

Exercise # 1: Install a Linux Box

EXERCISE DESCRIPTION:

In this exercise you are supposed to work individually to install Linux on the machine you have been assigned to. The distribution is Scientific CERN 3.0.3 Linux and the installation procedure will be done via NFS (Network File Systems). We will provide a boot disk or a boot CDROM.

During this exercise you will:

- 1.Repartition an hard disk with Diskdruoid command
- 2.Install a fully configured Linux workstation and make live together with the previous installations
- 3.Create an user account for this course

All the installation steps are described in the following Guide. Steps formatted ***this way*** require special care. (ask if there is any doubt or problem).

Important note: this installation will not erase the previous ICTP installations: so please strictly follow the GUIDE without changing anything (especially in the partitioning procedure), otherwise you can run into trouble (i.e. ICTP sys adm will kill us and we will kill you).

EXERCISE GUIDE

Installing from CD-ROM/ Floppy disk

- 1.Insert the CD in the CD tray or the floppy disk
- 2.Reboot the machine: CTRL-ALT-DEL (hit the "reset" button if does not work)
- 3.Wait for the linux prompt and then type enter

```
linux askmethod
```

After the boot:

Keyboard Configuration:

Use default or US International ; **Press OK**

Installation Method:

Select NFS Image; **Click on the Next button to continue.**

the **Configure TCP/IP** dialog:

This dialog asks for your IP and other network addresses. You can choose to configure the IP address and Netmask of the device via DHCP or manually.

Manually is to be preferred: unselect DHCP option just pressing the space bar.

Fill in the values accordingly to the table below.

IP address: 10.34.37. XX (10+ number of machine (infolab-x)

netmask: 255.255.0.0

name: as reported on the label

gateway: 10.34.0.1

DNS:

primary: 140.105.16.50

secondary: 140.105.16.62

NFS Dialog:

The NFS dialog (Figure 3-4) is now displayed.

Enter the fully-qualified domain name or IP address of your NFS server.

In our case: enter the name of our NFS server in the **NFS Server** field (if unsure check with tutors)



Next, enter the name of the exported directory.

IP address: 10.34.37.61

Exported directory: /scratch/lab1/SL303

Next you will see the **Welcome** dialog

Welcome to Scientific Linux

The Welcome screen does not prompt you for any input. Please read over the help text in the left panel for additional instructions.

Please notice the Hide Help button at the bottom left corner of the screen. The help screen is open by default. If you do not want to view the help information, click on Hide Help to minimize the help portion of the screen. **Click on the Next button to continue.**

Mouse Configuration:

Use default (3 button Mouse USB) ; Click on the Next button to continue.

Installation Type

select custom option. **Click on the Next button to continue.**

Disk partitioning:

In this screen,select to partition manually using diskdruid (**Click on the Next button to continue.**

Ignore the warning about the “partition table on /dev./sda is inconsistent...”

(Click on the Ignore button to continue)

PARTITIONING WITH DISKDRUID

WARNING: If you don not know please ask before and follow the demo before doing anything

The next screen will prompt you to disk drive (sda) with its actual partition table.

We need to install our installation on the last part of the hard drive:sda7.

We need to delete this partition and create some other logical partition from it.

/ partition size=5GB sda7

Steps:

0. delete partition sda7.

/home partition size=10GB sda8doe

/scratch partition size=the rest of the disk sda9

2. create a root partition (/hda7) of 5000 Mb of size

3. create a home partition (/hda8) of 10000 Mb of size

4.create a scratch partition (/hda9) with the remaining of the disk.

5.use as swap partition (/hda6) the original swap partition of about 2 Gb of size (rule of thumb double

the size of the available RAM:

After you have partitioned your drive, **click Next**.

Format warning:

The system will inform you that an existing partition (/dev/sda6) will be formatted. This is OK and therefore click on format do continue.

Boot loader configuration

Accept default parameter.

Click on the Next button to continue.

Network Configuration.

This part goes like above. Values should be already in-check to make sure.

Click on the Next button to continue.

Firewall Configuration

Choose no firewall option .**Click on the Next button to continue**

Additional Language Support Selection

Leave defaults. **Click on the Next button to continue**

Time Zone Configuration

Select appropriate time zone . **Click on the Next button to continue**

(Note we will synchronize with the rest of ictp at a later stage but if you wish to be exact choose Europe/rome)

Set Root Password

Set the Root Password to “12345678”. Be sure to remember it , because you need it later.

(DO NOT USE ANOTHER ROOT PASSWORD for the purpose of this exercise as it will make Helping you later difficult but not impossible for us).

Click on the Next button to continue

Package Group Selection

Select the following package groups:

DESKTOPs

X Window System /Gnome Desktop Environment /KDE Desktop Enviro
SCIENTIFIC LINUX CERN ADDITIONAL Choices
unselect CERN add-on
skip everything else
APPLICATIONS:
select Editors
Engineering and Scientific
Graphical Internet
Text-based internet
Office productivity (deselect openoffice)
SERVER: leave just Server configuration tools
DEVELOPMENT TOOLS
select only development tools
SYSTEM
administration tools (already selected)
printing support (already selected)
MISCELLANEUS:
nothing to do

Total size must be in order of 2324 Mb. **Click on the Next button to continue**

About to install:

read and then **Click on the Next button to continue**

Preparing to Install

You will now see a screen preparing you for the installation of Scientific Linux. No action is required.

Installing Packages

At this point there is nothing left for you to do until all the packages have been installed.

It will take about 15-30 minutes to complete the installation.

Graphical Interface (X) Configuration

1. Xconfigurator will present a list of video cards with the correct one already selected.

Click on the Next button to continue

2. Now the monitor will appear on the list.

Monitor should be recognized automatically. If not select standard CRT monitor (1280x 768)

3. Customize graphical configuration

3.1. select 24 million color and 1280x768

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Installation Complete

Congratulations! Your scientific Linux Installation is now complete!

The installation program will prompt you to prepare your system for reboot. Do not forget to remove any CD in the CD-ROM drive or any floppy in the floppy driver.

Click Exit

Reboot the machine....

POST INSTALLATION STEPS:

(graphical ones)

Date and time:

select the following ntpd server: timehost-1.ictp.trieste.it

Sound card: skip

CERN customization:

No, I will do setup myself

Enable automatic check for updates

as ROOT:

1. Log into the machine with root account. Ignore error messages and open terminal window
2. Check if the machine is on the network; (try, for example, to reach some machines on or try to issue the following:

```
ping www.google.it , [ctrl-C] to stop ping )
```
3. Set up a proper grub file in order to allow boot the default Mandrake Linux installation
 - 3.1. The grub boot manager as described in /boot/grub/menu.lst
 - 3.2. A correct version of this file can be found on the MNFS server (10.34.37.61)
 - 3.3. Go to this node and get /scratch/menu.lst
 - 3.4. Replace /boot/grub/menu.lst with this new file.
 - 3.5 Reboot the machine to make sure you can access all 3 operating systems
(ictp-linux, CERN and windows)
4. Create your username using adduser command:
5. Logout as root and login as standard user (less dangerous)

```
adduser username -d /home/username -s /bin/bash
```

(man adduser for more details)

remember to set a password using passwd command

- passwd userid (you will be prompted for a passwd)

Log out as root and try logging in with the new account.

**WHEN YOU ARE DONE REBOOT THE MACHINE
TO EITHER ICTP LINUX OR WINDOWS.**