

Installing Windows Server 2025 on Proxmox VE

1. Overview

This guide explains how to install Windows Server 2025 on a [Proxmox](#) Virtual Environment (VE) virtual machine using [VirtIO](#) drivers. It covers [ISO](#) preparation, [VM](#) configuration, driver installation, and post-installation guest tools setup.

This guide assumes:

- Proxmox VE is already installed and accessible
- You have access to the Proxmox web interface

You have downloaded the required files:

- Windows Server 2025 Evaluation ISO
Download from: <https://www.microsoft.com/en-us/evalcenter/>
- VirtIO Drivers ISO
Download from: https://pve.proxmox.com/wiki/Windows_VirtIO_Drivers
- _____

2. Preparing ISO Storage

Step 1 — Verify Storage Supports ISO Images

Open **Datacenter** → **Storage** and review the *Content* column. Confirm that at least one storage entry includes **ISO images** as supported content.

If no storage supports ISO images, configure one before continuing.

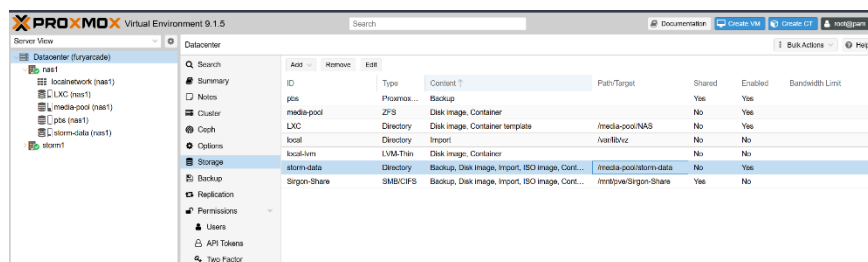


Figure 1 Storage configuration showing ISO image support

Step 2 — Upload Required ISO Files

Expand your node (for example, nas1) and select the storage that supports ISO images. Open the **ISO Images** tab.

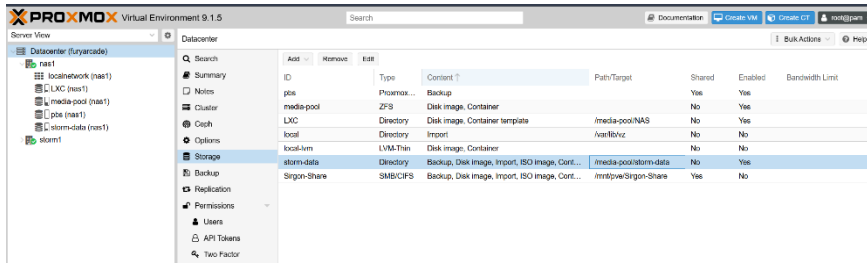


Figure 2: Select Correct Storage for ISO files

Click **Upload**, select the Windows Server 2025 ISO, and confirm that the task status displays **TASK OK**.

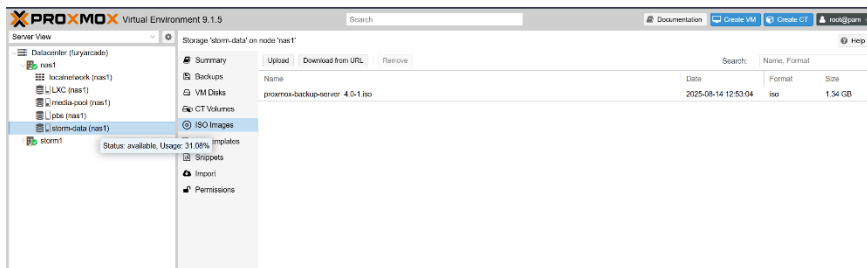


Figure 3: Uploading the Windows Server ISO

Repeat the process to upload the VirtIO driver ISO.

3. Creating the Virtual Machine

Click **Create VM**.

