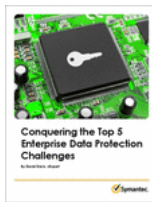




[Home](#)
[Lab](#)
[Red Hat](#)
[CentOS](#)
[Ubuntu](#)
[Windows Server 2008](#)
[Windows Server 2012](#)
[Cloud Infographics](#)
[Hyper-V](#)

[Cloudstack](#)
[VMware ESXi](#)
[VMware vCenter Server](#)
[VMware vCloud Director](#)
[Feedback Form](#)

Conquering the Top 5 Enterprise Data Protection Challenges



Today's datacenters face a gauntlet of challenges including protection of physical and virtual environments, fast recovery of data, reducing backup times and storage requirements, server consolidation, and disaster recovery..

Find out how savvy CIO's are conquering these types of challenges in this [WHITE PAPER](#) by vExpert, David Davis

SEARCH

SEARCH for a

GARTNER M

FREE GARTN



[1 - Ente](#)
[2 - Enter](#)

Monday, 25 August 2014

Getting started with KVM- Creating VMs

Categories

[Cloud Computing](#) (102)
[VMware](#) (86)
[Best Practices](#) (46)
[CentOS](#) (44)
[Private Cloud](#) (44)
[Linux](#) (40)
[linux os](#) (39)
[Workstation](#) (38)
[infographic](#) (37)
[virtualization](#) (28)
[Public Cloud](#) (27)
[os installation](#) (27)
[vSphere5](#) (27)
[Eucalyptus](#) (21)
[Ubuntu](#) (20)
[Network](#) (17)
[hypervisor](#) (16)
[vSphere](#) (14)
[Windows 2008](#) (13)
[Storage](#) (11)
[automation](#) (11)
[hard disk](#) (11)
[Hyper-V](#) (8)

Getting Started with KVM Part 2: Creating Virtual Machines

In this set of tutorial, I'll be showing some simple steps to creating Virtual Machines easily using **KVM** (*Kernel-based Virtual Machine*)

NOTE: before we begin, make sure that your host system has a functional **Intel VT** or **AMD-V** flag set. This is essential for creating Virtual Machines on your Host system.

For the **steps to install and configure KVM**, have a look at my [EARLIER POST](#)

There are basically two ways to go about creating VMs using KVM. I'll be demonstrating both the steps below:

1) Using Command Line

The first thing to do here is create a separate directory where we will store all our VMs. Create a new folder at `/var/lib/libvirt` directory for our VMs.

```
# cd /var/lib/libvirt
```

```
# mkdir VM
```

OFFER OF T

GET THI

HURRY !! C



FREE eBook

LINUX ADMIN

FREE eBook

[LAMP \(8 \)](#)
[monitoring \(8 \)](#)
[AWS \(7 \)](#)
[Apache Server \(7 \)](#)
[Windows 2012 Server \(7 \)](#)
[vCloud \(7 \)](#)
[DHCP \(6 \)](#)
[ESXi \(6 \)](#)
[OpenStack \(6 \)](#)
[autoscaling \(5 \)](#)
[nagios \(5 \)](#)
[security \(5 \)](#)
[vCloud Director \(5 \)](#)
[Active Directory \(4 \)](#)
[MySQL \(4 \)](#)
[PXEBOOT \(4 \)](#)
[Repository \(4 \)](#)
[SQL Server \(4 \)](#)
[Xen \(4 \)](#)
[vSwitch \(4 \)](#)
[Cloudstack \(3 \)](#)
[FreeNAS \(3 \)](#)
[JAVA \(3 \)](#)
[PHP \(3 \)](#)
[YUM Server \(3 \)](#)
[Citrix \(2 \)](#)
[XenServer \(2 \)](#)
[syslog \(2 \)](#)
[DNS \(1 \)](#)
[NFS \(1 \)](#)
[Web Client \(1 \)](#)
[Windows 8 \(1 \)](#)

```

root@kvm:/var/lib/libvirt
File Edit View Search Terminal Help
[root@kvm ~]#
[root@kvm ~]# cd /var/lib/libvirt/
[root@kvm libvirt]#
[root@kvm libvirt]# ls
boot dnsmasq filesystems images lxc network qemu
[root@kvm libvirt]#
[root@kvm libvirt]# mkdir VM
[root@kvm libvirt]#
[root@kvm libvirt]# ls
boot dnsmasq filesystems images lxc network qemu VM
[root@kvm libvirt]#
[root@kvm libvirt]#

```

Next, download your favorite OSs ISO file. Here, I'm going to be using Debian as my Guest OS.

