

Nama : Angeline Natasya Liong

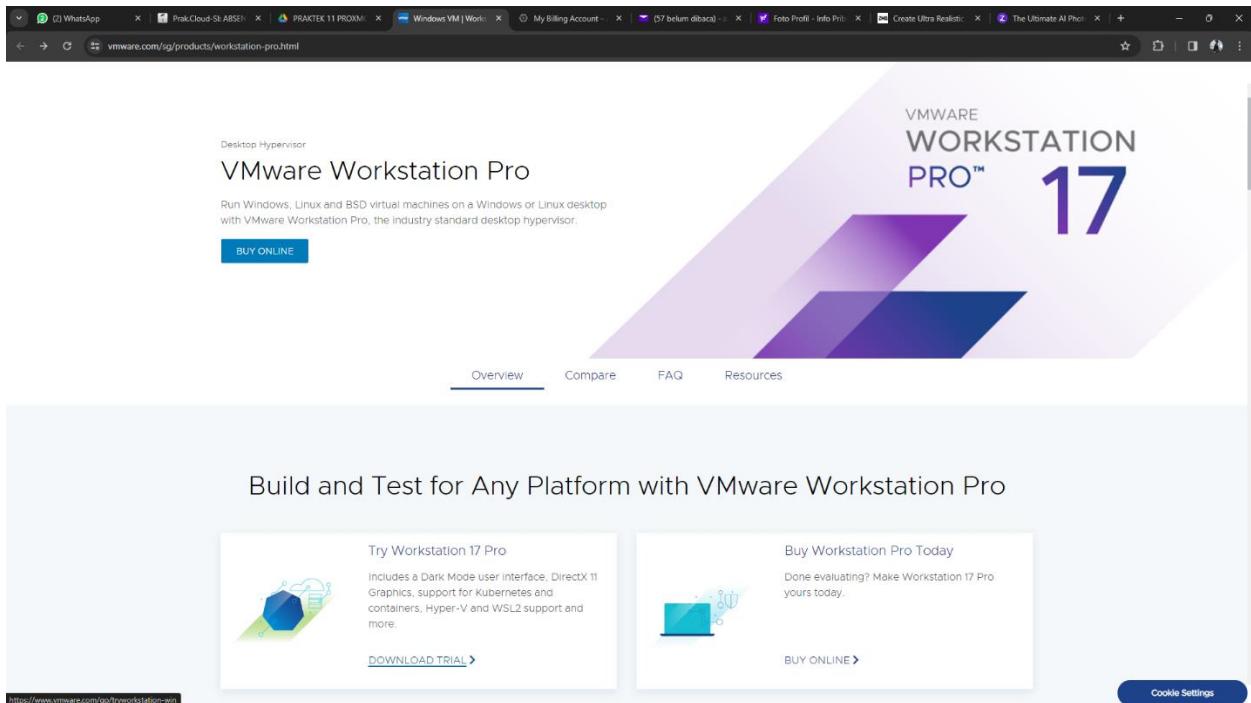
NIM : 51022002

# Latihan Praktikum Cloud Computing

## Proxmox And Virtualization

### Latihan 1

#### Instalalasi Proxmox via VMWARE

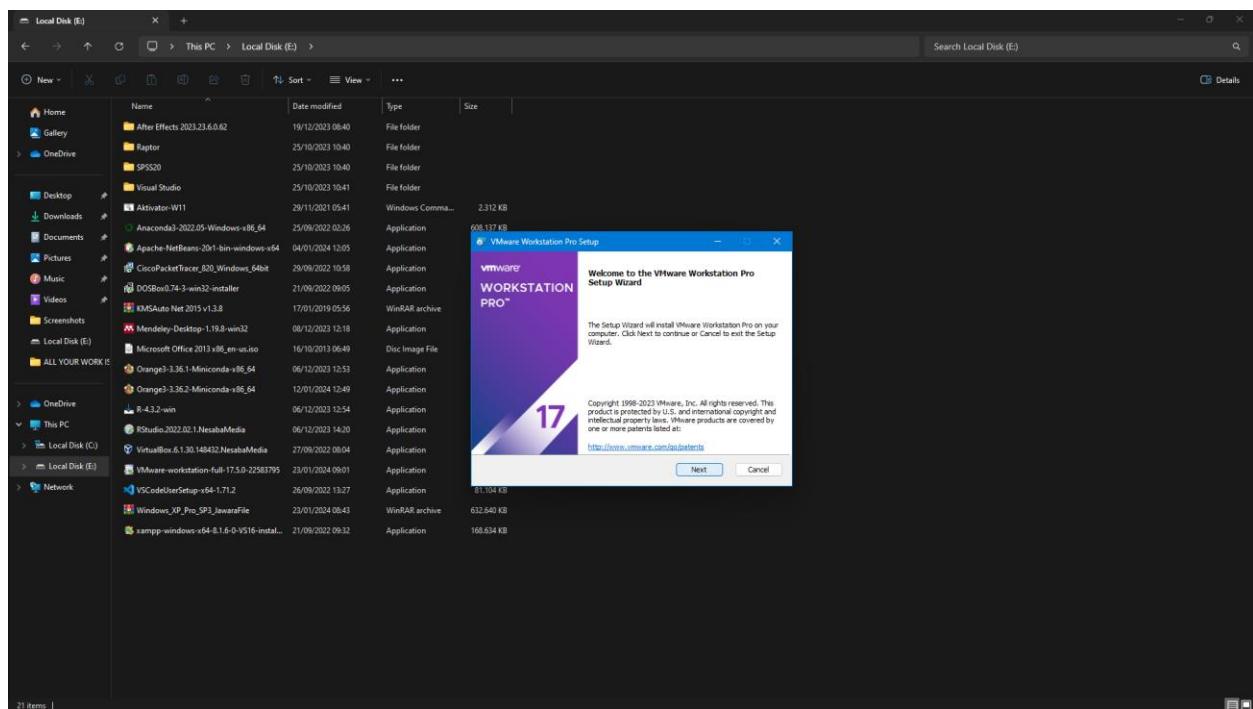
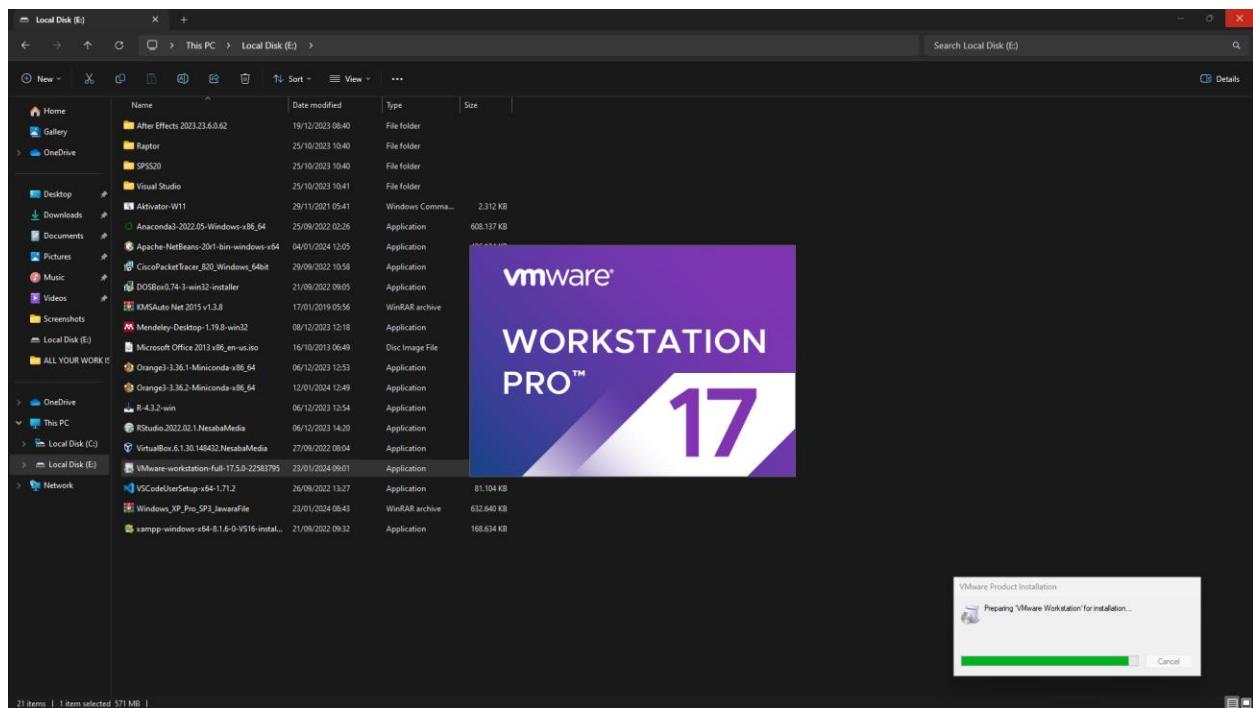


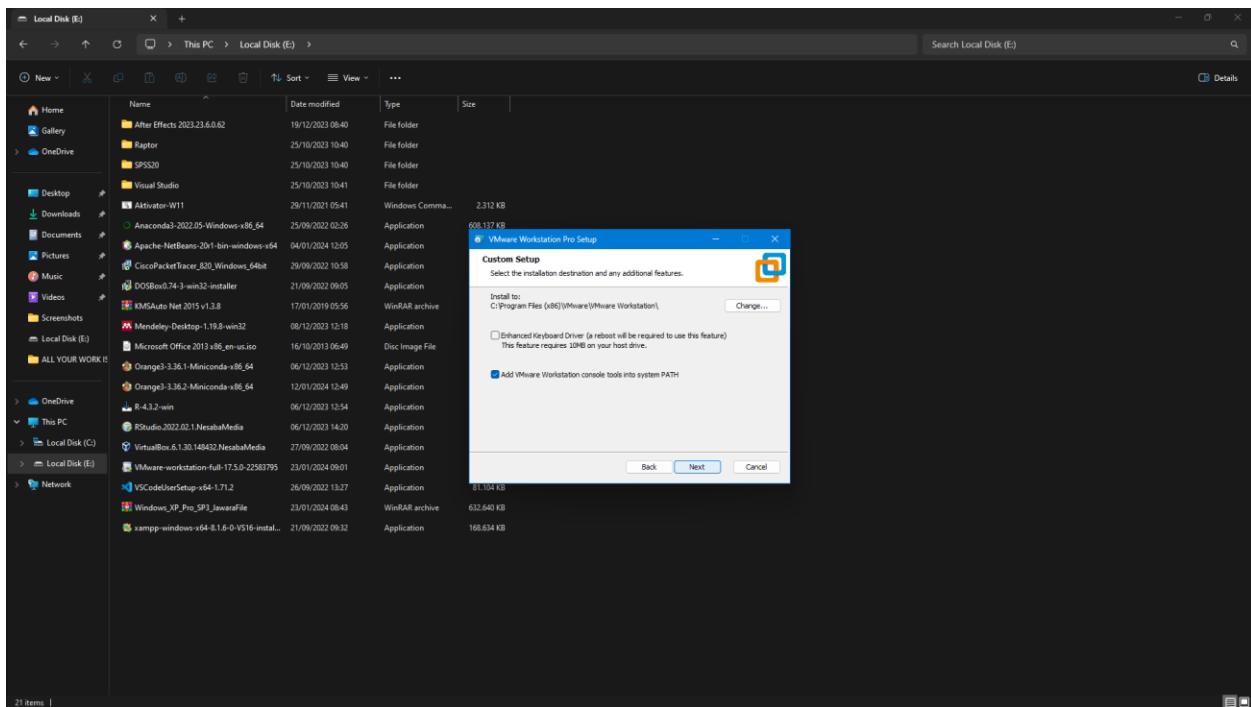
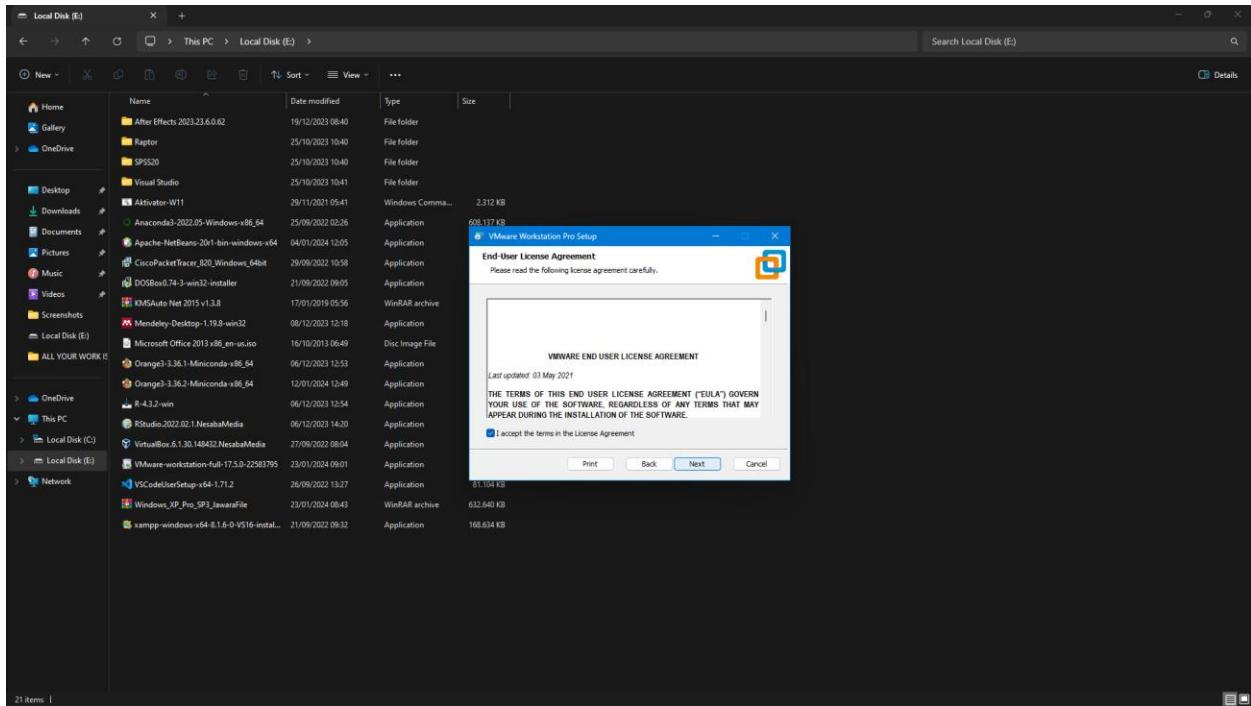
The screenshot shows the official product page for VMware Workstation Pro 17. At the top, there's a banner with the text: "VMware Workstation Pro is the industry standard desktop hypervisor for running virtual machines on Linux or Windows PCs. Start your free, fully functional 30-day trial today." Below the banner is a "BUY ONLINE" button. The main title "VMware Workstation 17 Pro" is centered above a large image of the software box. To the right of the box, there's a brief description of the features: "Workstation 17 Pro improves on the industry defining technology with DirectX 11 and OpenGL 4.3 3D Accelerated graphics support, a dark mode user interface, support for Windows 11, the vcli CLI for running and building containers and Kubernetes clusters, added support for the latest Windows and Linux operating systems, and more." Below this, a note says: "Use the links below to start your free, fully functional 30-day trial, no registration required." Two download links are provided: "Workstation 17 Pro for Windows" and "Workstation 17 Pro for Linux".

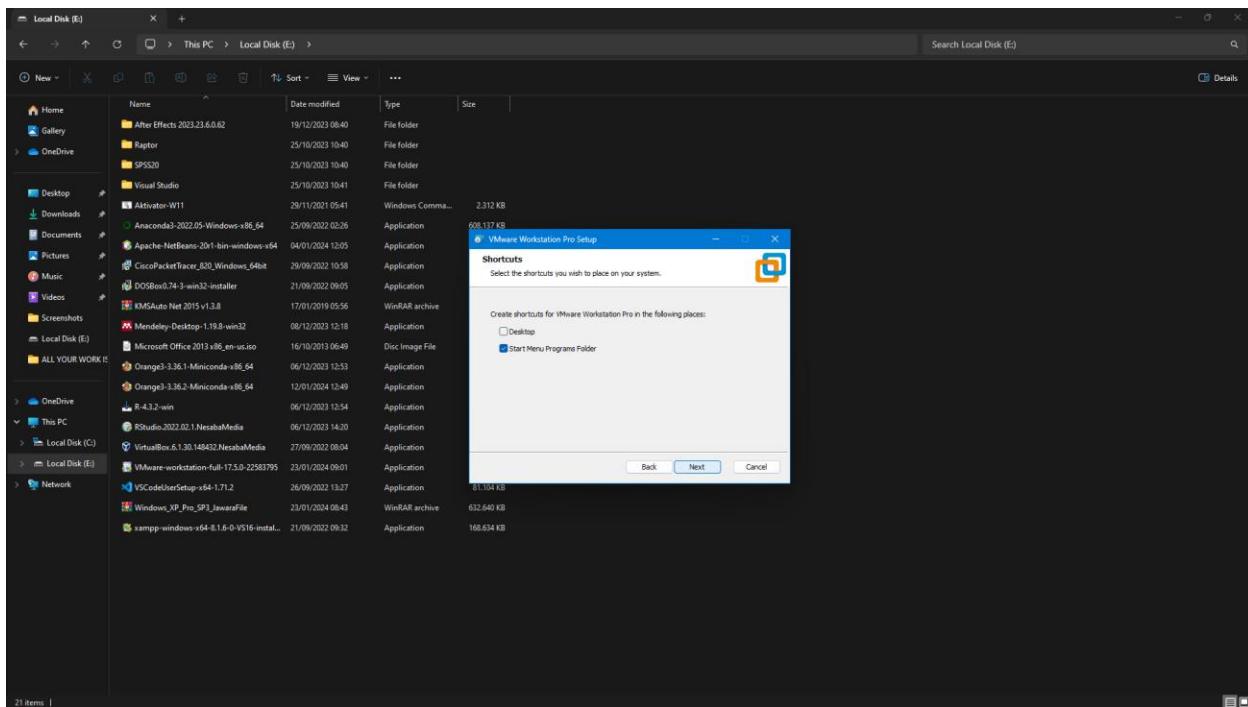
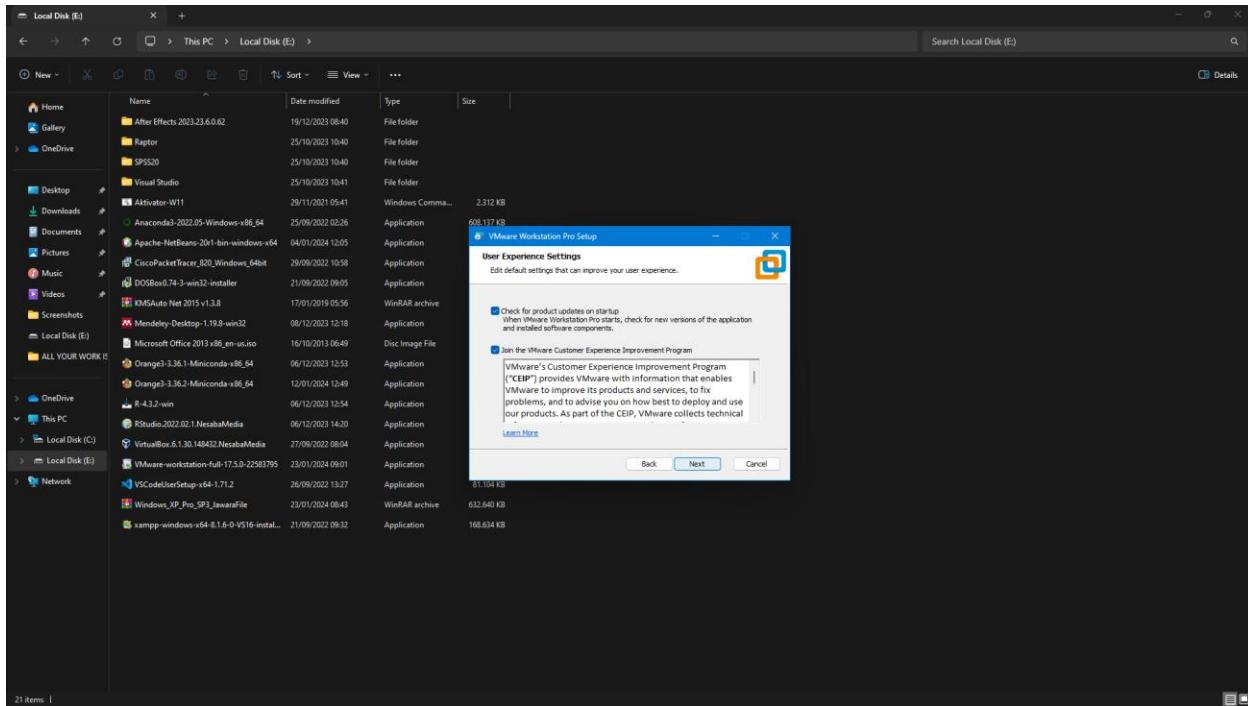
The screenshot shows the "Latest Releases" section of the Proxmox Downloads page. It lists three ISO installers:

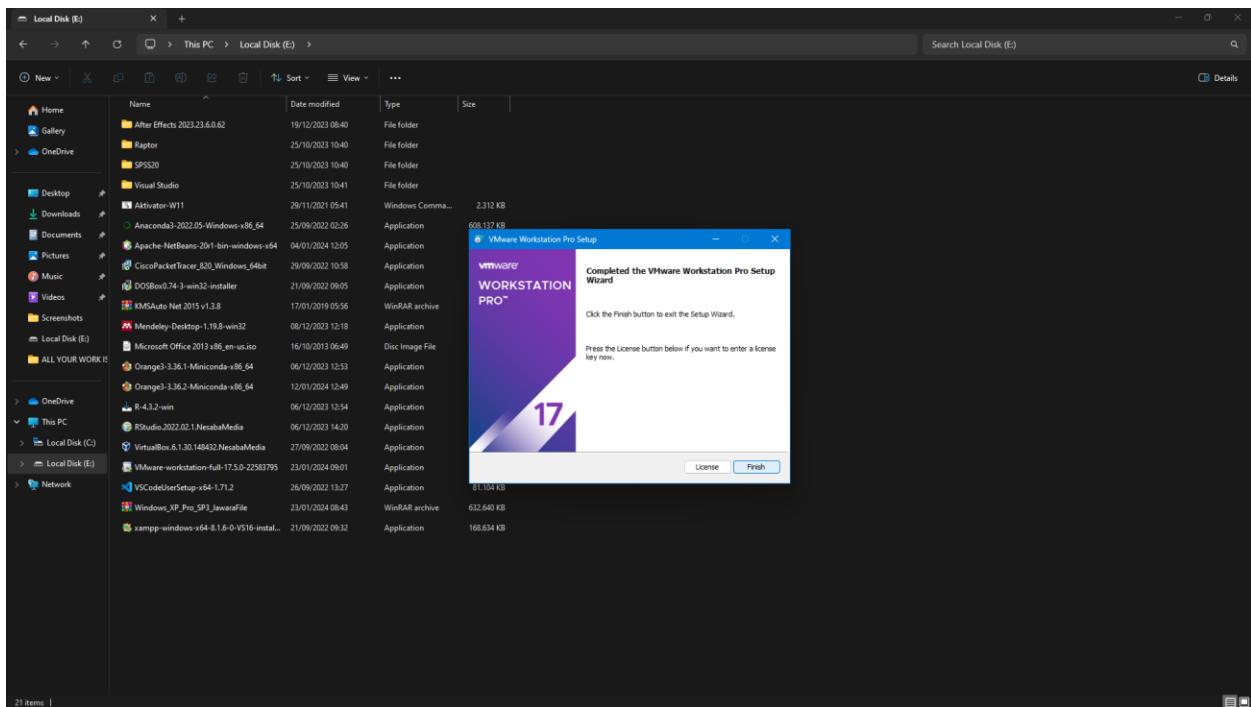
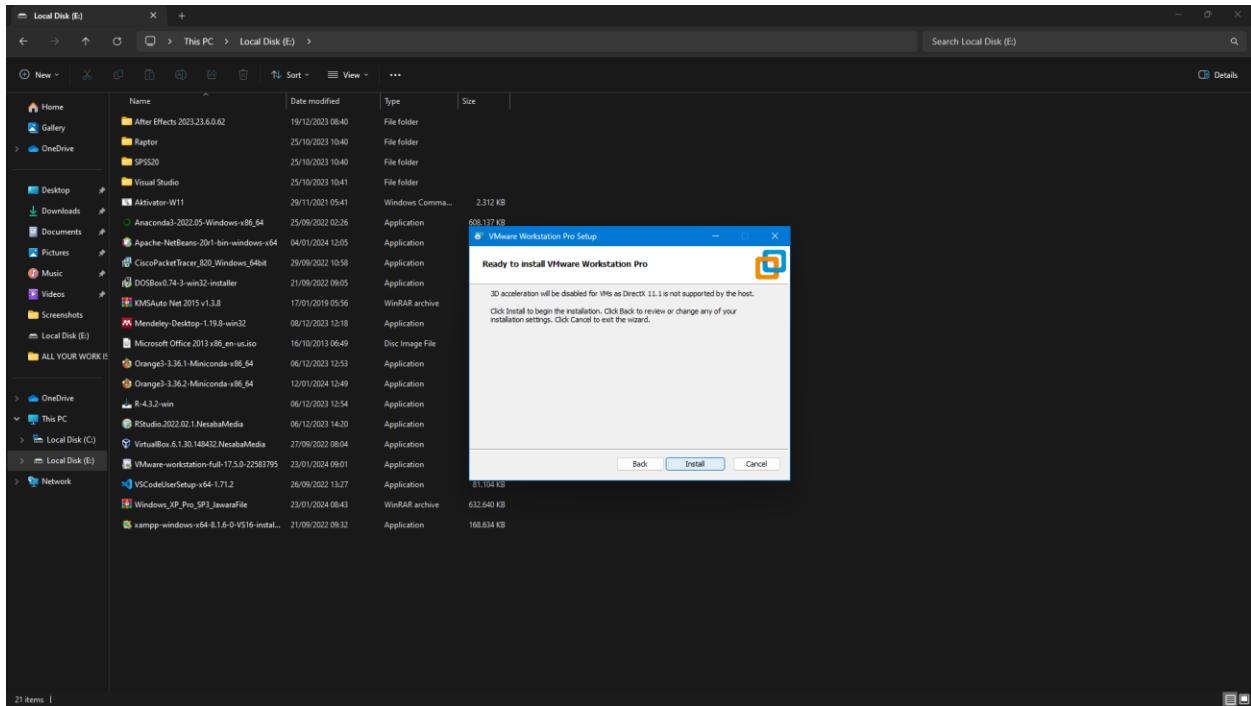
- Proxmox VE 8.1 ISO Installer**  
Version: 8.1-1 | File Size: 1.29 GB | Last Updated: November 23, 2023  
SHA256SUM: 9918a17307ad50eb9bf32a805d0917d62149936ef87b0b477332ed9f9d7dc1
- Proxmox Backup Server 3.1 ISO Installer**  
Version: 3.1-1 | File Size: 1.01 GB | Last Updated: November 30, 2023  
SHA256SUM: cfd2b497e3197f0dfa65f30f578a5ec3c02e999524f1e4b2e8be1faed1ba51
- Proxmox Mail Gateway 8.0 ISO Installer**  
Version: 8.0-1 | File Size: 1.15 GB | Last Updated: June 29, 2023  
SHA256SUM: 6d709d8ff818def7de15b0c9cd09b01d8fc98fb6b7d6926960a38be9ce47e871

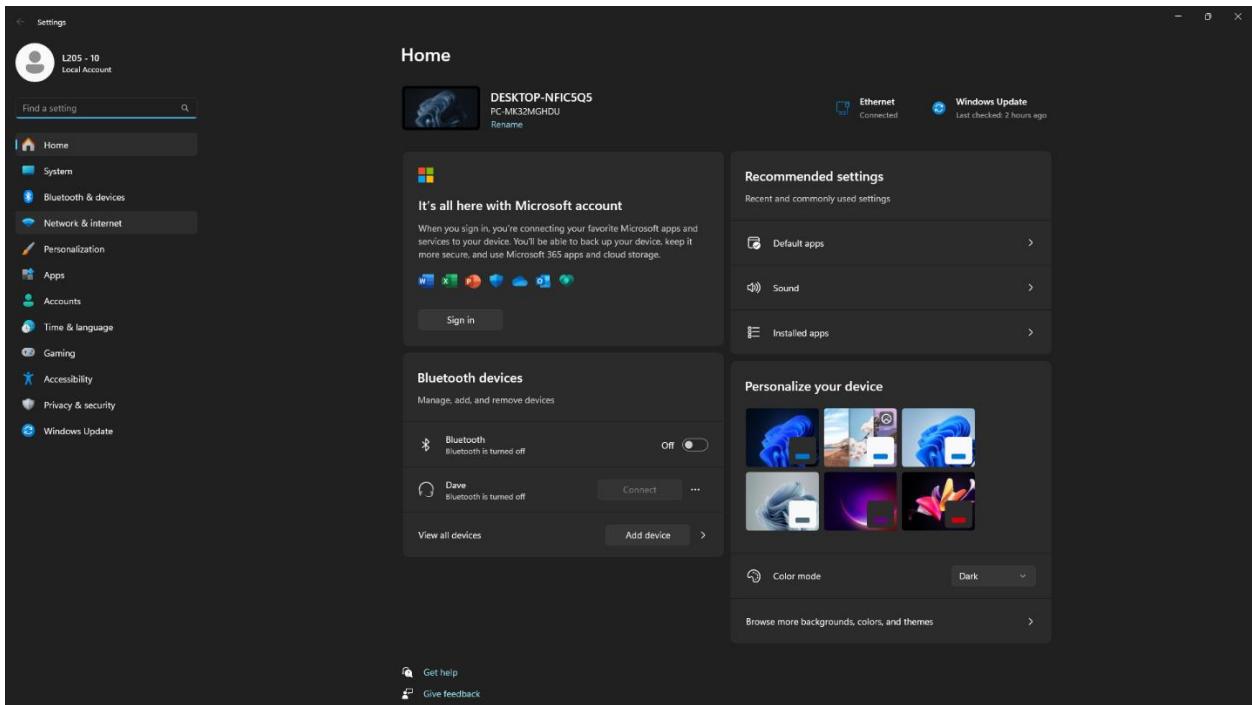
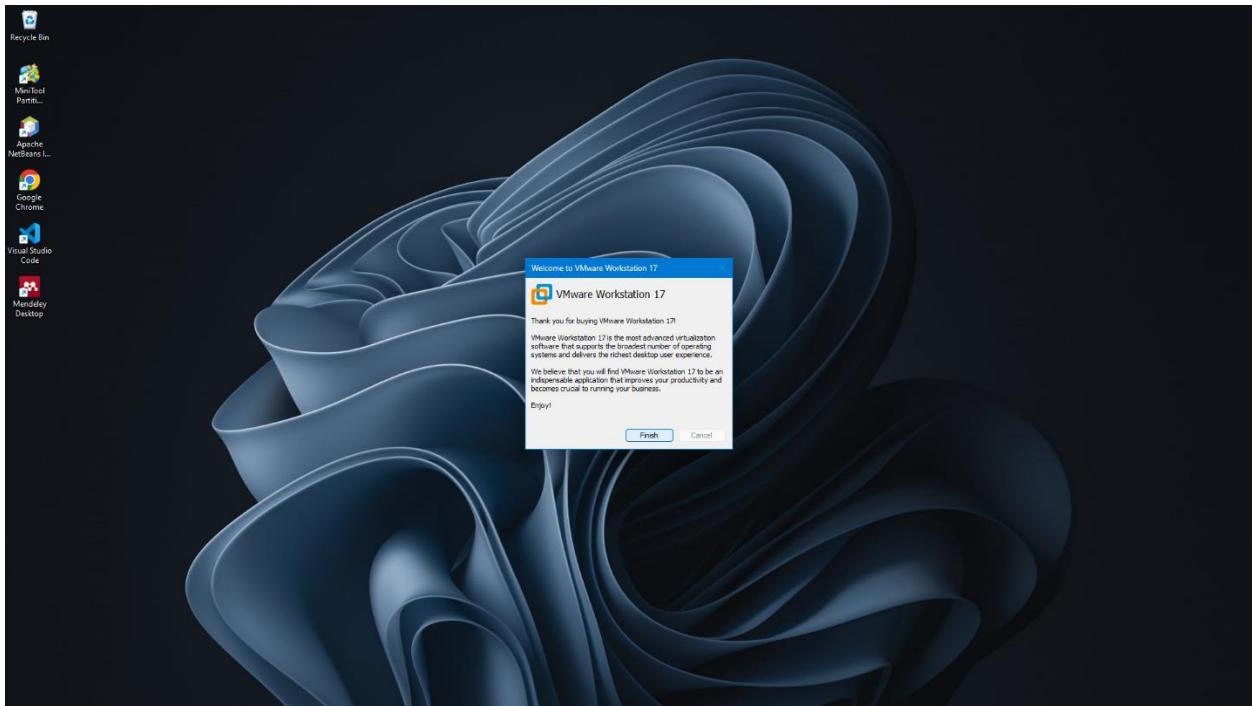
Below the releases, there's a "We use cookies" notice and a "Read more about our Privacy policy" link. At the bottom, there are "Reject all" and "Accept all" buttons, and a "Downloads" section featuring a "Proxmox VE Ceph Benchmark 2023/12" file.

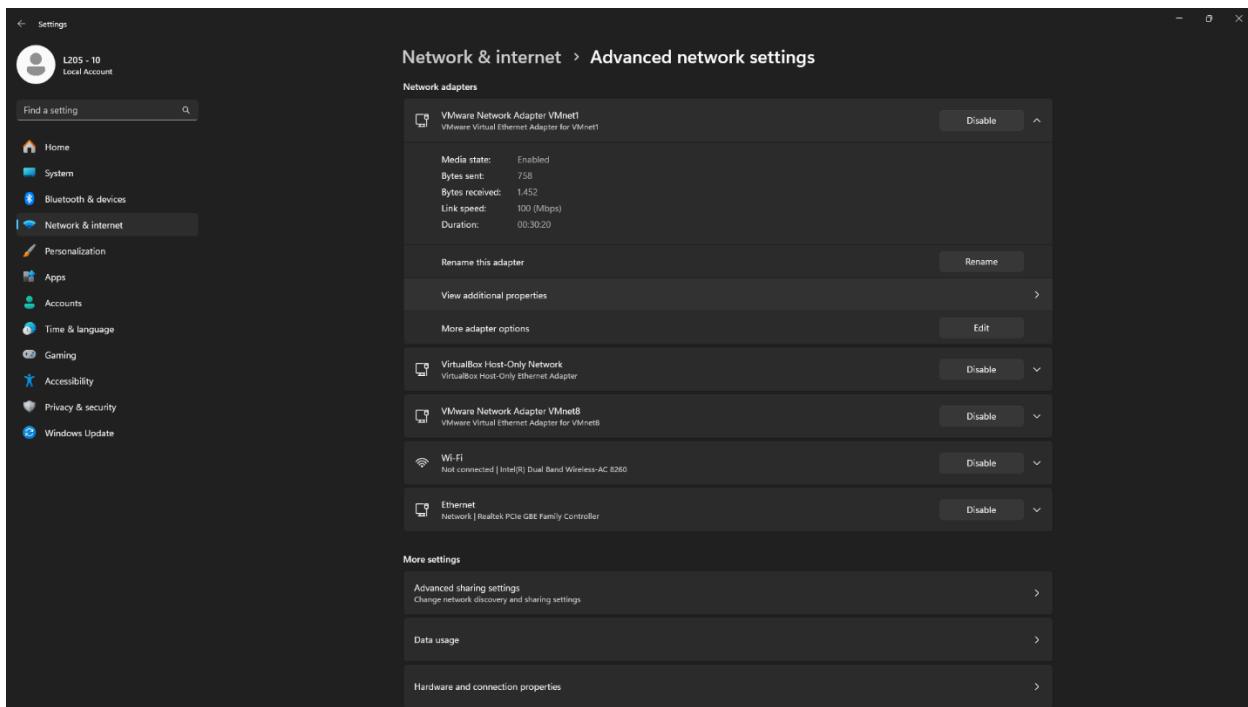
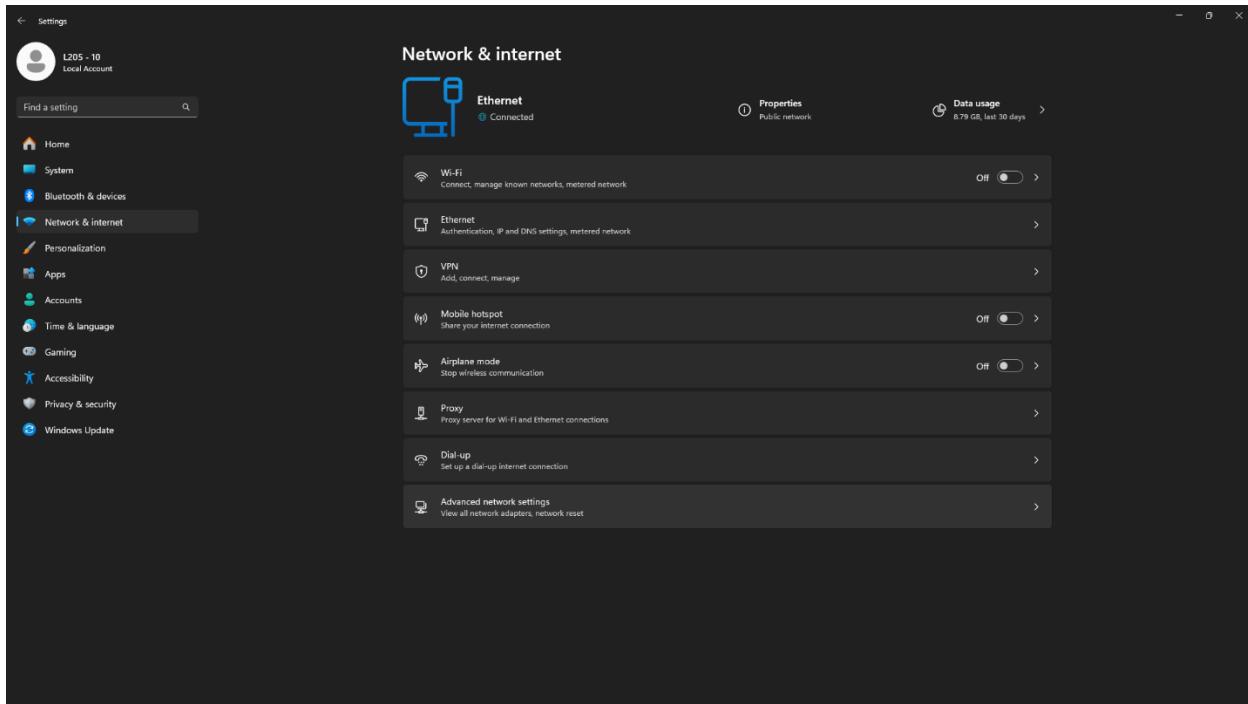


