INDEX

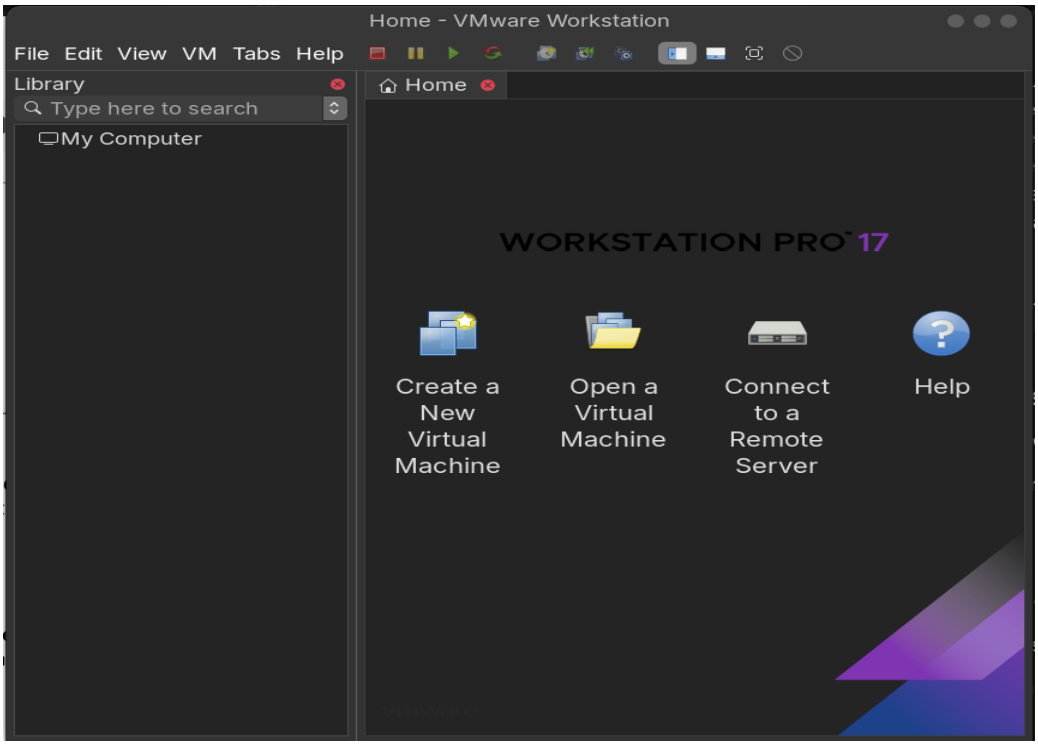
Q1. Create the Ubuntu instance by using the VMWare.

Step-1: Download VMware Workstation
Visit the official VMware website and download the latest version of VMware Workstation. You may need to create a VMware account and log in to access the download.

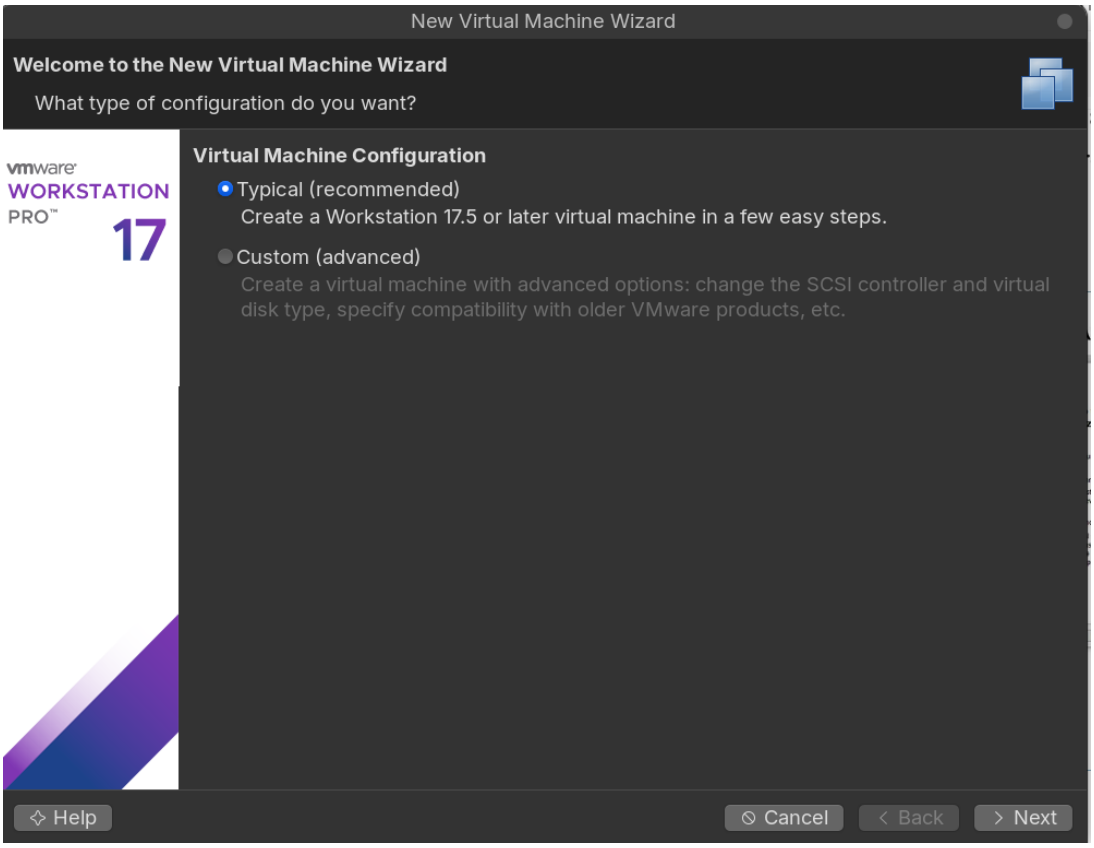
Step-2: Install VMware Workstation
Run the installer you downloaded in Step 1. Follow the on-screen instructions to install VMware Workstation on your computer. You may need to restart your system after the installation is complete.

Step 3: Download Ubuntu ISO
Visit the official Ubuntu website https://ubuntu.com/download/desktop and download the latest version of the Ubuntu Desktop ISO. Choose the appropriate architecture (32-bit or 64-bit) based on your system.

Step 4: Create a New Virtual Machine in VMware Workstation

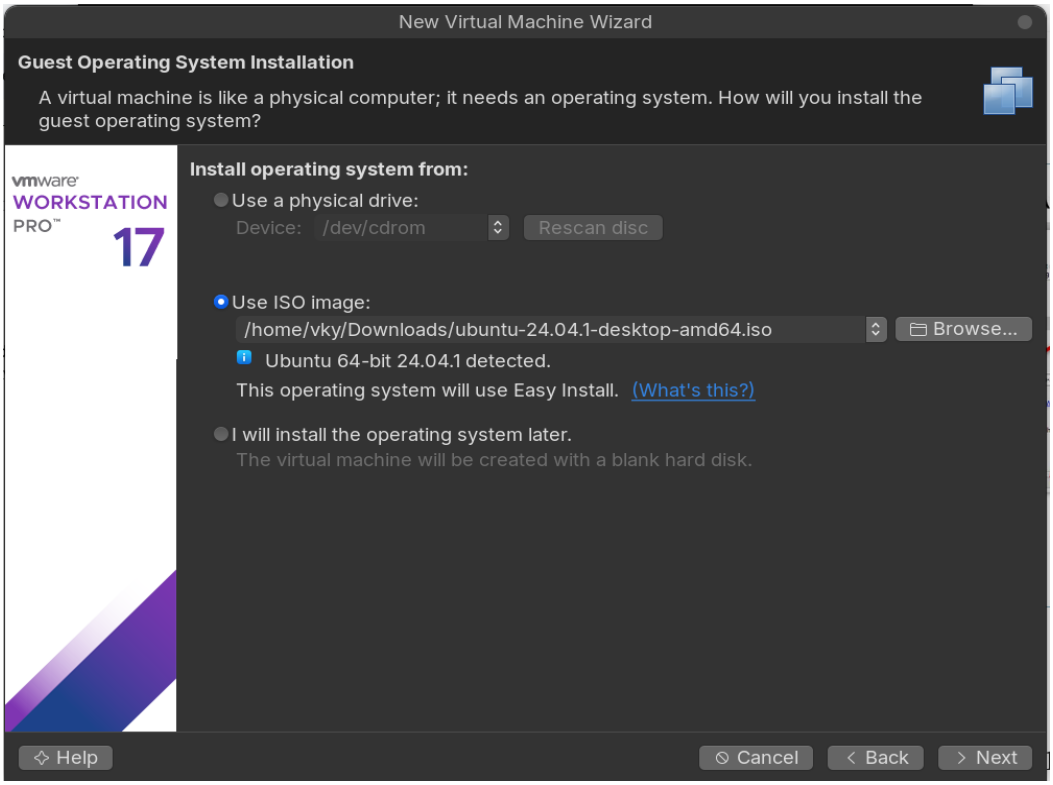


1. Open VMware Workstation.
2. Click on “File” in the menu and select “New Virtual Machine.”
3. The New Virtual Machine Wizard will open. Choose “Typical” and click “Next.”



