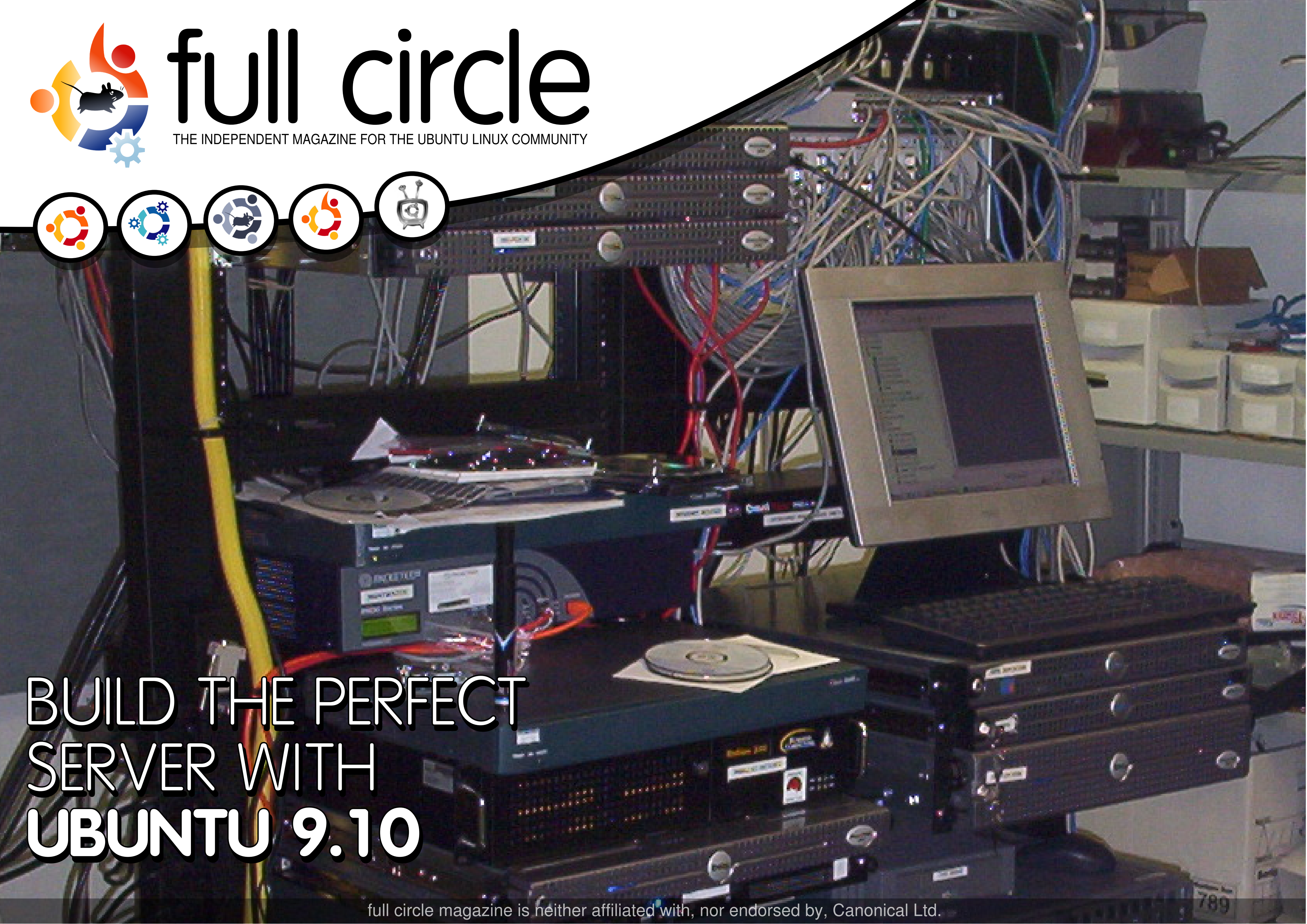
full circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY



BUILD THE PERFECT SERVER WITH UBUNTU 9.10

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About Full Circle

Full Circle is a free, independent, magazine dedicated to the Ubuntu family of Linux operating systems. Each month, it contains helpful how-to articles and reader-submitted stories.

Full Circle also features a companion podcast, the Full Circle Podcast which covers the magazine, along with other news of interest.

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Full Circle Magazine Specials

Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

Welcome to another 'single-topic special'

In response to reader requests, we are assembling the content of some of our serialised articles into dedicated editions.

For now, this is a straight reprint of the series 'The Perfect Server' from issues 31 through 34; nothing fancy, just the facts.

Please bear in mind the original publication date; current versions of hardware and software may differ from those illustrated, so check your hardware and software versions before attempting to emulate the tutorials in these special editions. You may have later versions of software installed or available in your distributions' repositories.

Enjoy!