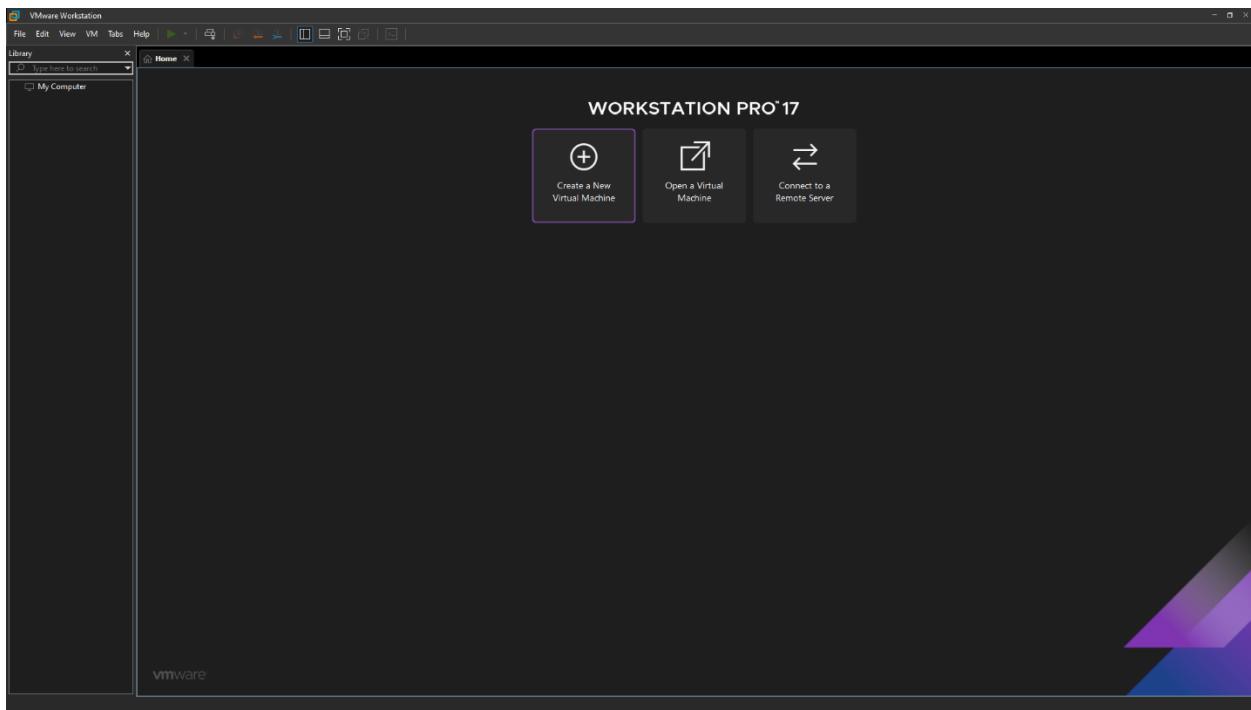
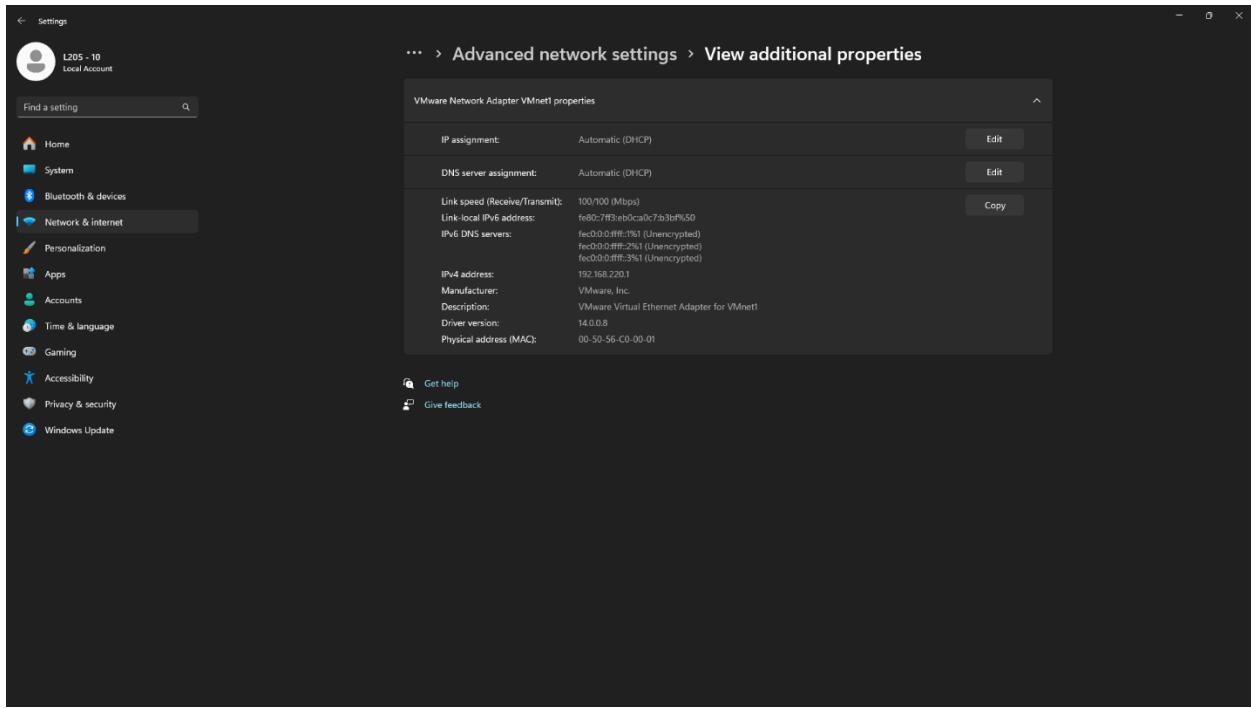


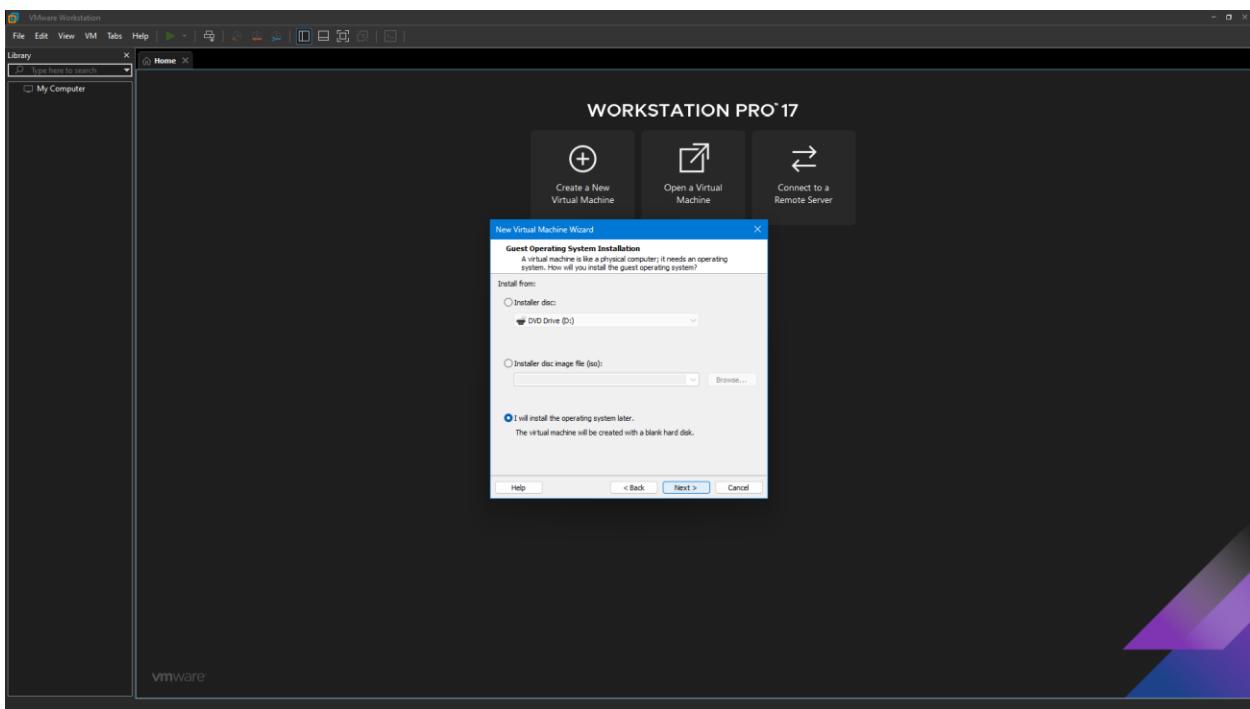
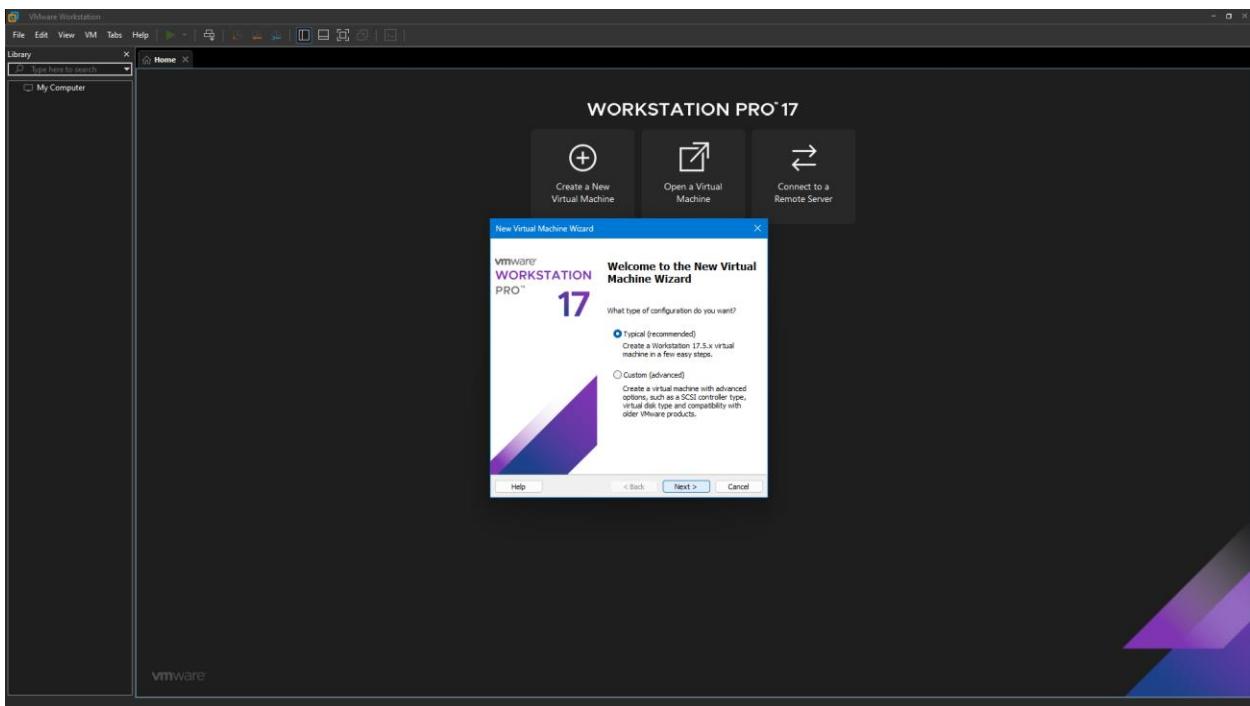


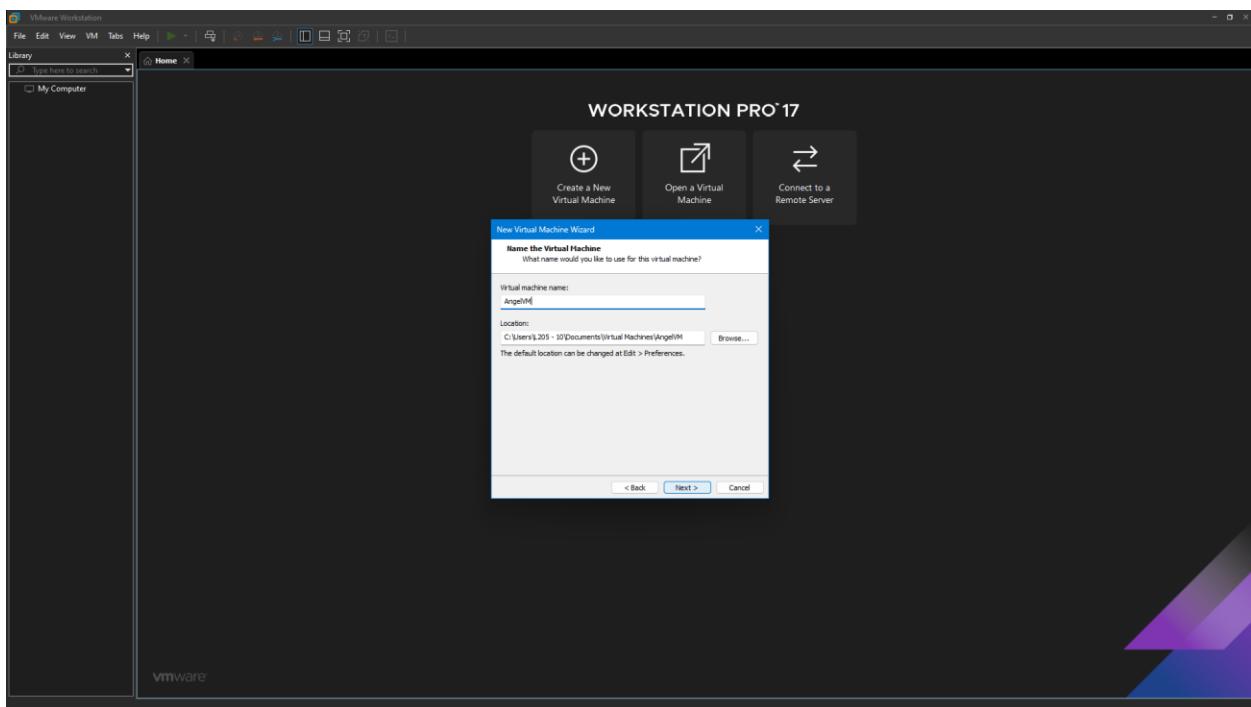
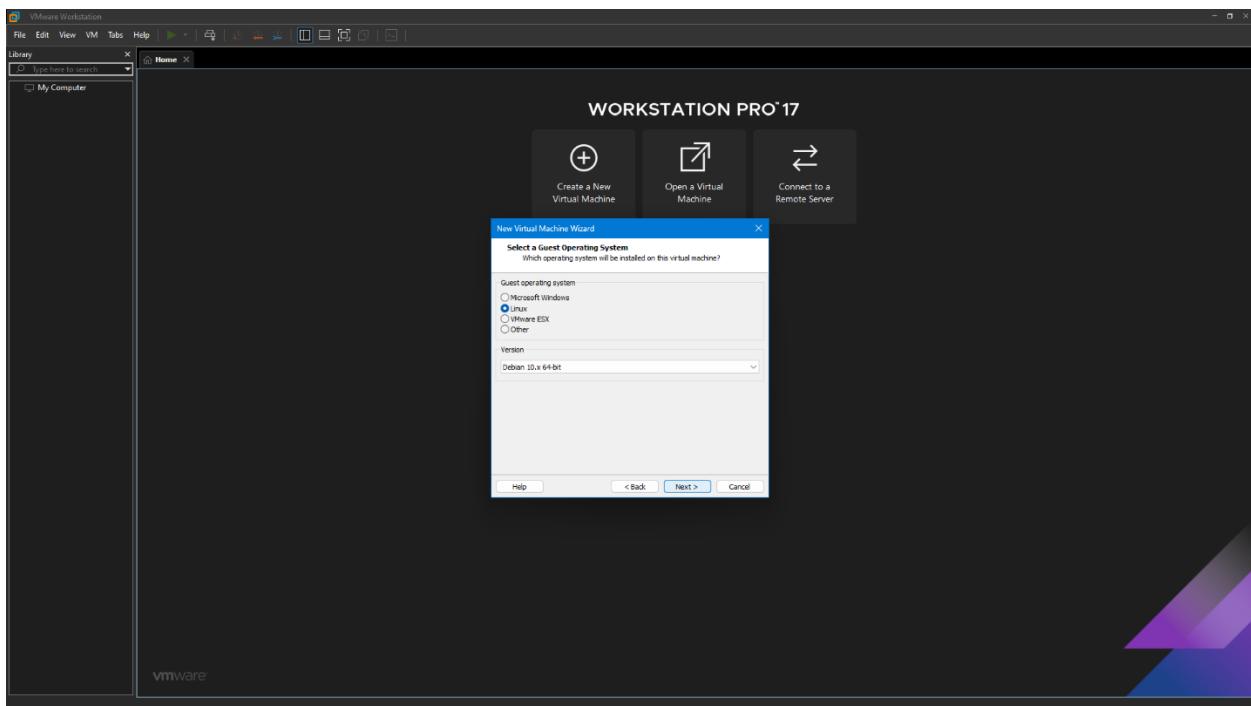


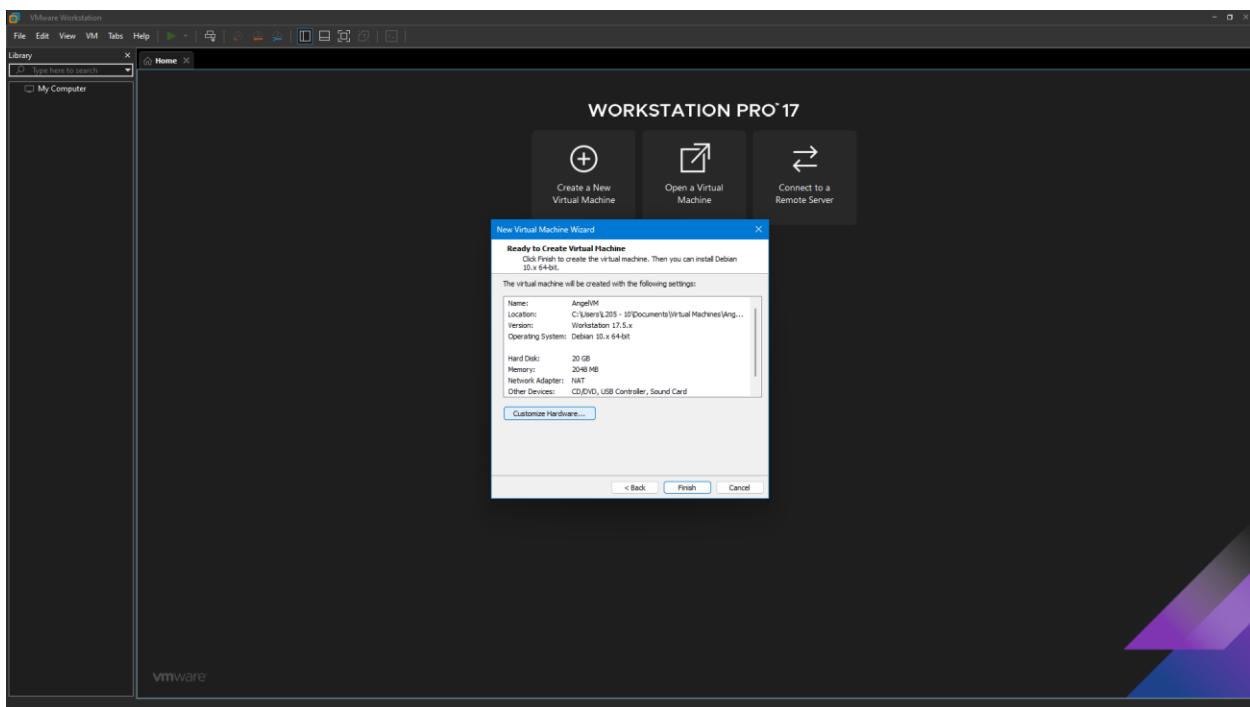
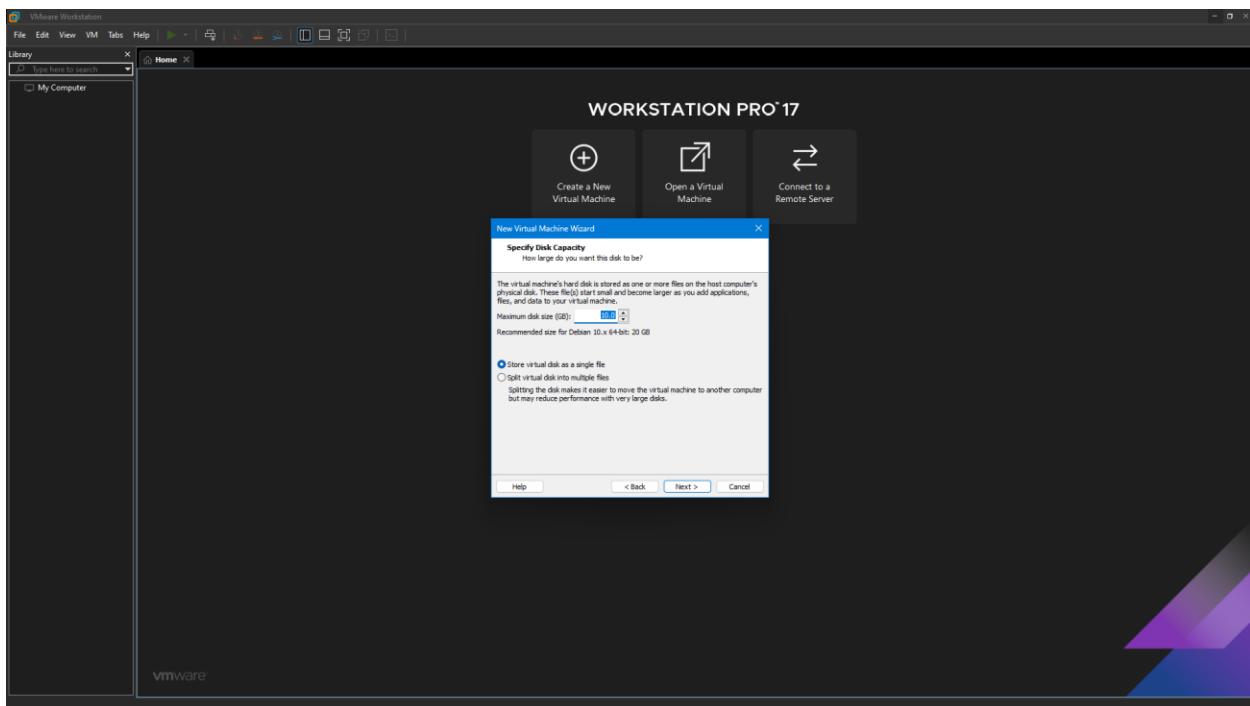


