

Proxmox VM Set Up

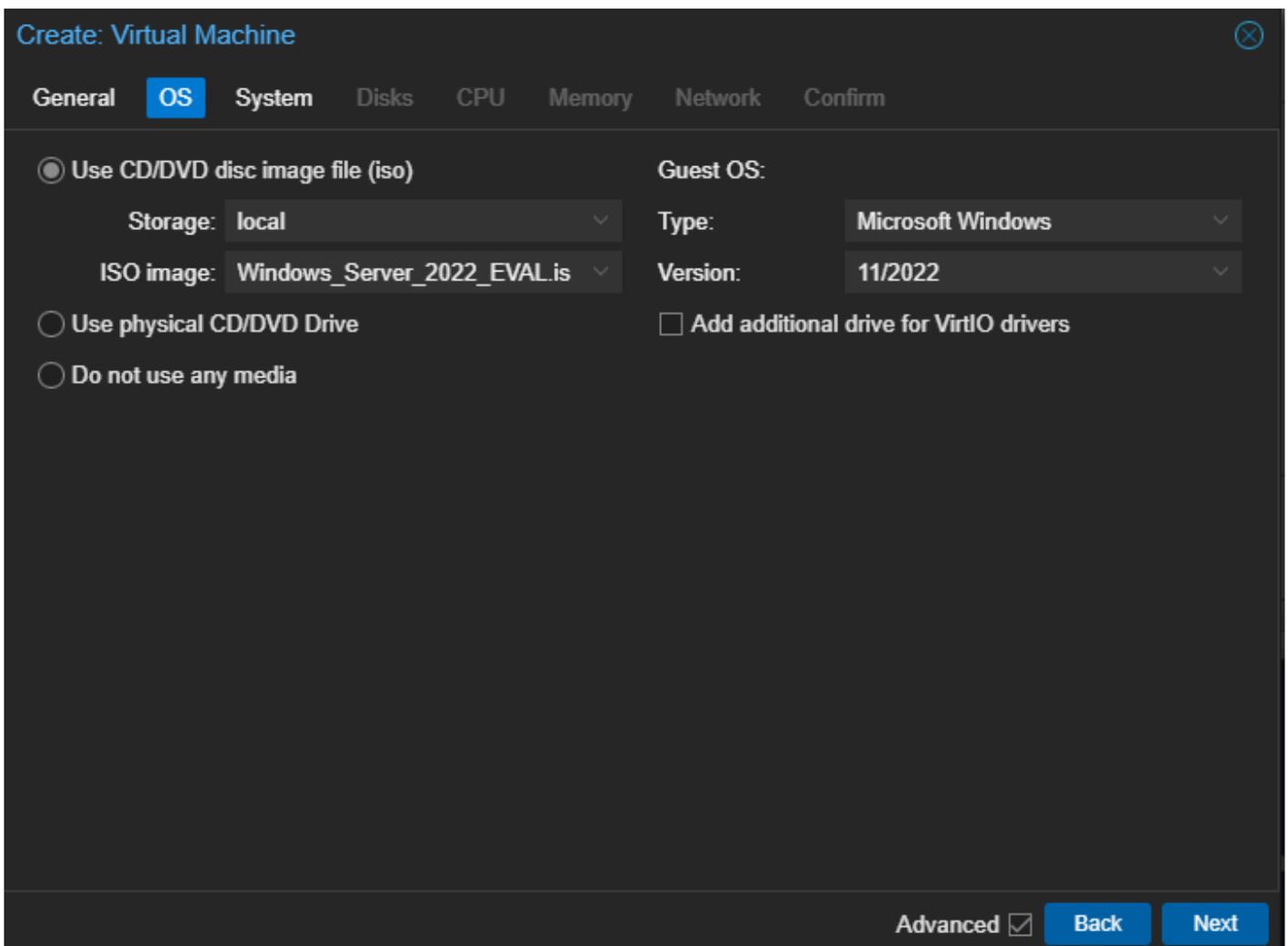
Install Files

To start, you'll need to download some files. The 2 files you need are the Server ISO and the VirtIO Driver. You can download the latest stable release at the link below:

- [Windows Server Evaluation ISO](#)
- [Windows VirtIO](#)
 - Download the latest stable release.

When configuring your VM use the following settings to ensure you're VM can boot correctly:

OS Configs



The screenshot shows the 'Create: Virtual Machine' wizard in Proxmox, specifically the 'OS' tab. The 'General' tab is selected, and the 'OS' sub-tab is active. The configuration is as follows:

- Use CD/DVD disc image file (iso)** (Selected)
- Storage:** local
- ISO image:** Windows_Server_2022_EVAL.is
- Guest OS:**
 - Type:** Microsoft Windows
 - Version:** 11/2022
- Use physical CD/DVD Drive** (Not selected)
- Do not use any media** (Not selected)
- Add additional drive for VirtIO drivers** (Not selected)

At the bottom right, there are buttons for 'Advanced' (checked), 'Back', and 'Next'.

