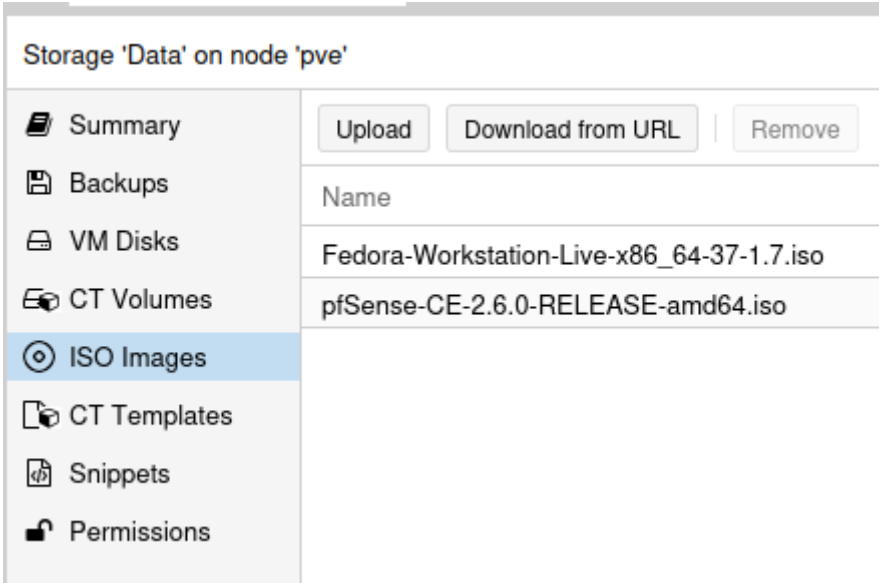
PFSense on Proxmox

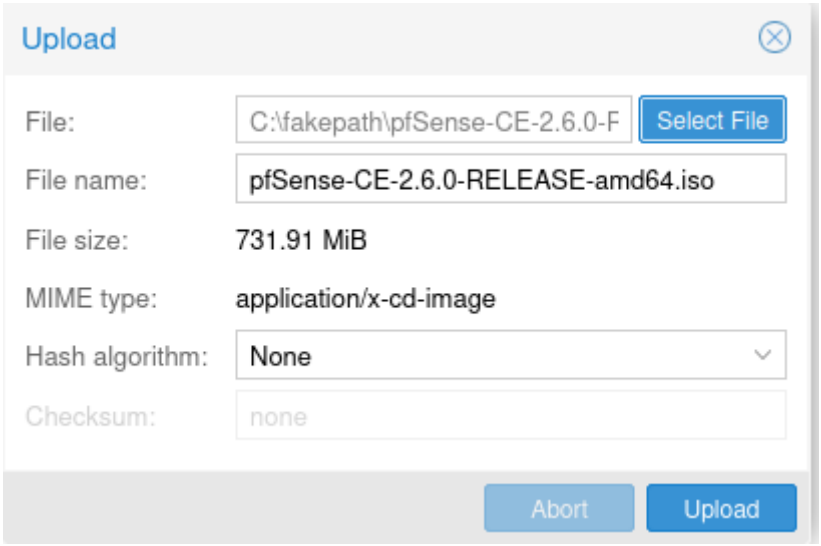
This is a short guide to install PFSense on Proxmox as VM

Download PFSense CE from https://www.pfsense.org/download/

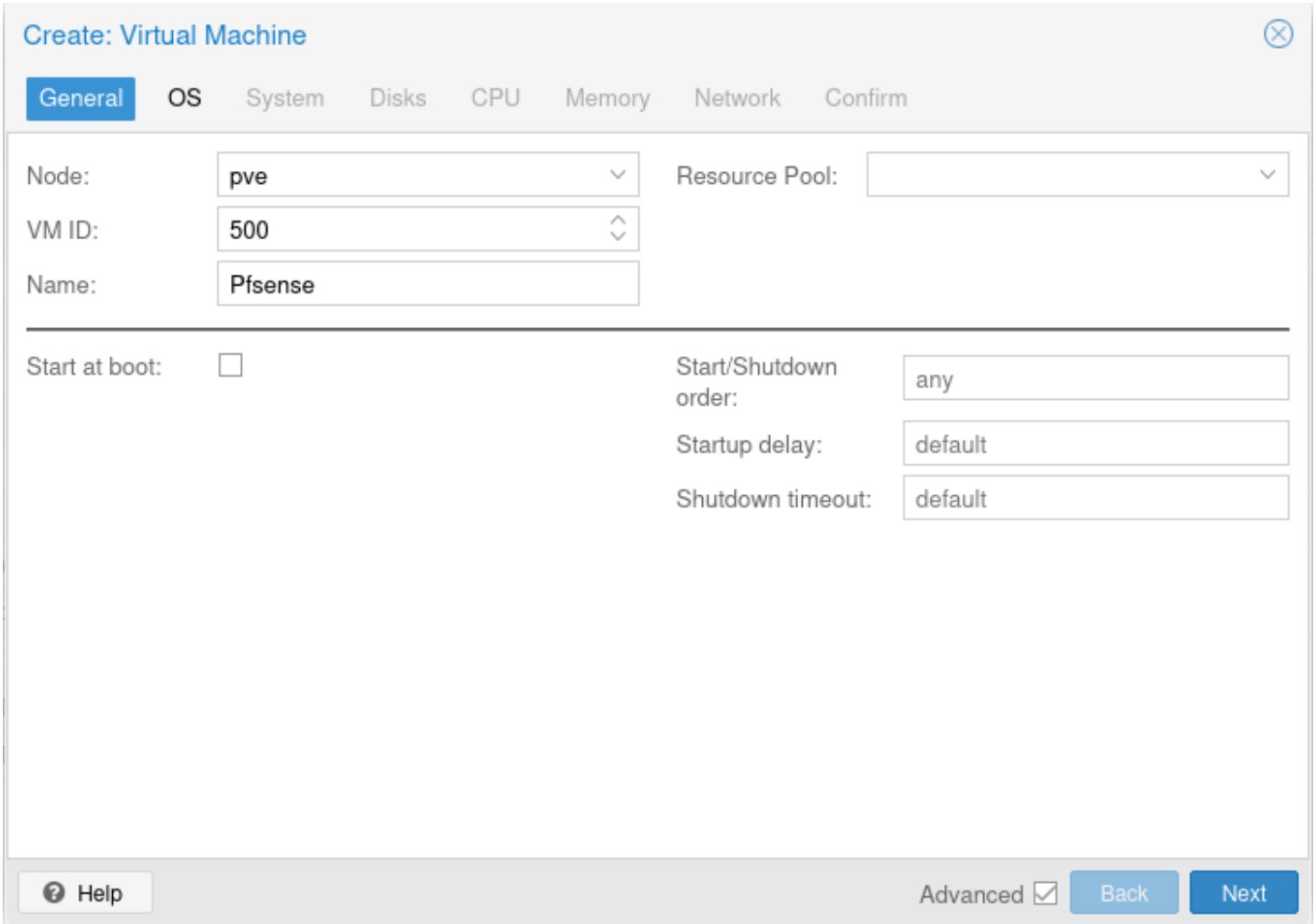
Upload or download iso to Proxmox

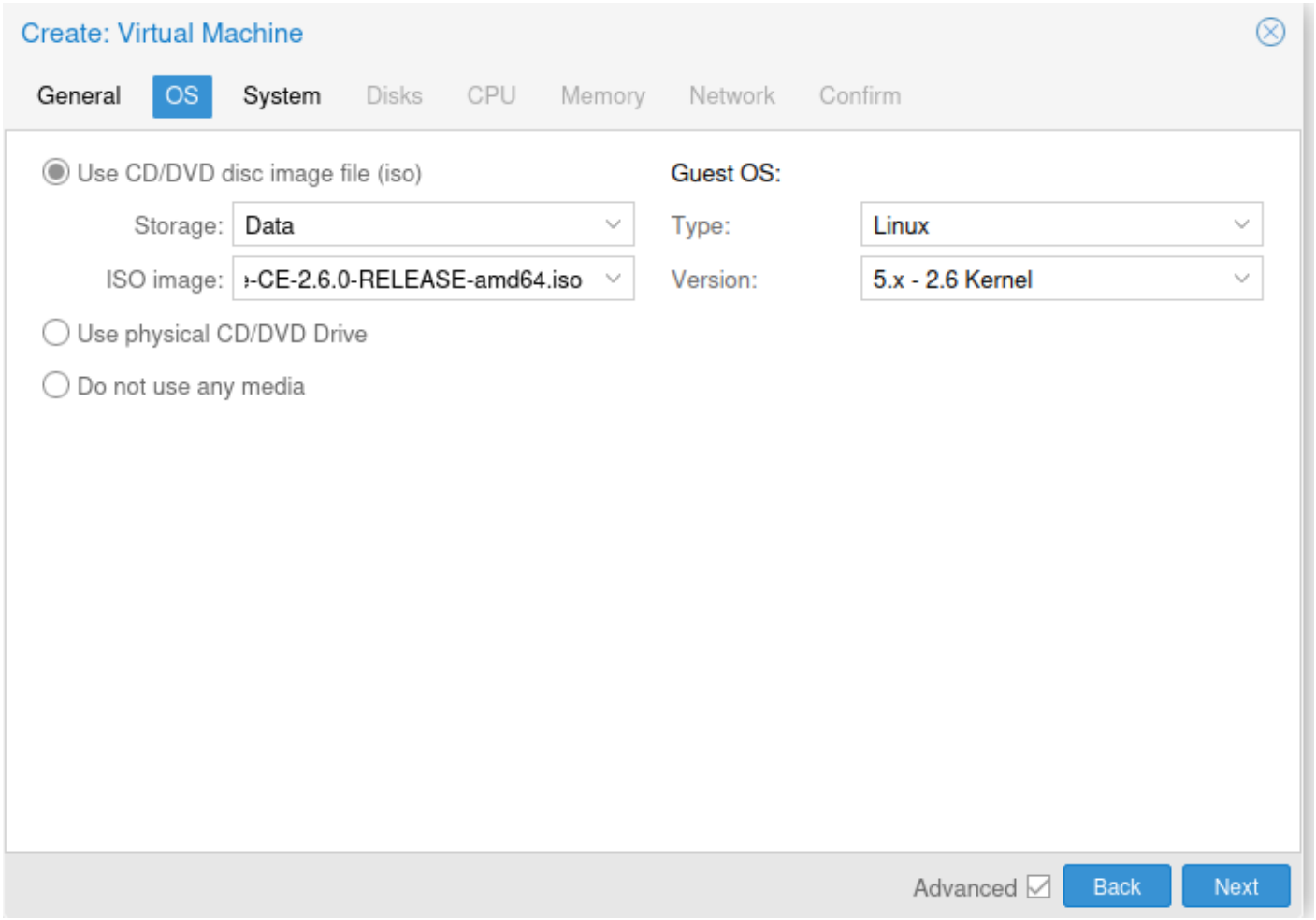
Navigate to your storage drive ,click on ISO Images, upload or download from URL

