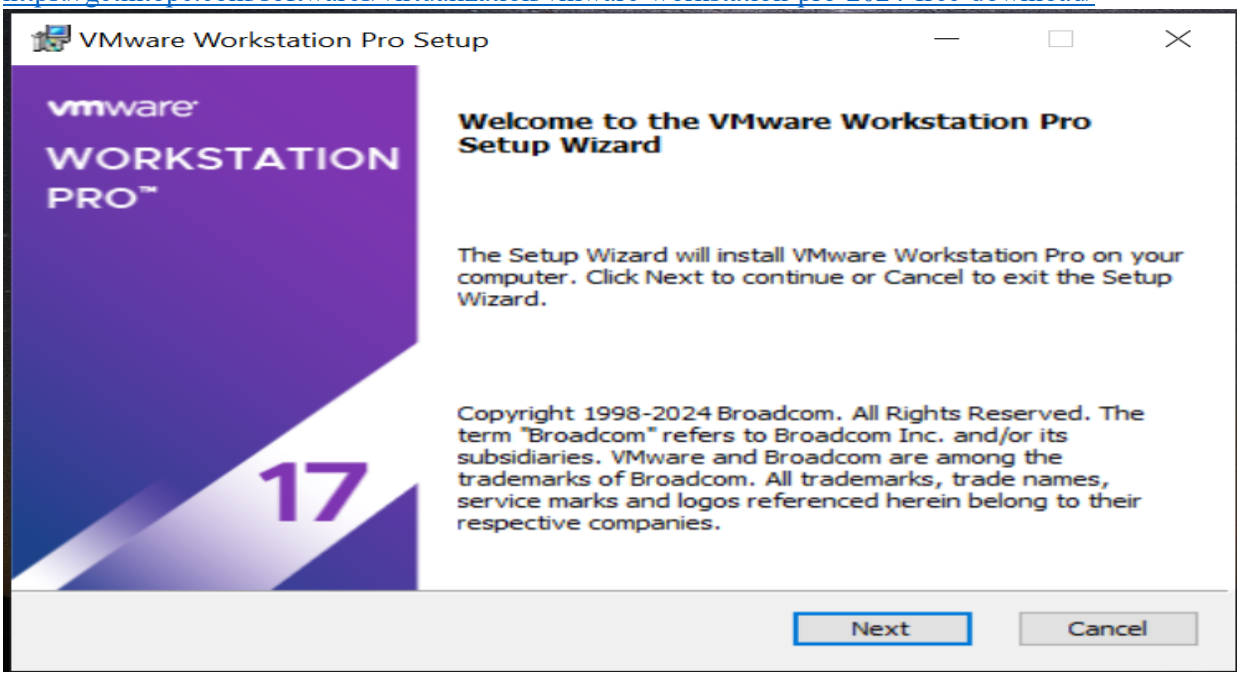
LAB 1

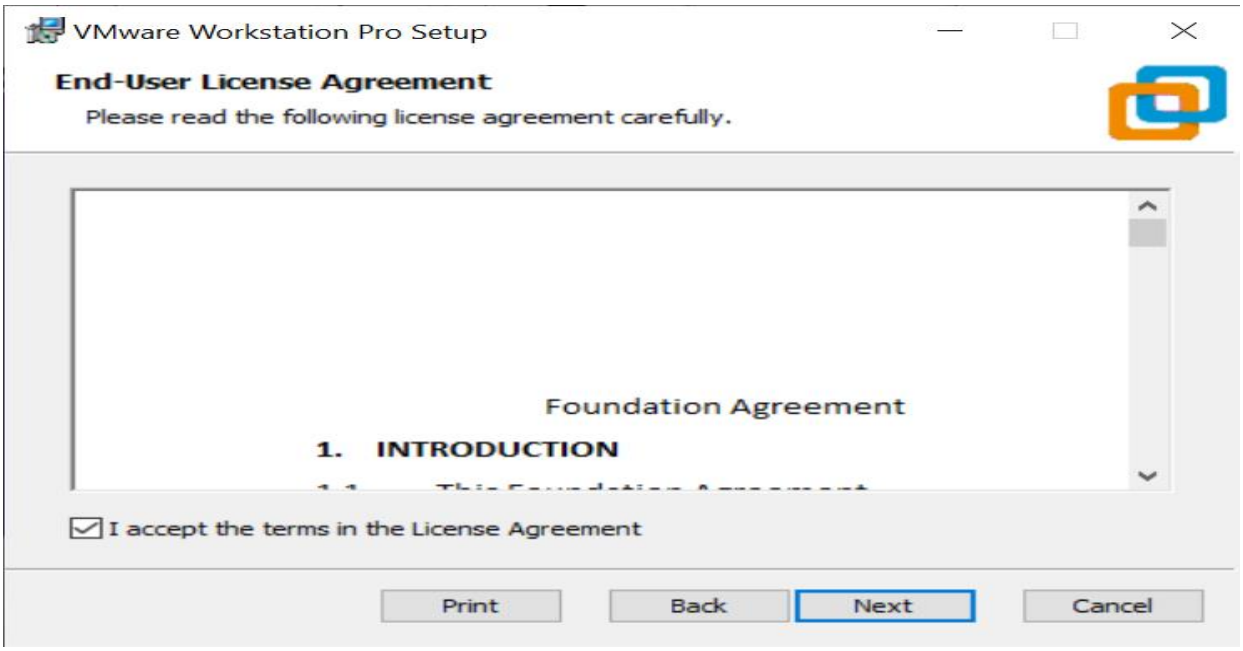
NAME: Hajra Sarwar
REG NO: 2023-BSE-022
CLASS: BSE-5A
SUBJECT: CC

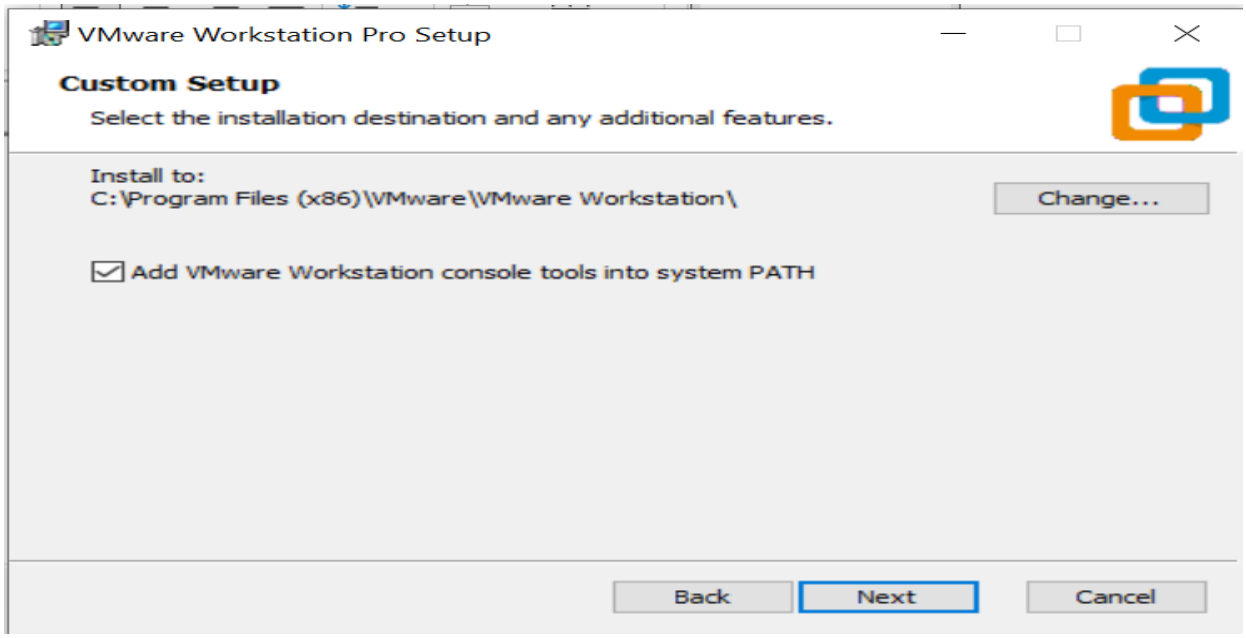
LAB TITLE: Installation of Linux Server

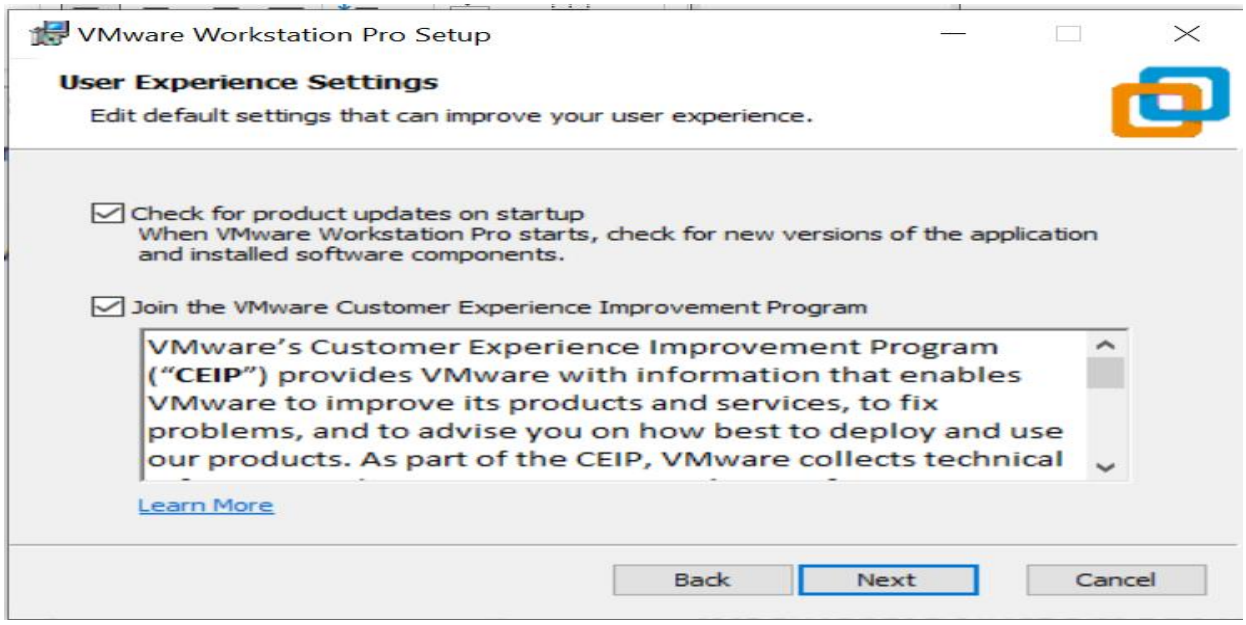
TASK:

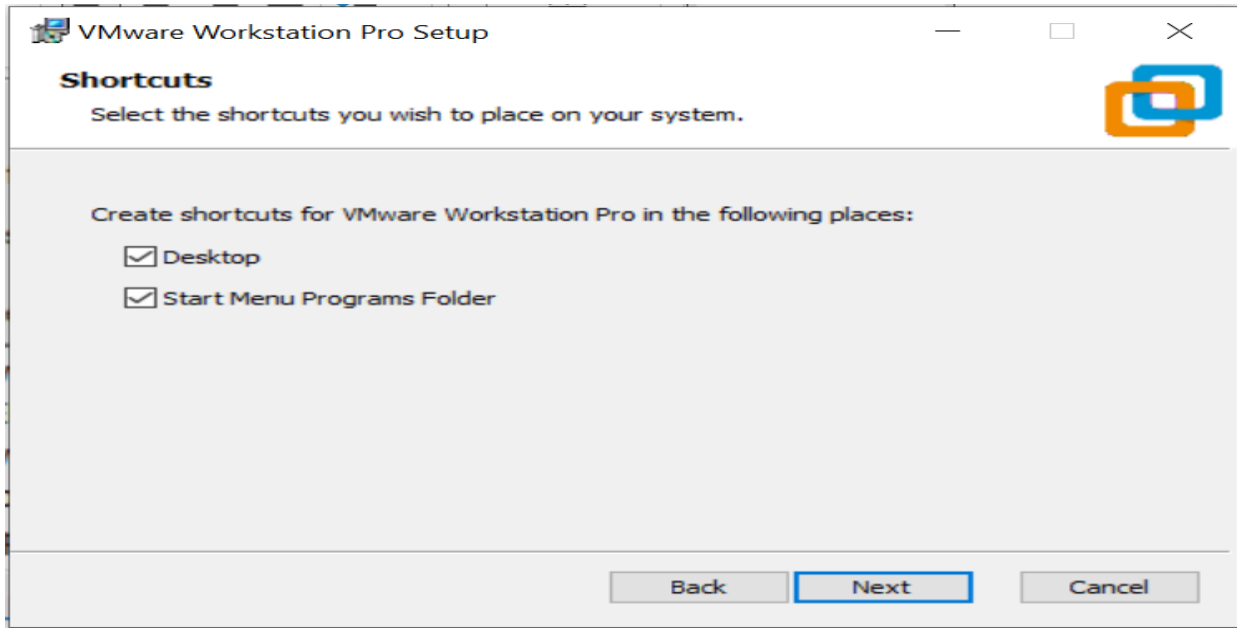
1. **Install VMware Workstation Pro.**
   You can download VMware Workstation from this website:
   https://getintopc.com/softwares/virtualization/vmware-workstation-pro-2024-free-download/

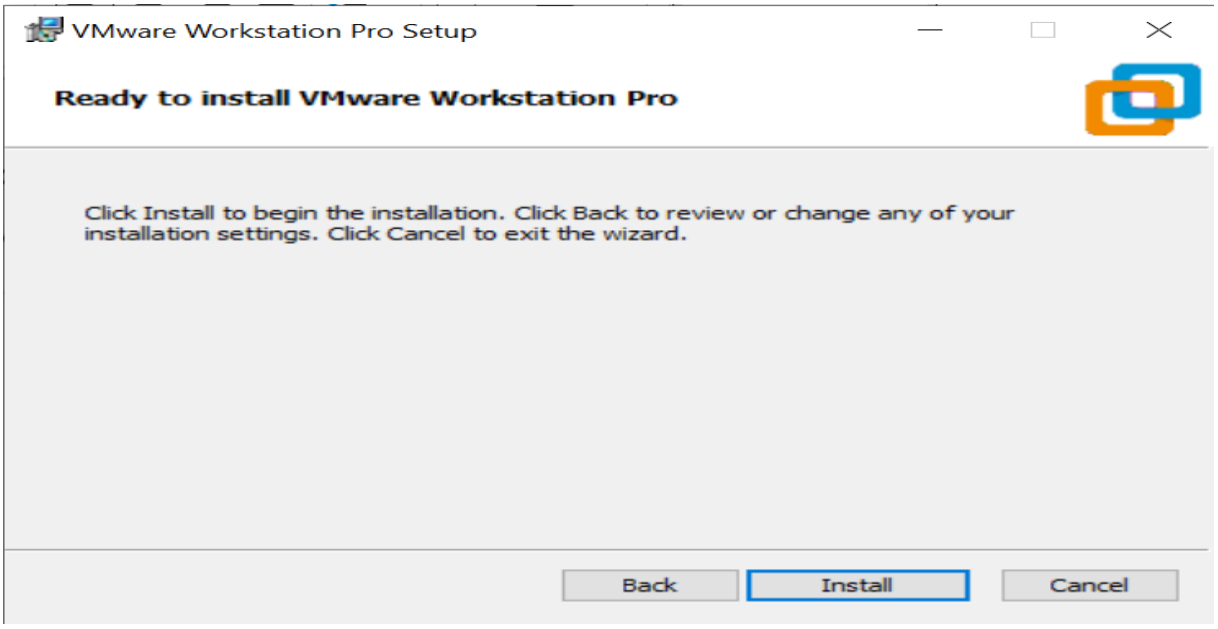


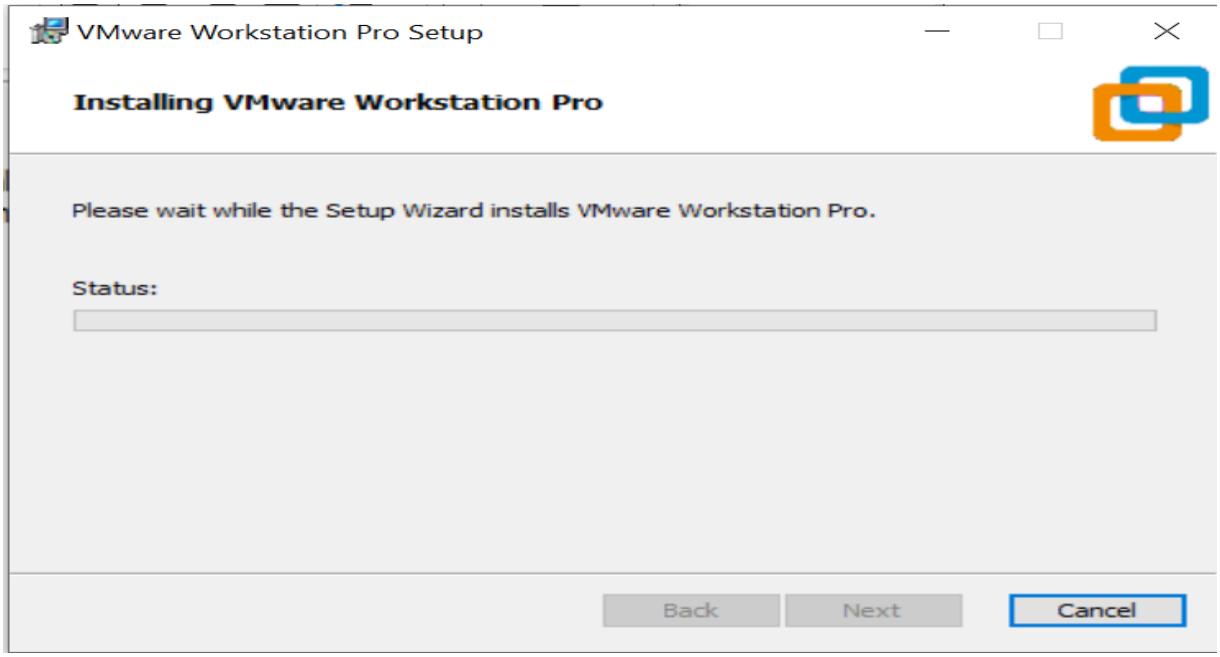


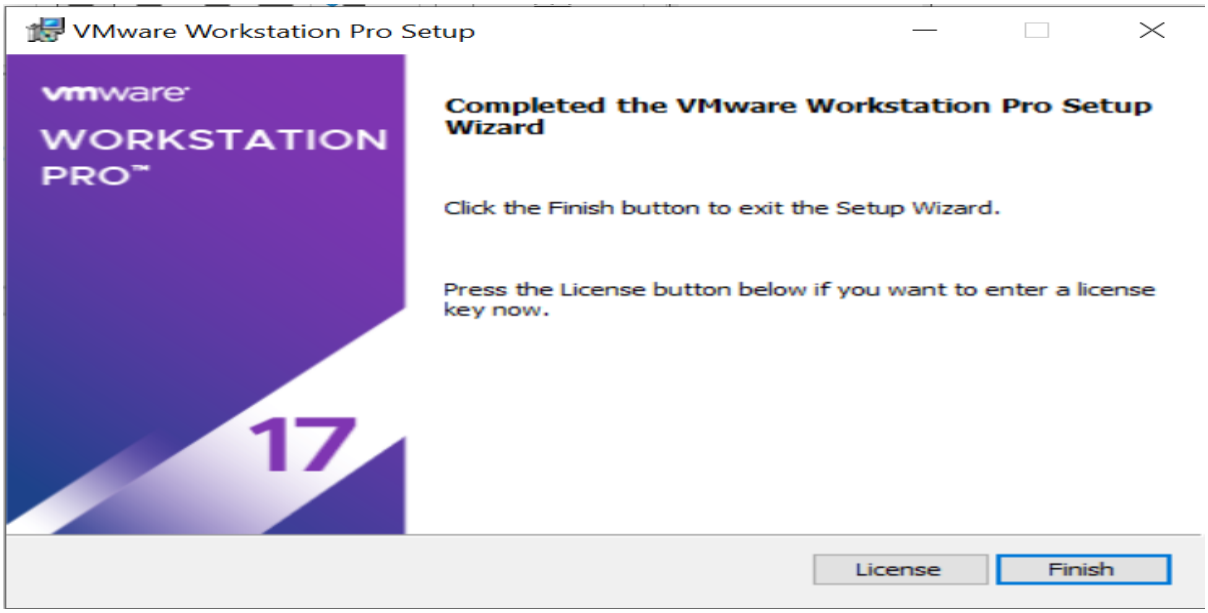

VMware Workstation Pro Setup
Custom Setup
Select the installation destination and any additional features.
Install to:
C:\Program Files (x86)\VMware\VMware Workstation\
Change...
Add VMware Workstation console tools into system PATH
Back
Next
Cancel

