

Linux Server (Web, FTP, File) on Vmware

Purposes

Many people want to use Linux but don't want to spend all their weekend in order to be familiar with this operating system. This file allows to share the way that I used in order to install a web, ftp and file server on Wmware. The linux used is CAELinux2008 based on PCLinuxOS2007.

I'm beginner on Linux and I hope that this tutorial is made with simple language in order to share these information with many other beginners. Of course, comments about this file are welcome.

Why CAELinux2008

Basically the installation for CAELinux2008 or PCLinuxOS2007 is almost similar. But CAELinux2008 provides many different engineering softwares (computation, CAD, FEM, CFD, ...). Moreover this distribution is based on PCLinuxOS2007, which propose an easy installation, can be used with a 32 bits processor (compared to CAELinux2009 which need 64 bits processor based on Ubuntu 8.04 LTS 64bit).

**If people are getting familiar with PCLinux2007
they will use more easily CAELinux2008 !**

Index

1 Softwares References.....	2
2 Software comparison Linux-Windows.....	2
3 VM: Create a new virtual machine on Vmware.....	3
4 VM: Load the CAELinux2008.iso file.....	3
5 Install Linux: Run the Live CD CAE Linux 2008.....	4
6 Install Linux: Install the CAE Linux 2008 on hard drive.....	5
7 Install Linux: Restart CAE Linux 2008 from live to hard drive system.....	6
8 Install Linux: Update CAE Linux 2008.....	7
9 Web Server: Setup.....	10
10 FTP Server: Setup.....	11
11 File server: Setup.....	12
12 Figure.....	13

1 Softwares References

Vmware ESX Server 3i, 3.5.0 (<http://www.vmware.com>)

VMware Infrastructure Client, 2.5.0 (<http://www.vmware.com>)

CAE Linux 2008 (based on PCLinuxOS 2007, kernel 2.6.22.17) (<http://www.caelinux.com>)

Notice that a part of this file is based on "CAELinux2007 Installation Manual" available on www.caelinux.com.

2 Software comparison Linux-Windows

A short list which compare Linux and Windows softwares

Linux

Amarok
Code Aster
GproFtpd
KFTPGrabber
Koctave
Krdc
Ktorrent
Kwrite
Mythdvd
Salomé
Saturne
WxMaxima

Windows

MediaPlayer
FEM software
Typsoft FTP Server
FileZilla
Matlab (without free help file)
Remote Desktop Control
Utorrent
NotePad
DVD player
CAD software
CFD software
Mathematica

3 VM: Create a new virtual machine on Vmware

- 3.1 It assumes that Vmware is already installed
- 3.2 Open **VMware Infrastructure Client** on the local machine
- 3.3 Click on **File / New / Virtual Machine ...**
- 3.4 Define a **Typical** install, Next (Figure 1)
- 3.5 Define the virtual machine name, Next (Figure 2)
- 3.6 Define the datastore used for this virtual machine, Next *In this case only one hard disc is used* (Figure 3)
- 3.7 Define a **Linux, Other Linux (32-bit)** machine, Next (Figure 4)
- 3.8 Define the memory size, Next *This depends on your system but 1024 MB is recommended* (Figure 5)
- 3.9 Choose the Network connection used for this virtual machine, Next (Figure 6)
- 3.10 Define the datastore size, Next. *This depends on your system but 15 Go is the minimum recommended*
- 3.11 Click **Finish** in order to install the new virtual machine (Figure 7)

4 VM: Load the CAELinux2008.iso file

- 4.1 From your local computer, download the **CAELinux2008.iso** file from www.caelinux.com
- 4.2 When the download is done, return to **VMware Infrastructure Client**
- 4.3 Select the new virtual machine (previously created)
- 4.4 Select the **Summary** tab on Vmware Infrastructure Client
- 4.5 Click on **datastore**
- 4.6 Click on the new virtual machine file
- 4.7 Click on **Upload files from your local machine to this datastore**
- 4.8 Click on **Upload File** and get the CAELinux2008.iso file from the local machine (Figure 8)
- 4.9 Click **Yes** when the Upload/Download Operation Warning appears (Figure 9)
- 4.10 Wait around 10 min in order to save the full .iso file
- 4.11 Select the new virtual machine
- 4.12 Select the **Summary** tab on Vmware Infrastructure Client
- 4.13 Click on **Edit Settings** in Commands part
- 4.14 Select the **Hardware** tab
- 4.15 Click on **CD/DVD Drive 1**
- 4.16 Click **Datastore ISO file** in Device Type part and browse the CAELinux2008.iso file (Figure 10)
- 4.17 Click on **Connect at power on** in Device Status part (Figure 11)
- 4.18 Still in Virtual Machine Properties, click on **SCSI Controller 0**
- 4.19 Click on **Change Type ...** in SCSI Controller Type part
- 4.20 Select **BusLogic** instead of LSI Logic (Figure 12)

5 Install Linux: Run the Live CD CAE Linux 2008

- 5.1 On Vmware Infrastructure Client window click in the new virtual machine
- 5.2 Select the **Summary** Tab
- 5.3 Click **Power On** in order to start the virtual machine
- 5.4 Answer **Yes** to the Virtual Machine Question (about change on SCSI) (Figure 13)
- 5.5 Click **Open Console** in order to open this virtual machine
- 5.6 Click in the console and select **Live CD** (to unselect the console, ctrl + alt (Figure 14)
- 5.7 Select the **keyboard layout**, Next
- 5.8 Select the **timezone**, Next
- 5.9 Define the **Date, Clock and Time Zone Settings**, Next
- 5.10 Select **Ethernet** as the connection that you want to configure, Next
- 5.11 Select the **network interface** to configure, Next
- 5.12 Select **Automatic IP (BOOTP/DHCP)** as the connection protocol, Next
- 5.13 Keep the mark to Get DNS servers from DHCP. But **unselect** the mark to **Assign host name from DHCP** address ! Then define the Host name as **localhost**, Next (Figure 15)
- 5.14 No change on the Connection control (Don't allow users to manage the connection, Start the connection at boot), Next
- 5.15 Answer **Yes** to the question Do you want to start the connection now ?
- 5.16 The network and Internet Configuration is done, Finish

6 Install Linux: Install the CAE Linux 2008 on hard drive

- 6.1 Log in with the root account, Enter, *Username: root, Password: root* (Figure 16) On desktop, click on **Install PCLinuxOS**
- 6.2 The wizard to install CAE Linux 2008 starts, Next (Figure 17)
- 6.3 Select the **Normal Hard drive (ide, sata)** as the type of hard drive to install the OS, Next (Figure 18)
- 6.4 Select **Custom disk partitioning**, Next (Figure 19)
- 6.5 Answer **Continue** for the backup message, OK (Figure 20)
- 6.6 Under **sda** tab, click on white part
- 6.7 Click **Create** in order to create the first partition
- 6.8 Define **~1.5 GB** for a **Linux swap** partition, OK (Figure 21)

- 6.9 Under **sda** tab, click on white part
- 6.10 Click **Create** in order to create the second partition
- 6.11 Define the maximum size for a **Journalised FS: ext3** partition, OK (Figure 22)
- 6.12 When these two partitions are created, Done (Figure 23)

- 6.13 Answer **OK** to the message before to format the partition (Figure 24)
- 6.14 Click **Next** in order to format the partition (Figure 25)
- 6.15 Click **Next** in order to install PC Linux OS 2008 on hard drive (Figure 26)

- 6.16 After few minutes CAE Linux 2008 is installed and the bootload have to be defined. **Grub with graphical menu** is recommended, Next (Figure 27)
- 6.17 Define **linux** as the boot default (no other OS is used on this virtual machine), Finish (Figure 28)
- 6.18 Define the administrator (boot) password, Next
- 6.19 Define an additional user (this step is not compulsory but recommended), Done. Notice that CAE user is already created and should not be deleted.
- 6.20 A last message confirm the installation and ask to remove the live system and restart the computer, Finish

7 Install Linux: Restart CAE Linux 2008 from live to hard drive system

- 7.1 Return to the Vmware Infrastructure Client by **Ctrl+Alt** (without closing the console)
- 7.2 Click on the new virtual machine in VMware Infrastructure Client
- 7.3 Click on **Summary** tab
- 7.4 Click on **Edit Settings**
- 7.5 On Hardware tab, click on **CD/DVD Drive 1**
- 7.6 Unselect **Connect at power** on in order to disconnect the .iso file, OK (Figure 29)
- 7.7 Return to the console (which should be still open)
- 7.8 Click on **PC** (1st button from the left bottom corner), **Log Out ...**
- 7.9 Click on **Turn Off Computer** button
- 7.10 Return to the Vmware Infrastructure Client by **Ctrl+Alt**
- 7.11 When the virtual machine is stopped, select the virtual machine in Vmware Infrastructure Client and click on **Power on**.
- 7.12 From now the virtual machine is running with CAE Linux OS on the hard drive.
- 7.13 Return to the console and select **Linux** in the boot list (Figure 30). *When the CAE Linux 2008 is starting, it is possible to click on **ESC** in order to see all steps.*
- 7.14 Log in as root user with the password previously defined (Figure 31)
- 7.15 From now you are on CAE Linux 2008 desktop running on your hard drive (Figure 32)

8 Install Linux: Update CAE Linux 2008

- 8.1 Click on **Synaptic** button (6th button from the left bottom corner) in order to open the package manager
- 8.2 Click on **Search** button
- 8.3 Write **mozilla-firefox**, Search (Figure 33)
- 8.4 Right click on **mozilla-firefox** package
- 8.5 Click on **Mark for Removal**
- 8.6 Click on **Apply** button
- 8.7 Click **Apply** in order to accept the changes (Figure 34)

- 8.8 When the changes are applied, click **Search** button
- 8.9 Write **compiz**, Search
- 8.10 Right click on **compiz** package
- 8.11 Click **Mark for Removal**
- 8.12 Click on **Apply** button
- 8.13 Click **Apply** in order to accept the changes

- 8.14 When the changes are applied, click **Search** button
- 8.15 Write **OpenOffice.org**, Search
- 8.16 Right click on **OpenOffice.org** package
- 8.17 Click **Mark for Removal**
- 8.18 Click on **Apply** button
- 8.19 Click **Apply** in order to accept the changes

- 8.20 When the changes are applied, click **Reload**
- 8.21 Click **Search** button
- 8.22 Write **GConf2**, Search
- 8.23 Right click on **GConf2** package
- 8.24 Click **Mark for Upgrade** (Figure 35)
- 8.25 Click **Mark** in order to mark additional required changes (Figure 36)
- 8.26 Click on **Apply** button
- 8.27 Click **Apply** in order to accept the changes

- 8.28 When the changes are applied, click **Search**
- 8.29 Click **Search** button
- 8.30 Write **gtk+2.0**, Search
- 8.31 Right click on **gtk+2.0** package
- 8.32 Click **Mark for Upgrade**
- 8.33 Click **Mark** in order to mark additional required changes
- 8.34 Click on **Apply** button
- 8.35 Click **Apply** in order to accept the changes
- 8.36 When the changes are applied, close Synaptic

- 8.37 Open **Konsole** (From the desktop or from PC/system/Terminals/Konsole)
- 8.38 Write **apt-get clean**, Enter
- 8.39 Write **apt-get autoclean**, Enter
- 8.40 Write **apt-get update**, Enter
- 8.41 Write **apt-get upgrade**, Enter.
- 8.42 Answer **Y** to continue the upgrade, Enter (this step can spend around 15 min)
- 8.43 When the update are done, write **/etc/init.d/network restart**, Enter
- 8.44 Write **apt-get dist-upgrade**, Enter
- 8.45 Answer **Y** to continue the upgrade, Enter (this step can spend around 15 min)

- 8.46 When the change are applied, reboot the system (PC/Log out.../Restart Computer)
- 8.47 Select **Boot PCLinuxOS** (default) in the boot list
- 8.48 Login as root
- 8.49 Open **Synaptic**
- 8.50 Click **Search** button
- 8.51 Write **kernel-latest**, Search (*If the step does not give any result, write **kernel** and choose the last one manually*)
- 8.52 Right click on **kernel-latest** package
- 8.53 Click **Mark for Installation** (Figure 37)
- 8.54 Click **Mark** in order to mark additional required changes
- 8.55 Click on **Apply** button
- 8.56 Click **Apply** in order to accept the changes

- 8.57 When the change are applied, reboot the system (PC/Log out.../Restart Computer)
- 8.58 Select **Linux with kernel 2.6.26.8.tex3** (default) in the boot list
- 8.59 Login as root
- 8.60 Open **Synaptic**
- 8.61 Click **Reload** button
- 8.62 Click **Search** button
- 8.63 Write **libgmime**, Search
- 8.64 Right click on **libgmime2.4_2** package
- 8.65 Click **Mark for Installation**
- 8.66 Click **Mark** in order to mark additional required changes
- 8.67 Click on **Apply** button
- 8.68 Click **Apply** in order to accept the changes

- 8.69 When the change are applied, click on **Reload** button
- 8.70 Click on **Mark all Upgrades** button
- 8.71 Normally no update are available (Apply bottom is not active) and this confirms that the OS is full updated

- 8.72 Click **Search** button
- 8.73 Write **firefox**, Search
- 8.74 Right click on **firefox** package
- 8.75 Click **Mark for Installation**
- 8.76 Click **Mark** in order to mark additional required changes
- 8.77 Click on **Apply** button
- 8.78 Click **Apply** in order to accept the changes

- 8.79 Click **Search** button
- 8.80 Write **OpenOffice.org**, Search
- 8.81 Right click on **OpenOffice.org** package
- 8.82 Click **Mark for Installation**
- 8.83 Click **Mark** in order to mark additional required changes
- 8.84 Click on **Apply** button
- 8.85 Click **Apply** in order to accept the changes

