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Setting up Trainee Admin Xen VMs Automatically

This how-to guide covers streamlining the setting up of Xen VMs using xen-tools. The setting up of Xen and VMs is also discussed here: [:Admin/SetupGuides/SettingUpXenVMs]

In brief, to Create a VM

```
ssh dom0
xen-create-image --hostname dom0-vm## --ip 192.168.0.15
```

Documented Procedure on getting to the above stage:

1. Install Xen

```
apt-get install linux-image-2.6-xen-686 xen-hypervisor-3.0.3-1-i386-pae xen-tools bridge-utils libc6
```

2. Setup Xen to use Bridge Networking

```
vi /etc/xen/xend-config.sxp
(vif-script vif-bridge)
(network-script network-bridge)
```

3. Reboot dom0 and Check Xen

```
xm list
#shows machines running

ifconfig
#you should see entries for: peth0 and xenbr0
```

4. Configure Xen-tools

This step shows all the settings which were required:

```
vi /etc/xen-tools/xen-tools.conf
#uncommented lines are as follows:
lvm = hexvg
debootstrap = 1
size = 4Gb # Disk image size.
memory = 64Mb # Memory size
swap = 128Mb # Swap size
# noswap = 1 # Don't use swap at all for the new system.
fs = ext3 # use the EXT3 filesystem for the disk image.
dist = etch # Default distribution to install.
image = sparse # Specify sparse vs. full disk images.
gateway = 192.168.0.1
netmask = 255.255.255.0
passwd = 1
kernel = /boot/vmlinuz-2.6.18-4-xen-686
initrd = /boot/initrd.img-2.6.18-4-xen-686
mirror = http://ftp.ie.debian.org/debian/
```

Configure /etc/profile to use a proxy on dom0:

```
vi /etc/profile
export http_proxy="http://proxy:3128"
#case sensitive for debootstrap!!
```

Copy files for domU skeleton as follows:

```
mkdir -p /etc/xen-tools/skel/root/.ssh/
mkdir -p /etc/xen-tools/skel/etc/

cp /root/.ssh/authorized_keys2 /etc/xen-tools/skel/root/.ssh/
cp /etc/profile /etc/xen-tools/skel/etc/
```

5. Manage xen-tools

Xen-tools is a front end, doing a lot of things:

- xen-tools will handle creating and deleting lvm partitions for vms.
- xen-tools will mount and copy across network setting and whatever files you wish onto the domU.
- xen-tools will mount and debootstrap the os you specified onto the domU.

Note, the settings which are not specified on the command line are kept in: /etc/xen-tools/xen-tools.conf

```
xen-create-image --hostname hex-vm04 --ip 192.168.0.15

xen-delete-image hex-vm04
#cleanly deletes the vm, including removing the lvm partition!

xen-list-images
```

Xen Specific Tools:

4. Configure Xen-tools

Xen-tools

```
xm create /etc/xen/hex-vm04.cfg
#VMs still need to be started manually.

xm console hex-vm04
#serial console in. Hit CTRL + } to escape

xm shutdown hex-vm04
#brings down the VM
```

Conclusion

- xen-tools greatly speeds up creating the VMs. Note: it does take xen-tools between 10-15 minutes to create and debootstrap a VM, so be patient.
- As long as VMs are running when dom0 goes down, xen-tools will bring back up all domU's on restart.
- Use "xm list" and "xm top" to see an exact list of whats running.
- With a later version of xen-tools (later than what is with etch), it is possible to setup incremental IPs, so the IP does not have to be specified when going xen-create-image.
- `cp /root/.ssh/authorized_keys2 /etc/xen-tools/skel/root/.ssh/` allows you to ssh into the new VM without a password.
- If you dont have "passwd = 1" then all existing users and passwords from existing dom0 will be copied across to domU.
- Minor problems occurred from xen-tools. On creating a new VM, it added an entry into /etc/hosts on dom0. As I was testing with a few setups, old ips remained within /etc/hosts. The dns names are now added into dns, so they dont need to be in the hosts file.
- When the domU is up and running, you might want to run:

```
apt-get remove locales
apt-get install locales
dpkg-reconfigure locales
tzconfig
```