Practical - 1

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Roll no: A-58
Subject : Cloud Computing

Aim : Installation and configuration of virtualization using KVM.

Theory :

KVM Kernel-based virtual machine is a full virtualization solution for linux on x86 hardware containing virtualization extensions. It consists of a loadable kernel module, KVM that provides the core virtualization infrastructure and a processor specific module, KVM-intel or KVM and ko.

Using KVM, one can run multiple virtual machines running unmodified linux or windows images. Each virtual machine has private virtualized hardware. A network, disk, graphics adapter, etc.

Steps to install KVM :

1. Verify if system supports hardware virtualization.
2. Install KVM and required packages.
3. Start and enable the resources.
4. Configure Network bridge for KVM virtual machine.
5. Creating virtual machine.
6. Start virtual machine by executing commands.
7. Create new virtual machine.
8. Click 'forward' and select the ISO file.
9. Click next and finish.

Conclusion: Hence, we have successfully installed and configured virtualization using KVM.

Practical-1

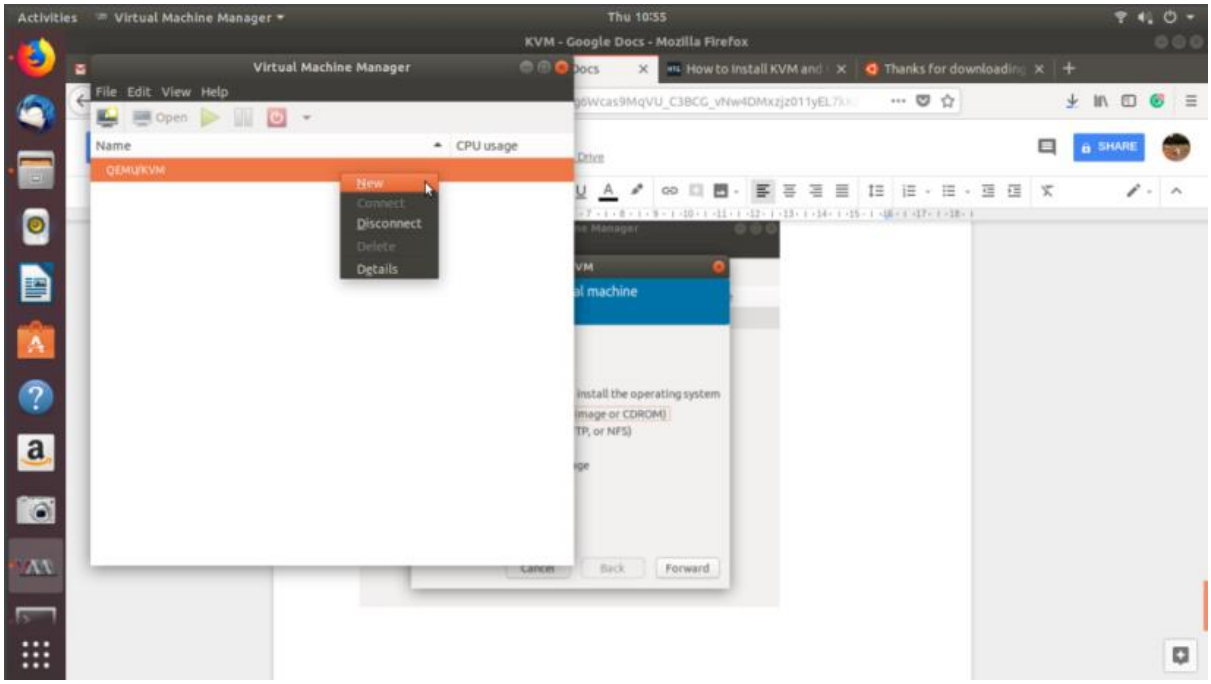
Shivam Tawari (A-58)