- Change your guest OS type to MS Windows and select the correct version

System Configs

Create: Virtual Machine ✕

General OS **System** Disks CPU Memory Network Confirm

Graphic card: Default

Machine: q35

Firmware

BIOS: OVMF (UEFI)

Add EFI Disk:

EFI Storage: zfs1

Format: Raw disk image (raw)

Pre-Enroll keys:

SCSI Controller: VirtIO SCSI

Qemu Agent:

Add TPM:

TPM Storage: zfs1

Version: v2.0

Advanced

- Select q35 for Gen2, default is i440fx
- Change BIOS to OVMF(UEFI), default is SeaBIOS
- Change your SCSI Controller to VirtIO SCSI, default is VirtIO SCSI Single
- Check Qemu Agent

Disk Configs

Create: Virtual Machine ⓧ

General OS System **Disks** CPU Memory Network Confirm

virtio0 🗑️ **Disk** Bandwidth

Bus/Device: **VirtIO Block** ▼ **0** ◇ Cache: **Write back** ▼

Storage: **local-zfs** ▼ Discard:

Disk size (GiB): **32** ◇ IO thread:

Format: **Raw disk image (raw)** ▼

SSD emulation: Backup:

Read-only: Skip replication:

Async IO: **Default (io_uring)** ▼

➕ Add

🔗 Help Advanced Back Next

- Change your BUS/Device to VirtIO Block, default is IDE
- Change cache to Write Back, default is No Cache

CPU Configs

Create: Virtual Machine ✕

General OS System Disks **CPU** Memory Network Confirm

Sockets: 1 Type: host

Cores: 24 Total cores: 24

VCPUs: 24 CPU units: 100

CPU limit: unlimited Enable NUMA:

CPU Affinity: All Cores

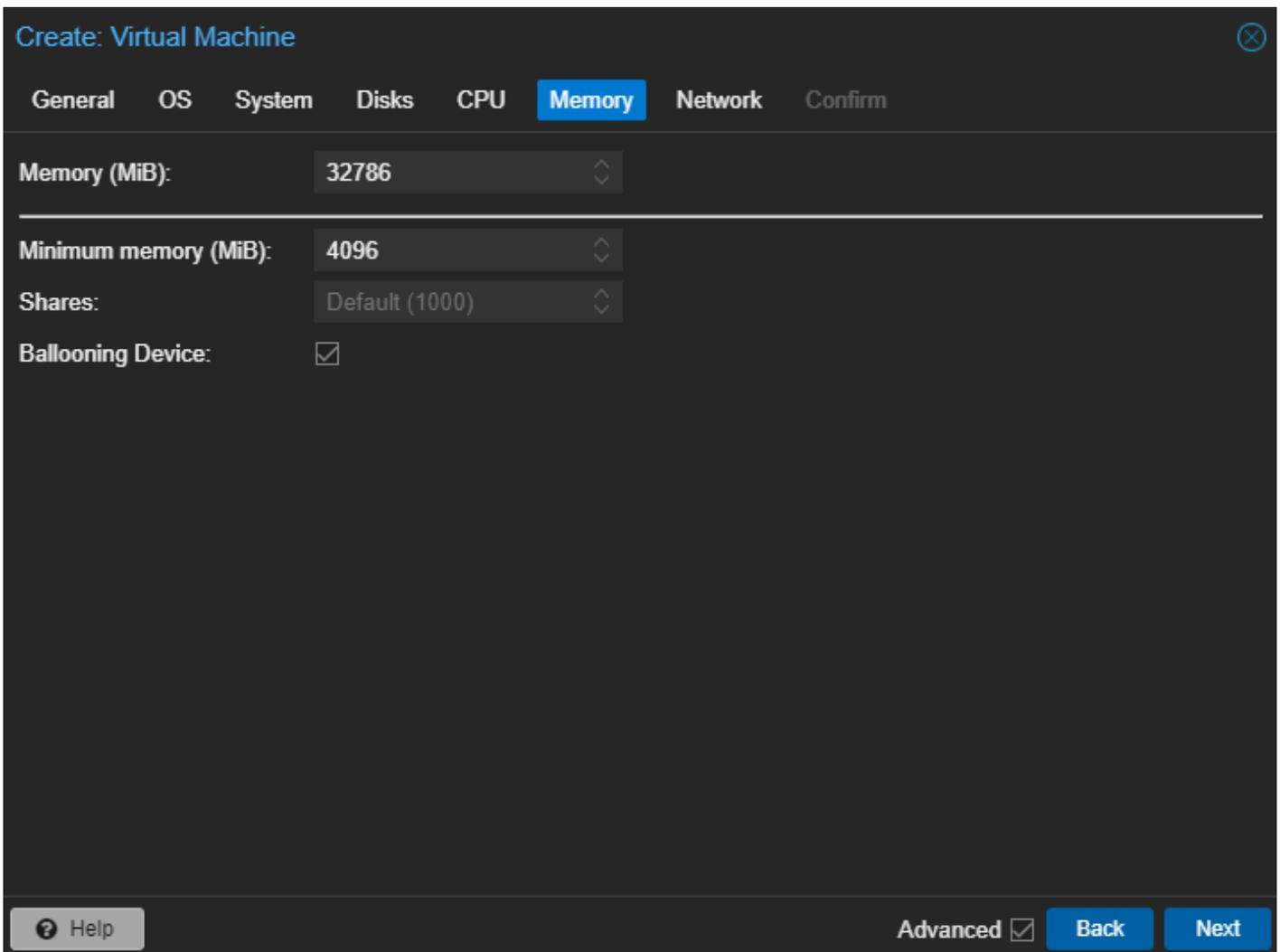
Extra CPU Flags:

Default	- ○ ○ ○ +	md-clear	Required to let the guest OS know if MDS is mitigated correctly
Default	- ○ ○ ○ +	pcid	Meltdown fix cost reduction on Westmere, Sandy-, and IvyBridge Intel CPUs
Default	- ○ ○ ○ +	spec-ctrl	Allows improved Spectre mitigation with Intel CPUs
Default	- ○ ○ ○ +	ssbd	Protection for "Speculative Store Bypass" for Intel models
Default	- ○ ○ ○ +	ibpb	Allows improved Spectre mitigation with AMD CPUs
Default	- ○ ○ ○ +	virt-ssbd	Basis for "Speculative Store Bypass" protection for AMD models

Help Advanced Back Next

- Change type to Host, default is x86-64-v2-AES

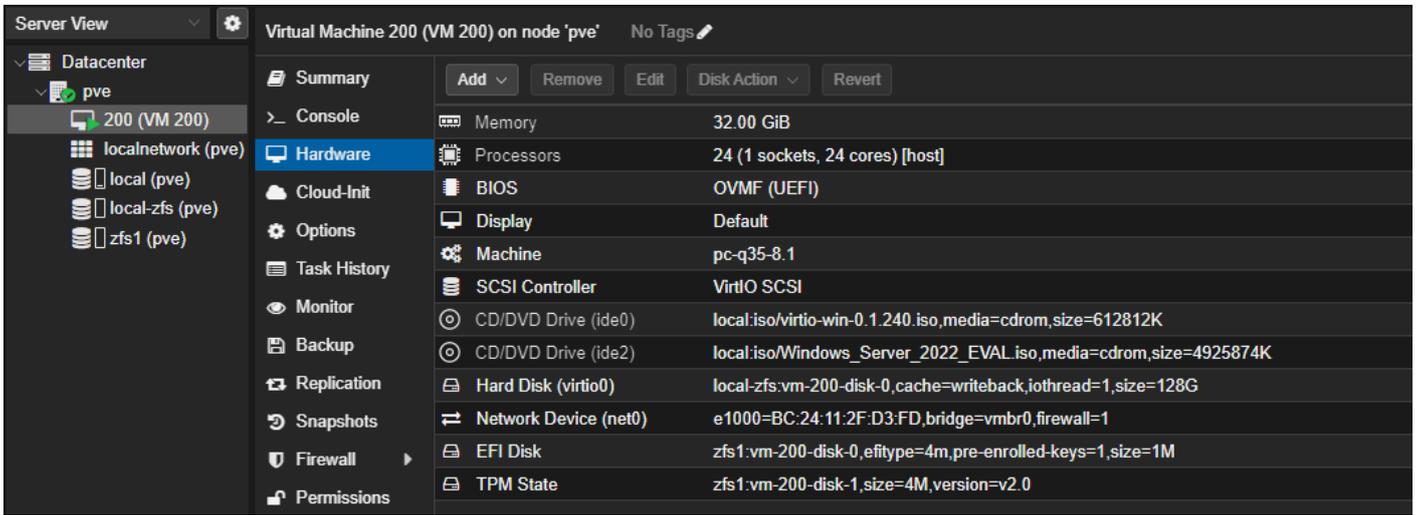
Memory Configs



- Make sure Ballooning Device is enabled so RAM that isn't being used can be freed