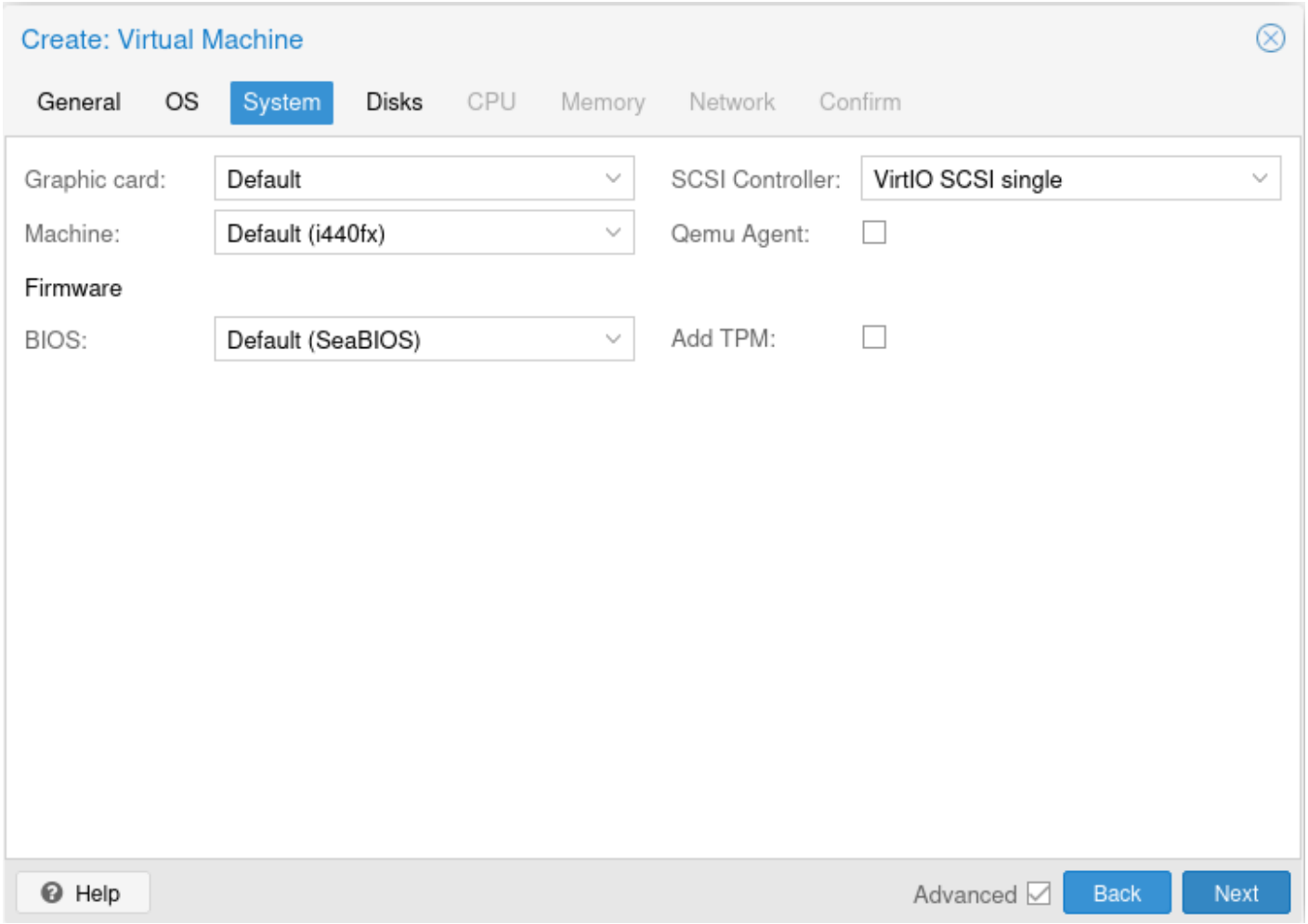


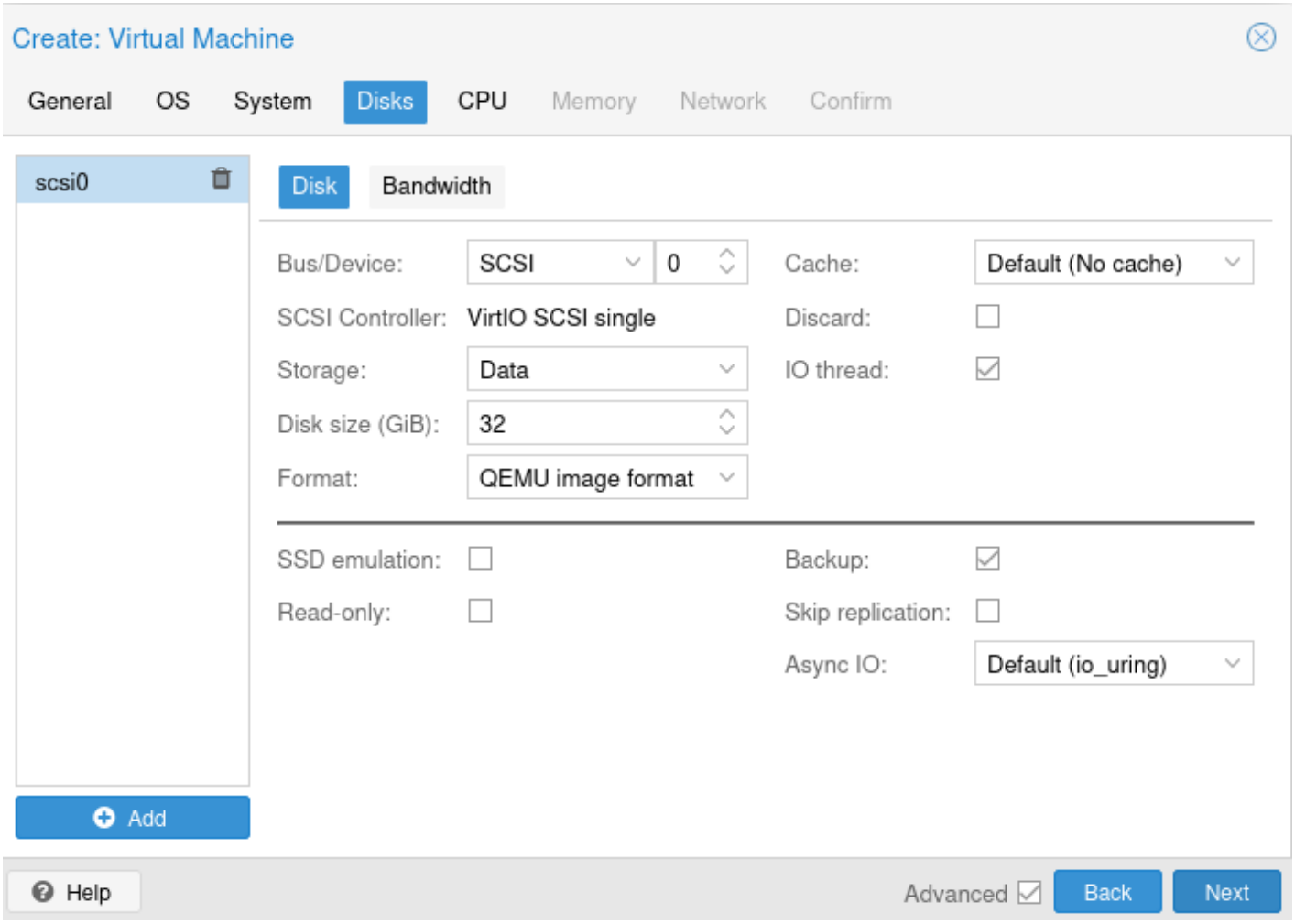


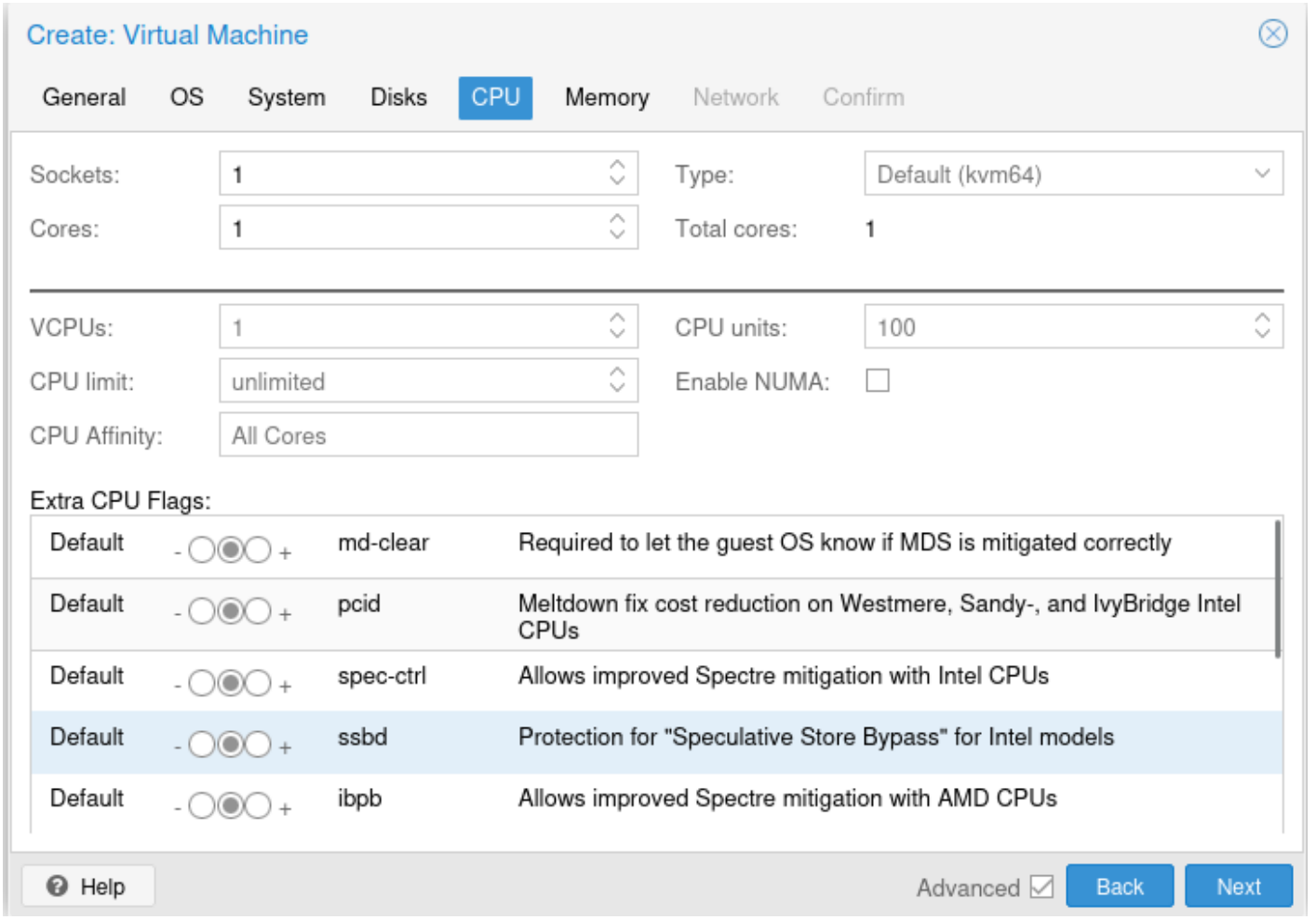
on Proxmox create new VM, for this LAB we will keep all settings default

