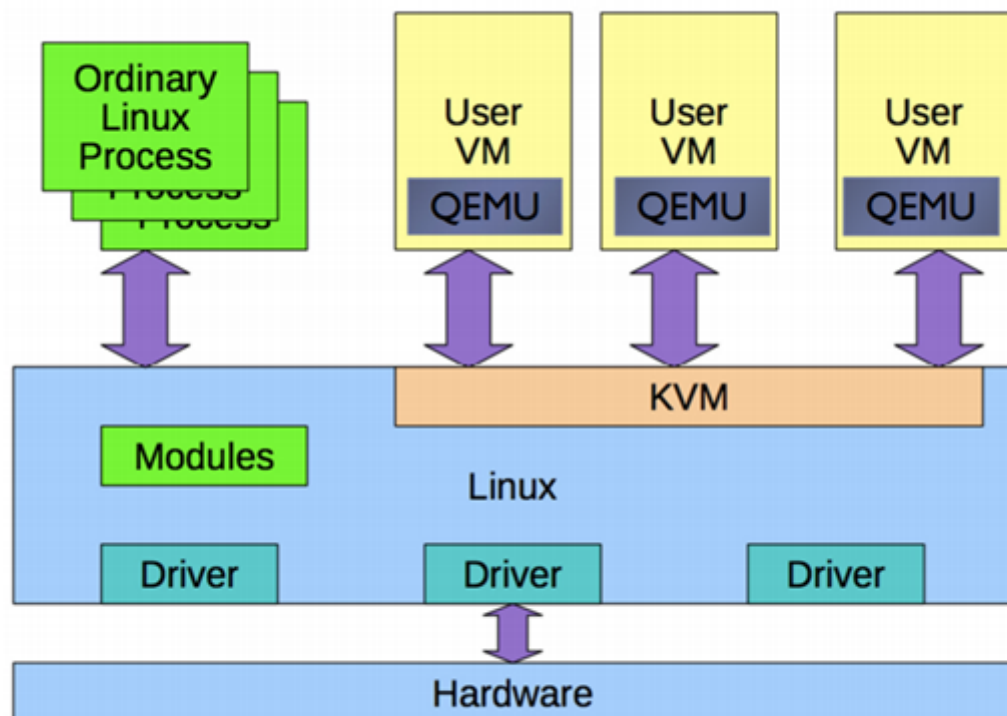


# LEARNNING GNU\Linux KVM-QEMU VIRTUALIZATION



This project is about learning KVM for virtualization

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## License

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## References

- KVM Docs
- Install and Configure in Debian
- Create and Manage VM's
- Create and Manage VM's

# Install and Configure KVM in Debian



Step:1) Check Whether Virtualization Extension is enabled or not:

```
egrep -c '(vmx|svm)' /proc/cpuinfo  
grep -E --color '(vmx|svm)' /proc/cpuinfo
```

Step:2) Install QEMU-KVM & Libvirt packages along with virt-manager

```
#install libvirt packages  
sudo apt install qemu-kvm libvirt-clients libvirt-daemon-system \  
bridge-utils virtinst libvirt-daemon virt-manager -y  
  
#osinfo  
apt-get install libosinfo-bin  
  
#check status libvirt  
sudo systemctl status libvirtd.service
```

Step:3) Start default network and add vhost\_net module

```
#show network default and Start  
sudo virsh net-list --all  
  
#make it active and auto-restart across the reboot  
sudo virsh net-start default  
sudo virsh net-autostart default  
  
#add "vhost_net" kernel module  
sudo modprobe vhost_net  
  
#add user in libvirt groups  
sudo adduser myuser libvirt  
sudo adduser myuser libvirt-qemu  
  
#to refresh or reload group membership run the followings,  
newgrp libvirt  
libvirt-qemu
```

Step:4) Create Linux Bridge(br0) for KVM VMs

```
sudo vi /etc/network/interfaces  
  
# This file describes the network interfaces available on your system  
# and how to activate them. For more information, see interfaces(5).  
  
source /etc/network/interfaces.d/*
```



```
Light
# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
allow-hotplug ens34
auto ens34
iface ens34 inet manual

#Configure bridge and give it a static ip
auto br0
iface br0 inet static
    address 192.168.0.133
    netmask 255.255.255.0
    network 192.168.0.1
    broadcast 192.168.0.255
    gateway 192.168.0.1
    bridge_ports ens34
    bridge_stp off
    bridge_fd 0
    bridge_maxwait 0
    dns-nameservers 1.1.1.1

# This is an autoconfigured IPv6 interface
iface ens34 inet6 auto

#reboot system
sudo reboot

#check network changes
ip a s br0
```

## Default Paths for VMs

```
$HOME/.local/share/libvirt/images
/var/lib/libvirt/images
```

## List of all supported systems

```
osinfo-query os
```

## Create the new virtual machine

```
virt-install --name=debian-11-x64 \
--vcpus=1 \
```

```
Light
--memory=1024 \
--Cdrom=/mnt/isos/Linux/debian-11.0.0-amd64-DVD-1.iso \
--disk size=5 \
--os-variant=debian9
```