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HOW-TO

Written by Falko Timme on HowtoForge.com

The Perfect Server - Part 1

SEE ALSO:
FCM09 - 16 : Server Series 1 - 8
FCM28 - 29 : LAMP Server 1 - 2

APPLICABLE TO:
ubuntu kubuntu xubuntu

CATEGORIES:
Dev Graphics Internet M/media System

DEVICES:
CD/DVD HDD USB Drive Laptop Wireless

This tutorial shows how to prepare an Ubuntu 9.10 (Karmic Koala) server for ISPConfig 3, and how to install ISPConfig 3 on it. ISPConfig 3 is a webhosting control panel that allows you to configure the following services through a web browser: Apache web server, Postfix mail server, MySQL, MyDNS name server, PureFTPd, SpamAssassin, ClamAV, and many more.

Please note that this setup does not work for ISPConfig 2. It is valid for ISPConfig 3 only!

Requirements

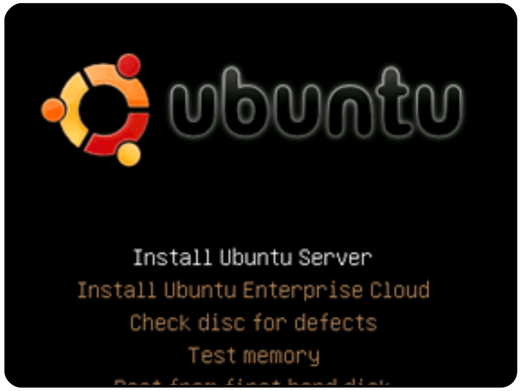
To install such a system you will need the Ubuntu 9.10 server CD, available here: http://releases.ubuntu.com/releases/9.10/ubuntu-9.10-server-i386.iso (32-bit) or: http://releases.ubuntu.com/releases/9.10/ubuntu-9.10-server-amd64.iso (64-bit)

Preliminary Note

In this tutorial, I use the host name *server1.example.com*, with IP address *192.168.0.100* and gateway *192.168.0.1*. These settings might differ for you, so you have to replace them where appropriate.

The Base System

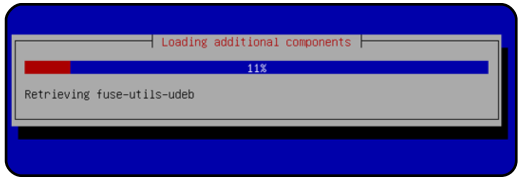
Insert your Ubuntu install CD into your system and boot from it. Select your language then select Install Ubuntu Server:



```
Install Ubuntu Server
Install Ubuntu Enterprise Cloud
Check disc for defects
Test memory
Boot from first hard disk
```

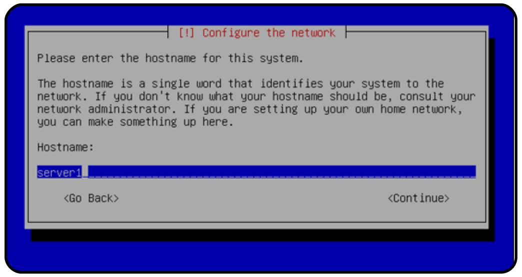
Choose your language (again), location, and keyboard layout.

The installer checks the installation CD and your hardware, and configures the network with DHCP if there is a DHCP server on the network:



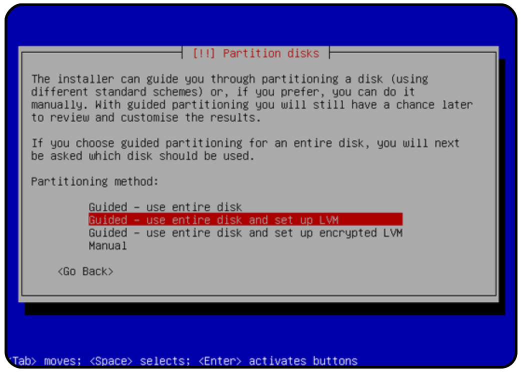
```
Loading additional components
11%
Retrieving fuse-utils-udeb
```

Enter the host name. In this example, my system is called server1.example.com, so I enter server1:



```
[!] Configure the network

Please enter the hostname for this system.

The hostname is a single word that identifies your system to the
network. If you don't know what your hostname should be, consult your
network administrator. If you are setting up your own home network,
you can make something up here.

Hostname:

server1

  <Go Back>                                          <Continue>
```

Now you have to partition your hard disk. For simplicity's sake, I select Guided, use entire disk and set up LVM. This will create one volume group with two logical volumes—one for the / file system, and another one for swap. Of course, the partitioning is totally up to you—if you know what you're doing, you can also set up your partitions manually. You may find it helpful in future months if you set up separate /home and /var partitions.

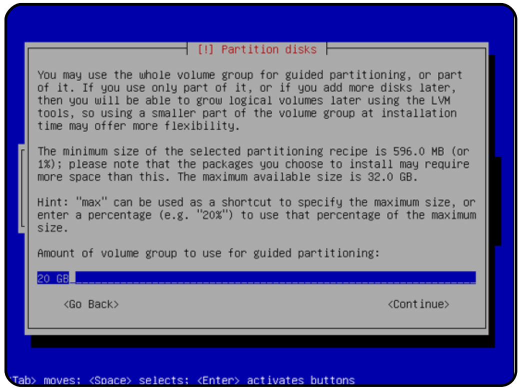


```
[!!] Partition disks

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
```

contents ^

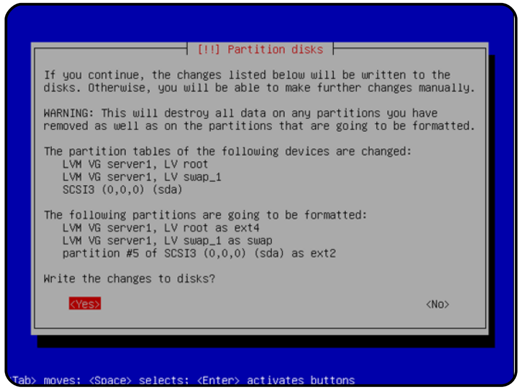
Select the disk that you want to partition, and, when you're asked 'Write the changes to disk and configure LVM?', select Yes.