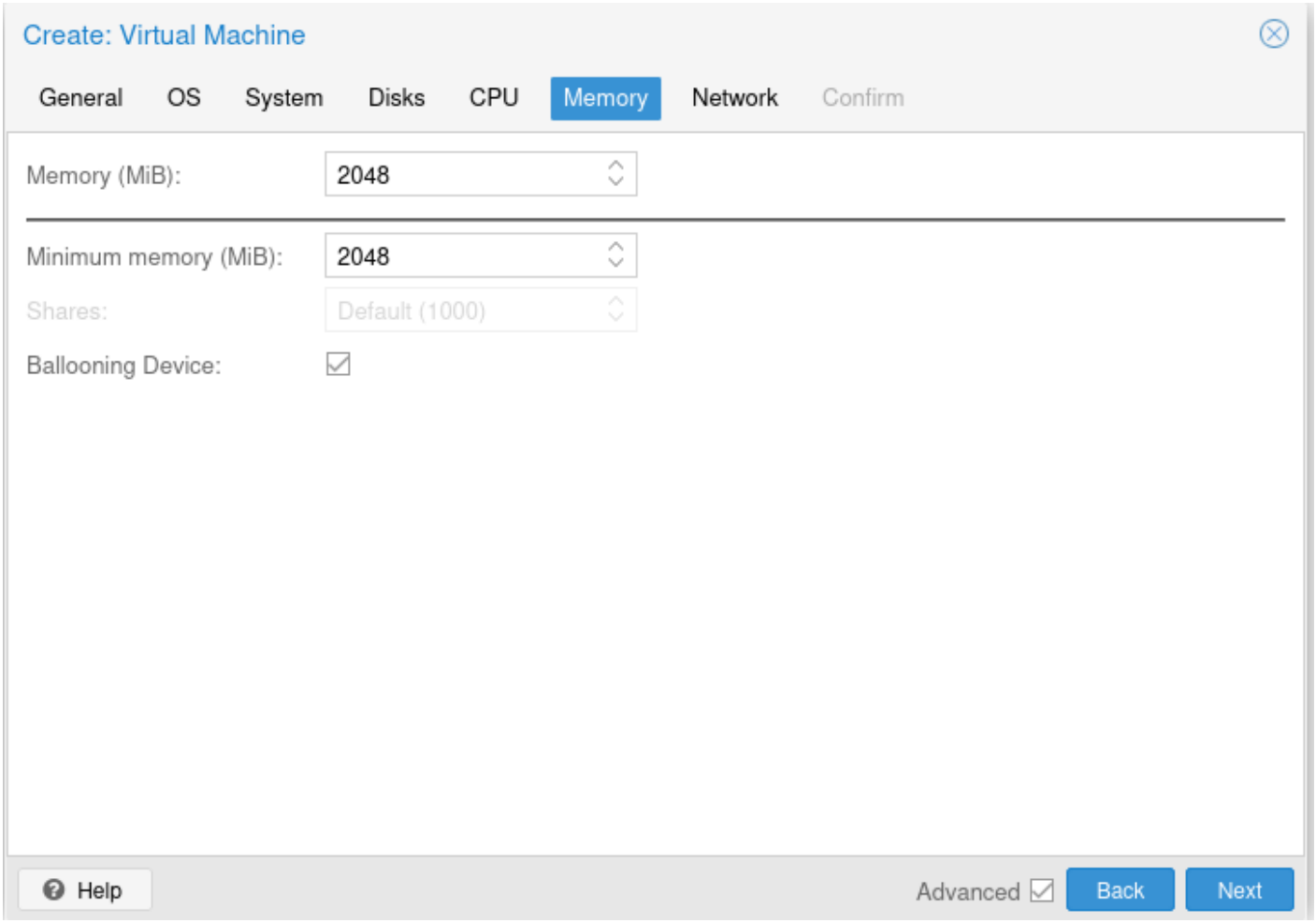


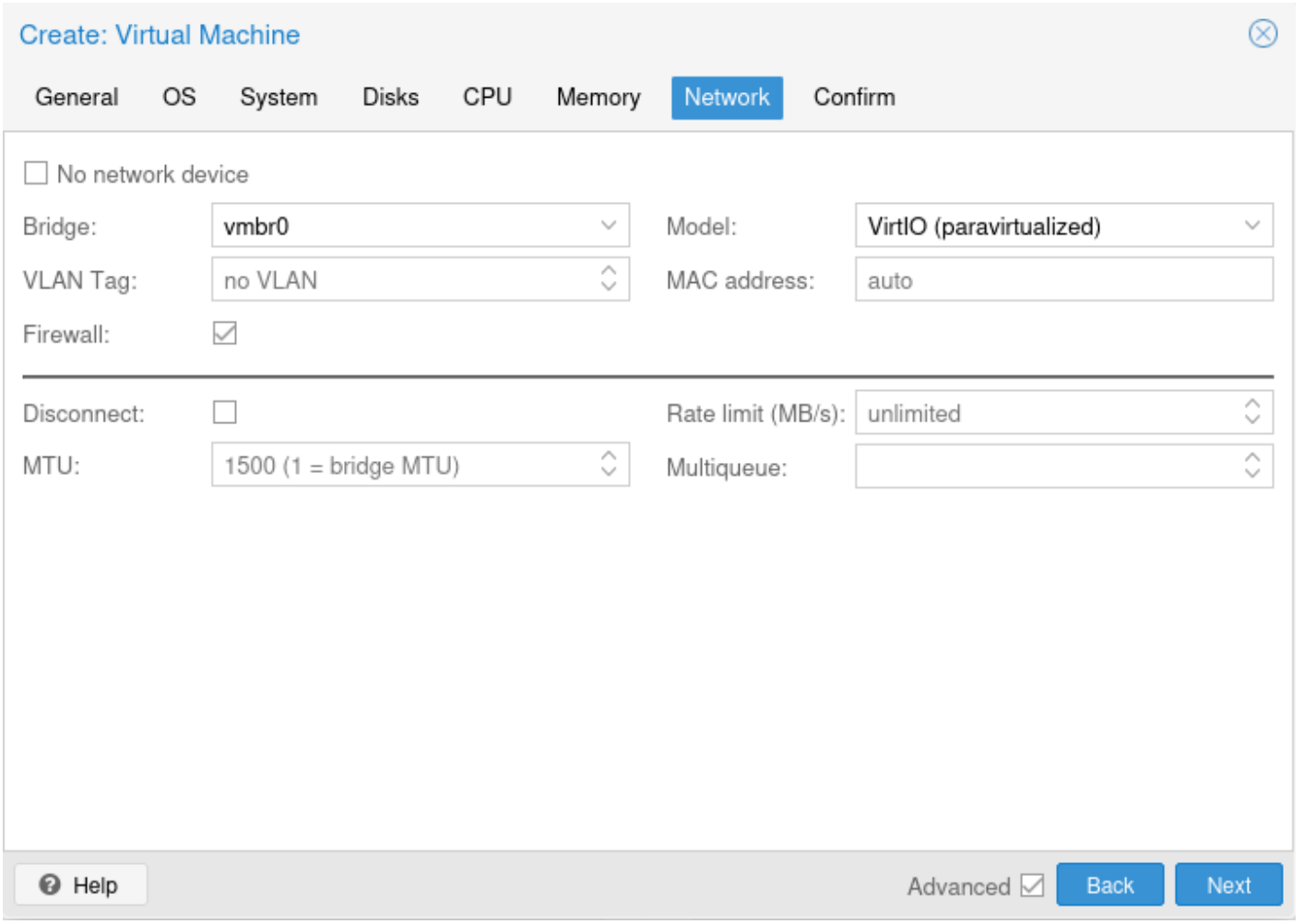

Create: Virtual Machine
General
OS
System
Disks
CPU
Memory
Network
Confirm
Use CD/DVD disc image file (iso)
Storage:
Data
ISO image:
-CE-2.6.0-RELEASE-amd64.iso
Use physical CD/DVD Drive
Do not use any media
Guest OS:
Type:
Linux
Version:
5.x - 2.6 Kernel
Advanced
Back
Next