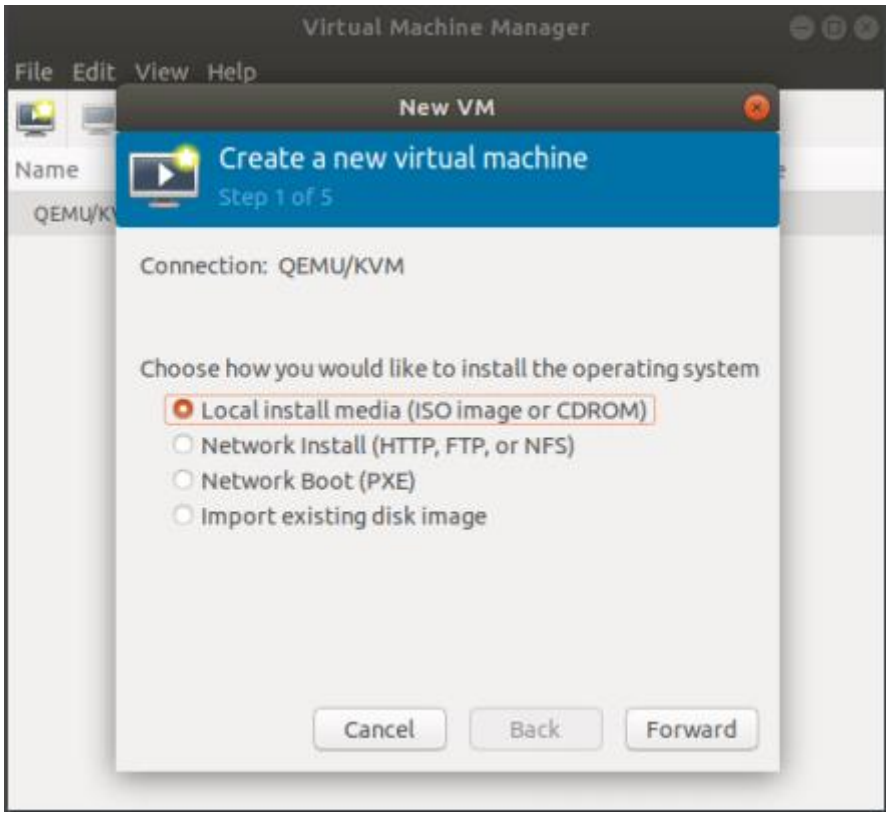
```
linuxtechi@kvm-ubuntu18-04:~$ egrep -c '(vmx|svm)' /proc/cpuinfo
1
linuxtechi@kvm-ubuntu18-04:~$
```

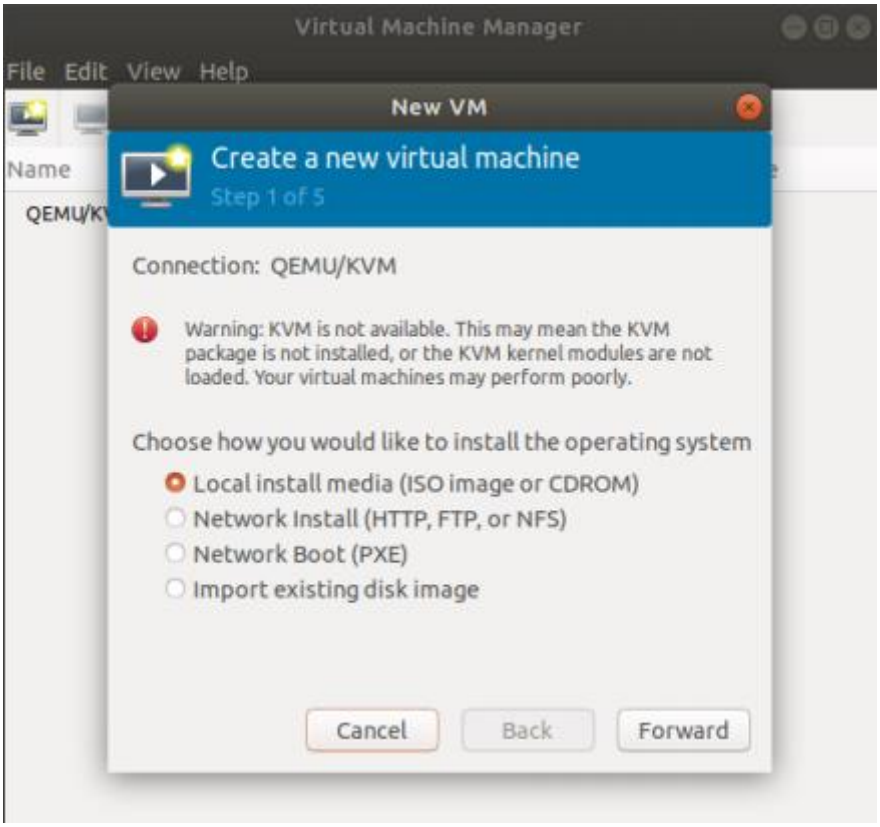
```
linuxtechi@kvm-ubuntu18-04:~$ sudo apt install cpu-checker
```