If you have selected Guided, use entire disk and set up LVM, the partitioner will create one big volume group that uses all the disk space. You can now specify how much of that disk space should be used by the logical volumes for / and swap. It makes sense to leave some space unused, so later on you can expand your existing logical volumes, or create new ones. This gives you more flexibility.



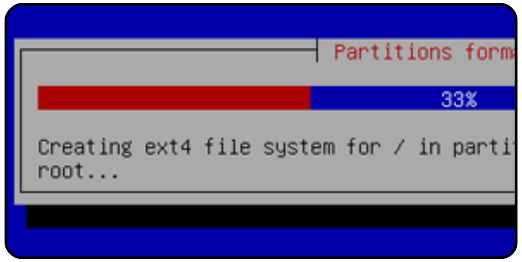
```
[!] Partition disks

You may use the whole volume group for guided partitioning, or part
of it. If you use only part of it, or if you add more disks later,
then you will be able to grow logical volumes later using the LVM
tools, so using a smaller part of the volume group at installation
time may offer more flexibility.

The minimum size of the selected partitioning recipe is 596.0 MB (or
1%); please note that the packages you choose to install may require
more space than this. The maximum available size is 32.0 GB.

Hint: "max" can be used as a shortcut to specify the maximum size, or
enter a percentage (e.g. "20%") to use that percentage of the maximum
size.

Amount of volume group to use for guided partitioning:

20 GB

    <Go Back>                                         <Continue>

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

When you're finished, hit Yes when asked "Write the changes to disks?":



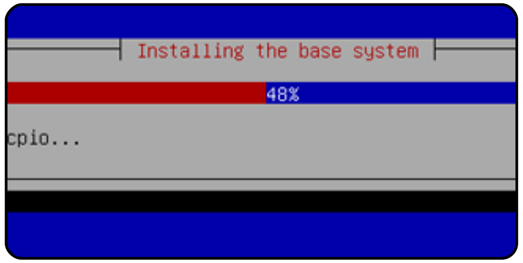
```
[!!] Partition disks

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

WARNING: This will destroy all data on any partitions you have
removed as well as on the partitions that are going to be formatted.

The partition tables of the following devices are changed:
   LVM VG server1, LV root
   LVM VG server1, LV swap_1
   SCSI3 (0,0,0) (sda)

The following partitions are going to be formatted:
   LVM VG server1, LV root as ext4
   LVM VG server1, LV swap_1 as swap
   partition #5 of SCSI3 (0,0,0) (sda) as ext2

Write the changes to disks?

     <Yes>                                              <No>

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

Your new partitions are created and formatted:



```
Partitions form

                                  33%

Creating ext4 file system for / in parti
root...
```

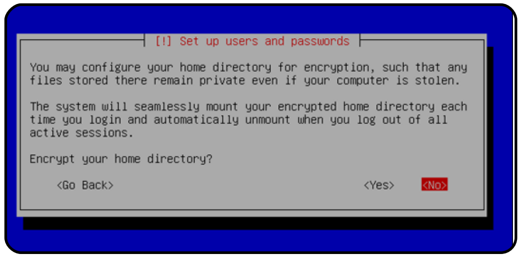
Then the base system is installed:



```
Installing the base system

                  48%

cpio...
```

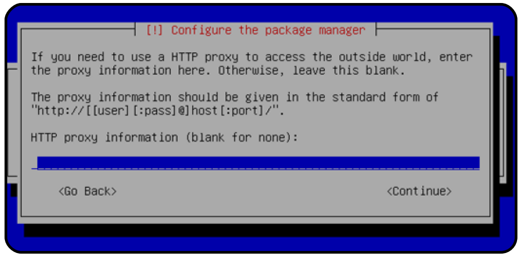
Create a user, for example the user Administrator, with the user name administrator. Don't use the user name admin as it is a reserved name on Ubuntu 9.10.