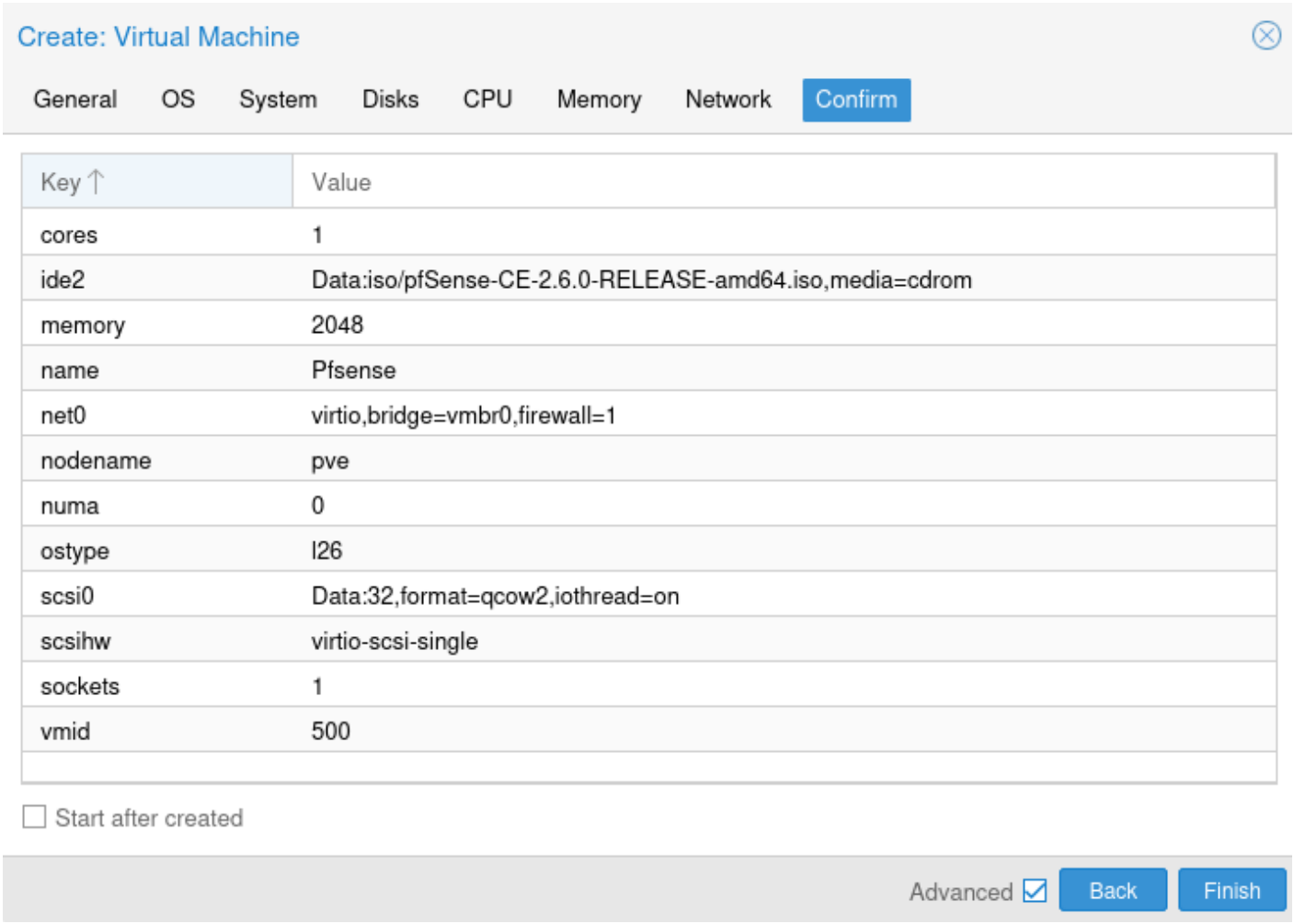

Create: Virtual Machine
General
OS
System
Disks
CPU
Memory
Network
Confirm
Graphic card:
Default
Machine:
Default (i440fx)
Firmware
BIOS:
Default (SeaBIOS)
SCSI Controller:
VirtIO SCSI single
Qemu Agent:
Add TPM:
Help
Advanced
Back
Next


Create: Virtual Machine
General
OS
System
Disks
CPU
Memory
Network
Confirm
scsi0
Add
Disk
Bandwidth
Bus/Device:
SCSI
0
SCSI Controller:
VirtIO SCSI single
Storage:
Data
Disk size (GiB):
32
Format:
QEMU image format
Cache:
Default (No cache)
Discard:
IO thread:
SSD emulation:
Read-only:
Backup:
Skip replication:
Async IO:
Default (io_uring)
Help
Advanced
Back
Next

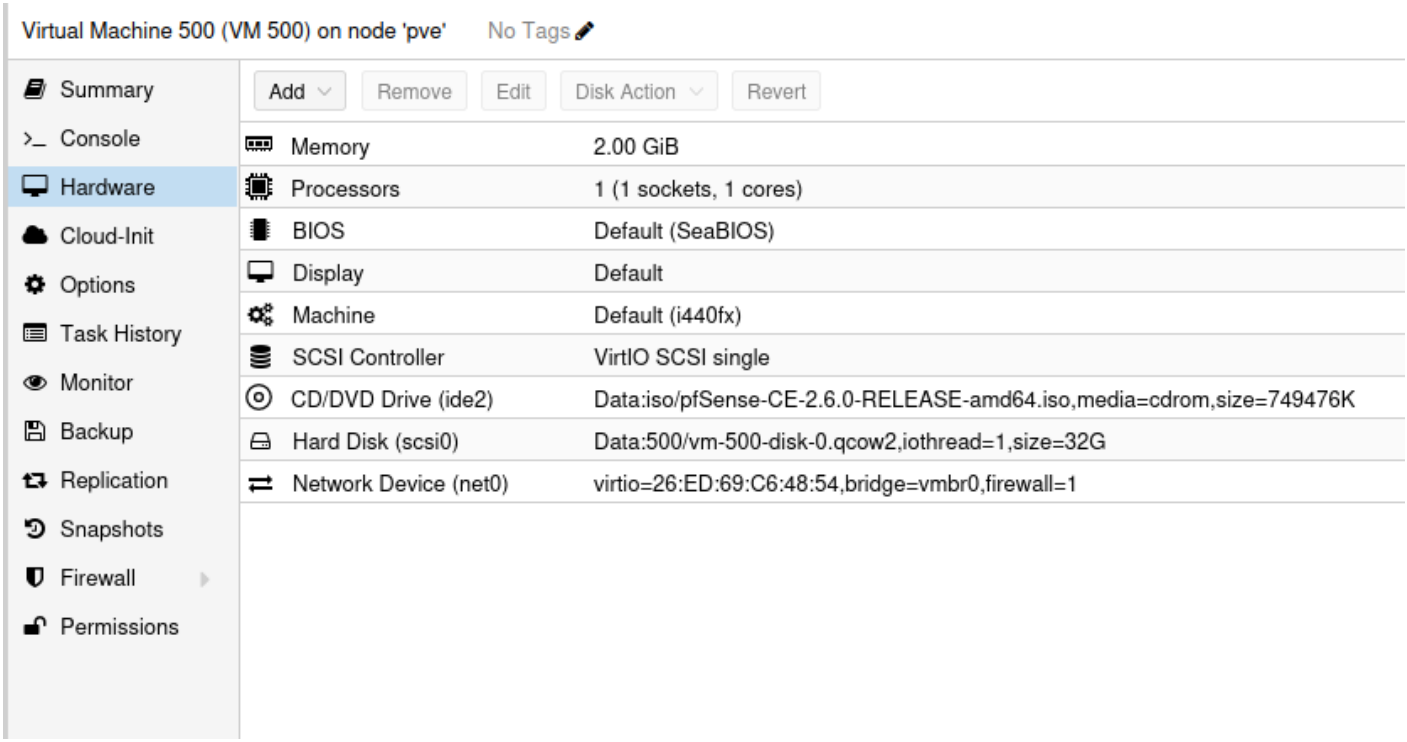

Create: Virtual Machine
General
OS
System
Disks
CPU
Memory
Network
Confirm
Sockets:
1
Type:
Default (kvm64)
Cores:
1
Total cores:
1
VCPUs:
1
CPU units:
100
CPU limit:
unlimited
Enable NUMA:
CPU Affinity:
All Cores
Extra CPU Flags:
Default
md-clear
Required to let the guest OS know if MDS is mitigated 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
Help
Advanced
Back
Next


Create: Virtual Machine
General
OS
System
Disks
CPU
Memory
Network
Confirm
Memory (MiB):
2048
Minimum memory (MiB):
2048
Shares:
Default (1000)
Ballooning Device:
Help
Advanced
Back
Next


Create: Virtual Machine
General
OS
System
Disks
CPU
Memory
Network
Confirm
No network device
Bridge:
vmbr0
Model:
VirtIO (paravirtualized)
VLAN Tag:
no VLAN
MAC address:
auto
Firewall:
Disconnect:
Rate limit (MB/s):
unlimited
MTU:
1500 (1 = bridge MTU)
Multiqueue:
Help
Advanced
Back
Next

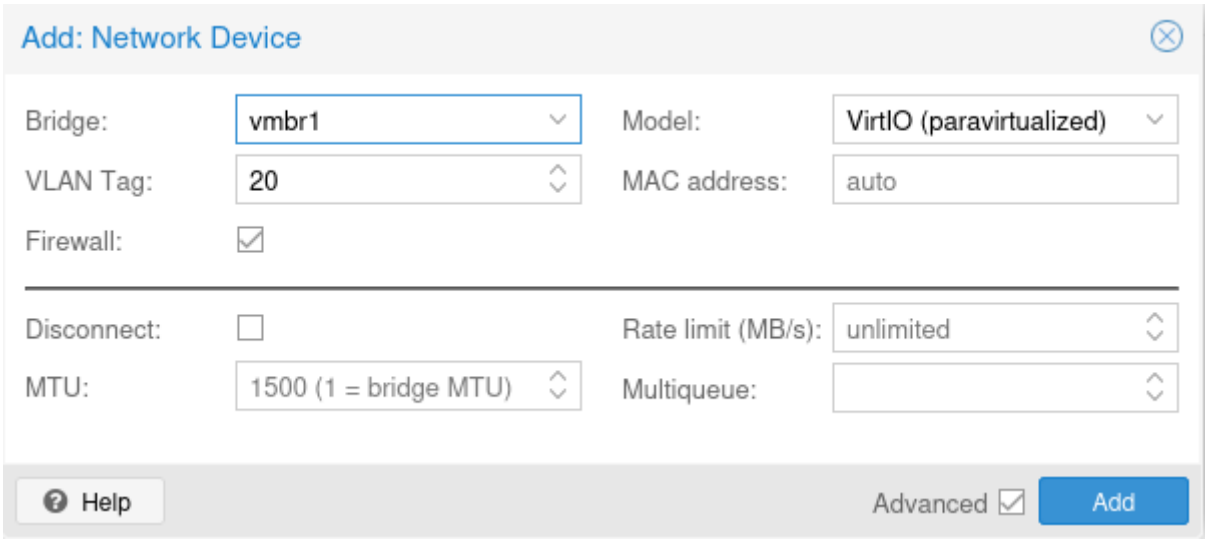


After its finish you can go to your virtual machine, navigte to hardware to add as many network interface you need, for our LAB we only need 2 one for WAN (Default nic) and one for LAN (to segment networks on our proxmox LAB.



