

## 002-KVM LIBVIRT AND VIRT-MANAGER

Notebook: <Inbox>  
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### - KVM, LIBVIRT, VIRTMANAGER

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#### = Installation of KVM Virtualization Packages

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```
apt install -y ubuntu-virt-server ubuntu-virt-mgmt openvswitch-switch cpu-checker qemu-  
utils
```

Now run the following command to check the KVM option is enabled or disabled from BIOS

```
kvm-ok
```

Output should be as follows;

```
INFO: /dev/kvm exists  
KVM acceleration can be used
```

If the output says otherwise, then we have to enable KVM option from BIOS (like enable **VT-X** or **Intel Virtualization Technology**)

#### = Prepare Virt-Manager for KVM

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Network Preparation by open-vswitch

To create bridge with **OpenVswitch** we have to identify ethernet interface name; Suppose, here it is **enp1s0**

```
syntax : ovs-vsctl add-br <bridge name>  
syntax : ovs-vsctl add-port <bridge name> <physical ethernet port name>
```

```
ovs-vsctl add-br bridge0  
ovs-vsctl add-port bridge0 enp1s0
```

Add the following lines before exit 0 in **/etc/rc.local**

```
vim /etc/rc.local
```

```
ip link set enpls0 up
ip link set bridge0 up
exit 0
```

Now run the command from console,

```
ip link set enpls0 up
ip link set bridge0 up
```

Now add the bridge created by OpenVswitch to libvirt.

```
vim /etc/network/bridge0.xml
```

```
<network>
  <name>bridge0</name>
  <forward mode='bridge' />
  <bridge name='bridge0' />
  <virtualport type='openvswitch' />
</network>
```

```
cd /etc/network/
virsh net-define bridge0.xml
virsh net-start bridge0
virsh net-autostart bridge0
```

Up the bridge and switch IP address from physical ethernet to the bridge interface.

```
ip link set bridge0 up
ifconfig enpls0 0
ifconfig bridge0 192.168.108.11 netmask 255.255.255.0 up
```

Now modify the `/etc/network/interfaces` file to make the change permanently.

```
vim /etc/network/interfaces
```

The file need to be look like following

```
# interfaces(5) file used by ifup(8) and ifdown(8)

auto lo
iface lo inet loopback

auto enpls0
iface enpls0 inet manual
```

```
auto bridge0
iface bridge0 inet static
    address 192.168.108.11
    netmask 255.255.255.0
    gateway 192.168.108.1
```

= Prepare Content/Storage Location for Virt-Manager

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```
mkdir /opt/iso
mkdir /opt/kvm
```

Download an ISO image

```
cd /opt/iso
wget -c http://192.168.108.8/iso/ubuntu-16.04.3-server-amd64.iso
```

Run Virt-Manager and add iso & kvm-storage directory.  
Create your first virtual machine.