Step 5: Specify the Ubuntu ISO

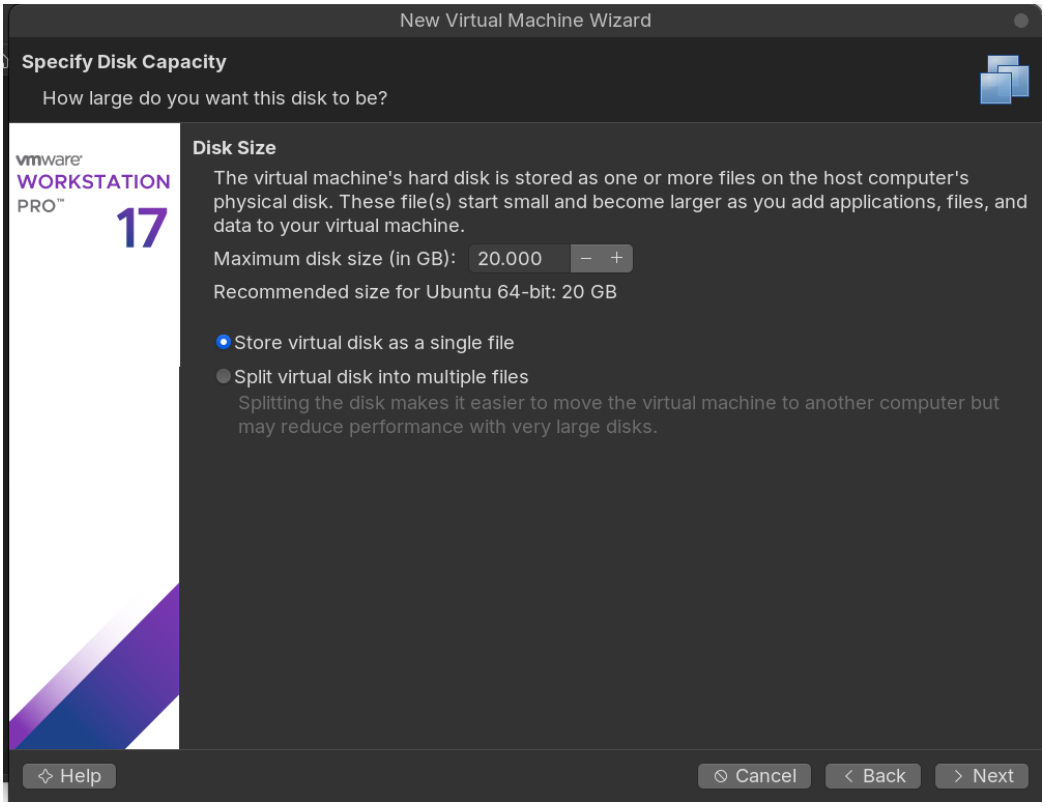
1. Select “Installer disc image file (iso)” and click “Browse.”
2. Navigate to the location where you saved the Ubuntu ISO file and select it.
3. Click “Next” to proceed.



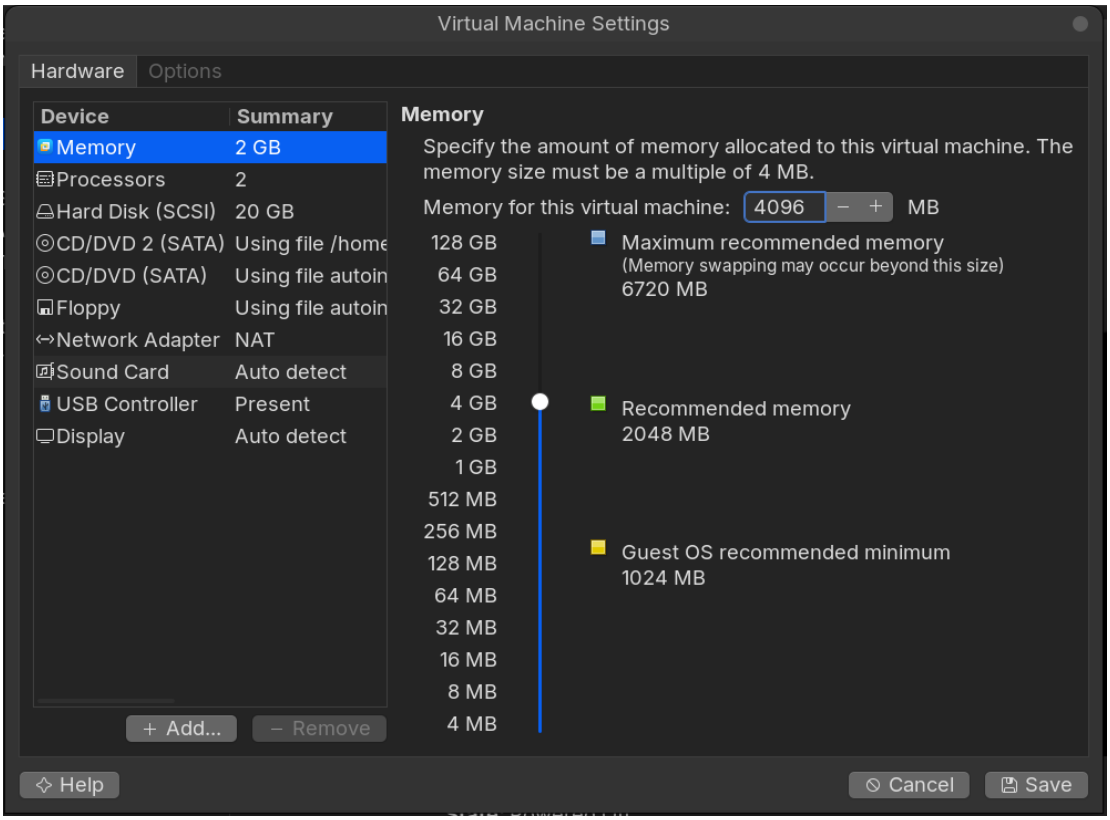
Step 6: Name and Specify Storage

1. Enter a name for your virtual machine.

2. Choose a location to store your virtual machine files.
3. Specify the disk capacity (at least 25 GB is recommended).
4. Select “Store virtual disk as a single file.”
5. Click “Next” to continue.

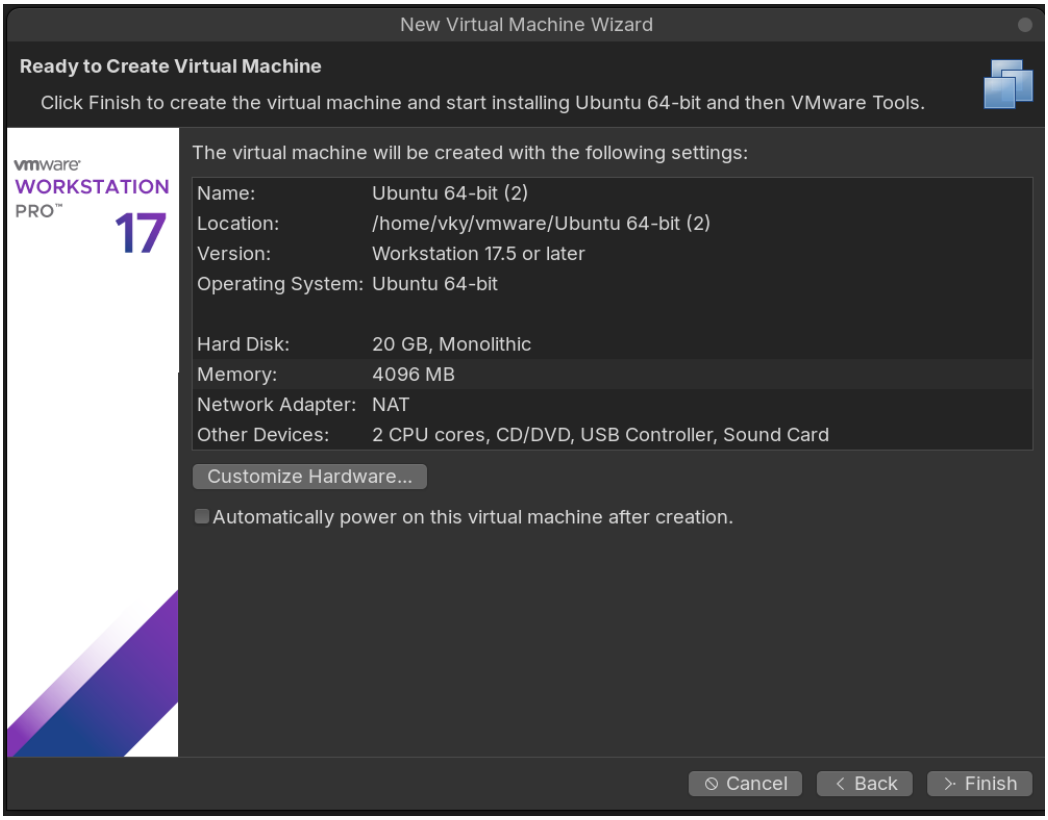


Step 7: Customize Hardware (Optional)
You can customize the hardware settings if needed. Adjust the number of processors, memory, and other settings based on your system’s capabilities.



