meditute.org

setting up a meditute server

The information below is for RedHat 7.3 setup. If you are going to use a different version, or a different flavour of Linux, you will have to adapt it accordingly.

This protocol assumes you are working on a 'normal' windows/SMB network with a DHCP server (you can use the 'Internet connection sharing' facility in Win98SE onwards to achieve this on a home network), and have a Windows computer running Internet Explorer >4 connected to the internet, and to the network.

before you start

Check the specifications of your system. Write down the brand and model number of the video card.
Check that there is nothing important on the hard disk.

recommended system

- ➤ Pentium II with at least 128MB of RAM
- ➤ Network card 10/100 - 3COM or Intel are best.
- ➤ Hard disk: > 4 GB
- ➤ CDROM drive, monitor (can be removed after software installation if necessary)

Ex-corporate machines which have all the above, and a built-in network card and video are often a good choice. In the second-hand market, the price difference between a good brand and a non-brand is small, and brand name computers tend to be more 'standard' so buy a brand.

The minimum recommended system is a Pentium I with at least 64 MB RAM. RAM is more important than processor speed, and is cheap. You are unlikely to notice any speed difference between a Pentium I and Pentium III. AMD processors can be used, but Intel processors are generally more Linux-friendly.

Check on the web (e.g. www.redhat.com) to find out if there are specific Linux problems on your system.

If you have not set up a Linux system before, it will be helpful to have someone with you who knows what they are doing. If you used computers before Windows and are familiar with a command line interface, you should give it a try armed with a good guide e.g. M.Kabir's guide to RedHat Linux 6 Server (ISBN 764533371)

support / configuration of RedHat.

Meditute.org does **not** offer support in RedHat loading and configuration unless you licence a copy of the meditute software. RedHat does offer this support when you buy a copy of their software.

step 1: get the software.

RedHat 7.3

Download or buy a copy of RedHat 7.3.
Downloading is unwise unless you have a broadband connection and know how to create your own Linux boot disks if necessary.
Buying a copy of the software also pays for further development of the Linux operating system.

downloading from the web

Look for the rpms for your flavour/ version of Linux (e.g. RedHat 7.3) on your sort of processor (i386/ i586=Pentium I / i686 = Pentium II/III/IV) noarch = not architecture specific = should work on all processors.

other software needed

webmin

This is a very user-friendly web-based administration tool.
Download the latest rpm from www.webmin.com.

MySQL

This is the database.
Go to mysql.com and get the latest stable distribution of mysql 3.23 as rpms.
You need the database, client, and client libraries and development libraries.

php-mysql

This allows the language (PHP) to talk to the database.
Go to www.rpmfind.net and download the appropriate php-mysql rpm.

lout

Lout enables the computer to output documents e.g. certificates in pdf (Adobe Acrobat readable format) for printing.
Download the appropriate rpm for lout from rpmfind.net.

php-ini

Download the copy of php.ini from meditute.org.

Burn all of the above onto a CD-ROM.

Registered meditute users get:
➤ a complete copy of all the software necessary, including RedHat 7.3.
➤ a MySQL licence.
➤ support for loading and running meditute.

step 2: install the operating system

Plug the computer into the network, put the floppy disk and CD in.
[older systems often cannot boot from the CDROM]
Turn on. Press enter at the first prompt. There are a few screens which collect some basic information about the computer (language, keyboard and mouse). If in doubt, just select the default choice, until it asks what type of installation you require. You then have three options:

1. easy option

The easiest option is to select a 'server' installation.
If you do not know much about Linux, and are not going to be putting the machine onto the internet, this is best option.
Carry on through the screens, just clicking the 'next' button, *except* for the firewall configuration, where you should select 'no firewall'.
Select a root password (this should be secure, as this password controls all access, so don't choose 'password' or anything obvious).
When it gets to the server selection, in addition to the one box already ticked (Classic X Window System), select:
➤   smb windows file server
➤   www web server
Click next. Video configuration is only really necessary if you are going to use a Linux graphical interface like kde. Take the suggestion on the screen, unless you know better. If in doubt you can try the 'generic' settings at the top of the list.
If for any reason this does not work, tick the 'Skip X Configuration' box.
[do not select gnome and/or kde unless you have a LOT of memory (>256 MB) and a fast processor, and want to see what linux can do on the desktop – see below.]

2. medium option (recommended)

As above but partition your disks e.g.

