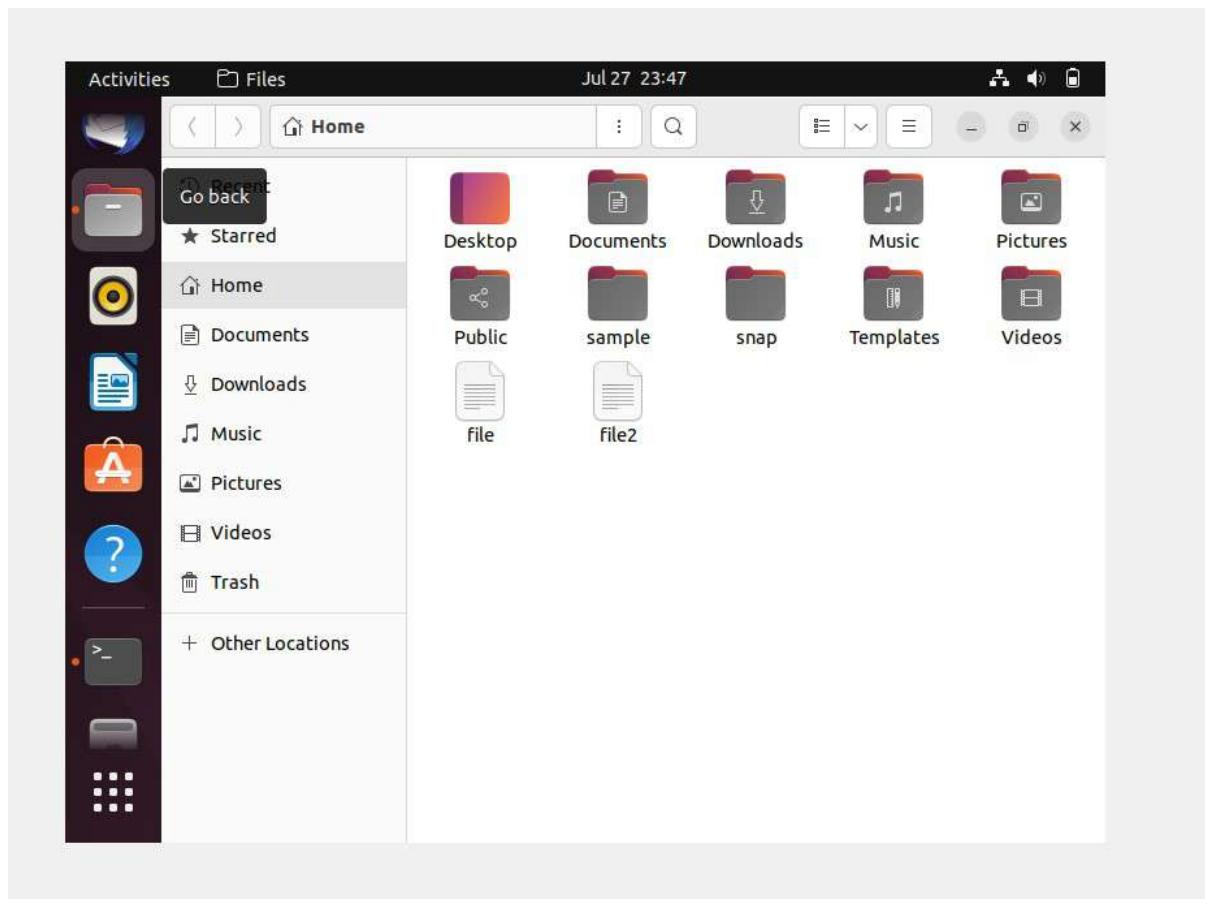
```
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

tejas@tejas-VirtualBox:~$ ls
Desktop Downloads Pictures snap      Videos
Documents Music   Public   Templates
tejas@tejas-VirtualBox:~$ pwd
/home/tejas
tejas@tejas-VirtualBox:~$ mkdir
mkdir: missing operand
Try 'mkdir --help' for more information.
tejas@tejas-VirtualBox:~$ mkdir sample
tejas@tejas-VirtualBox:~$ ls
Desktop Downloads Pictures sample Templates
Documents Music   Public   snap      Videos
tejas@tejas-VirtualBox:~$ cd sample
tejas@tejas-VirtualBox:~/sample$ cd
tejas@tejas-VirtualBox:~$ gedit sample2
tejas@tejas-VirtualBox:~$ touch file2
tejas@tejas-VirtualBox:~$ cat file2
cat: file2: No such file or directory
tejas@tejas-VirtualBox:~$ cat > file2
Hello Tejas here
^Z
[1]+  Stopped                  cat > file2
tejas@tejas-VirtualBox:~$ cat file2
Hello Tejas here
tejas@tejas-VirtualBox:~$
```

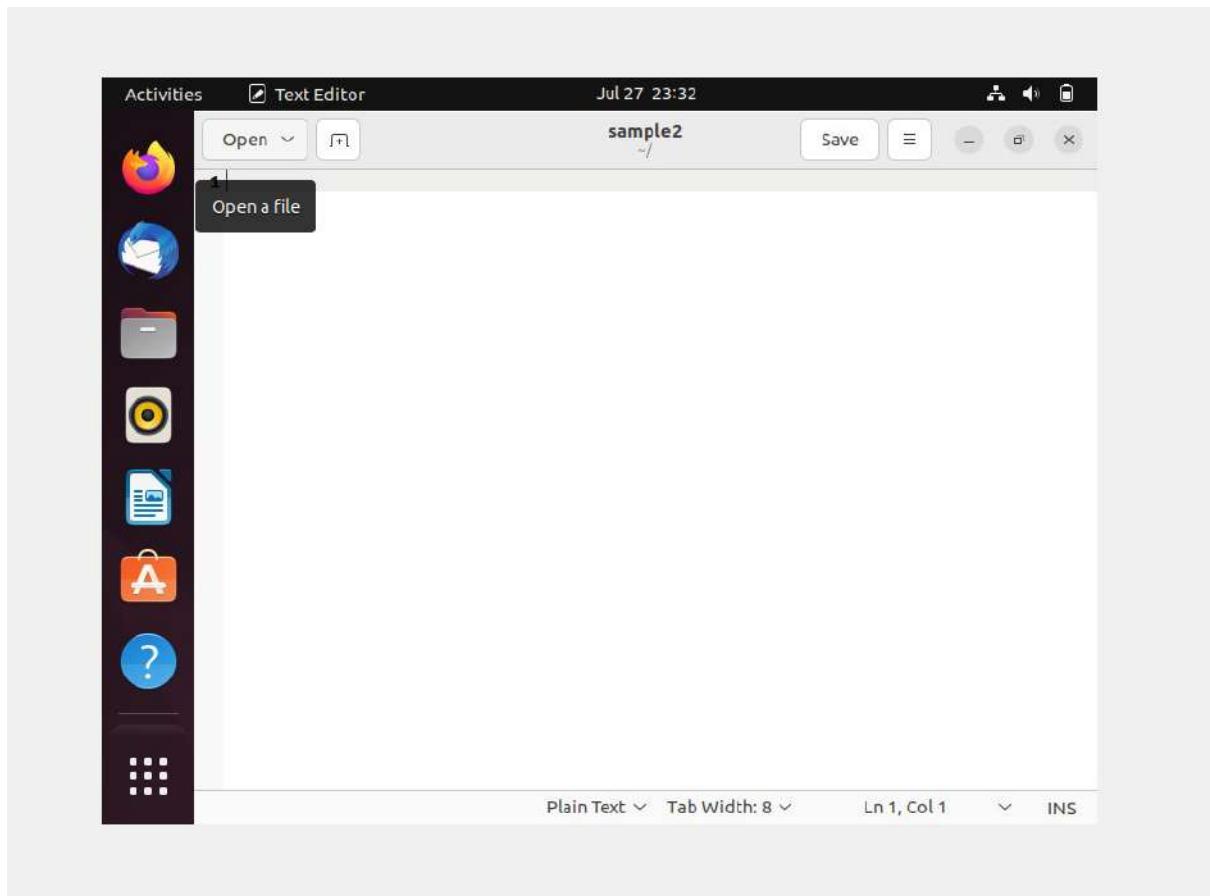
The desktop interface includes a dock with various application icons like Dash, Home, and Settings, and a taskbar at the bottom.

Mkdir

```
tejas@tejas-VirtualBox:~$ mkdir sample
```

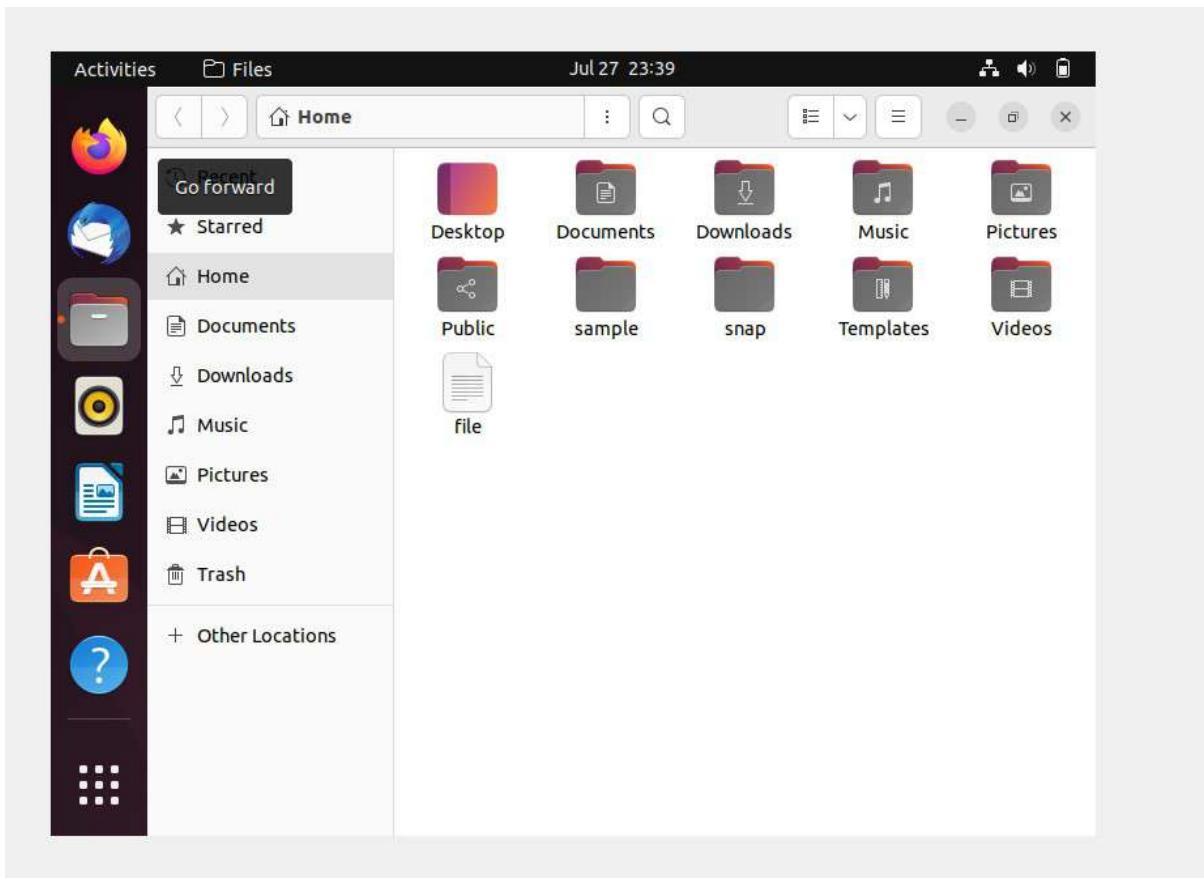


Gedit



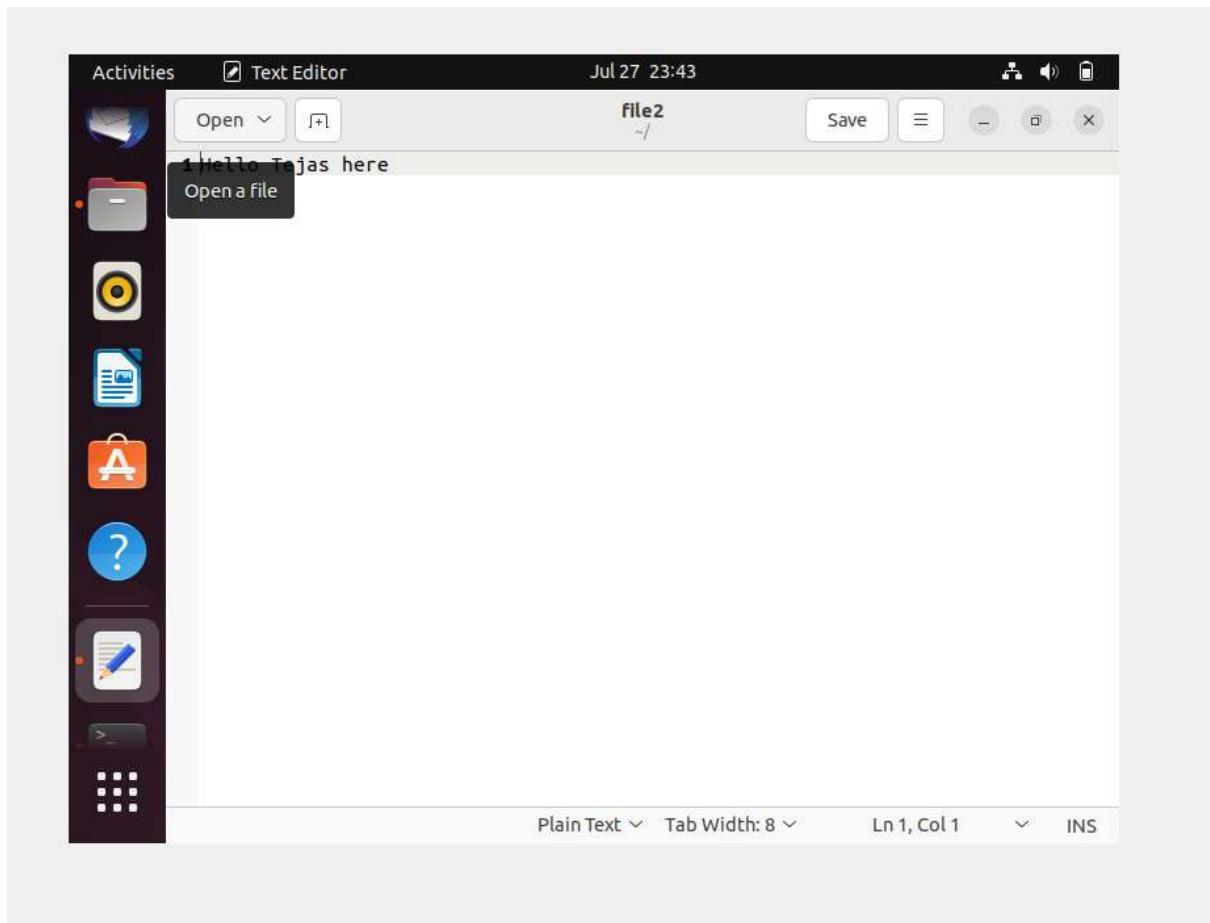
Touch

```
tejas@tejas-VirtualBox:~$ touch file
```



Cat

```
tejas@tejas-VirtualBox:~$ cat > file2
Hello Tejas here
^Z
[1]+  Stopped                  cat > file2
tejas@tejas-VirtualBox:~$ cat file2
Hello Tejas here
tejas@tejas-VirtualBox:~$
```



Mv

```
tejas@tejas-VirtualBox:~$ mkdir f1 f2
tejas@tejas-VirtualBox:~$ ls
Desktop  Downloads  f2  file2  new  Public  snap  Videos
Documents  f1  file  Music  Pictures  sample  Templates
```

```
tejas@tejas-VirtualBox:~$ sudo mv f2/ f1
tejas@tejas-VirtualBox:~$ ls
Desktop  Downloads  file  Music  Pictures  sample  Templates
Documents  f1  file2  new  Public  snap  Videos
tejas@tejas-VirtualBox:~$ cd f1
tejas@tejas-VirtualBox:~/f1$ ls
f2
tejas@tejas-VirtualBox:~/f1$
```

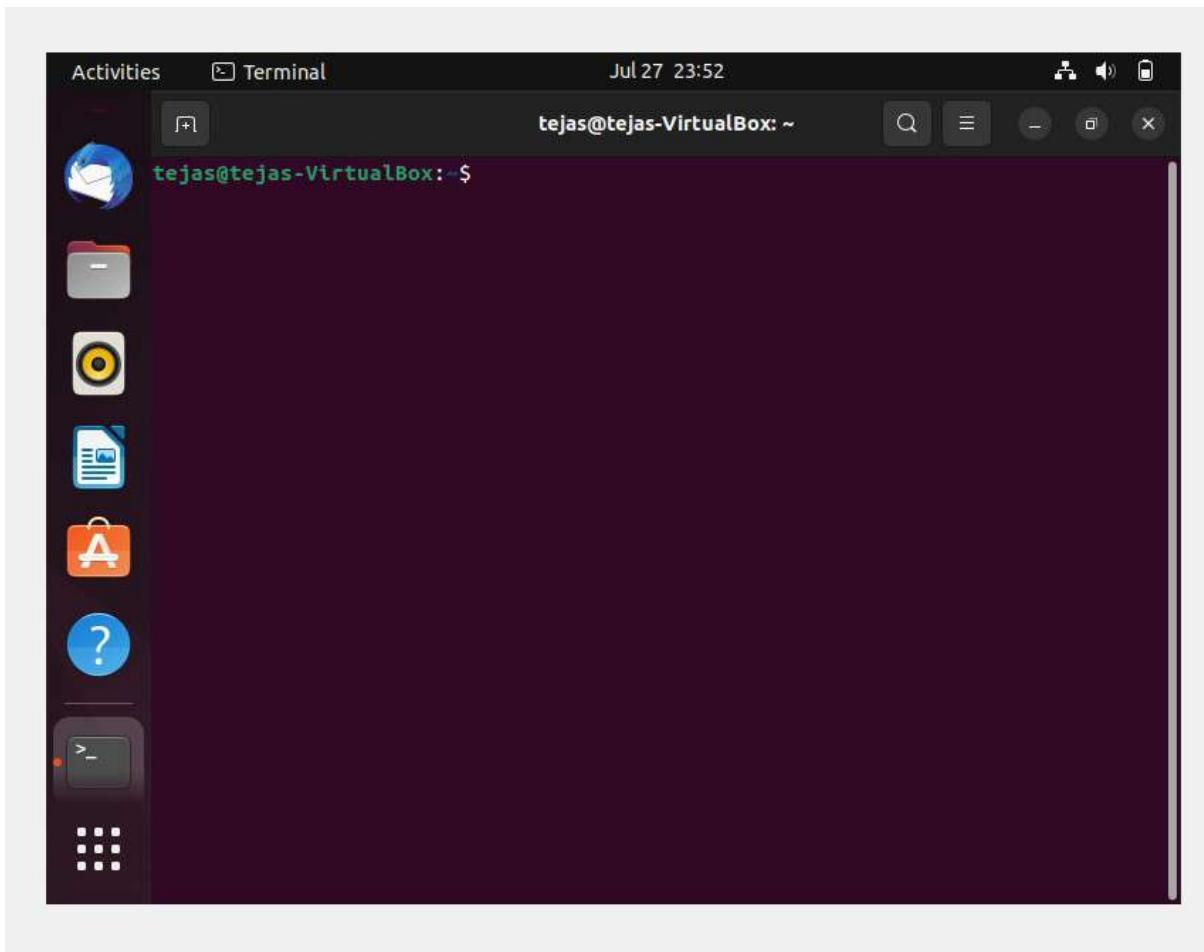
Cp

A screenshot of an Ubuntu desktop environment. On the left, there's a vertical dock with icons for Dash, Home, Applications, Help, and a terminal. The main area shows a terminal window titled "Terminal" with the command "ls" run twice, once before and once after a file named "file2" was copied to a new location. The terminal window has a dark background and light-colored text. The status bar at the top shows the date and time as "Jul 27 23:53".

```
Activities Terminal Jul 27 23:53
tejas@tejas-VirtualBox:~$ ls
Desktop Downloads file2 Pictures sample Templates
Documents file Music Public snap Videos
tejas@tejas-VirtualBox:~$ cp file2 new
tejas@tejas-VirtualBox:~$ ls
Desktop Downloads file2 new Public snap Videos
Documents file Music Pictures sample Templates
tejas@tejas-VirtualBox:~$
```

