

# Setup PCI Passthrough

See [PCI Passthrough](#) for more detail as to why I am doing these things.

Proxmox doesn't need a GPU, so blacklist the GPU and prepare it to be passed for a guest machine.

## Enable Kernel Modules

```
# /etc/modules
# /etc/modules: kernel modules to load at boot time.
#
# This file contains the names of kernel modules that should be loaded
# at boot time, one per line. Lines beginning with "#" are ignored.
+ vfio_pci
+ vfio
+ vfio_iommu_type1
+ vfio_virqfd
```

## Bind `vfio-pci` Driver to Devices

```
# /etc/modprobe.d/vfio.conf
+ # AMD Radeon RX 560 [1002:67ff,1002:aae0]
+ alias pci:v00001002d000067FFsv00001458sd000022FFbc03sc00i00 vfio-pci
+ alias pci:v00001002d0000AAE0sv00001458sd0000AAE0bc04sc03i00 vfio-pci
+
+ options vfio-pci ids=1002:aae0,1002:67ff disable_vga=1
```

## Rebuild `initramfs`

The `initramfs` needs to be rebuilt to reflect the changes I just did.

```
update-initramfs -u
```

# Update Bootloader

Proxmox uses `systemd-boot` as the bootloader so I have to make sure to update the boot entries

## Update Kernel Parameters

```
# /etc/kernel/cmdline  
- root=ZFS=rpool/ROOT/pve-1 boot=zfs  
+ root=ZFS=rpool/ROOT/pve-1 boot=zfs amd_iommu=on iommu=on video=efifb:off  
pcie_acs_override=multifunction
```

## Rebuild Bootloader Options

```
pve-efiboot-tool refresh
```

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