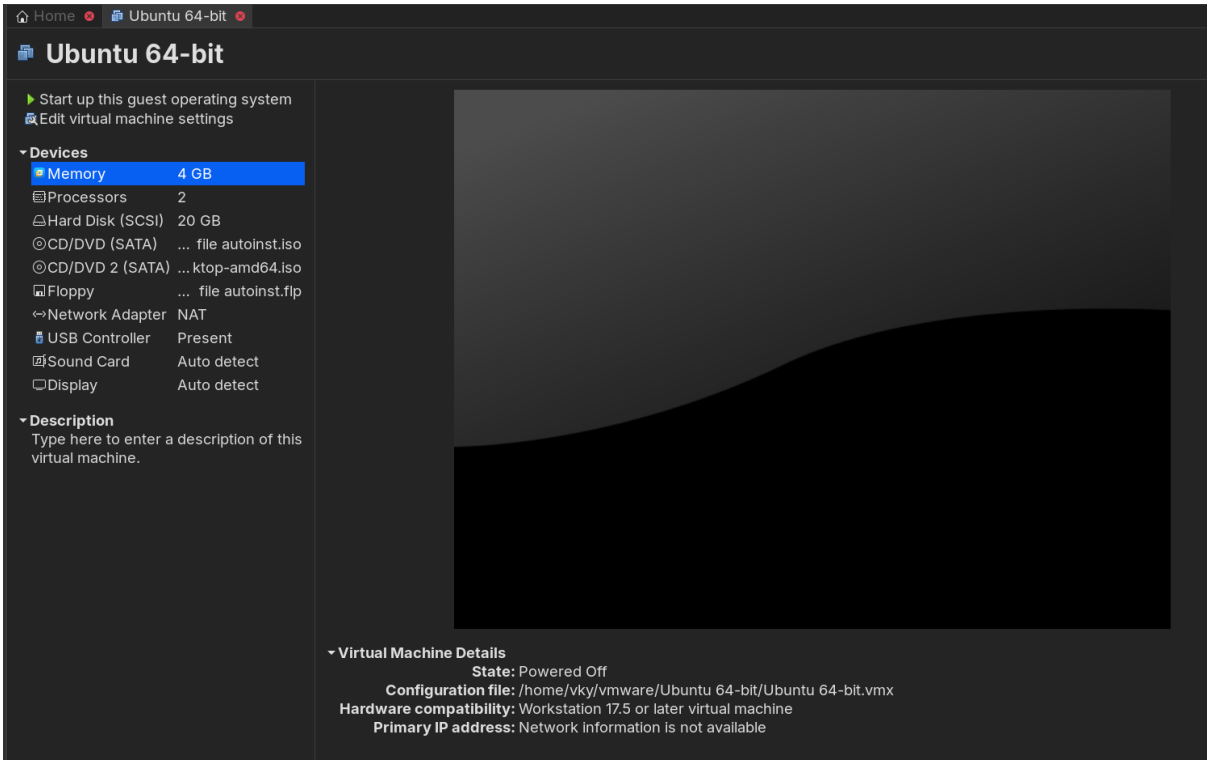
Step 8: Finish and Install

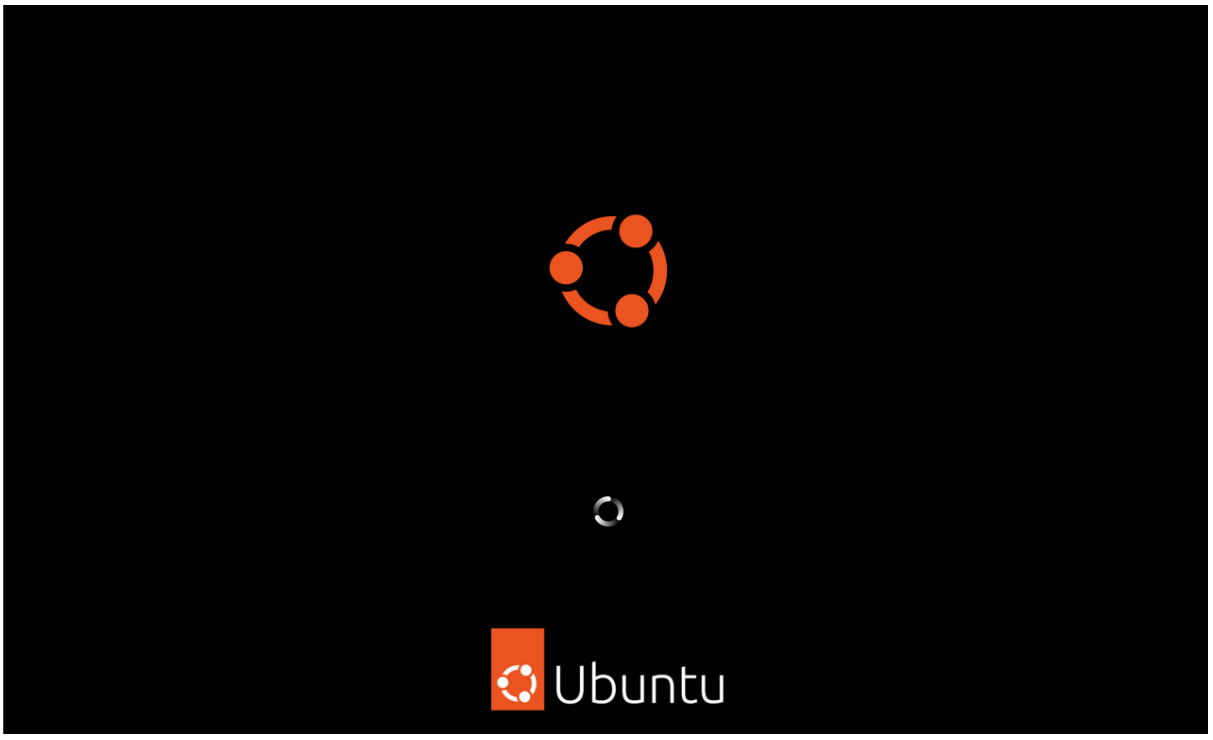
1. Review your settings and click “Finish.”
   2. Before starting the virtual machine, you may want to go to the “Options” tab and configure additional settings if necessary.
   3. Click “Finish” to create the virtual machine.



Step 9: Start the Virtual Machine

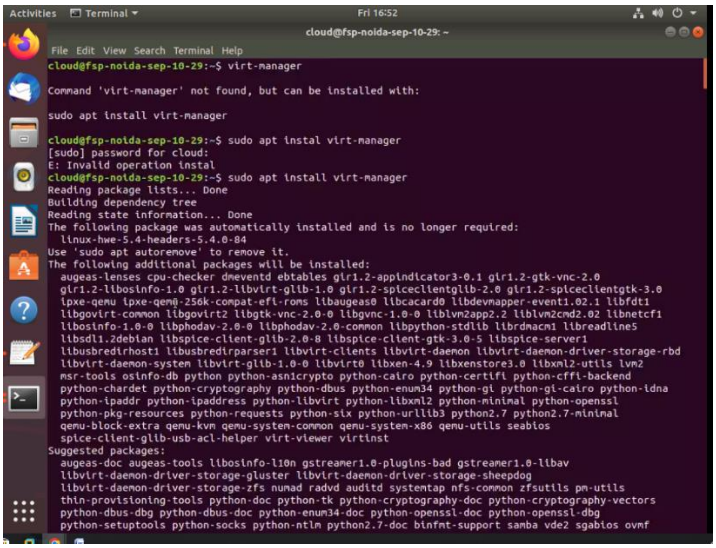
1. The virtual machine will boot from the Ubuntu ISO.
2. Follow the on-screen instructions to install Ubuntu.