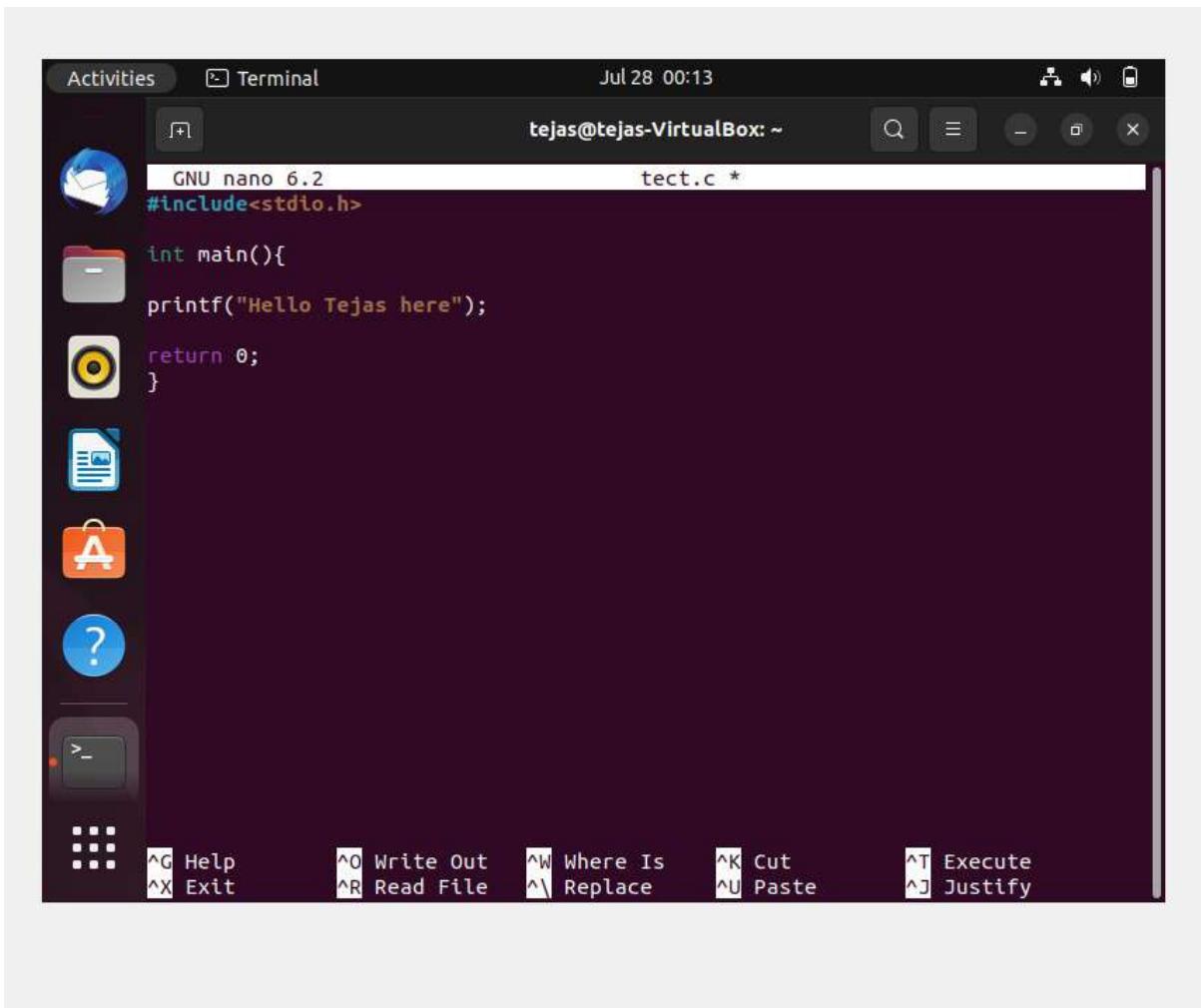
Clear

```
tejas@tejas-VirtualBox:~$ clear
```



Nano

```
tejas@tejas-VirtualBox:~$ ls
Desktop  Downloads  file2  Music  Pictures  snap  Templates
Documents  fi      hello.c  new    Public    tect.c  Videos
tejas@tejas-VirtualBox:~$
```

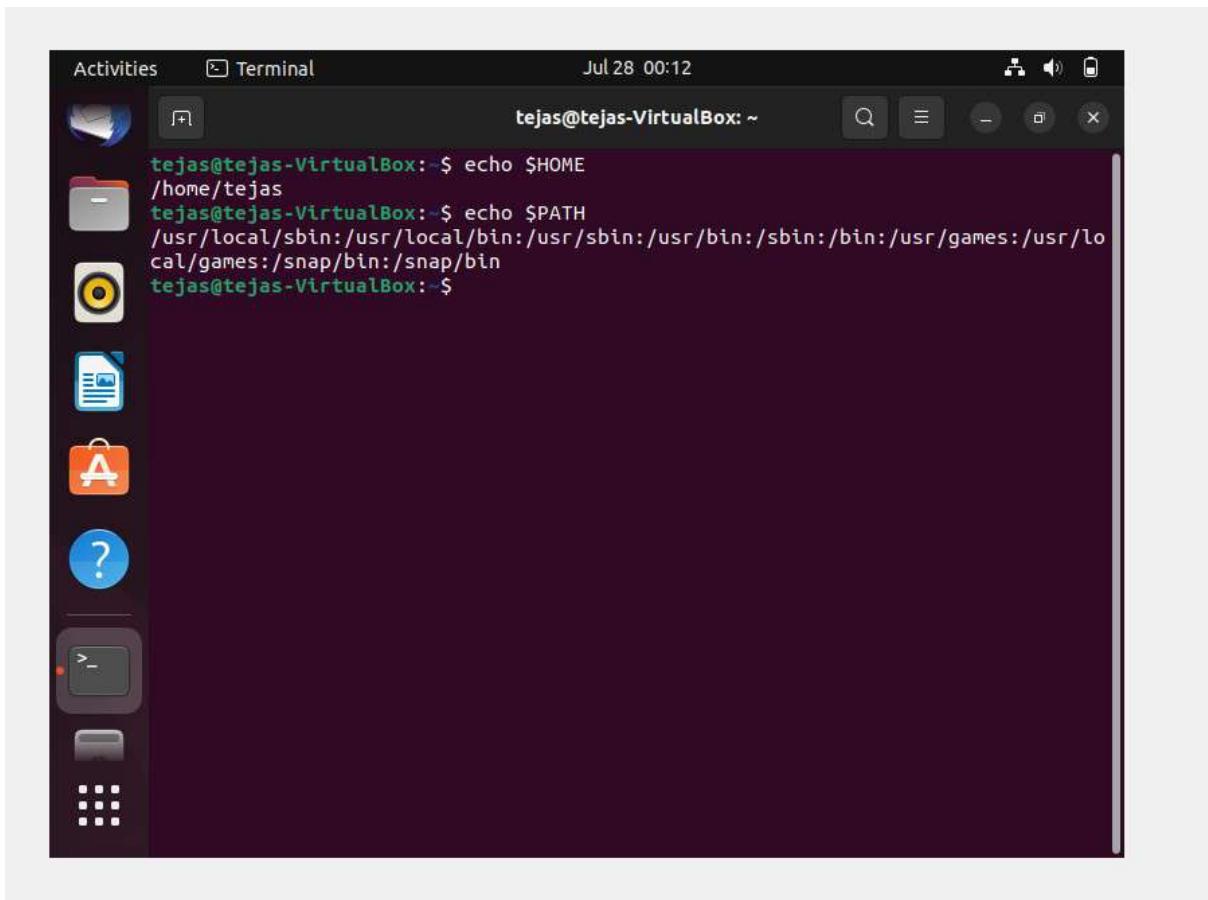


A screenshot of a terminal window titled "Terminal" in the "Activities" dock. The window shows a file named "tect.c" with the following content:

```
GNU nano 6.2
#include<stdio.h>
int main(){
    printf("Hello Tejas here");
    return 0;
}
```

The terminal window has a dark background and a light gray header bar. The bottom of the window features a menu bar with various keyboard shortcuts for file operations like Help, Exit, Write Out, Read File, Where Is, Replace, Cut, Paste, Execute, and Justify.

Echo



Rm

```
tejas@tejas-VirtualBox:~$ ls
Desktop  Downloads  file  Music  Pictures  sample  Templates
Documents  f1      file2  new    Public    snap     Videos
tejas@tejas-VirtualBox:~$ rm file
tejas@tejas-VirtualBox:~$ ls
Desktop  Downloads  file2  new    Public    snap     Videos
Documents  f1      Music  Pictures  sample  Templates
tejas@tejas-VirtualBox:~$ rm -r sample
tejas@tejas-VirtualBox:~$ ls
Desktop  Downloads  file2  new    Public  Templates
Documents  f1      Music  Pictures  snap    Videos
tejas@tejas-VirtualBox:~$
```

Multiple commands

Activities Terminal Jul 27 23:45 tejas@tejas-VirtualBox: ~

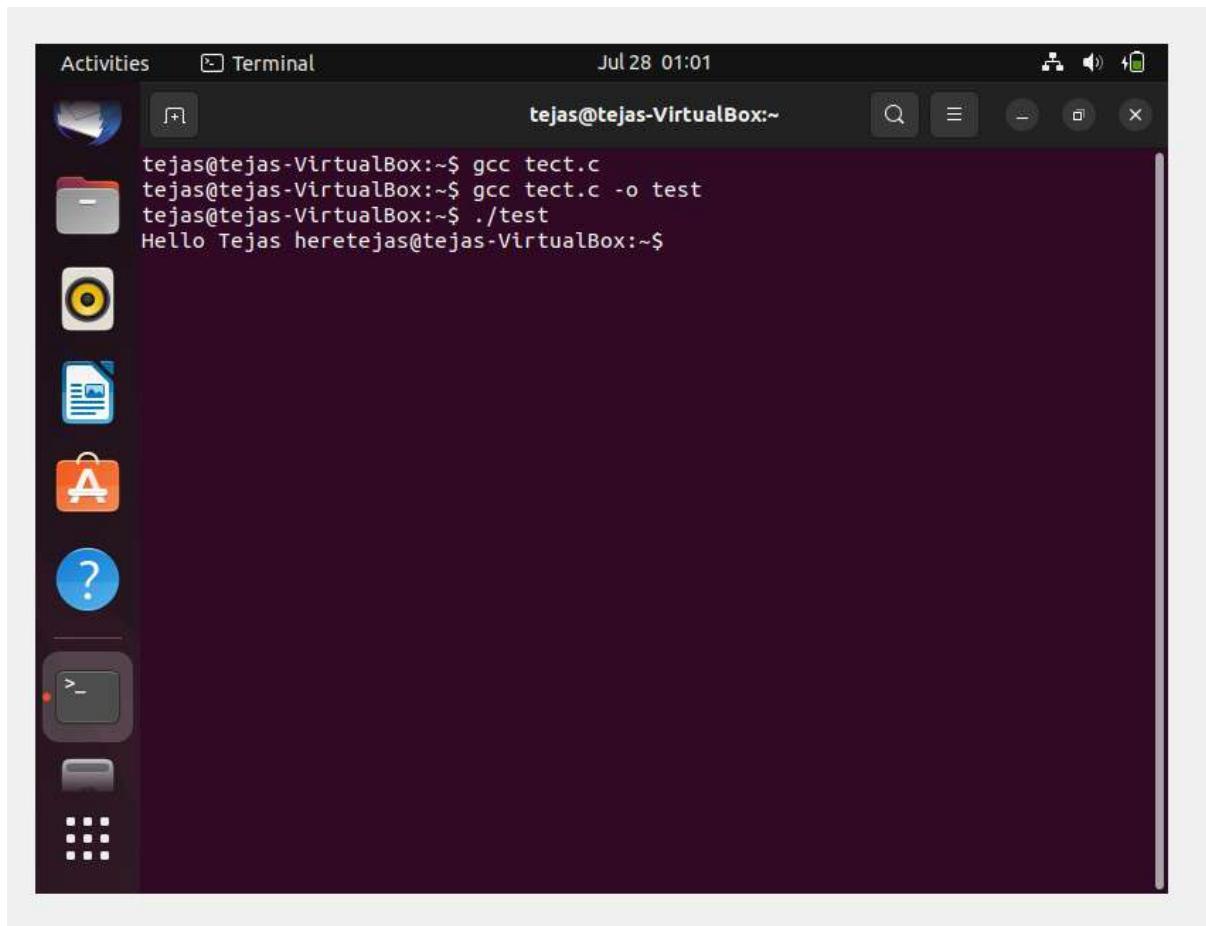
```
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
tejas@tejas-VirtualBox:~$ ls  
Desktop Downloads Pictures snap Videos  
Documents Music Public Templates  
tejas@tejas-VirtualBox:~$ pwd  
/home/tejas  
tejas@tejas-VirtualBox:~$ mkdir  
mkdir: missing operand  
Try 'mkdir --help' for more information.  
tejas@tejas-VirtualBox:~$ mkdir sample  
tejas@tejas-VirtualBox:~$ ls  
Desktop Downloads Pictures sample Templates  
Documents Music Public snap Videos  
tejas@tejas-VirtualBox:~$ cd sample  
tejas@tejas-VirtualBox:~/sample$ cd  
tejas@tejas-VirtualBox:~/sample$ gedit sample2  
tejas@tejas-VirtualBox:~/sample$ touch file2  
tejas@tejas-VirtualBox:~/sample$ cat file2  
cat: file2: No such file or directory  
tejas@tejas-VirtualBox:~/sample$ cat > file2  
Hello Tejas here  
^Z  
[1]+ Stopped cat > file2  
tejas@tejas-VirtualBox:~/sample$ cat file2  
Hello Tejas here  
tejas@tejas-VirtualBox:~/sample$
```

Vi

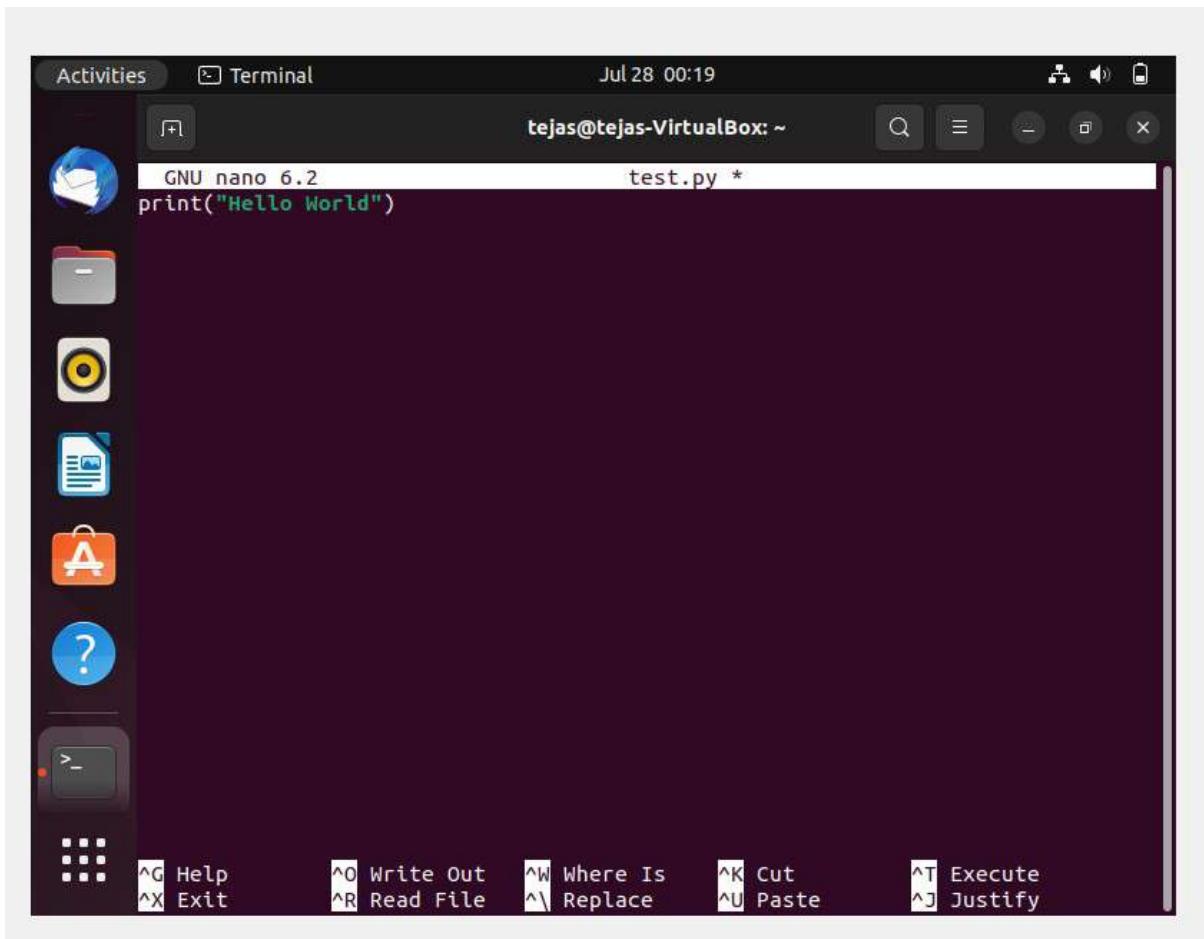
Activities Terminal Jul 28 00:06 tejas@tejas-VirtualBox: ~

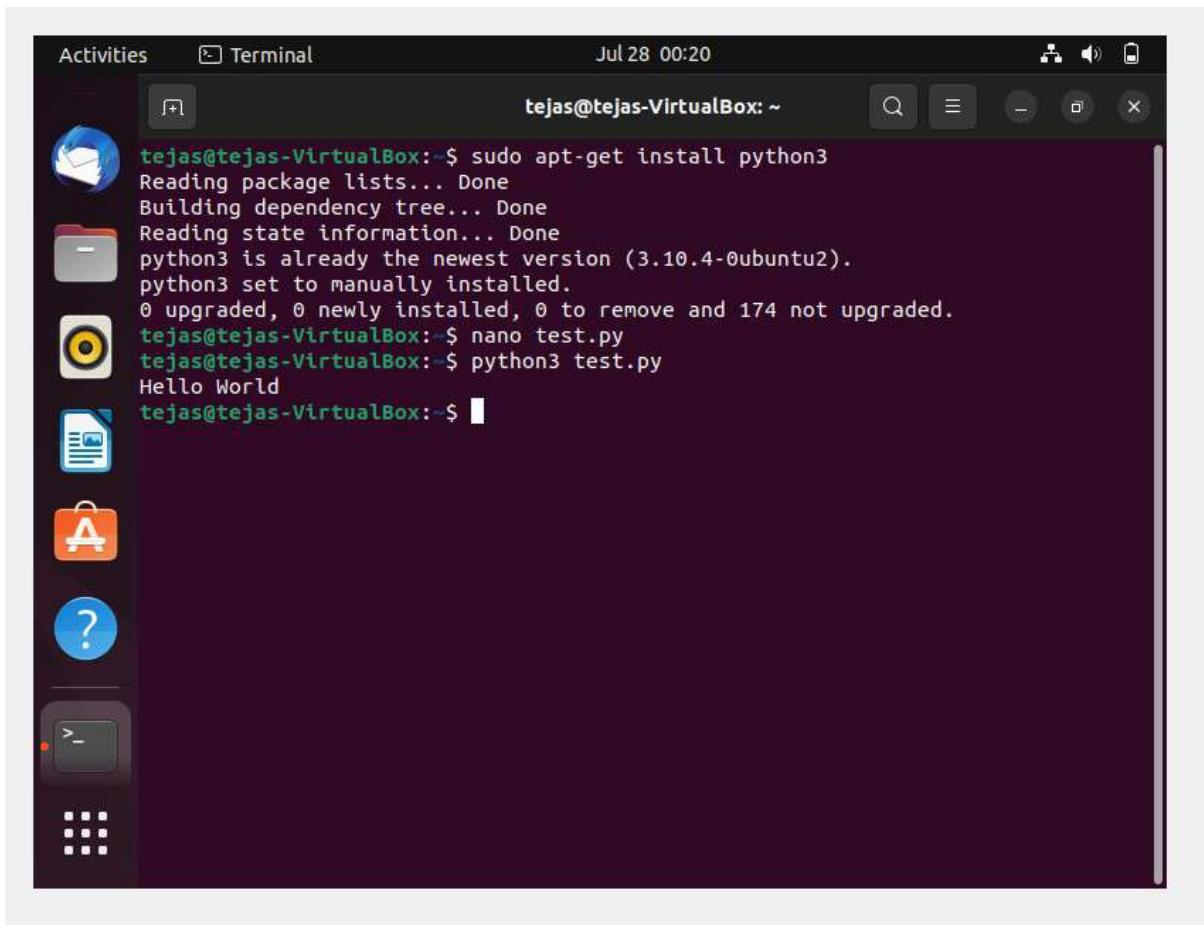
```
#include<stdio.h>  
  
int main(){  
    printf("Hello World");  
    return 0;  
}  
-- INSERT -- 7,1 All
```

C program



Python





Java



```
tejas@tejas-VirtualBox:~$ source /etc/profile
tejas@tejas-VirtualBox:~$ echo $JAVA_HOME
/usr/lib/jvm/java-11-openjdk-amd64
tejas@tejas-VirtualBox:~$ touch hello.java
tejas@tejas-VirtualBox:~$ ls
Desktop  f1      hello.java  Pictures  tect.c    Videos
Documents  file2   Music      Public    Templates
Downloads  hello.c  new       snap      test.py
tejas@tejas-VirtualBox:~$ gedit hello.java
tejas@tejas-VirtualBox:~$ javac hello.java
hello.java:3: error: <identifier> expected
        public statis void main( String[] args){
                           ^
1 error
tejas@tejas-VirtualBox:~$ javac hello.java
tejas@tejas-VirtualBox:~$ ls
Desktop  f1      hello.class  new       snap      test.py
Documents  file2   hello.java  Pictures  tect.c    Videos
Downloads  hello.c  Music      Public    Templates
tejas@tejas-VirtualBox:~$ java hello
Hello World tejas here
tejas@tejas-VirtualBox:~$ █
```

