

Chapter 1 The Ubuntu Server Installation

ubuntu[®]

Install Ubuntu Server
Multiple server install with MAAS
Check disc for defects
Test memory
Boot from first hard disk
Rescue a broken system

F1 Help F2 Language F3 Keymap F4 Modes F5 Accessibility F6 Other Options



- Install Ubuntu Server
- Multiple server install with MAAS
- Check disc for defects
- Test memory
- Boot from first hard disk
- Rescue a broken system

Boot Options `irseed/ubuntu-server.seed vga=788 initrd=/install/initrd.gz quiet ---`

F1 Help F2 Language F3 Keymap F4 Modes F5 Accessibility F6 Other Options

[!] Configure the network

From here you can choose to retry DHCP network autoconfiguration (which may succeed if your DHCP server takes a long time to respond) or to configure the network manually. Some DHCP servers require a DHCP hostname to be sent by the client, so you can also choose to retry DHCP network autoconfiguration with a hostname that you provide.

Network configuration method:

- Retry network autoconfiguration
- Retry network autoconfiguration with a DHCP hostname
- Configure network manually**

Do not configure the network at this time

<Go Back>

<Tab> moves; <Space> selects; <Enter> activates buttons

[!!] Set up users and passwords

A good password will contain a mixture of letters, numbers and punctuation and should be changed at regular intervals.

Choose a password for the new user:

<Go Back>

<Continue>

[!!] Partition disks

The installer can guide you through partitioning a disk (using different standard schemes) or, if you prefer, you can do it manually. With guided partitioning you will still have a chance later to review and customise the results.

If you choose guided partitioning for an entire disk, you will next be asked which disk should be used.

Partitioning method:

Guided - use entire disk

Guided - use entire disk and set up LVM

Guided - use entire disk and set up encrypted LVM

Manual

<Go Back>

<Tab> moves; <Space> selects; <Enter> activates buttons

[!!] Partition disks

If you continue, the changes listed below will be written to the disks. Otherwise, you will be able to make further changes manually.

The partition tables of the following devices are changed:

LVM VG ubuntu-vg, LV root
LVM VG ubuntu-vg, LV swap_1
SCSI3 (0,0,0) (sda)

The following partitions are going to be formatted:

LVM VG ubuntu-vg, LV root as ext4
LVM VG ubuntu-vg, LV swap_1 as swap
partition #1 of SCSI3 (0,0,0) (sda) as ext2

Write the changes to disks?

<Yes>

<No>

<Tab> moves; <Space> selects; <Enter> activates buttons

Configuring apt

43%

Retrieving file 20 of 57 (24s remaining)

<Cancel>

Select and install software

5%

Upgrading software...

[!] Software selection

At the moment, only the core of the system is installed. To tune the system to your needs, you can choose to install one or more of the following predefined collections of software.

Choose software to install:

- OpenSSH server
- DNS server
- LAMP server
- Mail server
- PostgreSQL database
- Print server
- Samba file server
- Tomcat Java server
- Virtual Machine host
- Manual package selection