- 8.86 When the change are applied, click **Search** button
- 8.87 Write **compiz**, Search
- 8.88 Verify if **compiz** package is already installed, if not install this package
- 8.89 Close Synaptic

9 Web Server: Setup

- 9.1 Open the file `/etc/hosts` with **Kwrite**
- 9.2 In this file write the following lines

```
127.0.0.1      hostname.dns  hostname      localhost
192.168.1.22  hostname.dns  hostname      localhost
```
- 9.3 **Save** the change and close Kwrite
- 9.4 Open **PCLinuxOS Control Center** (5th button from the left bottom corner)
- 9.5 In **Sharing** menu, click on **Configure webserver** (Figure 38)
- 9.6 Click **Next** in order to install apache-mpm-prefork package
- 9.7 Click **Next** in order to install apache-mod_userdir package. *These last two steps should be performed only for the first configuration.*
- 9.8 Click **Next** in order to start the web server configuration wizard
- 9.9 Click **Next** in order to accept the warning message about DHCP address (Figure 39). *Notice that this setup consider a Lan Static DHCP which defines IP address depends on the MAC address.*
- 9.10 Unselect **Enable the Web server for the intranet** because we are only interested about an internet web server, **Next** (Figure 40)
- 9.11 Click **Next** in order to allow users to get a directory in their home directories (Figure 41)
- 9.12 This step is actually not used for this setting but something must be written. **Next** (Figure 42)
- 9.13 The document root give the path of directory where html file will be saved. **Next** (Figure 43)
- 9.14 Click **Next** in order to confirm the installation
- 9.15 Click **Finish** in order to close the wizard
- 9.16 Close the PCLinuxOS Control Center
- 9.17 From now, it is important to consider the following setup in order to access the website from the web:
 - Static DHCP in the LAN. *Define IP address depends on MAC address*
 - Accept port 80 (HTTP) in firewall rules from WAN to LAN
 - Port forwarding in the NAT configuration in order to forward port 80 on webserver IP address
- 9.18 When these last setting are fixed, Open a **Web page** with another computer
- 9.19 Type `http://www.hostname` as given in file `/etc/hosts`
- 9.20 The following page should appear and give the proof that the webserver works correctly (Figure 44)

10 FTP Server: Setup

- 10.1 Open Synaptic
- 10.2 Click **Search** button
- 10.3 Write **gproftpd**, Search
- 10.4 Right click on **gproftpd** package
- 10.5 Click **Mark for Installation**
- 10.6 Click **Mark** in order to mark additional required changes
- 10.7 Click on **Apply** button
- 10.8 Click **Apply** in order to accept the changes
- 10.9 Close Synaptic

- 10.10 Open **Konsole**
- 10.11 Write **gproftpd**
- 10.12 Click **Yes** to the Gproftpd question (only the first time)
- 10.13 On Servers Tab a first server is already installed by default but the following parameters should be considered
 - Port: 21
 - Default home directory: `/var/ftp` , which is the ftp server directory
- 10.14 Click on **Users** tab
- 10.15 Define the **Username**, the **Password** the **Group** and the **Comment**
- 10.16 Click on **Add directory** button
- 10.17 Double click on directory and change the path, Enter
- 10.18 Select the user rules (**Upload**, **Download** and maybe **Rename**, **Overwrite** and **Delete**)
- 10.19 Click on **Add** button
- 10.20 Click **Close** in order to close the user information
- 10.21 The user is then considered by the FTP server (Figure 45)
- 10.22 Click on **Activate** button in order to start the FTP server
- 10.23 Close the GproFTPD and Konsole
- 10.24 From now, it is important to consider the following setup in order to access the ftp
- 10.25 server from the web:
- 10.26 - Static DHCP in the LAN
- 10.27 - Accept port 80 (HTTP) in firewall rules from WAN to LAN
- 10.28 - Port forwarding in the NAT configuration in order to forward port 80 on webserver IP address
- 10.29 When these last setting are fixed, Open a **FTP client** (Windows explorer or FileZilla
- 10.30 Client)with another computer
- 10.31 Type `ftp://hostname.dns` as given in file `/etc/hosts`
- 10.32 Write your **login** and **password** in order to access the the ftp directory (Figure 46)

11 File server: Setup

- 11.1 Open **Control Center** (4th button from the left bottom corner)
- 11.2 On left menu click on **Internet and Network** and **Samba**
- 11.3 Click on **Shares** tab
- 11.4 Click on **Add New Share...** button
- 11.5 Click on the Base Settings tab
- 11.6 In the Directory part select the file that you want to share, OK
- 11.7 Define the **Name** and **Comment** for this shared file
- 11.8 In the **Main Properties** part, properties on this file can be defined. Public share is recommended only if the server is protected by a firewall (Figure 47)
- 11.9 Click **OK** in order to share this file
- 11.10 Click **Apply** in order to confirm the changes
- 11.11 Close Control Center
- 11.12 Open the Konsole
- 11.13 Write **samba restart**, Enter
- 11.14 Close the Konsole
- 11.15 Open **PCLinuxOS Control Center** (4th button from the left bottom corner)
- 11.16 On left menu click on **Network Sharing**
- 11.17 Click on **Share drives and directories with Windows (SMB) system**
- 11.18 Click **OK** to the Samba server configuration question
- 11.19 Select a **Standalone – standalone server**, OK (Figure 48)
- 11.20 The Workgroup name should already be defined, OK
- 11.21 Select a Security mode as server, OK
- 11.22 Define the name which will be given to your server (ex: FileServer), OK
- 11.23 Click **OK** in order to accept the log file configurations
- 11.24 Click **OK** in order to setup the samba server
- 11.25 Click **OK** to the Samba Wizard message
- 11.26 Close the PCLinuxOS – Control Center
- 11.27 Open Konqueror (3rd button from the left bottom corner) and select the shared file
- 11.28 Right click on share file and select Properties
- 11.29 Click on Share tab
- 11.30 Click on Configure File Sharing button (Figure 49)
- 11.31 Select Advanced Sharing
- 11.32 Unselect Use NFS (Linux/UNIX) (Figure 50)
- 11.33 Click OK in order to accept all changes
- 11.34 Reboot the computer
- 11.35 From now another computer in your Workgroup can access to this shared file.