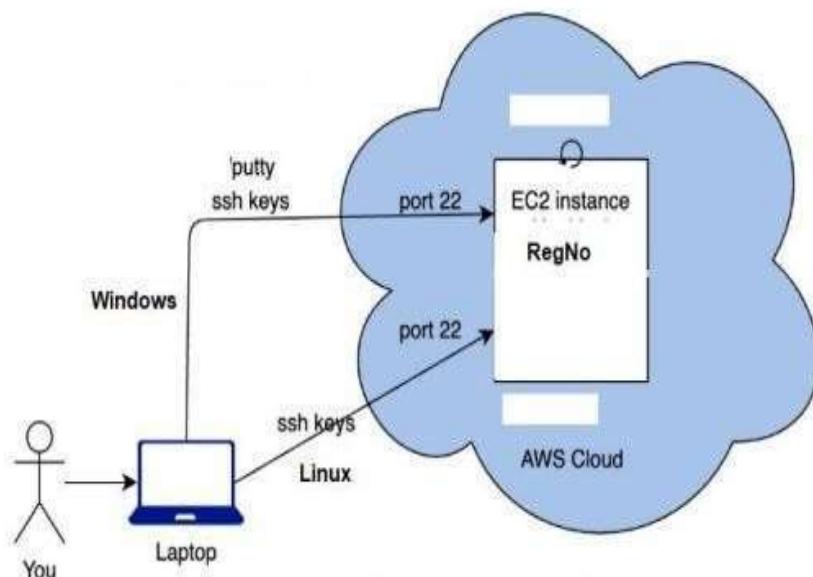
Tejas Rokade

20BDS0033

L45+L46

LAB ASSESSMENT 2

- 1. Create an EC2 Instance in the Amazon Web Services and perform the following operation onto that instance. Name the instance with your RegNo.**

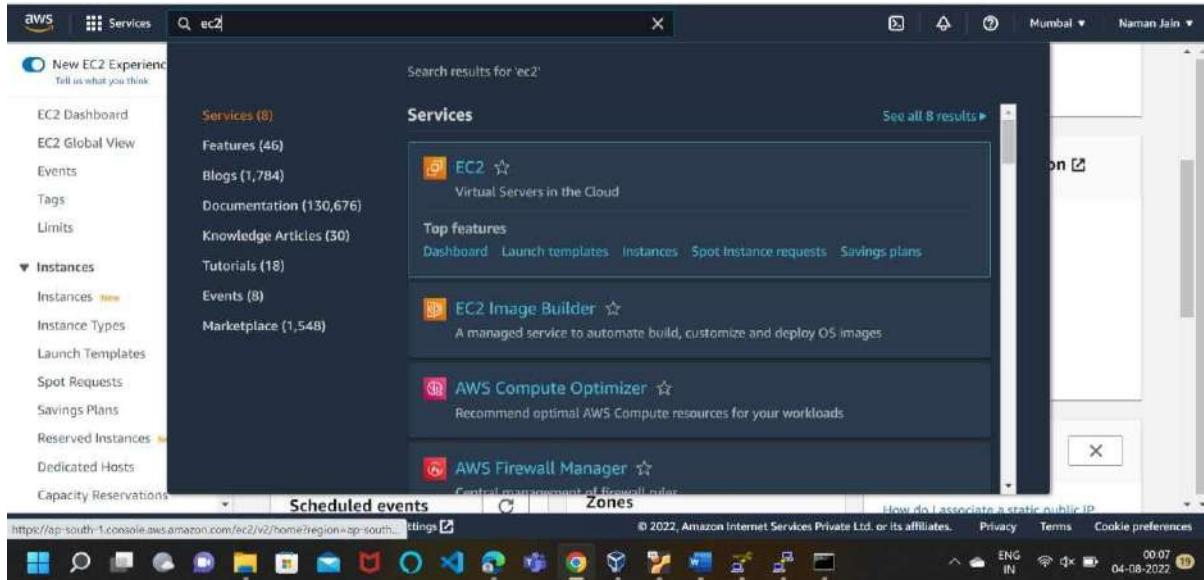


How to Connect from your local machine to EC2 instance running in AWS?

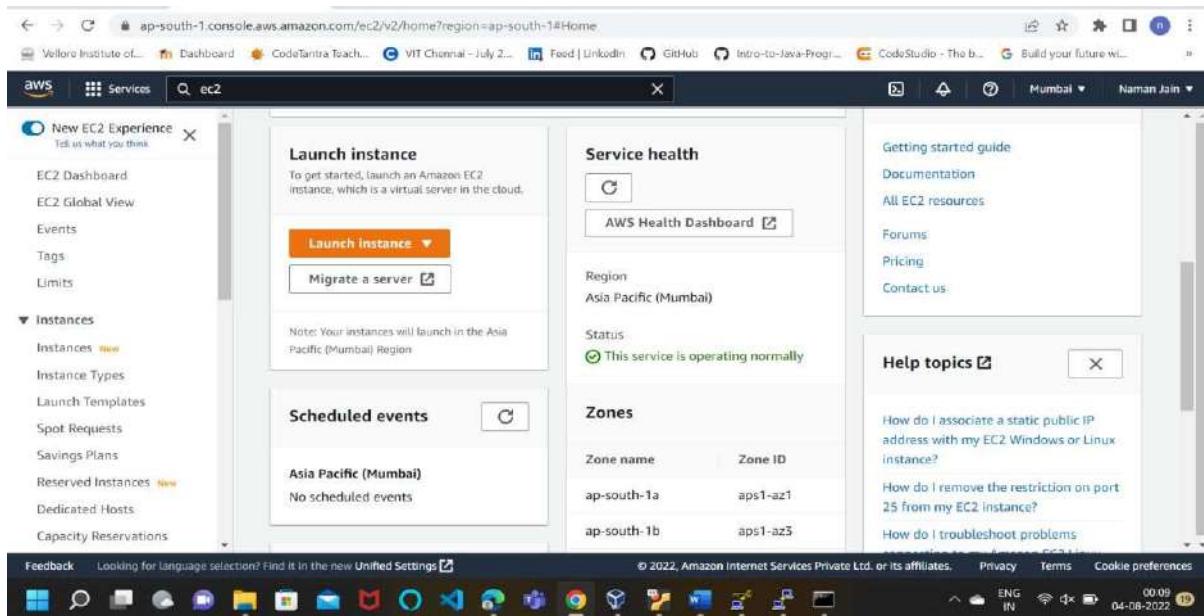
- Connect the Instance through Putty through Windows using the Key pair created during the instance launch
- Connect the same instance through your Ubuntu VM running on your machine using SSH protocol
- Update the OS
- Install the "C" Compiler
- Create a Directory with your Register No
- Type a c program to perform addition of two numbers and save it as yourshortname.c in the Folder you created
- Compile the C Program and Run the C Program

Sign up to the amazon

In the search for EC2 and click on EC2



Scroll down to launch instance and create a new instance



Enter the name of the instance

The screenshot shows the 'Launch an instance' page in the AWS Management Console. In the 'Name and tags' section, the 'Name' field contains '2080S0013'. Below it, there's a link to 'Add additional tags'.

Name and tags Info

Name
2080S0013 Add additional tags

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 run your application. For more information about Amazon Machine Images, see [Amazon Machine Images](#).

Feedback Looking for language selection? Find it in the new [Unified Settings](#) © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences ENG IN 16:52 03-08-2022

The screenshot shows the 'Application and OS Images (Amazon Machine Image)' section. It lists several AMI options: Amazon Linux, Ubuntu, Windows, Red Hat, SUSE Linux, and a placeholder icon. A search bar is available to 'Browse more AMIs'. The 'Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type' is selected, showing its details: AMI ID 'ami-076e3a557efe1aa9c', 64-bit (x86), and a 'Verified provider' badge.

Amazon Machine Image (AMI)

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type
ami-076e3a557efe1aa9c (64-bit (x86)) / ami-0ea11756fb0855b6f (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

Description
Amazon Linux 2 Kernel 5.10 AMI 2.0.20220719.0 x86_64 HVM gp2

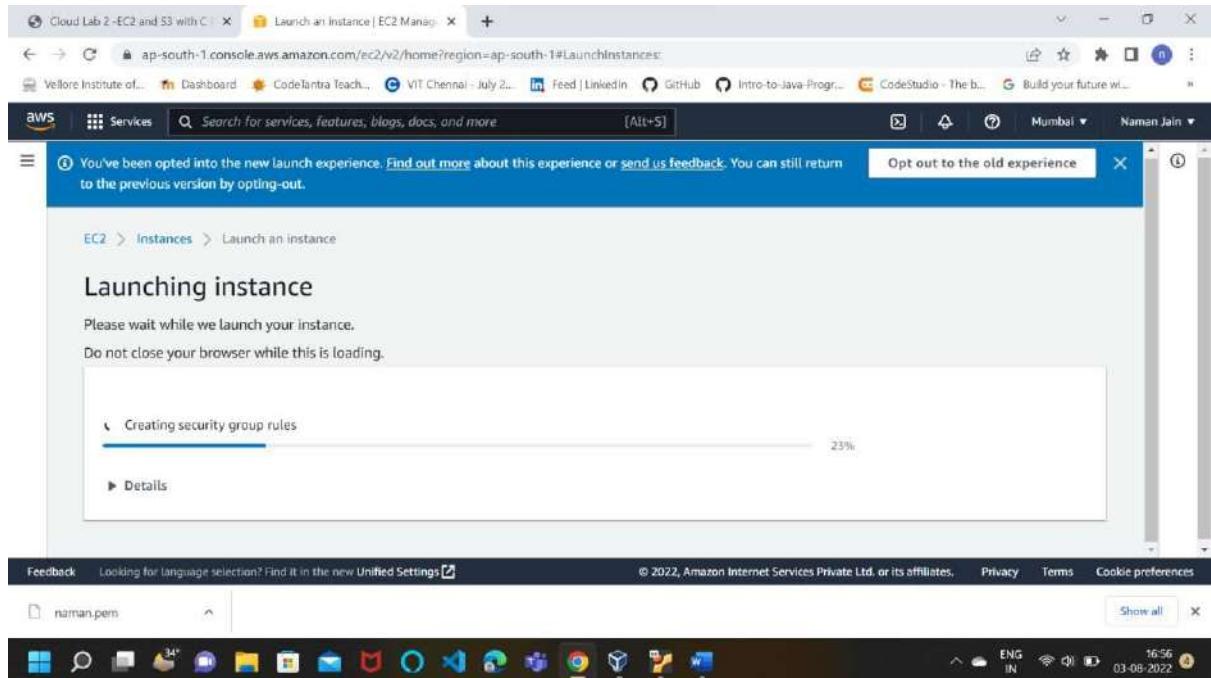
Architecture: 64-bit (x86) AMI ID: ami-076e3a557efe1aa9c Verified provider

Feedback Looking for language selection? Find it in the new [Unified Settings](#) © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences Show all ENG IN 16:56 03-08-2022

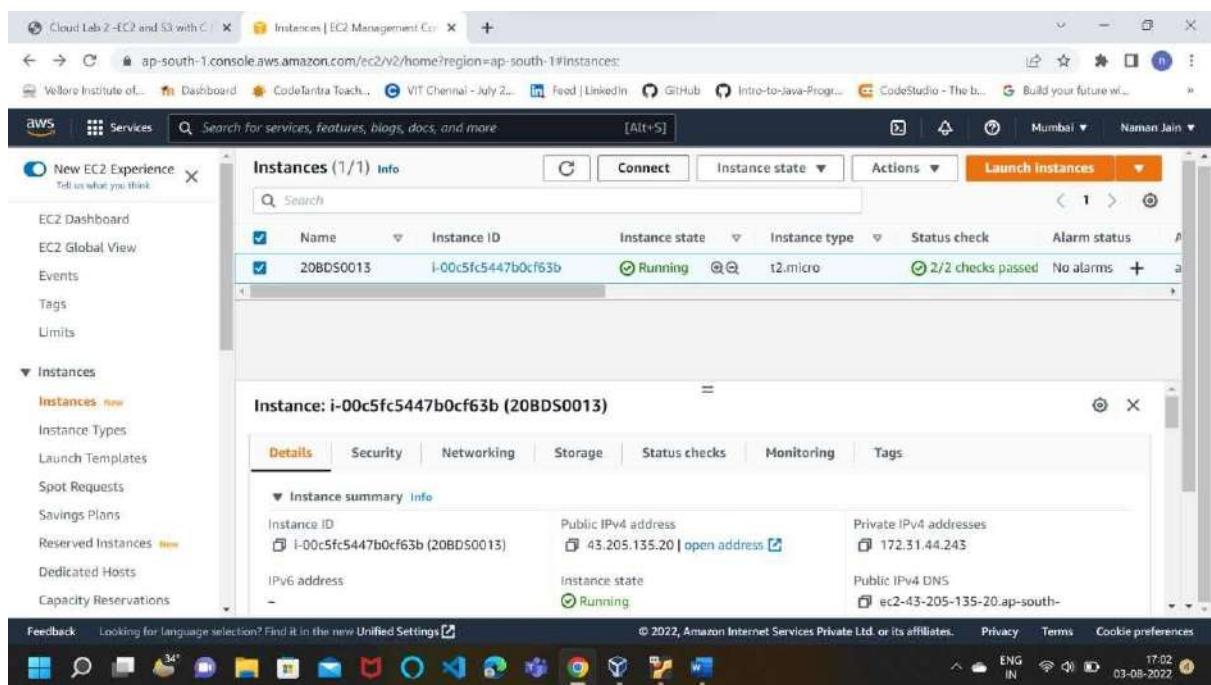
Create new key pair and download .pem file and share this file in to the ubuntu vm

The screenshot shows the AWS Management Console interface for creating a new key pair. The key pair name is set to 'naman'. In the 'Network settings' section, it shows a VPC (vpc-044bc4e06bc27a5db) and a subnet (No preference). The status bar at the bottom indicates the file 'naman.pem' is open.

The screenshot shows the AWS Management Console interface for creating a new security group. The security group is named 'launch-wizard-1'. Under the 'Firewall (security groups)' section, it shows a rule allowing SSH traffic from 'Anywhere' (0.0.0.0/0). A warning message states: '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.' The status bar at the bottom indicates the file 'naman.pem' is open.



A new instance will be created



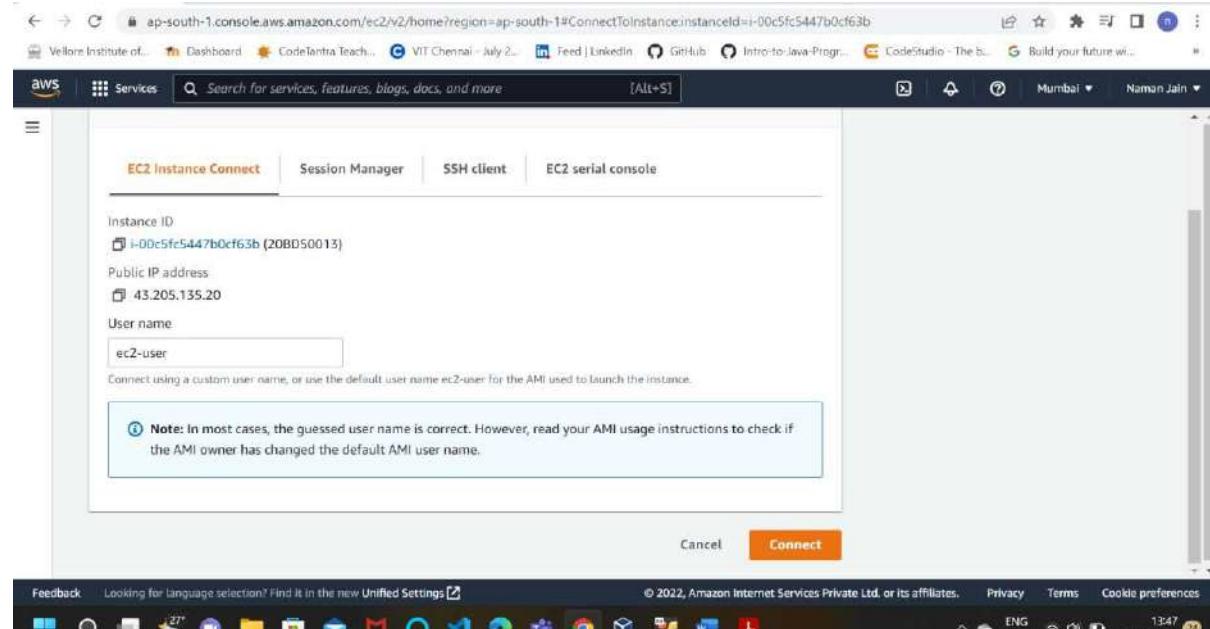
Click on the new instance (check box) created and click on connect

The screenshot shows the AWS EC2 Instances page. On the left sidebar, under 'Instances', 'Instances' is selected. A table lists one instance: '20BDS0013' with Instance ID 'i-00c5fc5447b0cf63b'. The instance is 'Running' (green), 't2.micro' type, and has '2/2 checks passed'. Below the table, the 'Details' tab of the instance's configuration page is visible, showing the Public IPv4 address as '43.205.135.20' and the Private IPv4 address as '172.31.44.243'. The status is 'Running'.

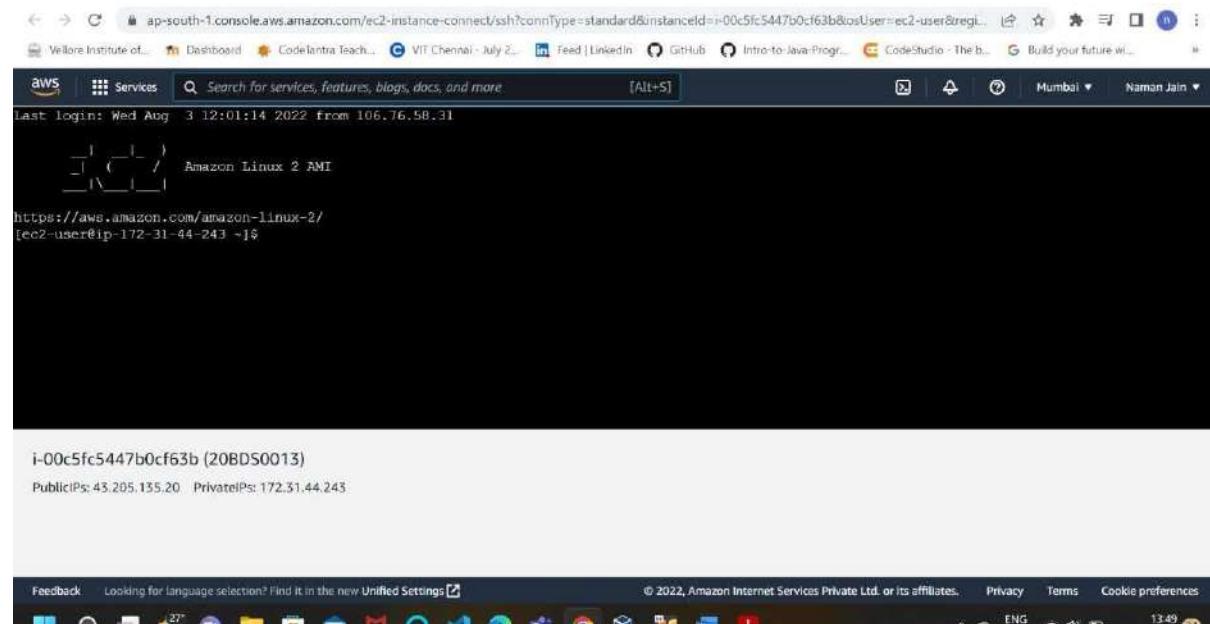
After clicking on connect go to EC2 Instance Connect

The screenshot shows the 'Connect to instance' page for the instance '20BDS0013'. The 'EC2 Instance Connect' tab is selected. It displays the instance ID 'i-00c5fc5447b0cf63b', the Public IP address '43.205.135.20', and the User name 'ec2-user'. A note at the bottom states: 'Note: In most cases, the guessed user name is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.' The page includes standard browser navigation and status bars at the top and bottom.

Click connect



After clicking on connect this will open up. Now go back to previous tab to SSH client



Go to SSH client

The screenshot shows a browser window with the URL [ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#ConnectToInstance instanceId=i-00c5fc5447b0cf63b](https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#ConnectToInstance	instanceId=i-00c5fc5447b0cf63b). The page is titled "Connect to instance" and provides instructions for connecting to the instance i-00c5fc5447b0cf63b (20BD50013) using various methods. The "SSH client" tab is currently selected. Below it, there is an example command: `ssh -i "naman.pem" ec2-user@ec2-43-205-135-20.ap-south-1.compute.amazonaws.com`. The browser's address bar also contains this command.