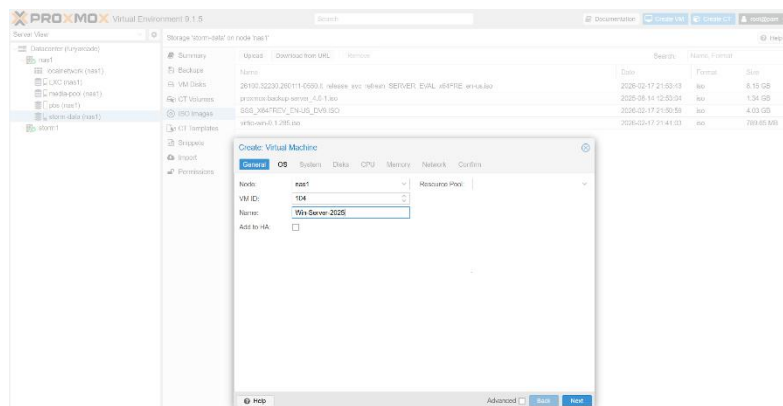


Figure 4: Type a name for the VM

3.1 General Tab

Leave the VM ID unchanged and enter a name (for example, *Win-Server-2025*). Click **Next**.

3.2 OS Tab

Select the Windows Server 2025 ISO.

Configure:

- Guest OS Type: **Microsoft Windows**
- Version: Appropriate Windows version
- Enable **Add additional drive for VirtIO drivers**
- Select the VirtIO ISO

Click **Next**.

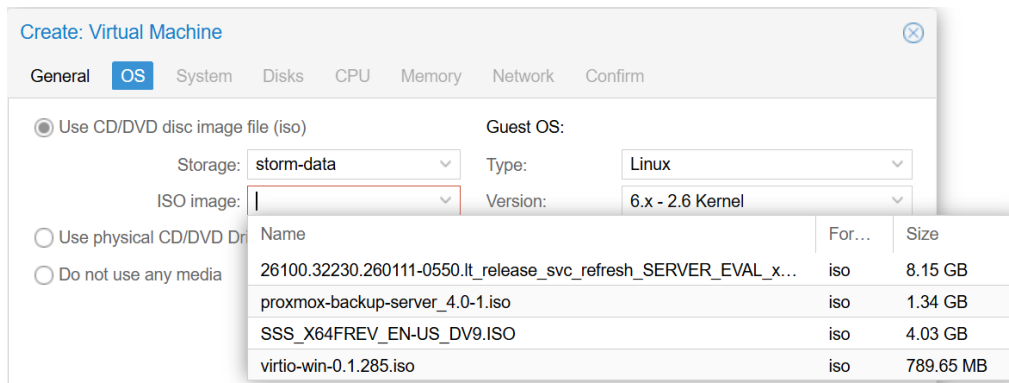


Figure 5: Choose the ISO image for the OS

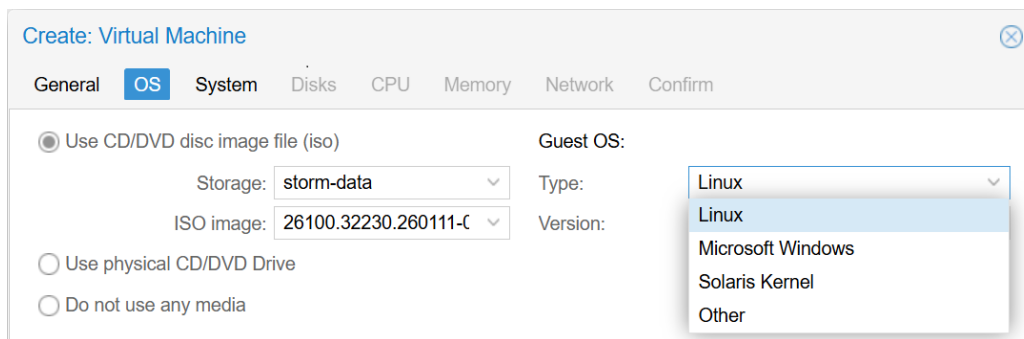


Figure 6: Choose the type of OS

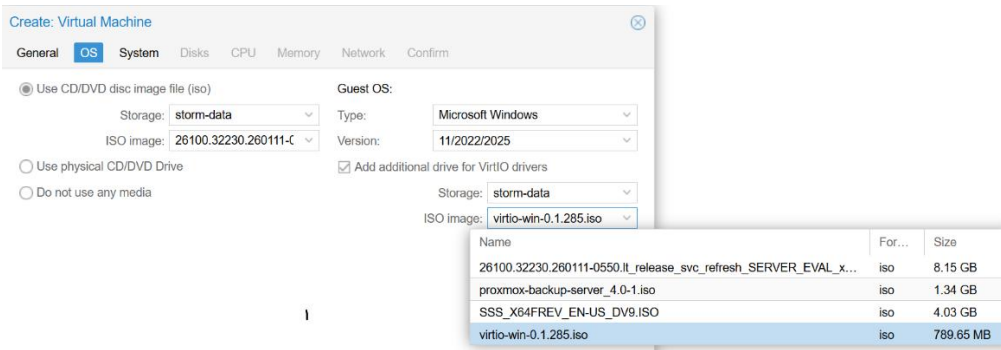


Figure 7: Add additional VirtIO drivers.