12 Figure

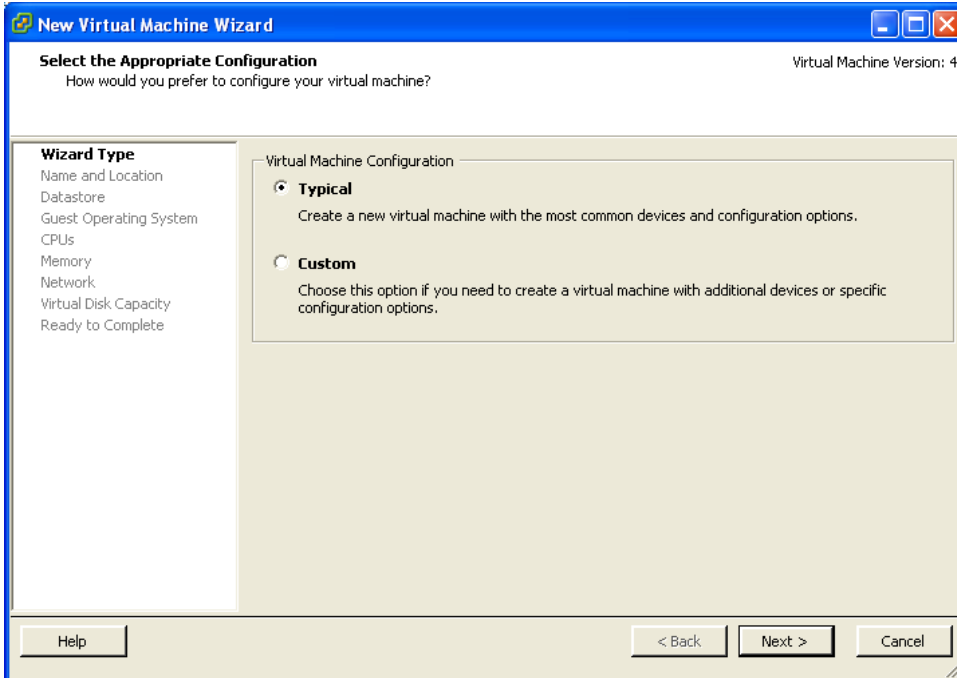


Figure 1

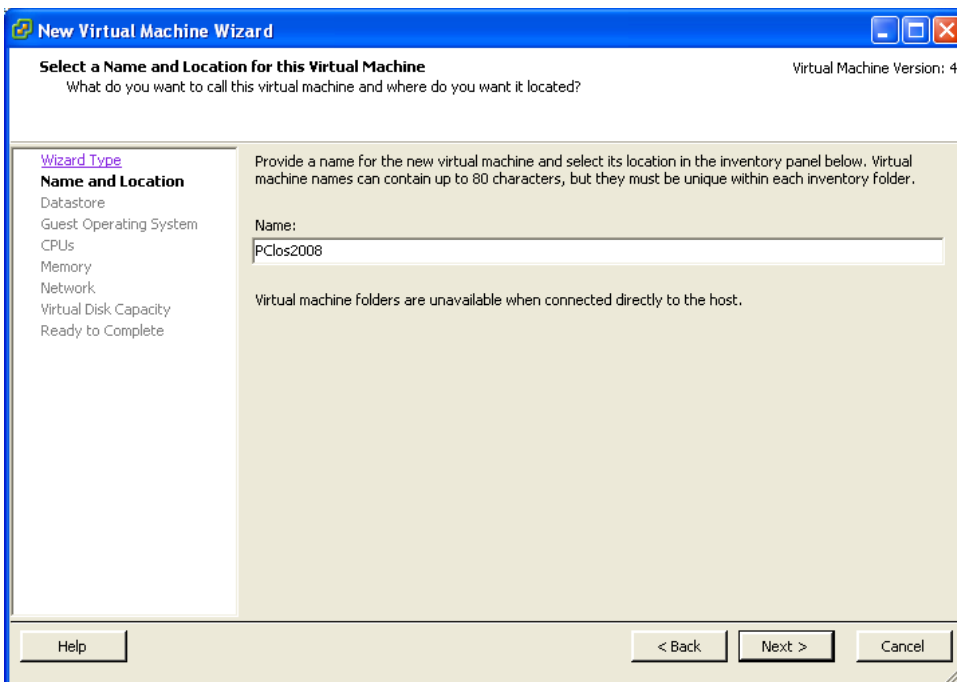


Figure 2

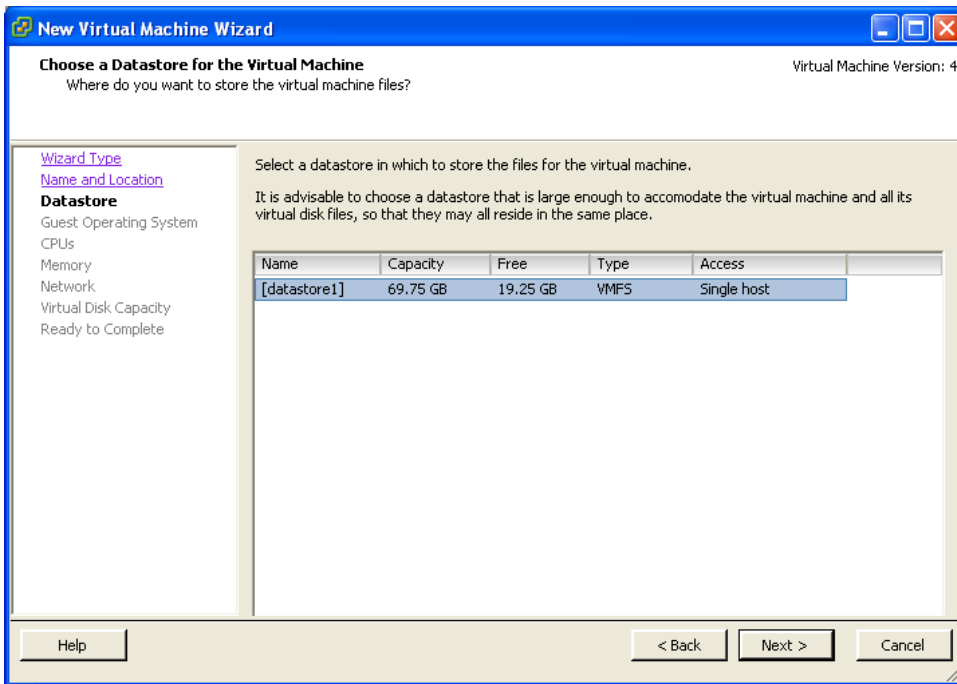


Figure 3

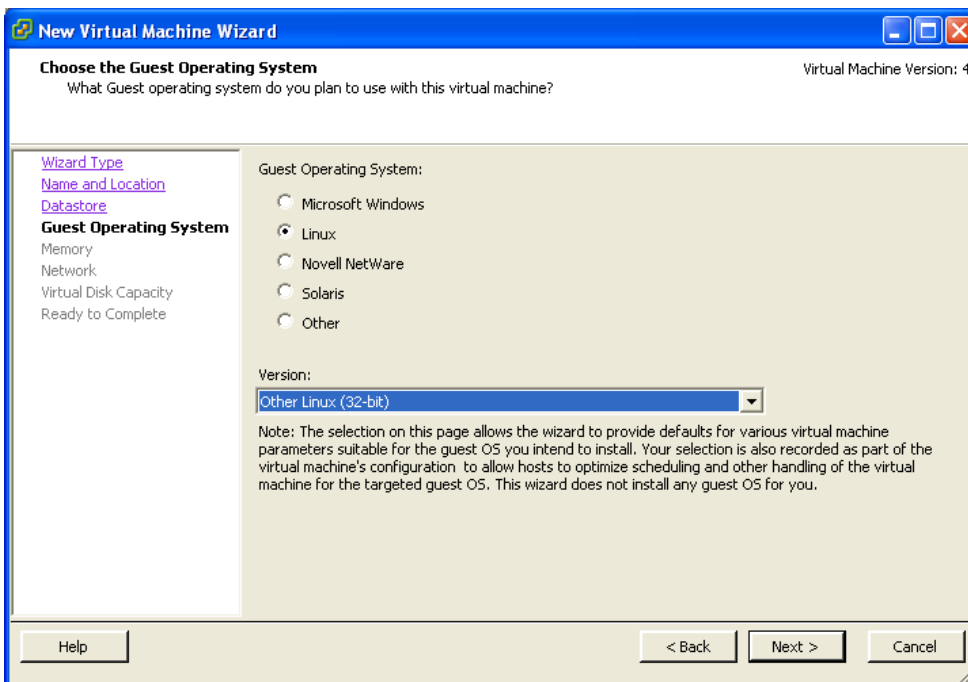


Figure 4

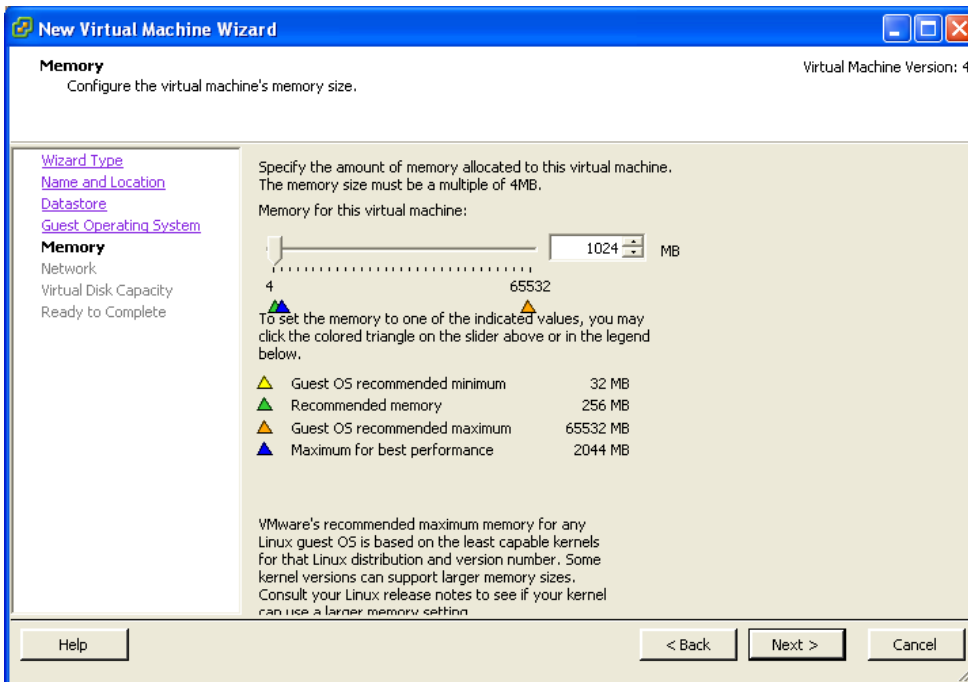


Figure 5

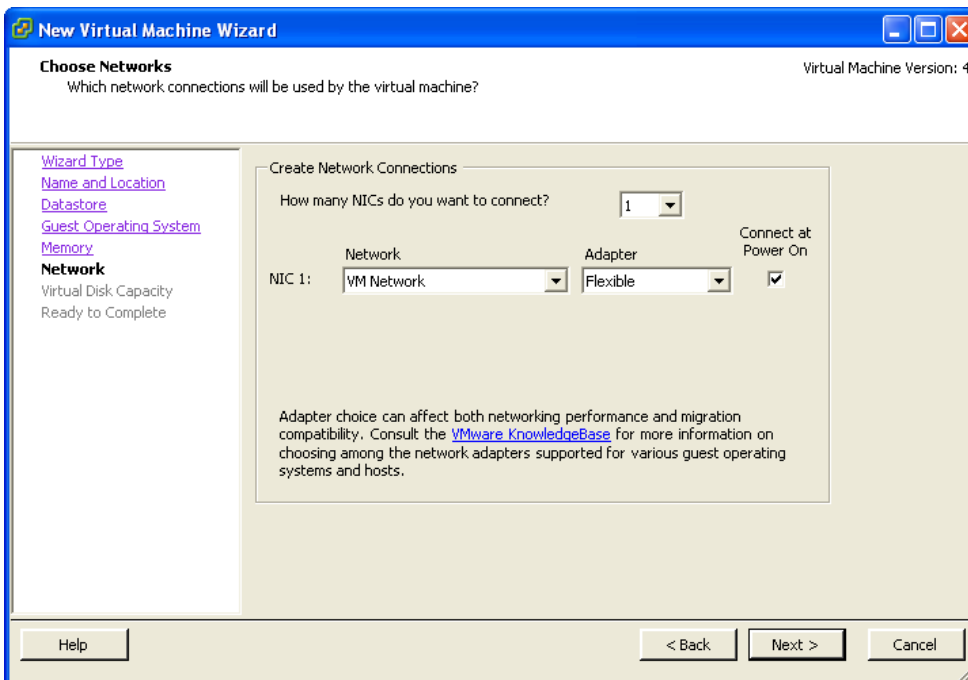


Figure 6

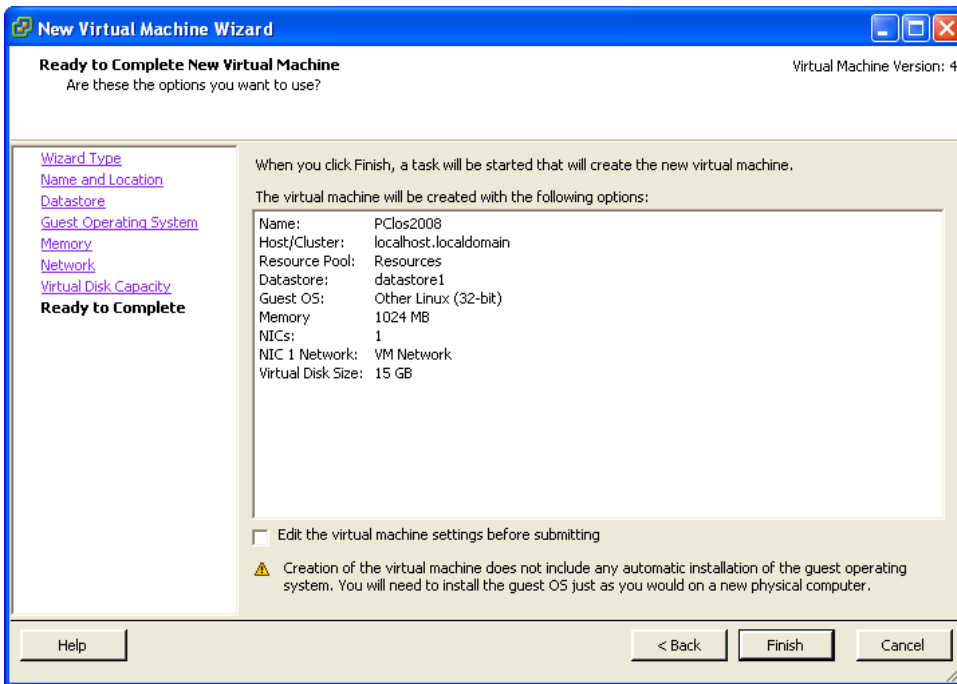


Figure 7

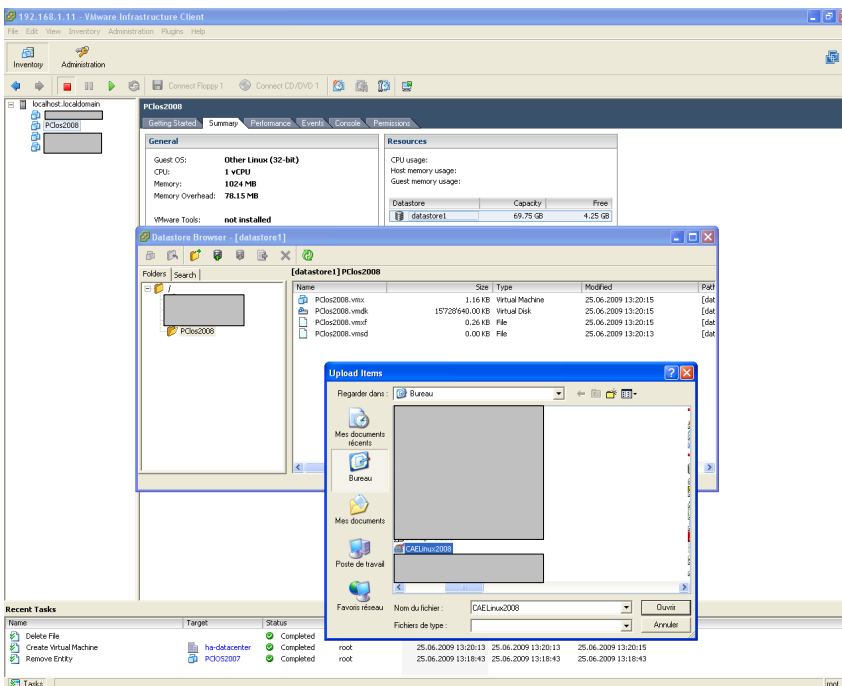


Figure 8