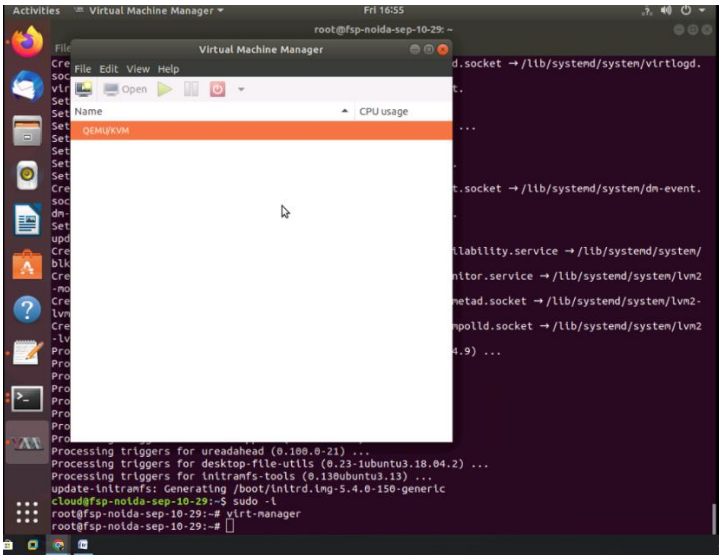


Q2. Create the instance by using the KVM virtualization technology

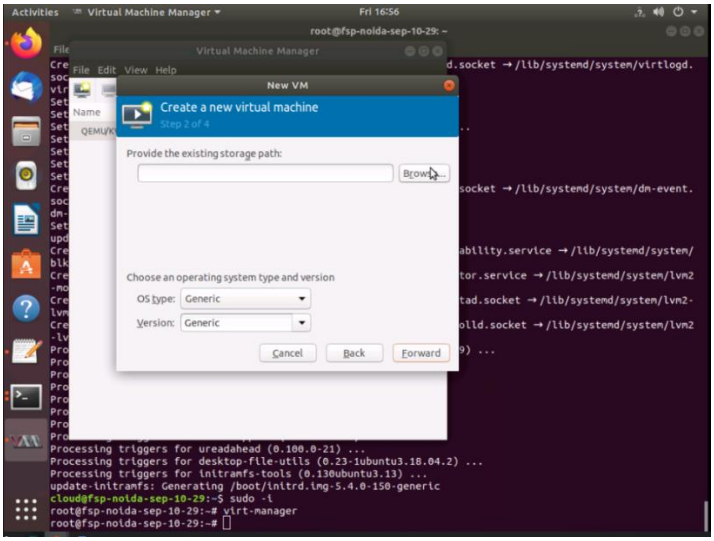
Install virt-manager



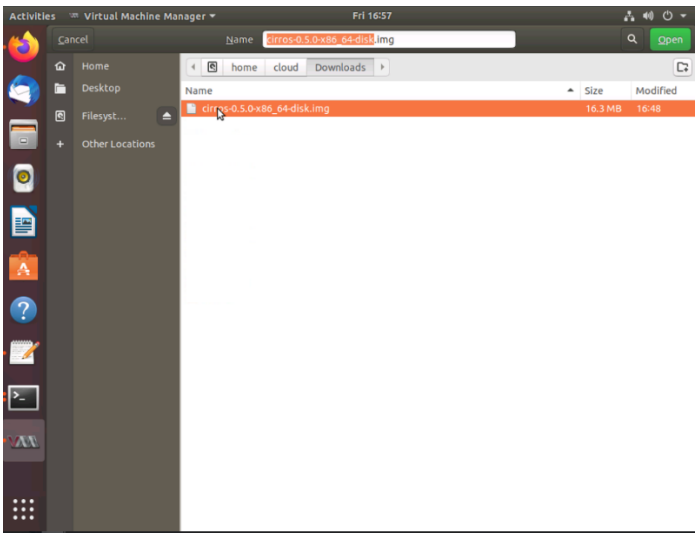
Open virt – manager

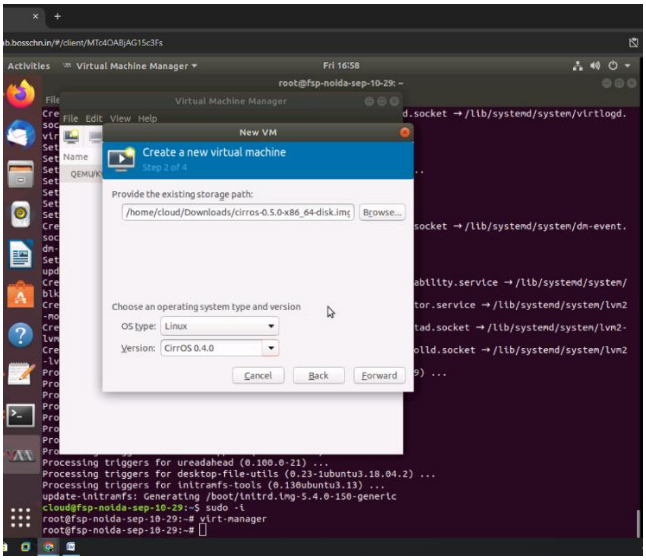


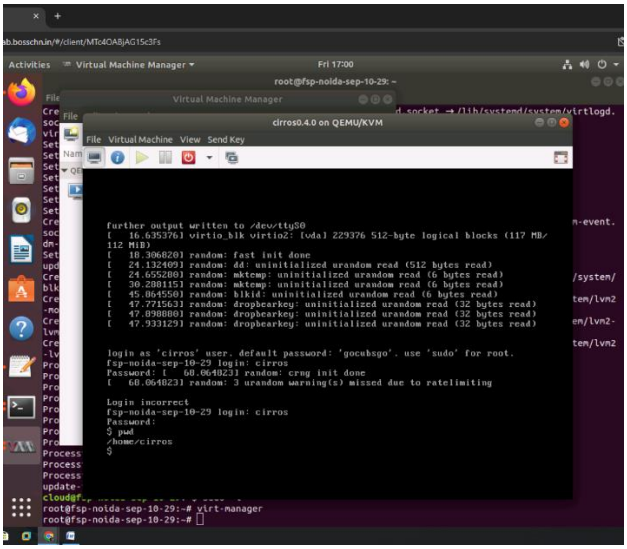
Import existing images



Selecting Images from downloads







Ques 3. Create the Cirros-6.x instance by using the KVM virtualization technology.

Ensure that KVM and its dependencies are installed on your system.

Step 1: Download Cirros Image

You can download the Cirros image by visiting the Cirros website.

Step 2: Create a Virtual Machine

You can use virt-install using the command line

1. Open a terminal
2. Run virt-install command

```
virt-install \
  --name cirros-instance \
  --ram 128 \
  --disk path=/var/lib/libvirt/images/cirros-instance.img,size=1 \
  --vcpus 1 \
  --os-type Linux \
  --os-variant generic \
  --network network=default \
  --graphics none \
  --import \
  --location cirros-0.6.6-x86_64-disk.img
```

--name: Name of the VM.

--ram: Amount of RAM allocated (128 MB is sufficient for Cirros).

--disk: Path and size of the VM's disk image.

--vcpus: Number of virtual CPUs.

--os-type and **--os-variant:** Specify the OS type (Linux) and variant (generic).

--network: Connects the VM to the default network.

--graphics none: No graphical display; useful for minimal VMs.

--import: Indicates that you're importing an existing image.

--location: Path to the Cirros image.

Step 3: Start the VM

```
virsh start cirros-instance
```

Step 4: Access the VM

```
virsh console cirros-instance
```

Step 5: Log In

The default credentials for Cirros are:

- **Username:** cirros
- **Password:** gocubsgo

Q4. Create the OpenV-switch by switch1 name .

Commands:

Step-1: Install Open vSwitch:

sudo apt update

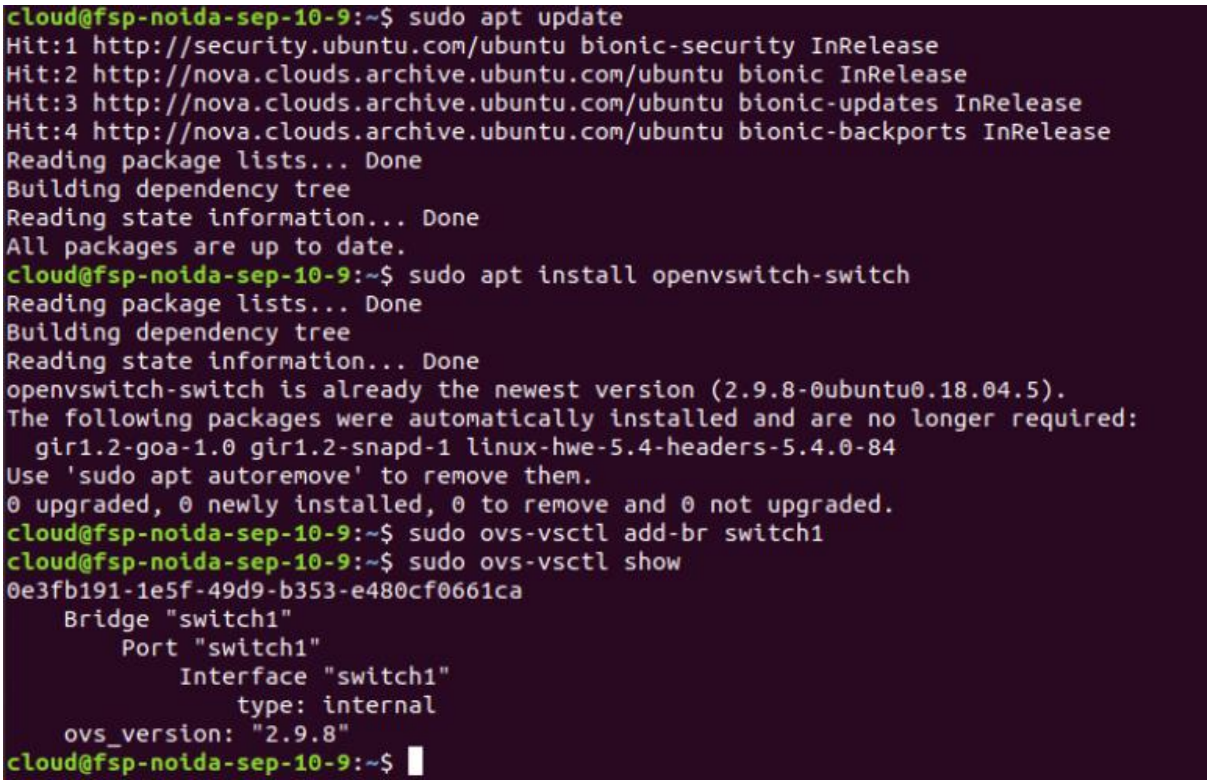
sudo apt install openvswitch-switch

Step-2: Use the ovs-vsctl command to create a new bridge named switch1:

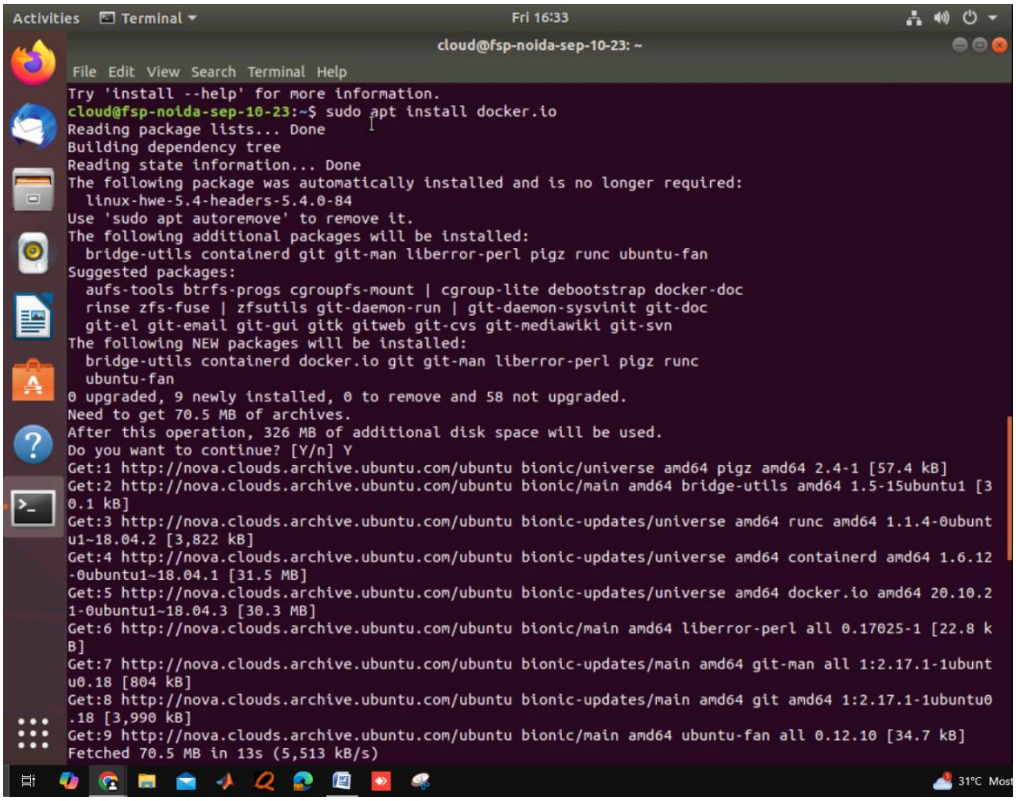
sudo ovs-vsctl add-br switch1

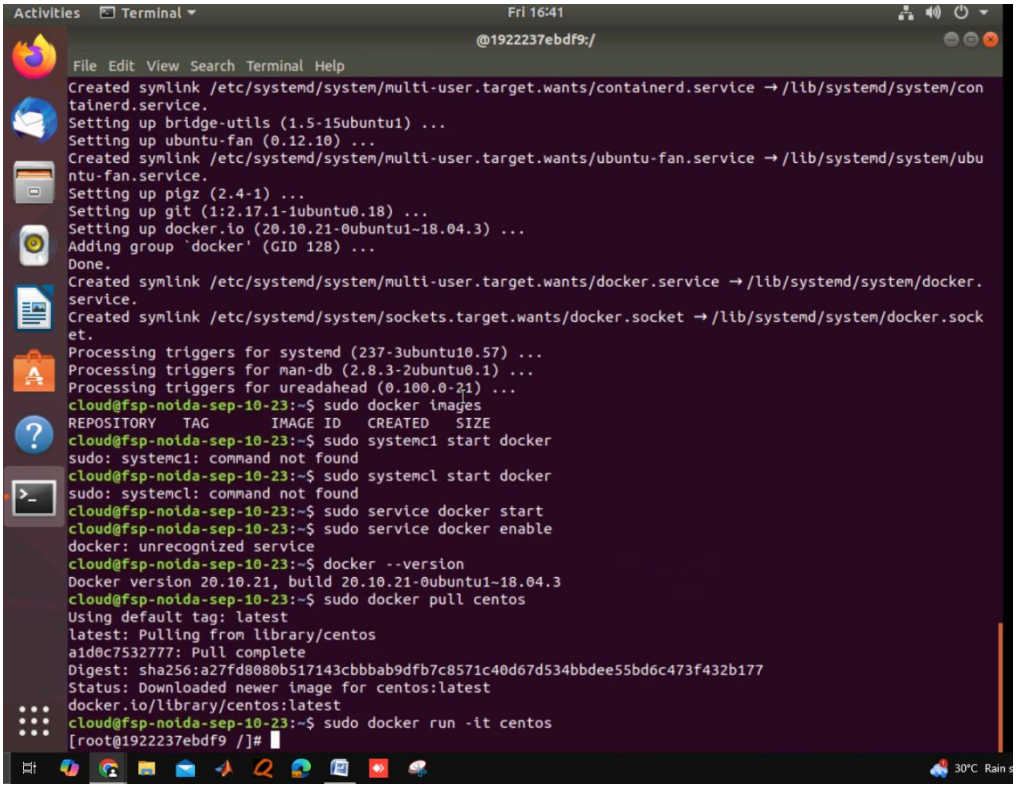
Step-3: To check if the bridge switch1 was created successfully, you can use:

sudo ovs-vsctl show



Q5. Create the container by using the centos image.





Question 6:- Creating a 1GB Volume on "/BCMP' mount point with ext4 Filesystem.

1. Prerequisites

Before proceeding, ensure you have:
- Root or sudo access to the system.
- Necessary tools (`fdisk`, `mkfs`, `mount`, etc.) installed on your Linux system.

2. Create a Partition

1. Open a terminal.
2. Use `fdisk` to create a new partition:

   ```bash
   sudo fdisk /dev/sdX
   ```

   Replace `/dev/sdX` with the appropriate disk identifier (e.g., `/dev/sda`).

3. Follow these steps in the `fdisk` command line:

   - Type `n` to create a new partition.
   - Choose `p` for primary partition.
   - Select the partition number (e.g., `1` if it's the first partition).
   - Accept the default first sector (press Enter).
   - Type `+1G` to specify the size as 1GB.
   - Type `w` to write the changes to the disk and exit.

4. After exiting `fdisk`, update the partition table with:

   ```bash
   sudo partprobe
   ```

3. Format the Partition with ext4 Filesystem

1. Identify the new partition created (e.g., `/dev/sdX1`).
2. Format the partition with the ext4 filesystem:

   ```bash
   sudo mkfs.ext4 /dev/sdX1
   ```

   Replace `/dev/sdX1` with the correct partition identifier.

4. Mount the Partition

1. Create the mount point directory:

```bash
sudo mkdir -p /bootcamp
```

2. Mount the newly formatted partition to `/bootcamp`:

```bash
sudo mount /dev/sdX1 /bootcamp
```

3. Verify the mount:

```bash
df -h /bootcamp
```

5. Make the Mount Permanent

1. Edit the `/etc/fstab` file to make the mount persistent across reboots:

```bash
sudo nano /etc/fstab
```

2. Add the following line to the end of the file:

```plaintext
/dev/sdX1 /bootcamp ext4 defaults 0 2
```

Replace `/dev/sdX1` with your partition identifier.

3. Save and exit the editor (in `nano`, press `CTRL+X`, then `Y`, and `Enter`).

6. Verify Configuration

1. Test the `/etc/fstab` entry:

```bash
sudo mount -a
```

2. Verify that the partition is correctly mounted:

```bash
df -h /bootcamp
```

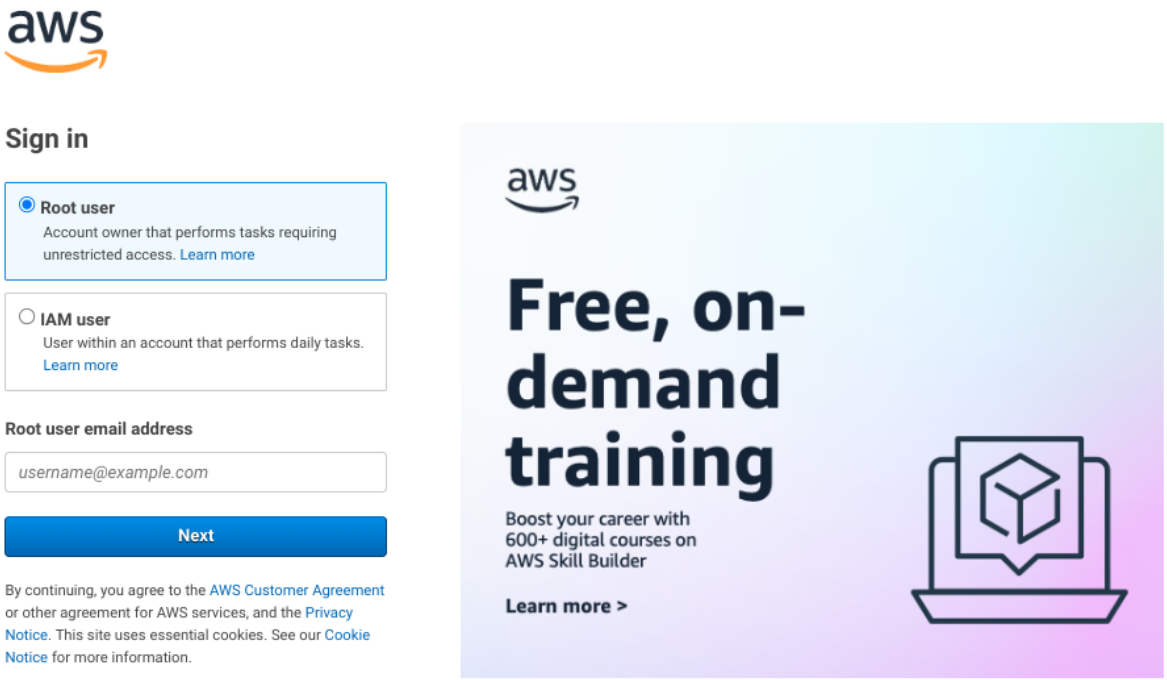
Note: Be cautious when using disk management tools. Ensure you are working on the correct disk and partition to avoid data loss.