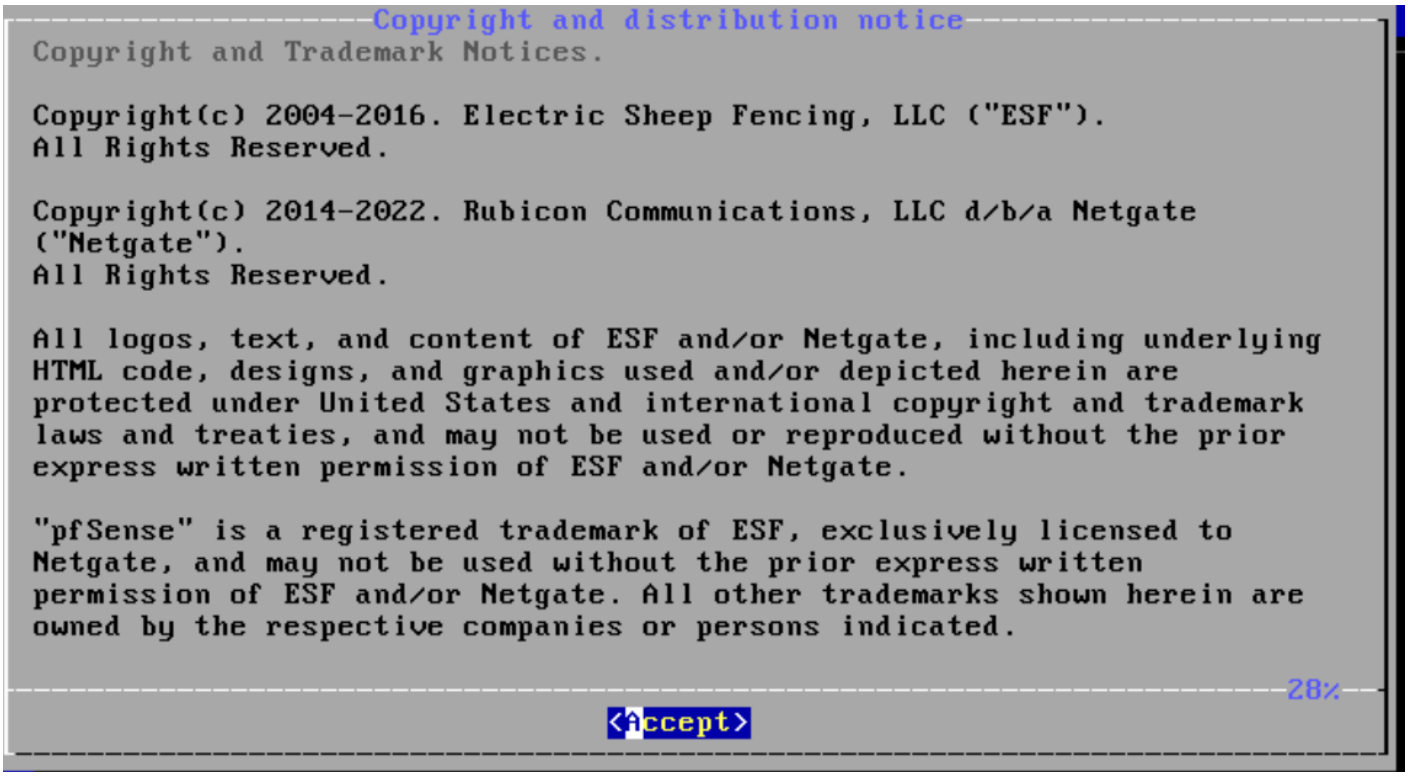
For our LAB we are adding vmbr1 (previously assigned on Proxmox pve/network/create linux bridge) our physical server has 3 physical NICs for testing.

we are also using vlan 20 for testing purposes, you can proceed without a vlan if not needed, click add.

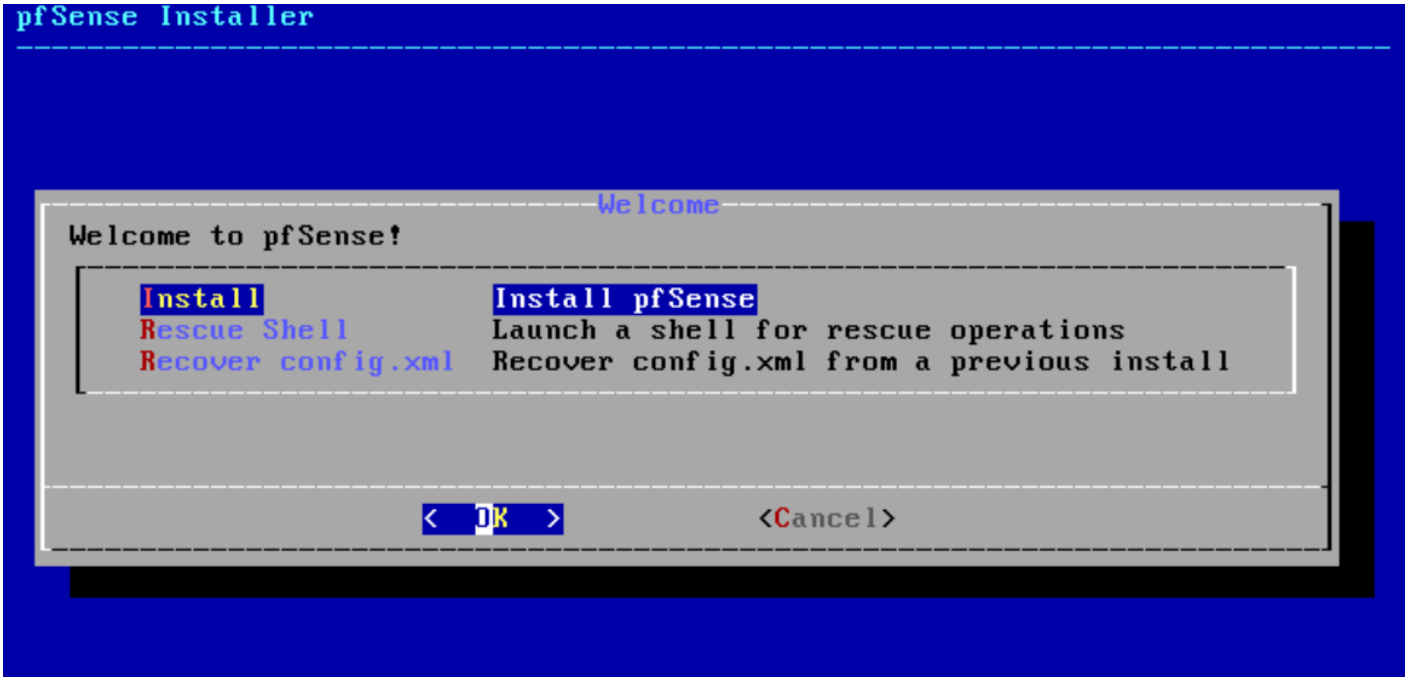


Now we are ready to turn on VM go to console and navigate thru the wizard.