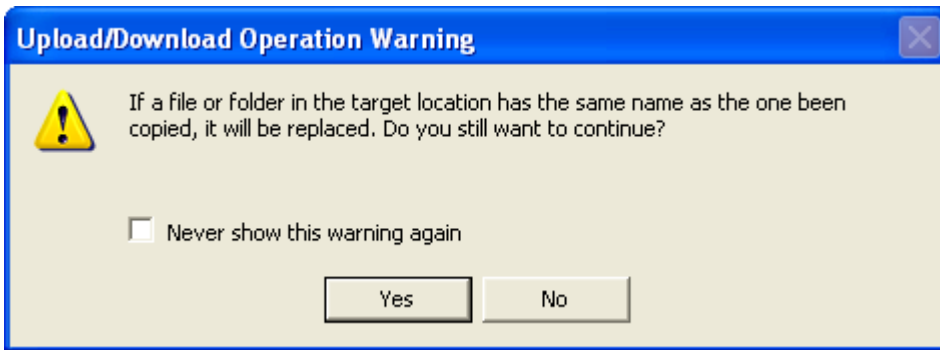


Figure 9

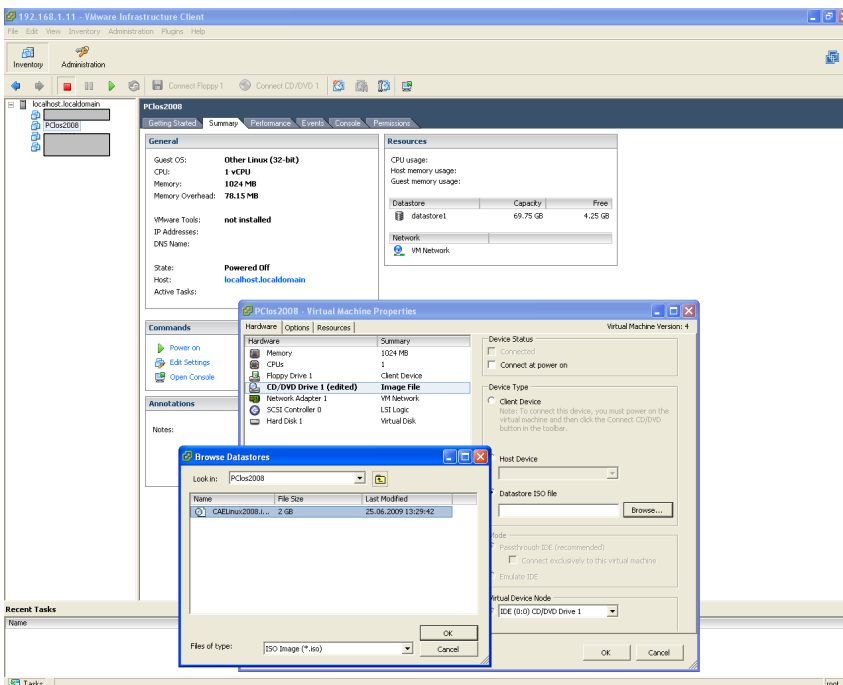


Figure 10

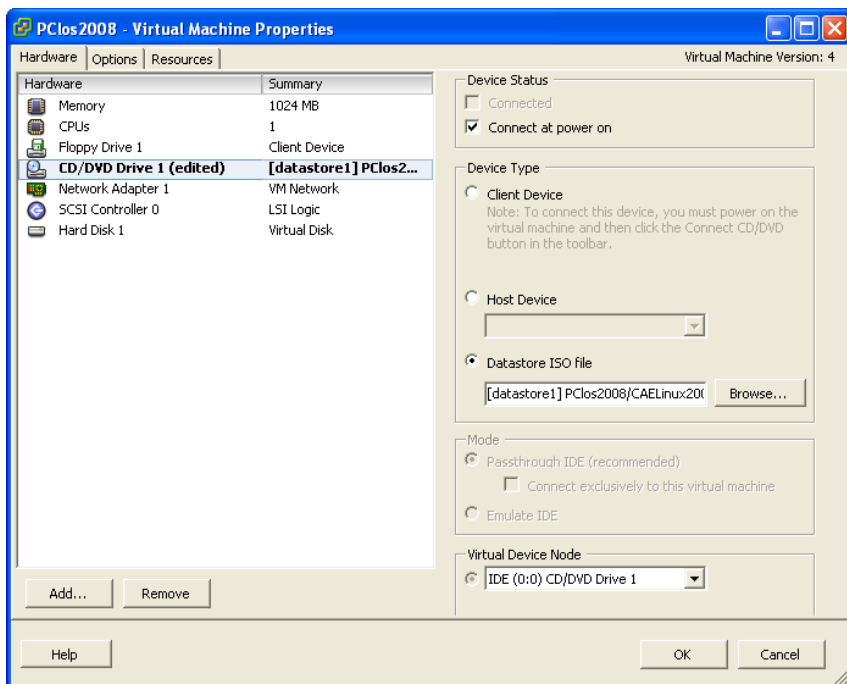


Figure 11

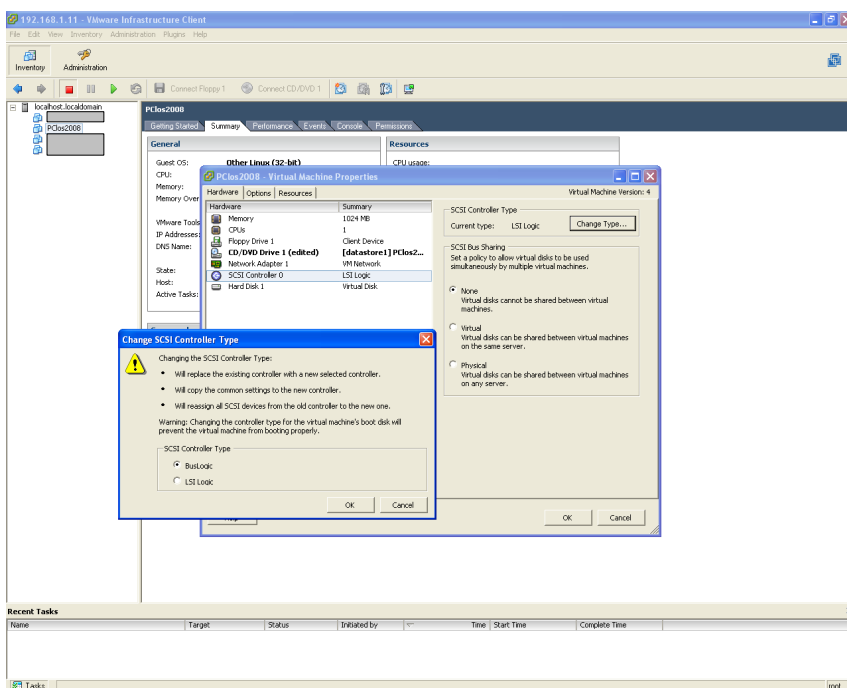


Figure 12

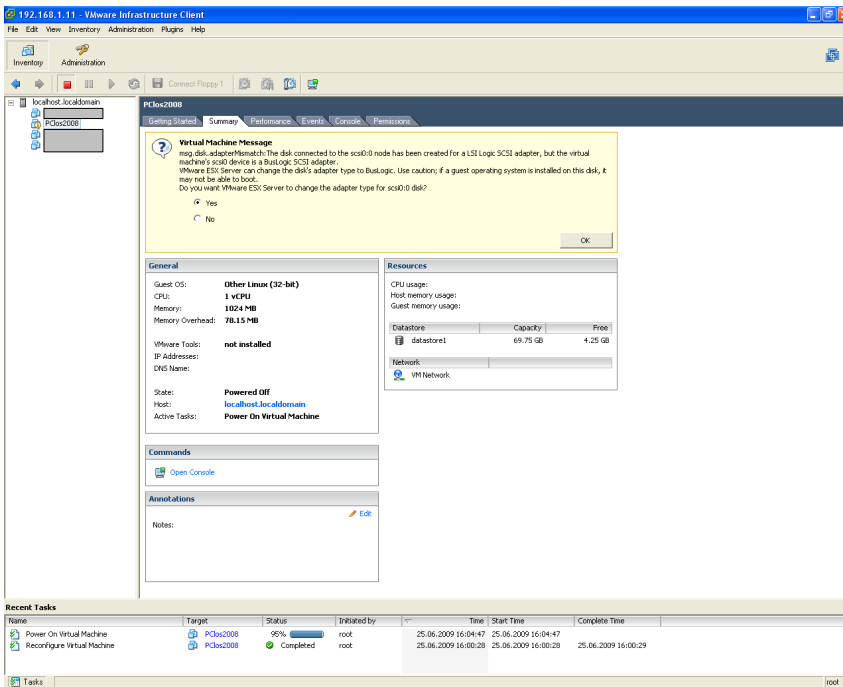


Figure 13



Figure 14

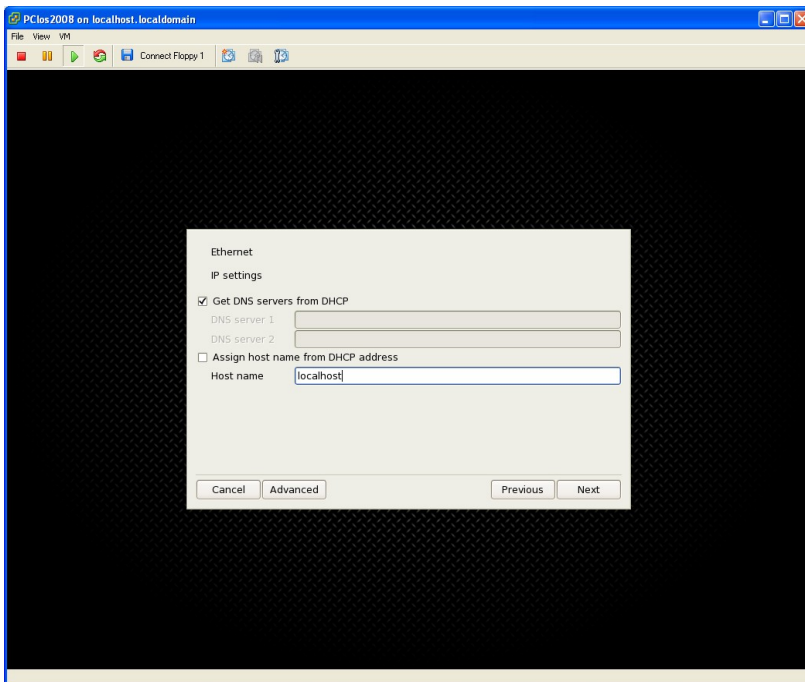


Figure 15

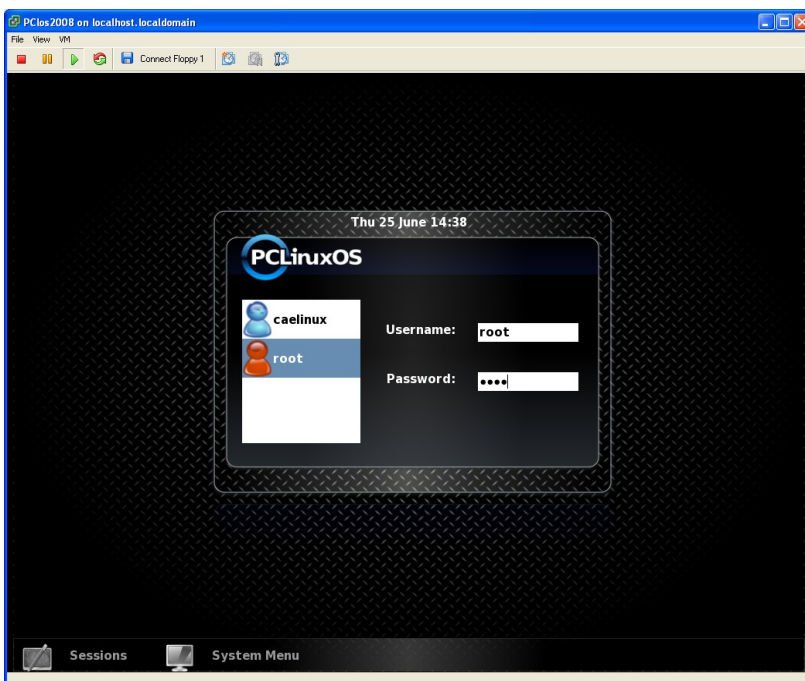


Figure 16

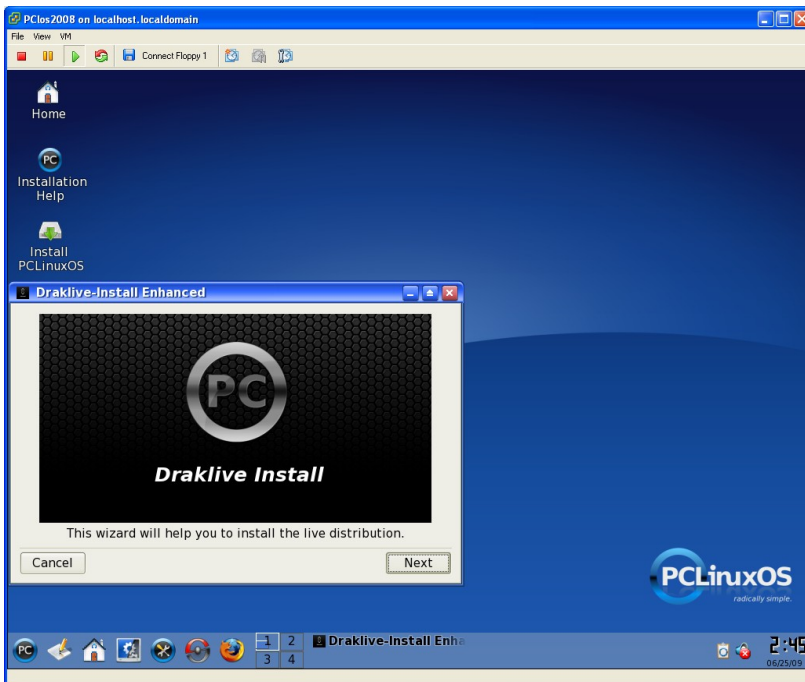