Now open Ubuntu OS and then open terminal

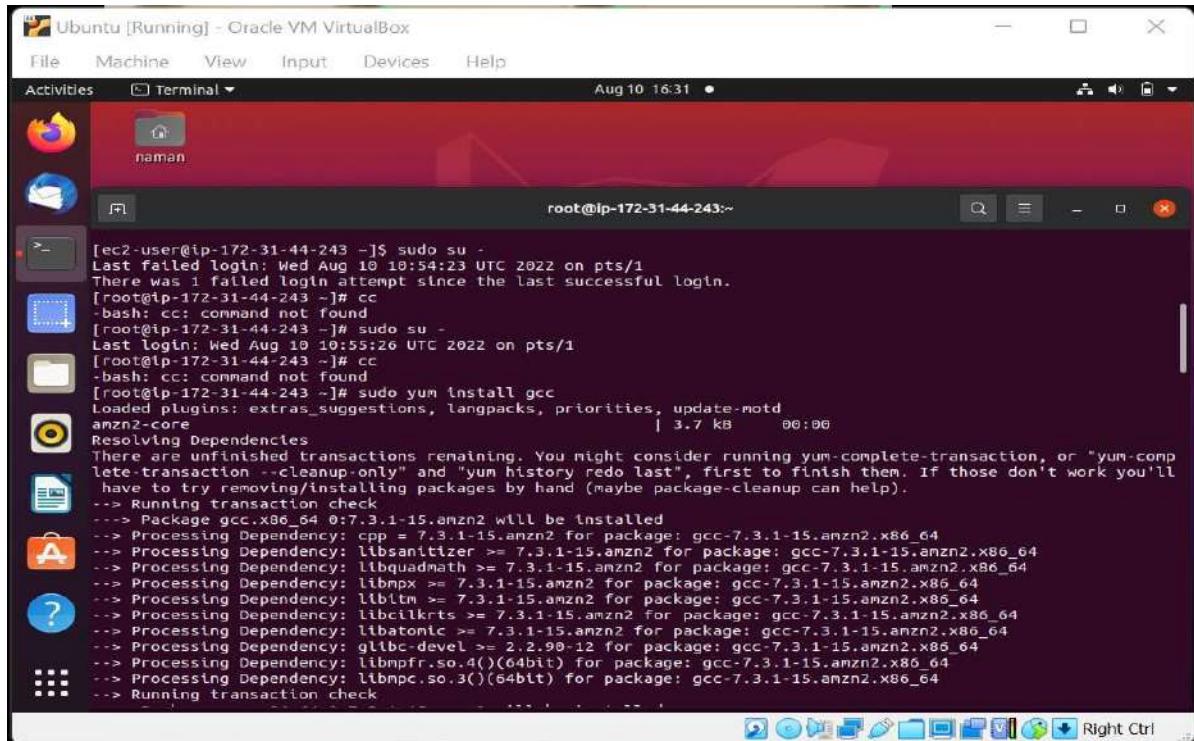
Now Locate your private key file which is naman.pem located in Downloads

In terminal give command **chmod 400 naman.pem**

Then give command `ssh -i "naman.pem" ec2-43-205-135-20.ap-south-1.compute.amazonaws.com`

This will connect the SSH client(Ubuntu OS) to the amazon cloud service

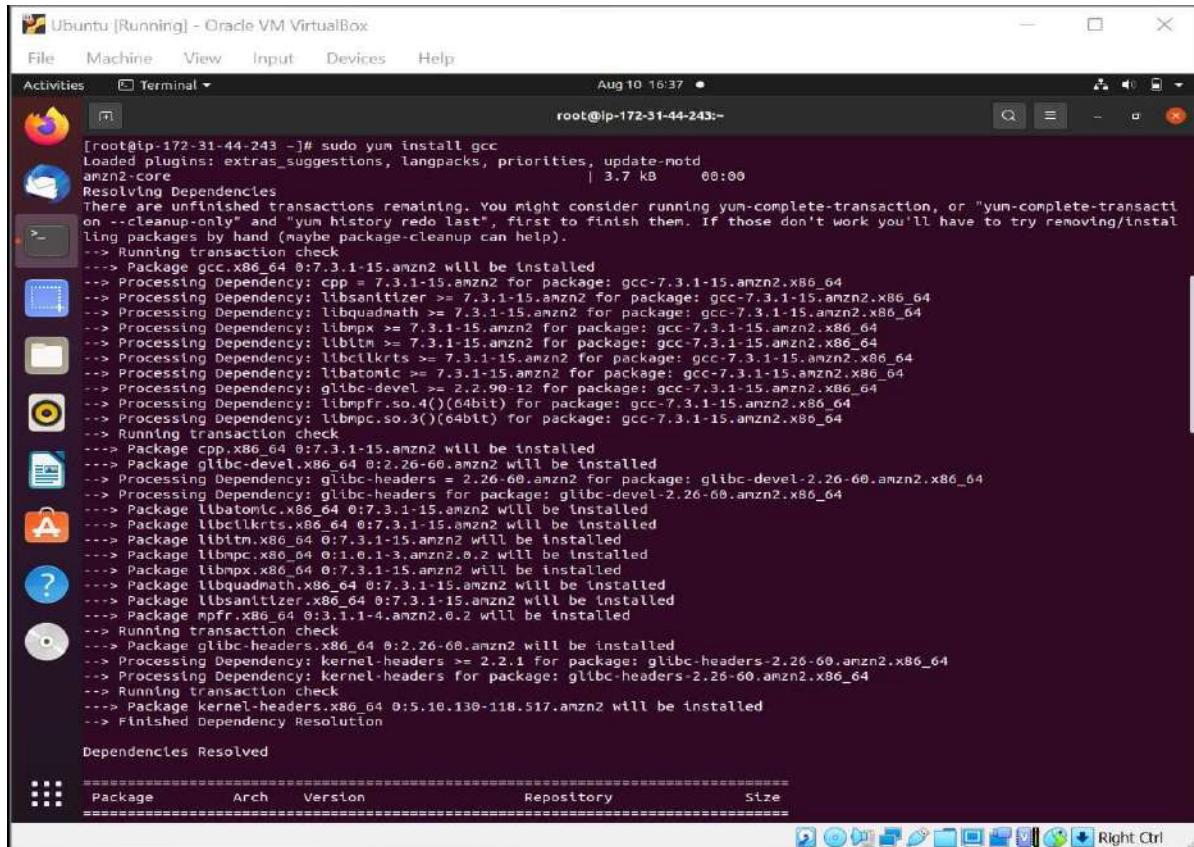
Now to change the mode give command **sudo su** - to switch the user from guest to supervisor



The screenshot shows a terminal window titled "Ubuntu [Running] - Oracle VM VirtualBox". The terminal is running as root on the IP address 172.31.44.243. The user has run the command "sudo su" and is now in root mode. The terminal displays the output of a "sudo yum install gcc" command, which lists various dependencies and their versions being installed.

```
[ec2-user@ip-172-31-44-243 ~]$ sudo su
Last failed login: Wed Aug 10 10:54:23 UTC 2022 on pts/1
There was 1 failed login attempt since the last successful login.
[root@ip-172-31-44-243 ~]# cc
-bash: cc: command not found
[root@ip-172-31-44-243 ~]# sudo su -
Last login: Wed Aug 10 10:55:26 UTC 2022 on pts/1
[root@ip-172-31-44-243 ~]# cc
-bash: cc: command not found
[root@ip-172-31-44-243 ~]# sudo yum install gcc
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core
Resolving Dependencies
There are unfinished transactions remaining. You might consider running yum-complete-transaction, or "yum-complete-transaction --cleanup-only" and "yum history redo last", first to finish them. If those don't work you'll have to try removing/installing packages by hand (maybe package-cleanup can help).
--> Running transaction check
--> Package gcc.x86_64 0:7.3.1-15.amzn2 will be installed
--> Processing Dependency: cpp = 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libasanitizer >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libquadmath >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libmpx >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libitm >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libcilkcrts >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libatomic >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: glibc-devel >= 2.2.90-12 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libmpfr.so.4()(64bit) for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libmpc.so.3()(64bit) for package: gcc-7.3.1-15.amzn2.x86_64
--> Running transaction check
```

Now give command **sudo yum install gcc** to download gcc compiler

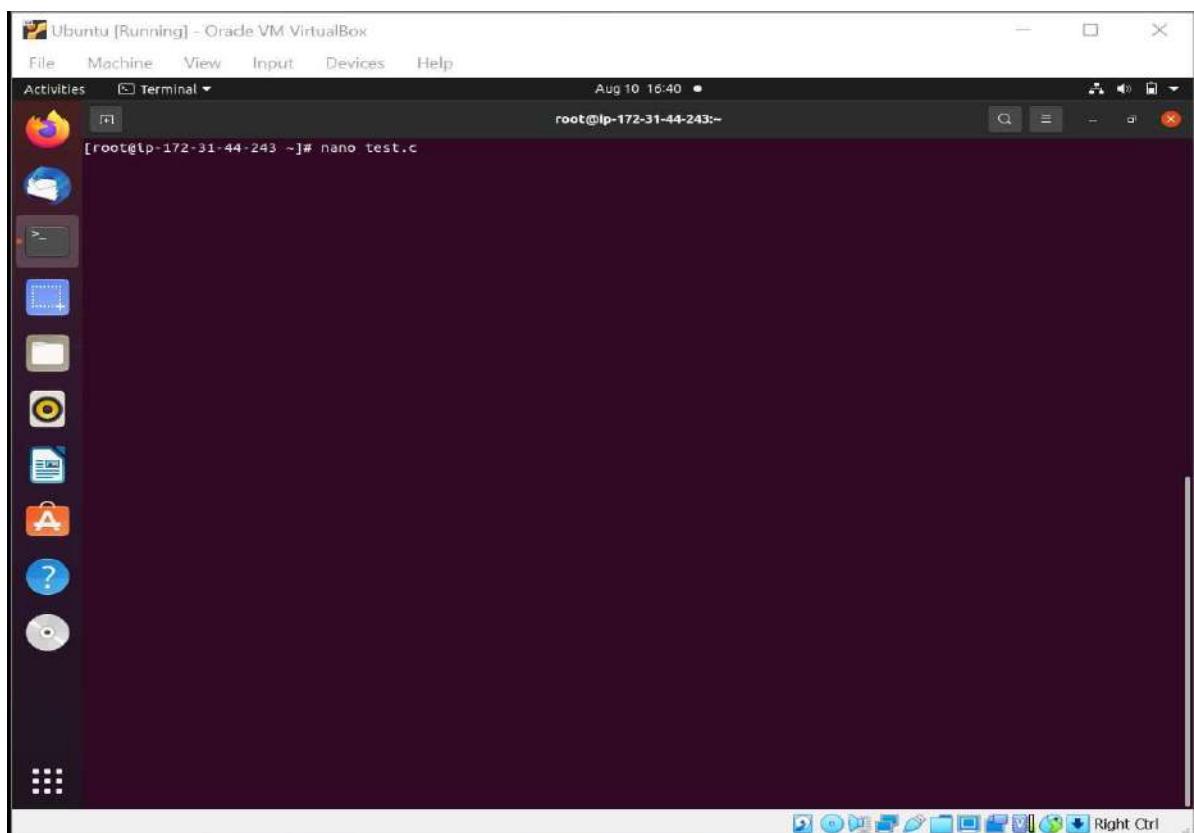


The screenshot shows a terminal window titled "Ubuntu [Running] - Oracle VM VirtualBox". The terminal is running as root on the IP address 172.31.44.243. The user has run the command "sudo yum install gcc" and is viewing the output of the dependency resolution process. The terminal shows the list of packages being installed and their dependencies.

```
[root@ip-172-31-44-243 ~]# sudo yum install gcc
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core
Resolving Dependencies
There are unfinished transactions remaining. You might consider running yum-complete-transaction, or "yum-complete-transaction --cleanup-only" and "yum history redo last", first to finish them. If those don't work you'll have to try removing/installing packages by hand (maybe package-cleanup can help).
--> Running transaction check
--> Package gcc.x86_64 0:7.3.1-15.amzn2 will be installed
--> Processing Dependency: cpp = 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libasanitizer >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libquadmath >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libmpx >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libitm >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libcilkcrts >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libatomic >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: glibc-devel >= 2.2.90-12 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libmpfr.so.4()(64bit) for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libmpc.so.3()(64bit) for package: gcc-7.3.1-15.amzn2.x86_64
--> Running transaction check
--> Package cpp.x86_64 0:7.3.1-15.amzn2 will be installed
--> Package glibc-devel.x86_64 0:2.26-60.amzn2 will be installed
--> Processing Dependency: glibc-headers = 2.26-60.amzn2 for package: glibc-devel-2.26-60.amzn2.x86_64
--> Processing Dependency: glibc-headers for package: glibc-devel-2.26-60.amzn2.x86_64
--> Package libatomic.x86_64 0:7.3.1-15.amzn2 will be installed
--> Package libcilkcrts.x86_64 0:7.3.1-15.amzn2 will be installed
--> Package libitm.x86_64 0:7.3.1-15.amzn2 will be installed
--> Package libmpc.x86_64 0:1.0.1-3.amzn2.0.2 will be installed
--> Package libmpx.x86_64 0:7.3.1-15.amzn2 will be installed
--> Package libquadmath.x86_64 0:7.3.1-15.amzn2 will be installed
--> Package libsanitizer.x86_64 0:7.3.1-15.amzn2 will be installed
--> Package mpfr.x86_64 0:3.1.4-amzn2.0.2 will be installed
--> Package glibc-headers.x86_64 0:2.26-60.amzn2 will be installed
--> Processing Dependency: kernel-headers >= 2.2.1 for package: glibc-headers-2.26-60.amzn2.x86_64
--> Processing Dependency: kernel-headers for package: glibc-headers-2.26-60.amzn2.x86_64
--> Package kernel-headers.x86_64 0:5.10.130-118.517.amzn2 will be installed
--> Finished Dependency Resolution

Dependencies Resolved
```

Use **nano test.c** to open nano file editor



Activities Terminal Aug 10 21:12

tejas@tejas-VirtualBox: ~

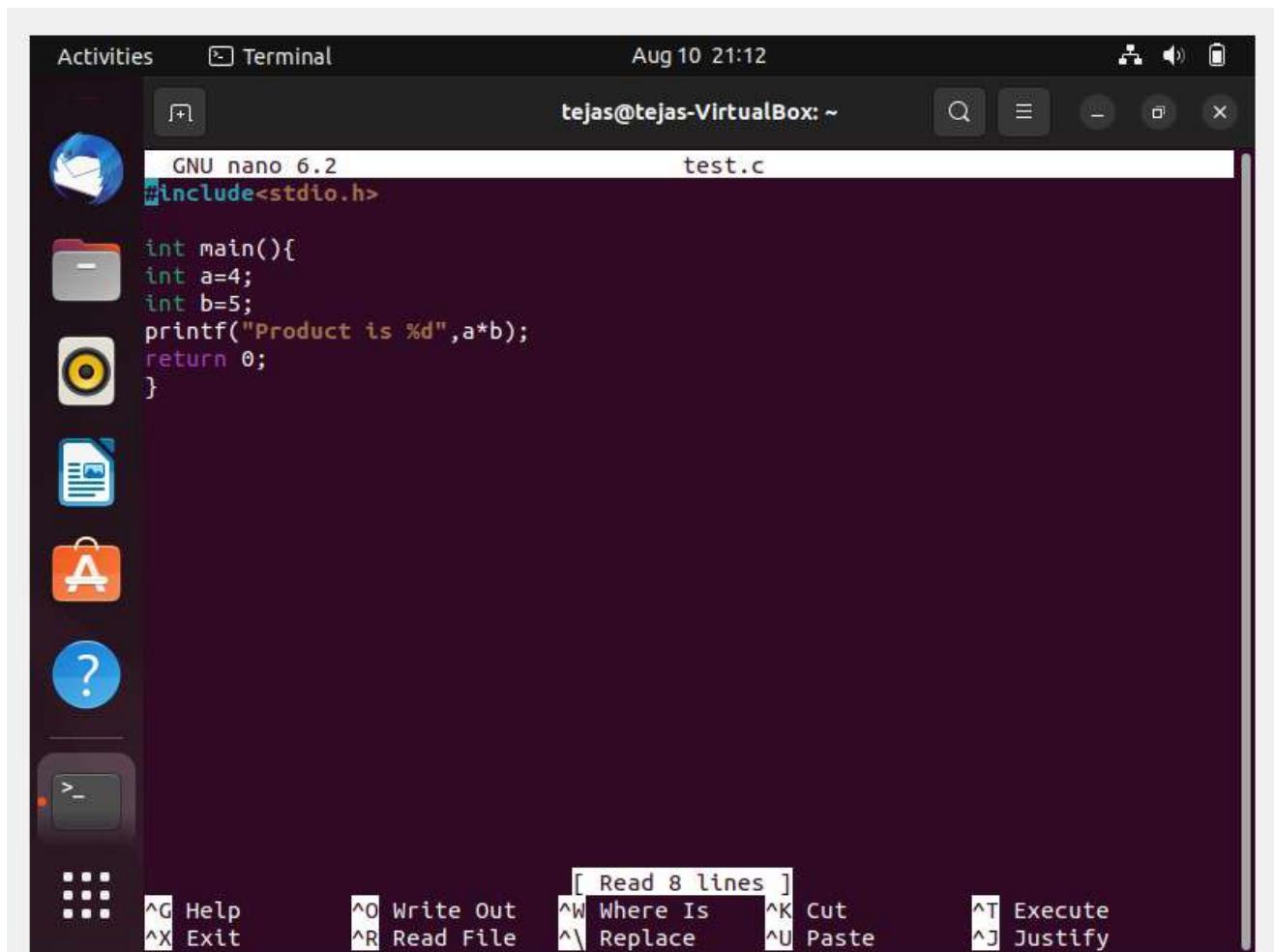
GNU nano 6.2 test.c

```
#include<stdio.h>

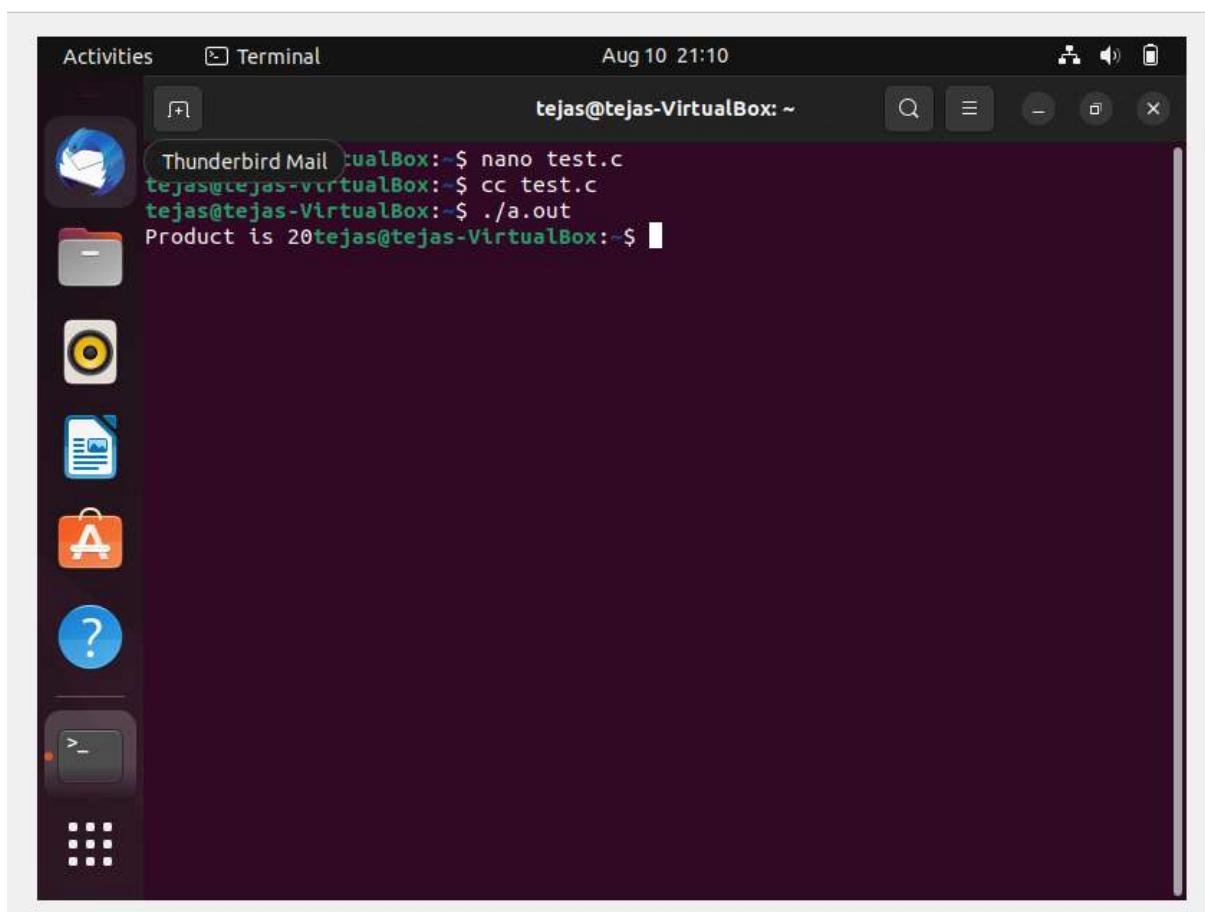
int main(){
    int a=4;
    int b=5;
    printf("Product is %d",a*b);
    return 0;
}
```

[Read 8 lines]

^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify

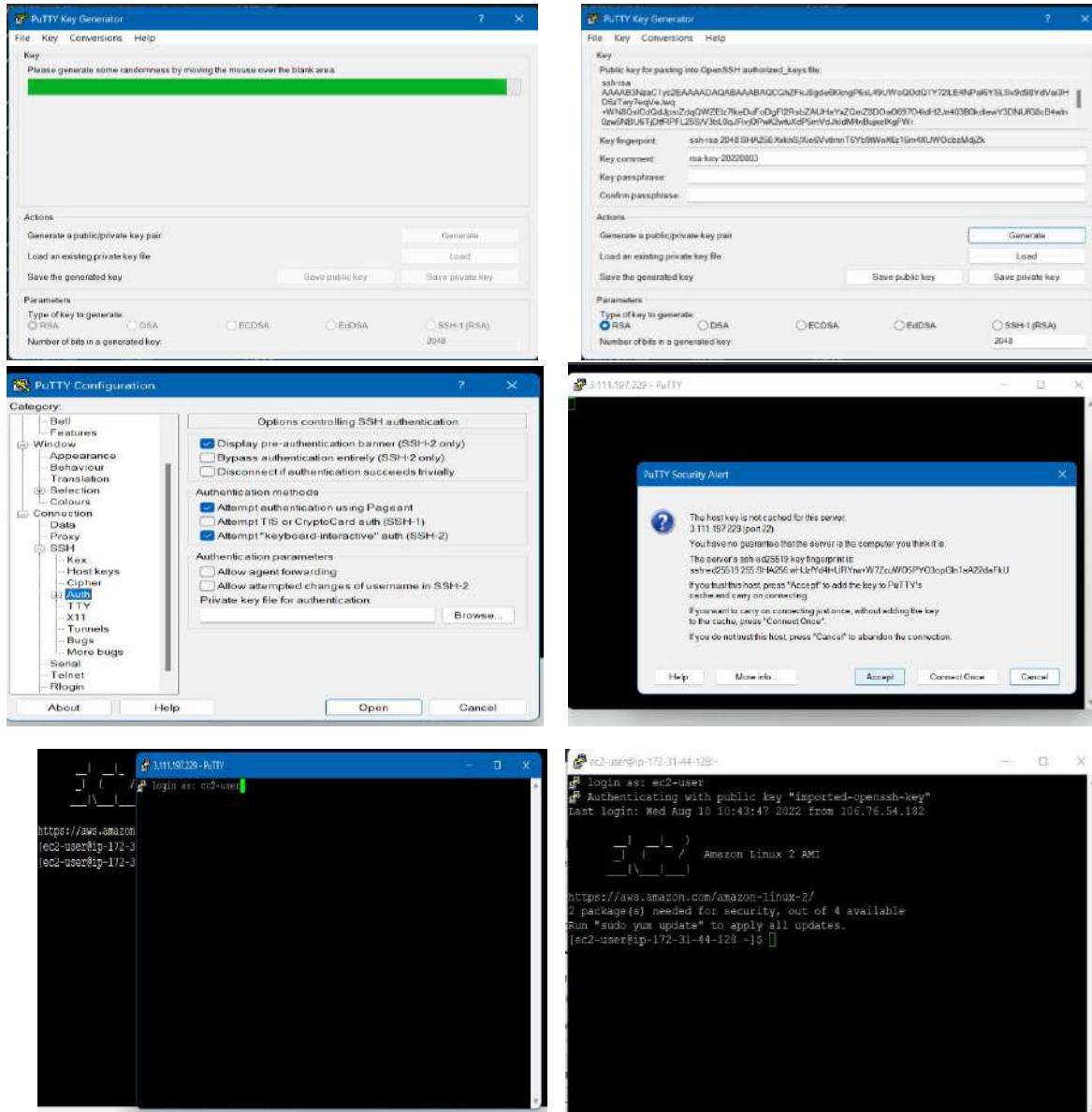
A screenshot of a terminal window titled "test.c". The window shows a C program with variables a and b set to 4 and 5 respectively, and a printf statement outputting their product. The terminal interface includes a sidebar with icons for file operations like copy, paste, and search, and a bottom row of keyboard shortcuts for various functions.