wget http://cdimage.debian.org/debian-cd/7.6.0/amd64/iso-cd/debian-7.6.0-amd64-netinst.iso

```

root@kvm:~
File Edit View Search Terminal Help
[root@kvm ~]#
[root@kvm ~]#
[root@kvm ~]# wget http://cdimage.debian.org/debian-cd/7.6.0/amd64/iso-cd/debian-7.6.0-amd64-netinst.iso
--2014-08-07 02:11:05-- http://cdimage.debian.org/debian-cd/7.6.0/amd64/iso-cd/debian-7.6.0-amd64-netinst.iso
Resolving cdimage.debian.org... 130.239.18.173, 130.239.18.165, 130.239.18.163, ...
Connecting to cdimage.debian.org|130.239.18.173|:80... connected.
HTTP request sent, awaiting response... 302 Found
Location: http://caesar.acc.umu.se/debian-cd/7.6.0/amd64/iso-cd/debian-7.6.0-amd64-netinst.iso [following]
--2014-08-07 02:11:06-- http://caesar.acc.umu.se/debian-cd/7.6.0/amd64/iso-cd/debian-7.6.0-amd64-netinst.iso
Resolving caesar.acc.umu.se... 130.239.18.142, 2001:6b0:e:2018::142
Connecting to caesar.acc.umu.se|130.239.18.142|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 232783872 (222M) [application/x-iso9660-image]
Saving to: "debian-7.6.0-amd64-netinst.iso"

100%[=====] 232,783,872 1.63M/s in 2m 17s

2014-08-07 02:13:24 (1.62 MB/s) - "debian-7.6.0-amd64-netinst.iso" saved [232783872/232783872]

[root@kvm ~]#

```

We will use the `/var/lib/libvirt/images` directory to store the ISOs that will be used to create our VMs.

mv debian-7.6.0-amd64-netinst.iso /var/lib/libvirt/images

```

root@kvm:~
File Edit View Search Terminal Help
[root@kvm ~]#
[root@kvm ~]# mv debian-7.6.0-amd64-netinst.iso /var/lib/libvirt/images/
[root@kvm ~]#
[root@kvm ~]#

```

We are now ready to create our VM. We will be using `virt-install` for this.

The `virt-install` utility must be run as root and accepts a wide range of command-line



[BASIC GU](#)

Follow Me!!



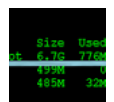
Follow @



Popular Post



Creating your v...



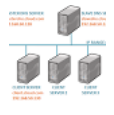
Installing Windc...



Installing Windc...

creating your v...

Unable to run V
Unable to run V
Modules Compi
based Laptop t



Installing Windc...

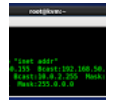
Installing Windc
Workstation

Installing Windc
Workstation Bel
you through the



Installing Windc...

actually a soluti



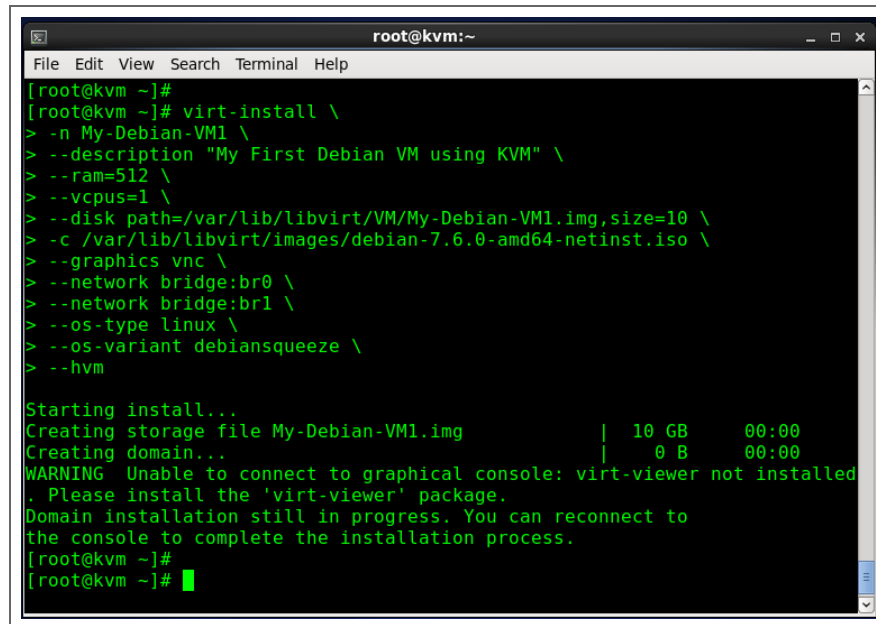
Installing Windc...

[Getting started](#)
Getting Started

arguments that are used to provide configuration information related to the virtual machine being created. Some of these command-line options are mandatory (*specifically name, ram and disk storage must be provided*) while others are optional.