3.3 System Tab (Recommended Settings)

Use the following configuration:

Setting **Recommended Value**

Graphic Card Default

Machine q35

BIOS [OVMF](#) (UEFI)

Add [EFI](#) Disk Enabled

Pre-Enroll Keys Enabled

SCSI Controller VirtIO SCSI single

Add TPM Enabled (v2.0)

Click **Next**.

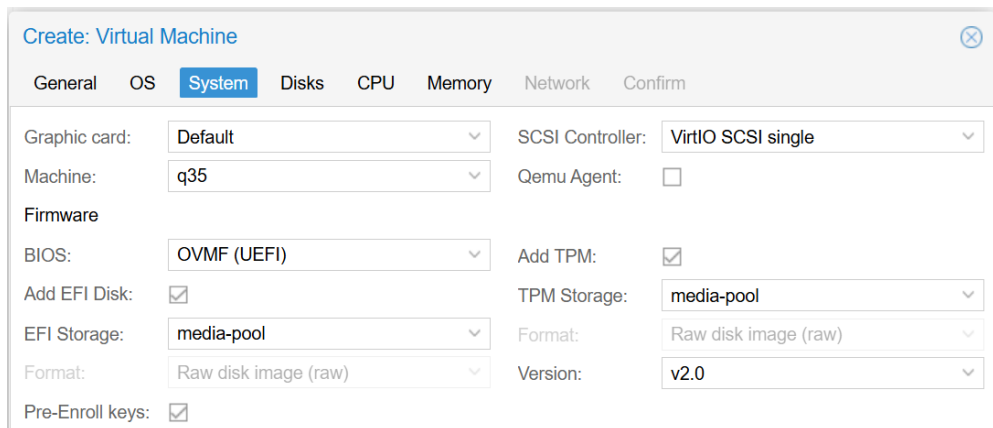


Figure 8 System options

3.4 Disks Tab

Configure:

- Bus/Device: **SCSI**
- Storage: Select appropriate VM storage
- Disk Size: 60 GB recommended
- IO Thread: Enabled

Leave the other settings at their defaults and click **Next**.

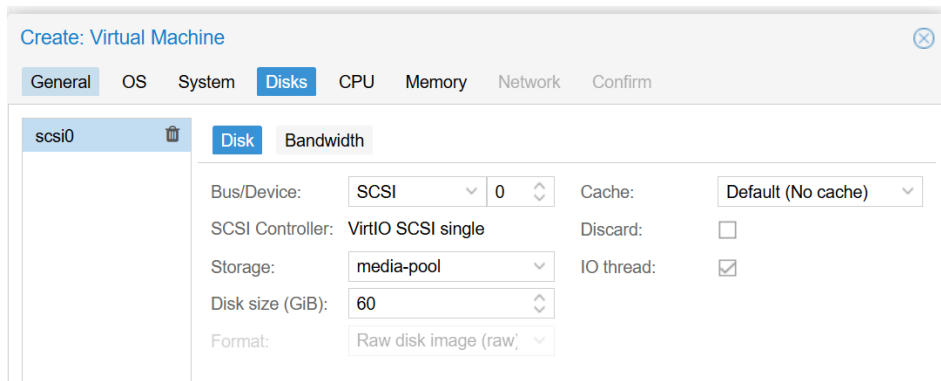


Figure 9 Disk options

3.5 CPU Tab

- CPU Type: **host**
- 1 socket
- 2–4 cores recommended

Click **Next**.