Feel free to copy and paste this guide into a document file as needed.

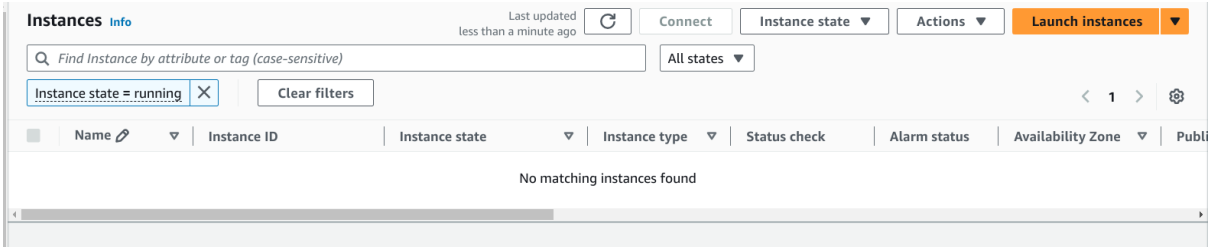
Q7: Create an Ubuntu Instance in a Public Cloud

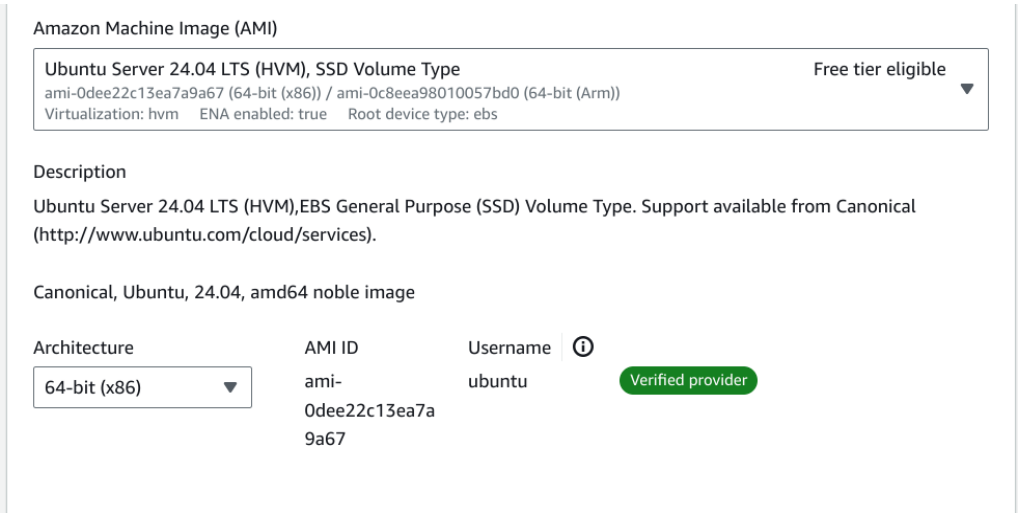
Assuming you are using AWS, here's a step-by-step guide.

1. **Log into AWS Console**.

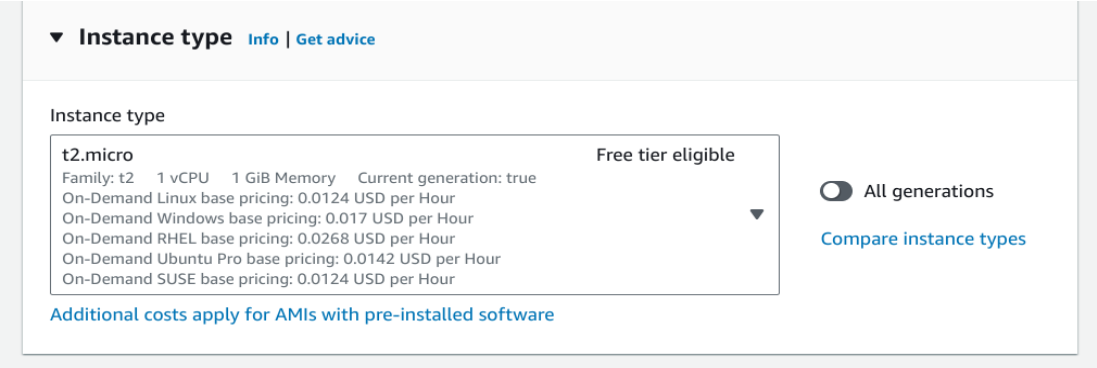


2. **Navigate to EC2 Dashboard**:
   - Go to "Launch Instance."
   - Select the Ubuntu Amazon Machine Image (AMI).

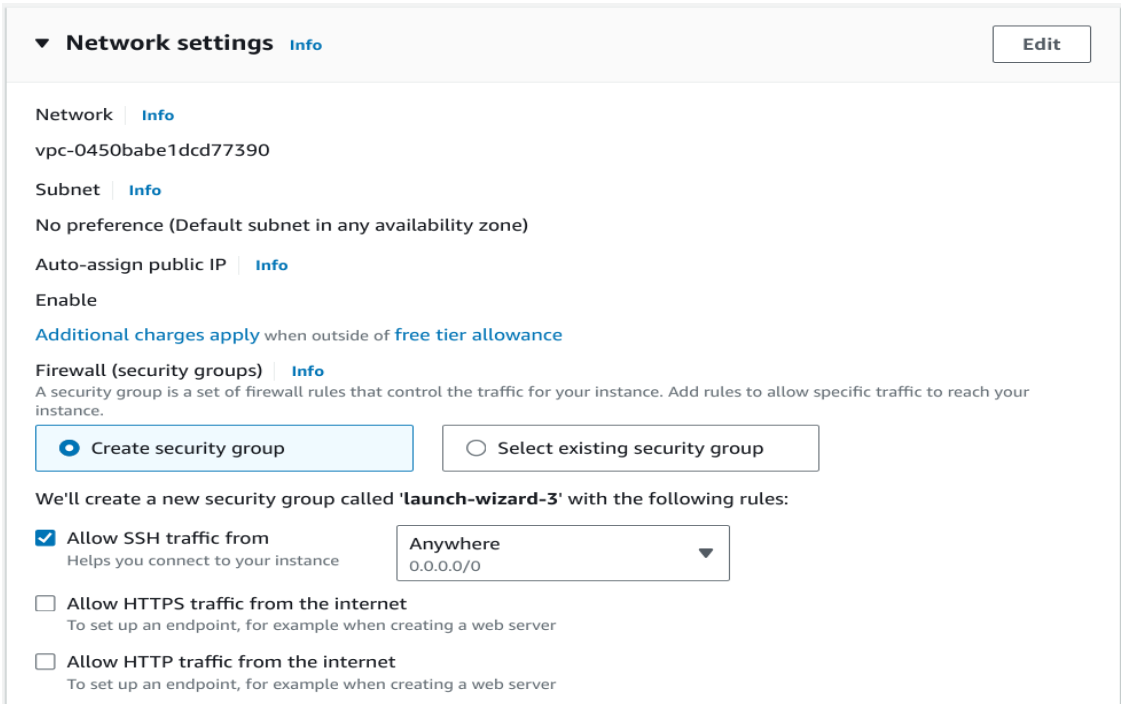




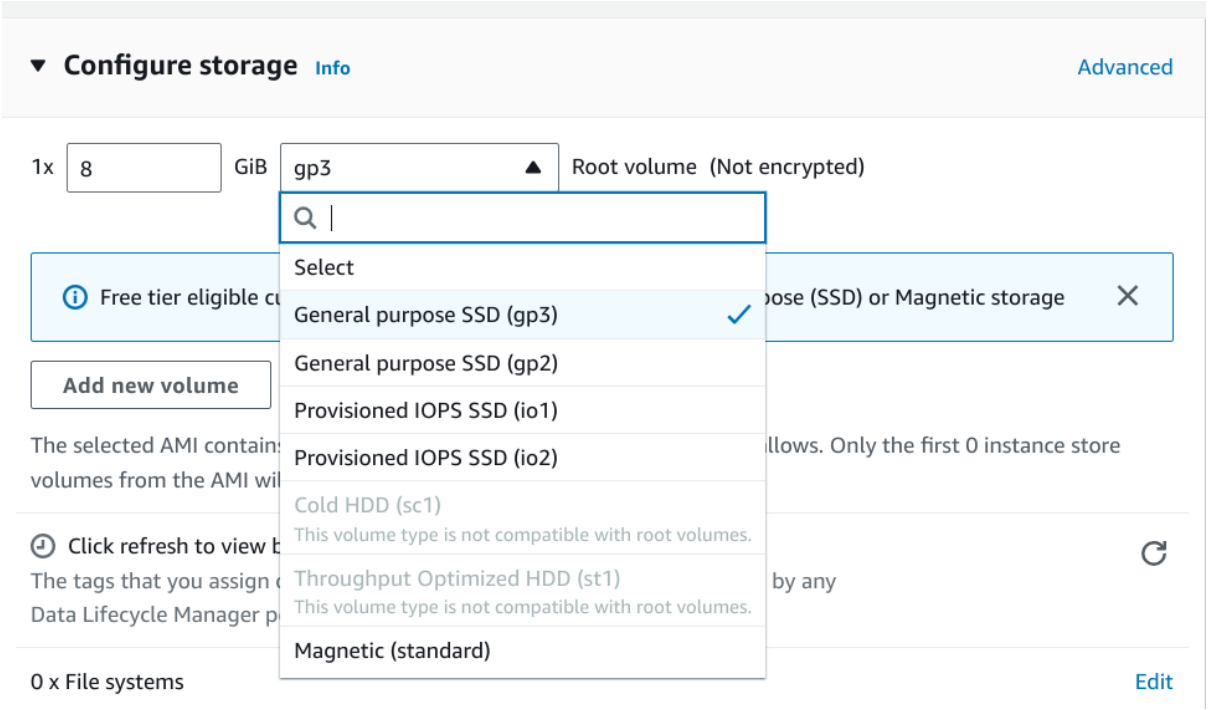
3. **Configure Instance Details**:
   - Choose instance type (e.g., t2.micro for free tier).