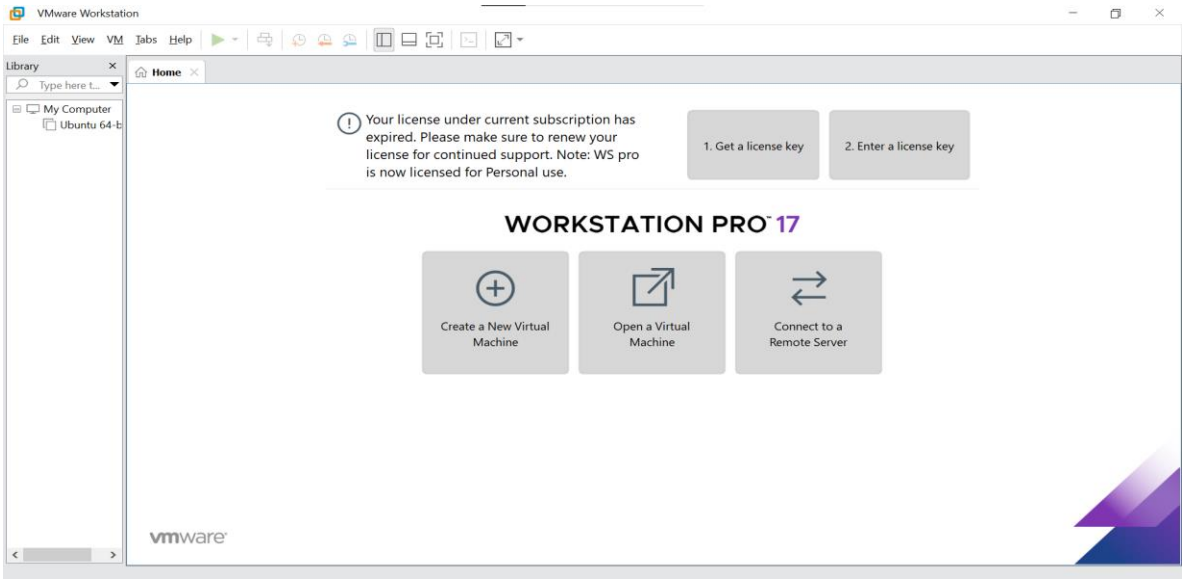

VMware Workstation Pro Setup
User Experience Settings
Edit default settings that can improve your user experience.
Check for product updates on startup
When VMware Workstation Pro starts, check for new versions of the application and installed software components.
Join the VMware Customer Experience Improvement Program
VMware's Customer Experience Improvement Program ("CEIP") provides VMware with information that enables VMware to improve its products and services, to fix problems, and to advise you on how best to deploy and use our products. As part of the CEIP, VMware collects technical
Learn More
Back
Next
Cancel


VMware Workstation Pro Setup
Shortcuts
Select the shortcuts you wish to place on your system.
Create shortcuts for VMware Workstation Pro in the following places:
Desktop
Start Menu Programs Folder
Back
Next
Cancel


VMware Workstation Pro Setup
Ready to install VMware Workstation Pro
Click Install to begin the installation. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard.
Back
Install
Cancel

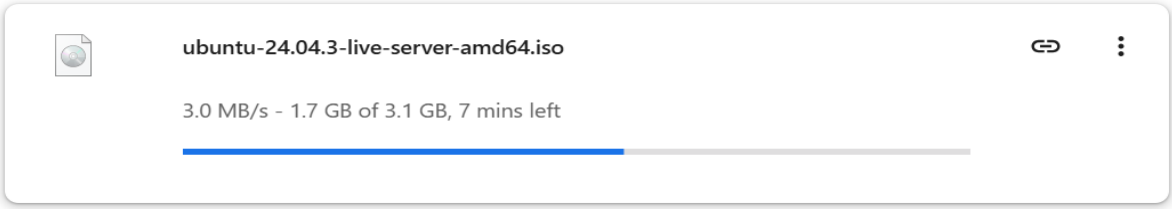

VMware Workstation Pro Setup
Installing VMware Workstation Pro
Please wait while the Setup Wizard installs VMware Workstation Pro.
Status:
Back
Next
Cancel


VMware Workstation Pro Setup
vmware
WORKSTATION PRO™
17
Completed the VMware Workstation Pro Setup Wizard
Click the Finish button to exit the Setup Wizard.
Press the License button below if you want to enter a license key now.
License
Finish

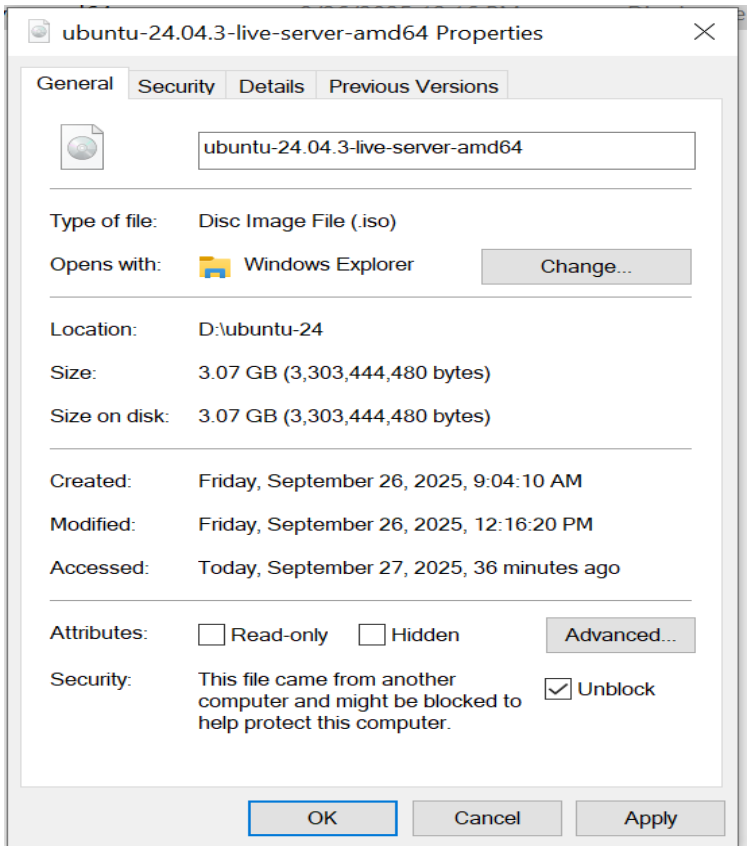


2. Download Ubuntu Server ISO

You can download Ubuntu Server from this link: https://ubuntu.com/download/server