I don't need an encrypted private directory, so I choose No here:



```
[!] Set up users and passwords

You may configure your home directory for encryption, such that any
files stored there remain private even if your computer is stolen.

The system will seamlessly mount your encrypted home directory each
time you login and automatically unmount when you log out of all
active sessions.

Encrypt your home directory?

    <Go Back>                                      <Yes>    <No>
```

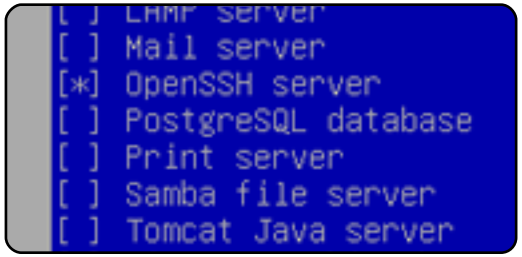
Next, the package manager apt gets configured. Leave the HTTP proxy line empty unless you're using a proxy server to connect to the Internet:



```
[!] Configure the package manager

If you need to use a HTTP proxy to access the outside world, enter
the proxy information here. Otherwise, leave this blank.

The proxy information should be given in the standard form of
"http://[[user][:pass]@]host[:port]/".

HTTP proxy information (blank for none):

    <Go Back>                                       <Continue>
```

I'm a little bit old-fashioned, and I like to update my servers manually to have more control, therefore I select No automatic updates. Of course, it's up to you what you select there.

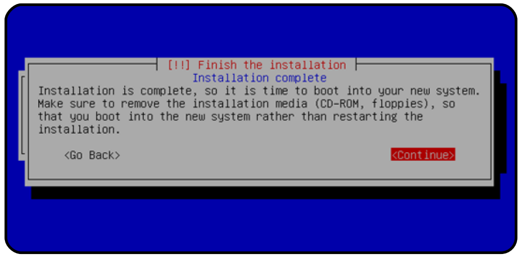
We need DNS, mail, and LAMP servers, but, nevertheless, I don't select any of them now because I like to have full control over what gets installed on my system. We will install the needed packages manually later on. The only item I select here is OpenSSH server, so that I can immediately connect to the system with an SSH client such as PuTTY after the installation has finished:



```
[ ] LAMP server
[ ] Mail server
[*] OpenSSH server
[ ] PostgreSQL database
[ ] Print server
[ ] Samba file server
[ ] Tomcat Java server
```

The installation continues, then the GRUB boot loader gets installed.

The base system installation is now finished. Remove the installation CD from the CD drive and select Continue to reboot the system:



```
[!!] 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>
```

Next month, we use our administrator account to install SSH Server and vim-nox, and also configure the network itself.

contents ^

HOW-TO

Written by Falko Timme on HowtoForge.com

The Perfect Server - Part 2

SEE ALSO:
FCM09 - 16 : Server Series 1 - 8
FCM28 - 29 : LAMP Server 1 - 2
FCM31 : The Perfect Server 1

APPLICABLE TO:
ubuntu kubuntu xubuntu

CATEGORIES:
Dev Graphics Internet M/media System

DEVICES:
CD/DVD HDD USB Drive Laptop Wireless

Last month, we did the basic Ubuntu Server installation from CD, and got to the point of rebooting into the installed system.

Get Root Privileges

After the reboot you can login with your previously created username (e.g. administrator). Because we must run all the steps from this tutorial with root privileges, we can either prepend all commands in this tutorial with the string sudo, or we become root right now by typing:

```
sudo su
```

You can also enable the root login by running:

```
sudo passwd root
```

and giving root a password. You can then directly log in as root, but this is frowned upon by the Ubuntu developers and community for various reasons. (See http://ubuntuforums.org/showthread.php?t=765414)

Install The SSH Server (Optional)

If you did not install the OpenSSH server during the system installation, you can do it now:

```
aptitude install ssh openssh-server
```

From now on, you can use an SSH client such as PuTTY and connect from your workstation to your Ubuntu 9.10 server and follow the remaining steps in this tutorial.

Install vim-nox (Optional)

I'll use vi as my text editor in this tutorial. The default vi program has some strange behaviour on Ubuntu and Debian; to fix this, we install vim-nox:

```
aptitude install vim-nox
```

You don't have to do this if you use a different text editor such as joe or nano.

Configure The Network

Because the Ubuntu installer has configured our system to get its network settings via DHCP, we have to change that now because a server should have a static IP address. Edit /etc/network/interfaces and adjust it to your needs (in this example setup I will use the IP address 192.168.0.100):

```
vi /etc/network/interfaces
```

```
# This file describes the
network interfaces available
on your system
# and how to activate them.
For more information, see
interfaces(5).

# The loopback network
interface
auto lo
iface lo inet loopback

# The primary network
interface
auto eth0
iface eth0 inet static
   address 192.168.0.100
   netmask 255.255.255.0
   network 192.168.0.0
   broadcast 192.168.0.255
   gateway 192.168.0.1
```

Restart your network with:

```
/etc/init.d/networking restart
```

Then edit /etc/hosts:

```
vi /etc/hosts
```

contents ^

and make it look like the text shown in Fig.1.

Now run

```
echo server1.example.com >
/etc/hostname
```

and reboot the server with:

```
reboot
```

Afterwards, run:

```
hostname
hostname -f
```

Both should show *server1.example.com* now.

Edit sources.list And Update Your Linux Installation

Edit /etc/apt/sources.list:

```
vi /etc/apt/sources.list
```

Comment out or remove the installation CD from the file, and make sure that the universe and multiverse repositories are enabled.