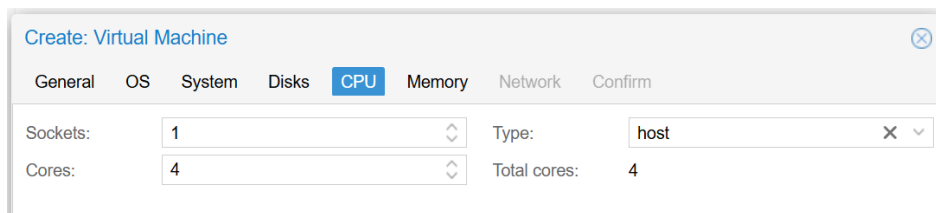


Figure 10 CPU options

3.6 Memory Tab

- Minimum: 4096 MB
- Recommended: 8192 MB

Click **Next**.

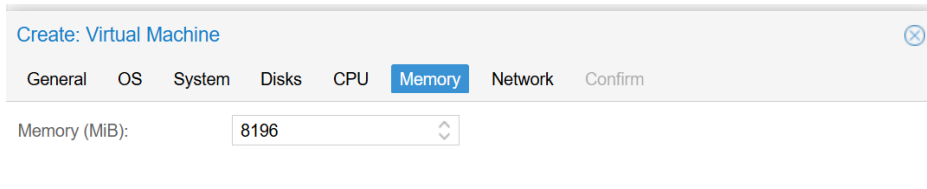


Figure 11 Memory options

3.7 Network Tab

- Bridge: Typically vmbr0
- Model: **VirtIO (paravirtualized)**

Click **Next**.

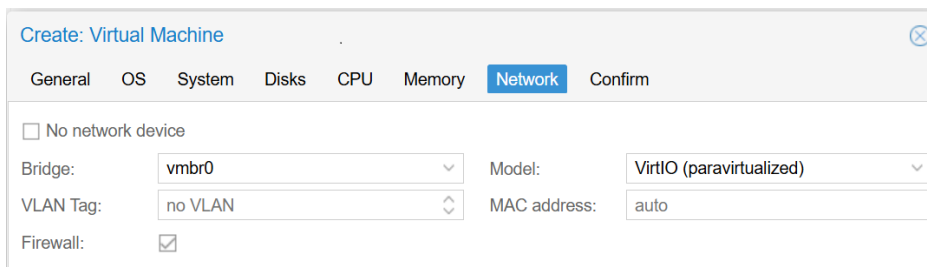


Figure 12 Network options

3.8 Confirm Tab

Review the configuration carefully. Confirm:

Review the configuration carefully and verify that the BIOS is set to **OVMF**, the machine type is **q35**, TPM is enabled, both ISO files are attached, and the disk bus is configured as **SCSI**. Once all settings are confirmed, click **Finish**.

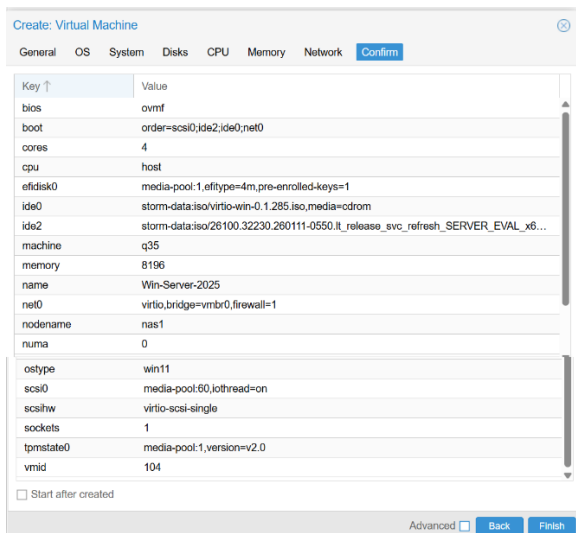


Figure 13: Confirm all options.

4. Installing Windows Server 2025

Select the newly created VM, open the **Console**, and click **Start**.

When prompted, press any key to boot from CD/DVD.