Compile and run the c file

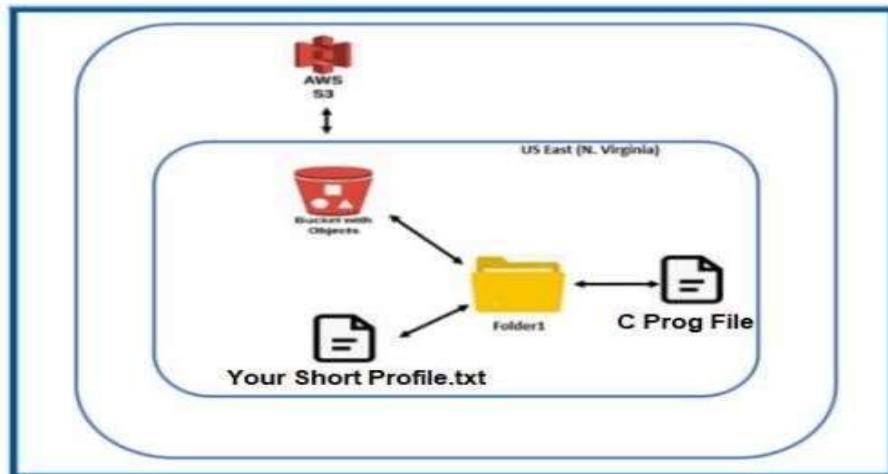


WINDOWS

Now we will use windows to connect to aws using putty



2. Create a Storage bucket using S3(Simple Storage Service) using AWS and store your c program file and your short profile text file onto the folder created in the S3 bucket.



Search in the search box for s3 and click the option and then click on create bucket option

Screenshot of the AWS S3 console. The URL is s3.console.aws.amazon.com/s3/get-started?region=ap-south-1. The page title is "Amazon S3" with the subtitle "Store and retrieve any amount of data from anywhere". A sidebar on the left shows "Storage" and "How it works". A modal window titled "Create a bucket" is open, containing the text: "Every object in S3 is stored in a bucket. To upload files and folders to S3, you'll need to create a bucket where the objects will be stored." and a "Create bucket" button. The bottom right corner shows the date and time: "17.05 IN 10-08-2022".

Now fill in the bucket name

The screenshot shows the 'Create bucket' page in the AWS S3 console. In the 'General configuration' section, the 'Bucket name' field contains '200ds013_pcc'. Below it, a note states: 'Bucket name must be globally unique and must not contain spaces or uppercase letters. See rules for bucket naming.' The 'AWS Region' dropdown is set to 'Asia Pacific (Mumbai) ap-south-1'. A 'Copy settings from existing bucket - optional' section includes a 'Choose bucket' button. At the bottom of the page, there's a 'Feedback' link and a note: 'We're continuing to improve the S3 console to make it faster and easier to use. If you have feedback on the updated experience, choose Provide feedback.'



The screenshot shows the 'Create bucket' page in the AWS S3 console. In the 'Object Ownership' section, the 'ACLs disabled (recommended)' option is selected, with a note: 'All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.' In the 'Block Public Access settings for this bucket' section, the 'Block all public access' checkbox is checked, with a note: 'Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.' At the bottom of the page, there's a 'Feedback' link and a note: 'We're continuing to improve the S3 console to make it faster and easier to use. If you have feedback on the updated experience, choose Provide feedback.'



s3.console.aws.amazon.com/s3/bucket/create?region=ap-south-1

We're continuing to improve the S3 console to make it faster and easier to use. If you have feedback on the updated experience, choose [Provide feedback](#).

Block Public Access settings for this bucket

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to this bucket and its objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to this bucket or objects within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#)

Block all public access
Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

Block public access to buckets and objects granted through new access control lists (ACLs)
S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.

Block public access to buckets and objects granted through any access control lists (ACLs)
S3 will ignore all ACLs that grant public access to buckets and objects.

Block public access to buckets and objects granted through new public bucket or access point policies
S3 will block new bucket and access point policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.

Block public and cross-account access to buckets and objects through any public bucket or access point policies
S3 will ignore public and cross-account access for buckets or access points with policies that grant public access to buckets and objects.

⚠️ Turning off block all public access might result in this bucket and the objects within becoming public
AWS recommends that you turn on block all public access, unless public access is required for specific and verified use cases such as static website hosting.

I acknowledge that the current settings might result in this bucket and the objects within becoming public.

Feedback Looking for language selection? Find it in the new Unified Settings [\[Alt+S\]](#)

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17:08
ENG IN 10-08-2022

s3.console.aws.amazon.com/s3/bucket/create?region=ap-south-1

We're continuing to improve the S3 console to make it faster and easier to use. If you have feedback on the updated experience, choose [Provide feedback](#).

Bucket Versioning

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

Disable

Enable

Tags (0) - optional

Track storage cost or other criteria by tagging your bucket. [Learn more](#)

No tags associated with this bucket.

Add tag

Default encryption

Automatically encrypt new objects stored in this bucket. [Learn more](#)

Disable

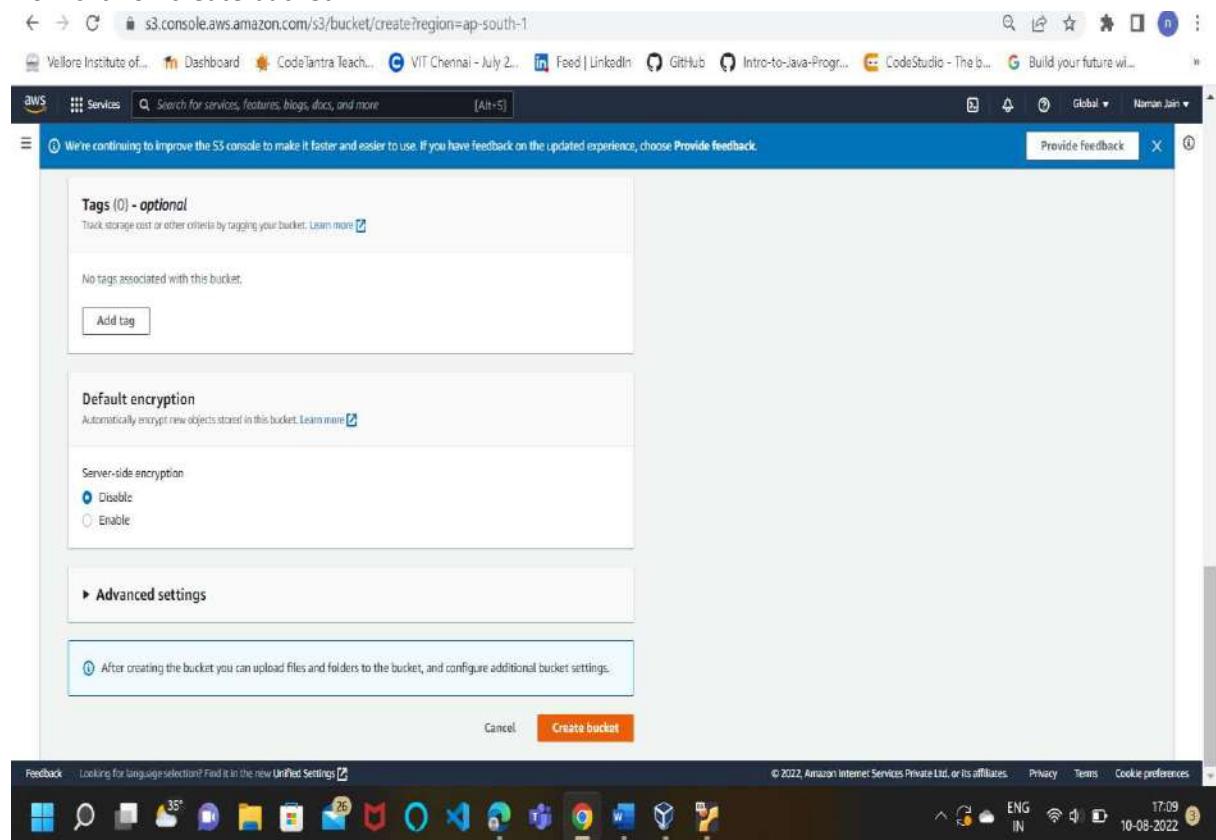
Enable

Feedback Looking for language selection? Find it in the new Unified Settings [\[Alt+S\]](#)

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17:09
ENG IN 10-08-2022

Now click on create bucket



Create bucket

The screenshot shows the 'Buckets' page on the AWS S3 console. On the left, a sidebar lists 'Amazon S3', 'Buckets', 'Access Points', 'Object Lambda Access Points', 'Multi-Region Access Points', 'Batch Operations', and 'Access analyzer for S3'. Below this are sections for 'Block Public Access settings for this account', 'Storage Lens', 'AWS Organizations settings', and 'Feature spotlight'. The main area displays a table for 'Buckets (1) info'. The table has columns for Name, AWS Region, Access, and Creation date. One row is shown: '20bds0033pcc' (Name), 'Asia Pacific (Mumbai) ap-south-1' (AWS Region), 'Objects can be public' (Access), and 'August 10, 2022, 21:22:07 (UTC+05:30)' (Creation date). Action buttons for 'Copy ARN', 'Empty', and 'Delete' are available, along with a 'Create bucket' button. A note at the top right encourages following security best practices. The bottom of the page includes a search bar, navigation links, and copyright information.

AWS Services Search for services, features, blogs, docs, and more [Alt+S] Global tejas275 ▾

We're continuing to improve the S3 console to make it faster and easier to use. If you have feedback on the updated experience, choose Provide feedback.

Provide feedback X

Upload succeeded

View details below.

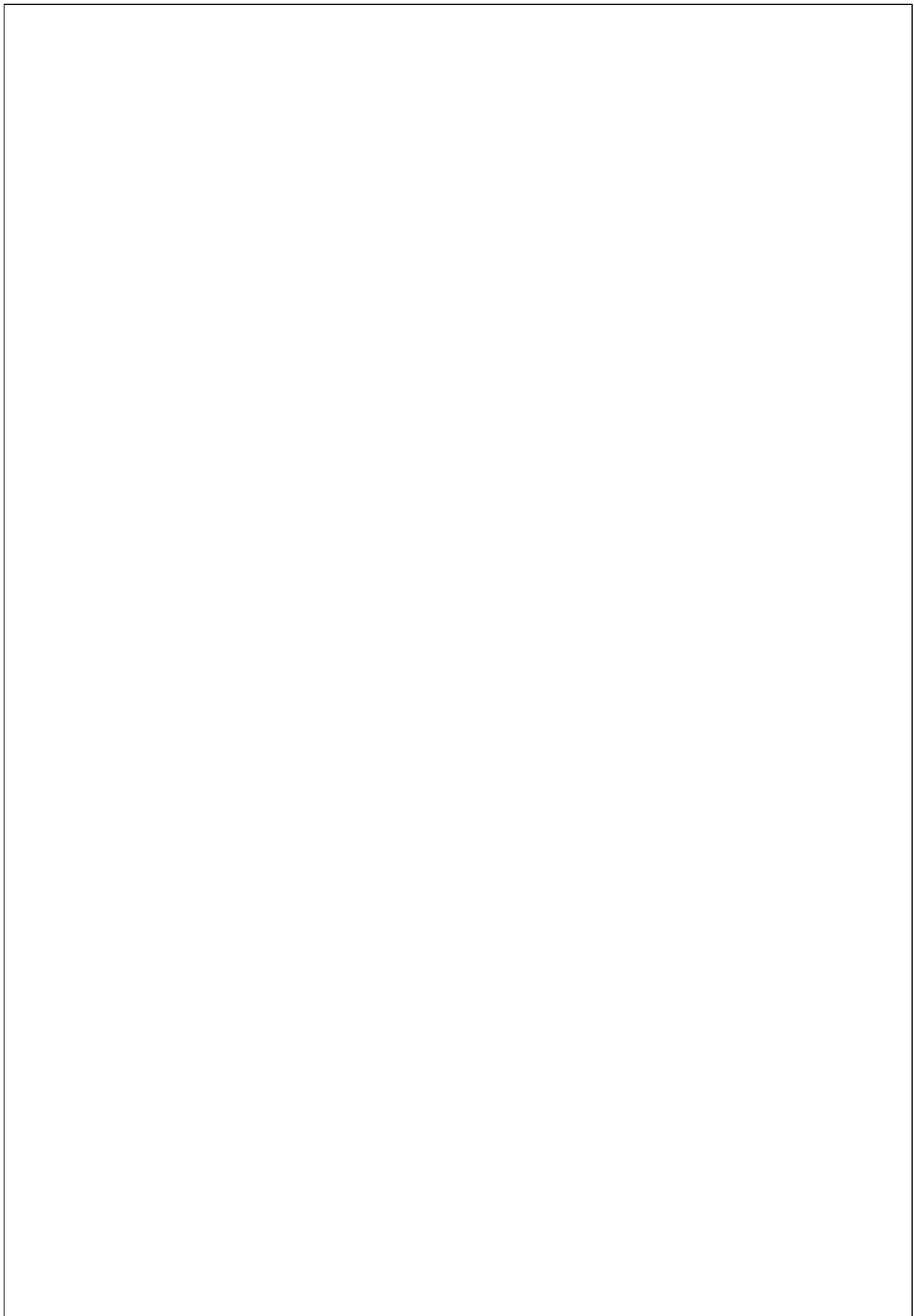
Summary

Destination	Succeeded	Failed
s3://20bds0033pcc	2 files, 59.7 KB (100.00%)	0 files, 0 B (0%)

Files and folders (2 Total, 59.7 KB)

Name	Folder	Type	Size	Status	Error
Tejas's Resume 2.pdf	-	application/pdf	59.6 KB	✓ Succeeded	-
test.c	-	-	112.0 B	✓ Succeeded	-

Feedback Looking for language selection? Find it in the new Unified Settings ▾ © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences



Click on open to open file on aws

The screenshot shows the AWS S3 console interface. On the left, there's a sidebar with options like Buckets, Access Points, Object Lambda Access Points, Multi-Region Access Points, Batch Operations, and Access analyzer for S3. Below that are sections for Block Public Access settings and Storage Lens. A Feature spotlight section is also present. The main area displays the properties of an object named 'Resume.pdf'. The 'Properties' tab is selected, showing details such as the object key ('Resume.pdf'), last modified date ('August 10, 2022, 17:19:57 (UTC+05:50)'), size ('141.5 KB'), type ('pdf'), and key ('Resume.pdf'). There are also links for 'Copy S3 URI', 'Download', 'Open', and 'Object actions'. The status bar at the bottom shows the URL 'https://20bds0013pc.s3.ap-south-1.amazonaws.com/Resume.pdf' and the date '10-08-2022'.

Now copy the url and can use to open the file on cloud

The screenshot shows a resume document titled 'Tejas's Resume 2.pdf'. The resume is presented in a clean, modern layout. At the top right, there's a circular profile picture of a man. To the right of the picture, the name 'Tejas Rokade' is displayed in bold, followed by 'Software Developer'. Below this, a brief description states: 'Computer Science student Passionate Web Developer is adept in all stages of web development. Equipped with a diverse and promising skill-set. Proficient in an technologies, including JavaScript, HTML&CSS, PHP, MySQL, React and Nodejs. Young and learning new technologies every day.' Under the heading 'EDUCATION', it lists 'High School' from 'Sinhgad Spring Dale Public School' in 'Pune' and 'Junior College' from 'Pune Cambridge Public School' in 'Pune'. In the 'WORK EXPERIENCE' section, it mentions 'Core Member' of 'ACM-VIT Student's Chapter' from '2021 - Present' in 'Vellore'. The 'SKILLS' section lists 'React', 'NodeJS', 'PHP', 'MySQL', 'JavaScript', 'HTML & CSS', 'G & GitHub', 'C', 'C++', 'Java', and 'Python'. The 'PERSONAL PROJECTS' section includes 'Real Time Chat Application', 'Music Recommender System', and 'Mi-Store-Clone Frontend'. The 'LANGUAGES' section shows proficiency in English and Marathi. The 'INTERESTS' section is currently empty. The browser address bar shows the URL 'https://20bds0033pc.s3.ap-south-1.amazonaws.com/Tejas%27s%20Resume%202.pdf?response-content-disposition=inline&X-Amz-Security-Token=I...'. The browser interface includes a toolbar with icons for back, forward, search, and other functions.

Link copied:

<https://20bds0033pc.s3.ap-south-1.amazonaws.com/Tejas%27s%20Resume%202.pdf?response-content-disposition=inline&X-Amz-Security-Token=I...>

Signature=49c20b07c94d8ef8363ed34ea17d23373636472c072c2e578060e457a399b3787

Principles of Cloud Computing

Name: Tejas Rahul Rokade

Reg. No.: 20BDS0033

Lab 3

Question 1 - Launching a Web App onto EC2

The screenshot shows the AWS EC2 Management Console interface. On the left, the navigation sidebar includes options like EC2 Dashboard, Instances, Images, and Elastic Block Store. The main 'Resources' section displays current usage statistics:

Instances (running)	1	Dedicated Hosts	0	Elastic IPs	0
Instances	1	Key pairs	1	Load balancers	0
Placement groups	0	Security groups	2	Snapshots	0
Volumes	1				

A tooltip message suggests using the AWS Launch Wizard for Microsoft SQL Server Always On availability groups. Below this, the 'Launch instance' section allows users to start a new EC2 instance. The 'Service health' panel indicates that the service is operating normally. The 'Explore AWS' section offers promotional links for ML Inference and EC2 Spot Instances.

In the bottom half of the screenshot, the 'Instances' section shows a table with one running instance:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
20BDS0033	i-0fb515c3dff73918	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a	ec2-52-66-98-

A modal window titled 'Select an instance' is open, prompting the user to choose the instance to connect to using EC2 Instance Connect.

Click Instance Summary

The screenshot shows the AWS EC2 Instance Summary page for instance **i-0f6b515c3dff73918 (20BDS0033)**. The instance is currently running. Key details include:

- Instance ID:** i-0f6b515c3dff73918 (20BDS0033)
- Public IPv4 address:** 52.66.98.205
- Private IP4 address:** 172.31.39.82
- Public IPv4 DNS:** ec2-52-66-98-205.ap-south-1.compute.amazonaws.com
- Instance state:** Running
- Instance type:** t2.micro
- VPC ID:** vpc-008d283763760bf3
- Elastic IP addresses:** -
- AWS Compute Optimizer finding:** Opt-in to AWS Compute Optimizer for recommendations.
- IAM Role:** -
- Subnet ID:** subnet-0e3f599d3b533e1b6
- Auto Scaling Group name:** -

The page also includes tabs for Details, Security, Networking, Storage, Status checks, Monitoring, and Tags. The Security tab is currently selected.

Go to security then go to security groups

The screenshot shows the AWS EC2 Security Groups page for the same instance. The Security tab is selected. Key details include:

- IAM Role:** -
- Subnet ID:** subnet-0e3f599d3b533e1b6
- Auto Scaling Group name:** -
- Owner ID:** 513322549878
- Launch time:** Wed Aug 10 2022 16:22:04 GMT+0530 (India Standard Time)
- Security groups:** sg-0f8d17d628b24cea2 (launch-wizard-1)
- Inbound rules:** A table showing one rule: Security group rule ID sgr-079027db0b2ec264d, Port range 22, Protocol TCP, Source 0.0.0.0/0, Security groups launch-wizard-1.
- Outbound rules:** A table showing one rule: Security group rule ID sgr-05d52483915dd0232, Port range All, Protocol All, Destination 0.0.0.0/0, Security groups launch-wizard-1.