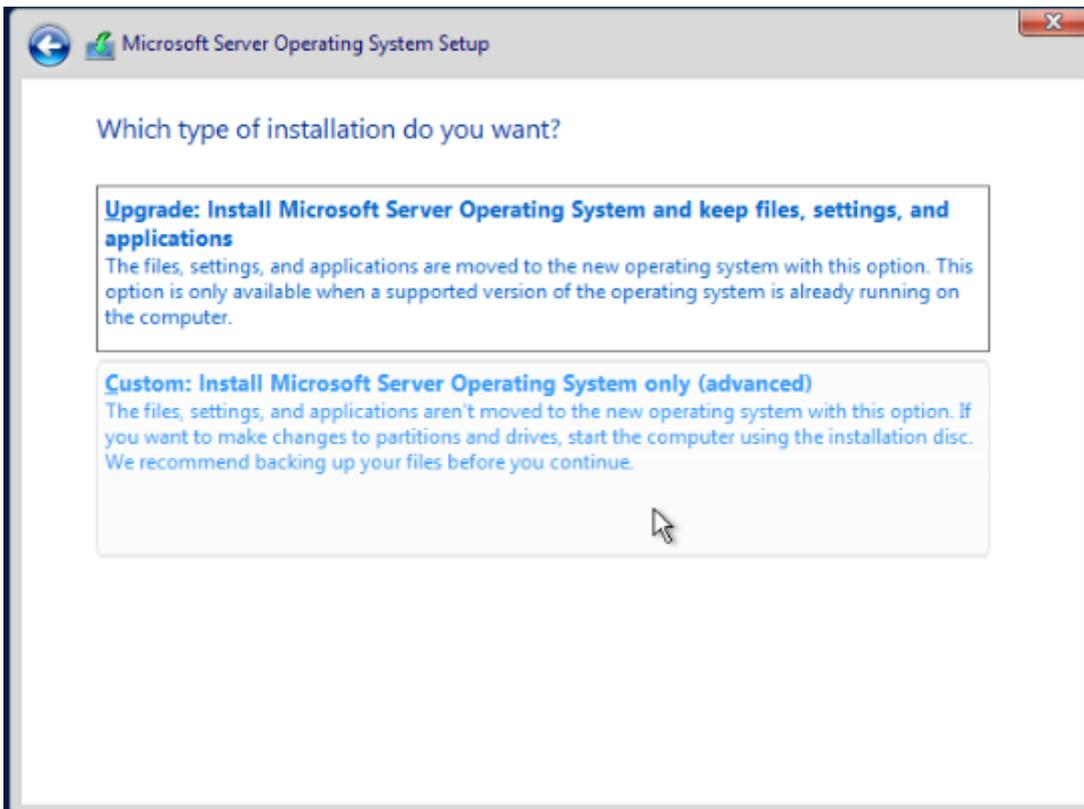
VM Hardware

Once created, select your VM and navigate to the hardware section. Select Add, and add CD/DVD device. Here, you'll add the VirtIO driver. I've already added it, so you'll see 2 CD/DVD Drives.