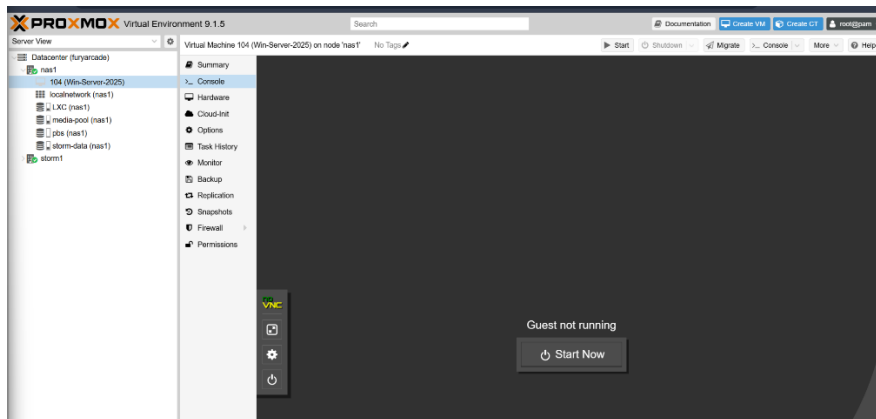


Figure 14 Start VM

4.1 Initial Setup

Select your language and keyboard layout. Choose **Install Windows Server**, accept the license terms, and select:

Windows Server 2025 Standard Evaluation (Desktop Experience)

Click **Next**.

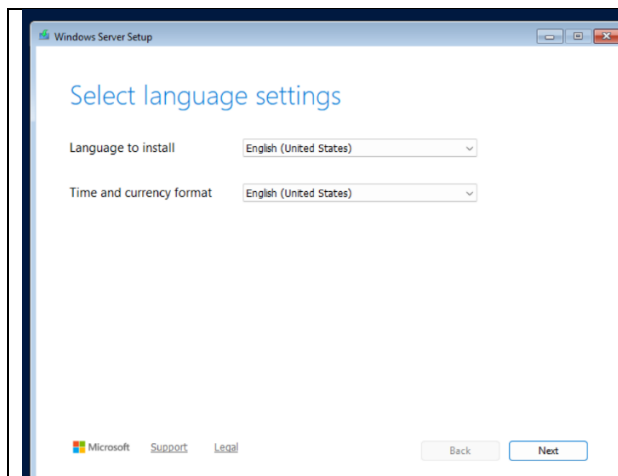


Figure 15: Choose the language.

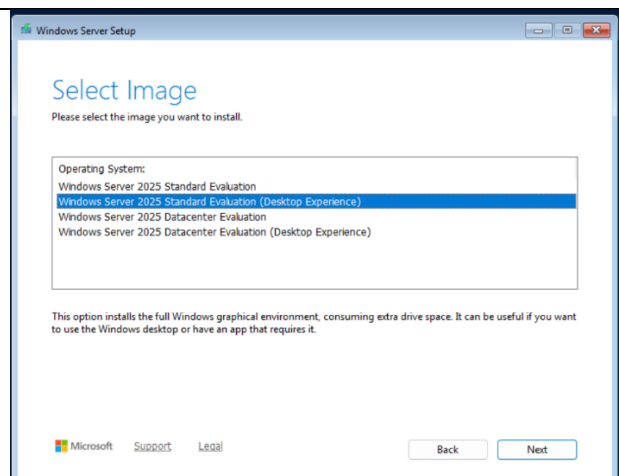


Figure 16: Choose the Installation type.

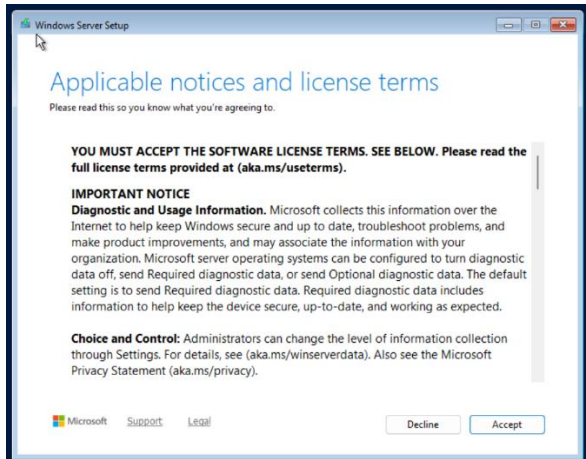


Figure 17 Accept License

4.2 Loading the VirtIO Storage Driver

On the disk selection screen, no disks appear; this happens when using VirtIO SCSI.

Click **Load Driver**, then **Browse**, and open the CD drive containing the VirtIO ISO.

Navigate to:

vioscsi → 2k25 → amd64

Select the **Red Hat VirtIO SCSI controller** and click the **Install button**.