Figure 17

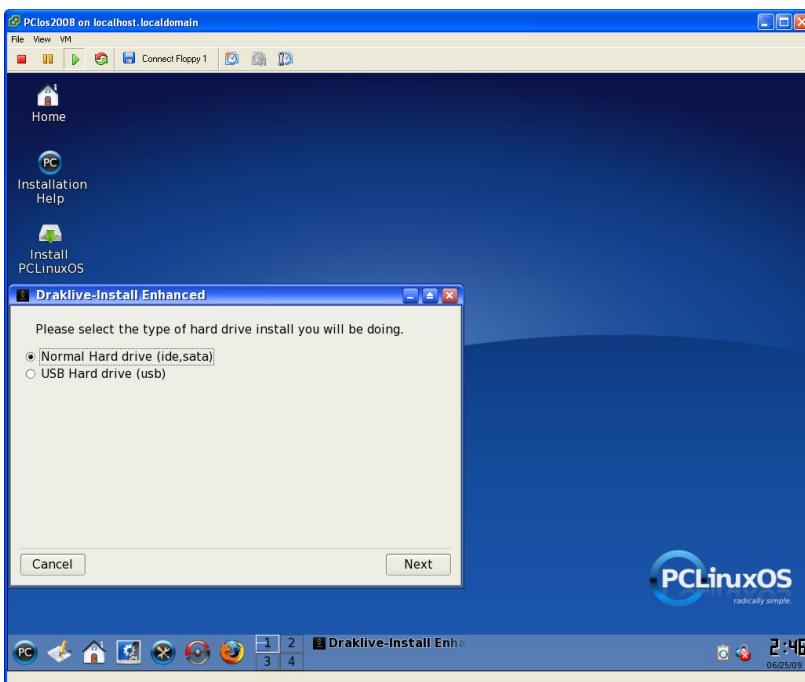


Figure 18

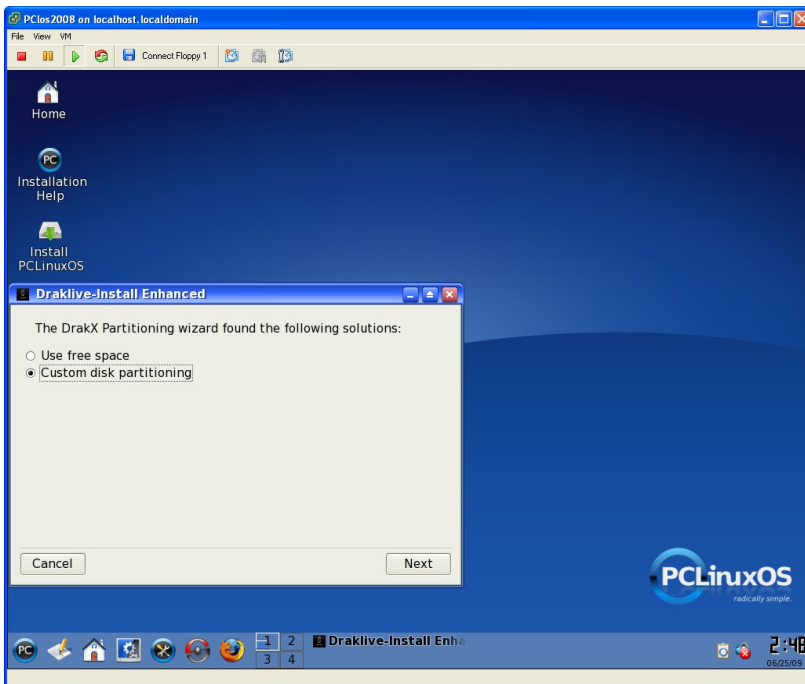


Figure 19

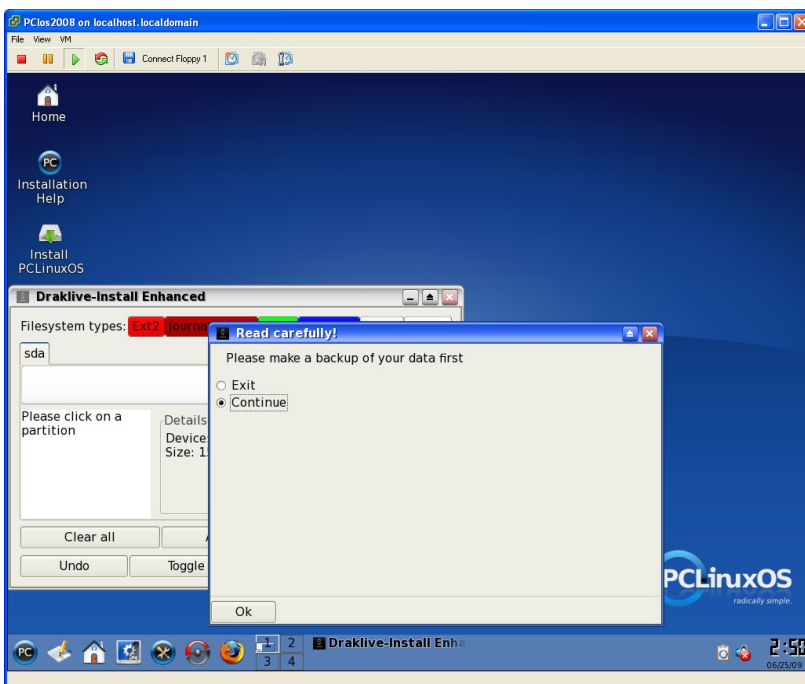


Figure 20

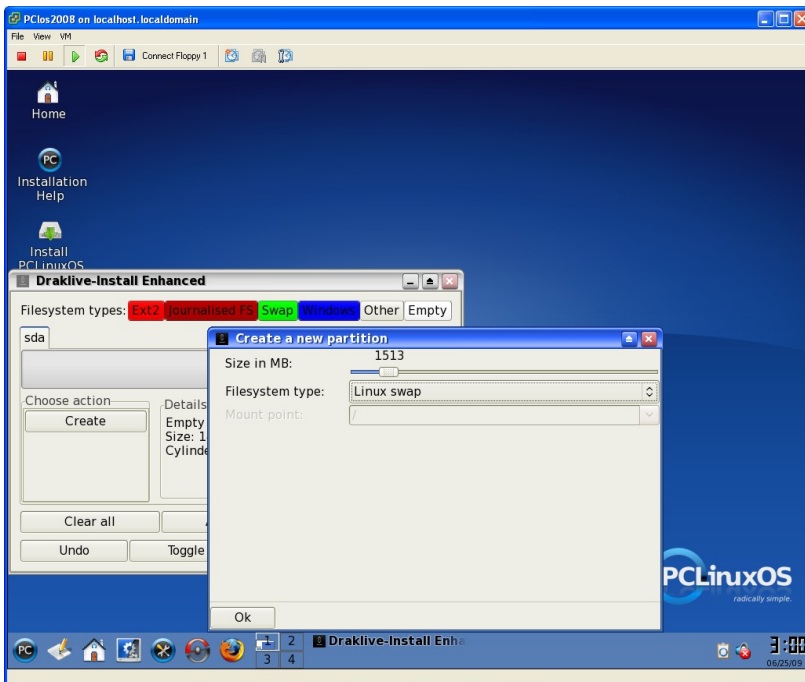


Figure 21

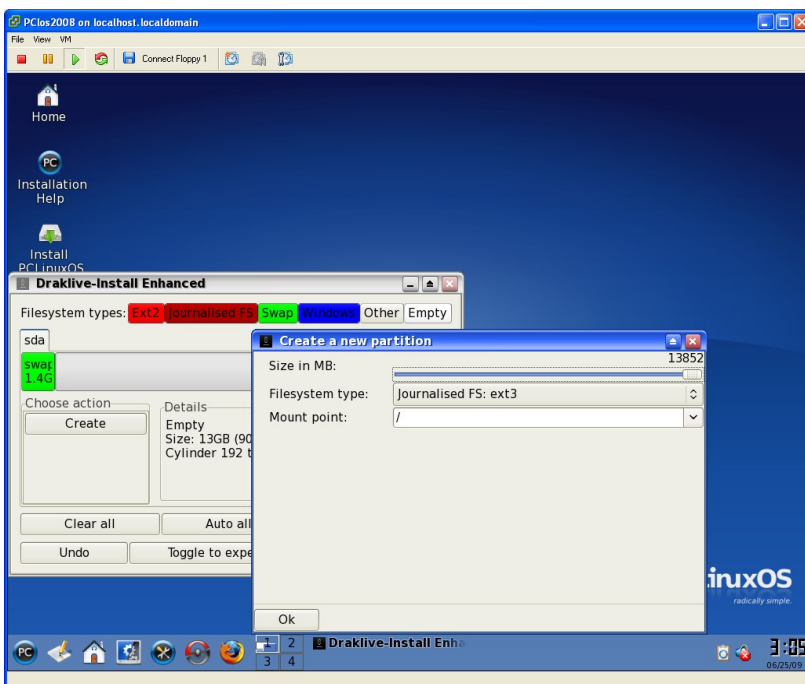


Figure 22

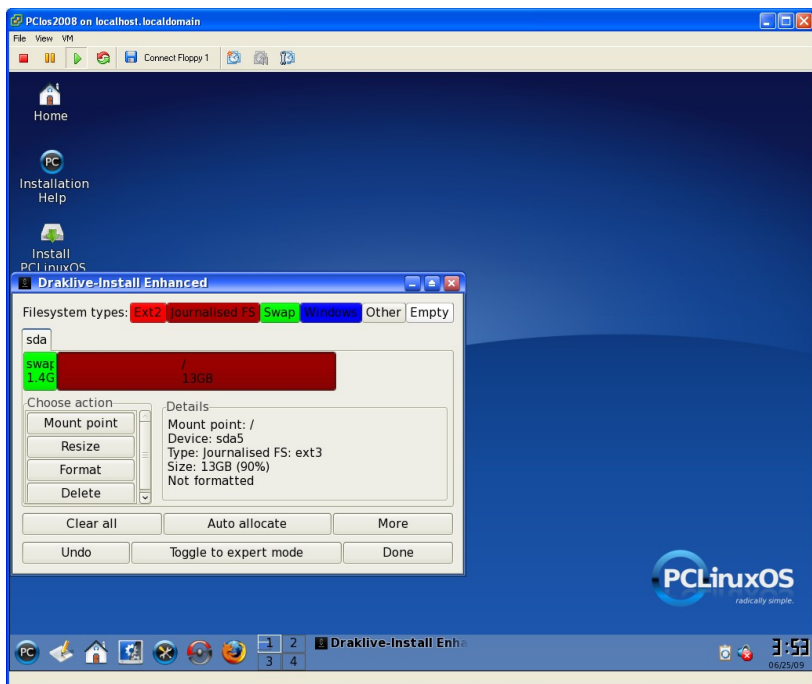


Figure 23

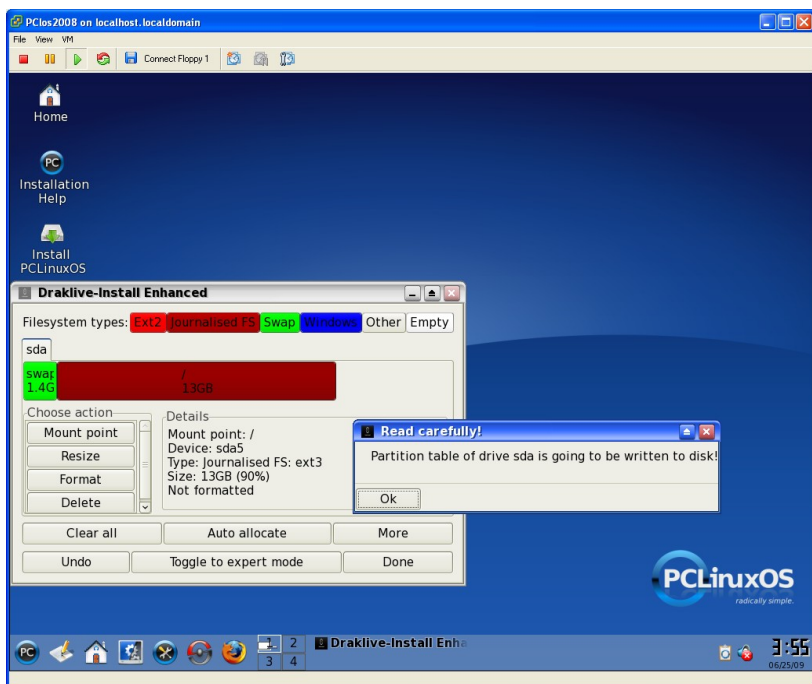


Figure 24

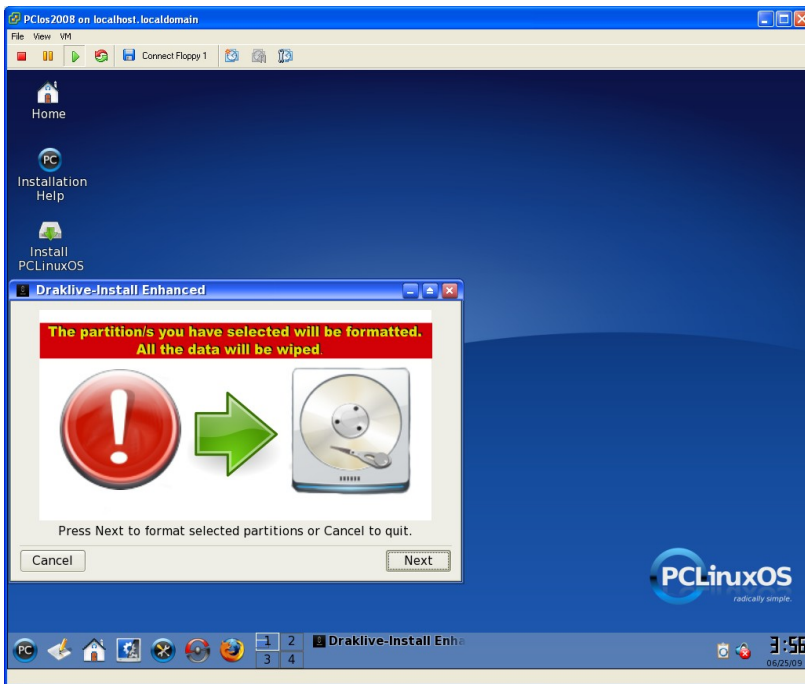