Then run

```
aptitude update
```

to update the apt package database, and

```
aptitude safe-upgrade
```

to install the latest updates (if there are any). If you see that a new kernel gets installed as part of the updates, you should reboot the system afterwards with:

```
reboot
```

Change The Default Shell

/bin/sh is a symlink to /bin/dash, however we need /bin/bash, not /bin/dash. Therefore we do this:

```
dpkg-reconfigure dash
```

```
Install dash as /bin/sh?,
Choose: No
```

If you don't do this, the ISPConfig installation will fail.

Disable AppArmor

AppArmor is a security extension (similar to SELinux) that should provide extended security. In my opinion, you don't need it to configure a secure system, and it usually causes more problems than it has advantages (think of this - after you have done a week of trouble-shooting because some service wasn't working as expected, and then you find out that everything was OK, only AppArmor was causing the problem). Therefore, I disable it (this is a must if you want to install ISPConfig later on).

```
127.0.0.1       localhost.localdomain   localhost
192.168.0.100   server1.example.com     server1

# The following lines are desirable for IPv6 capable
hosts
::1     localhost ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
ff02::3 ip6-allhosts
```

Fig. 1

We can disable it like this:

```
/etc/init.d/apparmor stop
```

```
update-rc.d -f apparmor
remove
```

```
aptitude remove apparmor
apparmor-utils
```

Synchronize the System Clock

It is a good idea to synchronize the system clock with an NTP (network time protocol) server over the Internet. Simply run

```
aptitude install ntp ntpdate
```

and your system time will always be in sync.

Next month, we will install Postfix, SpamAssassin, Webalizer and much, much, more!

Written by Falko Timme on HowtoForge.com

The Perfect Server - Part 3

SEE ALSO:
FCM09 - 16 : Server Series 1 - 8
FCM28 - 29 : LAMP Server 1 - 2
FCM31 - 32 : The Perfect Server 1 - 2

APPLICABLE TO:
ubuntu kubuntu xubuntu

CATEGORIES:
Dev Graphics Internet M/media System

DEVICES:
CD/DVD HDD USB Drive Laptop Wireless

We can install Postfix, Courier, Saslauthd, MySQL, rkhunter, and binutils - with a single command:

(Prefix each command with sudo, if appropriate).

```
aptitude install postfix
postfix-mysql postfix-doc
mysql-client mysql-server
courier-authdaemon courier-
authlib-mysql courier-pop
courier-pop-ssl courier-imap
courier-imap-ssl libsasl2-2
libsasl2-modules libsasl2-
modules-sql sasl2-bin libpam-
mysql openssl getmail4
rkhunter binutils
```

You will be asked the following questions:

New password for the MySQL "root" user

Repeat password for the MySQL "root" user

Create directories for web-based administration?
Enter: **No**

General type of mail configuration:
Enter: **Internet Site**

System mail name:
Enter: **server1.example.com** (but using your .com)

SSL certificate required
Enter: **OK**

Next we install maildrop as follows:

```
update-alternatives --remove-
all maildir.5

update-alternatives --remove-
all maildirquota.7

aptitude install maildrop
```

You will ask yourself why we didn't install maildrop together with all the other packages. The reason for this is a bug in the courier-base package - if you install maildrop together with courier-pop, courier-pop-ssl, courier-imap, and courier-imap-ssl, you will get the following error:

```
update-alternatives: error:
alternative link
/usr/share/man/man5/maildir.5
.gz is already managed by
maildir.5.gz.
```

We want MySQL to listen on all interfaces, not just localhost. Therefore we edit /etc/mysql/my.cnf and comment out the line bind-address = 127.0.0.1:

```
vi /etc/mysql/my.cnf
```

[...]

```
# Instead of skip-networking
the default is now to listen
only on

# localhost which is more
compatible and is not less
secure.

#bind-address            =
127.0.0.1
[...]
```

Then we restart MySQL:

```
/etc/init.d/mysql restart
```

Now check that networking is enabled. Run:

```
netstat -tap | grep mysql
```

The output should look like this:

```
root@server1:~# netstat -tap
| grep mysql

tcp 0  0 *:mysql *:* LISTEN
 6267/mysqld

root@server1:~#
```

During the installation, the SSL certificates for IMAP-SSL and POP3-SSL are created with the hostname localhost. To

contents ^

change this to the correct hostname (server1.example.com in this tutorial), delete the certificates...

```
cd /etc/courier

rm -f /etc/courier/imapd.pem

rm -f /etc/courier/pop3d.pem
```

and modify the following two files - replacing CN=localhost with "CN=server1.example.com' (and you can also modify the other values, if necessary):

```
vi /etc/courier/imapd.cnf
```

```
[...]
CN=server1.example.com
[...]
```

```
vi /etc/courier/pop3d.cnf
```

```
[...]
CN=server1.example.com
[...]
```

Then recreate the certificates:

```
mkimapdcert

mkpop3dcert
```

and restart Courier-IMAP-SSL and Courier-POP3-SSL:

```
/etc/init.d/courier-imap-ssl restart

/etc/init.d/courier-pop-ssl restart
```