In the following example, I will be creating a Debian VM named "**My-Debian-VM1**" with "**1**" vCPU and "**512MB**" RAM with a Disk of "**10GB**".

```
# virt-install \
-n My-Debian-VM1 \
--description "My First Debian VM using KVM" \
--ram=512 \
--vcpus=1 --disk path=/var/lib/libvirt/VM/My-Debian-VM1.img,size=10 \
-c /var/lib/libvirt/images/debian-7.6.0-amd64-netinst.iso \
--graphics vnc \
--network bridge:br0 \
--network bridge:br1 \
--os-type linux \
--os-variant=debiansqueeze \
--hvm \
```



```
root@kvm:~
File Edit View Search Terminal Help
[root@kvm ~]#
[root@kvm ~]# virt-install \
> -n My-Debian-VM1 \
> --description "My First Debian VM using KVM" \
> --ram=512 \
> --vcpus=1 \
> --disk path=/var/lib/libvirt/VM/My-Debian-VM1.img,size=10 \
> -c /var/lib/libvirt/images/debian-7.6.0-amd64-netinst.iso \
> --graphics vnc \
> --network bridge:br0 \
> --network bridge:br1 \
> --os-type linux \
> --os-variant=debiansqueeze \
> --hvm

Starting install...
Creating storage file My-Debian-VM1.img          | 10 GB      00:00
Creating domain...                               | 0 B        00:00
WARNING Unable to connect to graphical console: virt-viewer not installed
. Please install the 'virt-viewer' package.
Domain installation still in progress. You can reconnect to
the console to complete the installation process.
[root@kvm ~]#
[root@kvm ~]#
```

What do these parameters mean??

-n My-Debian-VM1 : The name of the VM
--description "My First Debian VM using KVM" : The long description of the VM.
This is an optional requirement
--ram=512 : Amount of memory allocated to the VM i.e. 512MB
--vcpus=1 : The number of virtual CPU(s) for the VM i.e. 1vCPU
--disk path=/var/lib/libvirt/VM/My-Debian-VM1.img,size=10 : This is the image file for the VM, the size is specified in GBs
-c /var/lib/libvirt/images/debian-7.6.0-amd64-netinst.iso : Install debian-7.6.0 from an iso the location parameter
--graphics vnc : Use VNC to access installation using vnc server/viewer from your local Linux/OSX/Unix/Windows desktop
--network bridge:br0 : Create a network bridge using br0
--network bridge:br1 : Create a network bridge using br1



Tags

12.04 12.10 14.0
Cloud Apache
autoscaling AWS
CentOS Cit
CloudSearch Clou
DNS eBook
Eucalyptus F
Hadoop hard d
infographic ir
LAMP Linux I
multiple operating
Network Adapt
installation
Private Clou
software Repos
Server security
switch syslog tem
Operations vCel
vCloud Service
VMware
vSphere5 vs
Windows 2012
XenServer YUM :

My Blog List

VMware Ar
Keyboard Sh
Client - Almo
learn the sho
This post is c
shortcuts of \

ABCD of CI
SEO Webho:
website, you
package to h
have to make
webs...

ABCD of Ja

Blog Archive

▼ 2014 (20)
► September
▼ August 20
Getting st
and Stc
Getting st
VMs
Getting st
and Coi
Monitoring
Monitoring
Monitoring

--os-type linux : The VM OS type

--os-variant=debiansqueeze : The VM OS variant

--hvm : Request the use of full virtualization

► July 2014

► June 2014

► May 2014

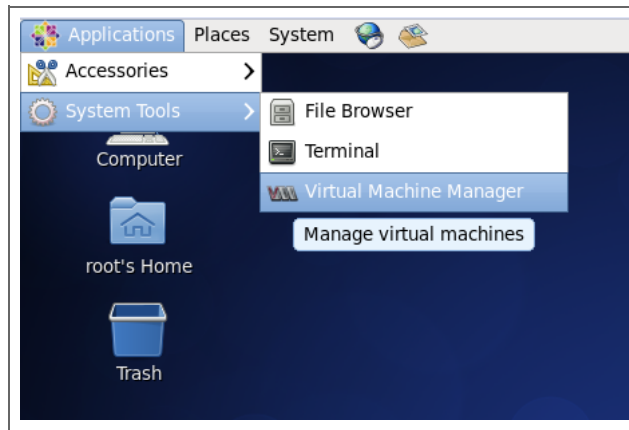
Once your Vm is built, you can access it using the **Virtual Machine Manager (VMM)** as shown below:

► 2013 (54)

► 2012 (163)

Navigate to **Applications > System Tools > Virtual Machine Manager**

Tutorial/ How



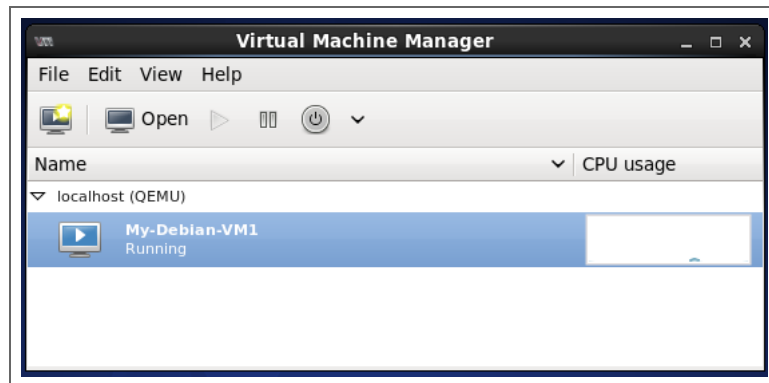
Name

Email *

Message *

Send

You should see the newly created VM running. Simply double click on it to view the console.