Click on actions drop down then choose edit inbound rules

The screenshot shows the AWS EC2 Management Console. The left sidebar is collapsed. The main content area displays the 'Security Groups' page for the 'sg-0f8d17d628b24cea2 - launch-wizard-1' security group. The 'Details' section shows the following information:

Security group name	Security group ID	Description	VPC ID
launch-wizard-1	sg-0f8d17d628b24cea2	launch-wizard-1 created 2022-08-10T10:51:20.855Z	vpc-008d283763760bfd3

Below this, the 'Owner' is listed as 513322549878, with 1 Inbound rule entry and 1 Outbound rule entry.

The 'Inbound rules' tab is selected, showing one rule: 'HTTP' (Protocol: TCP, Port range: 22, Source: Custom, 0.0.0.0/0). There is also a note: 'You can now check network connectivity with Reachability Analyzer' with a 'Run Reachability Analyzer' button.

Click on add rule and In type dropdown choose http and save rules

The screenshot shows the 'Edit inbound rules' dialog box for the 'sg-0f8d17d628b24cea2 - launch-wizard-1' security group. The 'Inbound rules' section lists several protocols: POP3, IMAP, LDAP, HTTPS, SMB, SMTPS, IMAPS, POP3S, MSSQL, and HTTP. A search bar at the top is set to 'HTTP'. The 'Source' section shows two entries: 'Custom' (IP range: 0.0.0.0/0) and '0.0.0.0/0'. At the bottom right are 'Cancel', 'Preview changes', and a prominent orange 'Save rules' button.

The screenshot shows the AWS EC2 Instance Details page. A green banner at the top indicates that 'Inbound security group rules successfully modified on security group (sg-0f8d17d628b24cea2 | launch-wizard-1)'. Below this, the instance details for 'sg-0f8d17d628b24cea2 - launch-wizard-1' are displayed. The 'Details' section shows the following information:

Security group name	launch-wizard-1	Description	sg-0f8d17d628b24cea2 created 2022-08-10T10:51:20.855Z
Owner	513322549878	Inbound rules count	2 Permission entries
		Outbound rules count	1 Permission entry

Below the details, there are tabs for 'Inbound rules' (selected), 'Outbound rules', and 'Tags'. A message says 'You can now check network connectivity with Reachability Analyzer' with a 'Run Reachability Analyzer' button. At the bottom, there are links for 'Feedback', 'Unified Settings', and copyright information.

Now connect to the ec2 instance to Ubuntu (ssh) as done in previous experiment

The screenshot shows an Oracle VM VirtualBox window titled 'BNS0013 [Running] - Oracle VM VirtualBox'. The terminal window displays a root shell on an Amazon Linux 2 AMI instance. The user has run the command 'sudo yum update' and is watching the output. The terminal window has a dark theme and shows various system logs and package updates.

In terminal type yum install httpd -y

Activities Terminal Aug 24 10:45

```
[root@ip-172-31-39-82 ~]# yum install httpd -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
--> Package httpd.x86_64 0:2.4.54-1.amzn2 will be installed
--> Processing Dependency: httpd-tools = 2.4.54-1.amzn2 for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem = 2.4.54-1.amzn2 for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: system-logos-httpd for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: mod_http2 for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: /etc/mime.types for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: libaprutil-1.so.0()(64bit) for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: libapr-1.so.0()(64bit) for package: httpd-2.4.54-1.amzn2.x86_64
--> Running transaction check
--> Package apr.x86_64 0:1.7.0-9.amzn2 will be installed
--> Package apr-util.x86_64 0:1.6.1-5.amzn2.0.2 will be installed
--> Processing Dependency: apr-util-bdb(x86-64) = 1.6.1-5.amzn2.0.2 for package: apr-util-1.6.1-5.amzn2.0.2.x86_64
--> Package generic-logos-httpd.noarch 0:18.0.0-4.amzn2 will be installed
--> Package httpd-filesystem.noarch 0:2.4.54-1.amzn2 will be installed
--> Package httpd-tools.x86_64 0:2.4.54-1.amzn2 will be installed
--> Package mailcap.noarch 0:2.1.41-2.amzn2 will be installed
```

Create file index.html

```
[root@ip-172-31-39-82 ~]# cd/var/www/html
-bash: cd/var/www/html: No such file or directory
[root@ip-172-31-39-82 ~]# cd /var/www/html
[root@ip-172-31-39-82 html]# nano index.html
```

Index.html

Activities Terminal Aug 24 10:49

root@ip-172-31-39-82:/var/www/html index.html Modified

GNU nano 2.9.8

```
<html>
<head>
<title>PCC LAB DA</title>
</head>
<body>
<p>Tejas Rahul Rokade 20BDS0033</p>
</body>
</html>
```

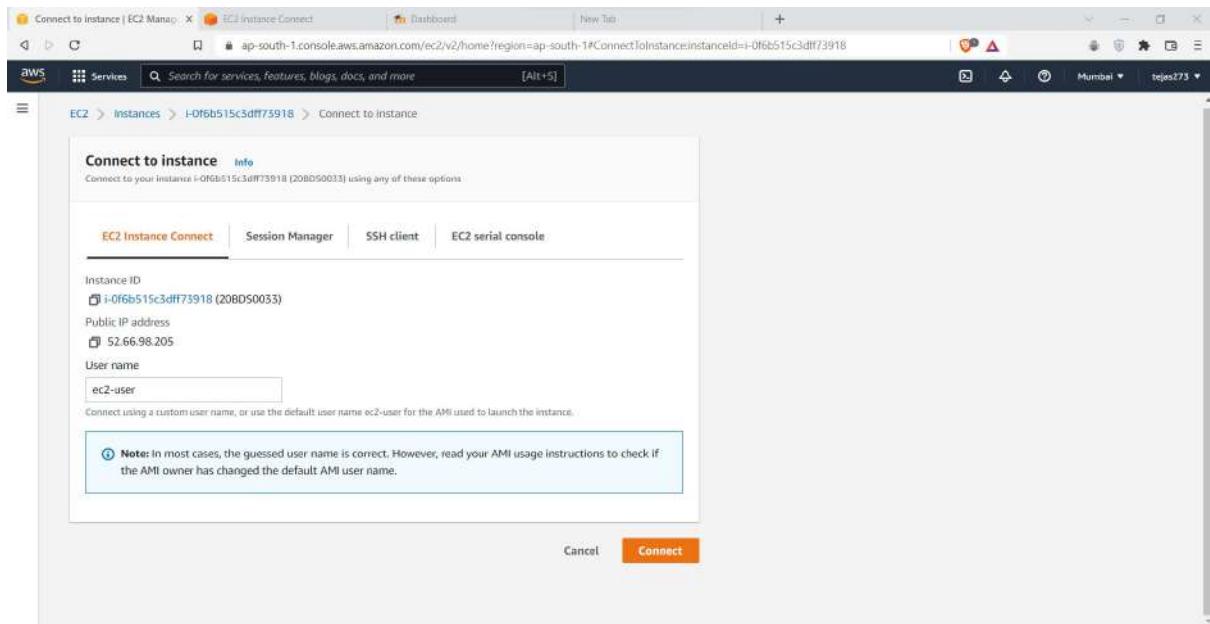
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell

After creating the file index.html

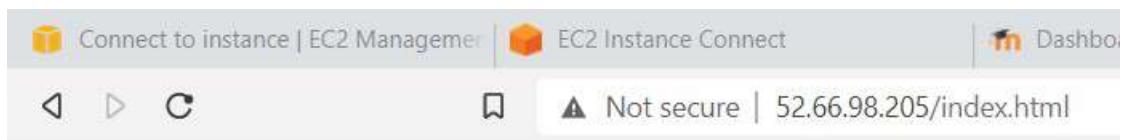
```
[root@ip-172-31-39-82 ~]# cd/var/www/html
-bash: cd/var/www/html: No such file or directory
[root@ip-172-31-39-82 ~]# cd /var/www/html
[root@ip-172-31-39-82 html]# nano index.html
[root@ip-172-31-39-82 html]# systemctl start httpd
```

Go to the browser window and type <http://<ipaddress>> of ec2>/index.html

In my case it is <http://52.66.98.205/index.html>

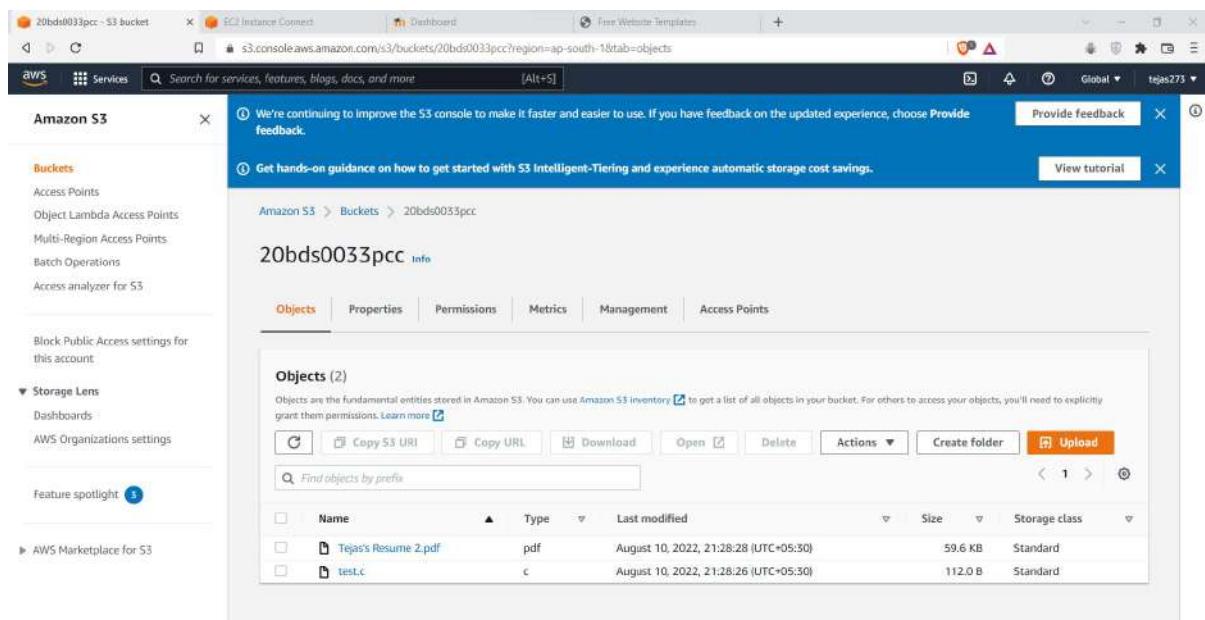
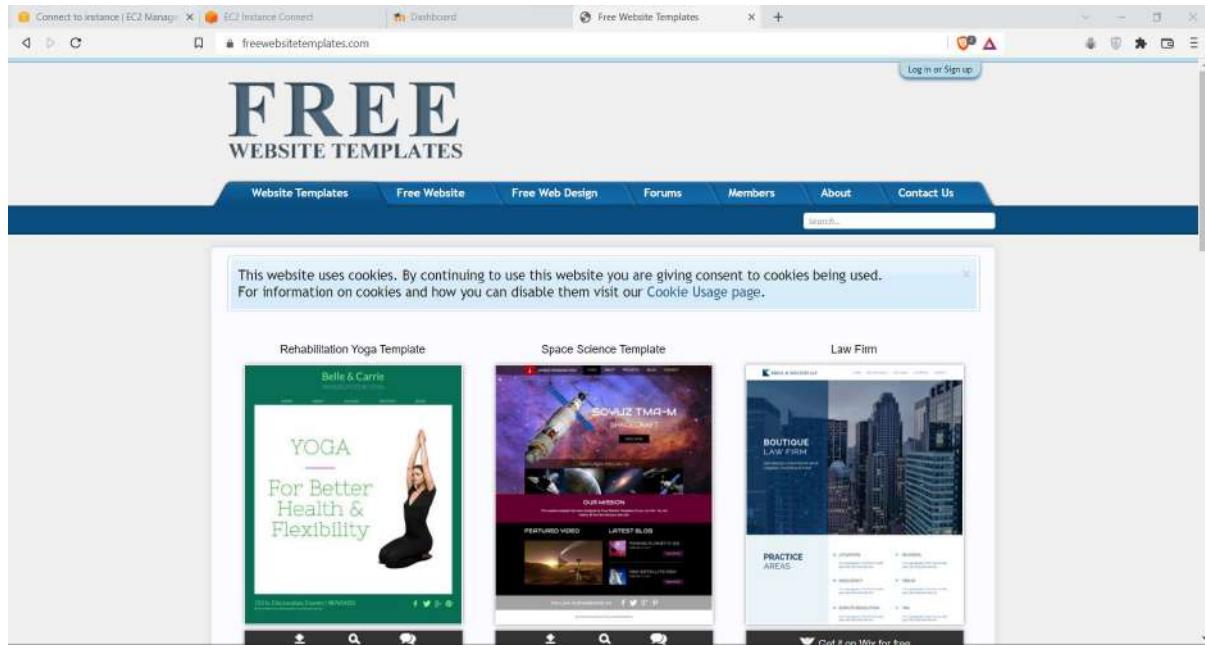


Output



Question 2

Go to freewebsitetemplates.com and download a template



Upload the zip file into the s3 bucket

The screenshot shows the AWS S3 Management Console interface. The user is uploading a file named "rehabilitation-yoga.zip" to a bucket named "20bds0033pcc". The "Upload" tab is selected. A message at the top says, "We're continuing to improve the S3 console to make it faster and easier to use. If you have feedback on the updated experience, choose Provide feedback." Below this, the breadcrumb navigation shows: Amazon S3 > Buckets > 20bds0033pcc > Upload. The main area is titled "Upload" and contains a "Files and folders" section with one item: "rehabilitation-yoga.zip" (Total: 5.3 MB). The destination is set to "s3://20bds0033pcc". At the bottom, there are links for "Feedback", "Looking for language selection? Find it in the new Unified Settings", and copyright information: "© 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences".

Upload Success

The screenshot shows the AWS S3 Management Console after the upload has succeeded. The "Upload: status" page is displayed. It shows a summary table with one row: Destination "s3://20bds0033pcc" with Status "Succeeded" (1 file, 5.3 MB (100.00%)) and another row with Status "Failed" (0 files, 0 B (0%)). The "Files and folders" tab is selected, showing the uploaded file "rehabilitation-yoga.zip" (Total: 5.3 MB). The "Configuration" tab is also present. A message at the top says, "We're continuing to improve the S3 console to make it faster and easier to use. If you have feedback on the updated experience, choose Provide feedback." Below this, the breadcrumb navigation shows: Amazon S3 > Buckets > 20bds0033pcc > Upload. At the bottom, there are links for "Feedback", "Looking for language selection? Find it in the new Unified Settings", and copyright information: "© 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences".

The screenshot shows the AWS S3 console interface. At the top, there are three tabs: '20bds0033 - S3 bucket' (active), 'EC2 Instance Connect' (inactive), and 'amazon web services - AWS S3 make' (inactive). Below the tabs, the navigation bar includes 'aws Services' and a search bar with the placeholder 'Search for services, features, blogs, docs, and more'. A keyboard shortcut '[Alt+S]' is displayed next to the search bar.

The main content area displays a green banner with the message 'Successfully edited public access' and a link 'View details below.' Below the banner, the title 'Make public: status' is shown, along with a note: 'The information below will no longer be available after you navigate away from this page.'

A summary table provides the following details:

Source	Successfully edited public access	Failed to edit public access
s3://20bds0033	1 object, 5.3 MB	0 objects

Below the summary, there are two tabs: 'Failed to edit public access' (selected) and 'Configuration'. Under 'Failed to edit public access', it says '(0)' and shows a table with one row: 'No objects failed to edit'.

At the bottom of the page, there are links for 'Feedback', 'Looking for language selection? Find it in the new United Settings', '© 2022, Amazon Internet Services Private Ltd. or its affiliates.', 'Privacy', 'Terms', and 'Cookie preferences'.

Download the Zip file from S3 Bucket into /var/www/html

through running

```
sudo wget http://3.110.132.67/rehabilitation-yoga/upload/blog.html
```

```
[root@ip-172-31-39-82 html]# wget https://20bds0033.s3.ap-south-1.amazonaws.com/rehabilitation-yoga.zip
--2022-08-24 11:28:57-- https://20bds0033.s3.ap-south-1.amazonaws.com/rehabilitation-yoga.zip
Resolving 20bds0033.s3.ap-south-1.amazonaws.com (20bds0033.s3.ap-south-1.amazonaws.com)... 52.219.156.154
Connecting to 20bds0033.s3.ap-south-1.amazonaws.com (20bds0033.s3.ap-south-1.amazonaws.com)|52.219.156.154|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 5559472 (5.3M) [application/zip]
Saving to: 'rehabilitation-yoga.zip'

100%[=====] 5,559,472   --K/s   in 0.04s

2022-08-24 11:28:57 (145 MB/s) - 'rehabilitation-yoga.zip' saved [5559472/5559472]

[root@ip-172-31-39-82 html]#
```

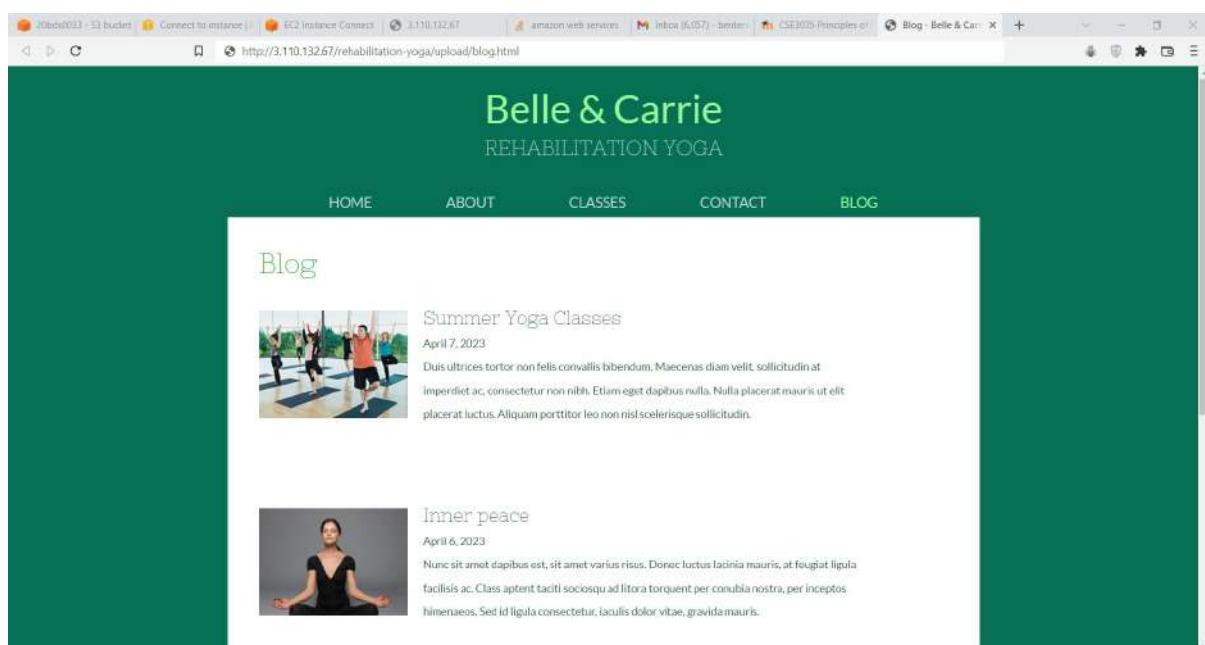
Unzip the zip file

```
[root@ip-172-31-39-82 html]# unzip rehabilitation-yoga.zip
Archive:  rehabilitation-yoga.zip
  creating: rehabilitation-yoga/
  creating: rehabilitation-yoga/upload/
  creating: rehabilitation-yoga/upload/js/
  inflating: rehabilitation-yoga/upload/js/function.js
  inflating: rehabilitation-yoga/upload/js/jquery-1.11.1.min.js
  inflating: rehabilitation-yoga/upload/js/mobile.js
  inflating: rehabilitation-yoga/upload/classes.html
  creating: rehabilitation-yoga/upload/css/
  inflating: rehabilitation-yoga/upload/css/mobile.css
  inflating: rehabilitation-yoga/upload/css/style.css
  inflating: rehabilitation-yoga/upload/singlepost.html
```

Renaming the zip file

```
[root@ip-172-31-39-82 html]# mv rehabilitation-yoga/* ■
[root@ip-172-31-39-82 html]# ■
```

Output



Name: Tejas Rahul Rokade

Reg. No.: 20BDS0033

Create a Load balancer using AWS and Test its running with sample set of web servers

Create two instances and while creating the instance in advance setting under user data give below commands:

Instance 1

```
#!/bin/bash
```

```
Yum install httpd -y
```

```
Systemctl enable httpd
```

```
Mkdir /var/www/html/orders
```

```
Echo "<h1>This is Orders App (20BDS0033)</h1>" >
```

```
/var/www/html/orders/index.html
```

```
Systemctl start httpd
```

Instance 2

```
#!/bin/bash
```

```
Yum install httpd -y
```

```
Systemctl enable httpd
```

```
Mkdir /var/www/html/payments
```

```
Echo "<h1>This is Payments App (20BDS0033)</h1>" >
```

```
/var/www/html/payments/index.html
```

```
Systemctl start httpd
```

The screenshot shows the AWS EC2 Management Console interface. On the left, there is a navigation sidebar with sections for EC2 Dashboard, Services, Instances, Images, and Elastic Block Store. The Instances section is currently selected, showing a table of running instances. The table has columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, and Public IPv4. Two instances are listed:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
Load_Balancer_2	i-02cd6bcda7c00c7a6	Running	t2.micro	Initializing	No alarms	ap-south-1a	ec2-13-12
Load_Balancer_1	i-0a7733fe59321c9a5	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1b	ec2-43-20

A modal window titled "Select an instance" is open at the bottom, listing the same two instances.