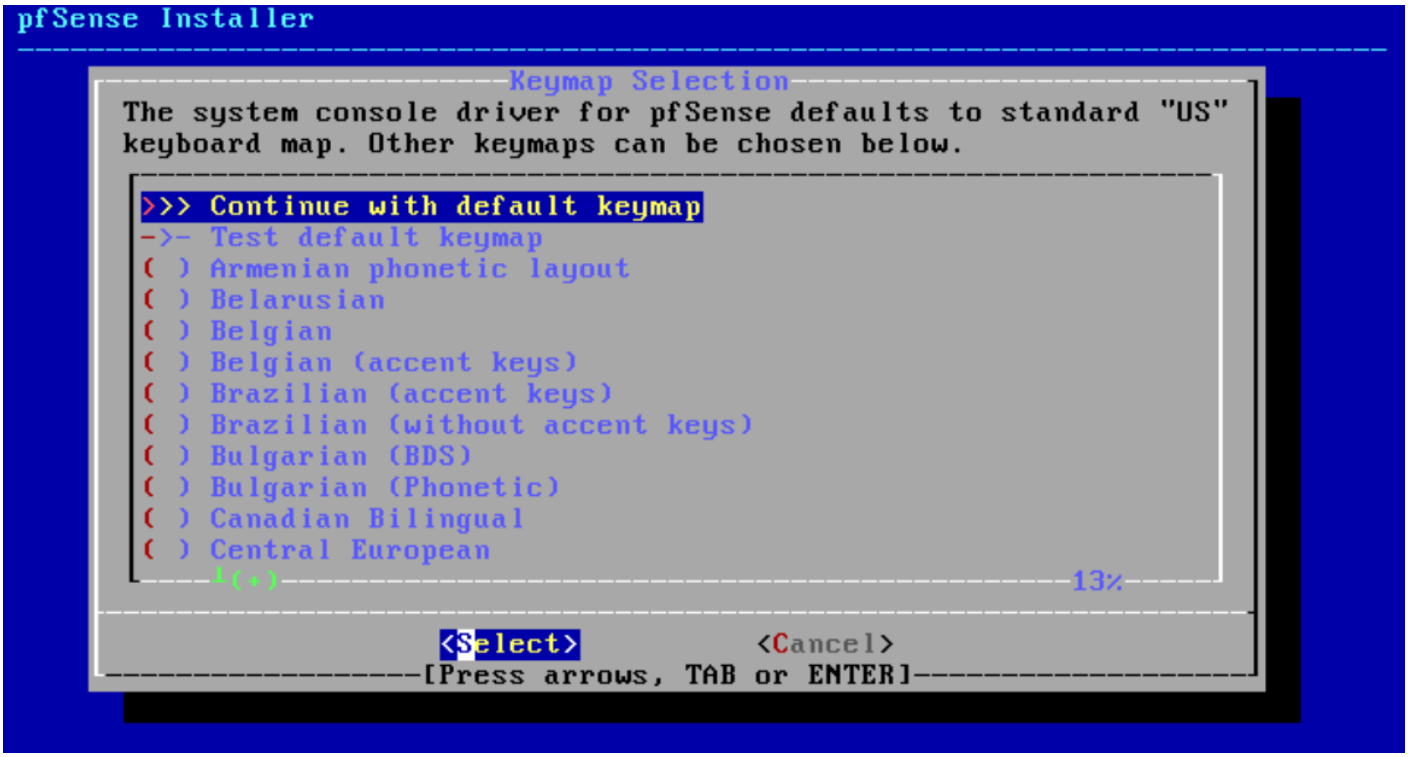
Click on Accept



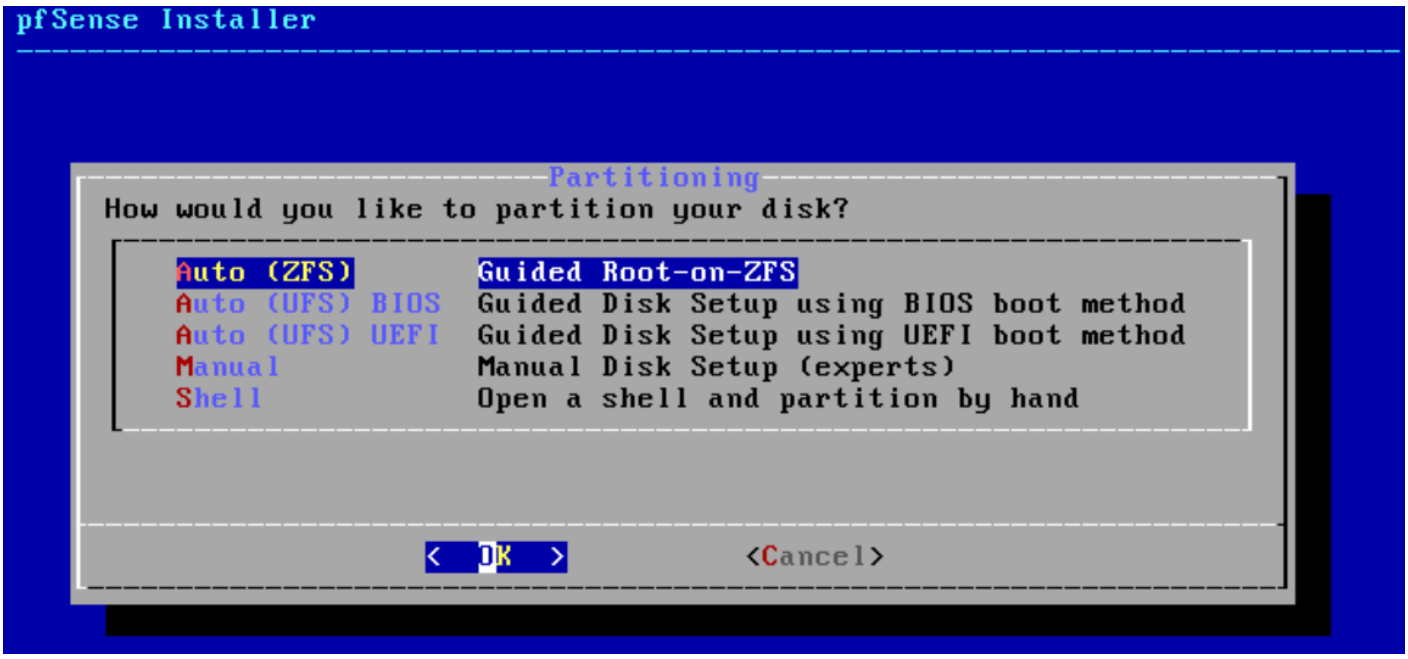
Select Install and ok



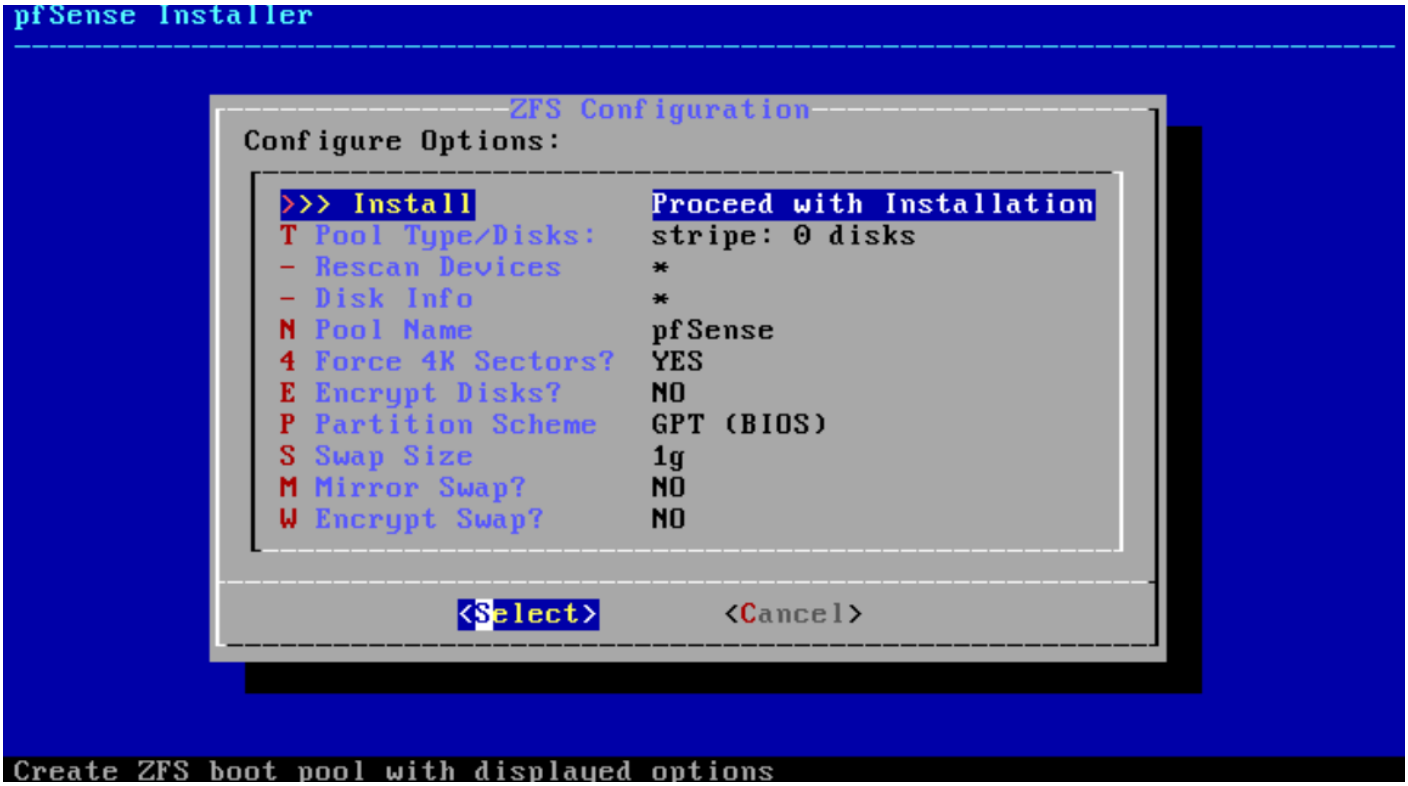
Default Keymap unless you need to select a different keyboard map



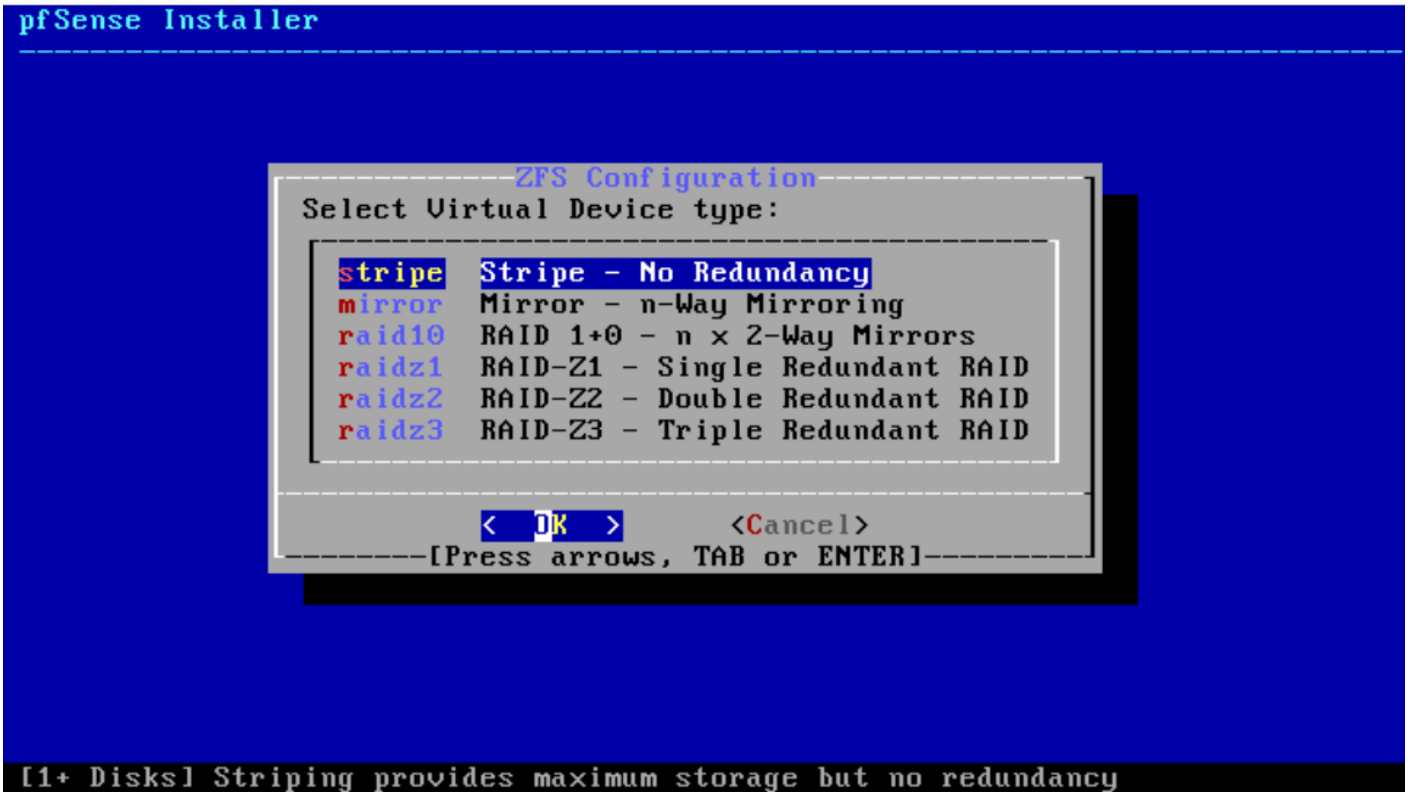
We will use an ZFS partition for this LAB as is virtual, if you are installing on a physical device you can use manual to specify your partition type