You can now install your Guest OS just like you would do on a normal server. Just remember that if you want to release the control of the mouse from the Guest OS, use the key combination **LEFT CTRL + LEFT ALT**

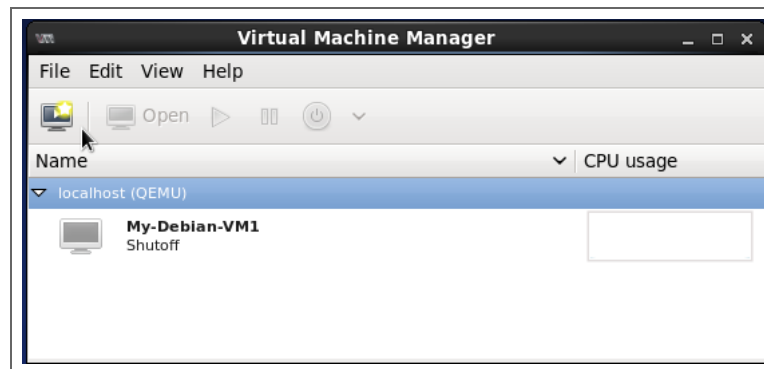


2) Using GUI

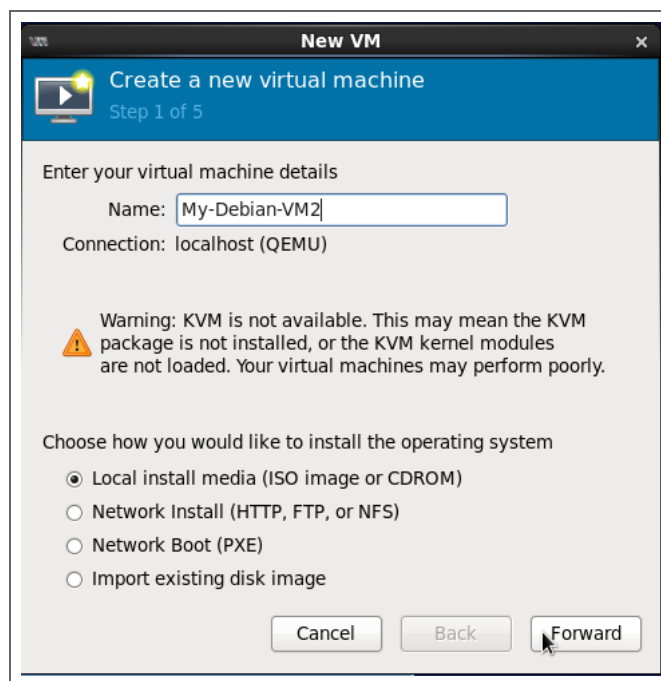
This is another method using which we can create VMs. Here I'll be using a tool called **Virtual Machine Manager**.