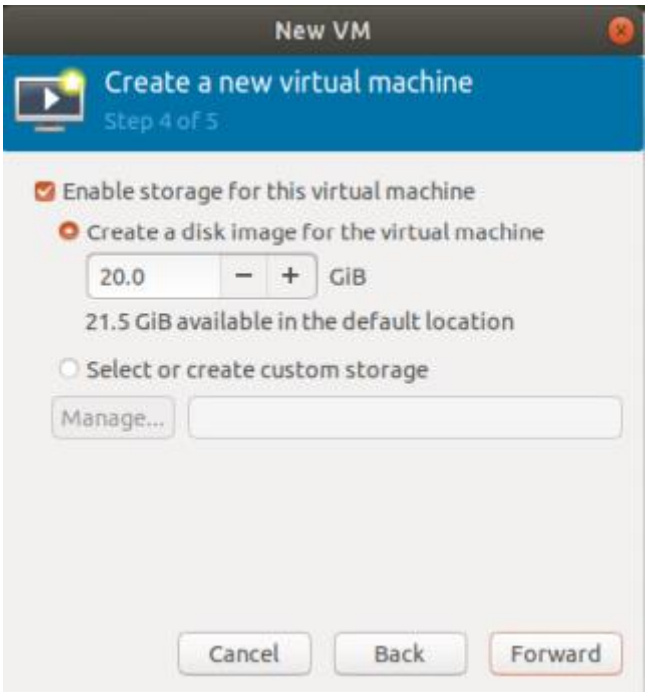
```
linuxtechi@kvm-ubuntu18-04:~$ sudo kvm-ok
INFO: /dev/kvm exists
KVM acceleration can be used
linuxtechi@kvm-ubuntu18-04:~$
```

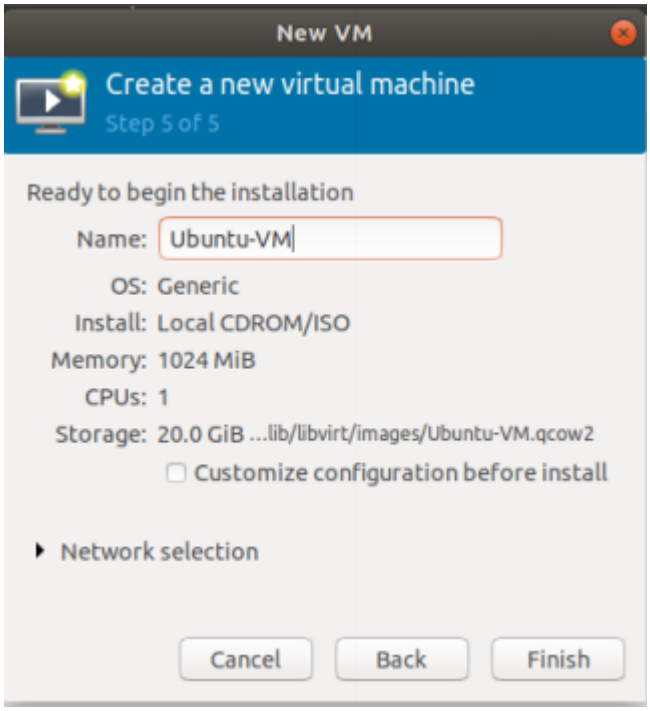
```
File  Edit  View  Search  Terminal  Help
sana@linux:~$ sudo apt-get install qemu-kvm libvirt-bin bridge-utils virt-manage
r
[sudo] password for sana:
```


Activities
Virtual Machine Manager
Thu 10:55
KVM - Google Docs - Mozilla Firefox
Virtual Machine Manager
File Edit View Help
Open
Name
CPU usage
QEMU/KVM
New
Connect
Disconnect
Delete
Details
How to install KVM and
Thanks for downloading
SHARE
Forward


Virtual Machine Manager
File Edit View Help
Name
New VM
Create a new virtual machine
Step 1 of 5
Connection: QEMU/KVM
Choose how you would like to install the operating system
Local install media (ISO image or CDROM)
Network Install (HTTP, FTP, or NFS)
Network Boot (PXE)
Import existing disk image
Cancel
Back
Forward


Virtual Machine Manager
File Edit View Help
Name
QEMU/K
New VM
Create a new virtual machine
Step 1 of 5
Connection: QEMU/KVM
Warning: KVM is not available. This may mean the KVM package is not installed, or the KVM kernel modules are not loaded. Your virtual machines may perform poorly.
Choose how you would like to install the operating system
Local install media (ISO image or CDROM)
Network Install (HTTP, FTP, or NFS)
Network Boot (PXE)
Import existing disk image
Cancel
Back
Forward


New VM
Create a new virtual machine
Step 4 of 5
Enable storage for this virtual machine
Create a disk image for the virtual machine
20.0
GiB
21.5 GiB available in the default location
Select or create custom storage
Manage...
Cancel
Back
Forward


New VM
Create a new virtual machine
Step 5 of 5
Ready to begin the installation
Name: Ubuntu-VM
OS: Generic
Install: Local CDROM/ISO
Memory: 1024 MiB
CPUs: 1
Storage: 20.0 GiB ...lib/libvirt/images/Ubuntu-VM.qcow2
Customize configuration before install
Network selection
Cancel
Back
Finish