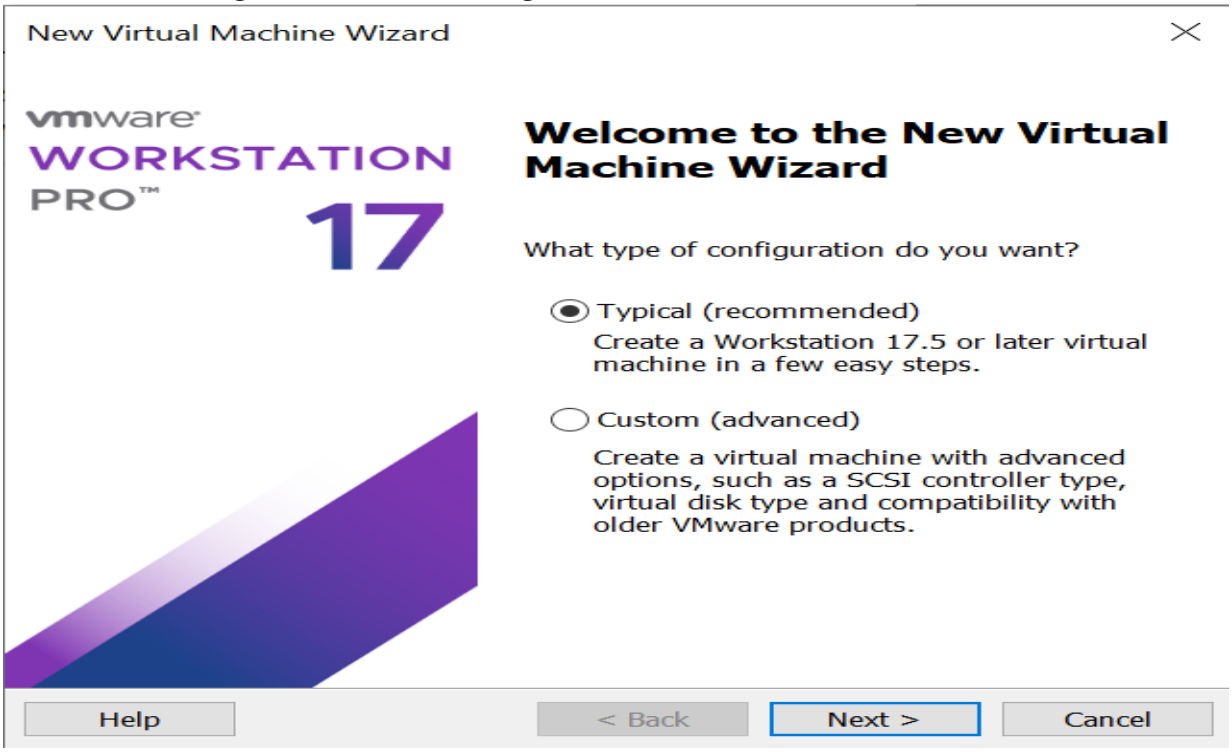


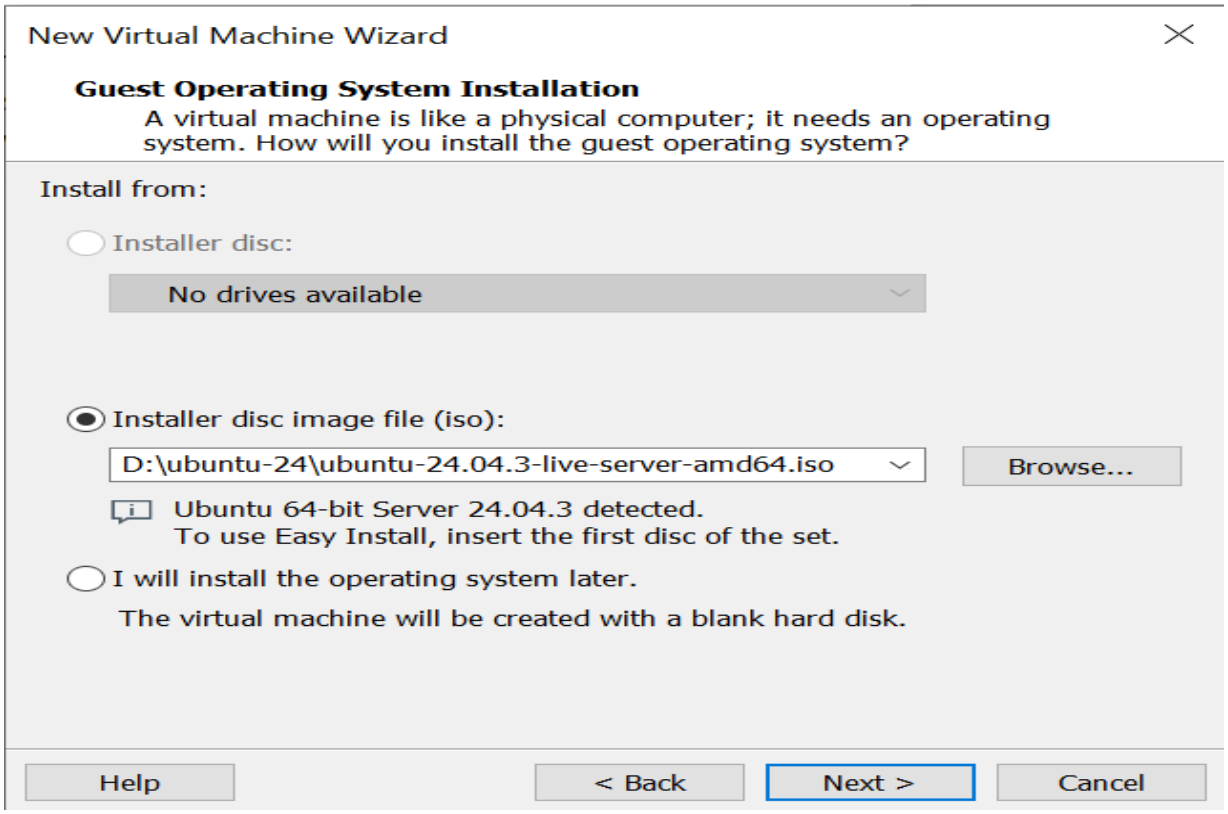
Right Click on this file after downloading, click on properties: Click on Unblock -> Apply -> OK.

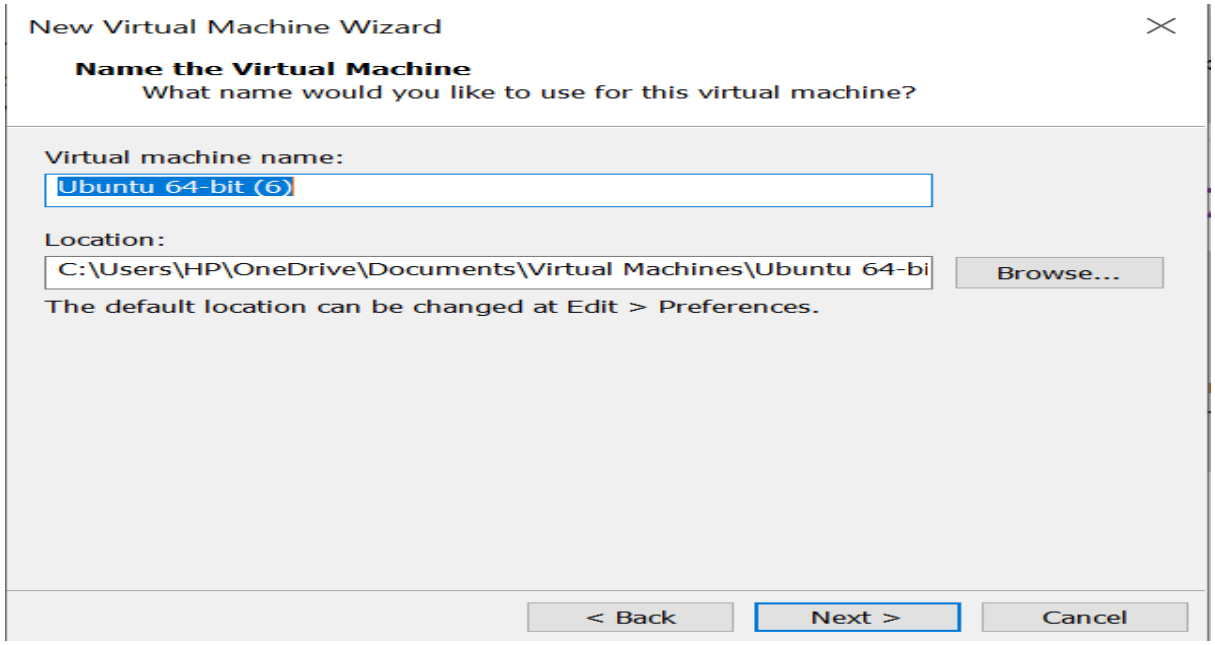


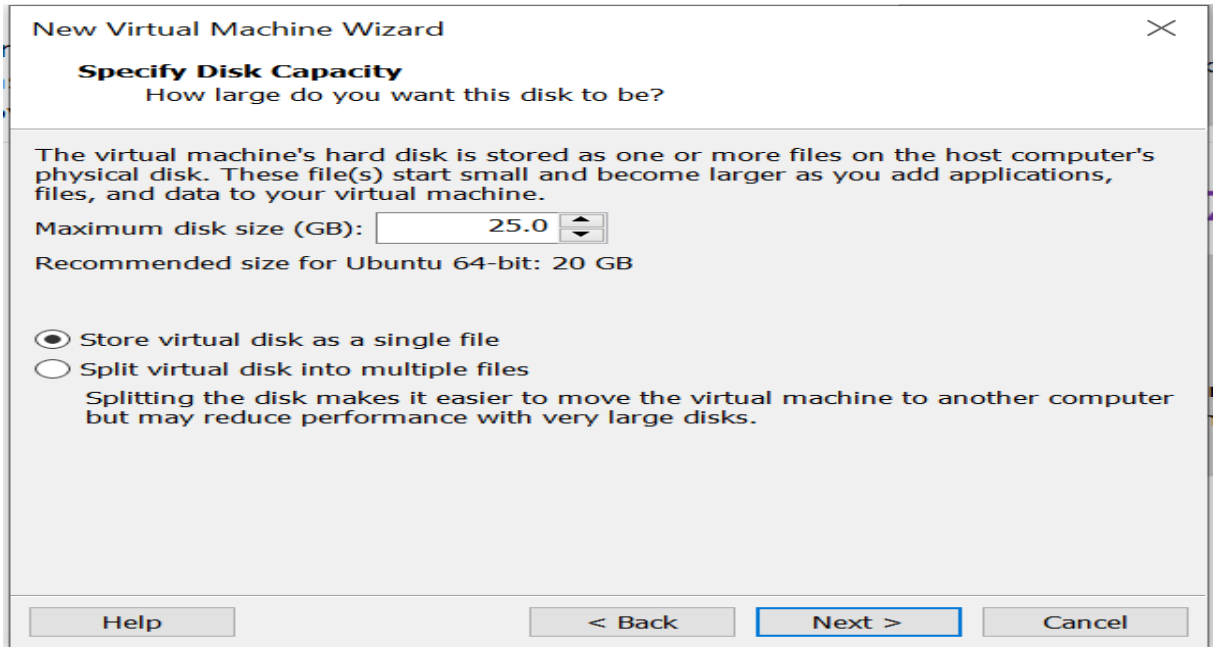
3. Create a new virtual machine in VMware