/boot	boot partition	(64MB)
swap	swap partition	(256MB)
/	root partition	(all the rest)

go to rpmfind.net or redhat.com and get latest versions of apache/ php for RH 7.3 and upgrade.

3. expert option

For maximum security, do a minimal install, and load specific rpms or compile them yourself from source/ use Debian. This is all relative, as even a 'standard' server configuration is likely to be more secure than most Windows systems.

The rest of this document will assume you have chosen option 1.

step 3: customise the server

reboot and test

Reboot and log in to the system using the username root, and the password you entered during setup.
[If you have set up gnome/ kde, open a console window, then:]
Type 'ping yahoo.com'.
If you are connected to the internet, it will say
PING yahoo.com (xxx.xxx.xxx.xxx) from xxx.xxx.xxx.xxx**:56(84) bytes of data
64 bytes from ……………… time=xxxms
64 bytes from ……………… time=xxxms

press Ctrl-c to stop it. This means you are connected to the internet. If you are not connected to the internet, try pinging other computers on your network. You can ping by network address (xxx.xxx.xxx.xxx)
Write down the series of numbers between 'from' and ** :

_____ . _____ . _____ . _____

This is the IP (intranet network) address of the server. You will need these numbers later.

The system now needs customising to your needs.
We will use webmin – a web-based system administration tool to do this.

set up webmin

Insert the CD of extra software that you have burned.
Mount the cd drive [This means mounting it on the filesystem, just in case you had any other ideas]:
At the prompt type:

mount /mnt/cdrom
cd /mnt/cdrom   [cd command changes directory]
ls   [lists the directory – check that the webmin
                                   rpm is there - if not, use cd to get to it

rpm – i webmin*

After a little while (and a lot of disk activity), the prompt comes back, and webmin is now installed and started. Now install the MySQL and lout packages, and copy the revised of php.ini to the etc.

rpm –i MySQL*
rpm –i php-mysql*
rpm –i lout*
cp php.ini   /etc

set up directories and permissions

while still using the console, type:
cd /var/www
chmod 777 html
cd html
mkdir meditutesecure
mkdir meditute
chmod 777 meditutesecure
chmod 777 meditute
cd meditute
mkdir documents
chmod 777 documents

log into webmin

In your browser window (can be anywhere on your network), type
xxx.xxx.xxx.xxx**:10000**
Where xxx.xxx.xxx.xxx is your IP address you wrote down above. N.B. the colon
before the 10000.
*If your browser normally uses a proxy, you may need to set up your browser so it
does not use the proxy for local addresses. If in any doubt, set it as 'direct
connection to the internet' for this part of the set-up.*
Log into webmin using the username 'root' and the password you used during the
install process, and you're now into the webmin interface.

set the hostname

The hostname is the name of your computer.
Go into the Networking section of webmin, then into Network Configuration, then
'host addresses'. Click 'add a new host address' and then add:

IP Address   127.0.0.1
Hostnames   meditute   meditute.meditute.org

[if you are in an organisation with a domain (e.g. hospital.org), use
'meditute.hospital.org' instead of 'meditute.meditute.org']
Click 'create'. Then press the arrow marked 'Return to Network Configuration'.

set the Domain Name Server settings

This sets how your computer finds other computers.
Still in the Networking / Network Configuration section of webmin, press the button
labelled 'DNS Client'
Set
Hostname   meditute
Search domains   [leave alone if there is text there, otherwise click 'none']
DNS servers   [leave alone]
Resolution order   [leave alone]
then click 'Save'.

set up Samba

Samba allows your Linux computer to interact with Windows computers over the network.

find out what your workgroup is – on a windows computer on the network, look under Networking in your Control Panel (w95/98) or under Network Identification in the System (W2k): say you workgroup is XYZ.

In webmin, click 'Servers' on the top menu bar and scroll down to for 'Samba Windows File Sharing'.
Under 'Global Configuration', click Windows Networking, and set:

Workgroup   XYZ   [change from MYGROUP]
Server name   meditute
Security   Share level

Leave everything else alone, and click 'Save'.

On the main Samba page, click the link called 'Create a new file share'.
Share name   meditute
Directory to share /var/www/html
and click 'Create'.

click the link called 'Create a new file share' again
Share name   documents
Directory to share /var/www/html/meditute/documents
and click 'Create'.

Go back to the Samba main page. Click on the share name 'meditute', then scroll down and click on 'Security and Access Control' Set:
Writable   Yes
Guest Access   Yes
and click 'Save'.

