

open source tool that allows users to create host operating system. The resources of t drive, RAM, Processor, will be divided and (Virtual machines).

er. It is a free and achines inside the em, such as Hard operating systems

When used as a machine emulator, QEMU (machine (e.g. an ARM board) on a differed dynamic translation, it achieves very good p

ams made for one own PC). By using

When used as a virtualizer, QEMU achieve the guest code directly on the host CPU. QE under the Xen hypervisor or using the KVM

nces by executing on when executing

under the Xen hypervisor or using the KVM kerner in \_\_\_\_\_ III Linux. When using KVM, QEMU can virtualize x86, server and embedded PowerPC, and S390 guests.

#### **QEMU** has two operating modes:

- Full system emulation: In this mode, QEMU emulates a full system (for example a PC), including a processor and various peripherals. It can be used to launch different Operating Systems without rebooting the PC or to debug system code.
- User mode emulation (Linux host only): In this mode, QEMU can launch Linux processes compiled for one CPU on another CPU. For example, it can be used to launch Wine or to ease cross-compilation and cross-debugging.

QEMU can run without a host kernel driver and yet gives acceptable performance.

## **QEMU** will work fire in the fellowing hardware:



- > Deige I omeniae (I omeni e processor)
- Mac99 PowerMac (PowerPC processor, in
- Sun4m/Sun4c/Sun4d (32-bit Sparc proces
- Sun4u/Sun4v (64-bit Sparc processor, in )
- Malta board (32-bit and 64-bit MIPS proce
- MIPS Magnum (64-bit MIPS processor);
- ARM Integrator/CP (ARM);
- ARM Versatile baseboard (ARM);
- ARM RealView Emulation/Platform basebo
- Spitz, Akita, Borzoi, Terrier and Tosa PDAs
- Luminary Micro LM3S811EVB (ARM Corte.
- Luminary Micro LM3S6965EVB (ARM Cort
- Freescale MCF5208EVB (ColdFire V2);
- Arnewsh MCF5206 evaluation board (ColdFire V2);
- Palm Tungsten|E PDA (OMAP310 processor);
- N800 and N810 tablets (OMAP2420 processor);
- MusicPal (MV88W8618 ARM processor);
- Gumstix "Connex" and "Verdex" motherboards (PXA255/270);
- Siemens SX1 smartphone (OMAP310 processor);
- AXIS-Devboard88 (CRISv32 ETRAX-FS);
- Petalogix Spartan 3aDSP1800 MMU ref design (MicroBlaze);
- Avnet LX60/LX110/LX200 boards (Xtensa).

For user emulation, x86 (32 and 64 bit), PowerPC (32 and 64 bit), ARM, MIPS (32 bit only), Sparc (32 and 64 bit), Alpha, ColdFire(m68k), CRISv32 and MicroBlaze CPUs are supported.

## 1. Install QE

In this let us see h create and manage



## 2. Creating Virtual Machine

Now, let us create a new virtual machine. For a new Ubuntu 15.04 server.

corial, let us create

First create the Virtual hard disk image for 20GB size hard disk image.

nple, let us create

qemu-img create ubuntu.img 20G

Or you can create the image with Qemu's mat 'qcow2' using the following command:

```
qemu-img create -f qcow2 ubuntu.qcow 20G
```

Then, download the Ubuntu 15.04 server installation image and boot the Virtual machine. I already downloaded the installation image and kept it in my home directory.

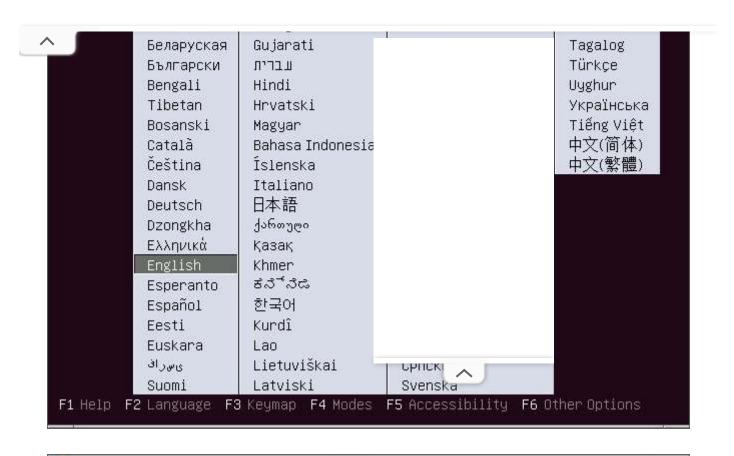
To boot the Virtual machine, run:

```
qemu-system-x86_64 -hda ubuntu.img -boot d -cdrom /home/sk
/Soft Backup/OS\ Images/New/ubuntu-15.04-server-amd64.iso -m 640
```

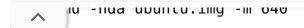
For 32bit VM, use:

```
qemu-system-xi:
/Soft_Backup/09

Here, I have alloca
```







That's it.

Don't like command line way? Creating an might be bit difficult to some user. No worri called Virtual Machine Manager (Virt Manage)

the command line /Ms using GUI tool

# 3. Create and manage Vir Manager

using Virt

Launch **Virtual Machine Manager**(Virt n Dash. The default Interface of Virt Manager .....

he Menu or Unity



^ reate a virtual machine, go to File -> N

Select how would like to install the operating

You can install guest OS using local ISO ima importing existing disk images. Also, you c the Advanced options.

tall, PXE server, or architecture from

Select the local ins

 $\otimes$ 

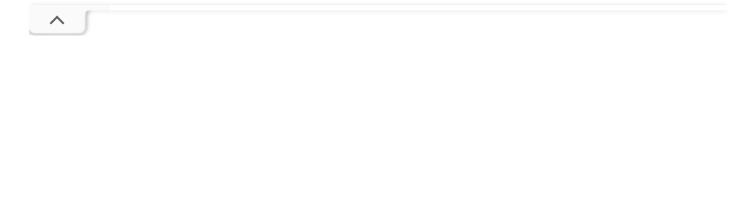
Choose the amount of RAM and no of CPUs.



Enter your guest OS name. And, Select the Finally, click Finish.

Advanced options.





That's it. Now, continue and install the Gues

in normal system.

To view the number of installed guest OSs, go to **File -> View manager**.



To view the Virtual machine details, Select

nd go to **Edit ->** 

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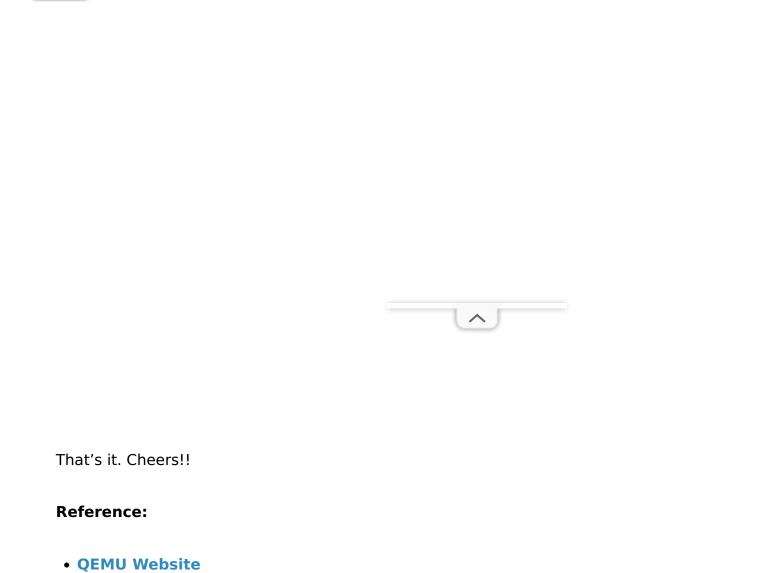
### Virtual Machine Details.

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Click on the 'Show virtual hardware details' from the menu bar.

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