<Continue>

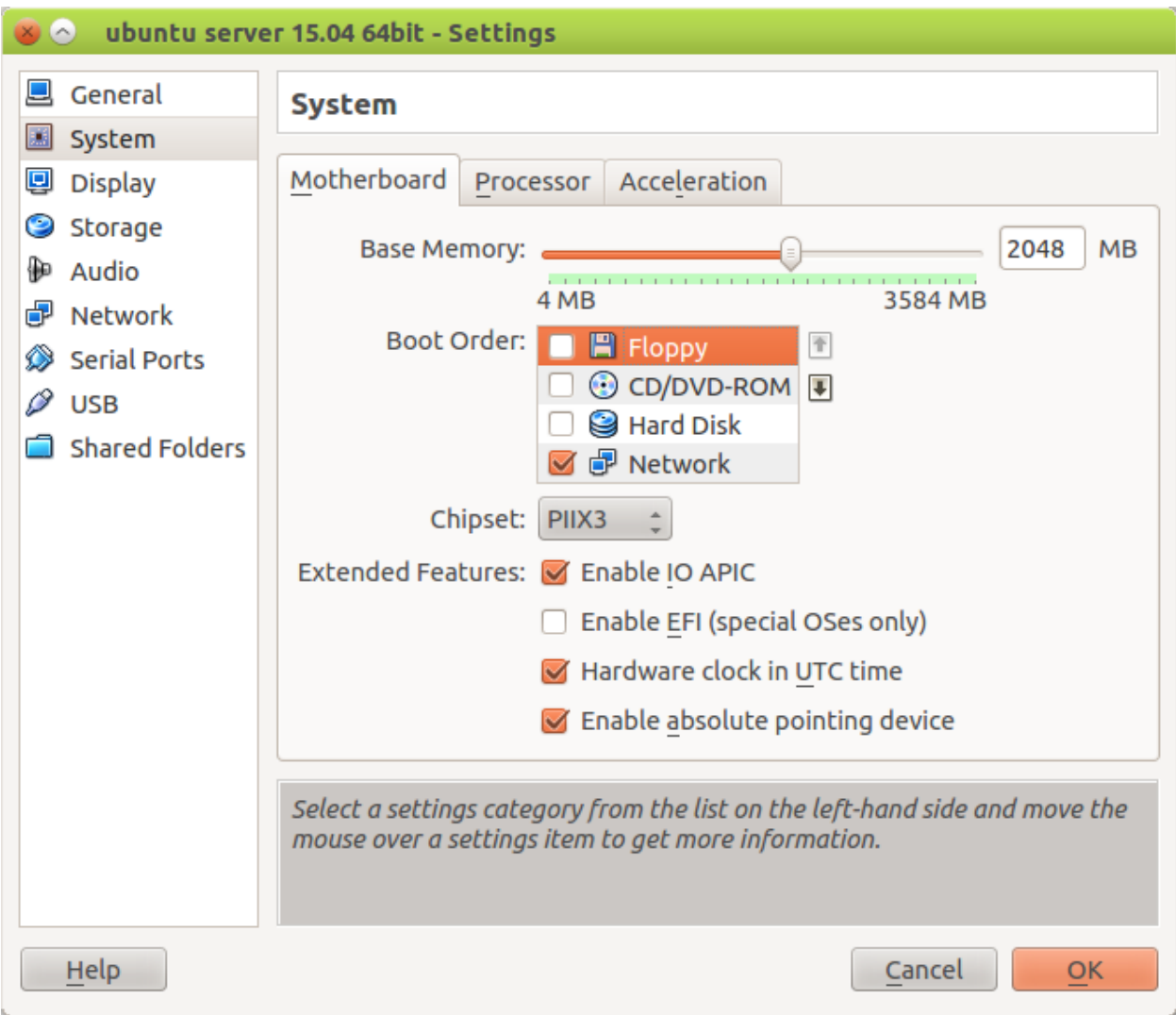
[!] Finish the installation

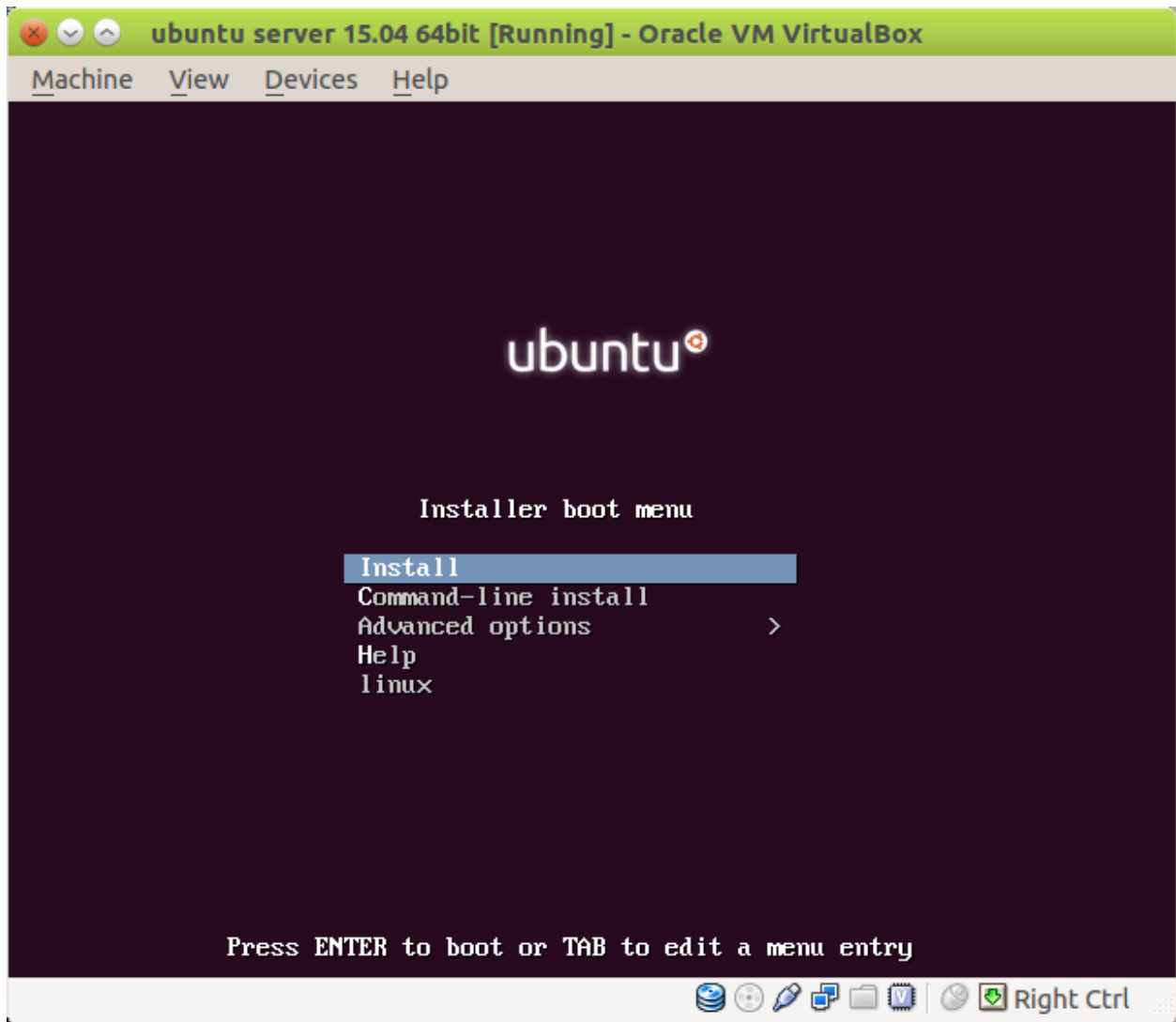
Installation complete

Installation is complete, so it is time to boot into your new system. Make sure to remove the installation media (CD-ROM, floppies), so that you boot into the new system rather than restarting the installation.

<Go Back>

<Continue>





Chapter 2 Configuring and Administering Ubuntu Server

```
LS(1) User Commands LS(1)
NAME
  ls - list directory contents

SYNOPSIS
  ls [OPTION]... [FILE]...

DESCRIPTION
  List information about the FILES (the current directory by default).
  Sort entries alphabetically if none of -cftuvSUX nor --sort is speci-
  fied.

  Mandatory arguments to long options are mandatory for short options
  too.

  -a, --all
      do not ignore entries starting with .

  -A, --almost-all
      do not list implied . and ..

  --author
      with -l, print the author of each file

Manual page ls(1) line 1 (press h for help or q to quit)
Desired=Unknown/Install/Remove/Purge/Hold
! Status=Not/Inst/Conf-files/Unpacked/half-f-inst/Trig-await/Trig-pend
!/? Err?=(none)/Reinst-required (Status,Err: uppercase=bad)
!!/ Name Version Architecture
e Description
++-----
=====
=
ii accountsservice 0.6.37-1ubuntu10 amd64
  query and manipulate user account information
ii acpid 1:2.0.23-1ubuntu1 amd64
  Advanced Configuration and Power Interface event daemon
ii adduser 3.113+nmu3ubuntu3 all
  add and remove users and groups
ii apparmor 2.9.1-0ubuntu9 amd64
  User-space parser utility for AppArmor
ii apport 2.17.2-0ubuntu1 all
  automatically generate crash reports for debugging
ii apport-symptoms 0.20 all
  symptom scripts for apport
ii apt 1.0.9.7ubuntu4 amd64
  commandline package manager
ii apt-transport-https 1.0.9.7ubuntu4 amd64
  https download transport for APT
:
_
```



```
ubuntu@abdelmonam-tactic:~$ dpkg -L isc-dhcp-common
/.
/usr
/usr/bin
/usr/bin/omshell
/usr/share
/usr/share/doc
/usr/share/doc/isc-dhcp-common
/usr/share/doc/isc-dhcp-common/copyright
/usr/share/doc/isc-dhcp-common/changelog.Debian.gz
/usr/share/man
/usr/share/man/man1
/usr/share/man/man1/omshell.1.gz
/usr/share/man/man5
/usr/share/man/man5/dhcp-options.5.gz
/usr/share/man/man5/dhcp-eval.5.gz
ubuntu@abdelmonam-tactic:~$ _
ubuntu@abdelmonam-tactic:~$ dpkg -S /usr/bin/omshell
isc-dhcp-common: /usr/bin/omshell
```

```
Actions Undo Package Resolver Search Options Views Help
C-T: Menu ?: Help q: Quit u: Update g: Download/Install/Remove Pkgs
aptitude 0.6.11
```

```
-- Upgradable Packages (12)
-- Installed Packages (459)
-- Not Installed Packages (75254)
-- Virtual Packages (10551)
-- Tasks (60624)
```

```
Security updates for these packages are available from security.ubuntu.com.
```

```
This group contains 12 packages.
```

```

Actions  Undo  Package  Resolver  Search  Options  Views  Help
C-T: Menu  ?: H  download/Install/Remove Pkgs
aptitude 0.6.11
--- Security Up Reinstall L
--- Upgradable Remove -
--- Installed P Purge -
--- Not Install Keep :
--- Virtual Pac Hold =
--- Tasks (6062 Mark Auto M
Mark Manual m
Forbid Version F

Information enter
Cycle Package Information i
Changelog C
table from security.ubuntu.com.

This group contains 12 packages.