- Configure network and storage options.

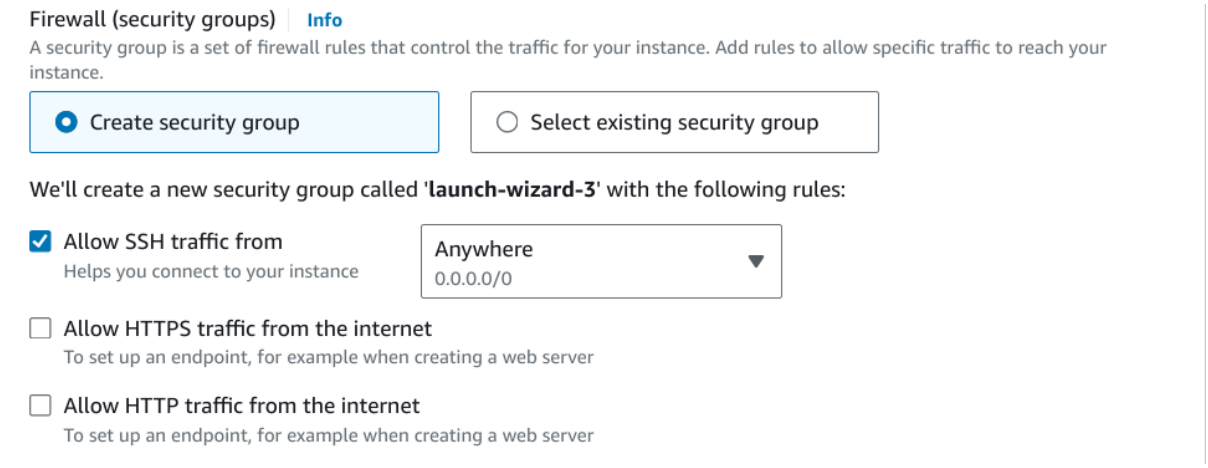


4. **Add Storage and Tags** (if necessary).

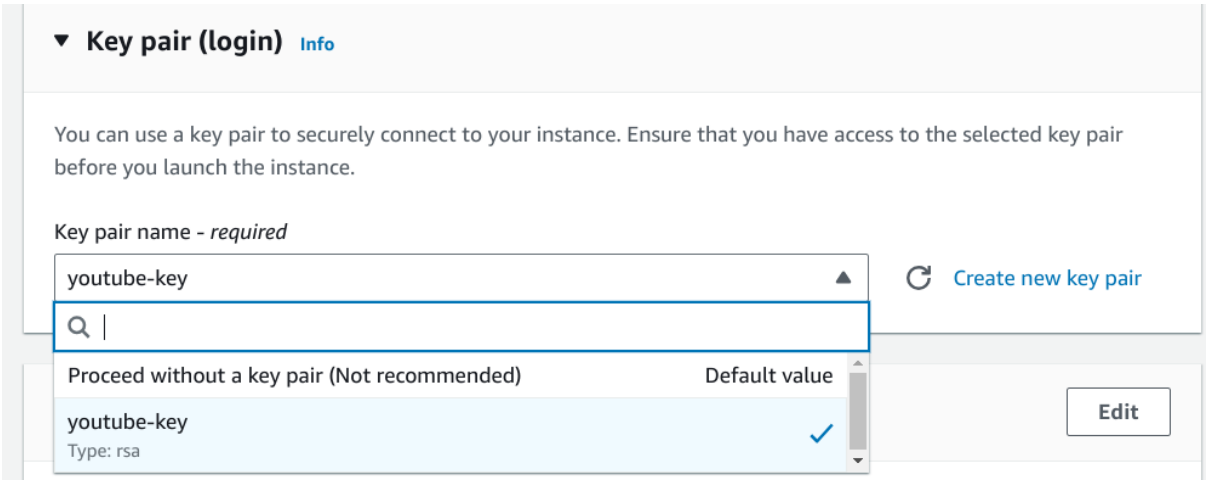


5. **Configure Security Group**:

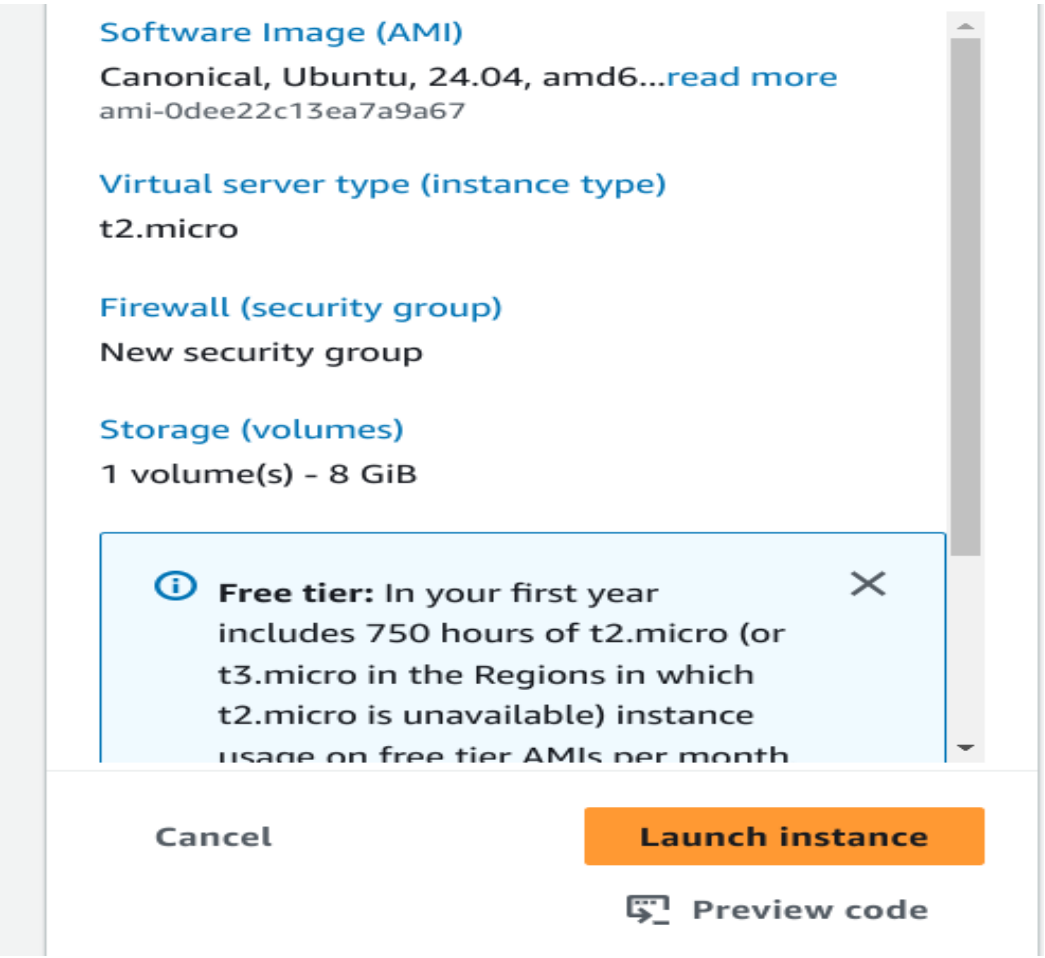
- Set rules for SSH access (e.g., open port 22 for SSH).