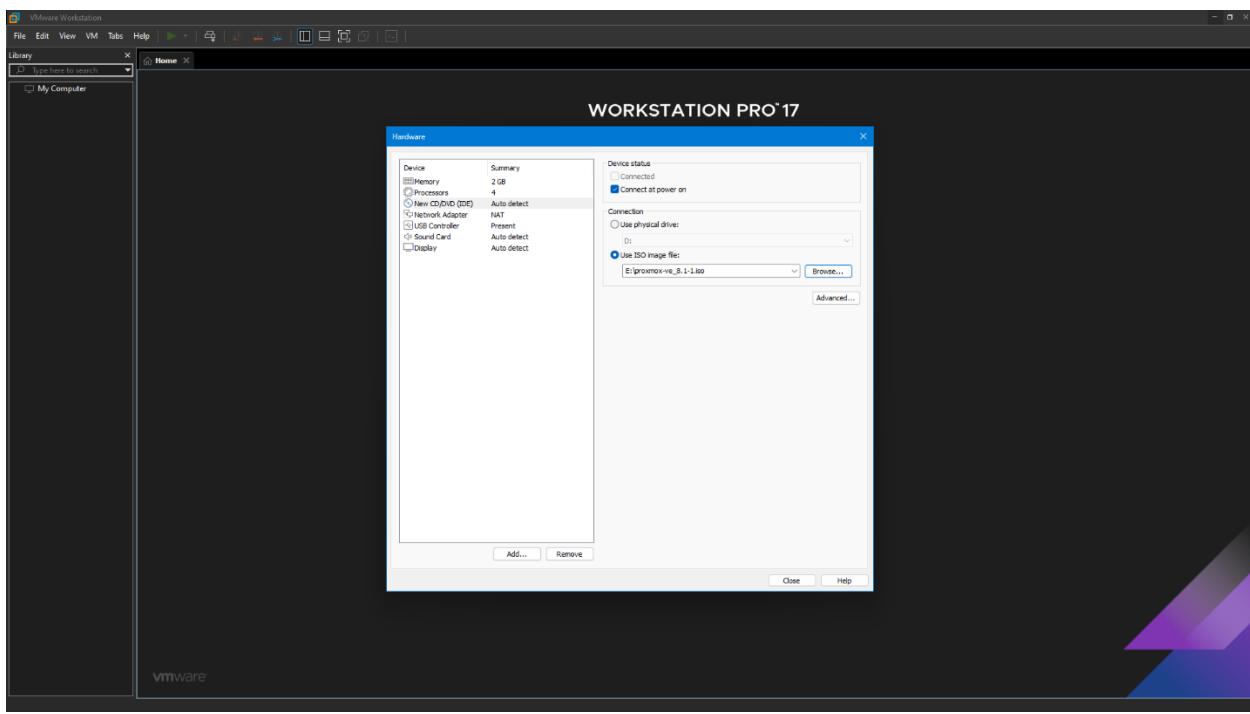
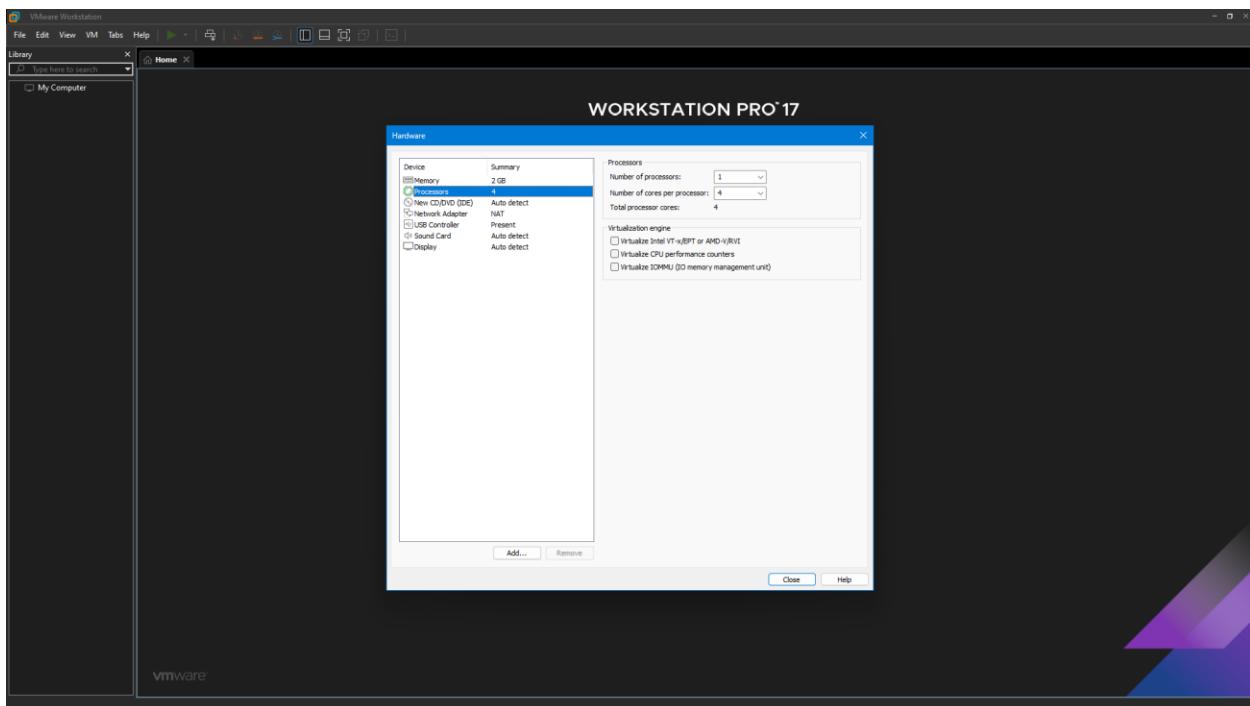


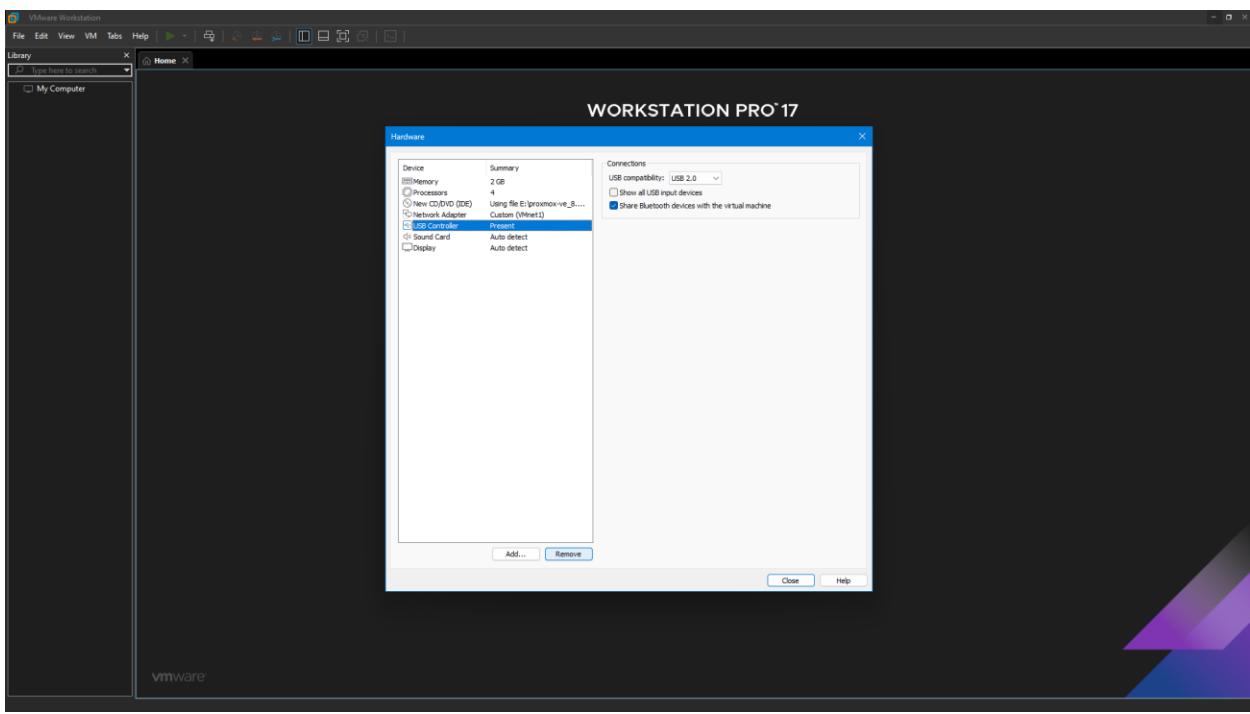
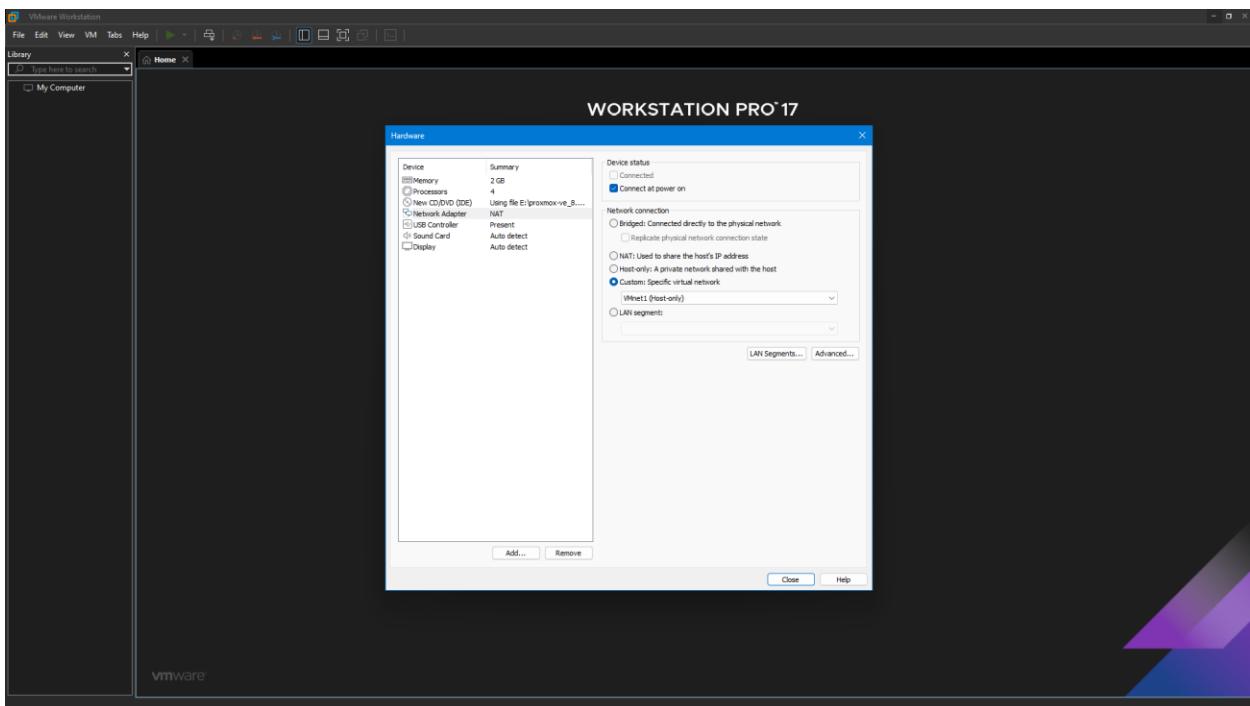


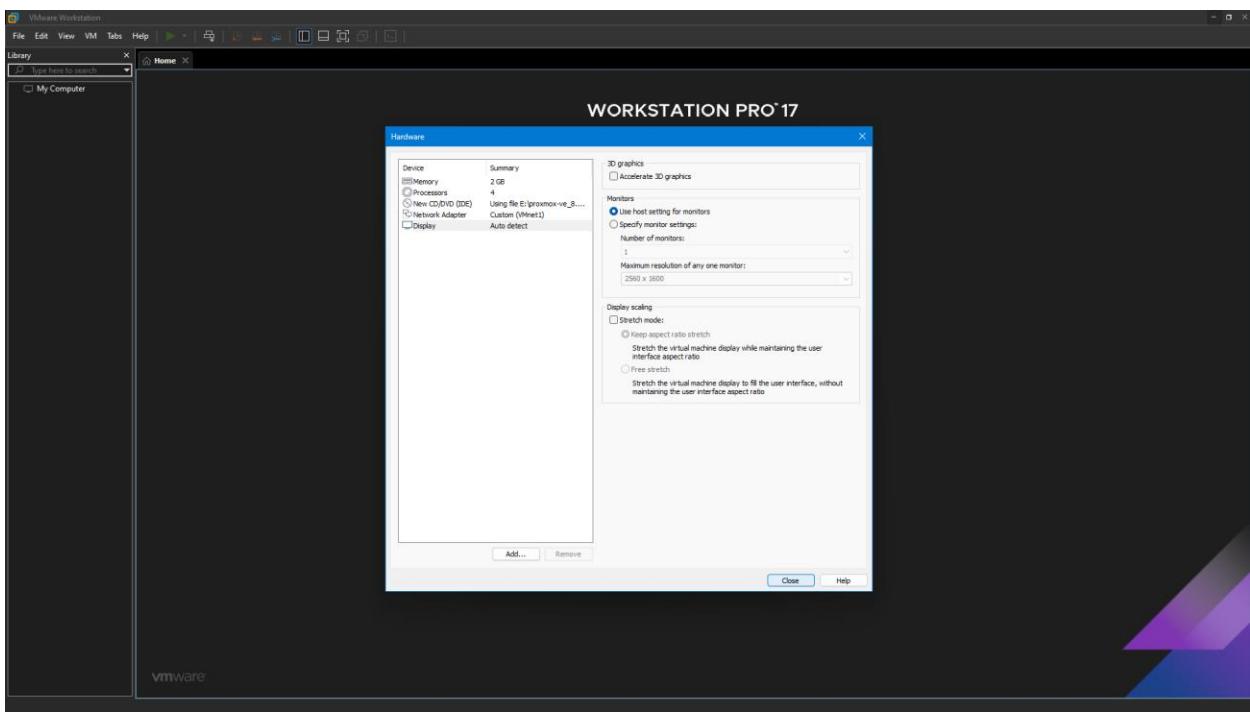
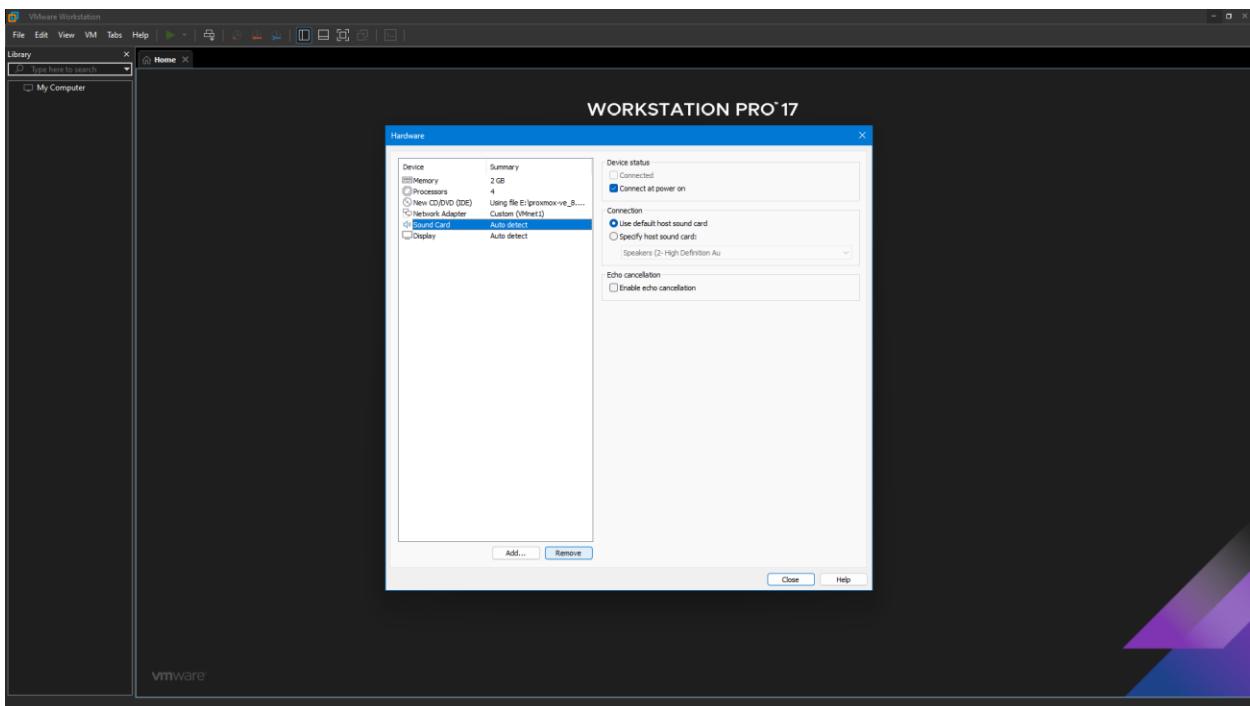


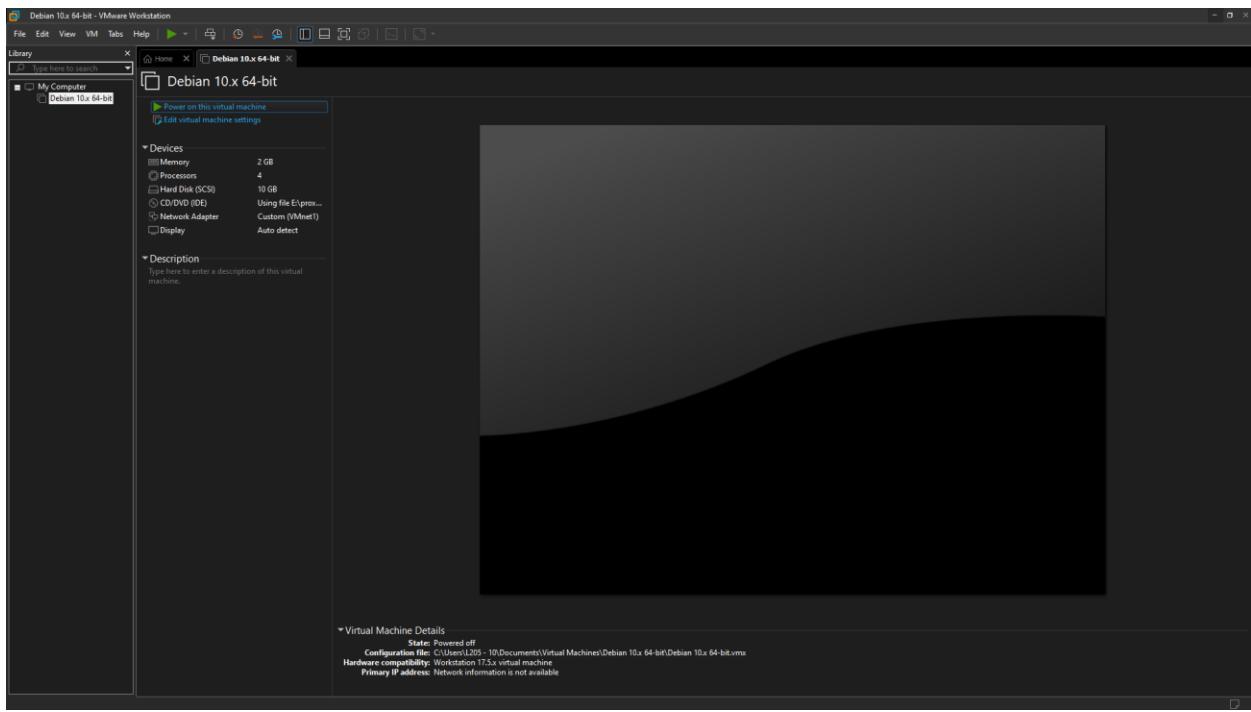
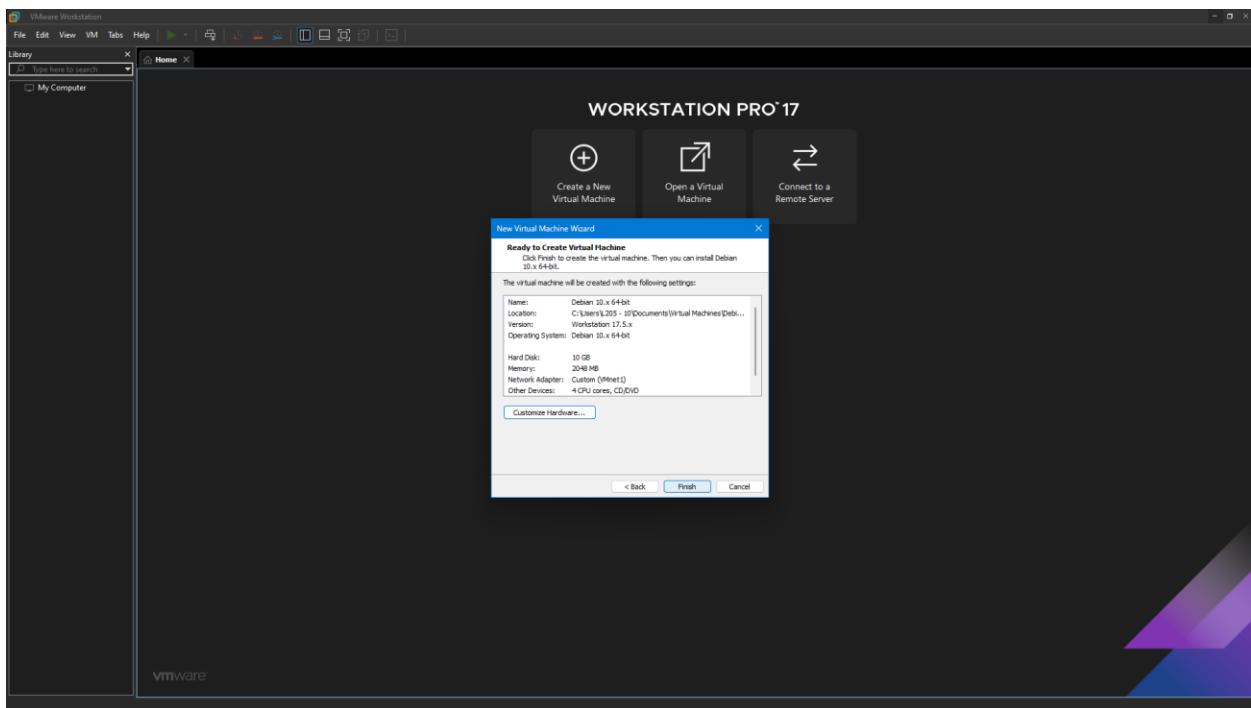


