# **How to Setup Bridge Networking with KVM on Ubuntu 20.04**

Install the kvm

| $ sudo apt-get install qemu-kvm libvirt-daemon-system \  libvirt-clients virtinst bridge-utils |
| --- |

Test that it’s working with

| $ virsh list --all |
| --- |

If you have already created any nodes it displays a list otherwise none.

It is recommended to disable netfilter on bridges in the host.To do that

| $ sudo gedit /etc/sysctl.d/bridge.conf |
| --- |

net.bridge.bridge-nf-call-ip6tables**=**0

net.bridge.bridge-nf-call-iptables**=**0

net.bridge.bridge-nf-call-arptables**=**0

Then create the file

| $ sudo gedit /etc/udev/rules.d/99-bridge.rules |
| --- |

And enter

| ACTION=="add", SUBSYSTEM=="module", KERNEL=="br\_netfilter", \ RUN+="/sbin/sysctl -p /etc/sysctl.d/bridge.conf" |
| --- |

It should be in one line.

we need to disable the default networking that KVM installed for itself

| $ ip link |
| --- |

The entries virbr0 and virbr0-nic are what KVM installs by default.

Here’s how to remove the default KVM network:

| $ virsh net-destroy default |
| --- |

| $ virsh net-undefine default |
| --- |

Now you can run up again and the virbr0 and virbr0-nic should be gone.

| $ ip link |
| --- |

If they are not, you can remove them with ip link delete virbr0 type bridge and ip link delete virbr0-nic.

we will need to set up a bridge to use when we create a VM

| $ sudo gedit /etc/netplan/00-installer-config.yaml |
| --- |

And type

| network:  ethernets:  enp2s0:  dhcp4: false  dhcp6: false  bridges:  br0:  interfaces: [ enp2s0]  addresses: [192.168.0.168/24]  gateway4: 192.168.0.1  mtu: 1500  nameservers:  addresses: [8.8.8.8,8.8.4.4]  parameters:  stp: true  forward-delay: 4  dhcp4: no  dhcp6: no  version: 2 |
| --- |

Here the ip address is my host address and enp2s0 is my interface.

To apply your new configuration

| $ sudo netplan apply |
| --- |

| $ ip a |
| --- |

Note that the br0 entry now has the IP address and the enp2s0 entry now has master br0 to show that it belongs to the bridge.

To make KVM aware of this bridge. create a scratch XML file called host-bridge.xml

| $ sudo gedit host-bridge.xml |
| --- |

And insert:

| <**network**>  <**name**>host-bridge</**name**>  <**forward** mode="bridge"/>  <**bridge** name="br0"/> </**network**> |
| --- |

Use the following commands to make that our default bridge for VMs

| $ virsh net-define host-bridge.xml |
| --- |

| $ virsh net-start host-bridge |
| --- |

| $ virsh net-autostart host-bridge |
| --- |

then list the networks to confirm it is set to autostart.

| $ virsh net-list --all |
| --- |