

How to Create Data Pools in FreeNAS SCALE having an Unassigned Unformatted Secondary Data Disk

I have installed truenas scale but i need to format a 4TB storage drive and create storage pool, etc. Please help.

In TrueNAS SCALE, you do not manually format drives; the system formats them automatically when you create a storage pool through the web user interface.

Follow these steps to configure your 4TB drive and set up your initial storage pool and datasets:

1. Access the Dashboard. Open a web browser on another computer connected to the same network. Enter the IP address displayed on your TrueNAS SCALE console screen. Log in with your admin credentials.
2. Verify Your Drive. Before making a pool, confirm that TrueNAS detects your disk hardware properly: Navigate to Storage from the left-hand menu sidebar. Click on the Disks button or widget. Locate your 4TB drive in the list and ensure its status is listed as Unassigned.
3. Create the Storage Pool. Go back to the main Storage screen and click Create Pool. Name the pool: Enter a simple name (e.g., DataPool or Storage1). Avoid spaces or special characters. Select Layout: Choose your layout structure under the Data VDEVs section. Note: If this 4TB drive is the only drive you are adding, your only layout option is Stripe. A stripe layout provides no data redundancy. If the drive fails, the data is lost. For data protection, ZFS normally requires a Mirror (minimum 2 drives) or RAIDZ1 (minimum 3 drives). Assign the Drive: Check the box next to your 4TB unassigned drive to move it into the VDEV. Click Save and Go to Review (or Next through the optional optimization steps like cache/log drives). Review the summary and click Create Pool. Confirm the warning prompt that any existing data on the drive will be erased.
4. Create a Dataset TrueNAS pools cannot share files directly; you must build a "dataset" directory inside the pool first: Navigate to Datasets from the left-hand menu. Select your newly created pool from the tree list. Click Add Dataset on the top right. Name the dataset (e.g., Media, Backups, or Shares). Leave the remaining default ZFS settings as they are and click Save. Your 4TB drive is now completely formatted, pooled, and ready for you to configure network sharing protocols like SMB (for Windows/macOS) or NFS (for Linux). Do you have additional drives you want to mix into this pool for redundancy, or would you like to set up Windows network sharing (SMB) for this specific drive next?

How to Install VM within TrueNAS Scale in order to then Install Windows 11 Pro Along side the NAS

In TrueNAS SCALE, I want to set aside space in the datapool disk storage to install Windows 11 pro on

a virtual machine. Do I create a zfs volume after i create a datapool of the entire 4TB data drive?

Yes. First, create your data pool using your 4TB drive. Afterward, you will create a ZFS Volume (zvol), which acts as a virtual hard drive to store your Windows 11 installation. Creating the VM and storage involves a specific sequence of steps:

1. Create the 4TB DatapoolGo to Storage in the left-hand menu of the TrueNAS SCALE UI. Click Add and select Create Pool. Select your 4TB drive, move it to the data vdev list, and give the pool a name (e.g., Tank or VM_Storage).
2. Create the ZFS Volume (zvol)In the Storage menu, click the Settings (three dots) next to your newly created pool. Select Add Dataset. Under Dataset Name, name it something relevant like Win11_Disk. Set the Dataset Preset to VM. Under Capacity, define the size of the Windows virtual drive (e.g., 100GB). It is generally a best practice to use Thin Provisioning if you want the storage to only consume space as you use it in Windows.
3. Set Up the Windows 11 VMGo to Virtual Machines on the left menu and click Add. Operating System: Select Windows. CPUs/Memory: Allocate at least 2 or 4 cores and 4GB+ of RAM depending on your needs. Boot Method: Select UEFI. Display Type: VNC. Disks: Select Create new disk, choose your newly created ZFS volume (zvol), and select VirtIO for the disk type (ensure you have the VirtIO drivers ISO ready during the Windows setup for networking and disk recognition). If you want to optimize your VM performance or need help finalizing the VM configuration, let me know: What CPU and RAM does your host system have? Do you need help finding the Windows 11 ISO and VirtIO drivers?
7 sites Adding and Managing Zvols | TrueNAS Documentation Hub
3 minute read. ... A ZFS Volume (zvol) is a dataset that represents a block device or virtual disk drive. TrueNAS requires a zvol ... www.truenas.com Creating Pools | TrueNAS Documentation Hub
You can also use the following options for the Pool Creation Wizard: * **Encryption** Select **Software Encryption (ZFS)** to encr... www.truenas.com Creating Storage Pools | TrueNAS Documentation Hub
Review Storage Needs We strongly recommend that you review your available system resources and plan your storage use case before c... www.truenas.com Show all

You said: I have 16GB Ram in the host system. What are the VirtIO drivers?