This is Orders App (20BDS0033)



This is Payments App(20BDS0033)

The screenshot shows the AWS EC2 Management console under the 'Target groups' section. A success message at the top states 'Successfully created target group: Instance1-20BDS0033'. Below it, a table lists the target group details:

Name	ARN	Port	Protocol	Target type	Load Balancer
Instance1-20BDS0033	arn:aws:elasticloadbalancing:... (redacted)	80	HTTP	Instance	None associated

Below the table, a message says '0 target groups selected' and 'Select a target group above.'

The left sidebar shows the navigation menu for EC2, including 'EC2 Dashboard', 'Events', 'Tags', 'Limits', 'Instances' (with sub-options like 'Instances', 'Instance Types', 'Launch Templates', etc.), 'Images' (with sub-options like 'AMIs', 'AMI Catalog'), and 'Elastic Block Store' (with sub-options like 'Volumes').

The screenshot shows the AWS EC2 Target Groups page. The left sidebar includes options like EC2 Dashboard, EC2 Global View, Events, Tags, Limits, Instances (with sub-options like Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations), Images (AMIs, AMI Catalog), and Elastic Block Store (Volumes). The main content area displays a table titled "Target groups (2) Info". The table has columns for Name, ARN, Port, Protocol, Target type, and Load balancer. Two entries are listed:

Name	ARN	Port	Protocol	Target type	Load balancer
Instance1-20BD50033	arn:aws:elasticloadbalancing:ap-south-1:123456789012:targetgroup/Instance1-20BD50033	80	HTTP	Instance	None associated
payments-20BD50033	arn:aws:elasticloadbalancing:ap-south-1:123456789012:targetgroup/payments-20BD50033	80	HTTP	Instance	None associated

Below the table, a message says "0 target groups selected" and "Select a target group above." The bottom of the screen shows the Windows taskbar with icons for File Explorer, Task View, and other system tools.

Creating Load Balancer

The screenshot shows the "Create Application Load Balancer" wizard. The top navigation bar includes "Load balancers | EC2 Management" and "Services". The main content area is titled "Create Application Load Balancer" and contains the following sections:

- How Application Load Balancers work**: A brief description of how ALBs distribute traffic.
- Basic configuration**:
 - Load balancer name**: The name must be unique within your AWS account. The input field contains "20BD50033_Load_Balancer".

A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.
 - Scheme**:
 - Internet-facing**: An internet-facing load balancer routes requests from clients over the internet to targets. Requires a public subnet. Learn more.
 - Internal**: An internal load balancer routes requests from clients to targets using private IP addresses.
 - IP address type**:
 - IPv4**: Selected.

The bottom of the screen shows the Windows taskbar with icons for File Explorer, Task View, and other system tools.

Load balancers | EC2 Management | EC2 Instance Connect | EC2 Instance Connect: 43.204.218.232/orders/ | 13.126.14.215/payments/ | Mumbai | tejas273 | +

aws Services Search for services, features, blogs, docs, and more [Alt+S]

Network mapping Info

The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.

VPC Info

Select the virtual private cloud (VPC) for your targets. Only VPCs with an internet gateway are enabled for selection. The selected VPC cannot be changed after the load balancer is created. To confirm the VPC for your targets, view your target groups [\[?\]](#)

vpc-008d28376376d9d3
IPv4: 172.31.0.0/16

Mappings Info

Select at least two Availability Zones and one subnet per zone. The load balancer routes traffic to targets in these Availability Zones only. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.

ap-south-1a

Subnet
subnet-0e3f599d3b533e1b6

IPv4 settings
Assigned by AWS

ap-south-1b

Subnet
subnet-0291428c51107d5a3

Feedback Looking for language selection? Find it in the new [Unified Settings](#) [\[?\]](#)

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Cloudy 74°F ENG IN 18:46 07-09-2022

Load balancers | EC2 Management | EC2 Instance Connect | EC2 Instance Connect: 43.204.218.232/orders/ | 13.126.14.215/payments/ | Mumbai | tejas273 | +

aws Services Search for services, features, blogs, docs, and more [Alt+S]

Assigned by AWS

ap-south-1b

Subnet
subnet-0291428c51107d5a3

IPv4 settings
Assigned by AWS

ap-south-1c

Subnet
subnet-03161e30873656b74

IPv4 settings
Assigned by AWS

Security groups Info

A security group is a set of firewall rules that control the traffic to your load balancer.

Feedback Looking for language selection? Find it in the new [Unified Settings](#) [\[?\]](#)

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Cloudy 74°F ENG IN 18:46 07-09-2022

Listeners and routing [Info](#)

A listener is a process that checks for connection requests using the port and protocol you configure. The rules that you define for a listener determine how the load balancer routes requests to its registered targets.

▼ Listener HTTP:80

Protocol	Port	Default action	Info
HTTP	: 80 1-65535	Forward to	Instance1-20BDS0033 Target type: Instance, IPv4

[Create target group](#) [Remove](#)

[Add listener](#)

▼ Add-on services - optional

Additional AWS services can be integrated with this load balancer at launch. You can also add these and other services after your load balancer is created by reviewing the "Integrated Services" tab for the selected load balancer.

AWS Global Accelerator info

Create an accelerator to get static IP addresses and improve the performance and availability of your applications. Additional charges apply [?](#)

Feedback Looking for language selection? Find it in the new [Unified Settings](#) [?](#)

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Summary

Review and confirm your configurations. Estimate cost [?](#)

Basic configuration Edit 20BDS0033_Load_Balancer <ul style="list-style-type: none">Internet-facingIPv4	Security groups Edit <ul style="list-style-type: none">default sg-0d744a323f95fb6e22	Network mapping Edit <ul style="list-style-type: none">VPC vpc-008d283763760bfd3ap-south-1a subnet-0e3f599d3b533e1b6ap-south-1b subnet-0291428c51107d5a5ap-south-1c subnet-03161e30873636b74	Listeners and routing Edit <ul style="list-style-type: none">HTTP:80 defaults to Instance1-20BDS0033
---	---	--	---

Add-on services [Edit](#)

Tags [Edit](#)
None

Attributes

[?](#) Certain default attributes will be applied to your load balancer. You can view and edit them after creating the load balancer.

[Cancel](#) [Create load balancer](#)

Feedback Looking for language selection? Find it in the new [Unified Settings](#) [?](#)

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The screenshot shows the AWS EC2 Management Console with the following details:

- Header:** EC2 Instance Connect, EC2 Instance Connect, 43.204.218.232/orders, 13.126.14.215/payments/
- Sidebar:** Services, Search for services, features, blogs, docs, and more [Alt+S]
- Middle Content:** A green banner at the top says "Successfully created load balancer: 20BDS0033-Load-Balancer". Below it, a note says "Note: It might take a few minutes for your load balancer to be fully set up and ready to route traffic. Targets will also take a few minutes to complete the registration process and pass initial health checks." Below the banner is the "Create Application Load Balancer" page.
- Bottom:** Suggested next steps: Review, customize, or enable attributes for your load balancer and listeners using the Description and Listeners tabs within 20BDS0033-Load-Balancer. Discover other services that you can integrate with your load balancer. Visit the Integrated services tab within 20BDS0033-Load-Balancer.

Now go to description and select DNS Name

The screenshot shows the AWS EC2 Management Console with the following details:

- Header:** EC2 Management Console, EC2 Instance Connect, EC2 Instance Connect, 43.204.218.232/orders, 13.126.14.215/payments/
- Sidebar:** New EC2 Experience, Tell us what you think, EC2 Dashboard, EC2 Global View, Events, Tags, Limits, Instances, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes.
- Middle Content:** A search bar shows "search : 20BDS0033-Load-Balancer" and a table with one row:

Name	DNS name	State	VPC ID	Availability Zones	Type	Create
20BDS0033-Load-Balancer	20BDS0033-Load-Balancer-...	Provisioning	vpc-008d283763760bd3	ap-south-1b, ap-south-...	application	Septen

A modal window titled "Load balancer: 20BDS0033-Load-Balancer" is open, showing the "Description" tab. It displays the Name (20BDS0033-Load-Balancer) and ARN (arn:aws:elb:loadbalancing:ap-south-1:513322549878:loadbalancer/app/20BDS0033-Load-Balancer/b885a7675a37ba86).
- Bottom:** Feedback, Looking for language selection? Find it in the new Unified Settings, © 2022, Amazon Internet Services Private Ltd. or its affiliates., Privacy, Terms, Cookie preferences, 74°F Cloudy, ENG IN, 18:47, 07-09-2022.

Rules | EC2 Management Console

Services Search for services, features, blogs, docs, and more [Alt+S]

Mumbai tejas273

Rules

Click a location for your new rule. Each rule must include one action of type forward, redirect, fixed response.

New rule was created successfully.

20BDS0033-Load-Balancer | HTTP:80

Rule limits for condition values, wildcards, and total rules.

Insert Rule

1. am...f3e61 IF Path is /instance1* THEN Forward to Instance1-20BDS0033: 1 (100%) Group-level stickiness: Off

2. am...fb1af IF Path is /payments* THEN Forward to payments-20BDS0033: 1 (100%) Group-level stickiness: Off

last: HTTP 80: default IF Requests otherwise not routed THEN Forward to Instance1-20BDS0033: 1 (100%) This rule cannot be edited.

Feedback Looking for language selection? Find it in the new Unified Settings

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Cloudy 74°F

18:56 07-09-2022

In new browser give

<http://20bds0033-load-balancer-1409240253.ap-south-1.elb.amazonaws.com/instance1/>

EC2 Management Console

EC2 Instance Connect

EC2 Instance Connect

43.204.218.233/orders/

13.126.14.215/payments/

http://20bds0033-load-balancer-1409240253.ap-south-1.elb.amazonaws.com/instance1/

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This is Orders App (20BDS0033)

Feedback Looking for language selection? Find it in the new Unified Settings

Cloudy 74°F

19:00 07-09-2022

In new browser give

<http://20bds0033-load-balancer-1409240253.ap-south-1.elb.amazonaws.com/payments/>

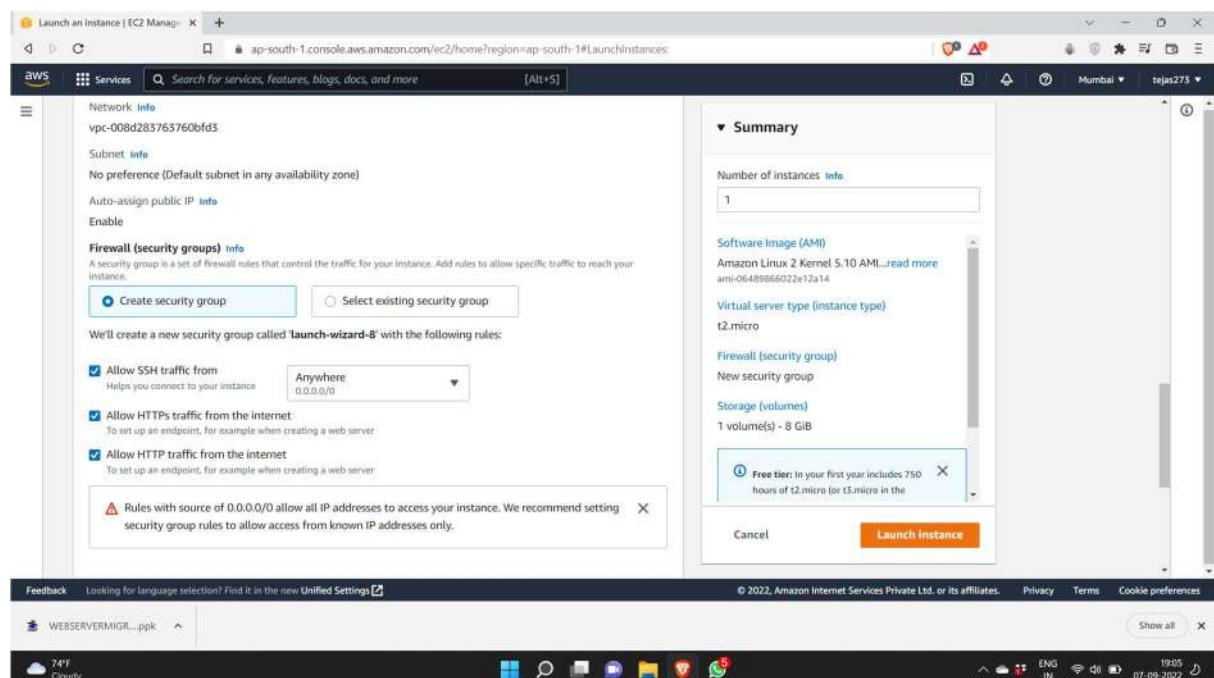
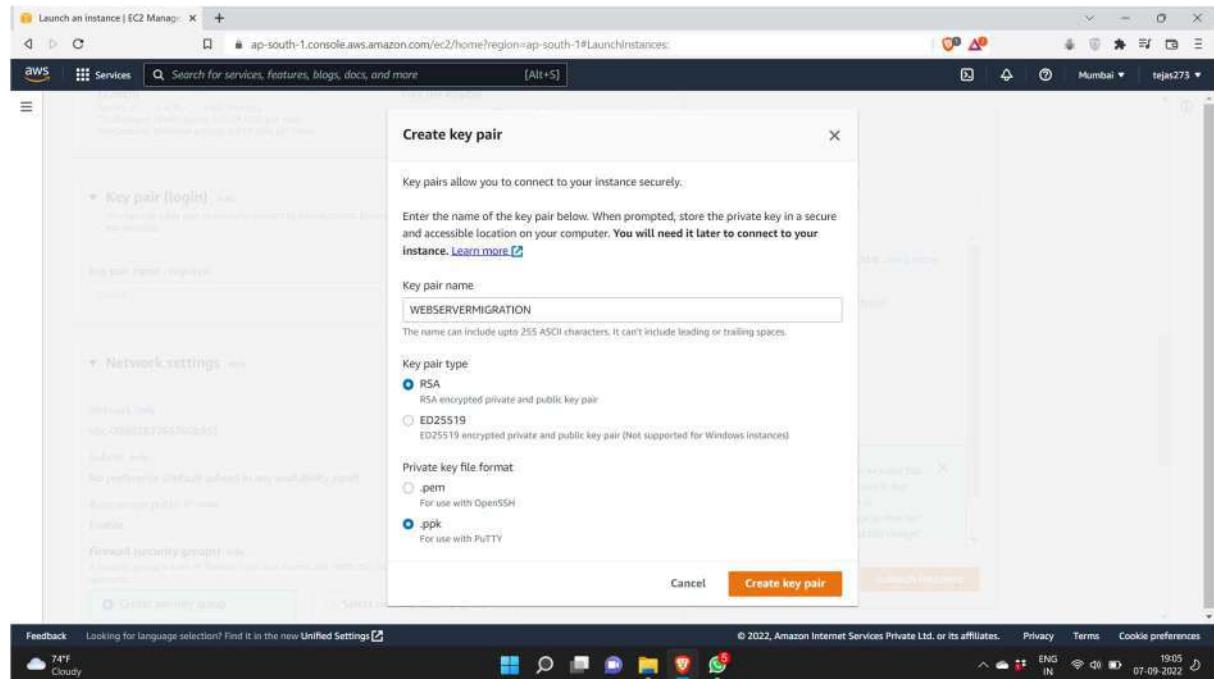


Name: Tejas Rahul Rokade

Reg. No.: 20BDS0033

Implement the Concept of Virtual Machine Migration from one Amazon Region into another region.

Creating a new Key Pair



The screenshot shows the AWS EC2 Launch Instance process. The browser window title is "Launch an instance | EC2 Manager". The URL is "ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LaunchInstances". The top navigation bar includes "Services", a search bar, and user information "Mumbai tejas273". A banner at the top says "You've been opted into the new launch experience. Find out more about this experience or send us feedback. You can still return to the previous version by opting-out." with a "Opt out to the old experience" button. Below the banner, the breadcrumb navigation shows "EC2 > Instances > Launch an instance". The main content area is titled "Launching instance" with the sub-section "Creating security group rules". A progress bar indicates "23%". A "Details" link is visible. The status bar at the bottom shows "Feedback Looking for language selection? Find it in the new Unified Settings" and "© 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences".

The screenshot shows the AWS EC2 Launch Instance process after completion. The browser window title is "Launch an instance | EC2 Manager". The URL is "ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LaunchInstances". The top navigation bar includes "Services", a search bar, and user information "Mumbai tejas273". A banner at the top says "You've been opted into the new launch experience. Find out more about this experience or send us feedback. You can still return to the previous version by opting-out." with a "Opt out to the old experience" button. Below the banner, the breadcrumb navigation shows "EC2 > Instances > Launch an instance". The main content area displays a "Success" message: "Successfully initiated launch of instance (i-07f00d2829adc50f8)". A "Launch log" link is present. Below this, a "Next Steps" section includes "Get notified of estimated charges" (with a "Create billing alerts" link), "How to connect to your instance" (with a "View Instances" link), and a "View more resources to get you started" link. An orange "View all instances" button is located at the bottom right. The status bar at the bottom shows "Feedback Looking for language selection? Find it in the new Unified Settings" and "© 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences".

Instance created

The screenshot shows the AWS EC2 Management Console. On the left, there's a sidebar with options like New EC2 Experience, EC2 Dashboard, EC2 Global View, Events, Tags, Limits, Instances (selected), and Images. The main area displays a table of instances with one row selected: "WebServer Migrati..." (Instance ID: i-07f00d2829adc30f8, State: Running, Type: t2.micro, Status: Initializing, Zone: ap-south-1b, Public IP: ec2-13-23). Below the table, a detailed view for the selected instance is shown, specifically the "Security" tab. It lists the IAM Role (Owner ID: 513322549878) and the Launch time (Wed Sep 07 2022 19:05:28 GMT+0530 (India Standard Time)). Under "Security groups", it shows "sg-0afb5180aae21bd9d (launch-wizard-8)". The "Inbound rules" section is collapsed. At the bottom, there are links for Details, Security, Networking, Storage, Status checks, Monitoring, and Tags.

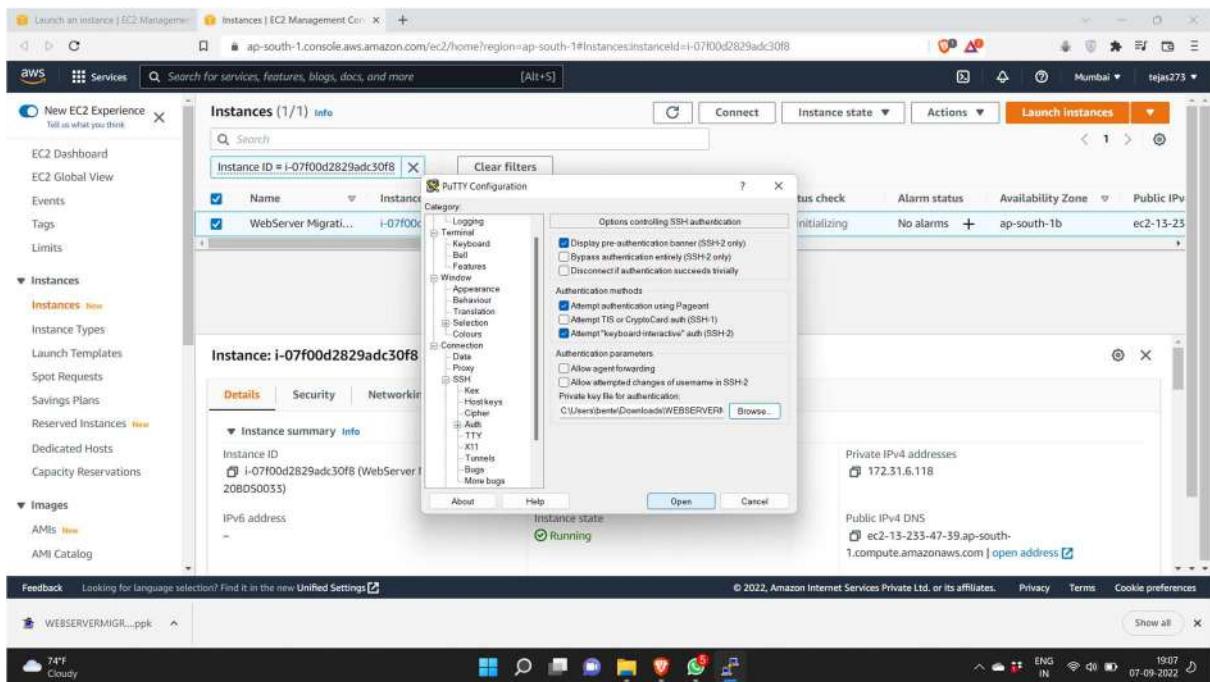
Edit Inbound Rules

The screenshot shows the "Edit inbound rules" dialog for a security group. The top navigation bar includes "EC2 > Security Groups > sg-0afb5180aae21bd9d - launch-wizard-8 > Edit inbound rules". The dialog has tabs for "Inbound rules" and "Info". The "Inbound rules" tab shows a table with columns: Security group rule ID, Type, Protocol, Port range, Source, and Description - optional. A single rule is listed: "All traffic" (Protocol: All, Port range: All, Source: Anywhere, Description: 0.0.0.0/0). Below the table are buttons for "Add rule", "Cancel", "Preview changes", and "Save rules". At the bottom, there are links for Feedback, Looking for language selection? Find it in the new Unified Settings, © 2022, Amazon Internet Services Private Ltd. or its affiliates., Privacy, Terms, and Cookie preferences.