```

Flag the currently selected package for installation or upgrade

```

abdelmonam@abdelmonam-tactic: ~
File Edit View Search Terminal Help
Package configuration

Software selection
You can choose to install one or more of the following predefined
collections of software.

Choose software to install:

[*] Basic Ubuntu server
[*] OpenSSH server
[ ] DNS server
[ ] LAMP server
[ ] Mail server
[ ] PostgreSQL database
[ ] Print server
[ ] Samba file server
[ ] Tomcat Java server

<Ok>

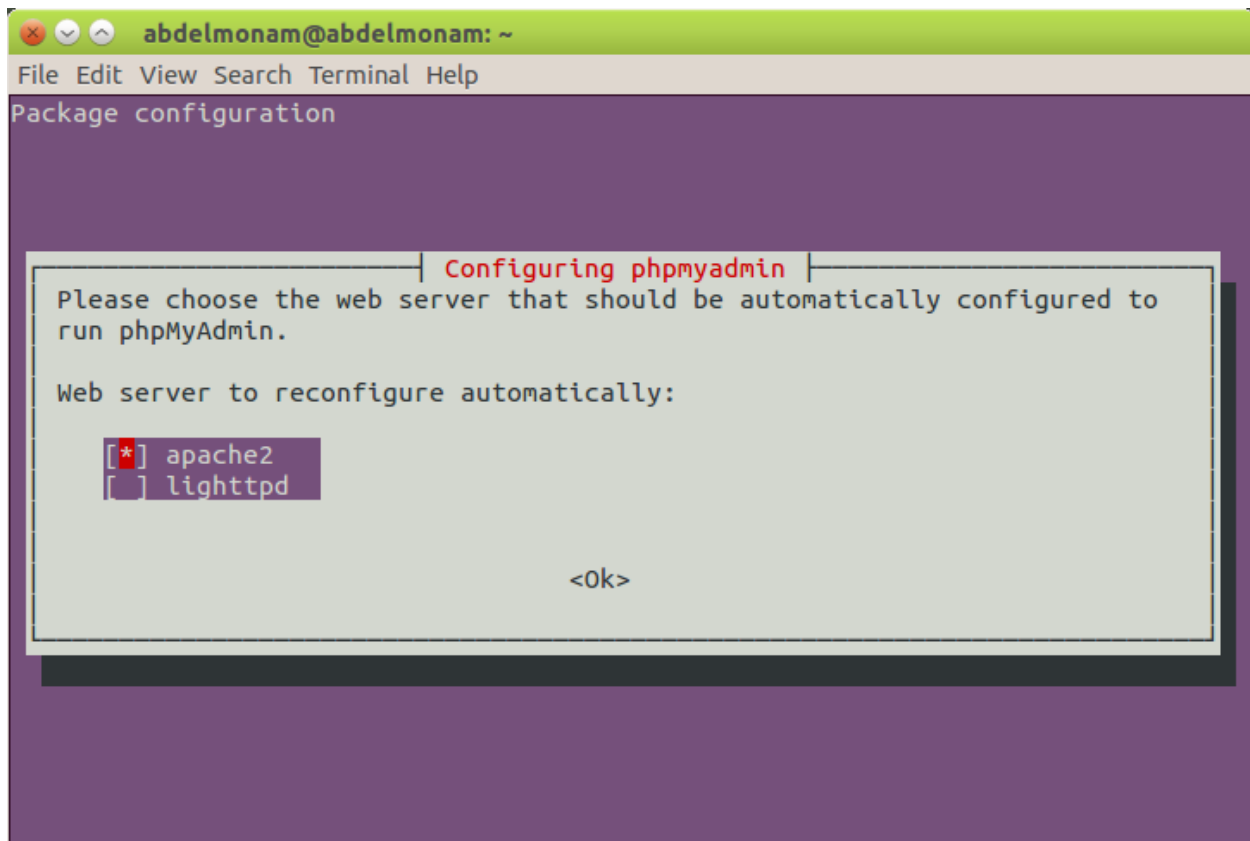
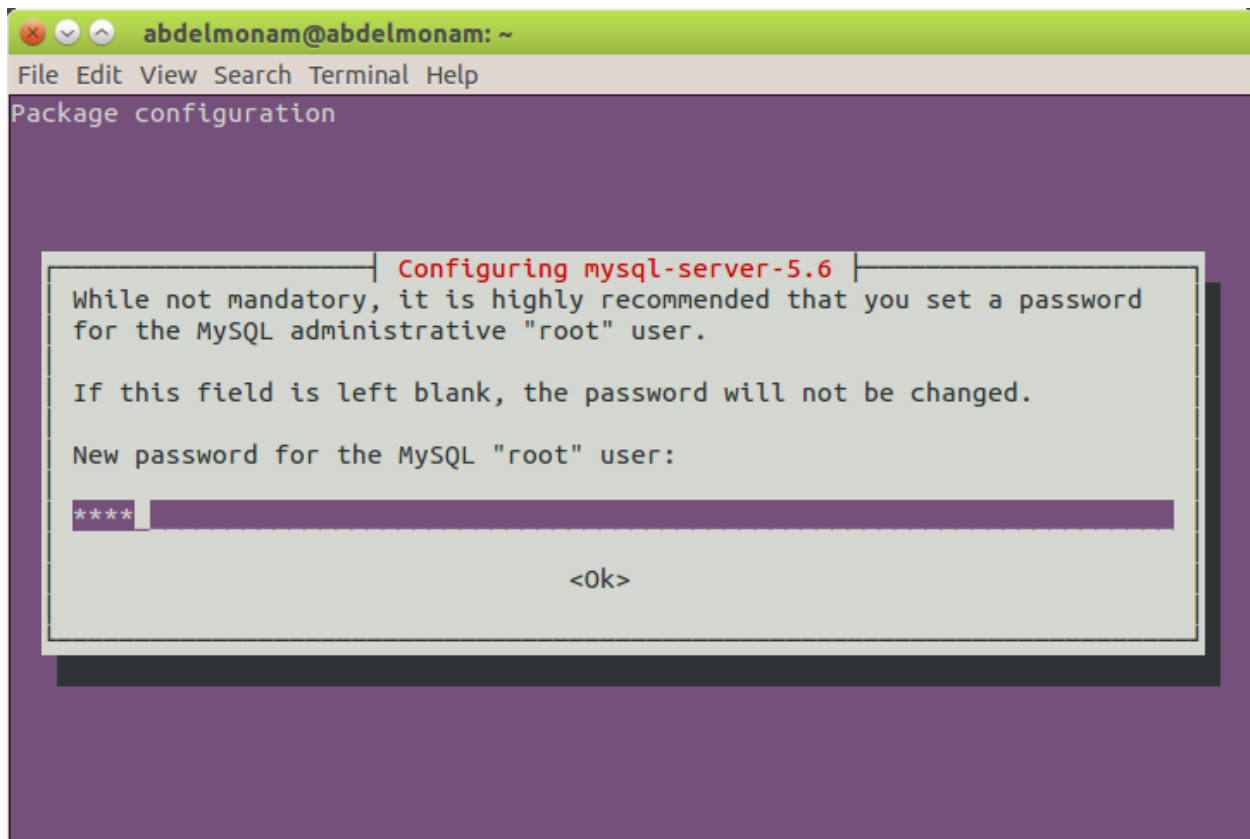
```