Navigate to **Applications > System Tools > Virtual Machine Manager**

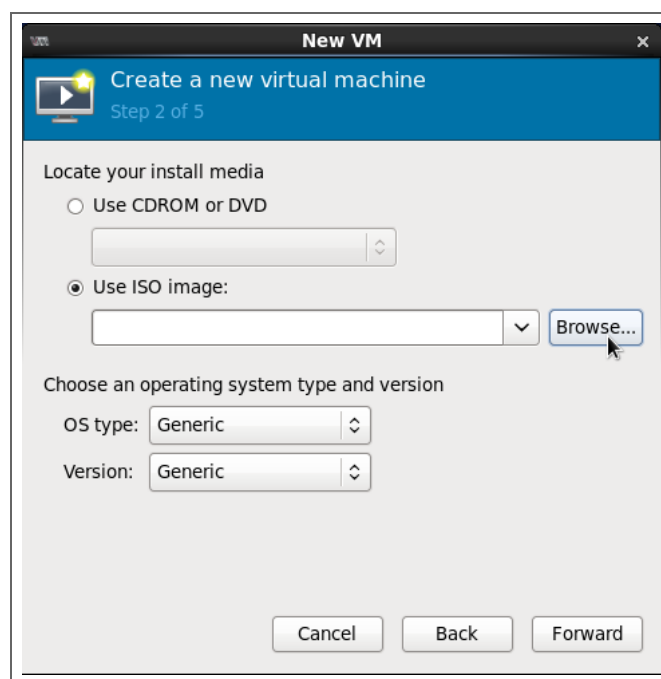
Select the new VM icon to get started



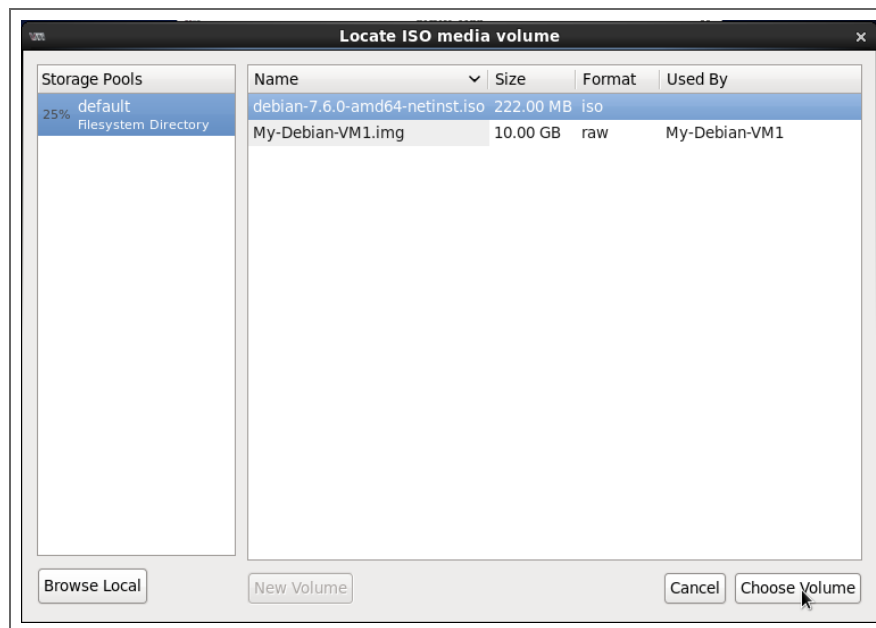
Enter the "**Name**" of your VM and also select how you would like to install the Guest OS. You can use local storage in the form of ISO images or CD/DVDs, HTTP or FTP servers, NFS area, or PXE. In this example, we will use the local install media itself for our Guest OS.



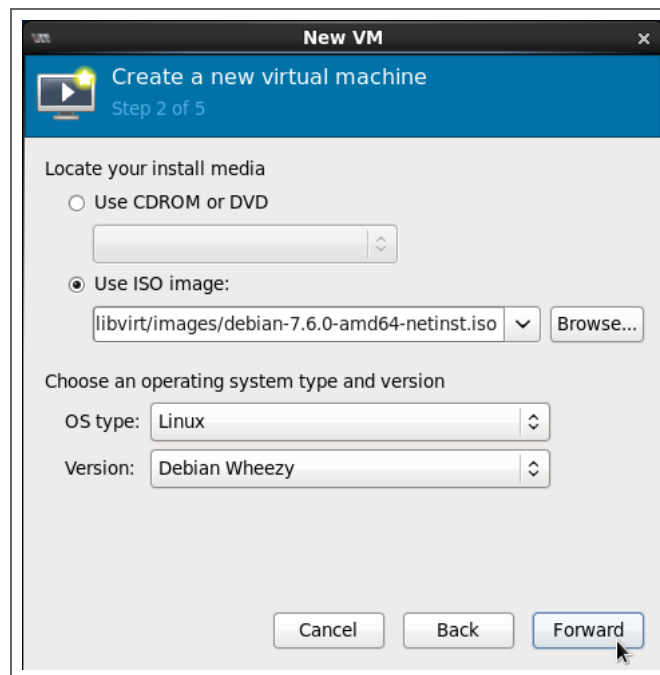
Next, choose either a physical device or an image. In our case, we will use an ISO. Then, choose the OS type and the version. This does not have to be precise, but an educated guess is good. It allows additional virtual machine optimization.



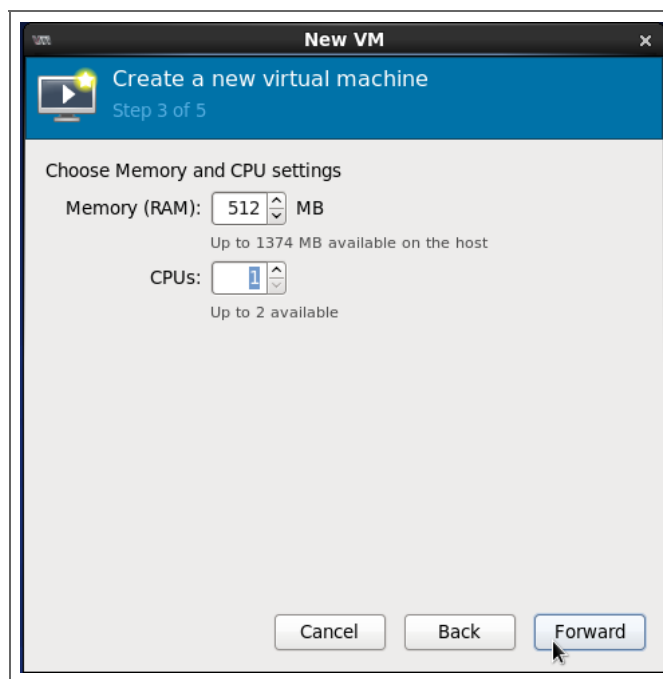
Browse for the ISO of your Guest OS (In this case, im using Debian v.7)