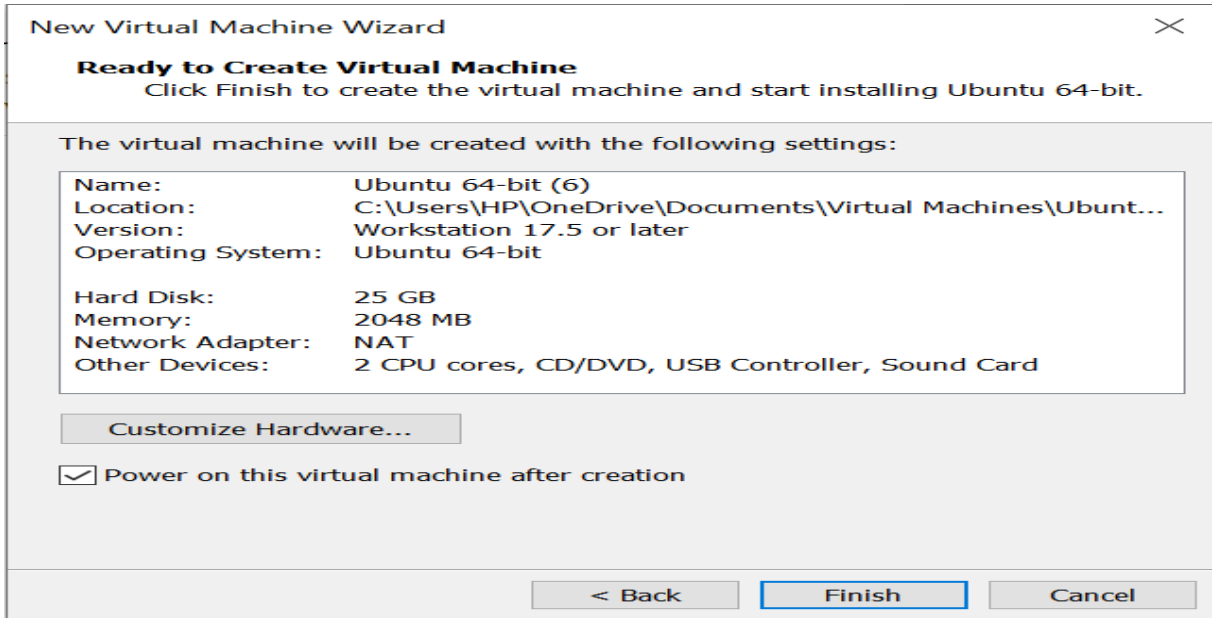
- Open VMware Workstation Pro.
- Click **Create a New Virtual Machine**.
- Select **Typical (recommended)**.
- When asked for installation media, choose **Installer disc image file (ISO)** and browse to the Ubuntu Server ISO you downloaded.
- Continue through the wizard, selecting the defaults unless otherwise instructed.

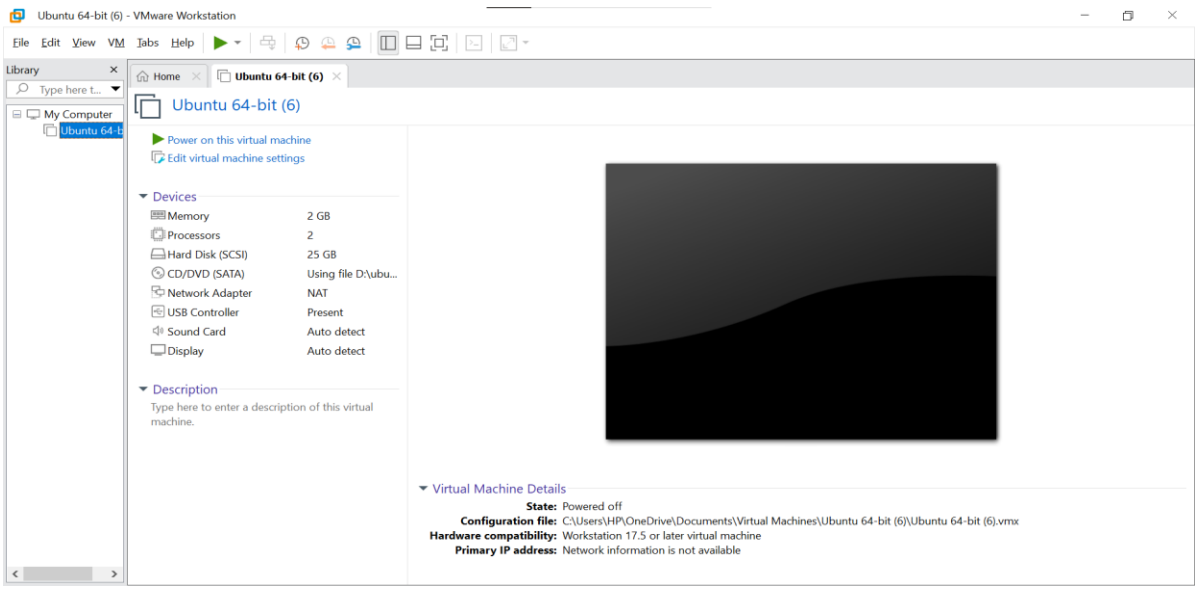





New Virtual Machine Wizard
Name the Virtual Machine
What name would you like to use for this virtual machine?
Virtual machine name:
Ubuntu 64-bit (6)
Location:
C:\Users\HP\OneDrive\Documents\Virtual Machines\Ubuntu 64-bi
Browse...
The default location can be changed at Edit > Preferences.
< Back
Next >
Cancel

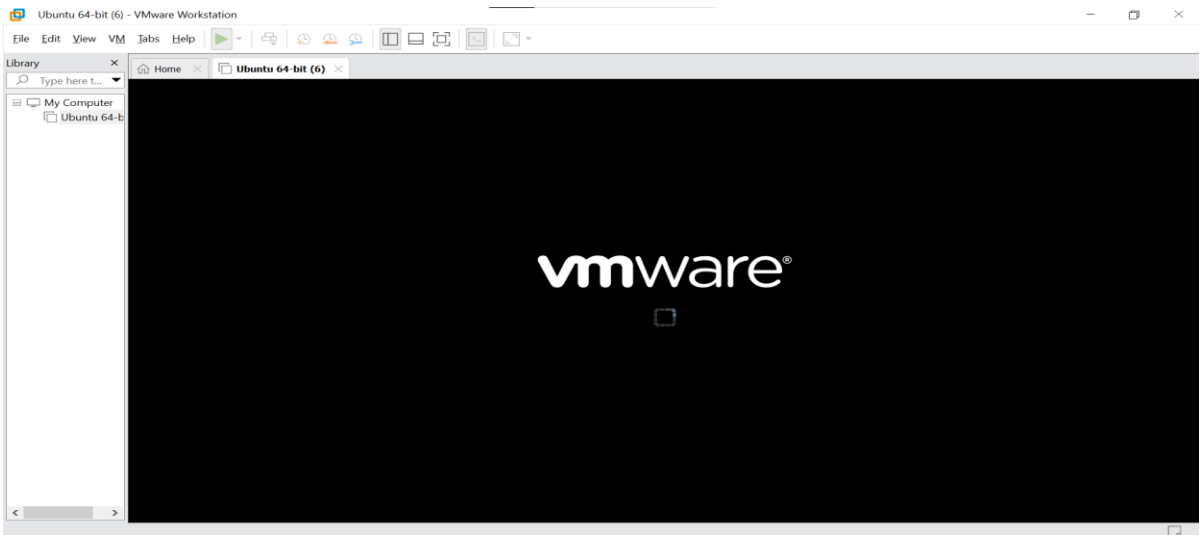

New Virtual Machine Wizard
Specify Disk Capacity
How large do you want this disk to be?
The virtual machine's hard disk is stored as one or more files on the host computer's physical disk. These file(s) start small and become larger as you add applications, files, and data to your virtual machine.
Maximum disk size (GB):
25.0
Recommended size for Ubuntu 64-bit: 20 GB
Store virtual disk as a single file
Split virtual disk into multiple files
Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.
Help
< Back
Next >
Cancel

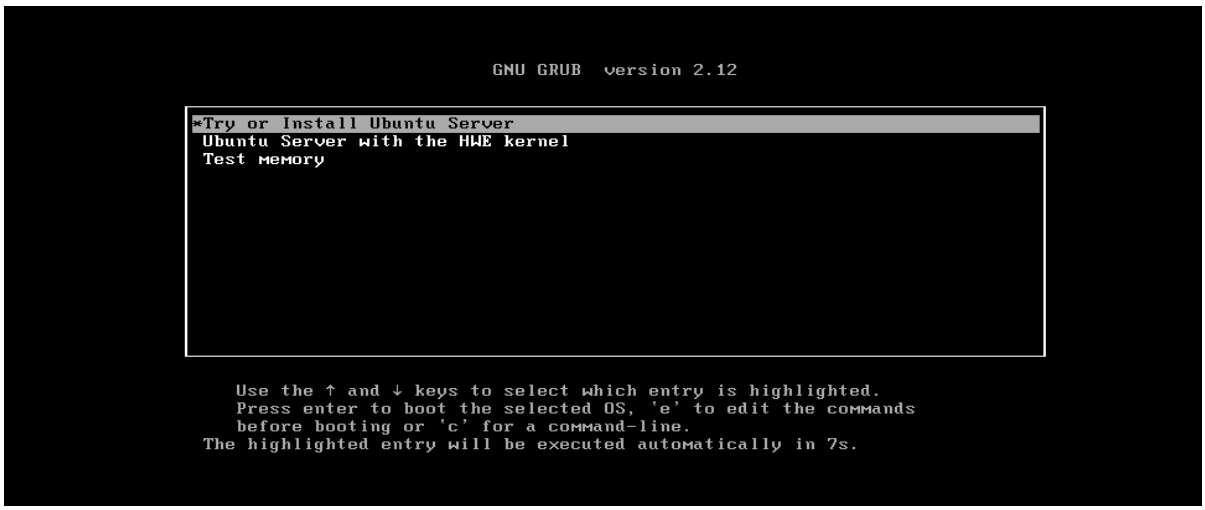

New Virtual Machine Wizard
Ready to Create Virtual Machine
Click Finish to create the virtual machine and start installing Ubuntu 64-bit.
The virtual machine will be created with the following settings:
Name: Ubuntu 64-bit (6)
Location: C:\Users\HP\OneDrive\Documents\Virtual Machines\Ubunt...
Version: Workstation 17.5 or later
Operating System: Ubuntu 64-bit
Hard Disk: 25 GB
Memory: 2048 MB
Network Adapter: NAT
Other Devices: 2 CPU cores, CD/DVD, USB Controller, Sound Card
Customize Hardware...
Power on this virtual machine after creation
< Back
Finish
Cancel

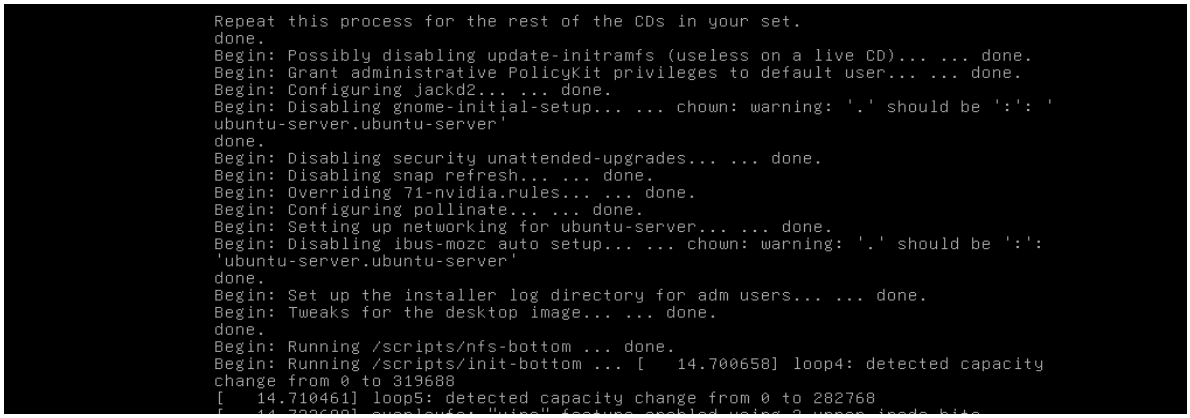


4. Start the virtual machine

- Once the VM is created, click Power on this virtual machine.
- The Ubuntu Server installer will boot using the ISO file.