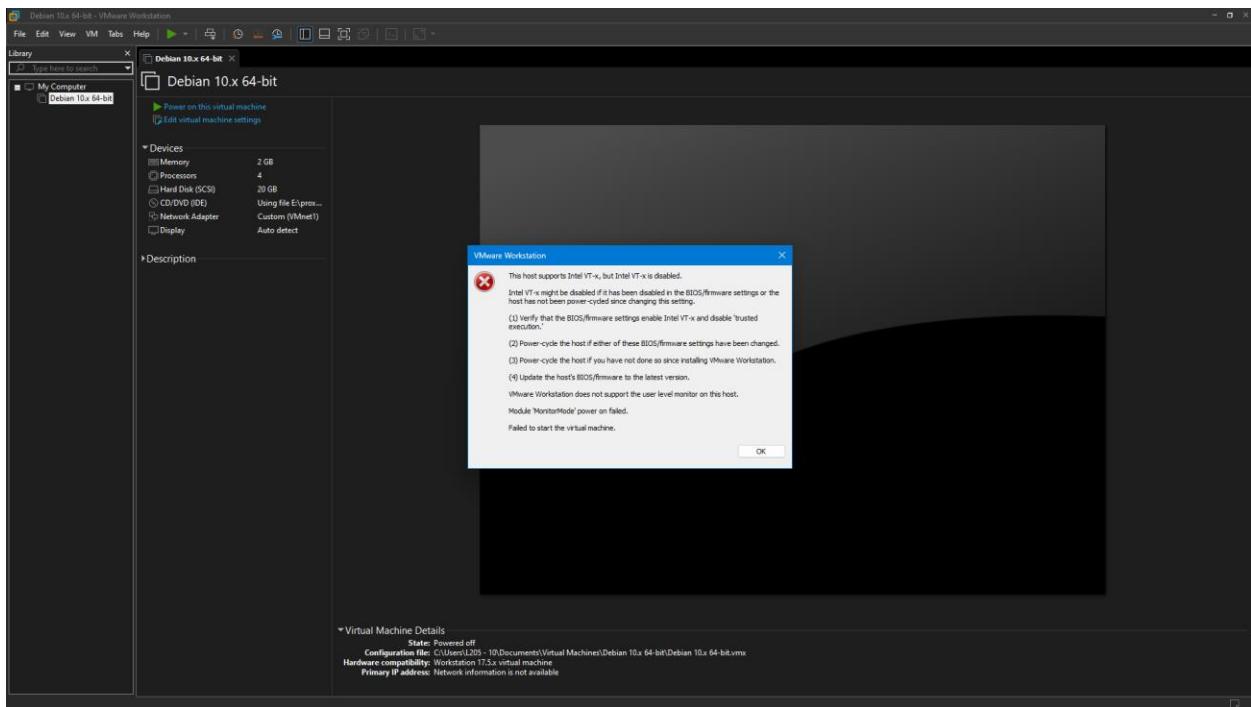
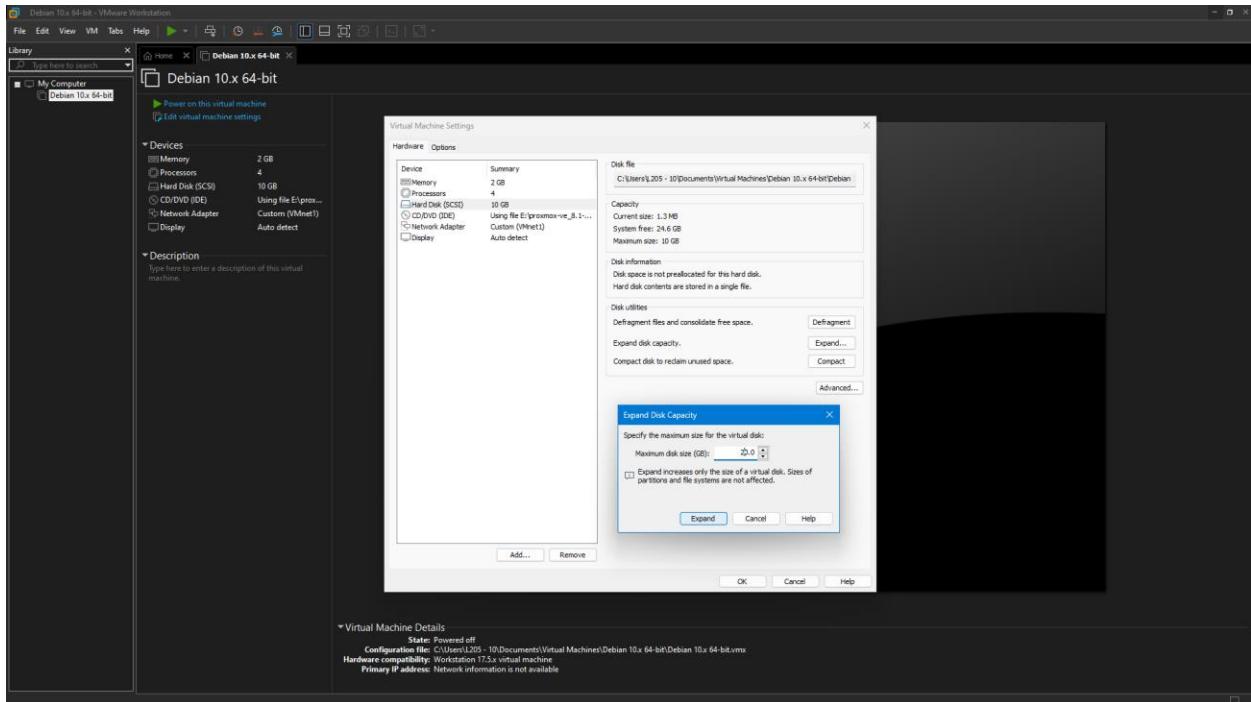


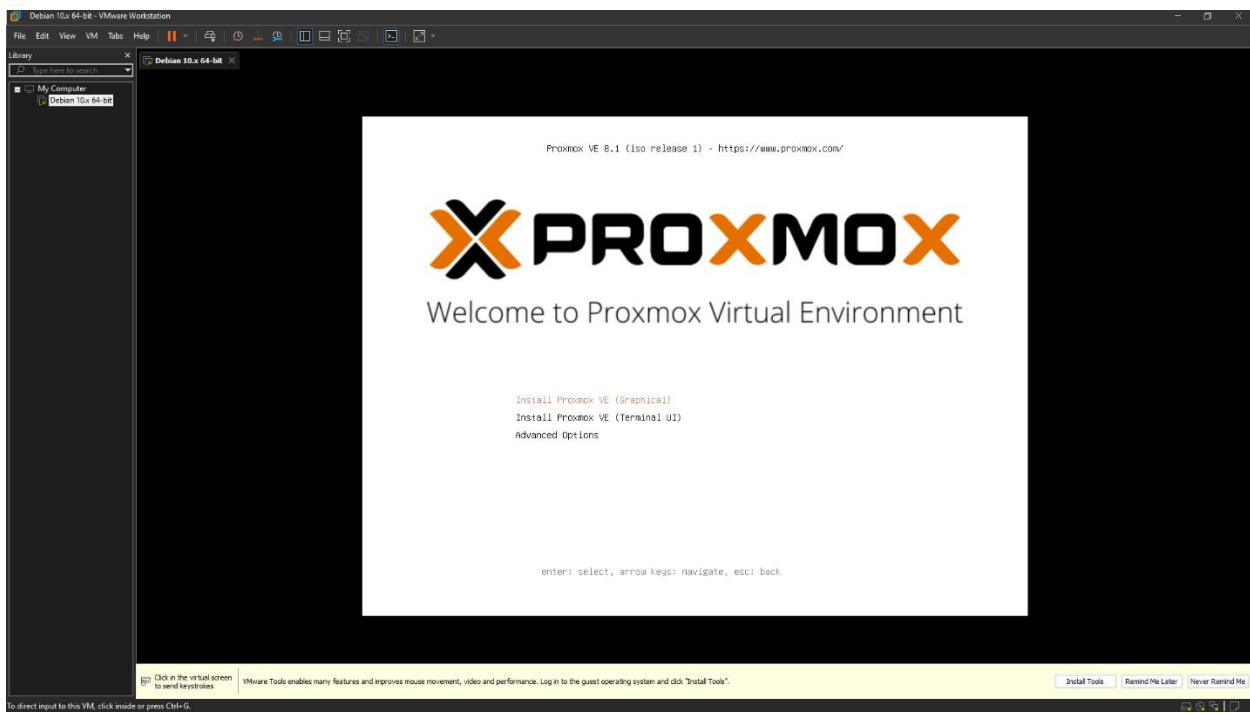
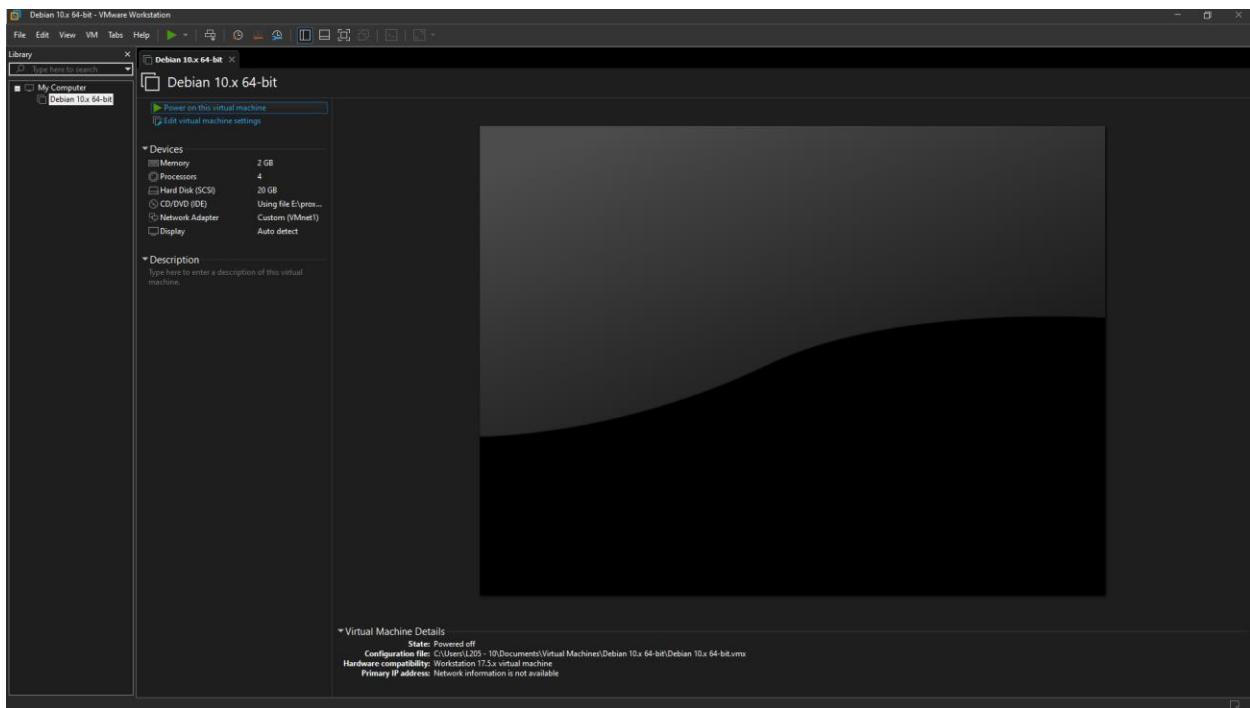


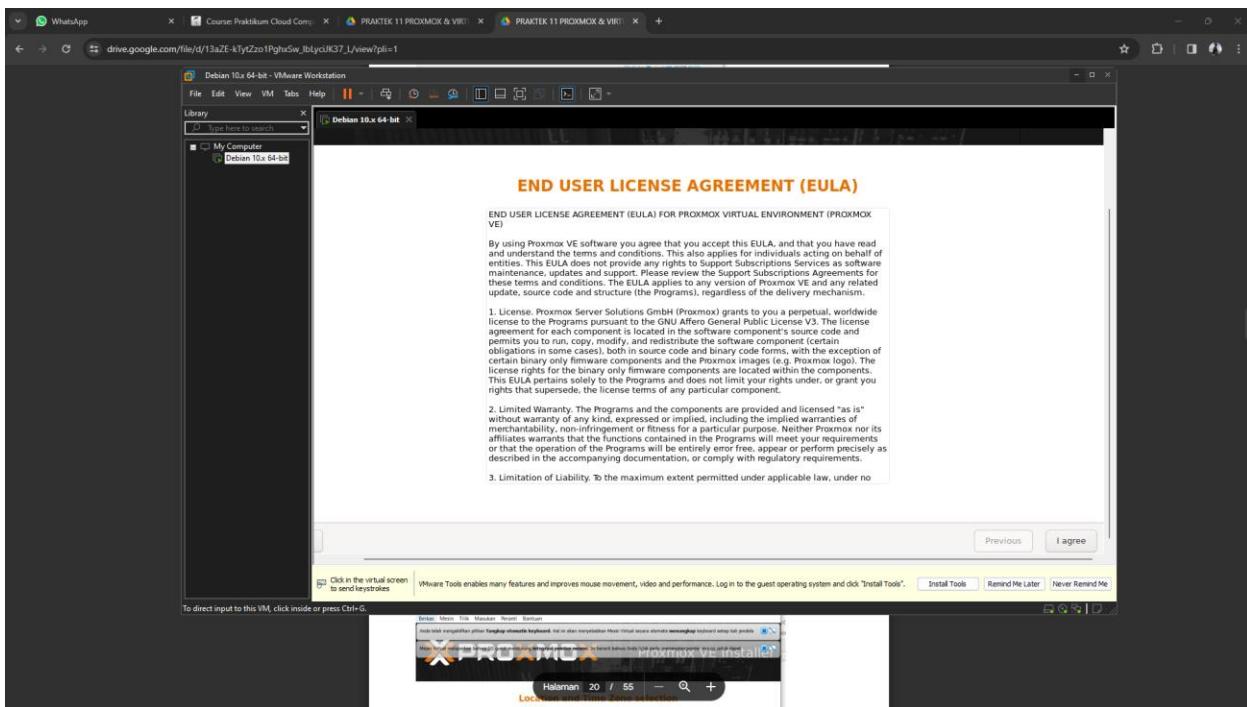
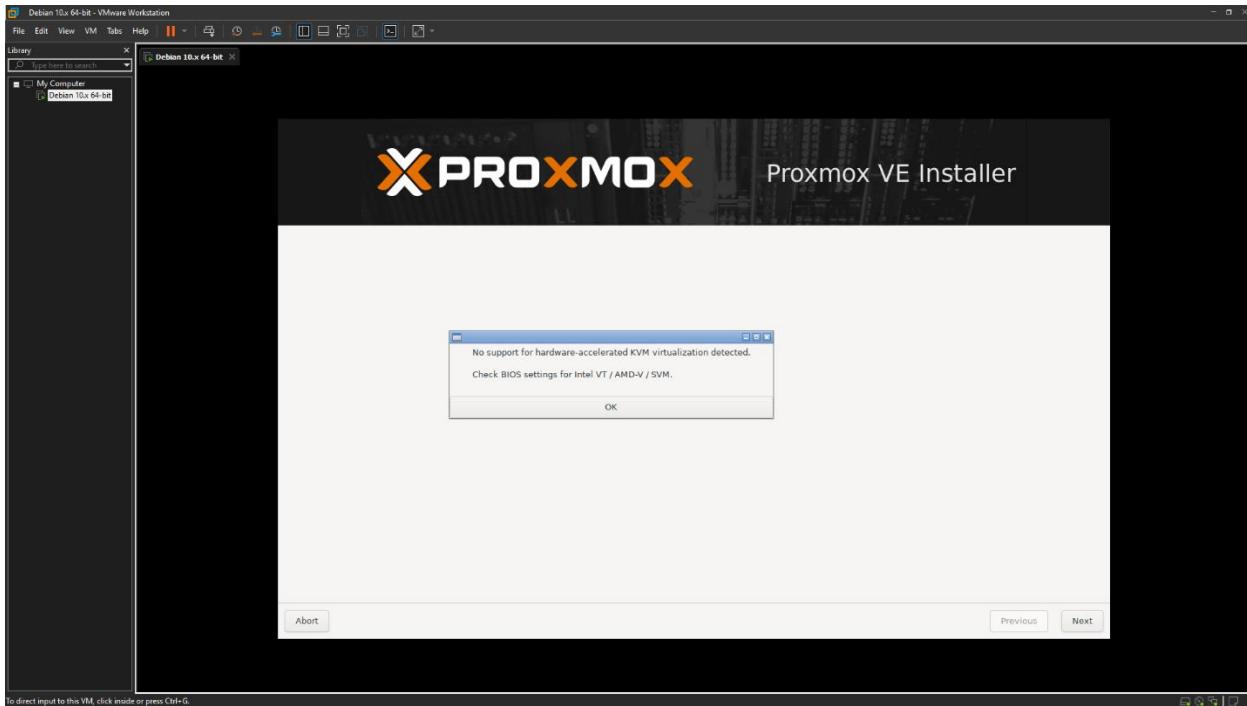


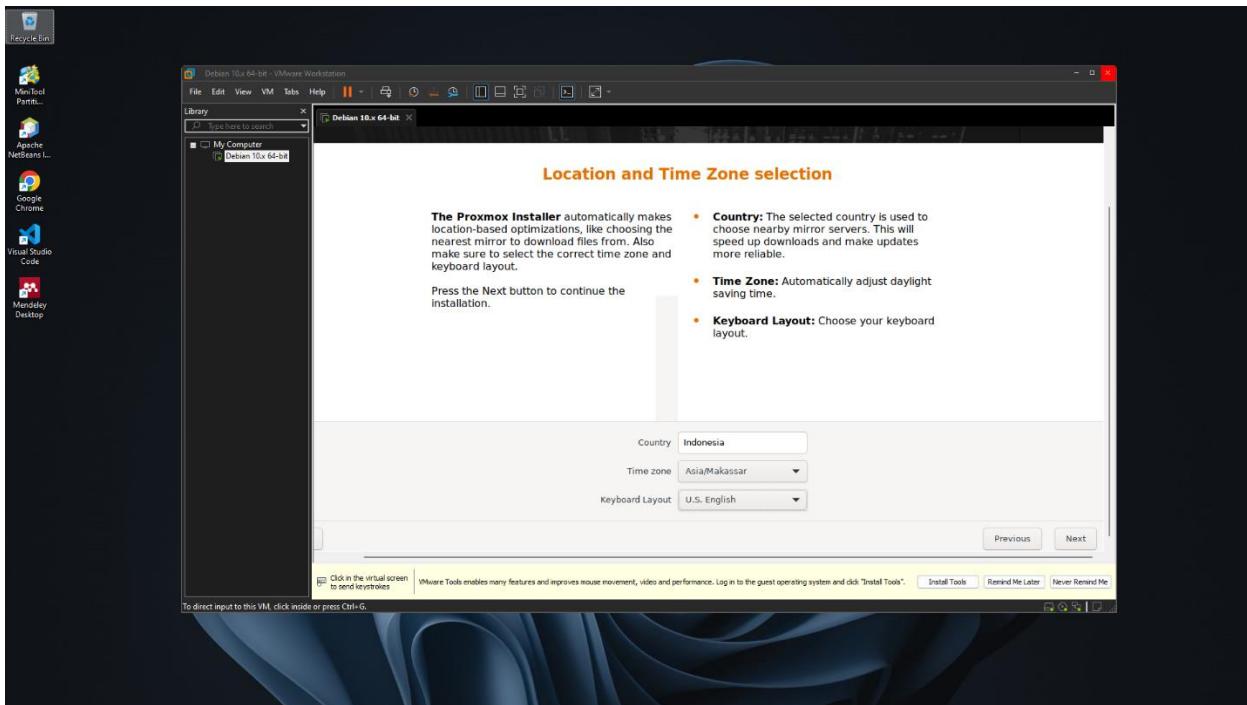
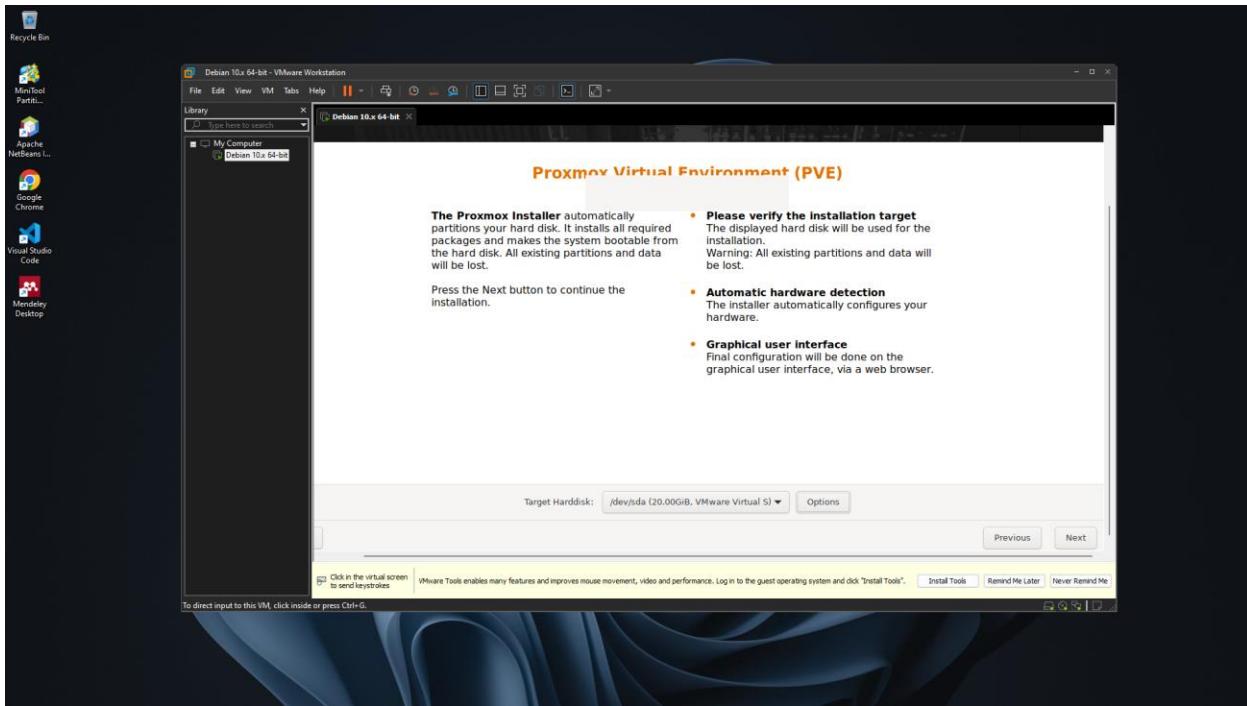


