

Verifica supporto virtualizzazione CPU

```
grep -E 'vmx|svm' /proc/cpuinfo
```

```
flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr  
pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse  
sse2 ss ht tm pbe syscall nx rdtscp lm constant_tsc  
arch_perfmon pebs bts rep_good xtopology nonstop_tsc  
aperfmpperf pni dtes64 monitor ds_cpl vmx smx est tm2  
ssse3 cx16 xtpr pdcm sse4_1 sse4_2 popcnt lahf_lm ida  
tpr_shadow vnmi flexpriority ept vpid
```

Installazione Kvm (Debian e Ubuntu)

```
apt-get install qemu-kvm libvirt-bin
```

Installazione Kvm (CentOS)

```
yum install qemu-kvm qemu-kvm-tools  
qemu-img libvirt libvirt-devel  
genisoimage file libguestfs  
libguestfs-mount
```

Configurazione rete

Debian / Ubuntu:

```
apt-get install bridge-utils rsync ntp
```

CentOS:

```
yum install bridge-utils rsync ntp
```

Installazione VNC (Client)

Debian / Ubuntu:

```
apt-get install xtightvncviewer
```

CentOS:

```
yum install tightvnc
```

Verifica installazione Kvm

```
lsmod | grep kvm
```

```
kvm_intel    46653      0  
Kvm         292815     1    kvm_intel
```

Esecuzione di una VM

Creazione immagine disco:

```
qemu-img create -f raw vm-disk.img 2G (CentOS)
```

```
kvm-img create -f raw vm-disk.img 2G (Debian)
```

Installazione OS guest nell'immagine:

```
virsh create cd_boot.xml
```

Verifica creazione dominio:

```
virsh list
```

Modalita' "usermode"

Definizione della rete (net.xml):

```
<network>  
  <name>net</name>  
  <bridge name="crbr1" />  
  <forward/>  
  <ip address="192.168.1.1" netmask="255.255.255.0">  
    <dhcp>  
      <range start="192.168.1.2" end="192.168.1.254" />  
    </dhcp>  
  </ip>  
</network>
```


Modalita' "usermode"

Creazione della rete:

```
virsh net-create net.xml
```

Verifica creazione e stato della rete:

```
virsh net-list
```

Name	State	Autostart

cr	active	no
lenny	active	no
default	inactive	no

Modalita' "usermode": cd boot

```
<domain type='kvm'>
  <name>VM</name>
  <memory>1677721</memory>
  <vcpu>1</vcpu>
  <os>
    <type arch='x86_64' machine='pc'>hvm</type>
    <boot dev='cdrom' />
  </os>
  <features>
    <acpi />
  </features>
```

Modalita' "usermode": cd boot

```
<devices>
  <disk type='file' device='disk'>
    <source file='/home/vm/vm.img' />
    <target dev='hda' bus='ide' />
  </disk>
  <disk type='file' device='cdrom'>
    <source file='/home/vm/debian-6.0.4-amd64-
netinst.iso' />
    <target dev='hdc' bus='ide' />
  </disk>
  <interface type='network'>
    <source network='crbr1' />
    <mac address='54:01:00:00:00:0A' />
  </interface>
  <graphics type='vnc' port='5900' autoport='yes'
listen='0.0.0.0' />
</devices>
</domain>
```

Monitoraggio VM

Eseguire vnc sull'host:

```
$ vncviewer 127.0.0.1:0 &
```

Installazione OS

Formattazione manuale del disco:

1,6 Gb	/	ext3
~500 Mb		swap

Installazione minima:

- standard system
- ssh server

Modalità "usermode": hd boot

```
<domain type='kvm'>
  <name>VM</name>
  <memory>1677721</memory>
  <vcpu>1</vcpu>
  <os>
    <type arch='x86_64' machine='pc'>hvm</type>
  </os>
  <features>
    <acpi/>
  </features>
  <devices>
    <disk type='file' device='disk'>
      <source file='/home/vm/vm.img'/>
      <target dev='hda' bus='ide'/>
    </disk>
    <interface type='network'>
      <source network='crbr1'/>
      <mac address='54:01:00:00:00:0A'/>
    </interface>
    <graphics type='vnc' port='5900' autoport='yes' listen='0.0.0.0'/>
  </devices>
</domain>
```

VM Shutdown e VM Reboot

Debian / Ubuntu (SO guest):

```
# loadkeys it  
# apt-get install acpid
```

Ne1 pc host:

```
# virsh shutdown vm_id  
# virsh reboot vm_id
```