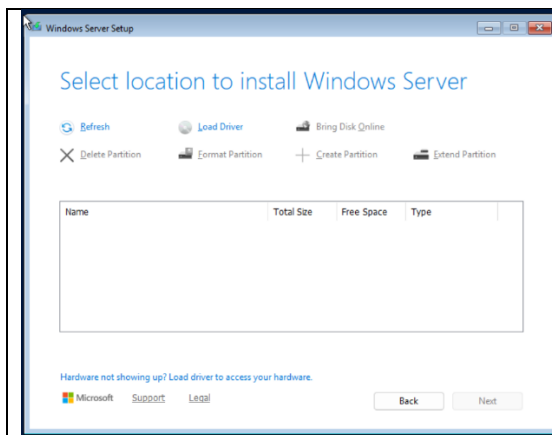


Figure 18: The Virtual disk does not show.

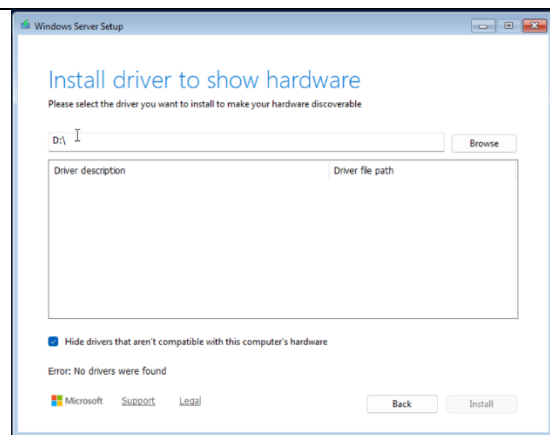


Figure 19: Virtual Disk after the driver installation.

After installation, the virtual disk will appear.

4.3 Final Installation

Select the disk, click **Next**, and then click **Install**.

Windows installation will begin. The system will reboot automatically during the process.

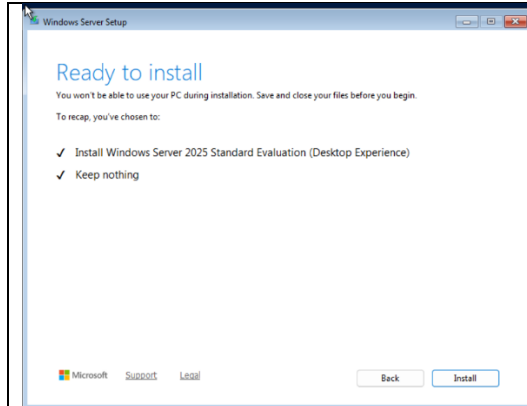


Figure 20: Ready to install.

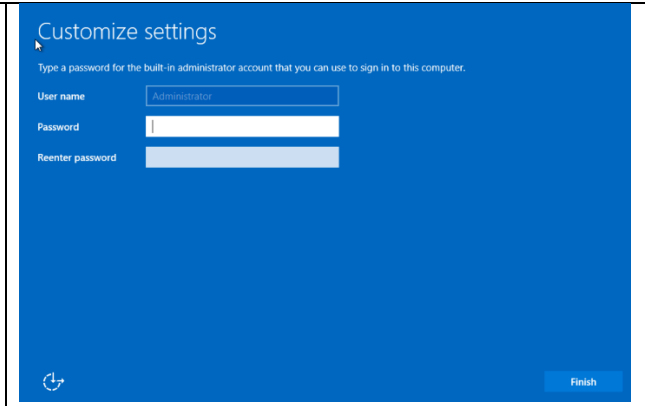


Figure 21: Choose a password.

5. Installing VirtIO Guest Tools (Post-Installation)

After the Windows Server installation is complete, log in to the system.

Open **File Explorer** and access the CD drive containing the VirtIO ISO. Run:

virtio-win-guest-tools.exe



Figure 22: Accept VirtIO license.

Accept the default installation options and reboot the virtual machine when prompted.

This installation includes:

- VirtIO storage drivers
- Network drivers
- Memory balloon driver
- [QEMU](#) Guest Agent

After rebooting, return to the Proxmox interface.

Open the VM, navigate to **Options**, edit **QEMU Guest Agent**, and ensure that **Use QEMU Guest Agent** is enabled. Click **OK**, then restart the VM again to ensure proper communication between Proxmox and the guest operating system.