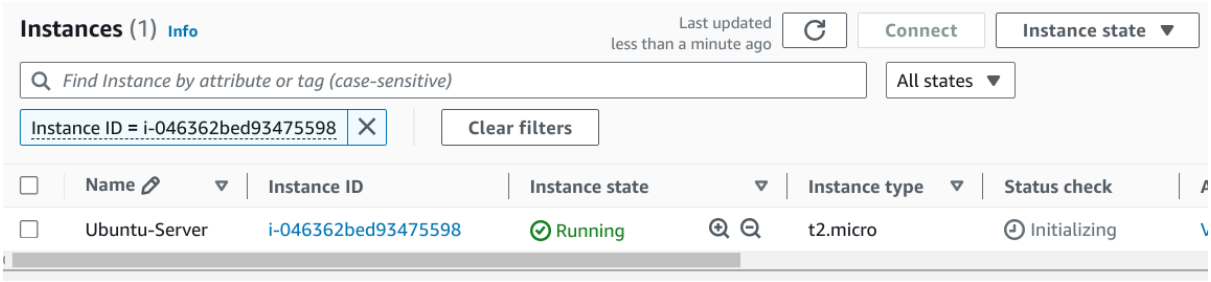
6. **Launch the Instance**:
   - Choose or create a key pair.

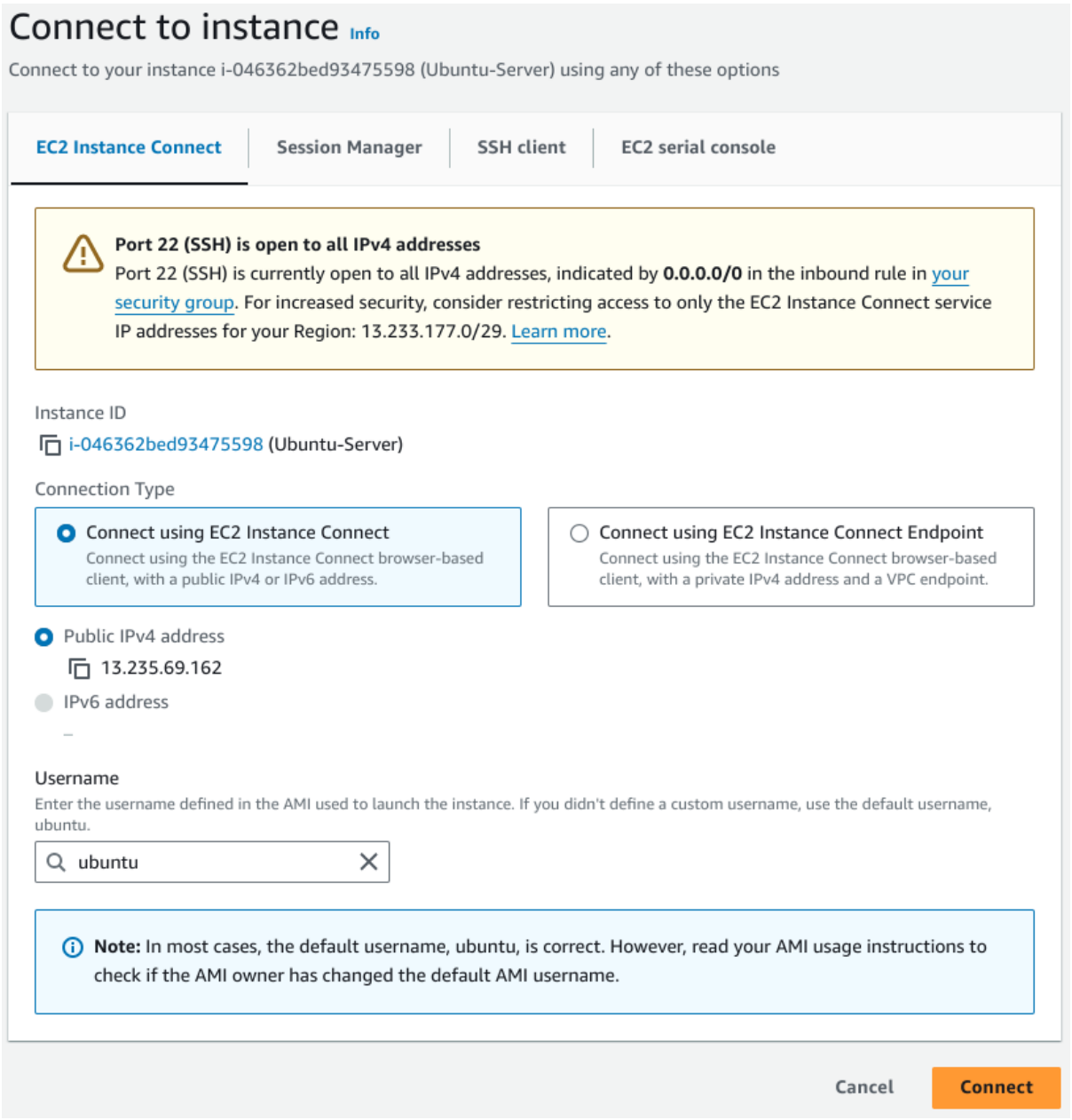


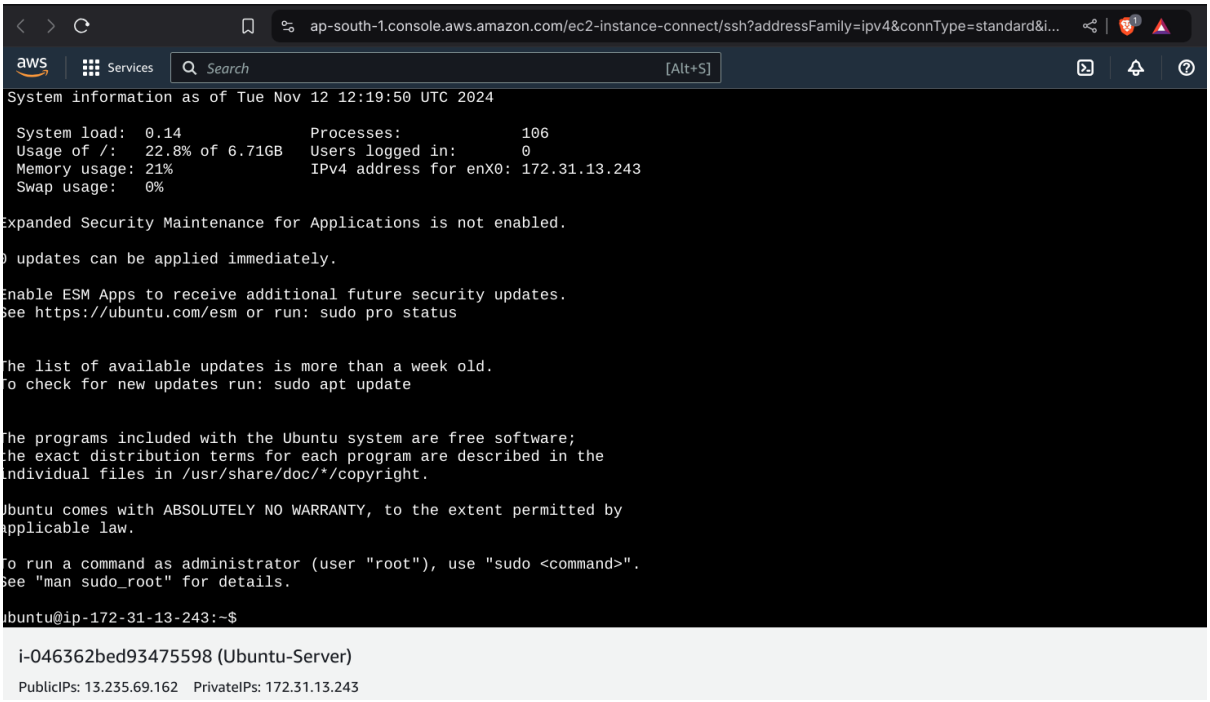
   - Click “Launch.”



7. **Connect to the Instance**:
    - Use SSH to connect:
    - ssh -i your-key.pem ubuntu@your-public-ip




Connect to instance Info
Connect to your instance i-046362bed93475598 (Ubuntu-Server) using any of these options
EC2 Instance Connect
Session Manager
SSH client
EC2 serial console
Port 22 (SSH) is open to all IPv4 addresses
Port 22 (SSH) is currently open to all IPv4 addresses, indicated by 0.0.0.0/0 in the inbound rule in your security group. For increased security, consider restricting access to only the EC2 Instance Connect service IP addresses for your Region: 13.233.177.0/29. Learn more.
Instance ID
i-046362bed93475598 (Ubuntu-Server)
Connection Type
Connect using EC2 Instance Connect
Connect using the EC2 Instance Connect browser-based client, with a public IPv4 or IPv6 address.
Connect using EC2 Instance Connect Endpoint
Connect using the EC2 Instance Connect browser-based client, with a private IPv4 address and a VPC endpoint.
Public IPv4 address
13.235.69.162
IPv6 address
Username
Enter the username defined in the AMI used to launch the instance. If you didn't define a custom username, use the default username, ubuntu.
ubuntu
Note: In most cases, the default username, ubuntu, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.
Cancel
Connect


ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?addressFamily=ipv4&connType=standard&i...
aws
Services
Search
[Alt+S]
System information as of Tue Nov 12 12:19:50 UTC 2024
System load: 0.14
Usage of /: 22.8% of 6.71GB
Memory usage: 21%
Swap usage: 0%
Processes: 106
Users logged in: 0
IPv4 address for enX0: 172.31.13.243
Expanded Security Maintenance for Applications is not enabled.
updates can be applied immediately.
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status
The list of available updates is more than a week old.
To check for new updates run: sudo apt update
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
ubuntu@ip-172-31-13-243:~$
i-046362bed93475598 (Ubuntu-Server)
PublicIPs: 13.235.69.162 PrivateIPs: 172.31.13.243