Install Amavisd-new, SpamAssassin, And Clamav

To install amavisd-new, SpamAssassin, and ClamAV, we run:

```
aptitude install amavisd-new spamassassin clamav clamav-daemon zoo unzip bzip2 arj nomarch lzop cabextract apt-listchanges libnet-ldap-perl libauthen-sasl-perl clamav-docs daemon libio-string-perl libio-socket-ssl-perl libnet-ident-perl zip libnet-dns-perl
```

Install Apache2, PHP5, phpMyAdmin, FCGI, suExec, Pear, And mcrypt

Apache2, PHP5, phpMyAdmin, FCGI, suExec, Pear, and mcrypt can be installed as follows:

```
aptitude install apache2 apache2.2-common apache2-doc apache2-mpm-prefork apache2-utils libexpat1 ssl-cert libapache2-mod-php5 php5 php5-common php5-gd php5-mysql php5-imap phpmyadmin php5-cli php5-cgi libapache2-mod-fcgid apache2-suexec php-pear php-auth php5-mcrypt mcrypt php5-imagick imagemagick libapache2-mod-suphp
```

You will see the following question:

Web server to reconfigure automatically:
Enter: **apache2**

Configure database for phpmyadmin with dbconfig-common?
Enter: **No**

Then run the following command to enable the Apache modules suexec, rewrite, ssl, actions, and include:

```
a2enmod suexec rewrite ssl actions include
```

Restart Apache afterwards:

```
/etc/init.d/apache2 restart
```

Install PureFTPd And Quota

PureFTPd and quota can be installed with the following command:

```
aptitude install pure-ftpd-common pure-ftpd-mysql quota quotatool
```

Edit the file /etc/default/pure-ftpd-common:

```
vi /etc/default/pure-ftpd-common
```

and make sure that the start mode is set to standalone and set VIRTUALCHROOT=true:

```
[...]
STANDALONE_OR_INETD=standalone
[...]
VIRTUALCHROOT=true
[...]
```

Then restart PureFTPd:

```
/etc/init.d/pure-ftpd-mysql restart
```

Edit /etc/fstab. Mine looks like Fig.1 on the following page (I added

contents ^

,usrjquota=aquota.user,grpjquota=aquota.group,jqfmt=vfsv0 to the partition with the mount point /):

```
vi /etc/fstab
```

```
# /etc/fstab: static file system information.
#
# Use 'blkid -o value -s UUID' to print the universally unique identifier
# for a device; this may be used with UUID= as a more robust way to name
# devices that works even if disks are added and removed. See fstab(5).
#
# <file system> <mount point>   <type>  <options>       <dump>  <pass>
proc            /proc           proc    defaults        0       0
/dev/mapper/server1-root /               ext4    errors=remount-
ro,usrjquota=aquota.user,grpjquota=aquota.group,jqfmt=vfsv0 0       1
# /boot was on /dev/sda5 during installation
UUID=9ea34148-31b7-4d5c-baee-c2e2022562ea /boot           ext2    defaults        0
       2
/dev/mapper/server1-swap_1 none            swap    sw              0       0
/dev/scd0       /media/cdrom0   udf,iso9660 user,noauto,exec,utf8 0       0
/dev/fd0        /media/floppy0  auto    rw,user,noauto,exec,utf8 0       0
```

Fig. 1

To enable quota, run these commands:

```
touch /aquota.user
/aquota.group

chmod 600 /aquota.*

mount -o remount /

quotacheck -avugm

quotaon -avug
```

Install MyDNS

Before we install MyDNS, we need to install a few prerequisites:

```
aptitude install g++ libc6
gcc gawk make texinfo
libmysqlclient15-dev
```

MyDNS is not available in the Ubuntu 9.10 repositories, therefore we have to build it ourselves as follows:

```
cd /tmp

wget
http://heanet.dl.sourceforge.
net/sourceforge/mydns-
ng/mydns-1.2.8.27.tar.gz

tar xvfz mydns-
1.2.8.27.tar.gz

cd mydns-1.2.8

./configure

make

make install
```

Next, we create the start/stop script (shown on the following page) for MyDNS:

```
vi /etc/init.d/mydns
```

Then we make the script executable, and create the system startup links for it:

```
chmod +x /etc/init.d/mydns

update-rc.d mydns defaults
```

Install Vlogger And Webalizer

Vlogger and webalizer can be installed as follows:

```
aptitude install vlogger
webalizer
```

Install Jailkit

Jailkit is needed only if you want to chroot SSH users. It can be installed as follows (important: Jailkit must be installed before ISPConfig - it cannot be installed afterwards!):

```
aptitude install build-
essential autoconf
automake1.9 libtool flex
bison

cd /tmp

wget
http://olivier.sessink.nl/jai
lkit/jailkit-2.10.tar.gz

tar xvfz jailkit-2.10.tar.gz
```