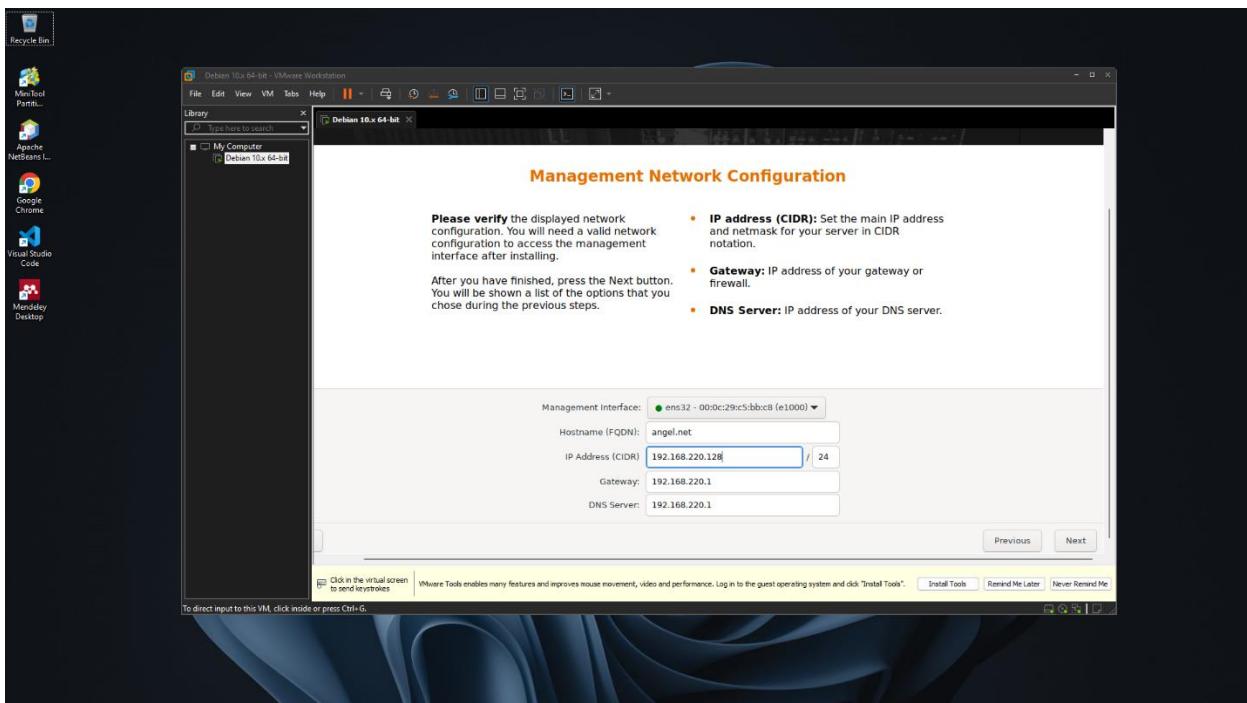
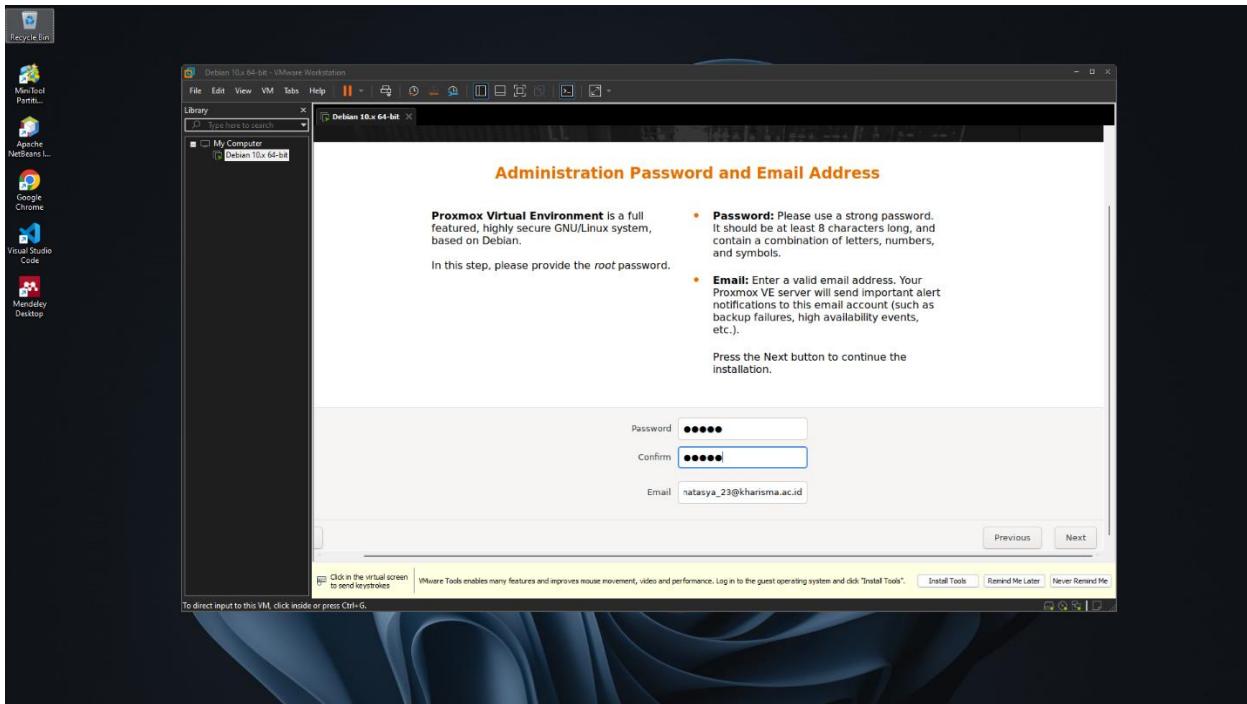


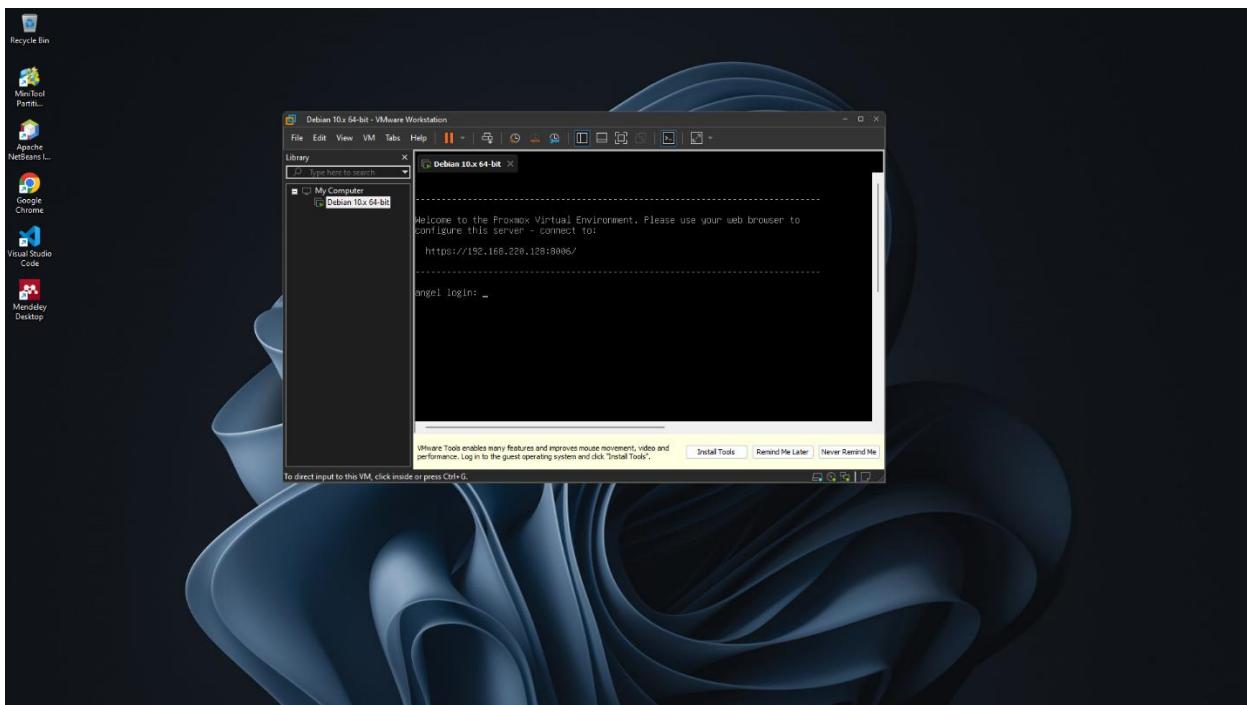
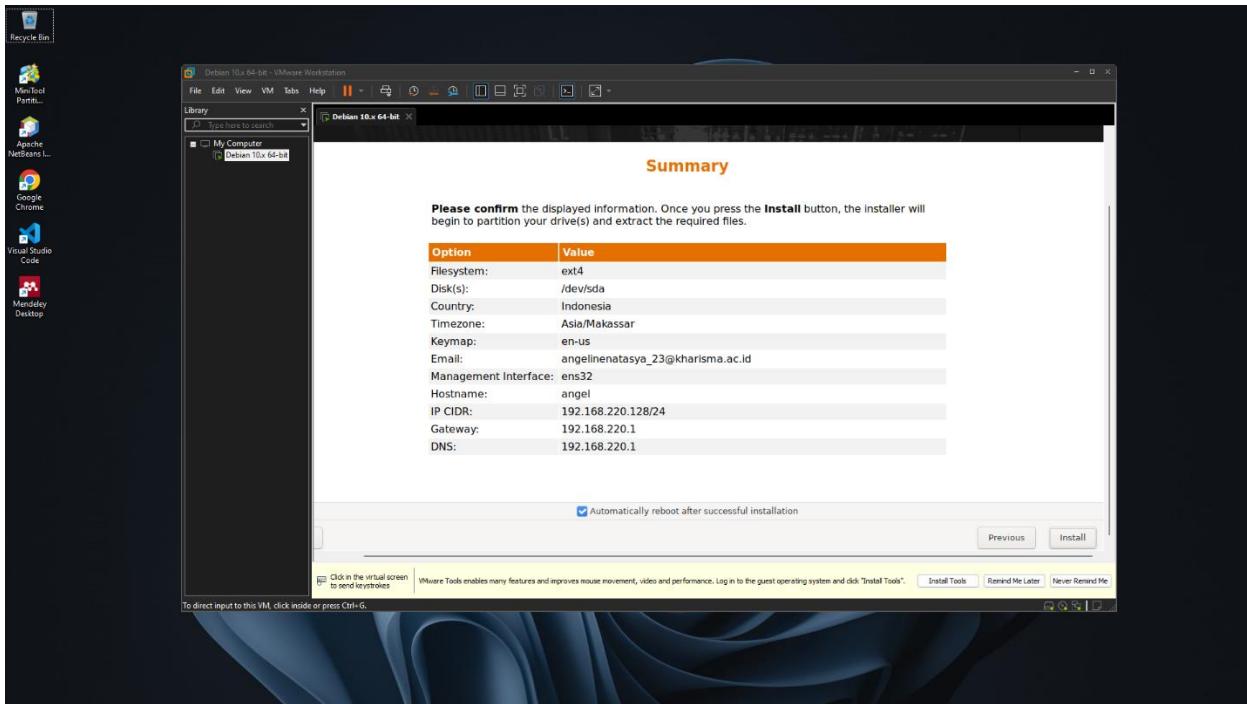


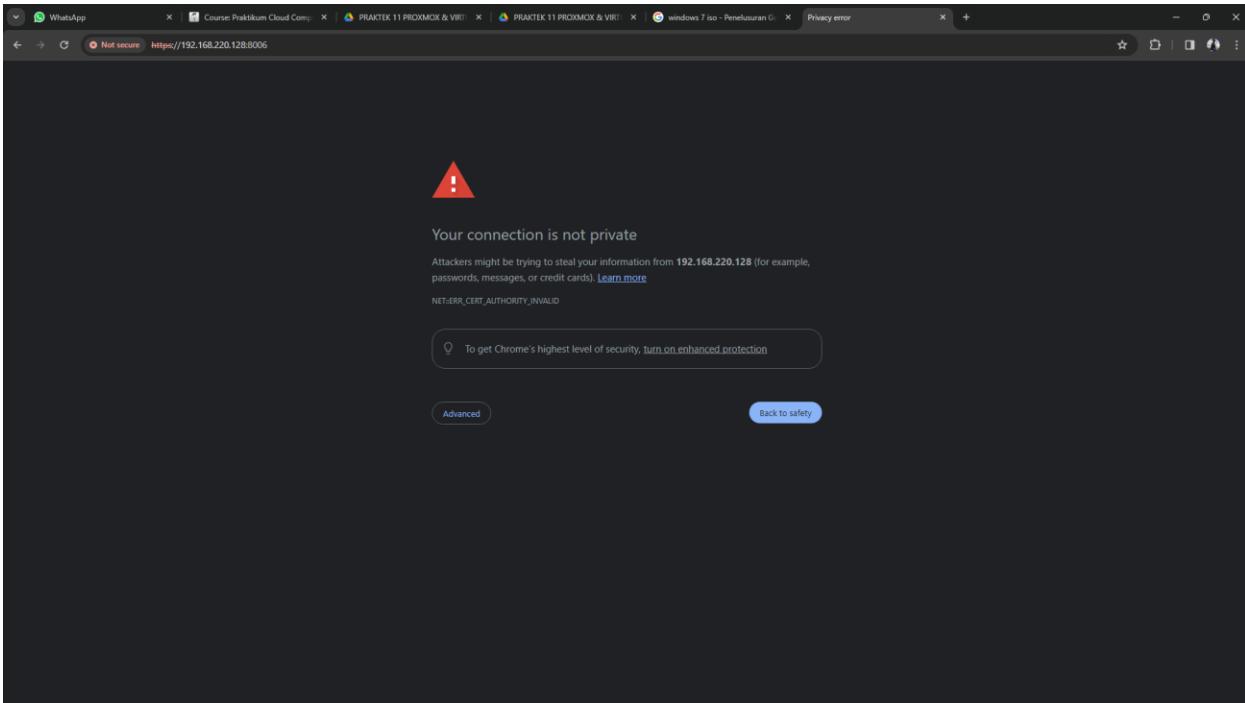
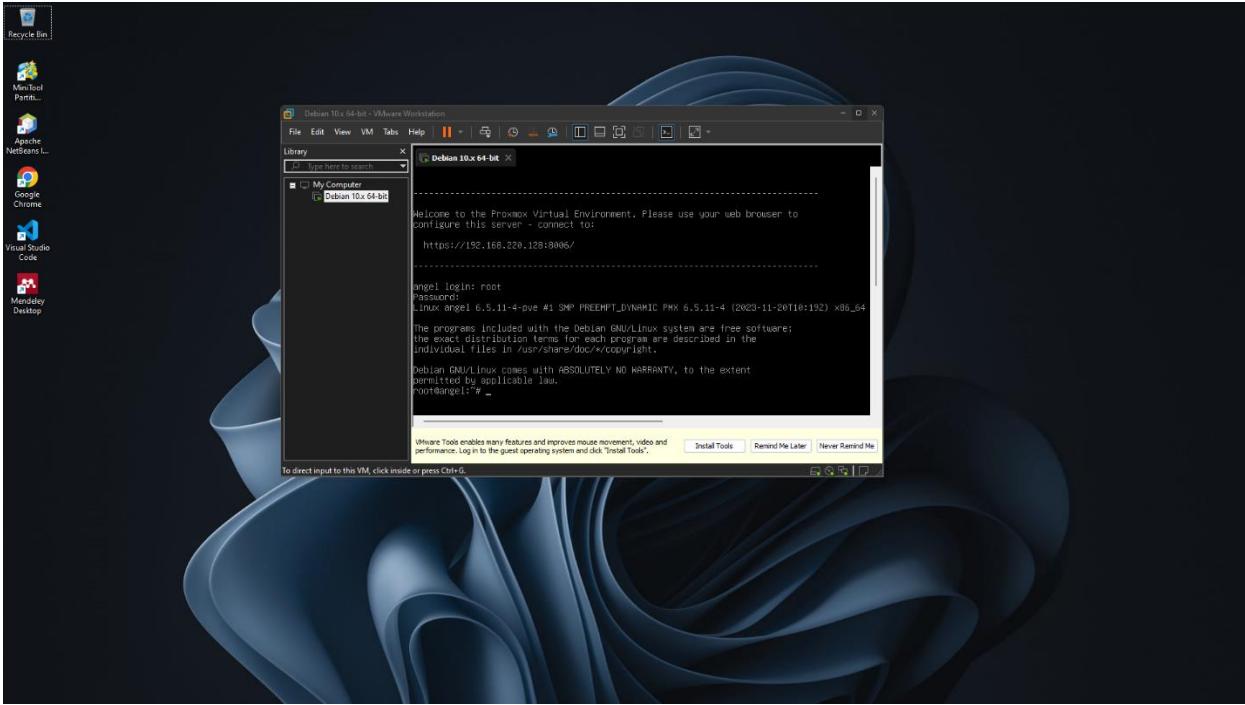