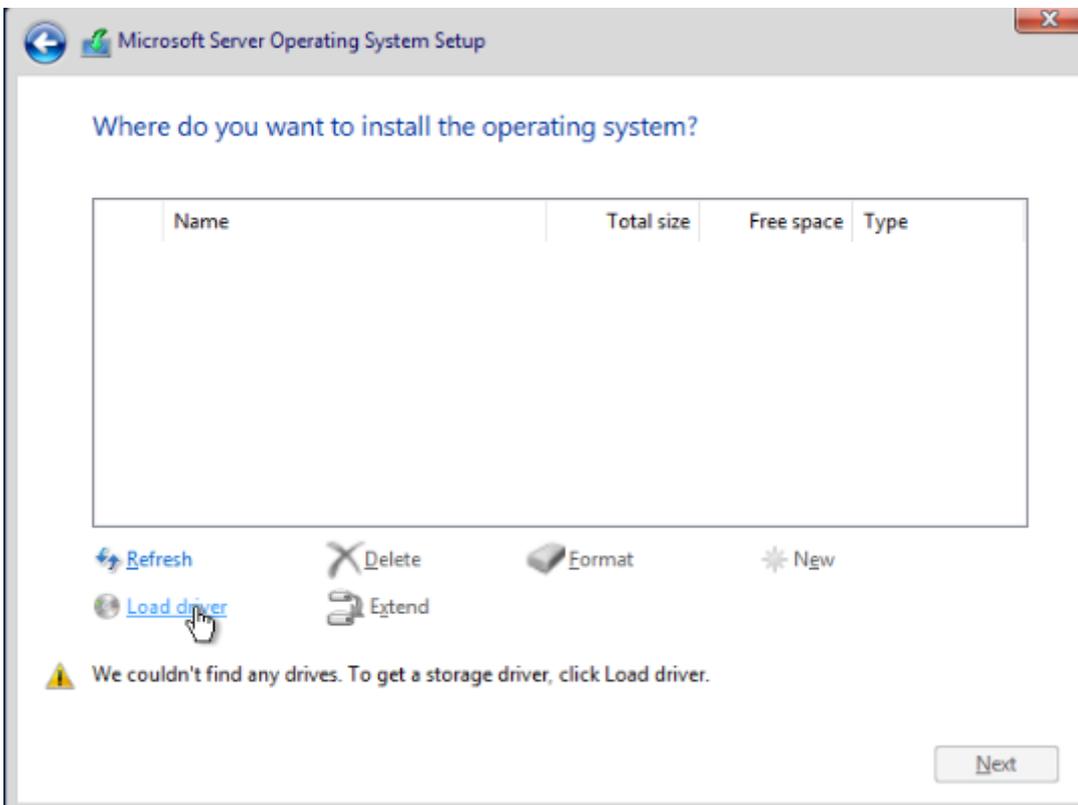


Installation

Start your VM to begin installation and navigate into the console section of your VM. Select defaults as desired. Once the installer reaches installation type, select Custom:



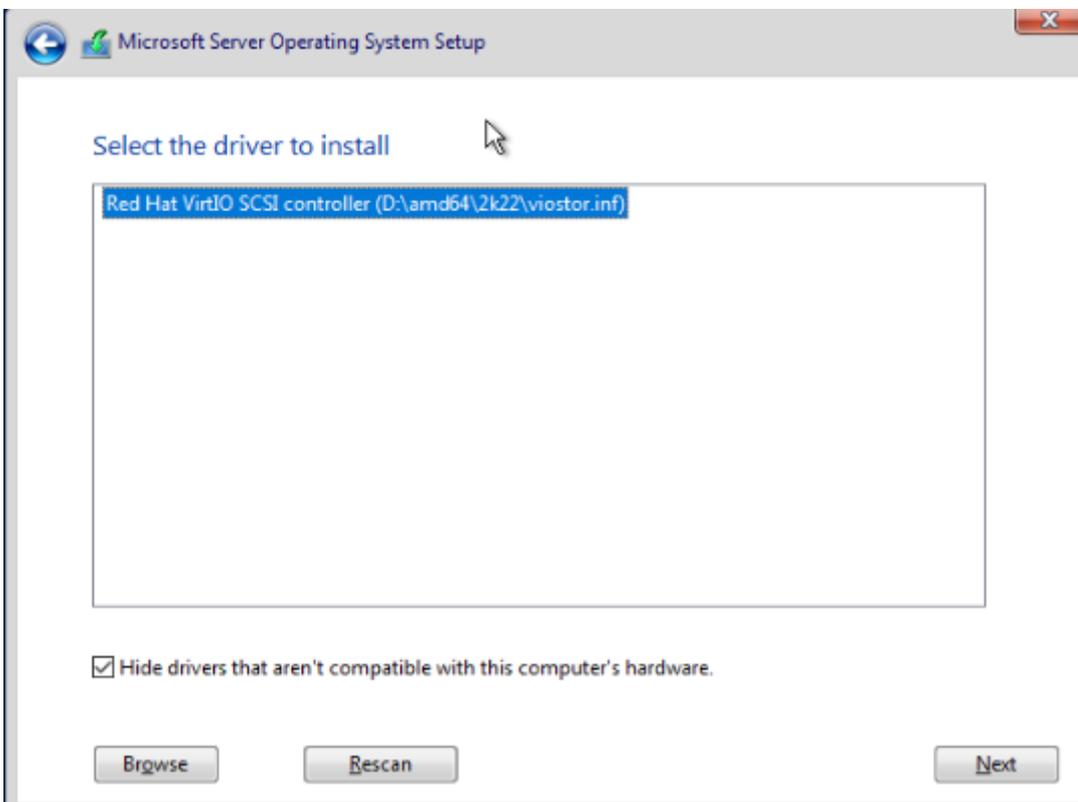
Here, you'll load the VirtIO driver:



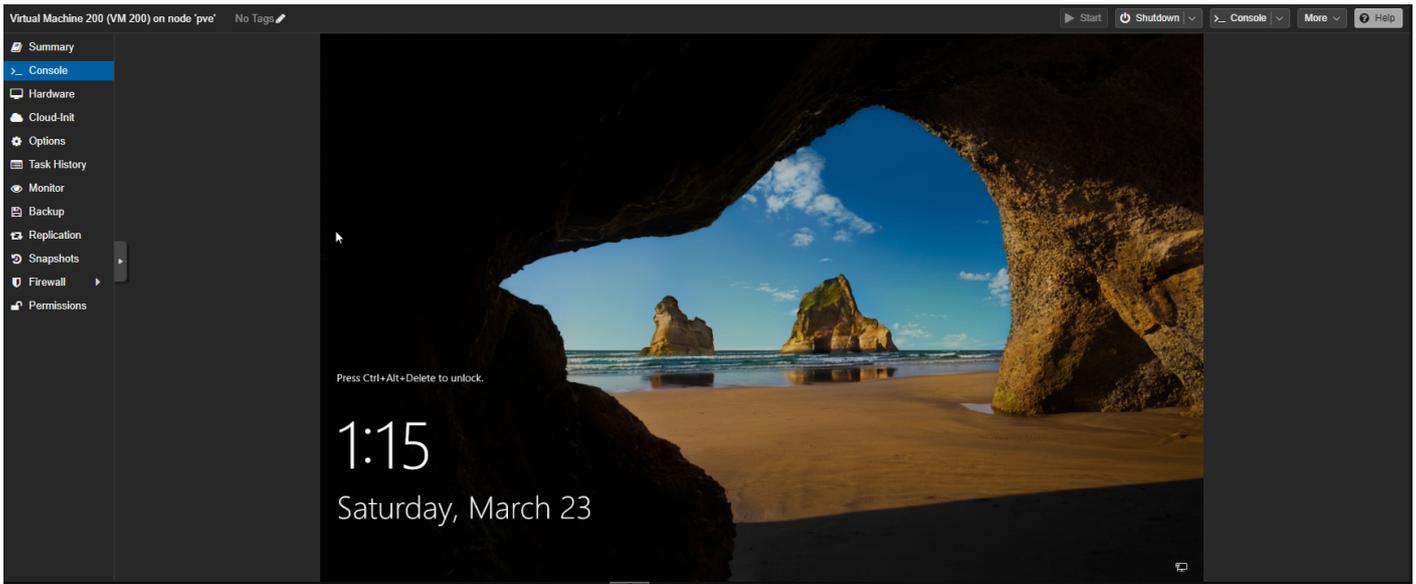
Select Browse, then select the following:

- CD Drive (D:) virtio-win-X.X.XXX ---> amd64 ---> 2k22

Select the Red Hat VirtIO SCSI Controller, then click next:



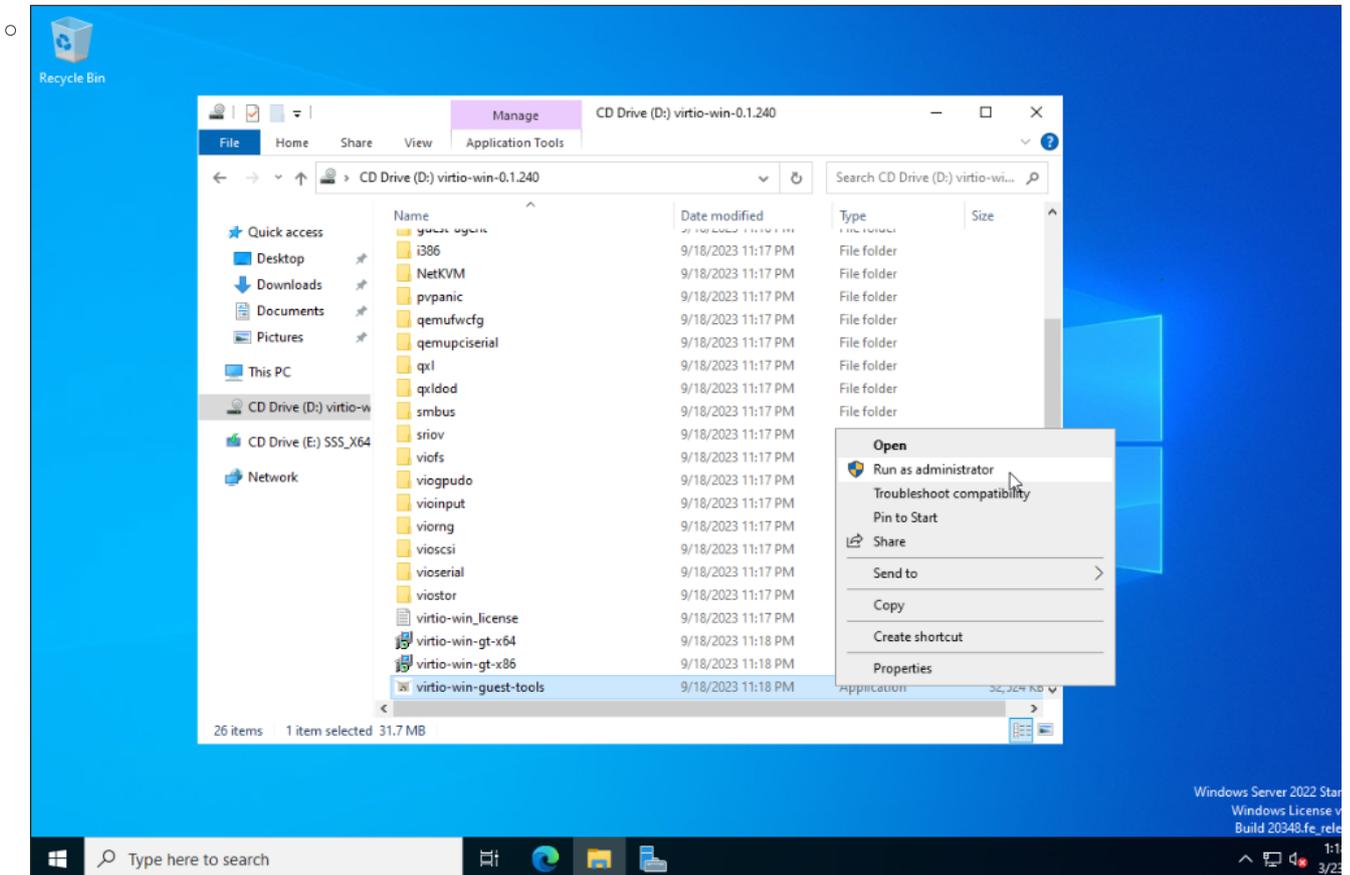
Once installed, it will ask you what disk you'd like to use. Select the Disk and then continue the install. Once the device reboots, you'll be prompted to enter an admin password, then you should arrive at the following screen:



Final Steps

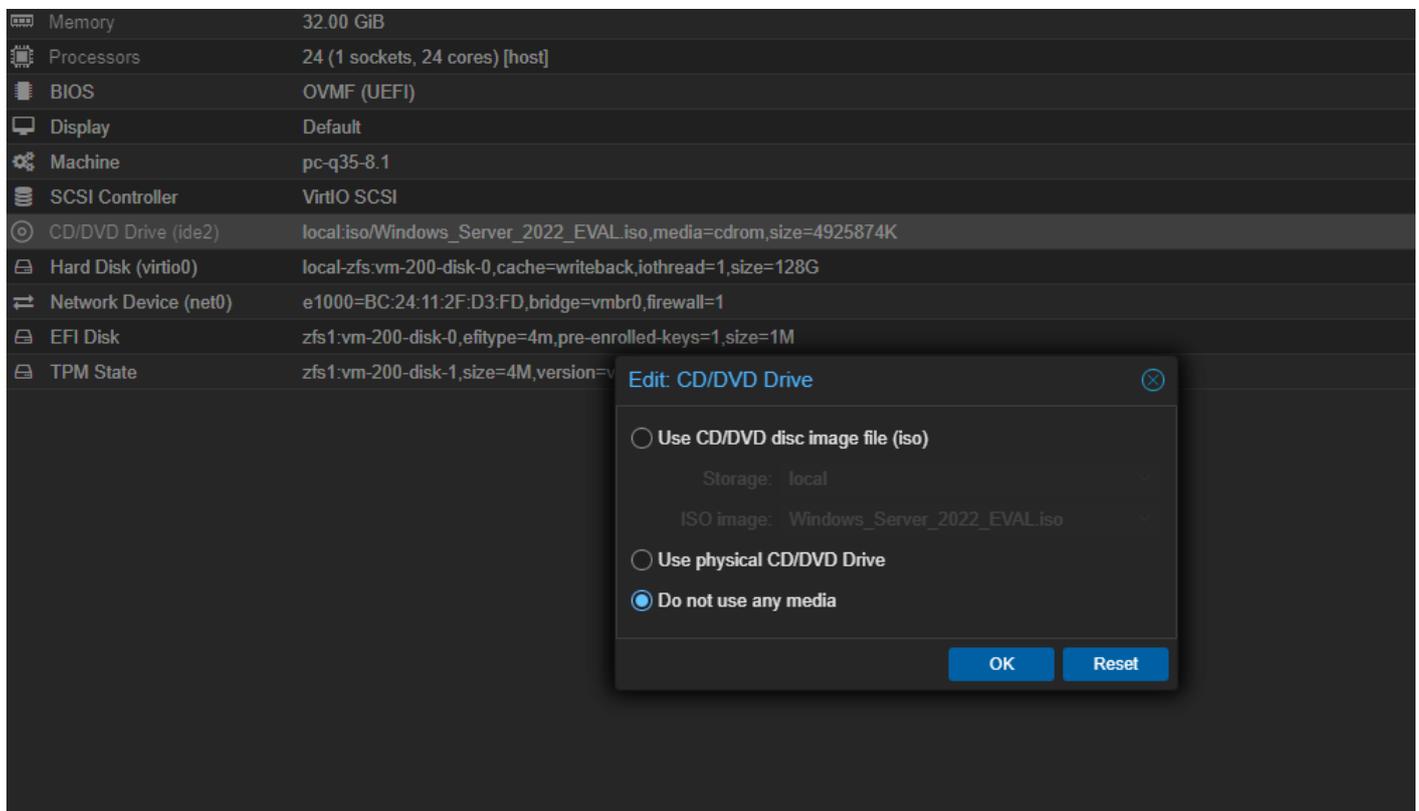
The last thing you'll need to do is install the VirtIO win-guest tools and then remove boot drives attached to the VM to ensure proper installation.