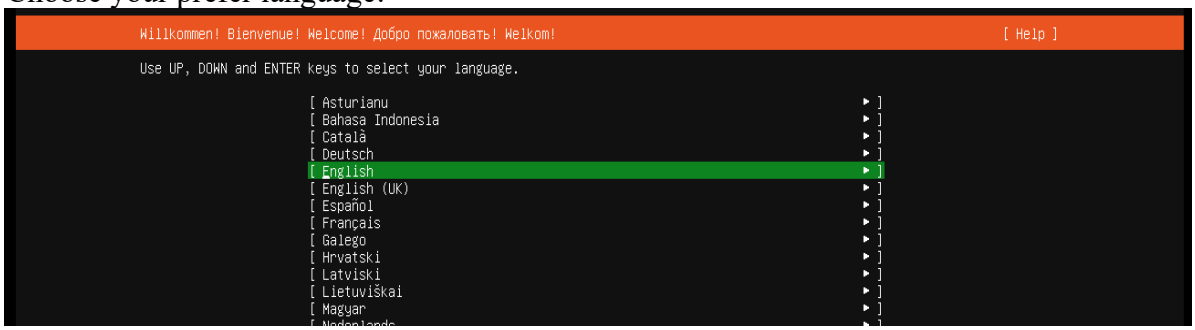




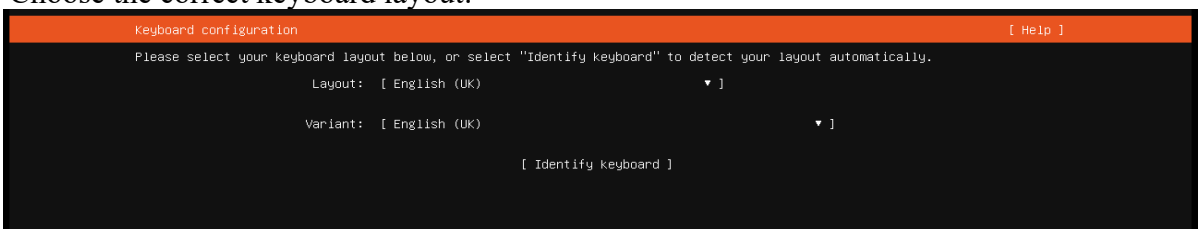


Scroll down using the arrow keys. When done, highlight **Done** at the bottom of the window and press Enter.

Choose your prefer language:

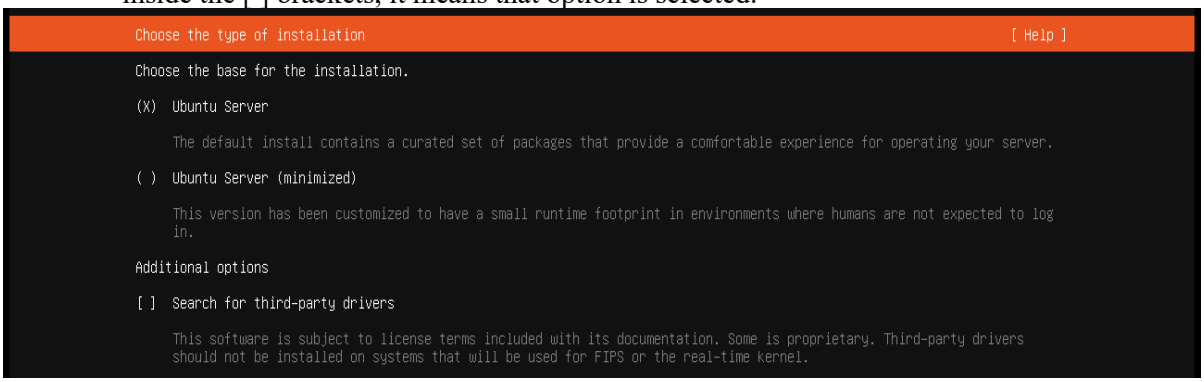


Choose the correct keyboard layout:

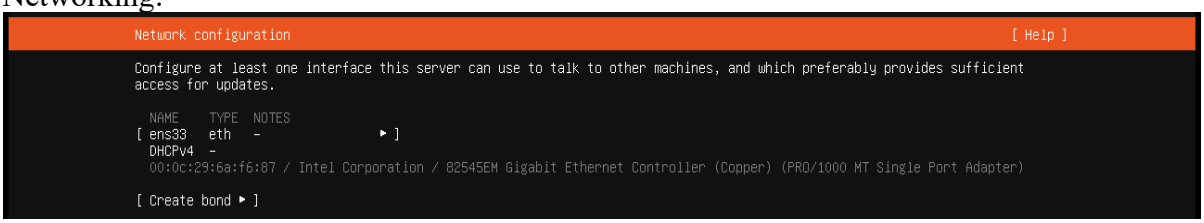


Choose your install:

- When choosing, scroll down using the arrow keys and select with the spacebar. When an (x) appears inside the [ ] brackets, it means that option is selected.

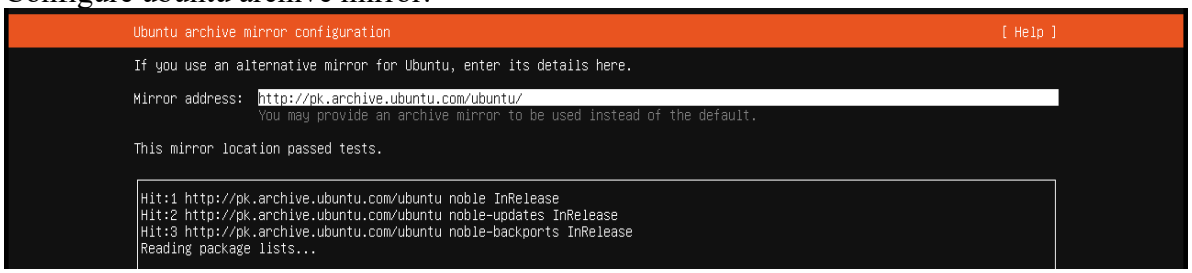


Networking:



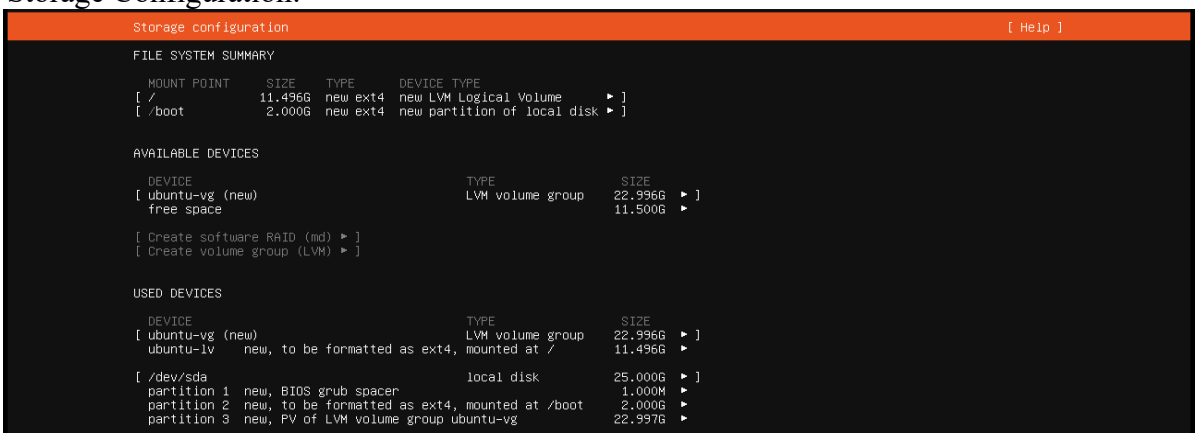
Configure proxy:

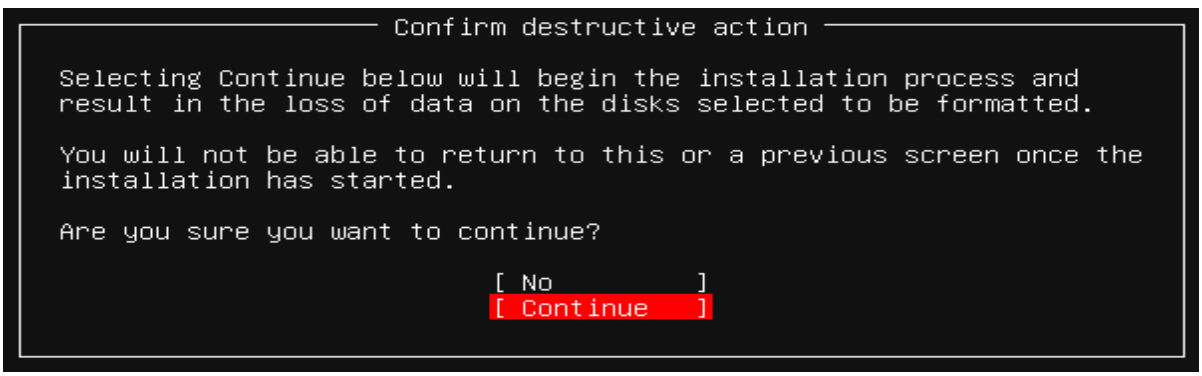
Configure ubuntu archive mirror:



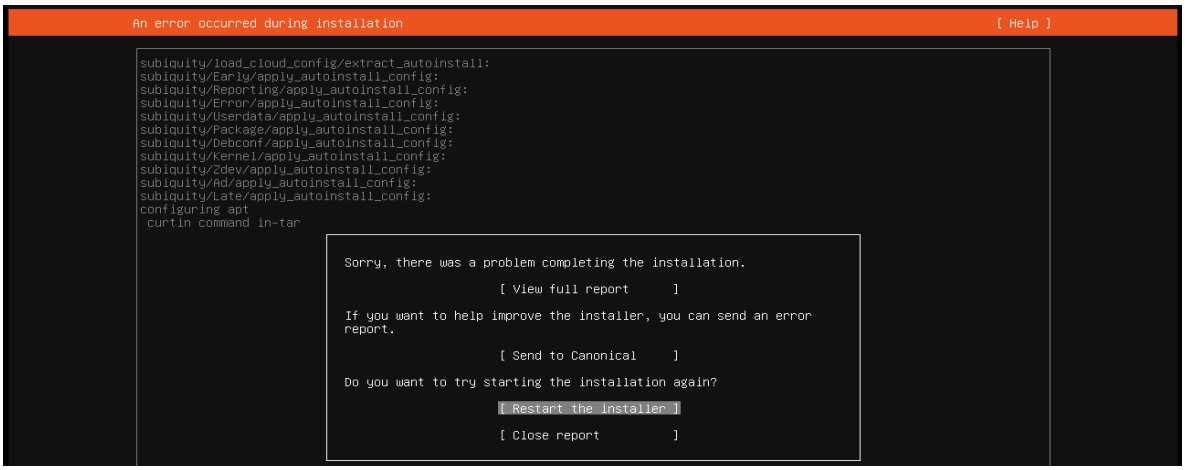
Configure storage guide:

Storage Configuration:





Set up a profile:
Error



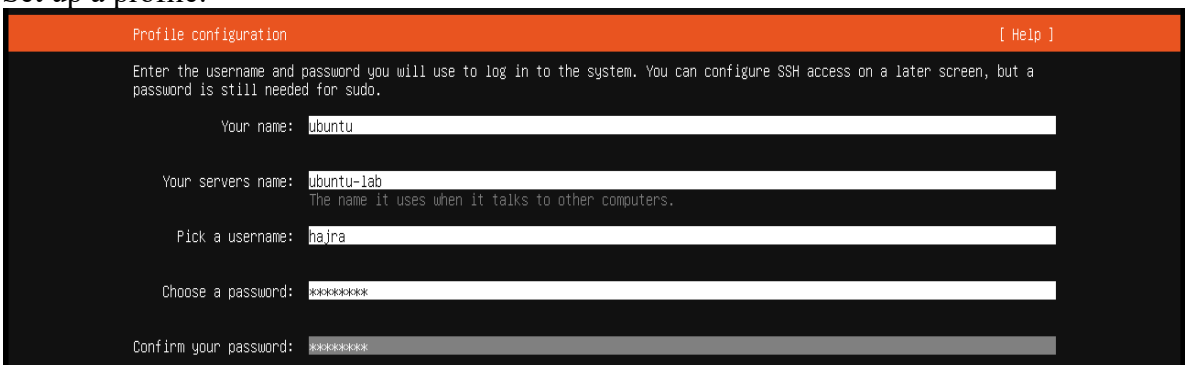
This usually means the installer (subiquity with curtin) had trouble during the **APT package configuration step**. Common causes are:

1. You did not check the '**Unblock**' security option in the properties of the Ubuntu Server file.
2. **No internet connection** (APT cannot fetch required packages).
3. **Bad mirror or repo unreachable** (network timeout or blocked domain).
4. **Corrupted ISO** (installer cannot unpack packages).
5. **Insufficient disk space or partitioning issue**.

Virtual machine misconfiguration (if using VMware, VirtualBox, Hyper-V, etc. – sometimes storage controllers cause problems).

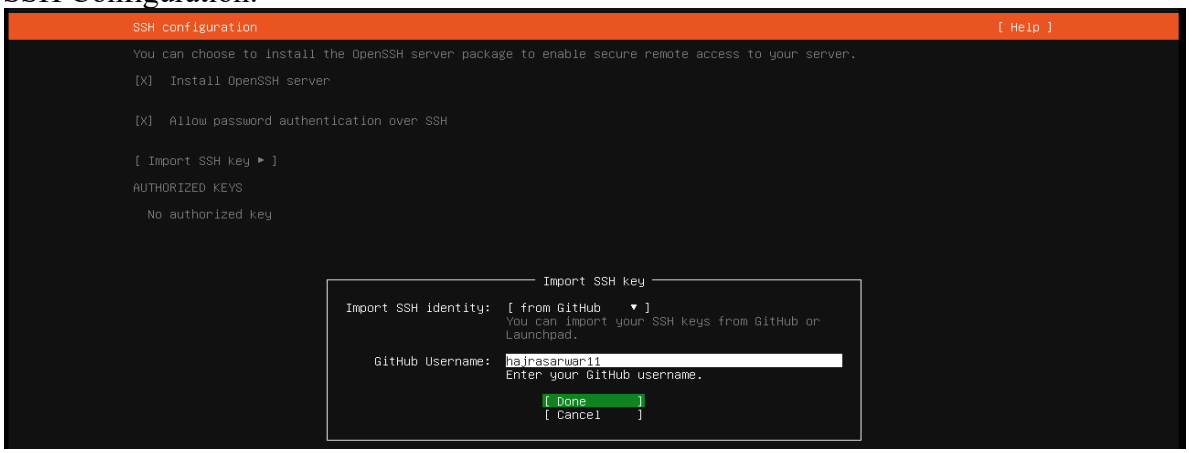
Check these problems one by one, and after solving each problem, start again from Step 4 (Start the virtual machine).

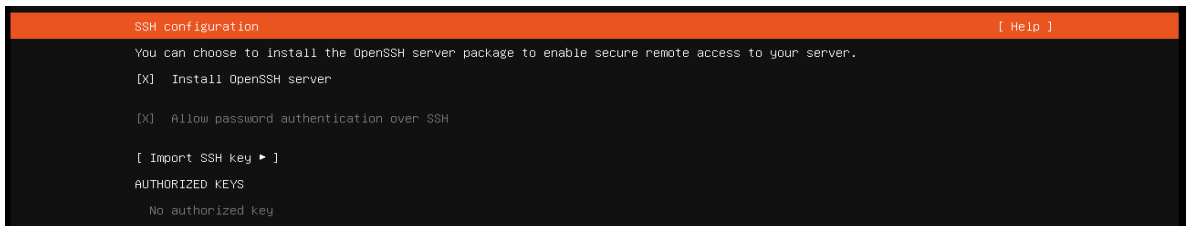
Set up a profile:



Upgrade to ubuntu Pro:

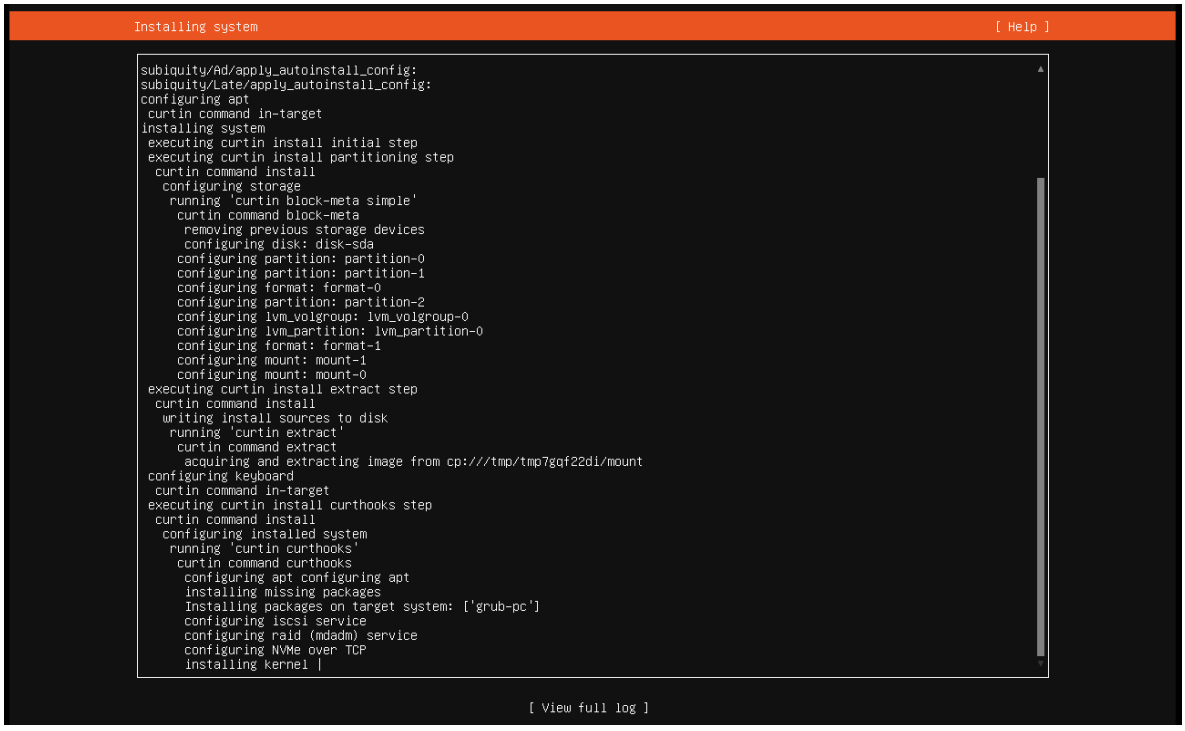
SSH Configuration:





Featured Server snaps:

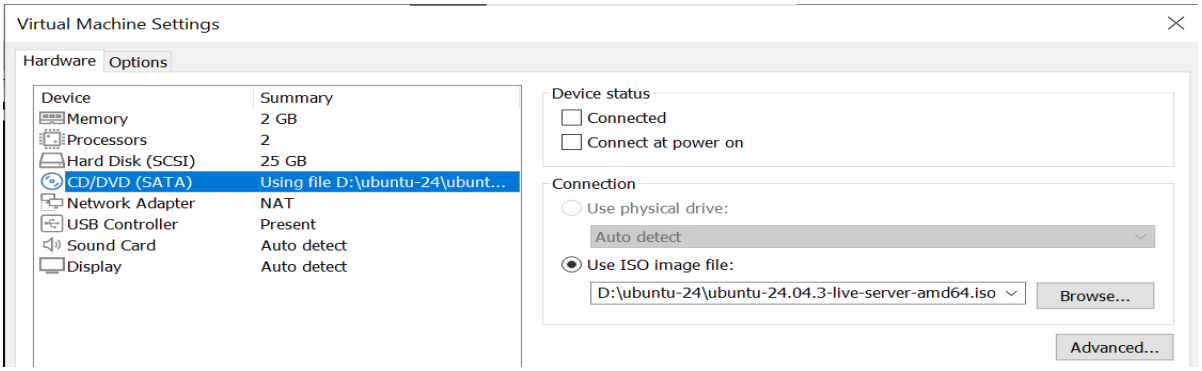
Install Software:



Error:

```
[FAILED] Failed unmounting cdrom.mount - /cdrom.
Please remove the installation medium, then press ENTER:
[FAILED] Failed unmounting cdrom.mount - /cdrom.
```

Go to Virtual Machine setting, click CD/DVD… → uncheck Connected and connect at power on Boxes → OK.

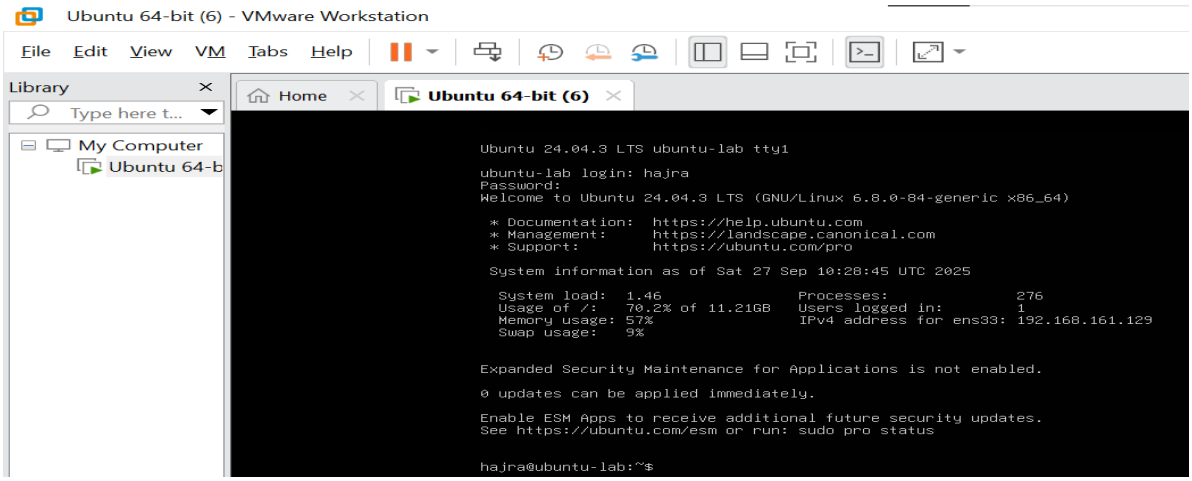



```
2236412k
[    6.505289] systemd[1]: Starting multipathd.service - Device-Mapper Multipath
 Device Controller...
         Starting multipathd.service - Devi…pper Multipath Device Controller...
[    6.507272] systemd[1]: systemd-hwdb-update.service - Rebuild Hardware Databa
se was skipped because no trigger condition checks were met.
[    6.507661] systemd[1]: systemd-pstore.service - Platform Persistent Storage
Archival was skipped because of an unmet condition check (ConditionDirectoryNotE
mpty=/sys/fs/pstore).
[    6.556528] systemd[1]: Starting systemd-random-seed.service - Load/Save OS R
andom Seed...
         Starting systemd-random-seed.service - Load/Save OS Random Seed...
[    6.558384] systemd[1]: systemd-repart.service - Repartition Root Disk was sk
ipped because no trigger condition checks were met.
[    6.580600] systemd[1]: Starting systemd-sysctl.service - Apply Kernel Variab
les...
         Starting systemd-sysctl.service - Apply Kernel Variables...
[    6.607339] systemd[1]: Starting systemd-tmpfiles-setup-dev-early.service - C
reate Static Device Nodes in /dev gracefully...
         Starting systemd-tmpfiles-setup-de… Device Nodes in /dev gracefully...
[    6.608038] systemd[1]: systemd-tpm2-setup.service - TPM2 SRK Setup was skipp
ed because of an unmet condition check (ConditionSecurity=measured-uki).
[    6.608585] systemd[1]: Activated swap swap.img.swap - /swap.img.
[  OK  ] Activated swap swap.img.swap - /swap.img.
```

```
Ubuntu 24.04.3 LTS ubuntu-lab tty1

ubuntu-lab login: _
```

```
Ubuntu 24.04.3 LTS ubuntu-lab tty1

ubuntu-lab login:          Mounting snap-snapd-25202.mount - Mount unit for snapd, revision 25202...
[  OK  ] Mounted snap-snapd-25202.mount - Mount unit for snapd, revision 25202.
         Starting snapd.service - Snap Daemon...
[  OK  ] Started snapd.service - Snap Daemon.

ubuntu-lab login: hajra
Password: _
```

```
[  OK  ] Created slice user-1000.slice - User Slice of UID 1000.
         Starting user-runtime-dir@1000.service - User Runtime Directory /run/user/1000...
[  OK  ] Finished user-runtime-dir@1000.service - User Runtime Directory /run/user/1000.
         Starting user@1000.service - User Manager for UID 1000...
[  OK  ] Started user@1000.service - User Manager for UID 1000.
[  OK  ] Started session-1.scope - Session 1 of User hajra.
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

hajra@ubuntu-lab:~$          Mounting snap-core22-2133.mount - Mount unit for core22, revision 2133...
[  OK  ] Mounted snap-core22-2133.mount - Mount unit for core22, revision 2133.

hajra@ubuntu-lab:~$          Mounting snap-aws\x2dcli-1597.mount - Mount unit for aws-cli, revision 1597...
[  OK  ] Mounted snap-aws\x2dcli-1597.mount - Mount unit for aws-cli, revision 1597.

hajra@ubuntu-lab:~$          Mounting snap-docker-3265.mount - Mount unit for docker, revision 3265...
[  OK  ] Mounted snap-docker-3265.mount - Mount unit for docker, revision 3265.
[  OK  ] Started snap.docker.hook.install-bb1f3125-37b5-4ed2-8d3a-6a6c117a275a.scope.
         Starting snap.docker.nvidia-container-toolkit.service - Service for snap application docker.nvidia-container-toolkit...
[  OK  ] Finished snap.docker.nvidia-container-toolkit.service - Service for snap application docker.nvidia-container-toolkit.
[  OK  ] Started snap.docker.dockerd.service - Service for snap application docker.dockerd.
[  OK  ] Started snap.docker.hook.configure-c5604d03-6da2-4743-9716-314a124a5a94.scope.
         Starting snap.docker.nvidia-container-toolkit.service - Service for snap application docker.nvidia-container-toolkit...
[  OK  ] Finished snap.docker.nvidia-container-toolkit.service - Service for snap application docker.nvidia-container-toolkit.
         Mounting snap-doctl-2242.mount - Mount unit for doctl, revision 2242...
[  OK  ] Mounted snap-doctl-2242.mount - Mount unit for doctl, revision 2242.
         Starting update-notifier-download.service - Download data for packages that failed at package install time...
[  OK  ] Finished update-notifier-download.service - Download data for packages that failed at package install time.
_
```



Ubuntu Server Installed Successfully.

5. Accessing your Ubuntu Server from Windows

1. Find the IP address of your Ubuntu Server using “ip addr”

```
ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
  link/ether 00:0c:29:6a:f6:87 brd ff:ff:ff:ff:ff:ff
  altname enp2s1
  inet 192.168.161.129/24 metric 100 brd 192.168.161.255 scope global dynamic ens33
     valid_lft 1082sec preferred_lft 1082sec
  inet6 fe80::20c:29ff:fe6a:f687/64 scope link
     valid_lft forever preferred_lft forever
```

2. Connect via SSH from Windows

```
PS C:\Users\HP> ping 192.168.161.129

Pinging 192.168.161.129 with 32 bytes of data:
Reply from 192.168.161.129: bytes=32 time=1ms TTL=64
Reply from 192.168.161.129: bytes=32 time<1ms TTL=64
Reply from 192.168.161.129: bytes=32 time<1ms TTL=64
Reply from 192.168.161.129: bytes=32 time=3ms TTL=64

Ping statistics for 192.168.161.129:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 3ms, Average = 1ms
```

3. **Accept the fingerprint** (first time only)
   Type yes when prompted.

```
PS C:\Users\HP> ssh hajra@192.168.161.129
The authenticity of host '192.168.161.129 (192.168.161.129)' can't be established.
ED25519 key fingerprint is SHA256:M5unwK7+jxUhr6KM3bbMPRkghlGd+Kq5uspTQZ5Up3w.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
```

4. **Enter your password**
   Use the same password you set up during the Ubuntu Server installation.

```
Warning: Permanently added '192.168.161.129' (ED25519) to the list of known hosts.
hajra@192.168.161.129's password:
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.8.0-84-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

 System information as of Sat 27 Sep 10:28:45 UTC 2025

  System load:  1.46               Processes:             276
  Usage of /:   70.2% of 11.21GB   Users logged in:       1
  Memory usage: 57%                IPv4 address for ens33: 192.168.161.129
  Swap usage:   9%


Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status


hajra@ubuntu-lab: $
```