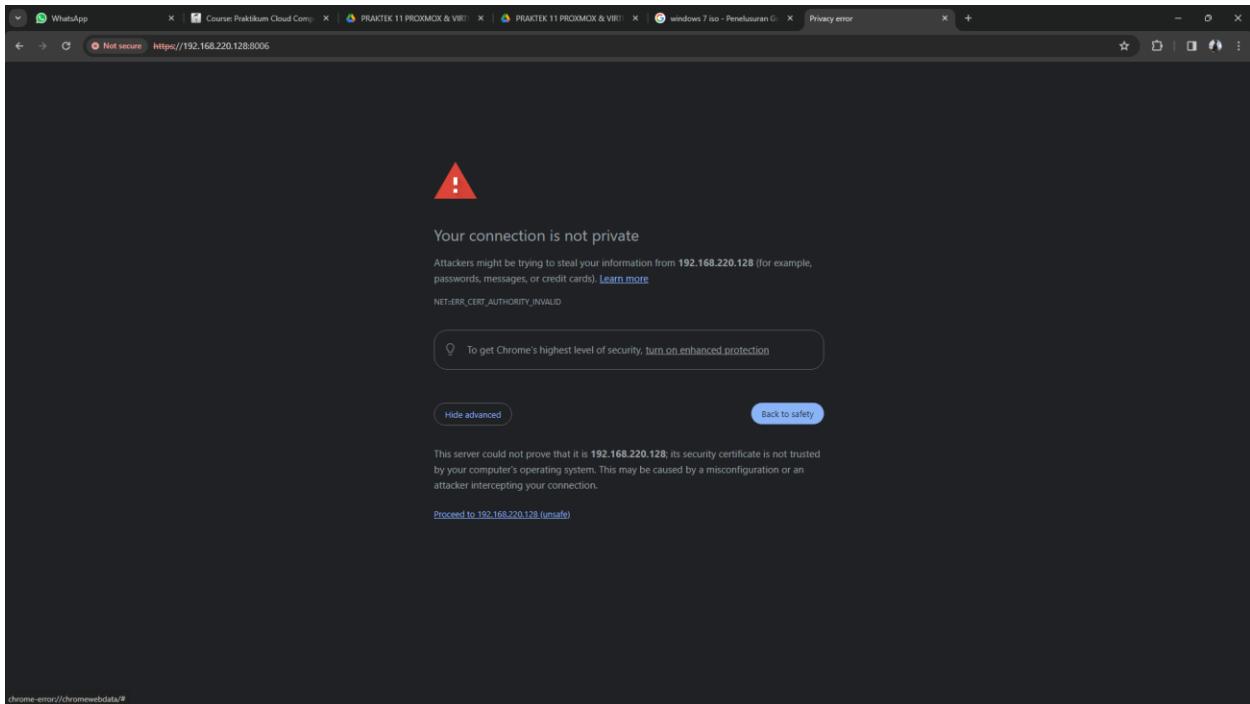






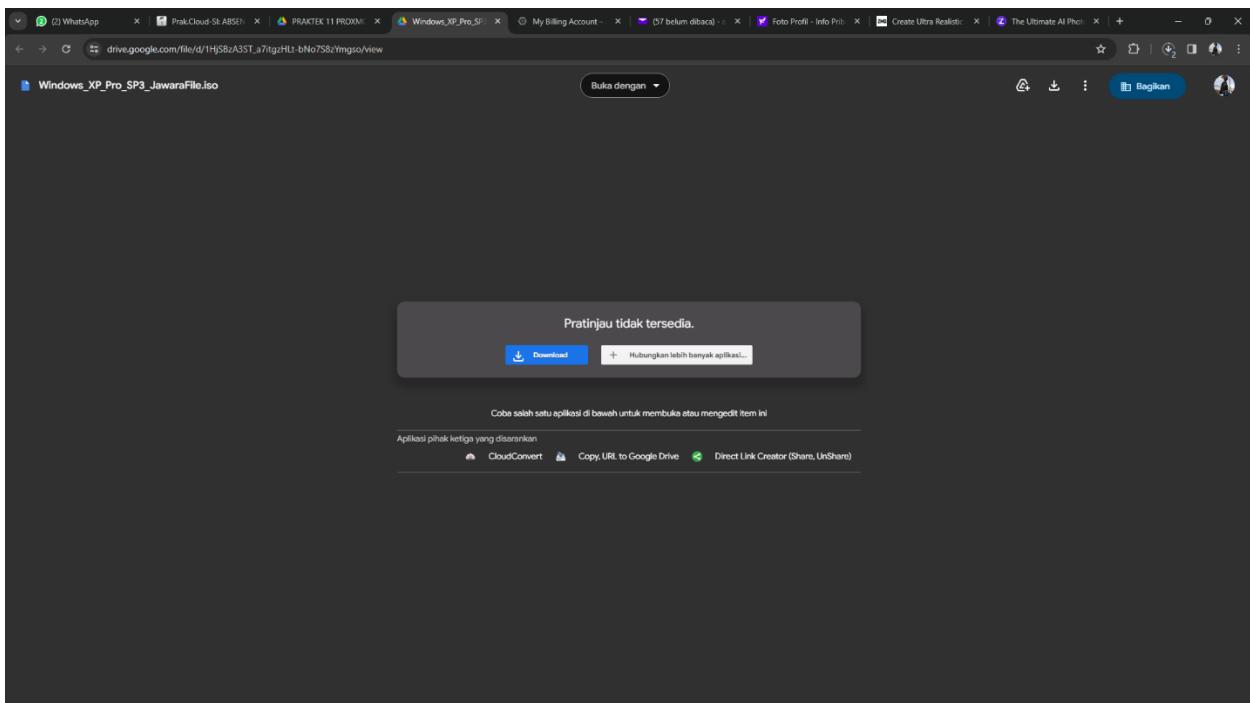


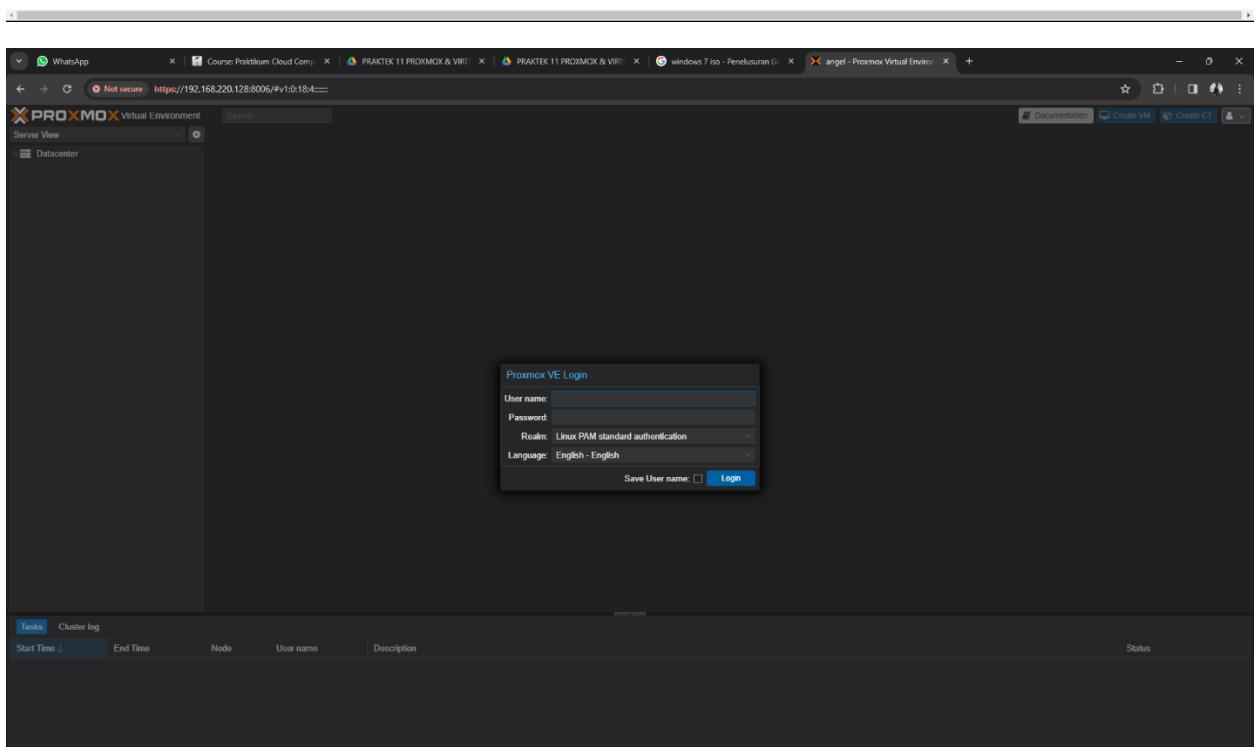
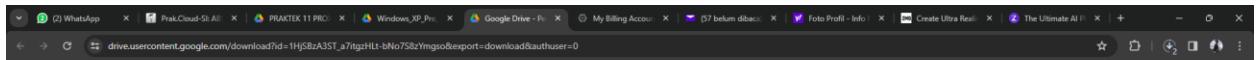


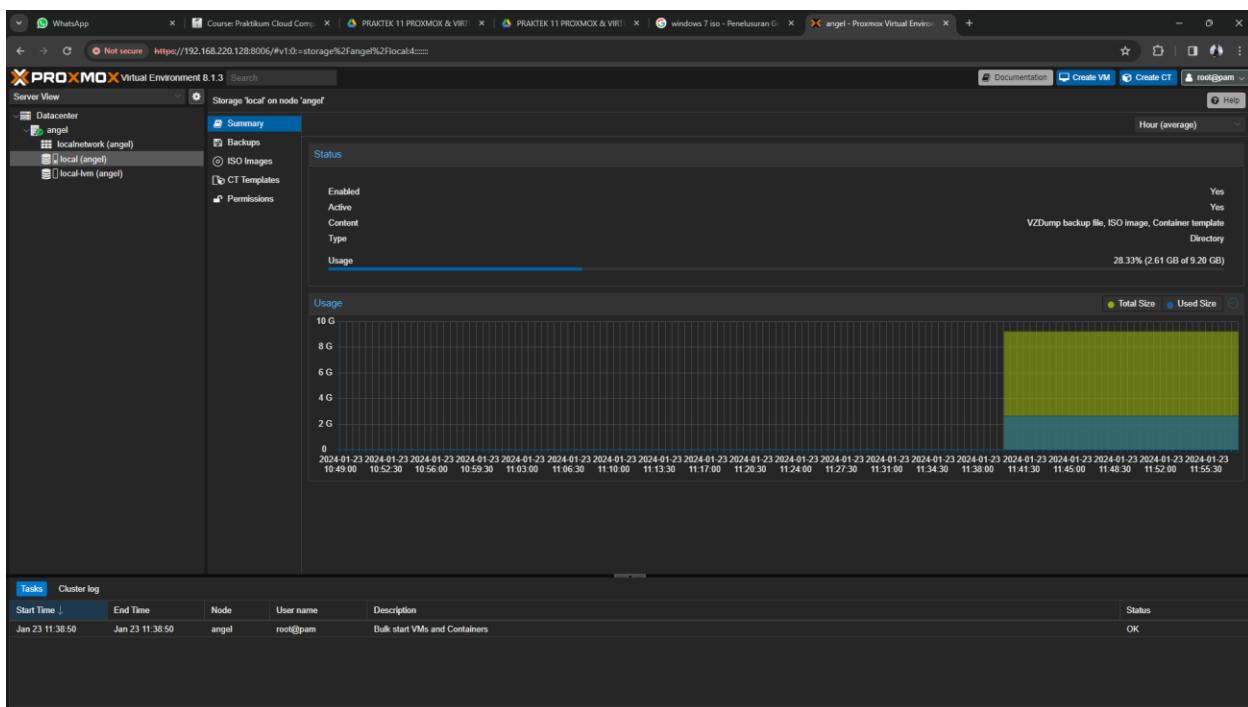
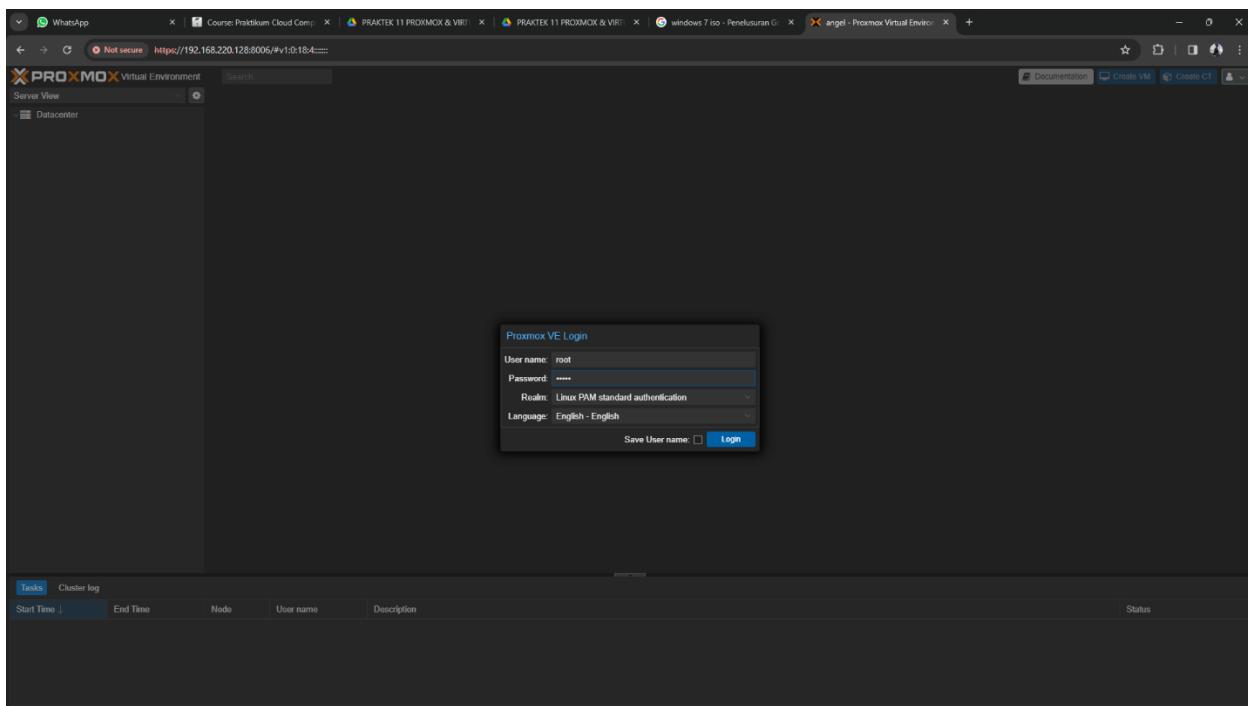


## LATIHAN 1

### UPLOAD ISO KE TEMPLATE VM PROXMOX

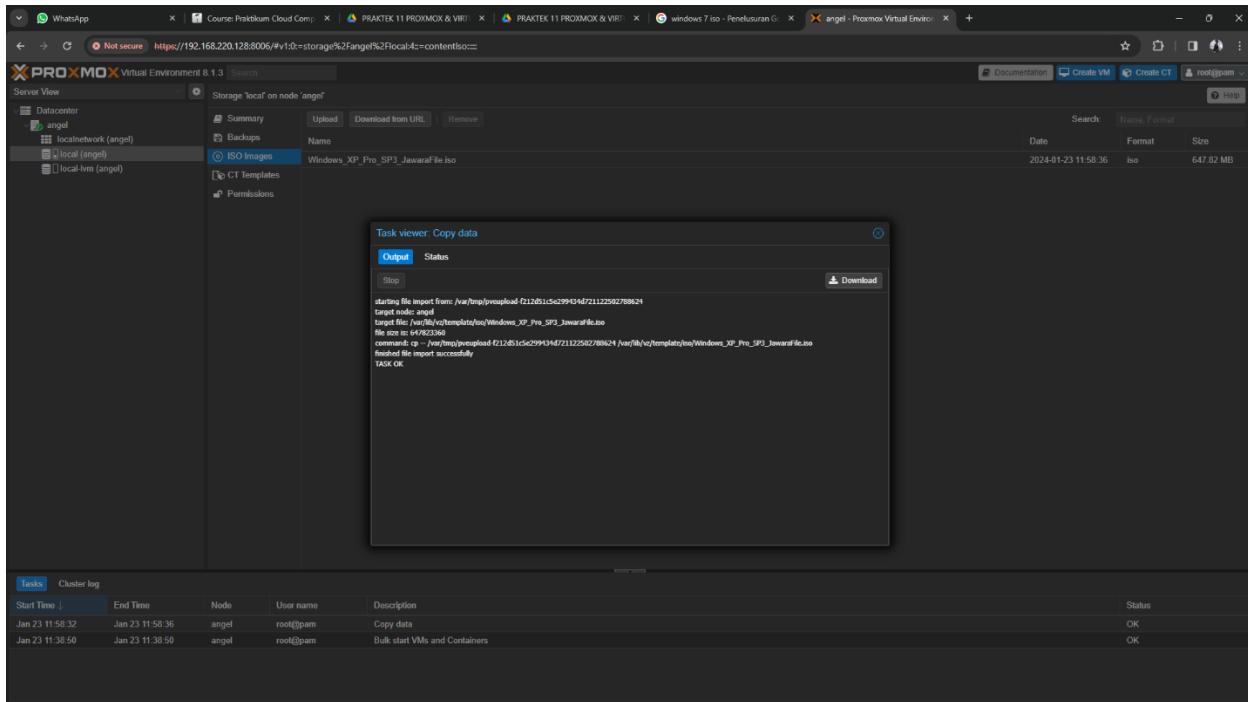






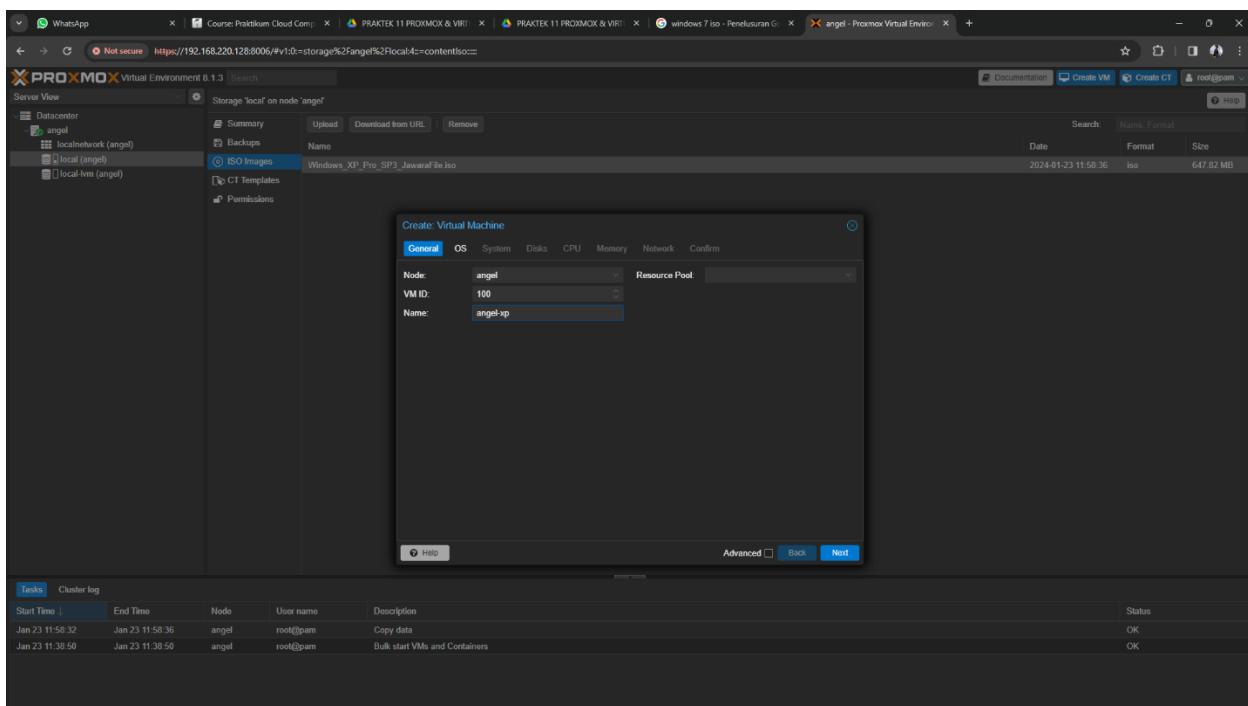
The screenshot shows the Proxmox VE 8.1.3 web interface. The left sidebar shows a tree view of the Datacenter, with the 'angell' node selected. Under 'angell', there are three storage pools: 'localnetwork (angell)', 'local (angell)', and 'local-lvm (angell)'. The 'ISO Images' tab is currently selected in the main content area. At the top of this area, there are buttons for 'Summary', 'Upload', 'Download from URL', and 'Remove'. Below these buttons is a search bar with fields for 'Name, Format' and 'Date', and buttons for 'Format' and 'Size'. A table below the search bar lists ISO images with columns for Name, Date, Format, and Size. The table shows one entry: 'Windows 7 iso - Penelusuran Google' with a size of 6.17 GB. At the bottom of the page, there is a 'Tasks' section showing a single task: 'Jan 23 11:38:50' to 'Jan 23 11:38:50' by 'angell' user 'root@pam' with the description 'Bulk start VMs and Containers' and status 'OK'.

This screenshot is identical to the one above, but it includes an 'Upload' dialog box in the center. The dialog box has a 'File:' field containing 'C:\filepath\Windows\_XP\_Pro\_...'. It also displays the file name ('Windows\_XP\_Pro\_SP3\_Jawafile.iso'), file size ('617.81 MB'), MIME type ('-'), hash algorithm ('None'), and checksum ('none'). At the bottom of the dialog are 'Abort' and 'Upload' buttons. The rest of the interface, including the sidebar, tabs, and tasks section, remains the same as in the first screenshot.