- Launch the virtio-win-guest-tools application as administrator by navigating as follows:
 - File Explorer --> CD Drive (D:) --> virtio-win-guest-tools

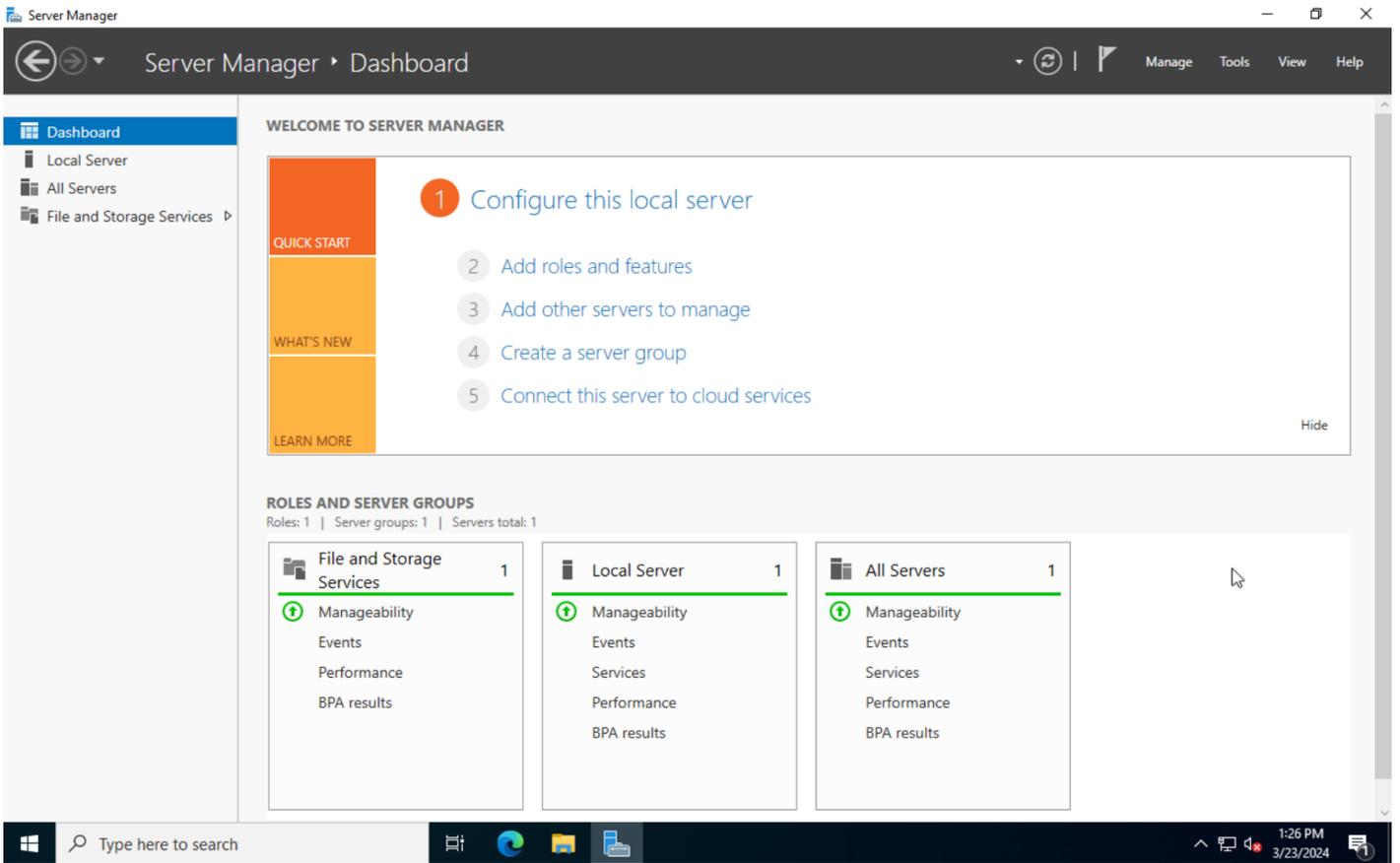


- o Select defaults for installer, then close out and power off VM.

Next, remove the CD Drive for VirtIO from the Hardware section of your VM in Proxmox, and then configure the Server ISO CD/Drive to "Do not use any media":



Your installation of Windows Server is now complete!



Revision #3

Created 23 March 2024 19:47:19 by Austin

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