contents ^

```
#! /bin/sh
#
# mydns         Start the MyDNS server
#
# Author:       Philipp Kern <phil@philkern.de>.
#               Based upon skeleton 1.9.4 by Miquel van
Smoorenburg
#               <miquels@cistron.nl> and Ian Murdock
<imurdock@gnu.ai.mit.edu>.
#

set -e

PATH=/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:
/usr/bin
DAEMON=/usr/local/sbin/mydns
NAME=mydns
DESC="DNS server"

SCRIPTNAME=/etc/init.d/$NAME

# Gracefully exit if the package has been removed.
test -x $DAEMON || exit 0

case "$1" in
  start)
        echo -n "Starting $DESC: $NAME"
        start-stop-daemon --start --quiet \
                --exec $DAEMON -- -b
        echo "."
        ;;
  stop)
        echo -n "Stopping $DESC: $NAME"
        start-stop-daemon --stop --oknodo --quiet \
                --exec $DAEMON
        echo "."
        ;;
  reload|force-reload)
        echo -n "Reloading $DESC configuration..."
        start-stop-daemon --stop --signal HUP --quiet \
                --exec $DAEMON
        echo "done."
        ;;
```

```
  restart)
        echo -n "Restarting $DESC: $NAME"
        start-stop-daemon --stop --quiet --oknodo \
                --exec $DAEMON
        sleep 1
        start-stop-daemon --start --quiet \
                --exec $DAEMON -- -b
        echo "."
        ;;
  *)
        echo "Usage: $SCRIPTNAME
{start|stop|restart|reload|force-reload}" >&2
        exit 1
        ;;
esac

exit 0
```

```
cd jailkit-2.10

./configure

make

make install

cd ..

rm -rf jailkit-2.10*
```

Install fail2ban

This is optional but recommended, because the ISPConfig monitor tries to show the fail2ban log:

```
aptitude install fail2ban
```

Next month, in the final installment, we will install SquirrelMail and ISPConfig3, giving you the perfect server, ready to go!

HOW-TO

Written by Falko Timme on HowtoForge.com

The Perfect Server - Part 4

SEE ALSO:
FCM09 - 16 : Server Series 1 - 8
FCM28 - 29 : LAMP Server 1 - 2
FCM31 - 33 : The Perfect Server 1 - 3

APPLICABLE TO:
ubuntu kubuntu xubuntu

CATEGORIES:
Dev Graphics Internet M/media System

DEVICES:
CD/DVD HDD USB Drive Laptop Wireless

To install the SquirrelMail webmail client, run:

```
aptitude install squirrelmail
```

Then, create the following symlink...

```
ln -s
/usr/share/squirrelmail/
/var/www/webmail
```

... and configure SquirrelMail:

```
squirrelmail-configure
```

We must tell SquirrelMail that we are using Courier-IMAP/-POP3:

```
SquirrelMail Configuration :
Read: config.php (1.4.0)
Main Menu
1.  Organization Preferences
2.  Server Settings
3.  Folder Defaults
4.  General Options
5.  Themes
6.  Address Books
7.  Message of the Day (MOTD)
8.  Plugins
9.  Database
10. Languages

D.  Set pre-defined settings
for specific IMAP servers
C   Turn color on
S   Save data
Q   Quit

Command >>
```

Enter: **D**

Now, you will see a list of IMAP server options entitled:

```
Please select your IMAP
server:
```

Enter the word: **courier**

```
imap_server_type = courier
default_folder_prefix =
INBOX.
trash_folder = Trash
sent_folder = Sent
draft_folder = Drafts
show_prefix_option = false
default_sub_of_inbox = false
show_contain_subfolders_option = false
optional_delimiter = .
delete_folder = true

Press any key to continue...
```

Next, you will see a list of options and their settings; press the **Enter** key to continue.

Back at the Main Menu, enter: **S** to save data, and you will see:

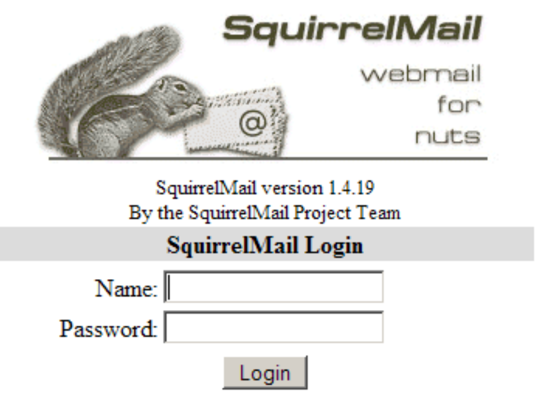
```
Data saved in config.php
Press enter to continue
```

Back at the Main Menu, enter **Q** to quit.

Afterwards you can access SquirrelMail under: http://server1.example.com/webmail

or:

http://192.168.0.100/webmail



SquirrelMail version 1.4.19
By the SquirrelMail Project Team

SquirrelMail Login

Name:
Password:

Install ISPConfig 3

To install ISPConfig 3 from the latest released version, do this (replacing ISPConfig-3.0.1.6.tar.gz with the latest version) :

```
cd /tmp

wget
http://downloads.sourceforge.net/ispconfig/ISPConfig-3.0.1.6.tar.gz?use_mirror=

tar xvfz ISPConfig-3.0.1.6.tar.gz
```

```
cd
ispconfig3_install/install/
```

The next step is to run:

```
php -q install.php
```

This will start the ISPConfig 3 installer. Press **Enter** for each option - except when asked for your MySQL root password.

The installer automatically configures all underlying services, so no manual configuration is needed.