VirtIO drivers are specialized open-source device drivers designed to maximize VM performance. They let Windows communicate directly with TrueNAS SCALE's KVM hypervisor rather than forcing the hypervisor to slowly emulate physical hardware like an old Intel network card or a mechanical SATA drive.

Because Windows 11 does not natively include these VirtIO drivers out of the box, it won't see your virtual storage disk or network adapter during setup unless you manually load them. Why You Need Them

Disk Speed: The viostor or vioscsi driver gives your Windows VM direct, fast block-level access to your ZFS Volume.

Network Speed: The NetKVM driver allows for a virtual 10Gbps+ connection between the host system and the VM.

Stability: They prevent high CPU overhead and system stuttering inside the VM. How to Use Them for Windows 11

Download the Drivers: Grab the stable virtio-win.iso directly from the Fedora Peer Virtio-Win

Repository. Upload this alongside your Windows 11 ISO to your TrueNAS storage.

Mount Two CD-ROMs: When creating your VM in TrueNAS, add two virtual CD-ROM devices.

Mount the Windows 11 ISO to the first one, and mount the virtio-win.iso to the second.

Load the Disk Driver: During the initial Windows setup screen where it asks "Where do you want to install Windows?", the list will be completely blank. Click Load Driver, browse your secondary VirtIO CD-ROM drive, and navigate to the amd64 folder corresponding to your OS (or use the root viostor directory). The ZFS storage drive will immediately appear.

Install Remaining Drivers: Once Windows boots to the desktop, open the VirtIO CD-ROM drive in Windows Explorer and double-click virtio-win-gt-x64.exe to automatically install the rest of your network and guest management drivers. Managing Your 16GB Host RAM Since your host system only has 16GB of total RAM, resource allocation is highly critical:

The ZFS Trap: TrueNAS SCALE's file system (ZFS) natively utilizes up to 50% or more of your host RAM for caching data to keep your storage fast. Safe Allocation: Give the Windows 11 VM a strict maximum of 6GB to 8GB of RAM. If you allocate more than 8GB, you risk starving the underlying TrueNAS OS, which will destabilize your storage pool and potentially crash the host. Do you want step-by-step instructions on how to configure the dual CD-ROM layout in TrueNAS SCALE or would you like to explore how to configure a network bridge for the VM? 17 sites

Windows virtio drivers - KubeVirt user guide

Which drivers I need to install? ¶ * viostor, the block driver, applies to SCSI Controller in the Other devices group. * viorng, t... KubeVirt.io Virtio devices and drivers overview: Who is who - Red Hat Jun 11, 2020 — A virtqueue is just a queue of guest's buffers that the host consumes, either reading them or writing to them, and returns to the ... Red Hat Windows VirtIO Drivers - Proxmox VE Jun 5, 2026 — You can use an easy wizard to install all, or a selection, of VirtIO drivers. * Open the Windows Explorer and navigate to the CD-R... Proxmox Show all

You said: show me how to setup a network bridge for the VM inside truenas scale.

To set up a network bridge in TrueNAS SCALE, you must configure it through the main TrueNAS network interface settings, not inside the VM configuration itself. Creating a bridge links your physical network card to a virtual switch. This allows your Windows 11 VM to get its own unique IP address directly from your home router, making it a visible, first-class device on your local network.

Important Warning Before You Start, Do not apply network changes over a Wi-Fi connection. If you misconfigure a bridge over Wi-Fi, you will lose access to the TrueNAS UI. Always use a wired Ethernet cable. You will have 60 seconds to test and confirm the changes before TrueNAS automatically rolls them back to prevent a permanent lockout.

Step 1: Create the Network Bridge Log into your TrueNAS SCALE web UI. Navigate to Network in the left sidebar. Locate the Interfaces card and click Add. Set the Type to Bridge. Set the Name to br0 (or br1 if br0 exists). Scroll down to Bridge Members and check the box next to your physical network interface (e.g., eno1 or eth0).

Crucial Step: Look at your physical network interface settings. If it uses DHCP, check the DHCP box on this new Bridge interface. If it uses a Static IP, remove the IP from the physical card and type that exact static IP/subnet mask into this Bridge interface instead. The Bridge must take over the host IP management. Click Save.