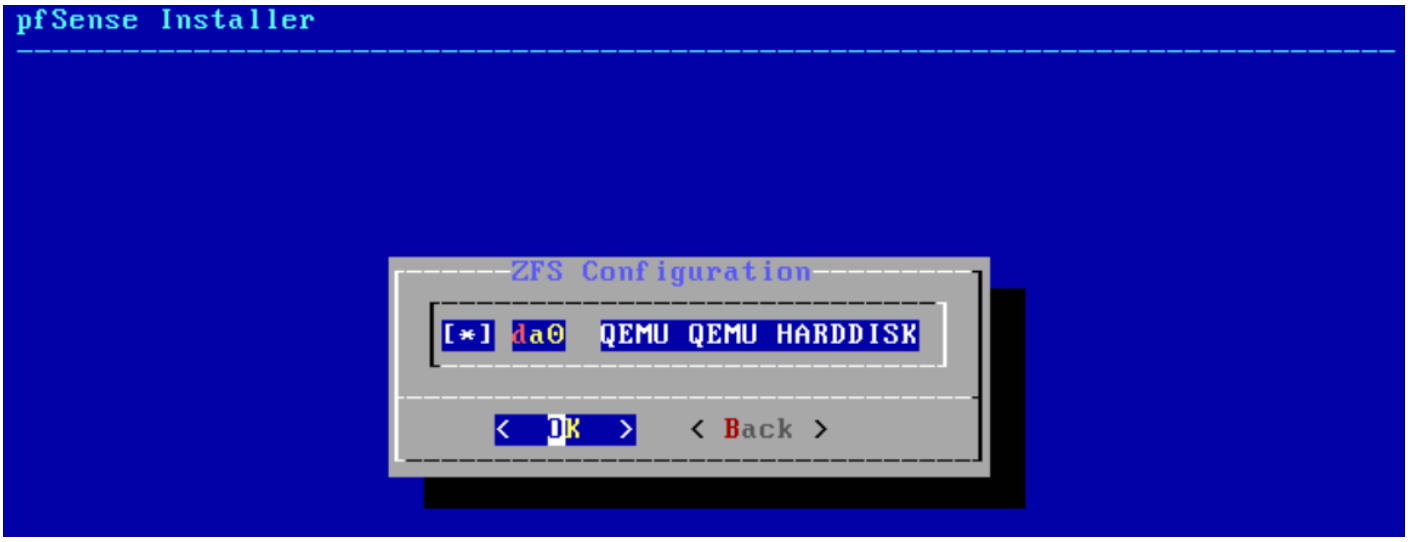
Proceed with Installation



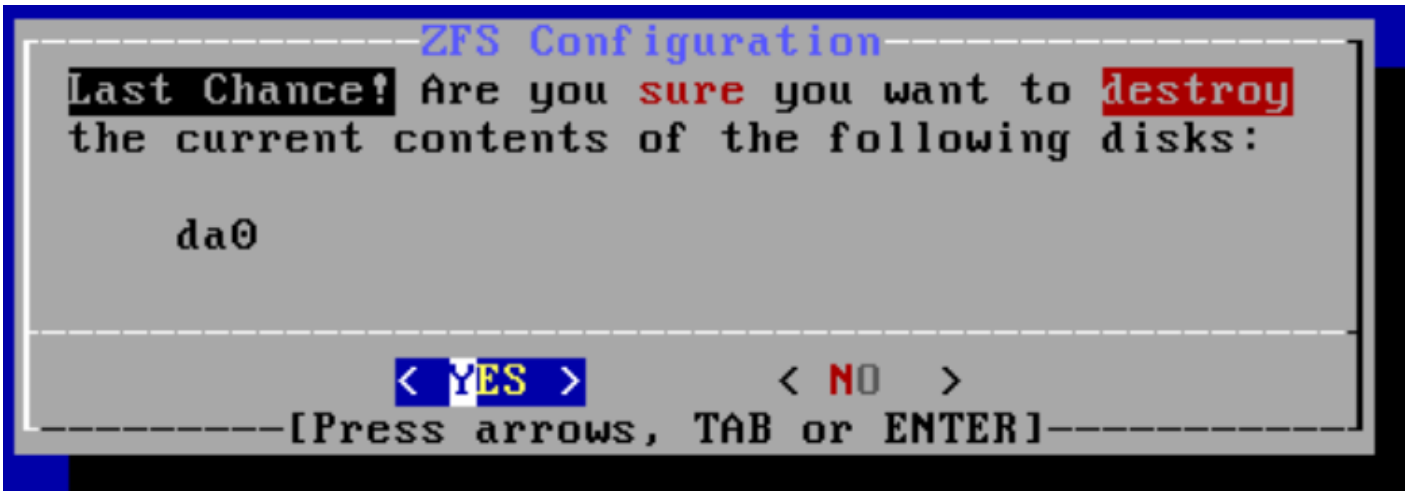
We will select Stripe as this is a virtual machine, no need for mirror zfs type, if you are installing this on a physical machine and would like to have raid type partition make sure to select mirror



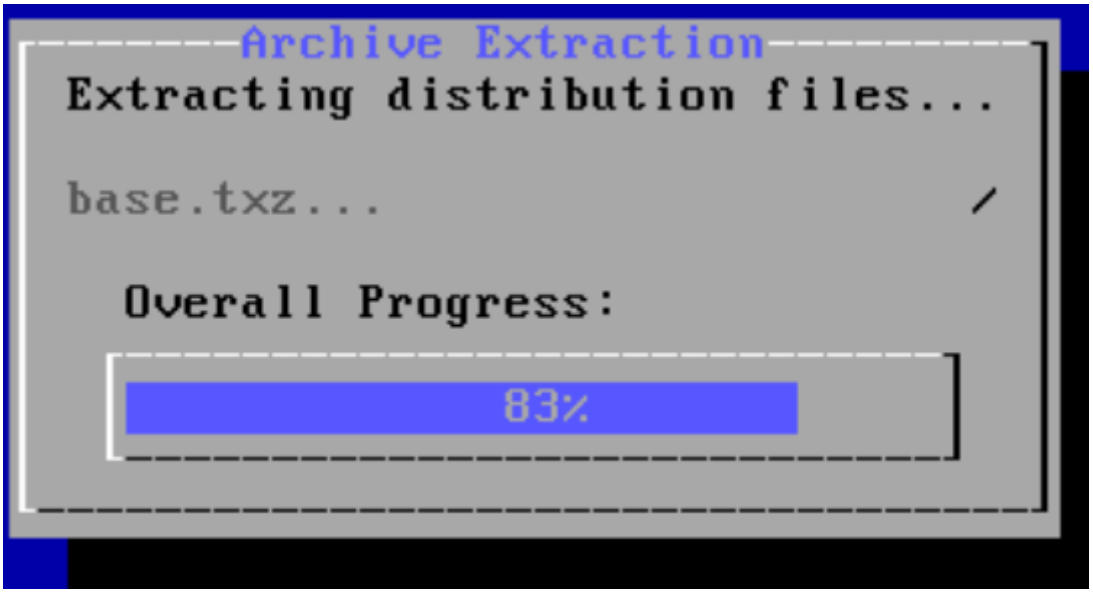
Confirm your configuration and select ok



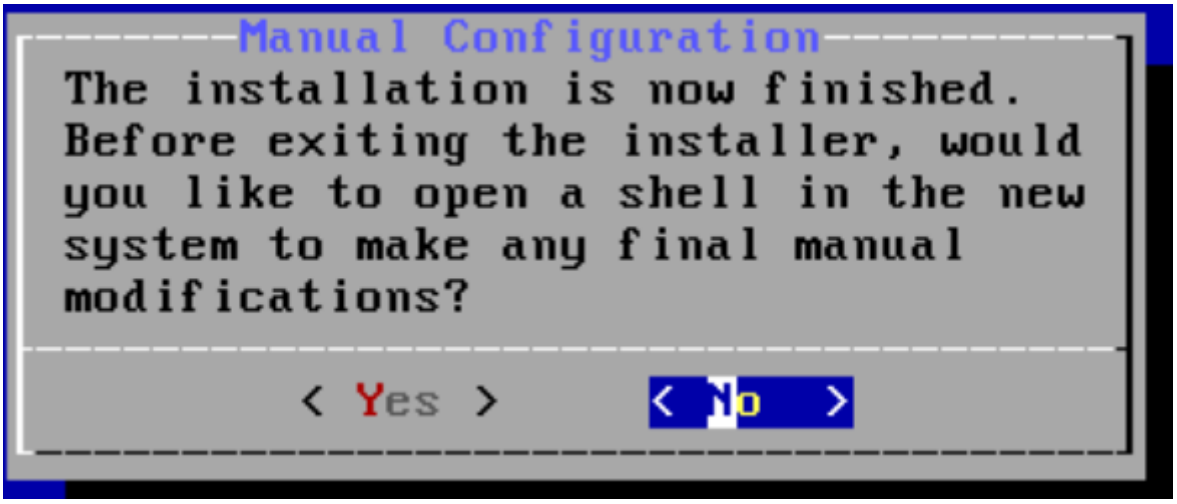
Last chance, make sure you select Yes unless you want to make any modification, select yes and press enter.



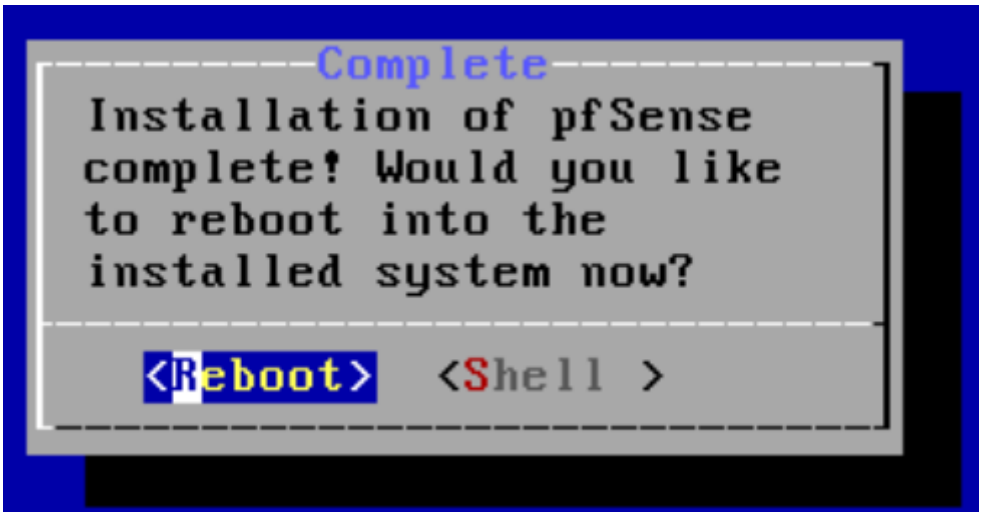
PFSense will begin the installation.