Figure 25

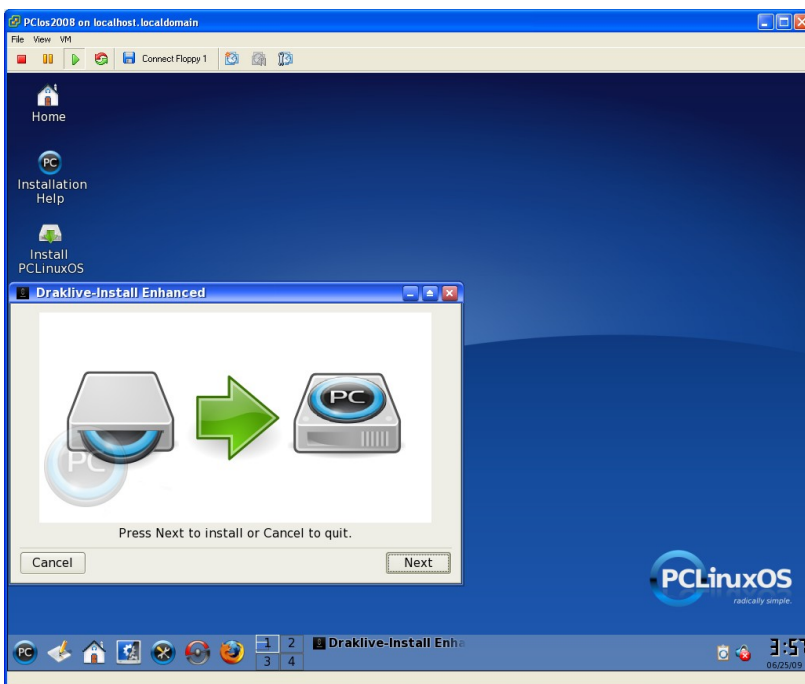


Figure 26

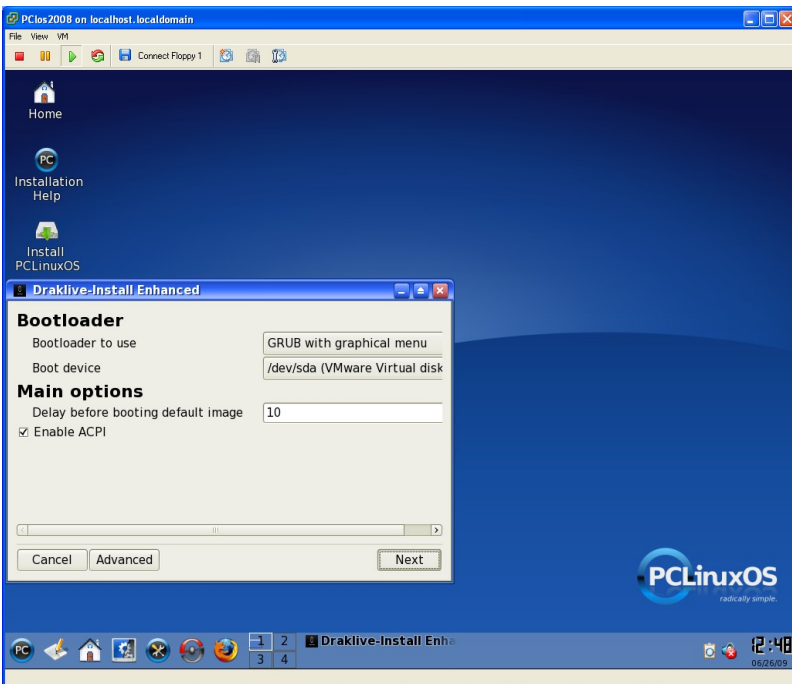


Figure 27

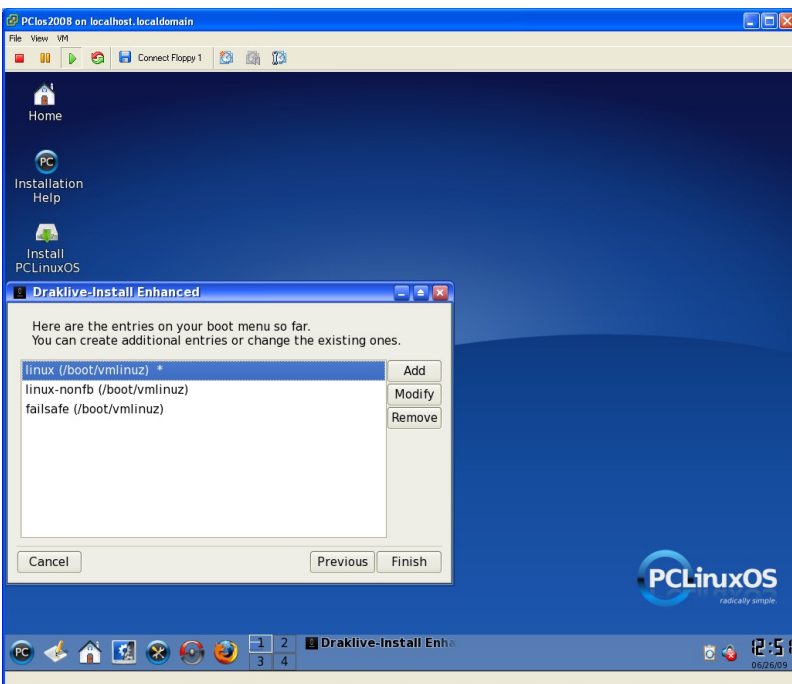


Figure 28

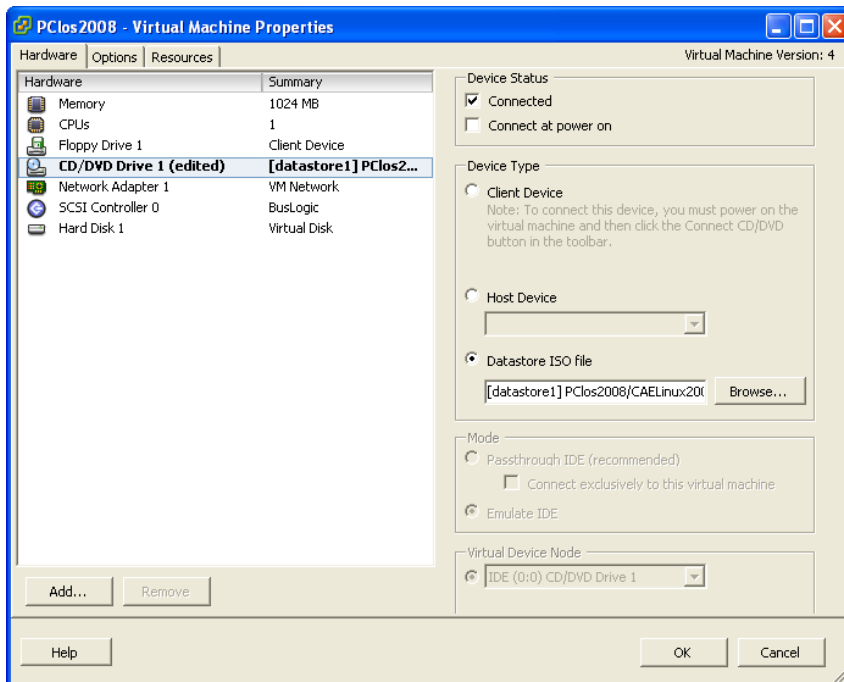


Figure 29

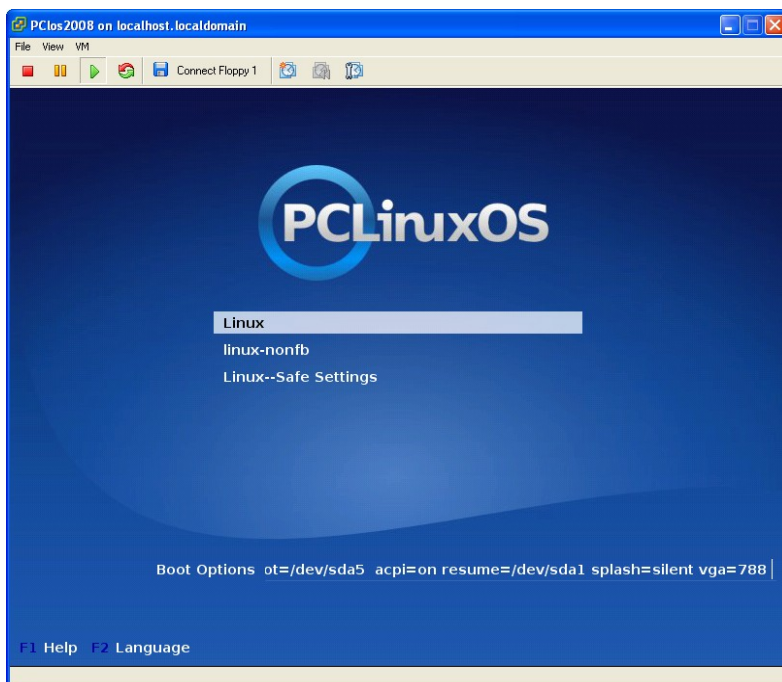


Figure 30

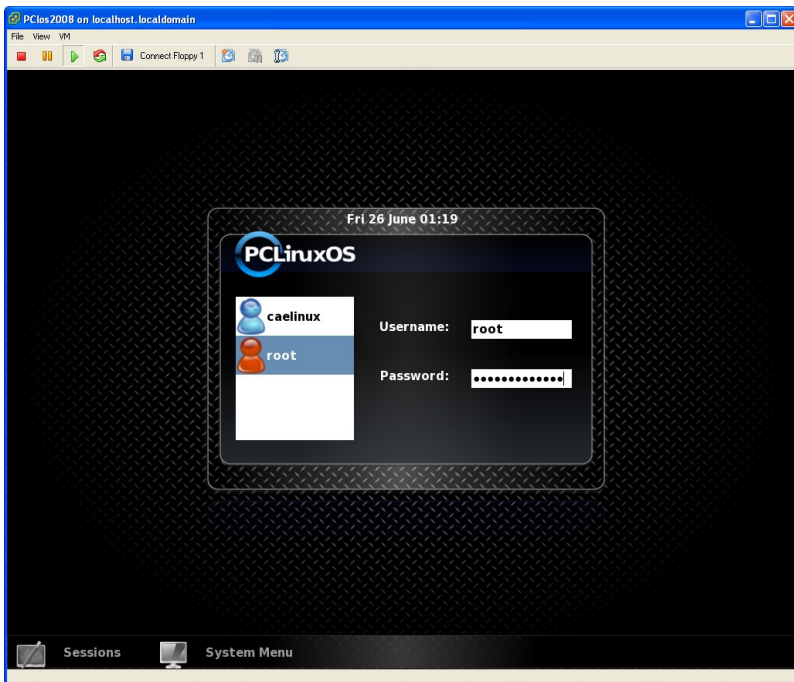


Figure 31

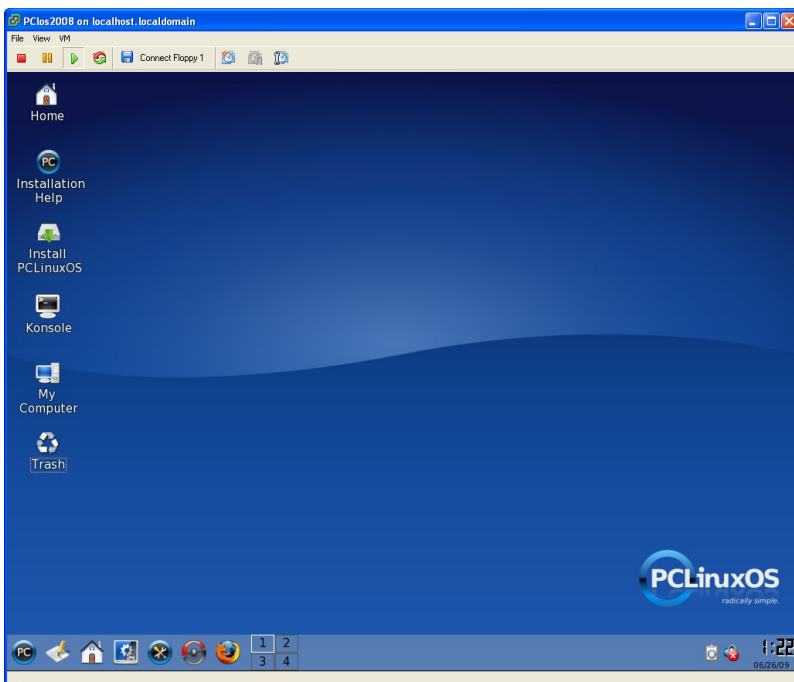


Figure 32

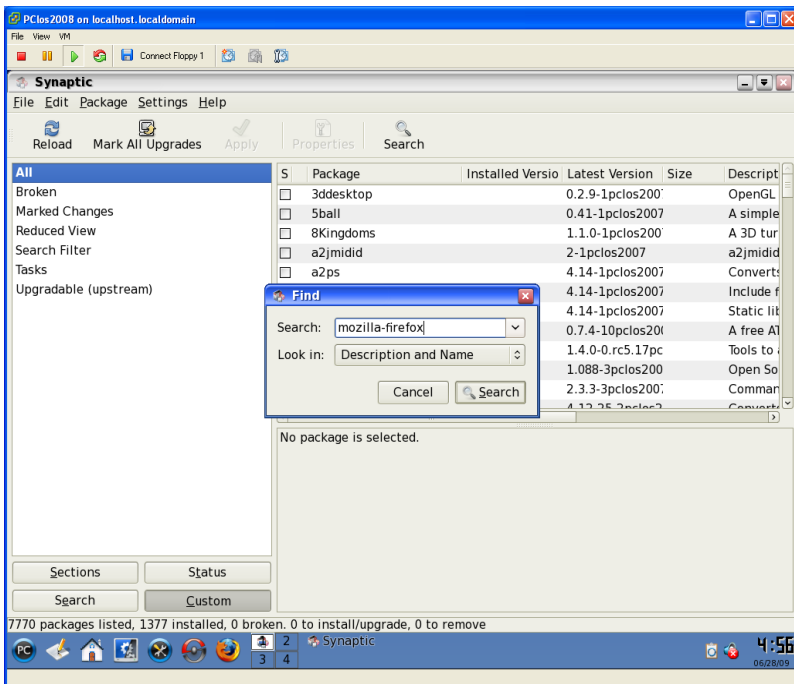


Figure 33