Afterwards you can access ISPConfig 3 under:

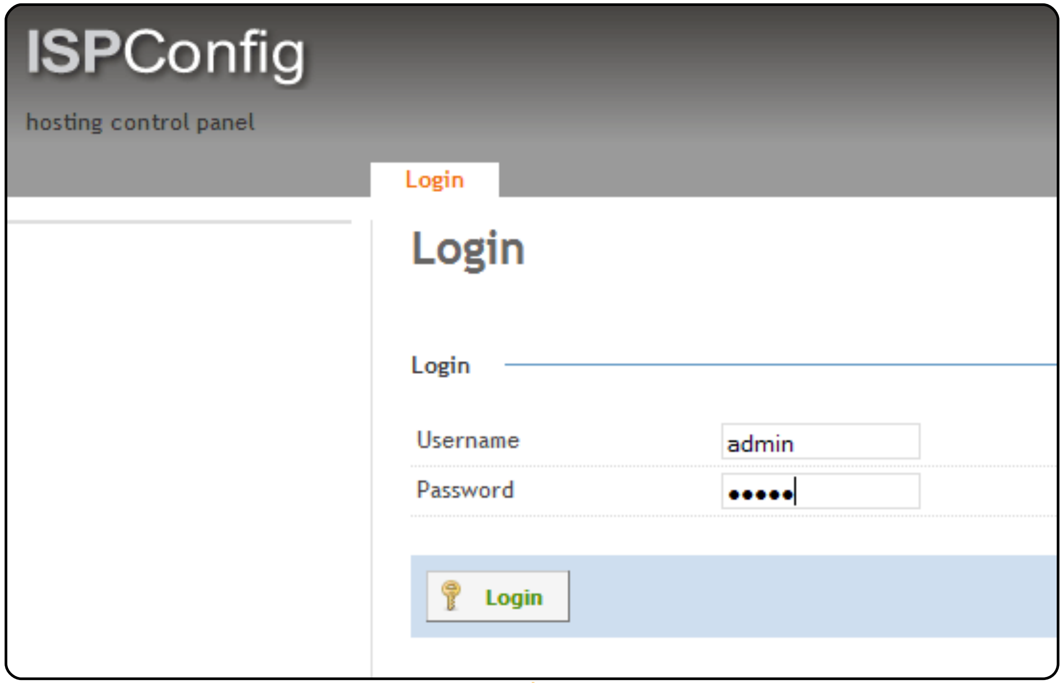
http://server1.example.com:8080/

or:

http://192.168.0.100:8080/

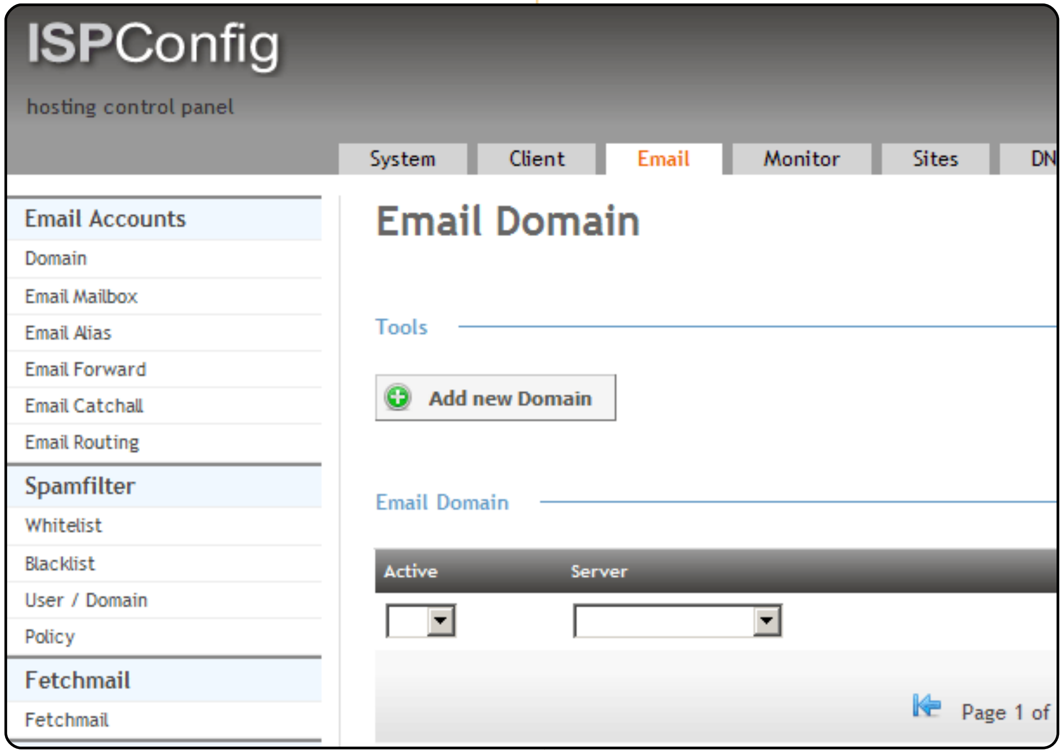
Log in with the username ***admin*** and the password ***admin*** (you should change the default password after your first login):

The system is now ready to be used.



Username admin

Password •••••



contents ^