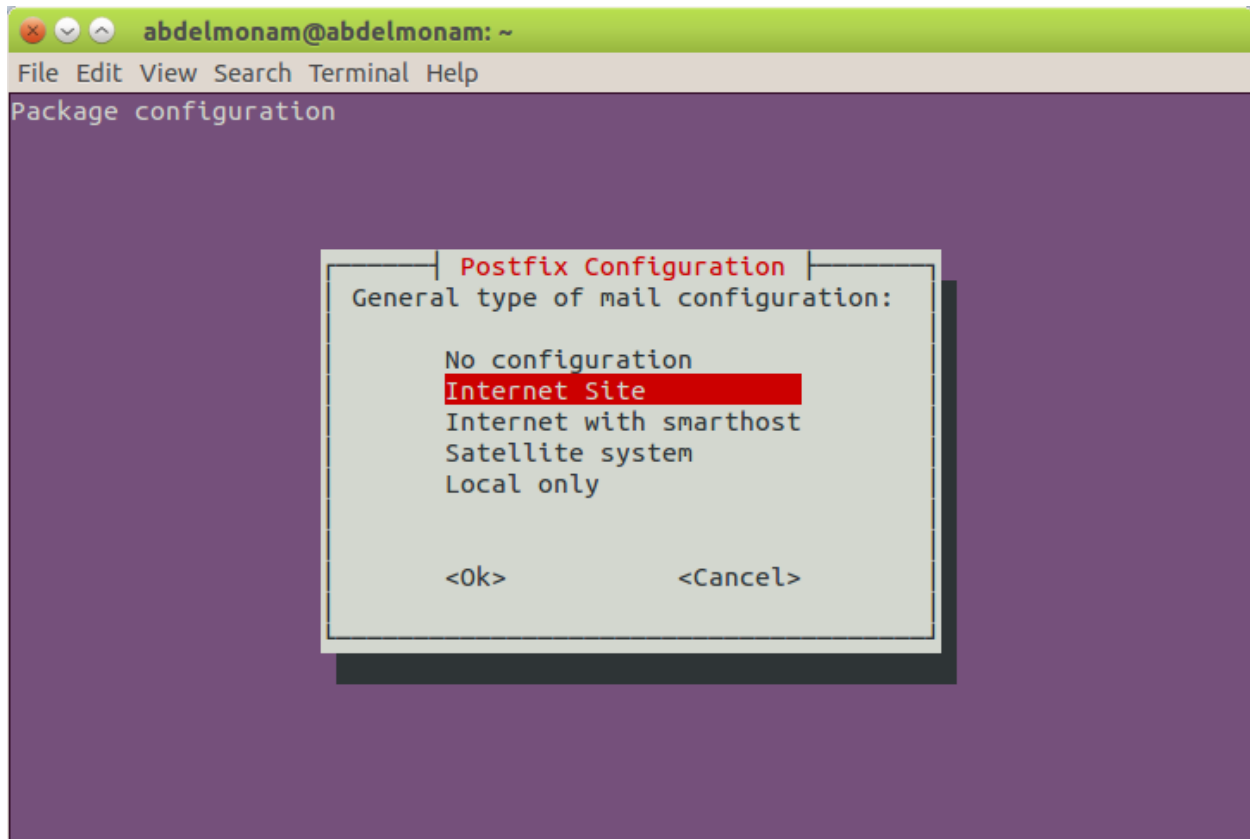
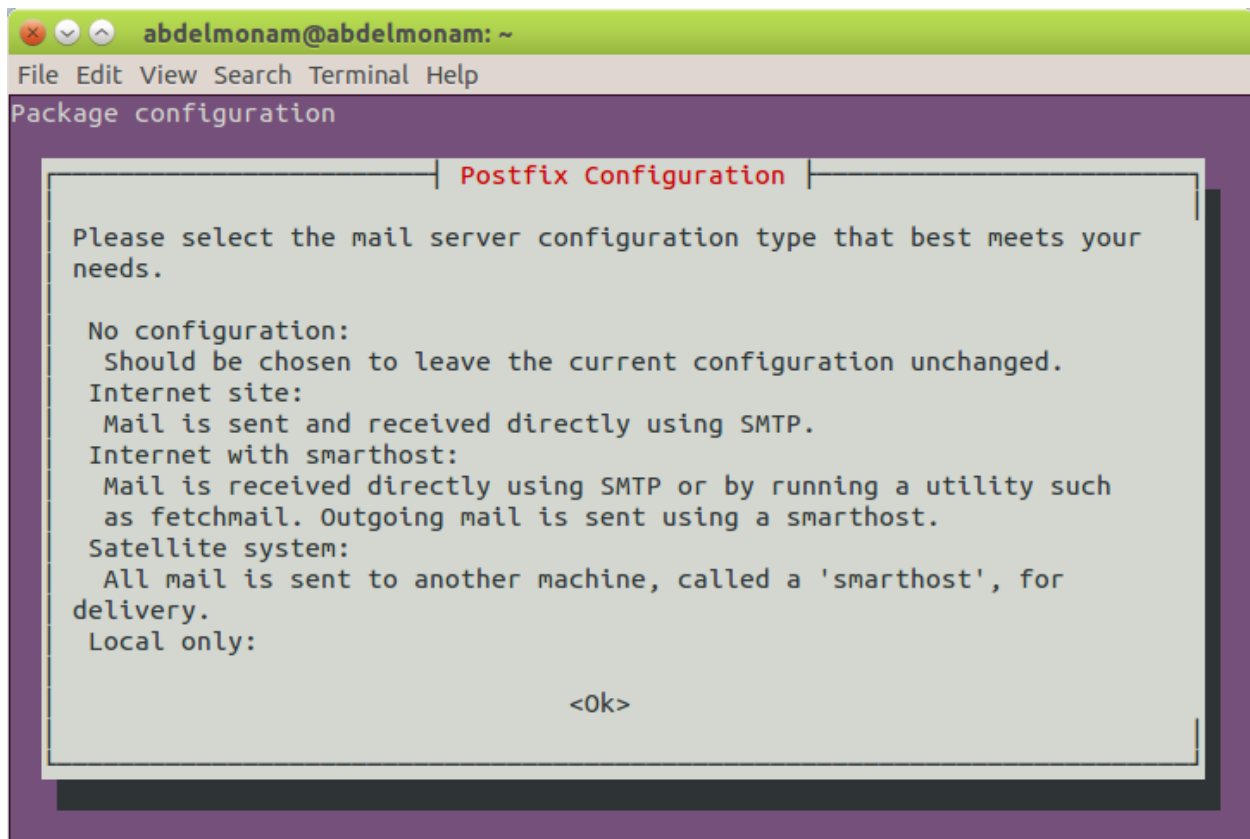
```
abdelmonam@abdelmonam-tactic: ~
File Edit View Search Terminal Help
abdelmonam@abdelmonam-tactic:~$ dstat -t -c 3
----system----  ----total-cpu-usage----
   time      |usr|sys|idl|wai|hiq|siq|
13-06 17:32:56| 24|  5| 70|  1|  0|  0|
13-06 17:32:59| 28|  3| 68|  0|  0|  0|
13-06 17:33:02| 29|  3| 68|  0|  0|  0|
13-06 17:33:05| 30|  4| 66|  0|  0|  0|
13-06 17:33:08| 27|  3| 70|  0|  0|  0|
13-06 17:33:11| 24|  4| 71|  1|  0|  0|
13-06 17:33:14| 25|  3| 71|  0|  0|  0|
13-06 17:33:17| 24|  3| 73|  0|  0|  0|
13-06 17:33:20| 24|  3| 73|  0|  0|  0|
13-06 17:33:23| 23|  3| 74|  0|  0|  0|
13-06 17:33:24| 30|  3| 66|  1|  0|  0|
```

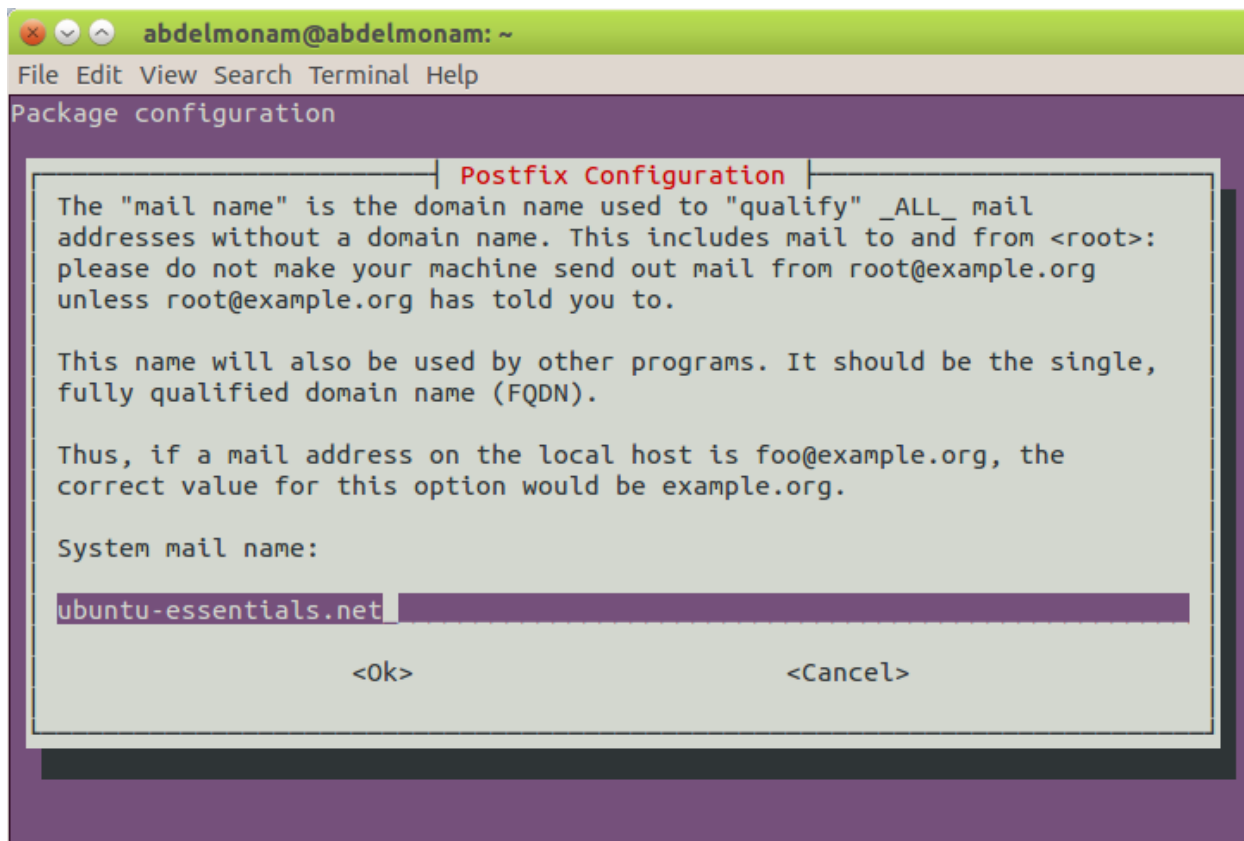
Chapter 3 Deploying Servers on Ubuntu

```
abdelmonam@abdelmonam: ~
File Edit View Search Terminal Help
abdelmonam@abdelmonam:~$ sudo service bind9 status
● bind9.service - BIND Domain Name Server
   Loaded: loaded (/lib/systemd/system/bind9.service; enabled; vendor preset: en
   abled)
   Drop-In: /run/systemd/generator/bind9.service.d
            └─50-insserv.conf-$named.conf
   Active: active (running) since Sat 2015-07-11 01:07:34 UTC; 6s ago
     Docs: man:named(8)
  Main PID: 2564 (named)
    CGroup: /system.slice/bind9.service
            └─2564 /usr/sbin/named -f -u bin

Jul 11 01:07:35 abdelmonam named[2564]: automatic empty zone: 8.B.D.0.1.0.0....A
Jul 11 01:07:35 abdelmonam named[2564]: command channel listening on 127.0.0...3
Jul 11 01:07:35 abdelmonam named[2564]: command channel listening on :::1#953
Jul 11 01:07:35 abdelmonam named[2564]: managed-keys-zone: loaded serial 0
Jul 11 01:07:35 abdelmonam named[2564]: zone 0.in-addr.arpa/IN: loaded serial 1
Jul 11 01:07:35 abdelmonam named[2564]: zone 127.in-addr.arpa/IN: loaded ser...1
Jul 11 01:07:35 abdelmonam named[2564]: zone localhost/IN: loaded serial 2
Jul 11 01:07:35 abdelmonam named[2564]: zone 255.in-addr.arpa/IN: loaded ser...1
Jul 11 01:07:35 abdelmonam named[2564]: all zones loaded
Jul 11 01:07:35 abdelmonam named[2564]: running
Hint: Some lines were ellipsized, use -l to show in full.
abdelmonam@abdelmonam:~$
```







abdelmonam@abdelmonam: ~

File Edit View Search Terminal Help

Package configuration

Postfix Configuration

The "mail name" is the domain name used to "qualify" `_ALL_` mail addresses without a domain name. This includes mail to and from `<root>`: please do not make your machine send out mail from `root@example.org` unless `root@example.org` has told you to.

This name will also be used by other programs. It should be the single, fully qualified domain name (FQDN).

Thus, if a mail address on the local host is `foo@example.org`, the correct value for this option would be `example.org`.

System mail name:

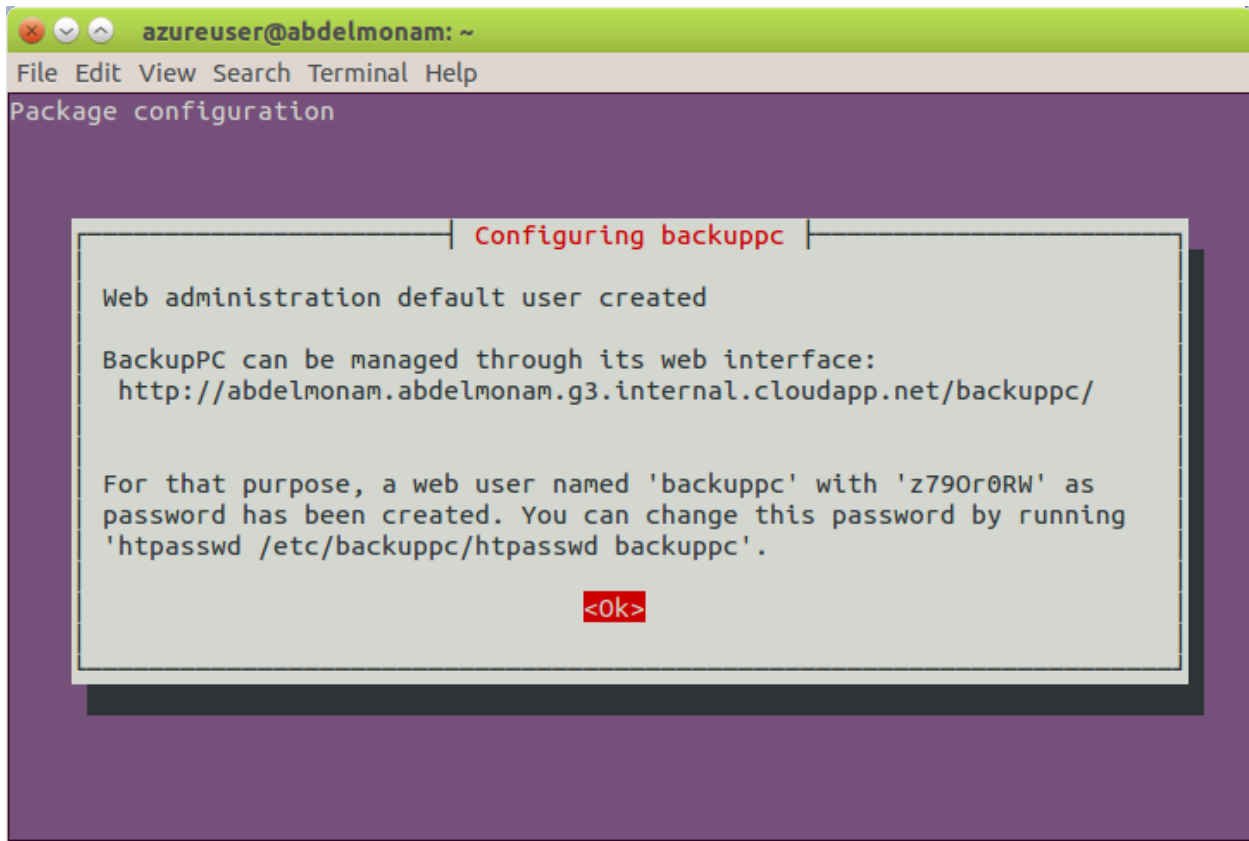
ubuntu-essentials.net

<Ok>

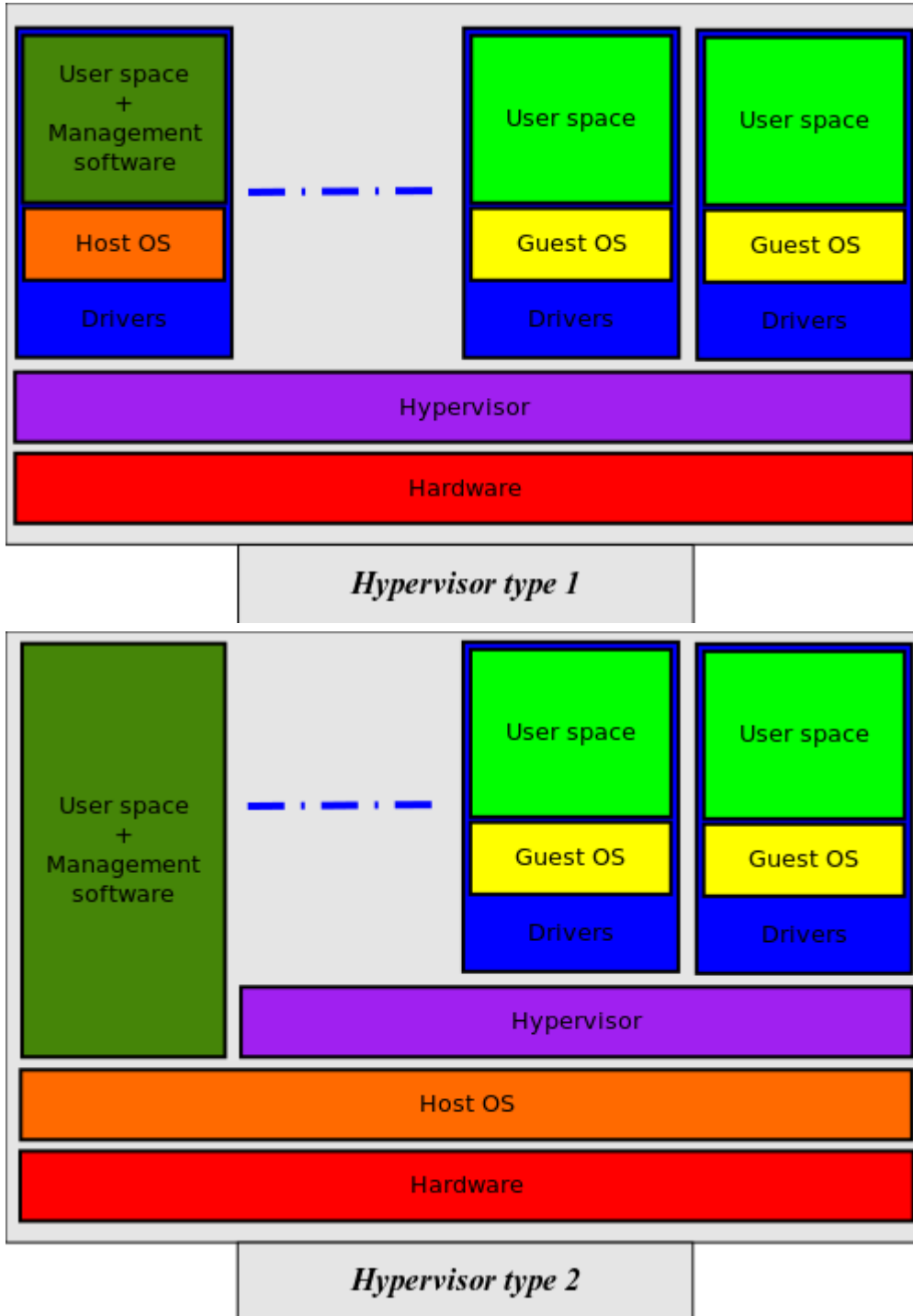
<Cancel>

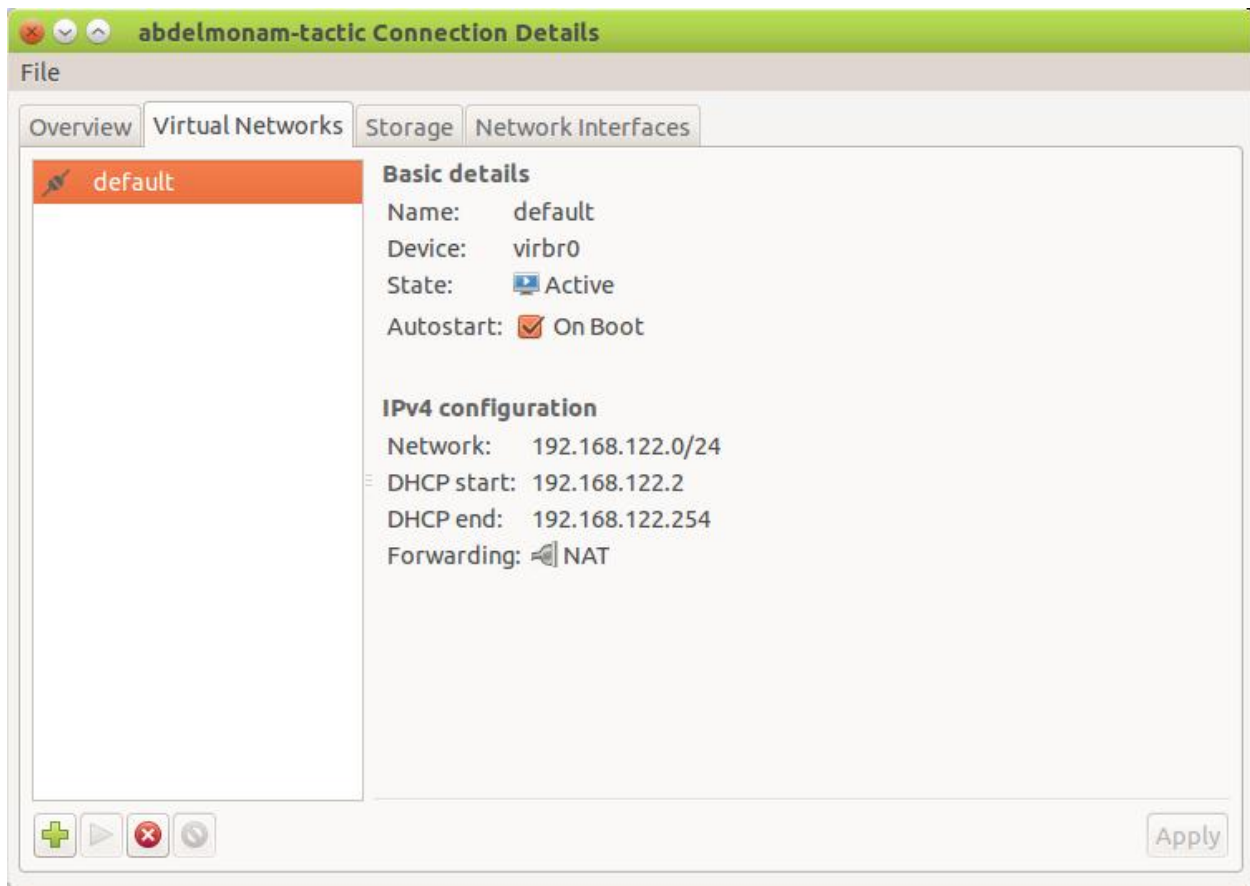
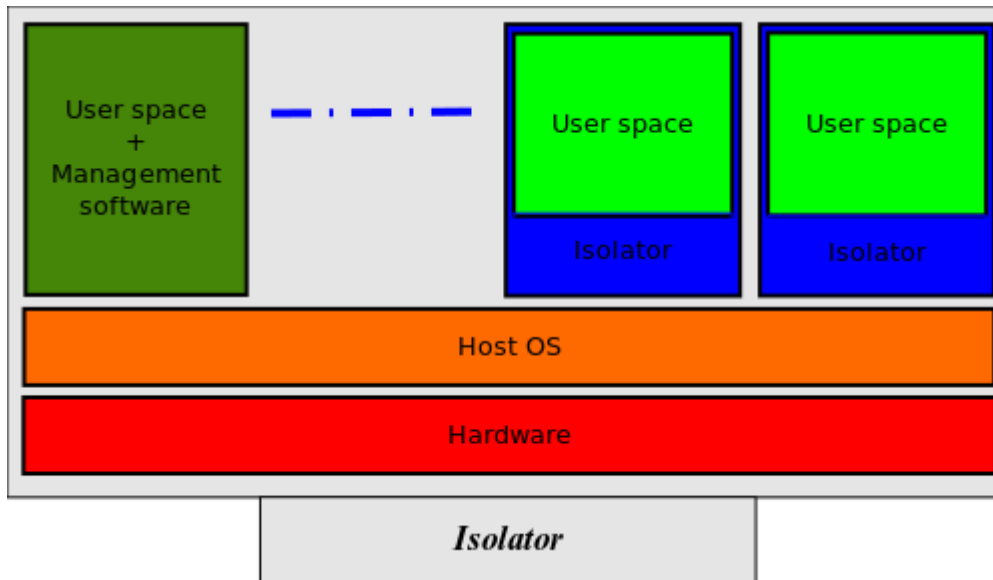
Chapter 4 Security with Ubuntu

```
abdel@abdelmonam2: ~  
File Edit View Search Terminal Help  
abdel@abdelmonam2:~$ ssh-keygen -t rsa  
Generating public/private rsa key pair.  
Enter file in which to save the key (/home/abdel/.ssh/id_rsa):  
Created directory '/home/abdel/.ssh'.  
Enter passphrase (empty for no passphrase):  
Enter same passphrase again:  
Your identification has been saved in /home/abdel/.ssh/id_rsa.  
Your public key has been saved in /home/abdel/.ssh/id_rsa.pub.  
The key fingerprint is:  
c3:05:5b:42:f1:9f:76:48:c6:b5:4f:ed:6c:e2:2b:c9 abdel@abdelmonam2  
The key's randomart image is:  
+---[RSA 2048]---+  
|      . = . . .      |  
|      * . . . . .    |  
|      . o + . o      |  
|      . . + o =      |  
|      S   = o =      |  
|      . . o o        |  
|      . . .          |  
|      E .           |  
|      . .           |  
+-----+  
abdel@abdelmonam2:~$  
abdel@abdelmonam2:~$
```

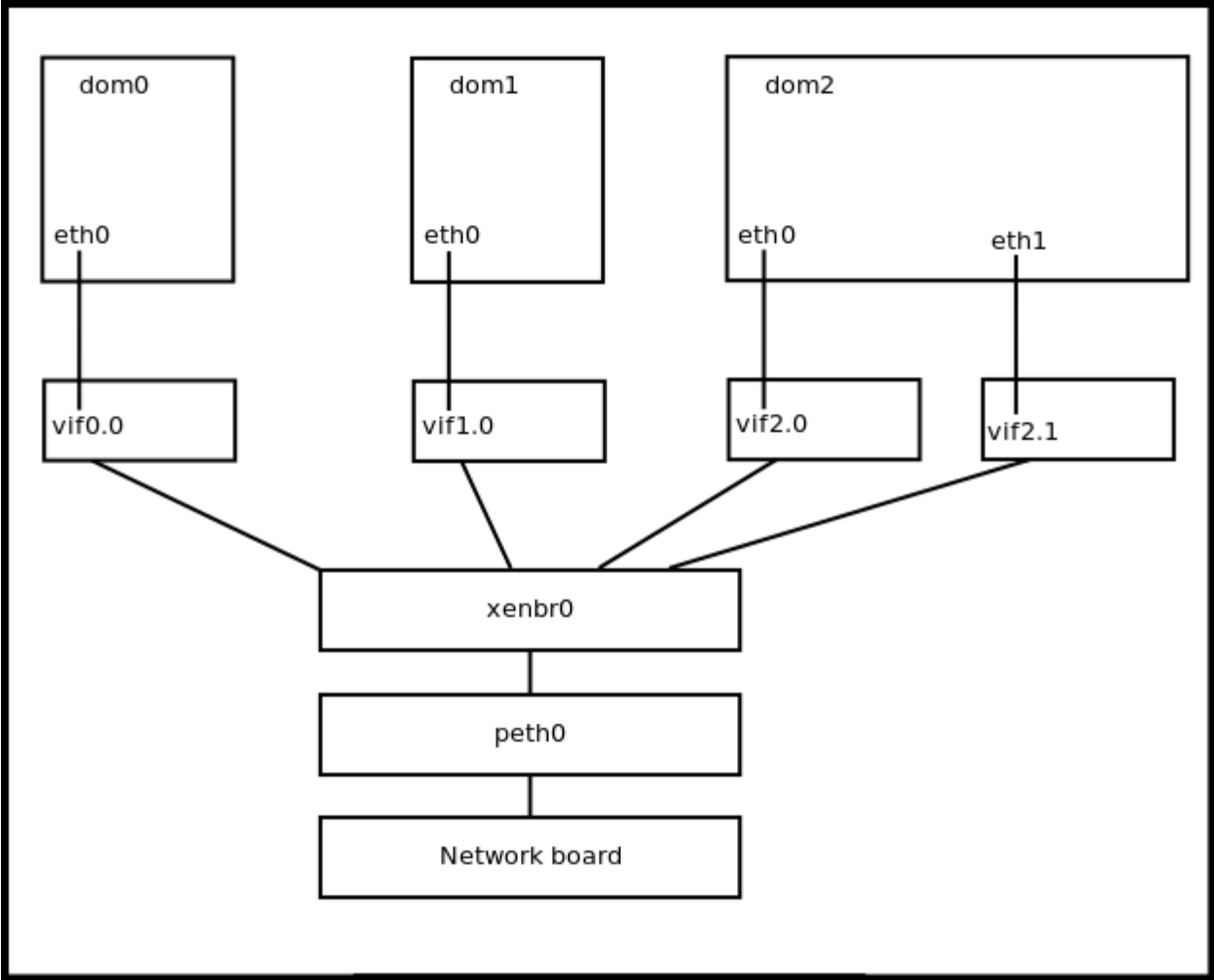



Chapter 5 Virtualization and Cloud Computing inside the Ubuntu Server





```
abdelmonam@abdelmonam-tactic: ~
File Edit View Search Terminal Help
abdelmonam@abdelmonam-tactic:~$ egrep "(svm|vmx)" /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 nx rdtscp lm constant_
tsc arch_perfmon pebs bts xtopology nonstop_tsc aperfmperf pni pclmulqdq dtes64
monitor ds_cpl vmx smx est tm2 ssse3 cx16 xtpr pdcm pcid sse4_1 sse4_2 popcnt ae
s lahf_lm ida arat dtherm tpr_shadow vnmi flexpriority ept vpid
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 nx rdtscp lm constant_
tsc arch_perfmon pebs bts xtopology nonstop_tsc aperfmperf pni pclmulqdq dtes64
monitor ds_cpl vmx smx est tm2 ssse3 cx16 xtpr pdcm pcid sse4_1 sse4_2 popcnt ae
s lahf_lm ida arat dtherm tpr_shadow vnmi flexpriority ept vpid
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 nx rdtscp lm constant_
tsc arch_perfmon pebs bts xtopology nonstop_tsc aperfmperf pni pclmulqdq dtes64
monitor ds_cpl vmx smx est tm2 ssse3 cx16 xtpr pdcm pcid sse4_1 sse4_2 popcnt ae
s lahf_lm ida arat dtherm tpr_shadow vnmi flexpriority ept vpid
abdelmonam@abdelmonam-tactic:~$
```



Networking in a Xen Environment