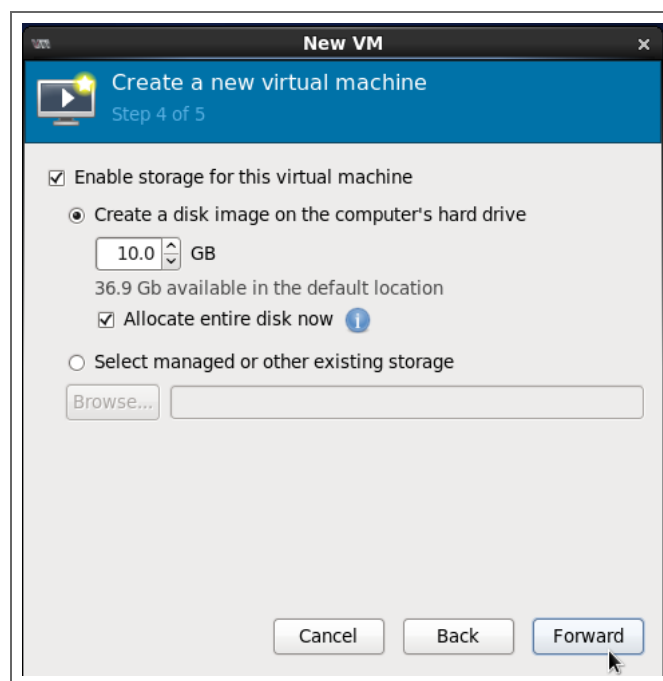
The final outcome should look something like this:



Allocate the required "**RAM**" and "**CPU**"

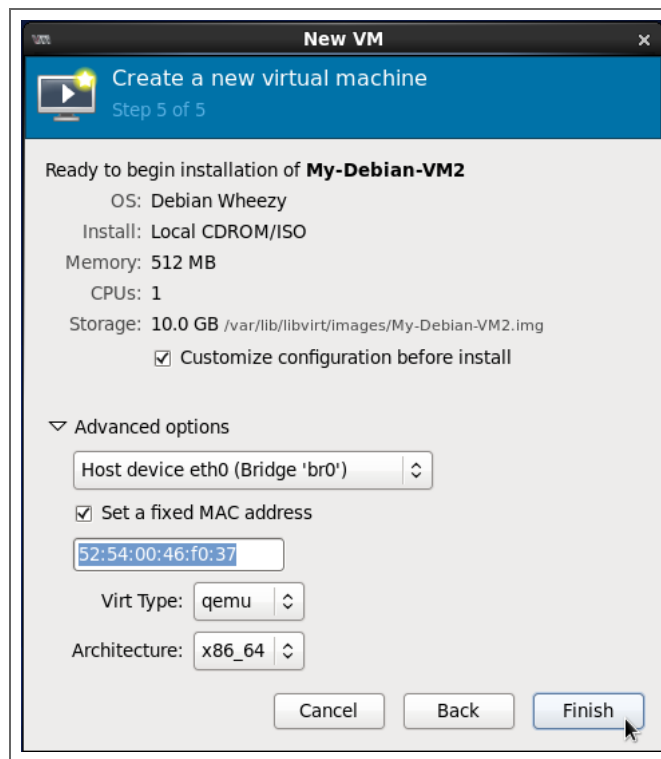


Next, provide a **"Storage"** for your VM. You can either create a new disk or use an existing one as well. You can set the size and pre-allocate all space, which is good for performance, plus it reduces fragmentation.

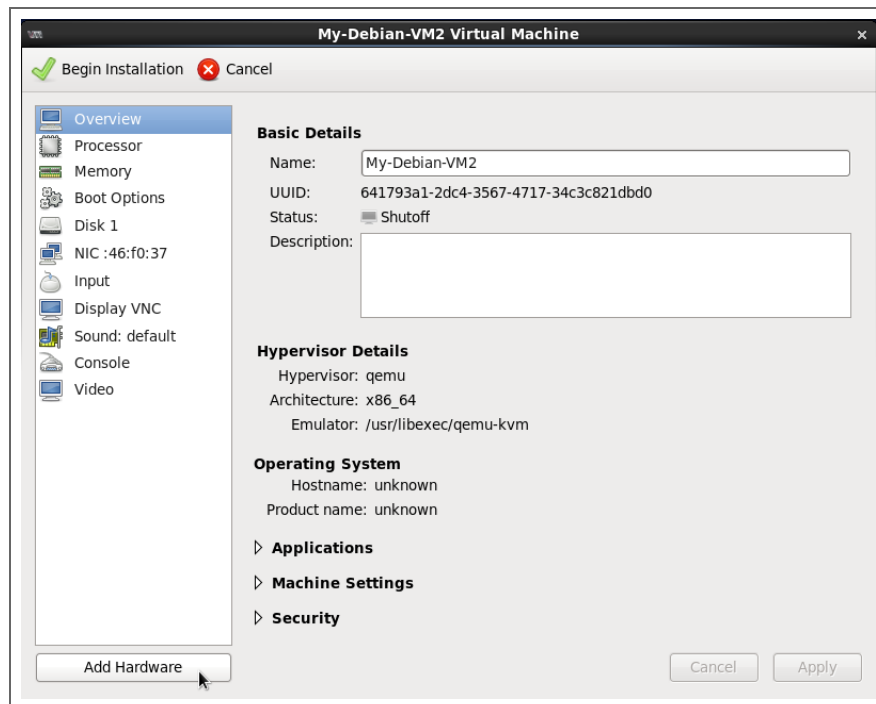


The final step provides a summary of your VMs settings, with some advanced options. You can change your network type, set a fixed Mac address, choose the virtualization type, and the target architecture here.

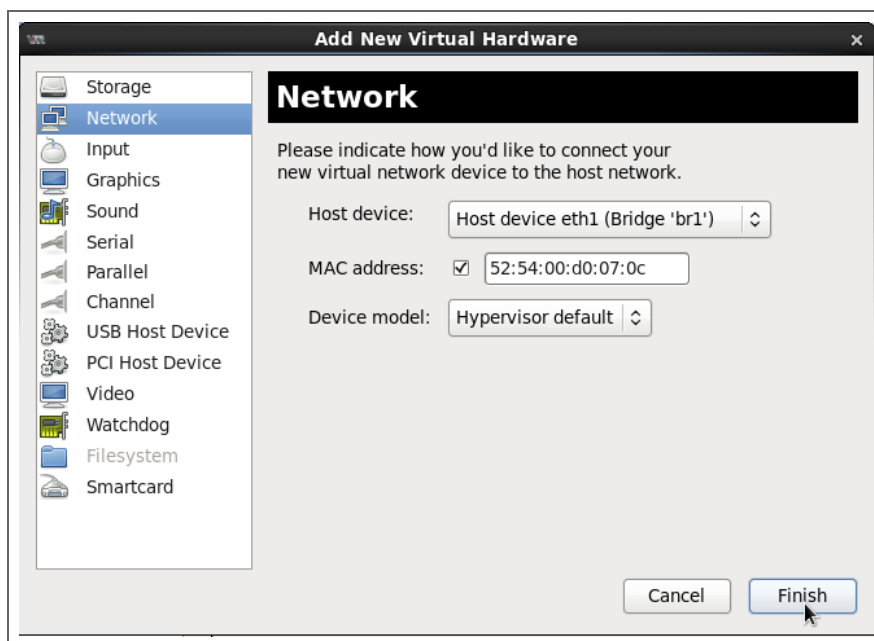
NOTE: I have purposely selected the check box **"Customize configuration before install"** as I have to add a secondary NIC card to my VM as well. I can do this step later as well after the VM is created with the Guest OS, but I prefer doing it at the beginning itself.



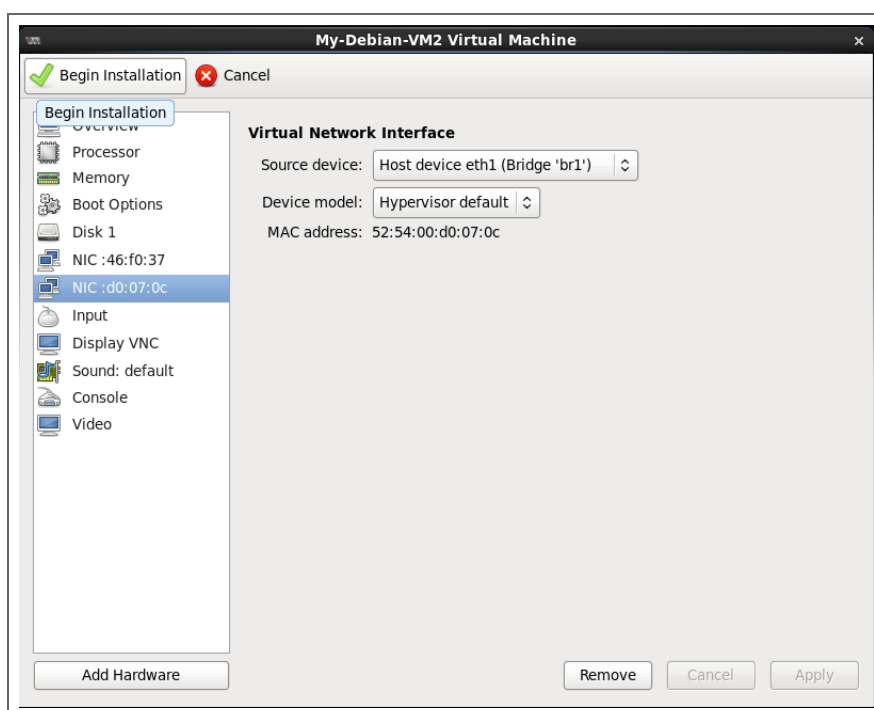
If you have selected the check box "Customize configuration before install" from the previous step, then this should pop up on your screen now. This are basically the "Settings" of your VM. To add a new NIC, we need to select the **"Add hardware"** option as shown below:



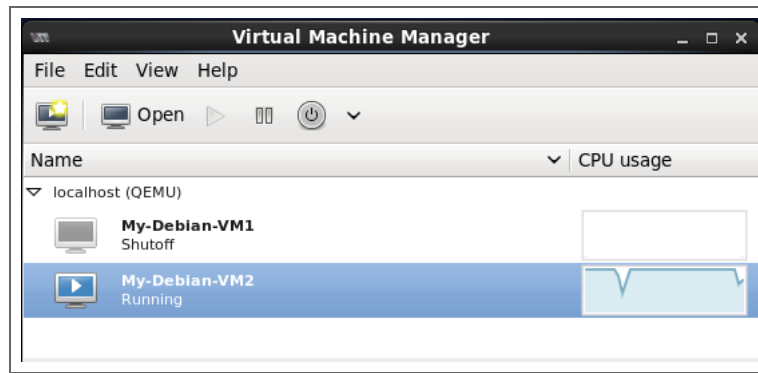
Next, select the **"Network"** tab and alongside, select the correct **"Host Device"** (*in this case, its br1*). Once done, click Finish.



Verify the new network card was successfully added. Next, click on "**Begin Installation**" to start the VMs boot up process.



You should see your new VM power ON in the **Virtual Machine Manager**



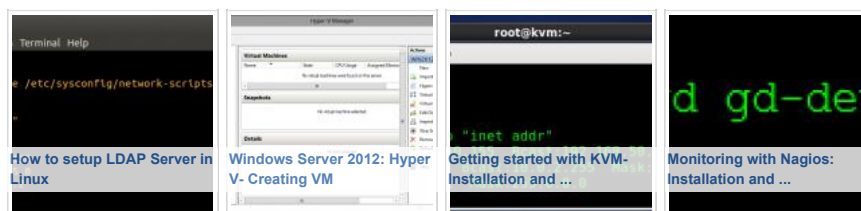
The next steps are pretty easy and trivial. Install your Guest OS as you would do it on a normal server. Once again, just remember that if you want to release the control of the mouse from the Guest OS, use the key combination **LEFT CTRL + LEFT ALT**

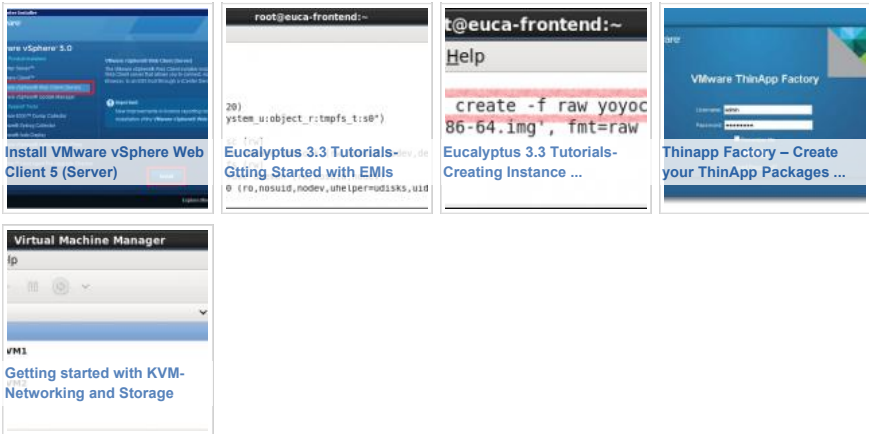


Once you power ON the Guest OS, the two NICs will be assigned to it, however, there will be no IP address available as we have not configured the Networking part (*DHCP/ NAT/ Routing etc*) of KVM yet.


In the next post, I'll show you **How to configure the Networking and Storage for KVM..** so stay tuned...!!

You may also like -






Sponsored Content by nRelate


Posted by [Yohan Wadia](#)  +14 Recommend this on Google
Labels: [Best Practices](#) , [CentOS](#) , [KVM](#) , [Linux](#) , [linux os](#) , [virtualization](#)

6 comments



Add a comment as Mohammad Alshamlan

Top comments




Yohan Wadia

1 month ago - [OMG! Ubuntu! \(General\)](#)

Heres a simple how-to guide that looks into the various steps you can create a VM using KVM.

+6 1




Yohan Wadia

1 month ago - [Cloud Computing News \(Discussion\)](#)

Heres a simple how-to guide that looks into the various steps you can create a VM using KVM.

+7 1




Yohan Wadia

1 month ago - [Ubuntu \(Discussion\)](#)

Heres a simple how-to guide that looks into the various steps you can create a VM using KVM.

+3 1




Yohan Wadia via Google+

1 month ago - Shared publicly


Heres a simple how-to guide that looks into the various steps you can create a VM using KVM.

1 · Reply



yiğit bul via Google+


1 month ago - Shared publicly



Yohan Wadia originally shared this


Heres a simple how-to guide that looks into the various steps you can create a VM using KVM.

1 · Reply



D11mur4tdj dlimuratdj via Google+

1 month ago - Shared publicly



Yohan Wadia originally shared this

Heres a simple how-to guide that looks into the various steps you can create a VM using KVM.

1 · Reply

[Newer Post](#)

[Home](#)

[Older Post](#)

Copyright © 2012- 2014 Yohan Wadia. Powered by [Blogger](#).

Disclaimer

The following is the opinion of the writer and is not intended to malign any religion, ethnic group, club, organization, company, or individual. The views of the writer are his own, and do not reflect the views of the site they are posted on, other sites affiliated with this site, the staff involved with the site, or any other members of this site.

<http://www.yoyoclouds.com/2014/08/getting-started-with-kvm-creating-vm.html>

13/14