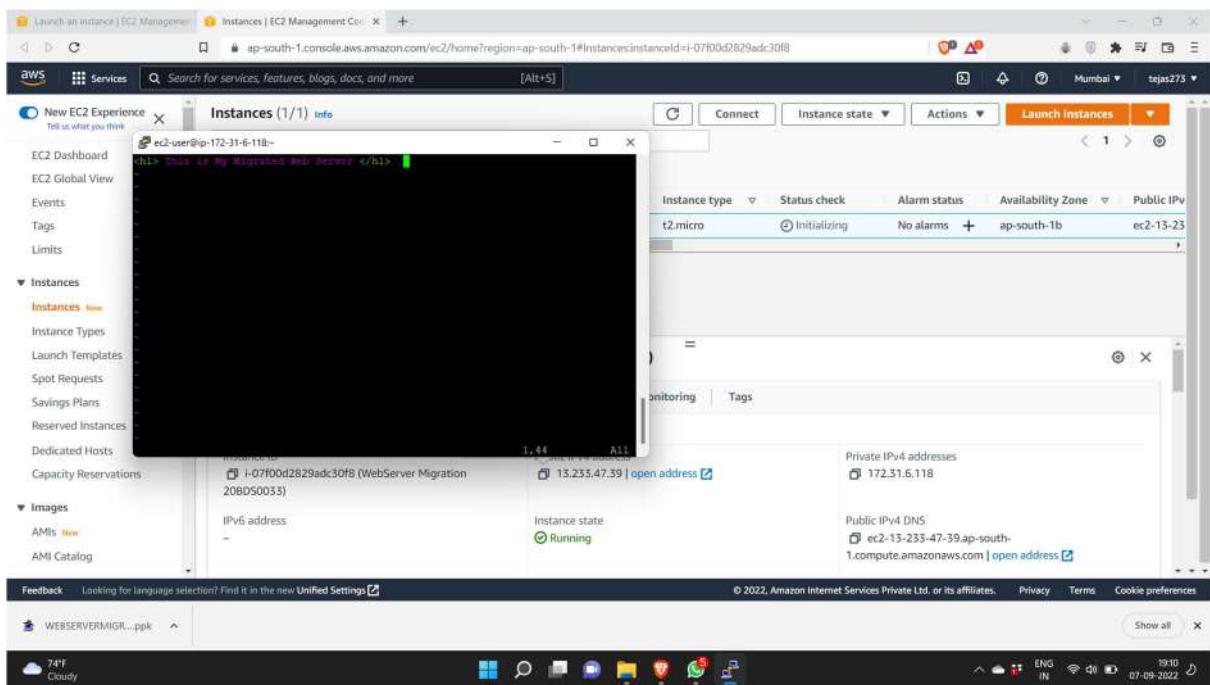
The screenshot shows the AWS EC2 Management Console. A green banner at the top indicates that 'Inbound security group rules successfully modified on security group (sg-0afb5180aae21bd9d | launch-wizard-8)'. Below this, the 'Security Groups' page for the security group 'sg-0afb5180aae21bd9d - launch-wizard-8' is displayed. The 'Details' section shows the security group name, ID, owner, and rule counts. The 'Inbound rules' tab is selected, showing one permission entry. A note at the bottom says 'You can now check network connectivity with Reachability Analyzer' with a 'Run Reachability Analyzer' button.

Add ip address to putty Host Name

The screenshot shows the AWS EC2 Management Console with the 'Instances' page open, displaying a single instance named 'WebServer Migrati...'. A Putty configuration dialog is overlaid on the screen. The 'Session' tab is selected in the PuTTY Configuration window. The 'Host Name (or IP address)' field contains '13.233.47.34'. The 'Port' field is set to '22'. The 'Connection type' is set to 'SSH'. The 'Load, save or delete a stored session' section shows a single session named 'Default Settings'. The 'Private IPv4 addresses' section lists '172.31.6.118'. The 'Public IPv4 DNS' section lists 'ec2-13-233-47-39.ap-south-1.compute.amazonaws.com | open address'. The Windows taskbar at the bottom shows the date and time as '07-09-2022 19:06'.



Putty terminal





This is My Migrated Web Server



Commands in putty

```
ec2-user@ip-172-31-6-118:~$ login as: ec2-user
Authenticating with public key "WEBSERVERMIGRATION"
[ec2-user@ip-172-31-6-118 ~]$ sudo yum update
[sudo] password for ec2-user: 
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
--> Package httpd.x86_64 0:2.4.54-1.amzn2 will be installed
--> Processing dependency: httpd-tools = 2.4.54-1.amzn2 for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing dependency: httpd-filesystem = 2.4.54-1.amzn2 for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing dependency: system-logos-htpd for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: mod_ssl for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: /etc/mime.types for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: libaprutil-1.so.0()(64bit) for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: libapr-1.so.0()(64bit) for package: httpd-2.4.54-1.amzn2.x86_64
--> Running transaction check
--> Package apr.x86_64 0:1.7.0-9.amzn2 will be installed
--> Package apr-util.x86_64 0:1.6.1-5.amzn2.0.2 will be installed
--> Processing Dependency: apr-util-bdb(x86-64) = 1.6.1-5.amzn2.0.2 for package: apr-util-1.6.1-5.amzn2.0.2.x86_64
--> Package generic-logos-htpd.noarch 0:18.0.0-4.amzn2 will be installed
--> Package httpd-xml.x86_64 0:2.4.54-1.amzn2 will be installed
--> Package mod_malcap_noarch 0:2.1.41-2.amzn2 will be installed
--> Package mod_http2.x86_64 0:1.15.19-1.amzn2.0.1 will be installed
--> Running transaction check
--> Package apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

====
Package           Arch    Version        Repository      Size
====

```

```

[ec2-user@ip-172-31-6-118 ~]
(0/9): mailcap-2.1.41-2.amzn2.noarch.rpm | 31 kB 00:00
(9/9): mod_http2-1.35.19-1.amzn2.0.1.x86_64.rpm | 149 kB 00:00
Total 9.0 MB/s | 1.9 MB 00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : apr-1.7.0-9.amzn2.x86_64 1/9
  Installing : apr-util-bdb-1.6.1-5.amzn2.0.2.x86_64 2/9
  Installing : httpd-tools-2.4.54-1.amzn2.x86_64 3/9
  Installing : httpd-filesystem-2.4.54-1.amzn2.noarch 4/9
  Installing : generic-logos-httpsd-18.0.0-4.amzn2.noarch 5/9
  Installing : mailcap-2.1.41-2.amzn2.noarch 6/9
  Installing : mod_http2-1.35.19-1.amzn2.0.1.x86_64 7/9
  Installing : mod_apr-1.6.1-5.amzn2.x86_64 8/9
  Installing : httpd-2.4.54-1.amzn2.x86_64 9/9
  Verifying : apr-util-bdb-1.6.1-5.amzn2.0.2.x86_64 1/9
  Verifying : httpd-tools-2.4.54-1.amzn2.x86_64 2/9
  Verifying : mod_http2-1.35.19-1.amzn2.0.1.x86_64 3/9
  Verifying : httpd-2.4.54-1.amzn2.x86_64 4/9
  Verifying : mailcap-2.1.41-2.amzn2.noarch 5/9
  Verifying : generic-logos-httpsd-18.0.0-4.amzn2.noarch 6/9
  Verifying : httpd-filesystem-2.4.54-1.amzn2.noarch 7/9
  Verifying : apr-1.7.0-9.amzn2.x86_64 8/9
  Verifying : apr-1.7.0-9.amzn2.x86_64 9/9

Installed:
  httpd.x86_64 0:2.4.54-1.amzn2

Dependency Installed:
  apr.x86_64 0:1.7.0-9.amzn2
  apr-util.x86_64 0:1.6.1-5.amzn2.0.2
  apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2
  generic-logos-httpsd.noarch 18.0.0-4.amzn2
  httpd-filesystem.noarch 0:2.4.54-1.amzn2
  httpd-tools.x86_64 0:2.4.54-1.amzn2
  mailcap.noarch 0:2.1.41-2.amzn2
  mod_http2.x86_64 0:1.35.19-1.amzn2.0.1

Complete!
[ec2-user@ip-172-31-6-118 ~]$ sudo service httpd start
Redirecting to /bin/systemctl start httpd.service
[ec2-user@ip-172-31-6-118 ~]$ curl -s http://127.0.0.1:80/html/index.html
[ec2-user@ip-172-31-6-118 ~]$ sudo systemctl enable httpd
[ec2-user@ip-172-31-6-118 ~]$ sudo systemctl start httpd
Note: Forwarding request to *systemctl enable httpd.service*.
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/lib/systemd/system/httpd.service.
[ec2-user@ip-172-31-6-118 ~]$
```

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Create Image

The screenshot shows the AWS EC2 Management Console interface. On the left, a sidebar lists navigation options like 'New EC2 Experience', 'EC2 Dashboard', 'EC2 Global View', 'Events', 'Tags', 'Limits', 'Instances' (selected), 'Images', and 'AMIs'. The main content area displays a table titled 'Instances (1/1) info' with one row for 'WebServer Migrati...'. To the right of the table, a context menu is open over the instance, showing options: 'Connect', 'View details', 'Manage instance state', 'Instance settings', 'Networking', 'Security', 'Create image', 'Image and templates', 'Monitor and troubleshoot', and 'Launch more like this'. Below the table, a detailed view for 'Instance: i-07f00d2829adc30f8 (WebServer Migration 20BDS0033)' is shown, including tabs for 'Details', 'Security', 'Networking', 'Storage', 'Status checks', 'Monitoring', and 'Tags'. Under 'Details', it shows 'Public IPv4 address: 15.233.47.39' and 'Private IPv4 addresses: 172.31.6.118'. Under 'Networking', it shows 'Public IPv4 DNS: ec2-13-233-47-39.ap-south-1.compute.amazonaws.com'. At the bottom of the page, there's a footer with links for 'Feedback', 'Language selection', 'Privacy', 'Terms', and 'Cookie preferences', along with copyright information: '© 2022, Amazon Internet Services Private Ltd. or its affiliates.'.

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Screenshot of the AWS EC2 Management Console showing the 'Create Image' wizard for instance i-07f00d2829adc30f8. The instance name is set to 'Web Server Migration' and the image description is 'Web Migration'. The 'No reboot' option is checked. Under 'Instance volumes', an EBS volume is selected with a size of 8 GiB, IOPS of 100, and throughput of 100. The volume is encrypted and has an enable checkbox checked.

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Screenshot of the AWS EC2 Management Console showing the 'Instances' page. A green banner at the top states: 'Currently creating AMI ami-081aaefcf3e9037cf from instance i-07f00d2829adc30f8. Check that the AMI status is "Available" before deleting the instance or carrying out other actions related to this AMI.' The table lists four instances:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv
20BDS0033	i-0f6b515c3dff73918	Stopped	t2.micro	-	No alarms	+ ap-south-1a	-
Load_Balancer_2	i-02cd5b6da7c00c7a6	Stopped	t2.micro	-	No alarms	+ ap-south-1a	-
Load_Balancer_1	i-0a7733fe59321c9a5	Stopped	t2.micro	-	No alarms	+ ap-south-1b	-

Select an Instance

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The screenshot shows the AWS EC2 Management Console with the 'Images' section selected. A single AMI entry is displayed:

Name	AMI ID	Visibility	Status	Creation date	Platform
-	ami-081aafecf3e9037cf	Private	Available	2022/09/07 19:13 GMT+5:30	Linux/UNIX

Detailed AMI information is shown in a modal:

Details	Permissions	Storage	Tags
AMI ID: ami-081aafecf3e9037cf	Image type: machine	Platform details: Linux/UNIX	Root device type: EBS
AMI name: Web Server Migration	Owner account ID: 513322549878	Architecture: x86_64	Usage operation: RunInstances
Root device name: /dev/xvda	Status: Available	Source: 513322549878/Web Server Migration	Virtualization type: hvm
Boot mode:	Status reason:	Creation date:	Kernel ID:

Copy AMI

The screenshot shows the 'Copy AMI' dialog box. The 'Original AMI ID' is set to 'ami-081aafecf3e9037cf'. The 'AMI copy name' is 'Web Server Migration' and the 'AMI copy description' is '[Copied ami-081aafecf3e9037cf from ap-south-1] Web Server Migration'. The 'Destination Region' is set to 'Europe (Paris)'. The 'Encrypt EBS snapshots of AMI copy' checkbox is unchecked.

Copy Amazon Machine Image (AMI)

Original AMI ID
 ami-081aafecf3e9037cf

AMI copy name
 Web Server Migration

AMI copy description
 [Copied ami-081aafecf3e9037cf from ap-south-1] Web Server Migration

Destination Region
 A copy of the original AMI will be created in the destination Region.
 Europe (Paris)

Encrypt EBS snapshots of AMI copy
 Encrypts all snapshots in the AMI copy with the same key.

Cancel Copy AMI

Launch an instance | EC2 Management Console | Instances | EC2 Management Console | Images | EC2 Management Console | 13.233.47.39

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New EC2 Experience Tell us what you think.

EC2 Dashboard EC2 Global View Events Tags Limits Instances Instances New Instance Types Launch Templates Spot Requests Savings Plans Reserved Instances New Dedicated Hosts Capacity Reservations Images AMIs New AMI Catalog Elastic Block Store Volumes New Feedback Looking for language selection? Find it in the new Unified Settings

AMI copy operation for ami-081aafecc3e9037cf initiated It can take a few minutes for the AMI to be copied. You can check the progress of the operation in the AMI table in eu-west-3. The AMI ID of the new AMI is ami-0d22f2eae3274208b.

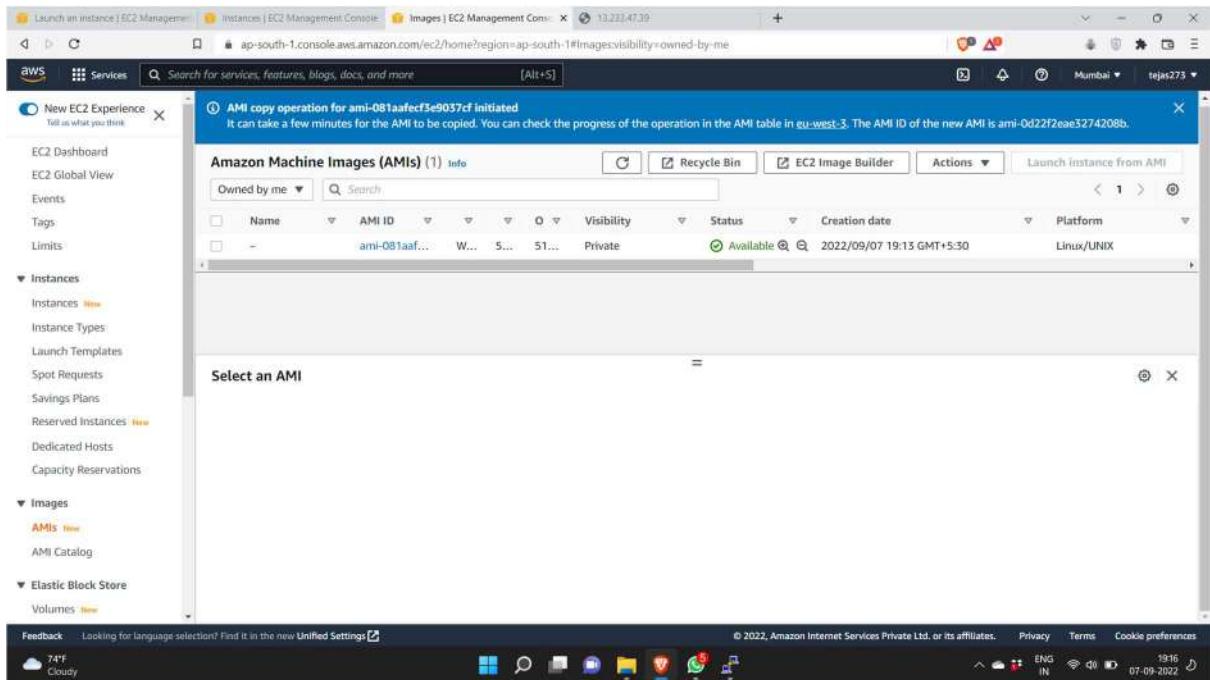
Amazon Machine Images (AMIs) (1) Info Recycle Bin Actions Launch instance from AMI

Owned by me Search

Name	AMI ID	Visibility	Status	Creation date	Platform
ami-081aafecc3e9037cf	W...	5...	51...	Private Available	2022/09/07 19:15 GMT+5:30 Linux/UNIX

Select an AMI

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Launch an instance | EC2 Management Console | Instances | EC2 Management Console | Launch an instance | EC2 Management Console | 13.233.47.39

eu-west-3.console.aws.amazon.com/ec2/home?region=eu-west-3#LaunchInstancesami=ami-0d22f2eae3274208b

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EC2 > Instances > Launch an instance

Launch an instance Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags Info

Name Web server 20bds0033 Add additional tags

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

AMI from catalog My AMIs Quick Start

Summary

Number of instances Info

1

Software Image (AMI)

[Copied ami-081aafecc3e9037cf [read more](#) ami-0d22f2eae3274208b]

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

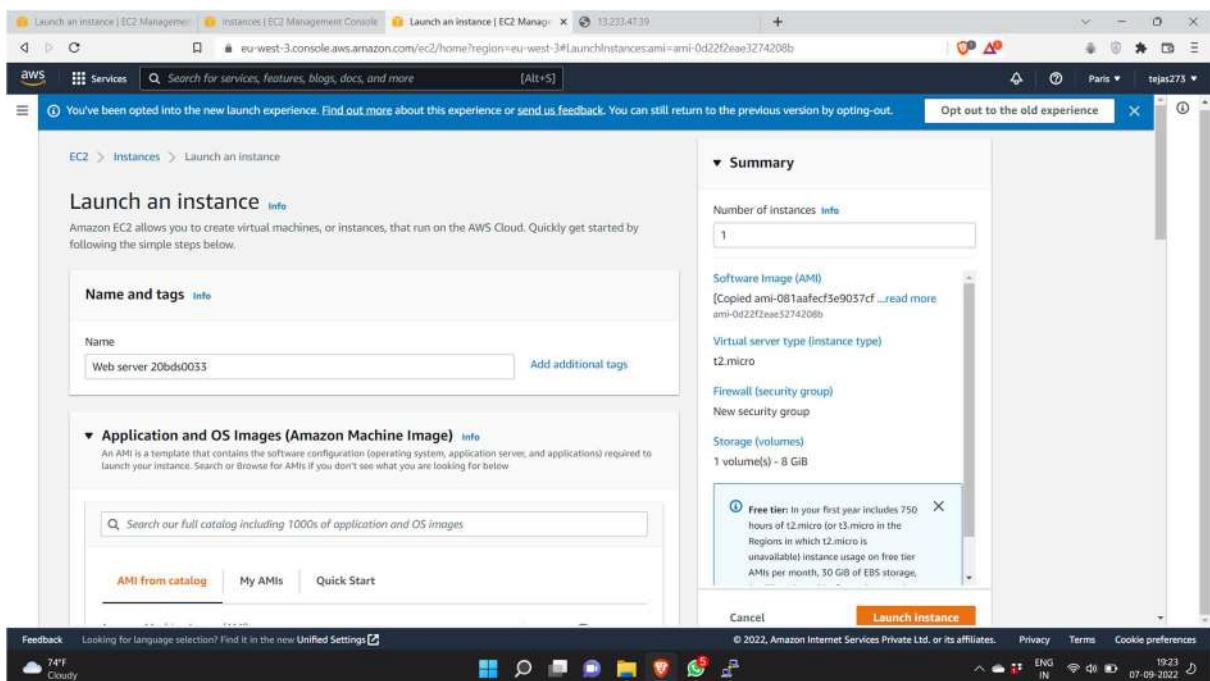
Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage.

Cancel Launch instance

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Launch an instance | EC2 Management | Instances | EC2 Management Console | Launch an instance | EC2 Manager | 13.233.47.39

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EC2 > Instances > Launch an instance

Launching instance

Please wait while we launch your instance.
Do not close your browser while this is loading.

Launch initiation 69%

Details

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Launch an instance | EC2 Management | Instances | EC2 Management Console | Launch an instance | EC2 Manager | 13.233.47.39

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EC2 > Instances > Launch an instance

Success
Successfully initiated launch of instance (i-095852416ccdc5c29)

▶ Launch log

Next Steps

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 instance
Your instance is launching and it might be a few minutes until it is in the running state, when it will be ready for you to use
Click View Instances to monitor your instance's status. Once your instance is in the 'running' state, you can connect to it from the Instances screen. Find out how to connect to your instance

View more resources to get you started.

View all instances

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The screenshot shows the AWS EC2 Management Console interface. On the left, a sidebar navigation menu includes options like EC2 Dashboard, EC2 Global View, Events, Tags, Limits, Instances (with 'Instances' selected), Images (AMIs), and Elastic Block Store (Volumes). The main content area displays a table titled 'Instances (1) Info' with one row. The row details a single instance with the following information:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 IP
Web server 20...	i-095832416ccdc5c29	Running	t2.micro	Initializing	No alarms	eu-west-3c	ec2-52-47-19...

A modal window titled 'Select an instance' is open, listing the same instance: 'Web server 20...'.

The screenshot shows the AWS EC2 Management Console interface. The sidebar navigation menu is identical to the previous screenshot. The main content area shows the 'Security Groups' page for a specific group named 'sg-08793ac1335744aac - launch-wizard-1'. The 'Details' section provides the following information:

Security group name	Security group ID	Description	VPC ID
launch-wizard-1	sg-08793ac1335744aac	launch-wizard-1 created 2022-09-07T15:51:51.789Z	vpc-0e1e1744ee77b97cd

The 'Inbound rules' tab is selected, showing three rules. A message at the top of the table indicates: 'You can now check network connectivity with Reachability Analyzer'.

Output:

