

Most of the details on this page are from Debians much improved wiki page at <http://wiki.debian.org/Xen>

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Installation of Xen on Debian Squeeze

```
aptitude -P install xen-linux-system
//At this point I prematurely rebooted and went
//xm list
//WARNING! Can't find hypervisor information in sysfs!
//Error: Unable to connect to xend: No such file or directory. Is xend running?
//don't reboot. Follow the below:

mv /etc/grub.d/10_linux /etc/grub.d/21_linux
```

Additional Tweaks to make dom0 more stable

Limit RAM available to dom0

```
vi /etc/default/grub
#add the following
# Disable OS prober to prevent virtual machines on logical volumes from appearing in the boot menu.
GRUB_DISABLE_OS_PROBER=true
#limit dom0 to 512MB RAM
GRUB_CMDLINE_XEN="dom0_mem=512M"

update-grub
```

Disable auto save and restore of domUs on host reboot

Apparently in Debians wiki, they say that saving the state of domU's on powerdown doesn't always work. Hence, disable the xen save and restore.

Xen_4.0.1_on_Debian_Squeeze_dom0_and_domU

```
vi /etc/default/xendomains
XENDOMAINS_RESTORE=false
XENDOMAINS_SAVE=""
```

Bridge Networking and disabling Memory Ballooning

```
vi /etc/xen/xend-config.sxp
#(vif-script vif-bridge)
(network-script 'network-bridge antispoof=yes')
#(enable-dom0-ballooning yes)
(enable-dom0-ballooning no)
```

Reboot dom0 and bring up Xen

```
reboot
xm list
//outputs:
Name                               ID    Mem VCPUs      State   Time(s)
Domain-0                           0 15630    12    r----- 10.2
```

Create Virtual Machines - domUs

At this stage I used to manually setup lvm volumes and manually debootstrap the VM. See [Create DomU#LVM Based Setup of Virtual Disk](#) and [Basic Setup of Xen3.2 32bit#Create DomU](#) I'd then copy across resolv.conf, fstab, sources.lst as well as /lib/modules/2.6... etc. However with Etch and Lenny there was additional hassle tweaking inittab and the config to get the xm console to work properly.

With Debian Squeeze, I followed Debians advise on their wiki and started using Xen-Tools. It automates a lot and makes things much easier.

Using Xen-Tools to create VMs

```
apt-get install xen-tools
vi /etc/xen-tools/xen-tools.conf
#Below are all the uncommented lines I used:
lvm = vgl
install-method = debootstrap
size = 20Gb
memory = 512Mb
swap = 1Gb
fs = ext3
dist = `xt-guess-suite-and-mirror --suite`
image = sparse
gateway = 10.10.9.126
netmask = 255.255.255.192
bridge=xenbr0
passwd = 1
kernel = /boot/vmlinuz-`uname -r`
initrd = /boot/initrd.img-`uname -r`
arch = amd64
mirror = `xt-guess-suite-and-mirror --mirror`
```

Disable auto save and restore of domUs on host reboot

Xen_4.0.1_on_Debian_Squeeze_dom0_and_domU

```
ext3_options      = noatime,nodiratime,errors=remount-ro
ext2_options      = noatime,nodiratime,errors=remount-ro
xfs_options       = defaults
reiserfs_options  = defaults
btrfs_options     = defaults
nohosts = 1
pygrub = 1
```

Set Xen-Tools to use noop Scheduler

On the setup here with LVM volumes on top of RAID 1, it is more efficient and better for performance to have VM's use the "noop" I/O scheduler. I've asked people for feedback on this in #Xen on irc.freenode. See chat log below. Also, the following links give reference to this fact also.

<http://old-list-archives.xen.org/archives/html/xen-users/2010-04/msg00518.html>

<http://prefetch.net/blog/index.php/2009/04/23/best-io-scheduler-to-use-with-virtualized-linux-hosts/>

```
15:01 <@pasik> stviewdr: yes, you need to change the scheduler
15:01 <@pasik> stviewdr: new enough linux domU kernels automatically use
15:01 <@pasik> stviewdr: noop for virtual disks
15:03 < stviewdr> pasik: kernels newer than -> 2.6.32-5-xen-686? So its safe to use noop on domU's
15:03 <@pasik> stviewdr: yes, noop is safe and recommended
15:03 <@pasik> stviewdr: in domUs
```

You can check the current scheduler by going:

```
cat /sys/block/xvda2/queue/scheduler
```

You can set the scheduler by going:

```
echo "noop" > /sys/block/xvda2/queue/scheduler
```

We can set this noop scheduler option in the Xen-Tools template so all new VMs created get this noop scheduler.

```
vi /etc/xen-tools/xm.tmpl
#Add in the following:
extra="elevator=noop"
```

Note: this line can also be added into a xen vm config in /etc/xen/vm01.cfg

Create VM

```
xen-create-image --hostname walle-vm01 --ip 193.1.99.98 --vcpus 2
```

Set VM to autostart

```
mkdir /etc/xen/auto
ln -s /etc/xen/vm01.cfg /etc/xen/auto/
```

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Start VM

```
xm create -c /etc/xen/vm01.cfg
```

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<http://prefetch.net/blog/index.php/2009/04/23/best-io-scheduler-to-use-with-virtualized-linux-hosts/>