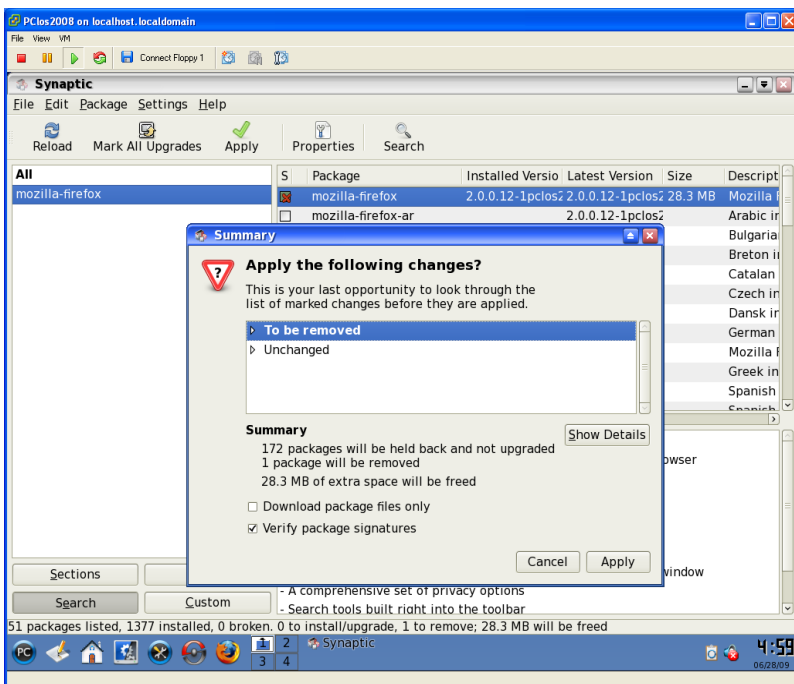


Figure 34

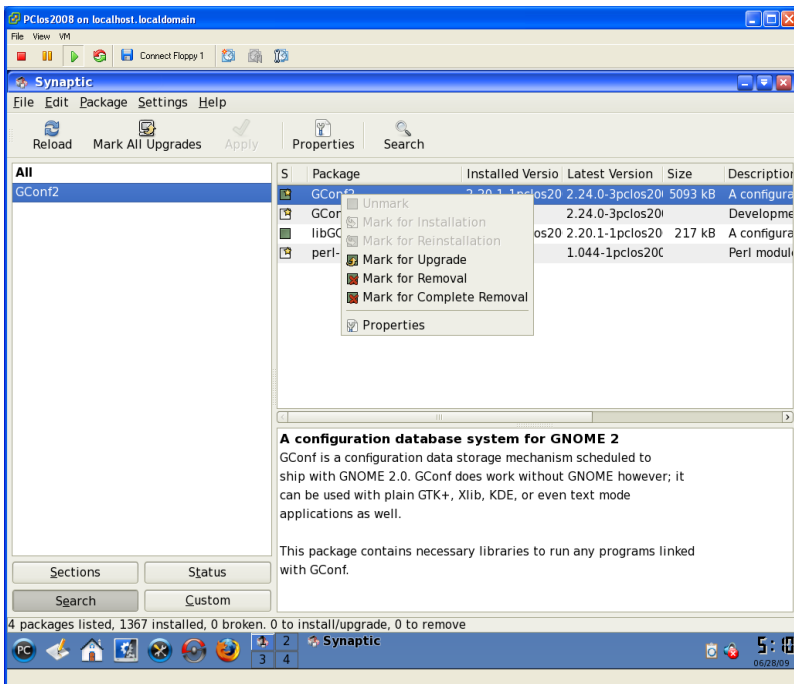


Figure 35

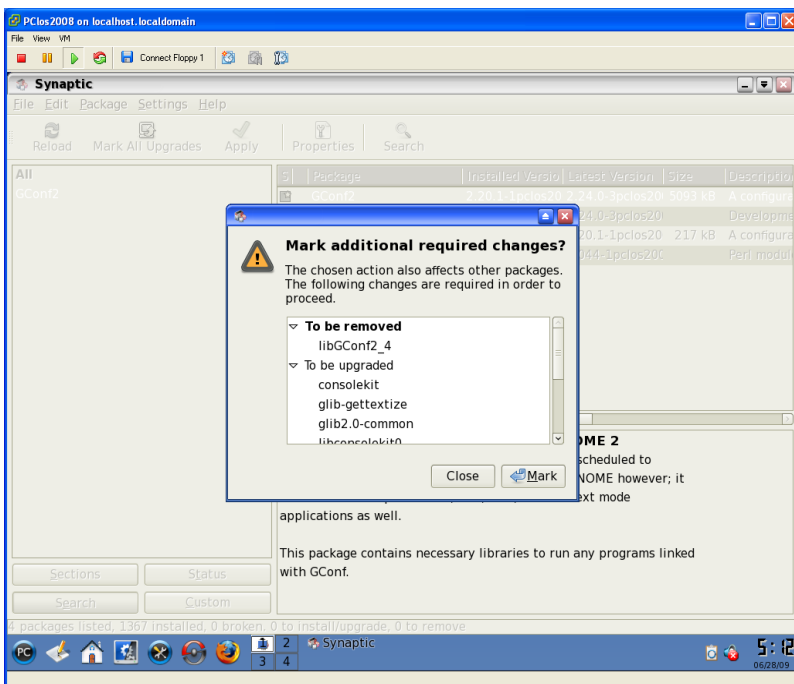


Figure 36

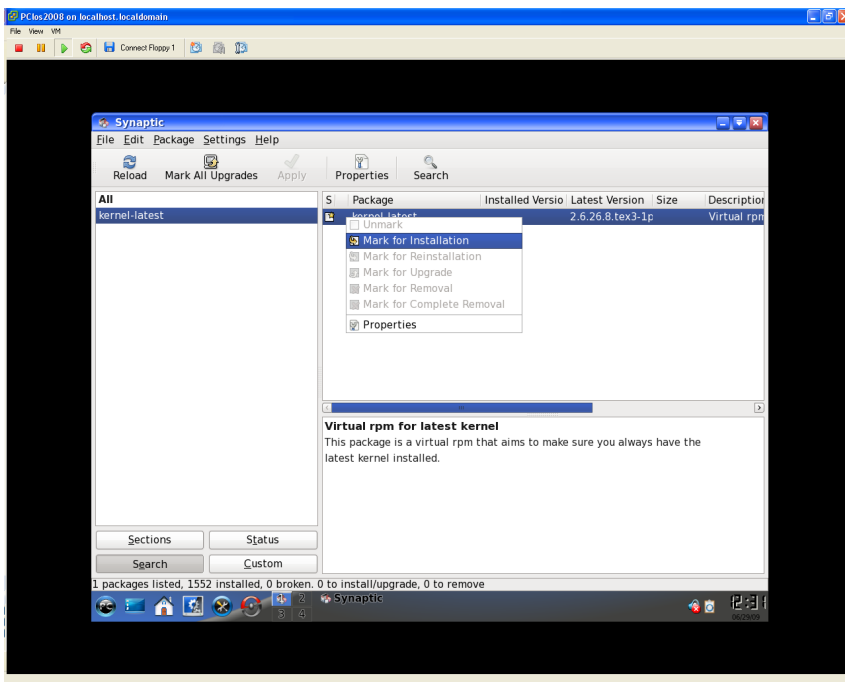


Figure 37

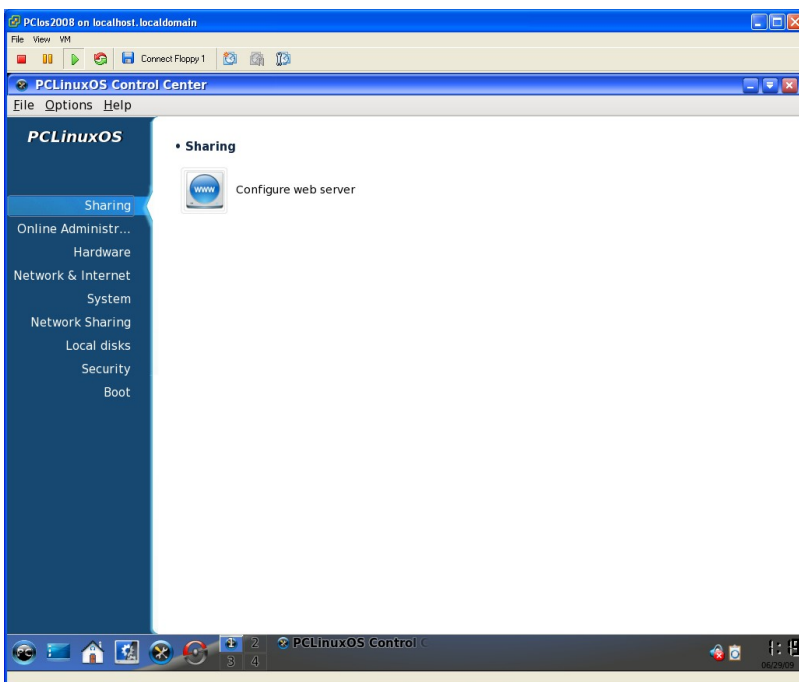


Figure 38

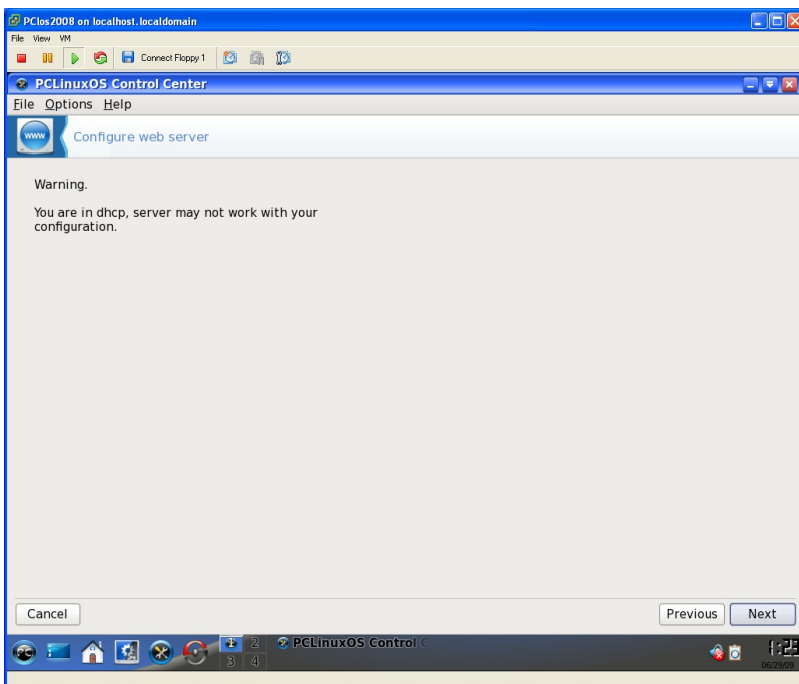


Figure 39

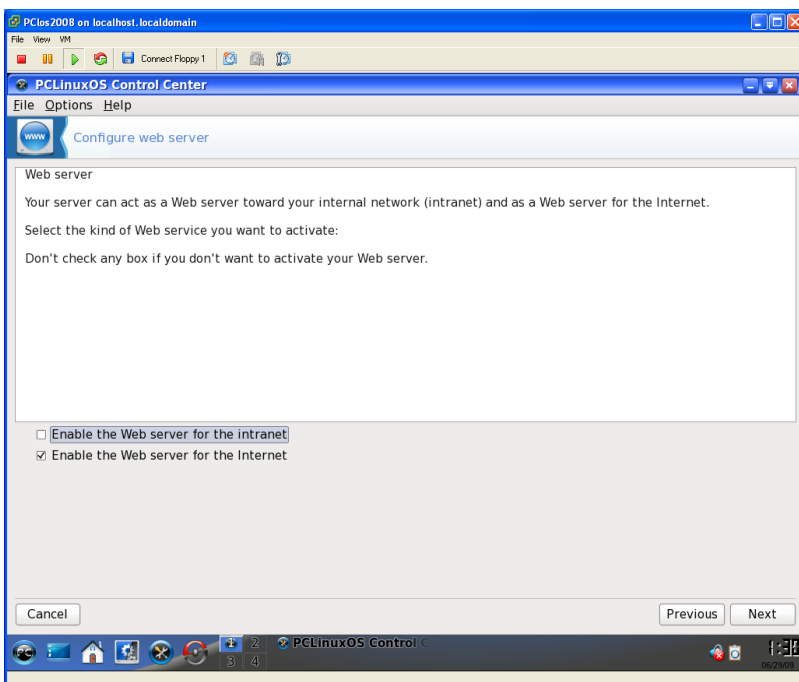


Figure 40

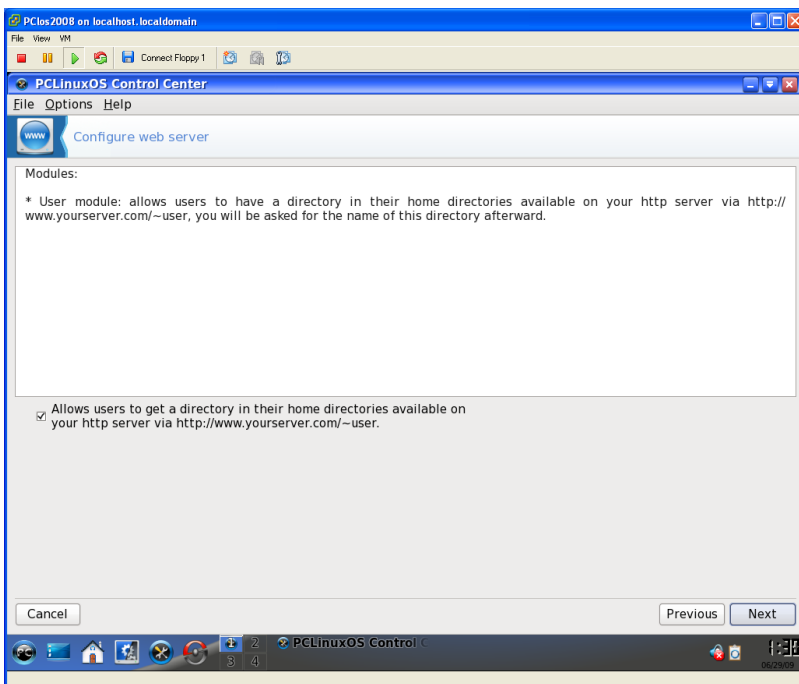


Figure 41