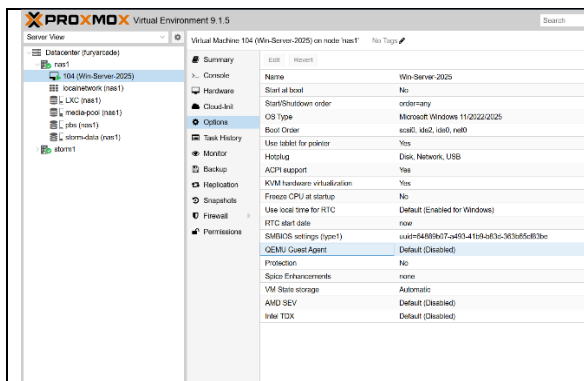


Figure 23: Navigate to the VM options.

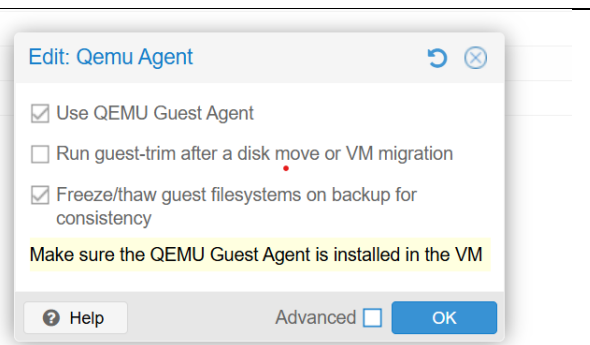


Figure 24: Keep the default options.

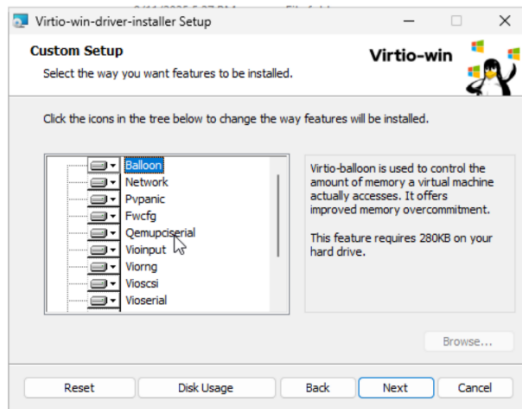


Figure 25: Finish VirtIO installation

6. Notes and Observations

- Proxmox creates an EFI disk automatically when using OVMF.
 - Windows will not detect the VirtIO disk unless the storage driver is loaded.
 - If you missed the boot prompt, restart the VM.
 - vmbus is the default network bridge connecting the VM to the host network.
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This guide provides a structured approach to installing Windows Server 2025 on Proxmox VE using recommended virtualization settings and VirtIO drivers for optimal performance and compatibility.

7. Glossary

Cluster – A group of multiple Proxmox nodes managed together to provide centralized control and resource sharing.

EFI Disk – A small disk automatically created when using UEFI (OVMF) firmware to store boot and firmware configuration data.

Guest Operating System – The operating system installed inside a virtual machine.

Host System – The physical server running Proxmox that provides hardware resources to virtual machines.

Hypervisor – Software that allows multiple virtual machines to run on a single physical computer by managing hardware resource allocation.

ISO Image – A file containing the complete contents of a CD or DVD, commonly used to distribute operating systems for installation.

KVM – Kernel-based Virtual Machine; the virtualization technology used by Proxmox to run virtual machines.

OVMF – Open Virtual Machine Firmware; a UEFI firmware implementation used by virtual machines.

Paravirtualized Drivers – Drivers designed specifically for virtual environments to improve performance and efficiency.

Proxmox VE – A Linux-based virtualization platform used to create and manage virtual machines and containers through a web interface.

QEMU Guest Agent – A service installed inside the virtual machine that allows Proxmox to communicate with the guest operating system for improved management and monitoring.

Q35 – A virtual machine hardware type that emulates a modern chipset and supports advanced features such as UEFI and PCIe devices.

SCSI – Small Computer System Interface; a standard used for connecting storage devices. In virtual machines, it defines how disks are presented to the guest OS.

TPM – (Trusted Platform Module) – A security feature that provides hardware-based cryptographic functions required by modern Windows versions.

VirtIO – A set of optimized drivers that improve disk, network, and memory performance in virtual machines.

VM (Virtual Machine) – A software-based computer that runs inside a physical computer and operates like an independent system.

vmb0 – The default network bridge in Proxmox that connects virtual machines to the host's physical network.