Go back to the Samba main page by clicking the 'module index' tab below the main menu bar, and click on the share name 'documents'. Under 'Security and Access Control' Set:
Writable   Yes
Guest Access   Yes
and click 'Save'.

set up Apache

Apache is the webserver.
In webmin, click on Servers on the main menubar, then on 'Apache Webserver'.
The first time you go into this, it asks you to configure a lot of modules – leave the tickboxes alone and just press the 'Configure' button.

Under the section Virtual Servers, click the picture which says 'Default Server' then 'Networking and Addresses'. Set:
Server hostname   meditute
Server admin email   [your email address]
change the 'radiobutton' for Server hostname from 'automatic' to 'meditute'. Save.

Then click on the folder 'Document Options'.
Deselect the 'Default' option of the 'Document root directory' and set it to:
Document root directory   /var/www/html/meditute
click 'Save'

Go back to the apache main page by clicking on the tab below the menubar labelled 'Module Index'. Under Virtual Servers, click the picture which says 'Virtual Server' and refers to port 443 (this is the secure port, with commercial grade encryption) then 'Networking and Addresses'. Set
Server hostname   meditute
Server admin email   [your email address]
change the 'radiobutton' for Server hostname from 'automatic' to 'meditute'. Save.

Then click on the folder 'Document Options'.
Deselect the 'Default' option of the 'Document root directory' and set it to:
Document root directory   /var/www/html/meditutesecure
click 'Save'

start Apache and Samba at boot time

Using webmin, go to the 'System' menu on the main menubar.
Click on 'Bootup and Shutdown'
Scroll down the page, and click where it says 'httpd'
Look for where it says '**Start at boot time**' select 'Yes' and save.

Scroll down the page, and click where it says 'smb'
Look for where it says '**Start at boot time**' select 'Yes' and save.

reboot and test

Scroll all the way down the page to where it says Reboot System. Do it. Are you sure – yes.
Close the browser window.

When the machine has finished rebooting (will take a couple of minutes), restart the browser and log into webmin: 'http://meditute:10000'

Easy.

step 4 : set up MySQL

set up the database

Using webmin, go into Servers and then click on MySQL.

Click 'Create a new database'
Database name   MEDITUTE

Click on the newly created 'MEDITUTE' database. Click on 'Execute SQL'

Leaving the browser window open, find your downloaded meditute file, and locate the text file in 'setup' called 'SQL setup.txt'
Open it, press ctrl-A to highlight all the text. Press ctrl-C to copy to the clipboard.

Go back to the webmin window and click in the large window
Press Ctrl-V to paste the text into the window.
Press the 'execute' button.

It should put out a lot of text, and say at the bottom 'No data returned'

At the bottom of the page, click 'Return to table list'. These are all the tables which hold your data. Click the link at the bottom of the page ('Return to database list') to go back to the main MySQL page.

set up the database permissions

Click on 'User Permissions', Then 'Create new user'
Username   meditute
Password   meditute1
Hosts   Any
Permissions   Select table data
                    Insert table data
                    Update table data
                    Delete table data
[highlight all these options by pressing the shift key while you click on them]. Click 'Save'.

Click onto the two entries for 'Anonymous' in the database entry permissions, and delete them.

step 5: final setup

Using 'network neighbourhood / computers near me' on your windows PC, look for the meditute server, and click on the meditute folder.

copy sysvar.inc into /var/www/html

copy all the meditute files into /var/www/html/meditute

copy the meditutesecure files into /var/www/html/meditutesecure

copy the documents files into /var/www/html/meditute/documents

Start a new browser, type 'meditute' and the system should be working.
The first step is to log in as 'admin' with the password 'meditute' and then change the password to something secure.

Good Luck !

after installation - security

There are possible security holes in a standard RedHat7.3 installation, but these are mild compared to a Windows machine, and updates are available much more quickly.

A machine as set up above should not be connected to the internet, but should be fine for a hospital network.
No system can be 100% secure, but choosing a good (difficult to guess) root password will help a lot.

recommendations

➤ Check http://rhn.redhat.com/errata/rh73-errata.html for updates and apply major patches.
➤ change the permissions of /var/www to 755
➤ disable the meditute SMB fileshare
➤ change the password/ permissions of the sql database to ensure security.
➤ make regular backups of var/lib/mysql/MEDITUTE