Step 2: Test and Commit the Network Settings On the main Network page, a banner will appear saying Pending Changes. Click Test Changes. Click Test in the confirmation pop-up. Your screen might freeze for a few seconds as the network restarts. If successful, the UI will reload. Click Save Changes within 60 seconds to make the configuration permanent. If you get locked out, wait 60 seconds and TrueNAS will automatically revert the changes to restore your original access.

Step 3: Attach the Bridge to Your Windows 11 VM. Go to Virtual Machines in the left menu. Click the downward arrow on your Windows 11 VM to expand its settings, then click Devices. Click the three dots next to your NIC (Network Interface Card) device and select Edit. Change the Nic Type to VirtIO (this ensures max performance using the drivers discussed earlier). Change the Link Interface to your newly created bridge (e.g., br0). Click Save and start your VM. Would you like help with how to configure the dual CD-ROM layout in TrueNAS SCALE to install the drivers, or should we look at how to bypass the Windows 11 TPM 2.0 system requirements inside the KVM hypervisor?¹⁸ sites NFS Share to VM Guest but Block LAN Access Dec 12, 2021 — Create this bridge interface first, in the TrueNAS Network settings. Don't attach any interface as Bridge Members when setting up ...www.truenas.com Struggling to get VLANs to work with VMs : r/truenas Dec 17, 2022 — TrueNAS scale doesn't allow you to attach a VM to a VLAN, only to a bridge. Which is how I have it currently configured. I've trie... Reddit Installing HAOS (Home Assistant OS) in a VM Apr 1, 2024 — To connect it to your network you need to create a bridge interface in TrueNAS and connect the virtual network adapter in the VM's... TrueNAS Community Forums Show all.

You said: Look at how to bypass the Windows 11 TPM 2.0 system requirements inside the KVM hypervisor.

You have two options to handle the Windows 11 TPM 2.0 and Secure Boot checks inside TrueNAS SCALE's KVM hypervisor. You can either use a registry bypass trick during installation, or permanently activate a virtual TPM (vTPM) via the TrueNAS shell.

Option 1: The Quick Registry Bypass (Recommended) This is the easiest method and is handled entirely inside the virtual machine's display window during setup. Trigger the Error: Begin installing Windows 11 inside your VM. Proceed until you see the error message stating: "This PC doesn't currently meet Windows 11 system requirements." Open Command Prompt: On that exact error screen, press Shift + F10 on your keyboard. A black Command Prompt terminal will pop up over the installer. Launch Registry Editor: Type regedit into the command line and press Enter. Navigate to Setup: In the Registry Editor window, use the left-hand folder tree to navigate to: HKEY_LOCAL_MACHINE \ SYSTEM \ Setup Create the LabConfig Key: Right-click on the Setup folder, select New, and click Key. Name this new folder exactly LabConfig. Bypass the TPM Check: Right-click the newly created LabConfig folder. Select New > DWORD (32-bit) Value. Name it exactly BypassTPMCheck. Double-click it and change the Value data from 0 to 1, then click OK. Bypass the Secure Boot Check: Right-click LabConfig again. Select New > DWORD (32-bit) Value. Name it exactly BypassSecureBootCheck. Double-click it and change the Value data to 1, then click OK.

Resume Installation: Close out of both the Registry Editor and the Command Prompt windows. Click the back arrow at the top-left of the Windows installer screen to go back one page, then click Next again. The installer will now continue normally.

Option 2: Emulate a Virtual TPM via TrueNAS Shell. If you prefer a cleaner installation that does not touch the Windows registry and allows for standard Windows Update functionality, you can force KVM to pass a virtual TPM device directly into the VM. Go to Virtual Machines in TrueNAS SCALE and locate the ID number of your Windows 11 VM (e.g., ID: 1, 2, 3). Go to System Settings > Shell in the TrueNAS left sidebar. Run the following command (replace X with your specific VM ID number): `bashcli -c`

```
"service vm update id=X machine_type=\"q35\" arch_type=\"x86_64\"  
trusted_platform_module=true"
```

Use code with caution. This backend setting forces TrueNAS's underlying QEMU layer to emulate a valid TPM 2.0 chip dynamically, resolving the setup restriction across system reboots. If you want to move forward with the installation, let me know: Do you need instructions on how to boot from the VirtIO secondary CD-ROM to make your ZFS drive show up? Would you like to know how to optimize CPU core allocation so Windows runs smoothly alongside TrueNAS?

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