## LATIHAN 2

# CREATE VM PROXMOX & INSTALASI OS



PROXMOX Virtual Environment 8.1.3

Server View Storage 'local' on node 'angell'

ISO Images Name Date Format Size

Windows\_XP\_Pro\_SP3\_Jawaraf file iso 2024-01-23 11:58:36 iso 647.82 MB

Create: Virtual Machine

General OS System Disks CPU Memory Network Confirm

Use CD/DVD disc image file (iso) Guest OS:

Storage: local Type: Microsoft Windows

ISO image: Windows\_XP\_Pro\_SP3\_Jawaraf file iso Version: XP2003

Use physical CD/DVD Drive Add additional drive for VirtIO drivers

Do not use any media

Advanced Back Next

Tasks Cluster log

Start Time	End Time	Node	User name	Description	Status
Jan 23 11:58:32	Jan 23 11:58:36	angell	root@pam	Copy data	OK
Jan 23 11:38:50	Jan 23 11:38:50	angell	root@pam	Bulk start VMs and Containers	OK

PROXMOX Virtual Environment 8.1.3

Server View Storage 'local' on node 'angell'

ISO Images Name Date Format Size

Windows\_XP\_Pro\_SP3\_Jawaraf file iso 2024-01-23 11:58:36 iso 647.82 MB

Create: Virtual Machine

General OS System Disks CPU Memory Network Confirm

Graphic card: Default SCSI Controller: Default (LSI 53C895A)

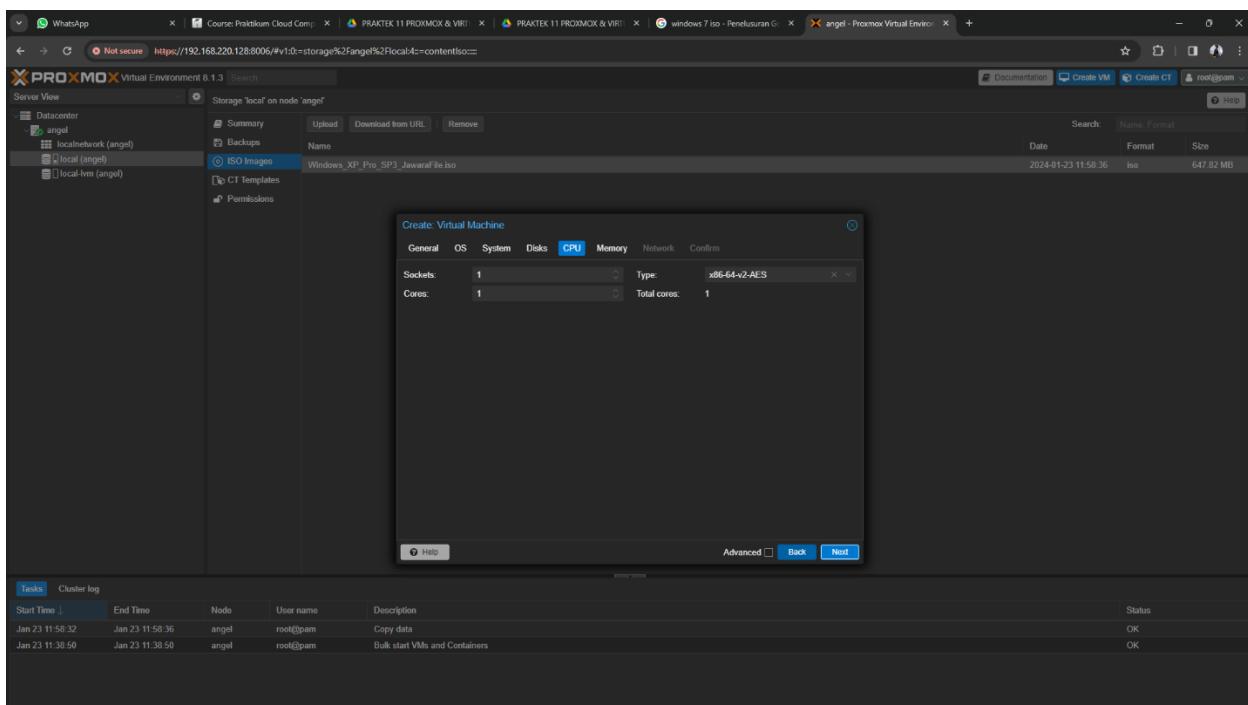
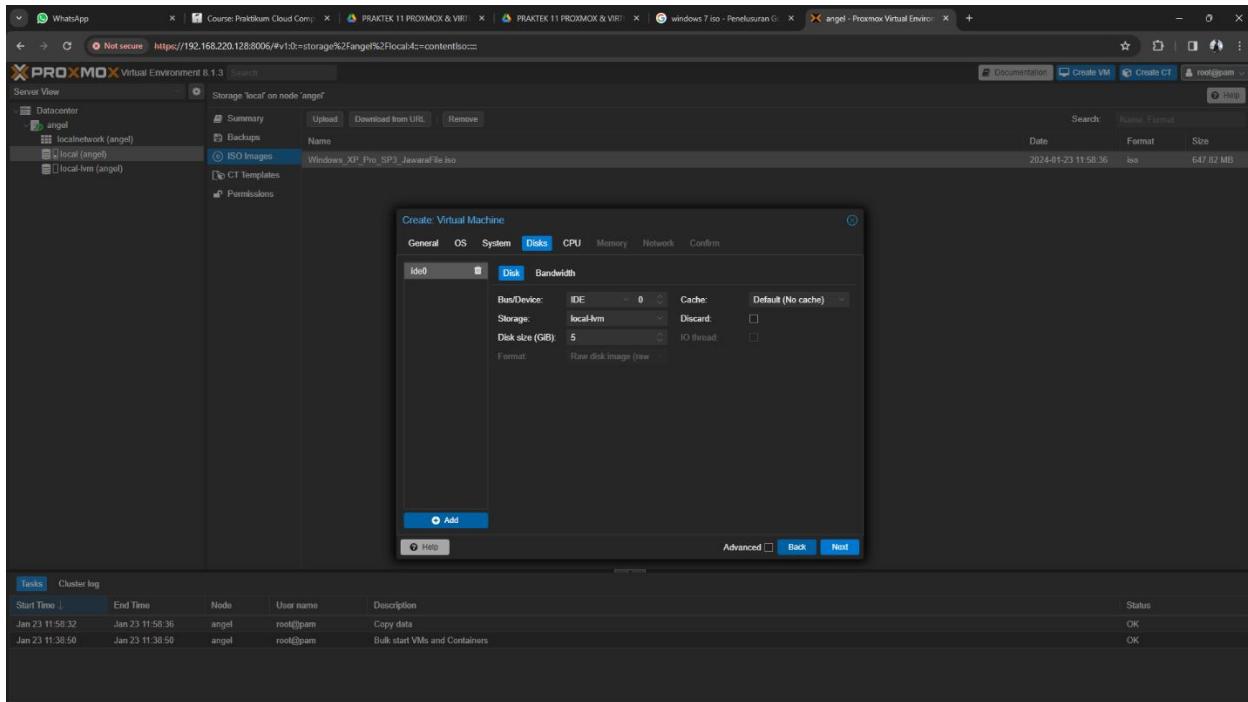
Machine: Default (H406) Qemu Agent:

Firmware: BIOS: Default (SeaBIOS) Add IPM:

Help Advanced Back Next

Tasks Cluster log

Start Time	End Time	Node	User name	Description	Status
Jan 23 11:58:32	Jan 23 11:58:36	angell	root@pam	Copy data	OK
Jan 23 11:38:50	Jan 23 11:38:50	angell	root@pam	Bulk start VMs and Containers	OK



The screenshot shows the Proxmox VE 8.1.3 interface. On the left, the 'Server View' sidebar is visible with sections for Datacenter, Storage, and Network. The 'Storage' section shows a local storage pool named 'local' on node 'angell'. In the main area, a 'Create Virtual Machine' dialog is open, currently on the 'Memory' tab. The 'Memory (MB)' dropdown is set to 1024. Below the dialog, a table of recent tasks is shown:

Start Time	End Time	Node	User name	Description	Status
Jan 23 11:58:32	Jan 23 11:58:36	angell	root@pam	Copy data	OK
Jan 23 11:38:50	Jan 23 11:38:50	angell	root@pam	Bulk start VMs and Containers	OK

This screenshot is identical to the one above, except the 'Network' tab is selected in the 'Create Virtual Machine' dialog. The 'Bridge' dropdown is set to 'vmbr0', and the 'Model' dropdown is set to 'Realtek RTL8139'. Other network settings like 'VLAN Tag' and 'MAC address' are also visible.

**PROXMOX Virtual Environment 8.1.3**

Server View Storage 'local' on node 'angell'

ISO Images

Create: Virtual Machine

Key	Value
cores	1
cpu	x86_64-v2-AES
ide0	local-hm:5
ide2	local:iso:Windows_XP_Pro_SP3_JawaraFile.iso.media=cdrom
memory	1024
name	angell-xp
net0	rtb139.bridge=vmbr0.firewall=1
nodename	angell
numa	0
ostype	wxp
sockets	1
vmid	100

Start after created

Advanced Back Finish

Tasks Cluster log

Start Time End Time Node User name Description Status

Jan 23 11:58:32 Jan 23 11:58:36 angell root@pam Copy data OK

Jan 23 11:38:50 Jan 23 11:38:50 angell root@pam Bulk start VMs and Containers OK

**PROXMOX Virtual Environment 8.1.3**

Server View Virtual Machine 100 (angell-xp) on node 'angell' No Tags

Summary

angel-xp

Status: stopped  
HA State: none  
Node: angell

CPU usage: 0.00% of 1 CPU(s)  
Memory usage: 0.00% (0 B of 1.00 GB)  
Bootdisk size: 5.00 GB  
IPs: No Guest Agent configured

CPU usage (Hour (average))

Memory usage (Total, RAM usage)

Network traffic (netin, netout)

Tasks Cluster log

Start Time End Time Node User name Description Status

Jan 23 12:05:23 Jan 23 12:05:24 angell root@pam VM 100 - Create OK

Jan 23 11:58:32 Jan 23 11:58:36 angell root@pam Copy data OK

Jan 23 11:38:50 Jan 23 11:38:50 angell root@pam Bulk start VMs and Containers OK

**PROXMOX Virtual Environment 8.1.3**

Virtual Machine 100 (angel-xp) on node 'angel' No Tags

**Server View**

- Datacenter
  - angell
    - 100 (angel-xp)
    - 101 (angell-xp)
    - 102 (angell-xp)
    - 103 (angell-xp)
  - localnetwork (angell)
    - local (angell)
    - local-lvm (angell)
- Summary
- Console
- Hardware
- Cloud-Init
- Options
- Task History
- Monitor
- Backup
- Replication
- Snapshots
- Firewall
- Permissions

**angel-xp**

Status		stopped
HA State		none
Node		angell
CPU usage		0.00% of 1 CPU(s)
Memory usage		0.00% (0 B of 1.00 GB)
Bootdisk size		5.00 GiB
IPs		No Guest Agent configured

**CPU usage**

**Memory usage**

**Network traffic**

**Tasks**

Start Time	End Time	Node	User name	Description	Status
Jan 23 12:08:32	Jan 23 12:08:32	angell	root@pam	VM 100 - Start	Error: KVM virtualisation con...
Jan 23 12:08:26	Jan 23 12:08:26	angell	root@pam	VM 100 - Start	Error: KVM virtualisation con...
Jan 23 12:08:21	Jan 23 12:08:21	angell	root@pam	VM 100 - Start	Error: KVM virtualisation con...
Jan 23 12:07:16	Jan 23 12:07:16	angell	root@pam	VM 100 - Start	Error: KVM virtualisation con...
Jan 23 12:07:16	Jan 23 12:07:16	angell	root@pam	VM 100 - Start	Error: KVM virtualisation con...

**PROXMOX Virtual Environment 8.1.3**

Virtual Machine 103 (angel-xp) on node 'angell' No Tags

**Server View**

- Datacenter
  - angell
    - 100 (angell-xp)
    - 101 (angell-xp)
    - 102 (angell-xp)
    - 103 (angell-xp)
  - localnetwork (angell)
    - local (angell)
    - local-lvm (angell)
- Summary
- Console
- Hardware
- Cloud-Init
- Options
- Task History
- Monitor
- Backup
- Replication
- Snapshots
- Firewall
- Permissions

**angel-xp**

Status		stopped
HA State		none
Node		angell
CPU usage		0.00% of 1 CPU(s)
Memory usage		0.00% (0 B of 1.00 GB)
Bootdisk size		5.00 GiB
IPs		No Guest Agent configured

**CPU usage**

**Memory usage**

**Network traffic**

**Tasks**

Start Time	End Time	Node	User name	Description	Status
Jan 24 10:30:01	Jan 24 10:30:01	angell	root@pam	VM 103 - Create	OK
Jan 24 10:29:03	Jan 24 10:29:05	angell	root@pam	Copy data	OK
Jan 24 10:28:45	Jan 24 10:28:45	angell	root@pam	Erase data	OK
Jan 24 10:25:07	Jan 24 10:25:08	angell	root@pam	VM 102 - Shutdown	OK
Jan 24 10:23:36	Jan 24 10:23:37	angell	root@pam	VM 102 - Start	OK

PROXMOX Virtual Environment 8.1.3

Virtual Machine 103 (angel-xp) on node 'angel' No Tags

Server View

Virtual Machine 103 (angel-xp)

Summary Options

Name: angel-xp  
Start at boot: No  
Start/Shutdown order: order=any  
OS Type: Microsoft Windows XP/2003  
Boot Order: ide0, ide2, net0  
Use tablet for pointer: Yes  
Hotplug: Disk, Network, USB  
ACPI support: Yes  
KVM hardware virtualization: Yes  
Freeze CPU at startup: No  
Use local time for RTC: Default (Enabled for Windows)  
RTC start date: now  
SMBIOS settings (type): uuid-f4456863-5efc-4e38-aa0a-8c92a0256a4f  
QEMU Guest Agent: Default (Disabled)  
Protection: No  
Spice Enhancements: none  
VM State storage: Automatic

Tasks Cluster log

Start Time	End Time	Node	User name	Description	Status
Jan 24 10:30:01	Jan 24 10:30:01	angel	root@pam	VM 103 - Create	OK
Jan 24 10:29:03	Jan 24 10:29:05	angel	root@pam	Copy data	OK
Jan 24 10:28:45	Jan 24 10:28:45	angel	root@pam	Erase data	OK
Jan 24 10:25:07	Jan 24 10:25:08	angel	root@pam	VM 102 - Shutdown	OK
Jan 24 10:23:36	Jan 24 10:23:37	angel	root@pam	VM 102 - Start	OK

PROXMOX Virtual Environment 8.1.3

Virtual Machine 103 (angel-xp) on node 'angel' No Tags

Server View

Virtual Machine 103 (angel-xp)

Summary Options

Name: angel-xp  
Start at boot: No  
Start/Shutdown order: order=any  
OS Type: Microsoft Windows XP/2003  
Boot Order: ide0, ide2, net0  
Use tablet for pointer: Yes  
Hotplug: Disk, Network, USB  
ACPI support: Yes  
KVM hardware virtualization: Yes  
Freeze CPU at startup: No  
Use local time for RTC: Default (Enabled for Windows)  
RTC start date: now  
SMBIOS settings (type): uuid-f4456863-5efc-4e38-aa0a-8c92a0256a4f  
QEMU Guest Agent: Default (Disabled)  
Protection: No  
Spice Enhancements: none  
VM State storage: Automatic

Enabled

OK Reset

Tasks Cluster log

Start Time	End Time	Node	User name	Description	Status
Jan 24 10:30:01	Jan 24 10:30:01	angel	root@pam	VM 103 - Create	OK
Jan 24 10:29:03	Jan 24 10:29:05	angel	root@pam	Copy data	OK
Jan 24 10:28:45	Jan 24 10:28:45	angel	root@pam	Erase data	OK
Jan 24 10:25:07	Jan 24 10:25:08	angel	root@pam	VM 102 - Shutdown	OK
Jan 24 10:23:36	Jan 24 10:23:37	angel	root@pam	VM 102 - Start	OK

PROXMOX Virtual Environment 8.1.3

Virtual Machine 103 (angel-xp) on node 'angel' No Tags

Server View

Virtual Machine 103 (angel-xp) on node 'angel'

Summary Options

Name: angel-xp  
Start at boot: No  
Start/Shutdown order: order=any  
OS Type: Microsoft Windows XP/2003  
Boot Order: ide0, ide2, net0  
Use tablet for pointer: Yes  
Hotplug: Disk, Network, USB  
ACPI support: Yes  
KVM hardware virtualization: No  
Freeze CPU at startup: No  
Use local time for RTC: Default (Enabled for Windows)  
RTC start date: now  
SMBIOS settings (type1): uuid-f4456863-5efc-4e38-aa0a-8c92a0258a4f  
QEMU Guest Agent: Default (Disabled)  
Protection: No  
Spice Enhancements: none  
VM State storage: Automatic

Tasks Cluster log

Start Time	End Time	Node	User name	Description	Status
Jan 24 10:30:01	Jan 24 10:30:01	angel	root@pam	VM 103 - Create	OK
Jan 24 10:29:03	Jan 24 10:29:05	angel	root@pam	Copy data	OK
Jan 24 10:28:45	Jan 24 10:28:45	angel	root@pam	Erase data	OK
Jan 24 10:25:07	Jan 24 10:25:08	angel	root@pam	VM 102 - Shutdown	OK
Jan 24 10:23:36	Jan 24 10:23:37	angel	root@pam	VM 102 - Start	OK

PROXMOX Virtual Environment 8.1.3

Virtual Machine 103 (angel-xp) on node 'angel' No Tags

Server View

Virtual Machine 103 (angel-xp) on node 'angel'

Summary Options

Name: angel-xp  
Start at boot: No  
Start/Shutdown order: order=any  
OS Type: Microsoft Windows XP/2003  
Boot Order: ide0, ide2, net0  
Use tablet for pointer: Yes  
Hotplug: Disk, Network, USB  
ACPI support: Yes  
KVM hardware virtualization: No  
Freeze CPU at startup: No  
Use local time for RTC: Default (Enabled for Windows)  
RTC start date: now  
SMBIOS settings (type1): uuid-f4456863-5efc-4e38-aa0a-8c92a0258a4f  
QEMU Guest Agent: Default (Disabled)  
Protection: No  
Spice Enhancements: none  
VM State storage: Automatic

Tasks Cluster log

Start Time	End Time	Node	User name	Description	Status
Jan 24 10:30:25	Jan 24 10:30:27	angel	root@pam	VM 103 - Start	OK
Jan 24 10:30:01	Jan 24 10:30:01	angel	root@pam	VM 103 - Create	OK
Jan 24 10:29:03	Jan 24 10:29:05	angel	root@pam	Copy data	OK
Jan 24 10:28:45	Jan 24 10:28:45	angel	root@pam	Erase data	OK
Jan 24 10:25:07	Jan 24 10:25:08	angel	root@pam	VM 102 - Shutdown	OK
Jan 24 10:23:36	Jan 24 10:23:37	angel	root@pam	VM 102 - Start	OK

Screenshot of the PROXMOX Virtual Environment 8.1.3 interface showing the management of a virtual machine named 'angel'.

**Left Panel (Server View):**

- Datacenter
  - angell
    - 100 (angel-xp)
    - 101 (angel-xp)
    - 102 (angel-xp)
    - 103 (angel-xp) **(selected)**
  - localnetwork (angell)
    - local (angel)
    - local-lvm (angel)

**Middle Panel (Virtual Machine 103 (angel-xp) on node 'angell'):**

- Summary** tab selected.
- Status:** Uptime: 00:00:11
- Machine Info:** SeaBIOS (version rel-1.16.2-0-gca1b7a073390-prebuilt.qemu.org), Machine UUID f4456bb3-5ef4-4e98-aa9a-8c92a0258a4f, Booting from Hard Disk...
- CPU usage:** 100% (highlighted in red).
- Memory usage:** 2.97% (30.3 MiB).
- Bootsdisk size:** No Guest.
- IPs:** No Guests.
- Memory usage graph:** Shows memory usage over time, with a sharp spike occurring around 2024-01-24 10:38:00.

**Right Panel (CPU usage graph):**

- Hour (average) view.
- Y-axis: CPU usage (0 to 100%).
- X-axis: Time (2024-01-24 09:58:00 to 2024-01-24 10:47:00).
- Legend: netin (yellow bar) and netout (blue bar).
- A yellow bar indicates a peak in CPU usage for netin around 2024-01-24 10:38:00.

**Bottom Panel (Tasks Cluster log):**

Start Time	End Time	Node	User name	Description	Status
Jan 24 10:47:54		angell	root@pam	VM/CT 103 - Console	OK
Jan 24 10:47:46	Jan 24 10:47:47	angell	root@pam	VM 103 - Start	OK
Jan 24 10:31:57	Jan 24 10:31:58	angell	root@pam	VM 103 - Shutdown	OK
Jan 24 10:30:51	Jan 24 10:31:51	angell	root@pam	VM 103 - Shutdown	Error: VM quit/powerdown failed
Jan 24 10:30:25	Jan 24 10:30:27	angell	root@pam	VM 103 - Start	OK
Jan 24 10:30:01	Jan 24 10:30:01	angell	root@pam	VM 103 - Create	OK