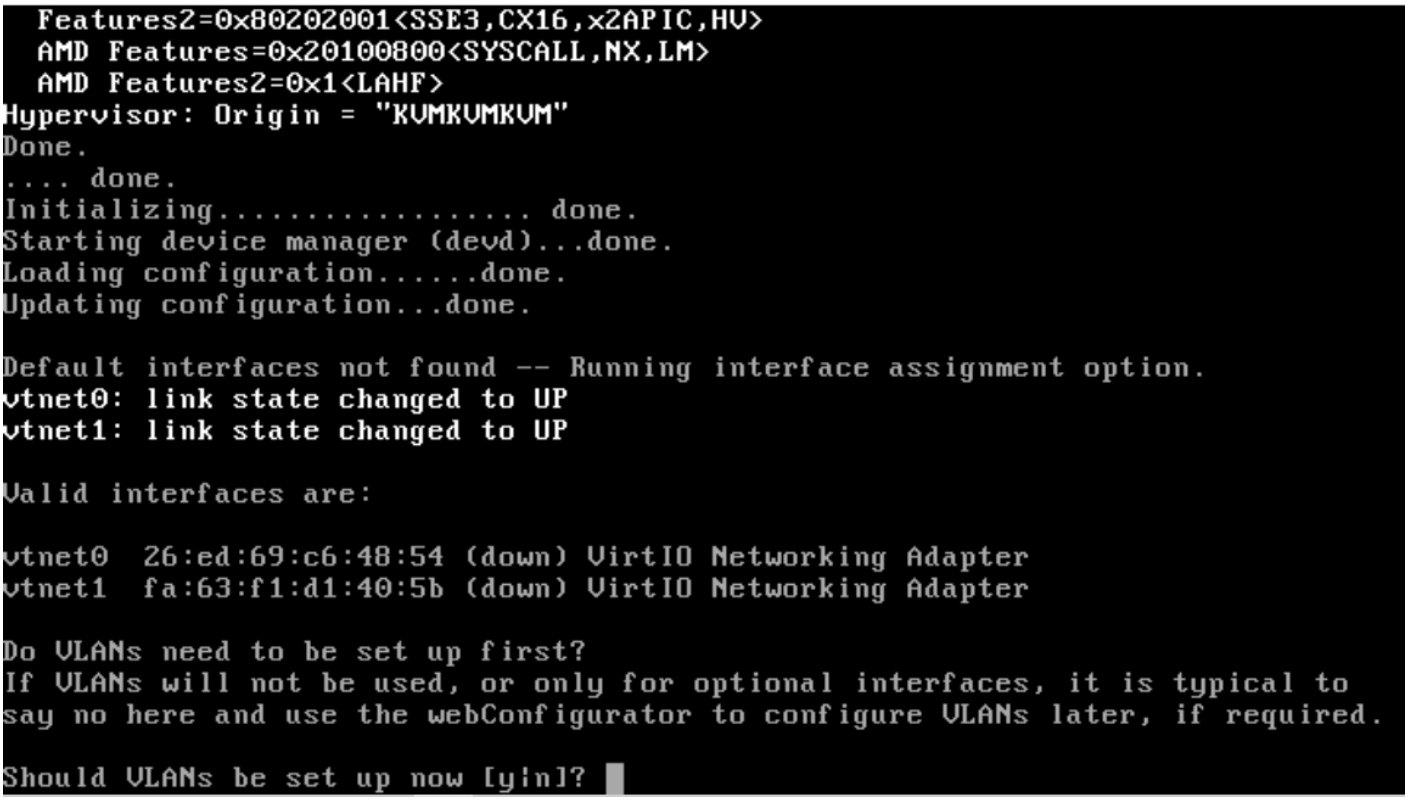
Select no unless you need to go to shell for any configuration, not needed for this lab.



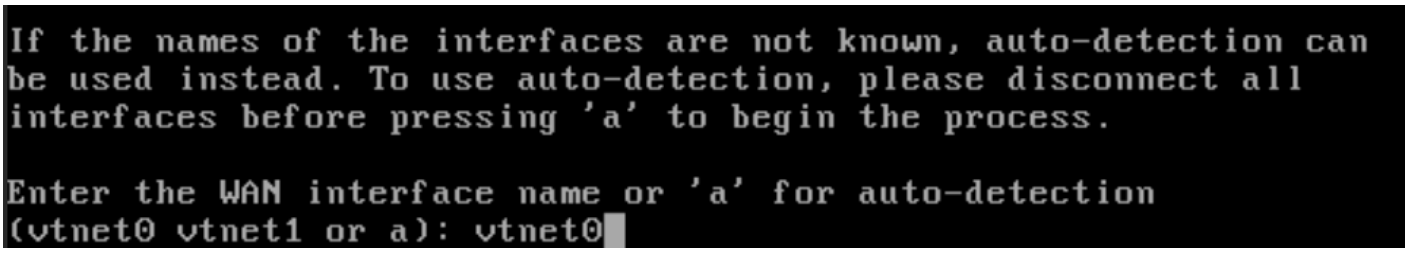
if you navigate to shell you can type exit and then select reboot to complete the installation



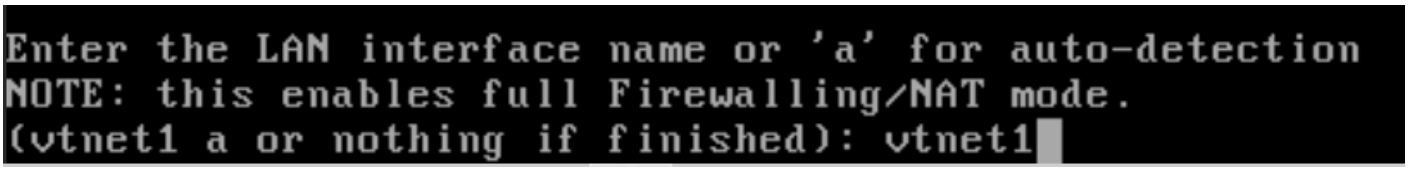
After reboot you will be prompt about setting up vlans, select N



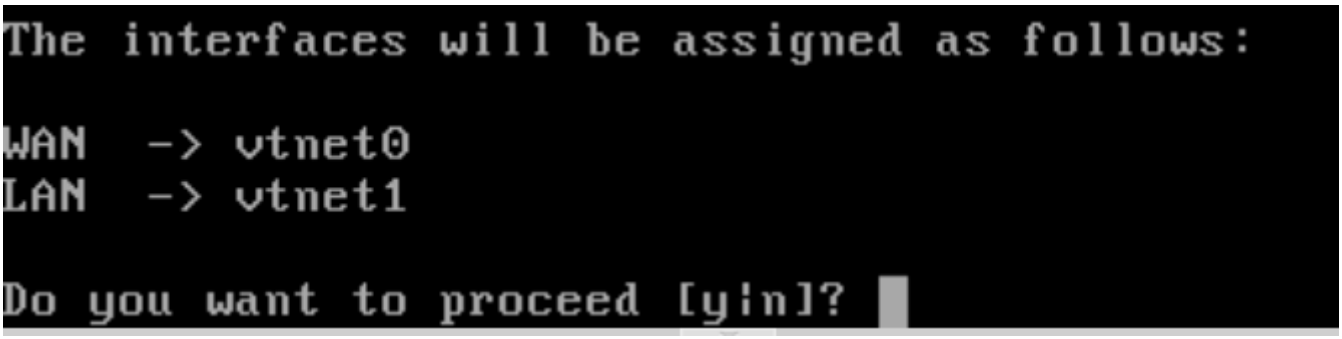
type in your WAN interface or select a for auto-detection, if your interface is not yet connected select your interface manually in our case vtnet0



vtnet1 for our LAN



Proceed type Y then enter



PFsense will initiate the interfaces and configure services

server is ready, in order to logon since we are running pfsense on a virtual machine and we are not directly connected to our LAN interface we need to enable the WAN interface to allow connections by disabling packet filter

select option 8 and enter the following command

pfctl -d

to enable again enter command

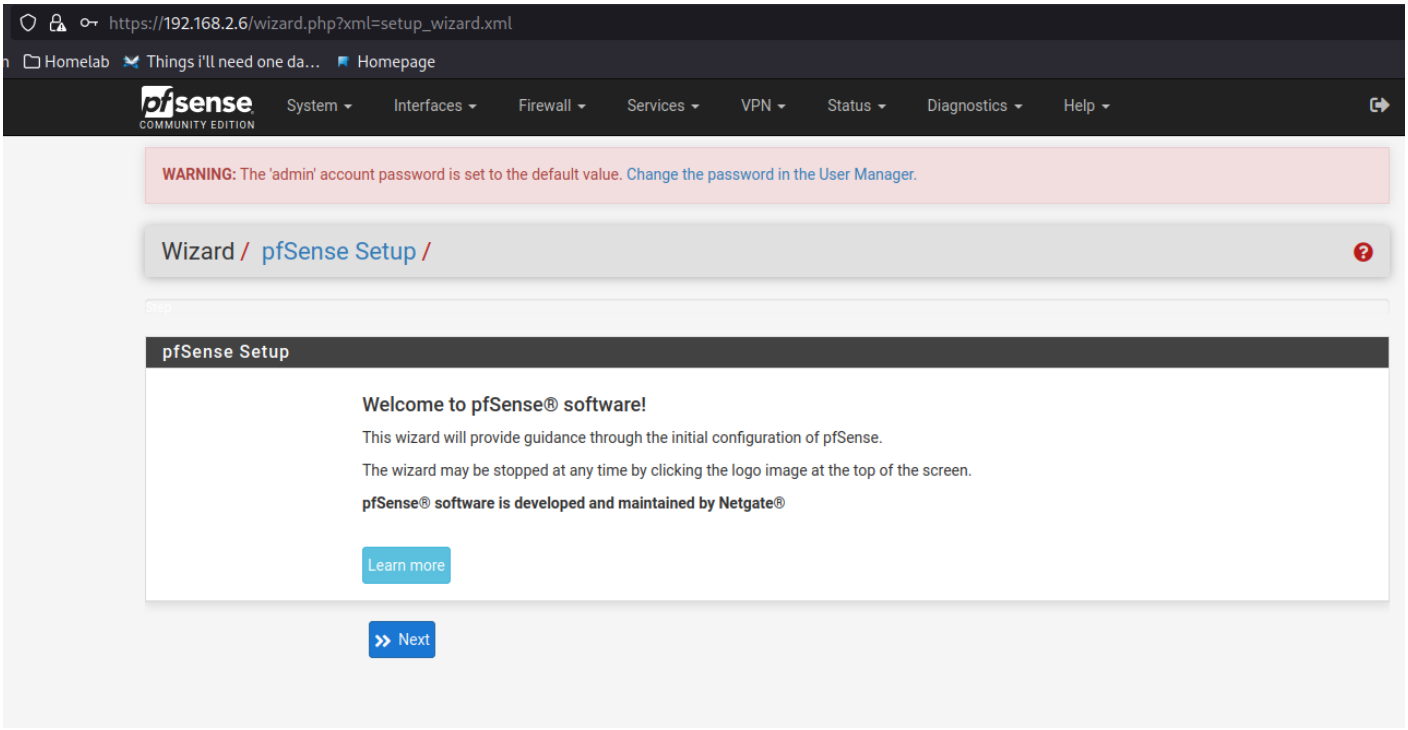
pfctl -e

```
*** Welcome to pfSense 2.6.0-RELEASE (amd64) on pfSense ***

 WAN (wan)       -> vtnet0     -> v4/DHCP4: 192.168.2.6/24
 LAN (lan)       -> vtnet1     -> v4: 192.168.1.1/24

 0) Logout (SSH only)                  9) pfTop
 1) Assign Interfaces                 10) Filter Logs
 2) Set interface(s) IP address       11) Restart webConfigurator
 3) Reset webConfigurator password    12) PHP shell + pfSense tools
 4) Reset to factory defaults         13) Update from console
 5) Reboot system                     14) Enable Secure Shell (sshd)
 6) Halt system                       15) Restore recent configuration
 7) Ping host                         16) Restart PHP-FPM
 8) Shell

Enter an option: 8

[2.6.0-RELEASE][root@pfSense.home.arpa]/root: pfctl -d
pf disabled
[2.6.0-RELEASE][root@pfSense.home.arpa]/root:
```

Navigate to your WAN IP https://192.168.2.6

default username is admin password is pfsense

change your password.



This is it, that's how you deploy pfsense as a virtual machine on Proxmox

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Revision #2
Created 31 March 2023 16:20:26 by Cesar Gzz

Updated 31 March 2023 17:10:27 by Cesar Gzz