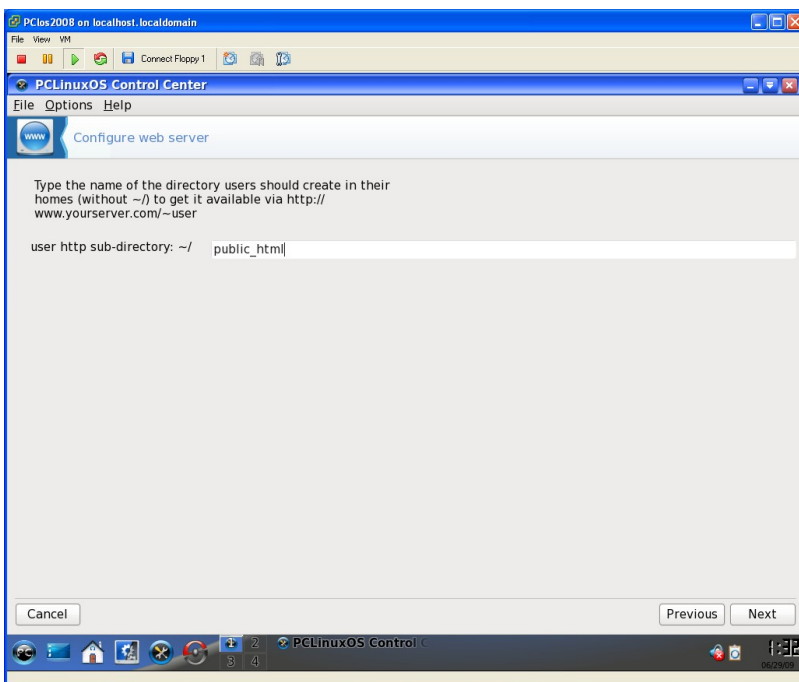


Figure 42

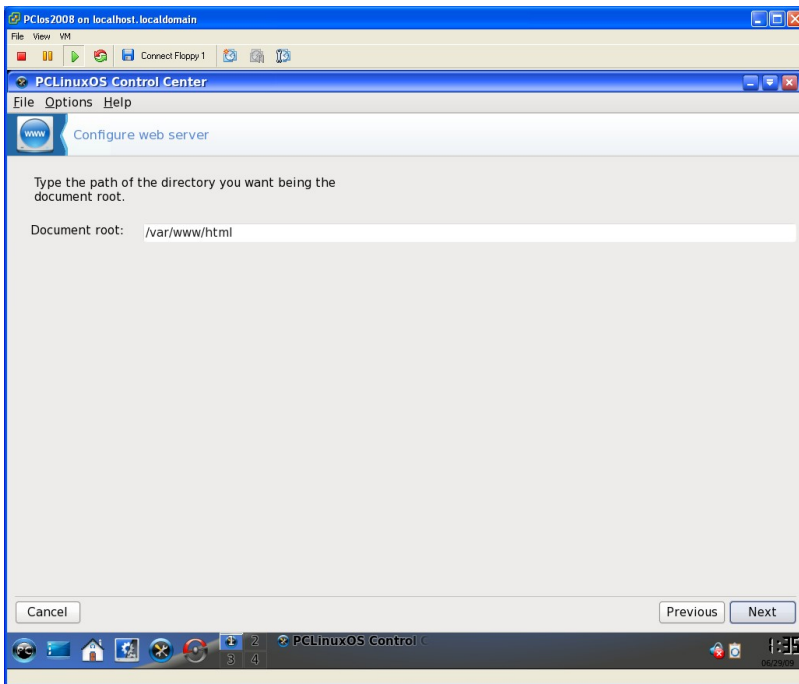


Figure 43

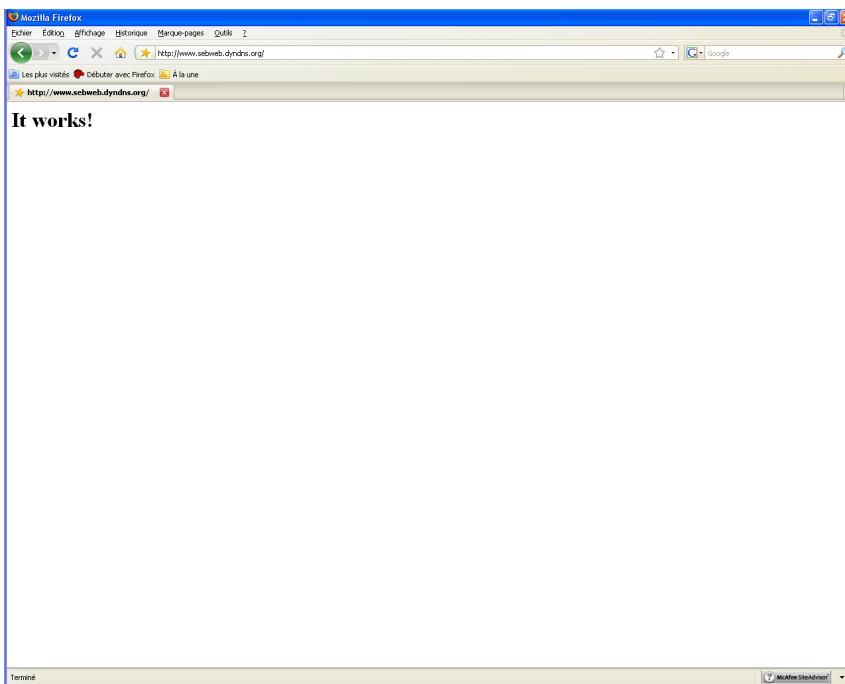


Figure 44

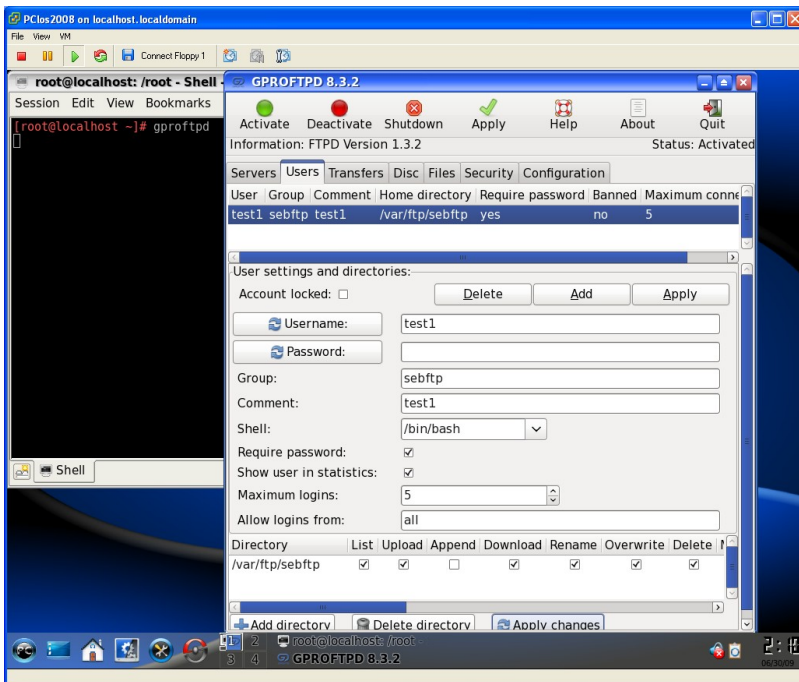


Figure 45

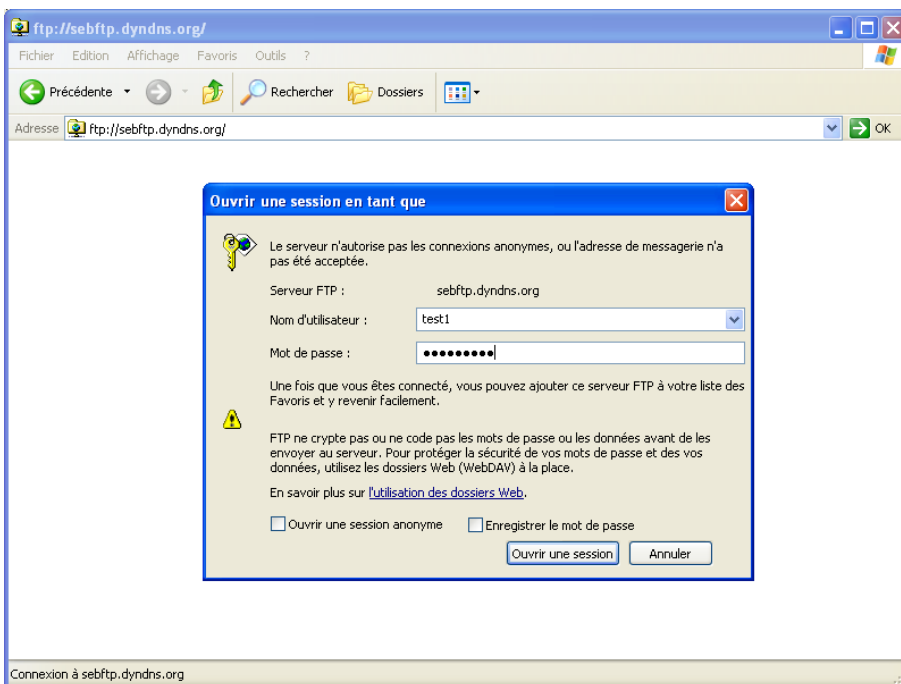


Figure 46

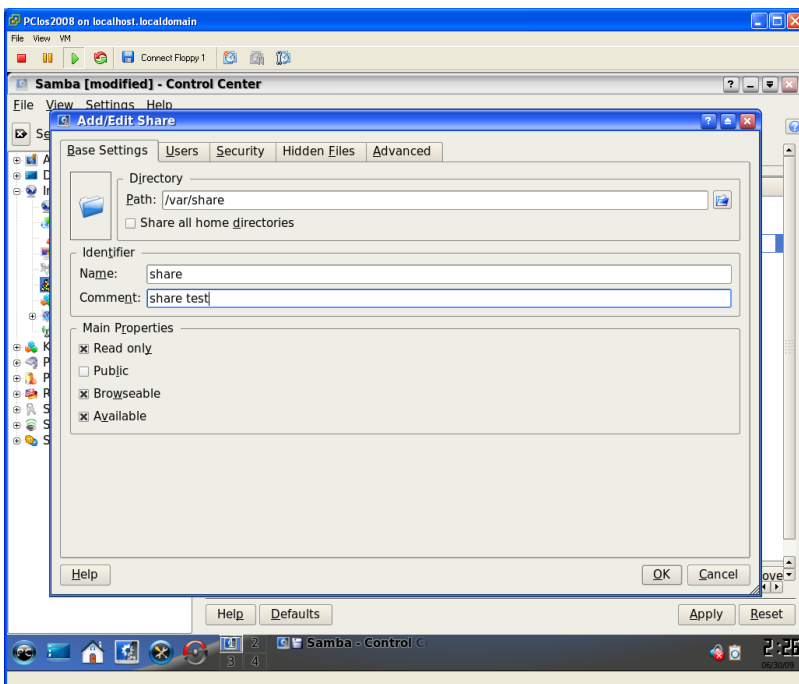


Figure 47

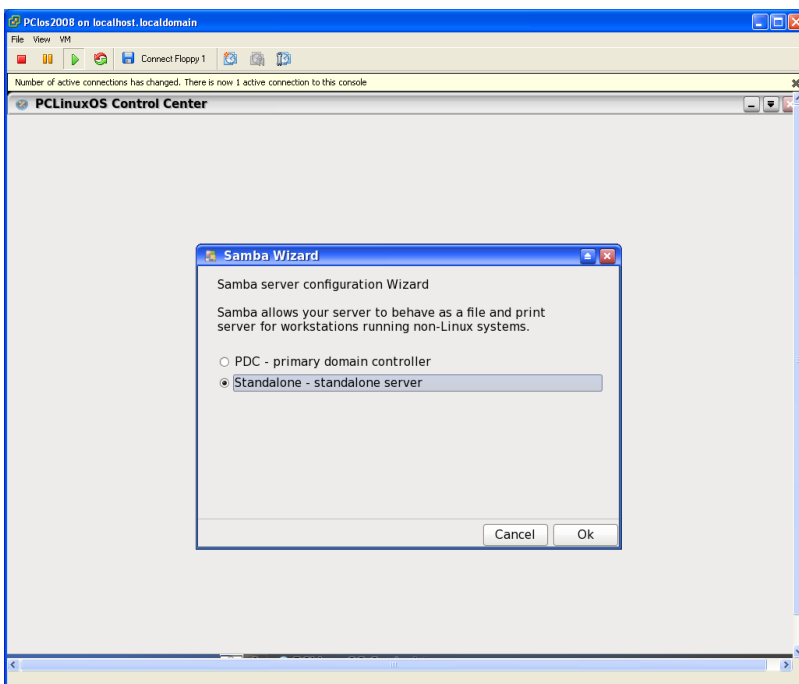


Figure 48

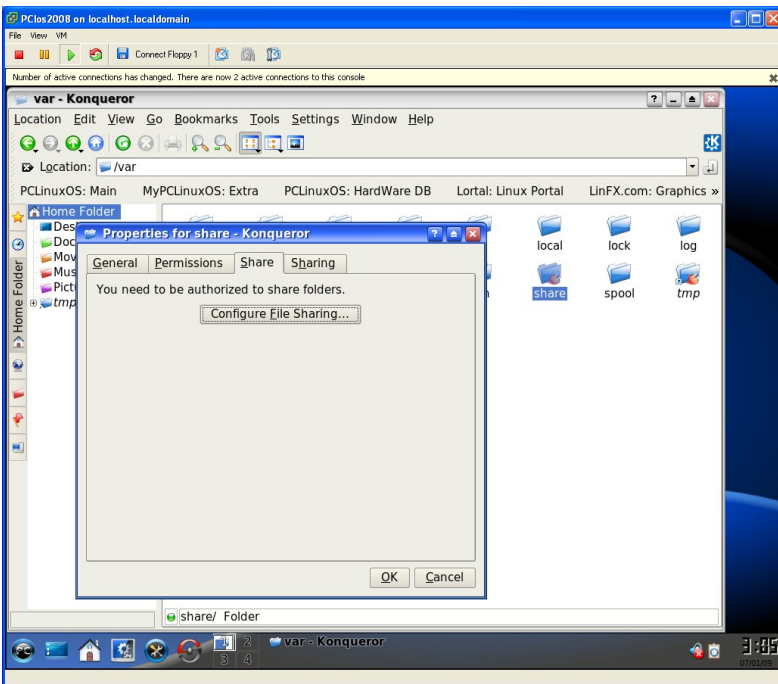


Figure 49

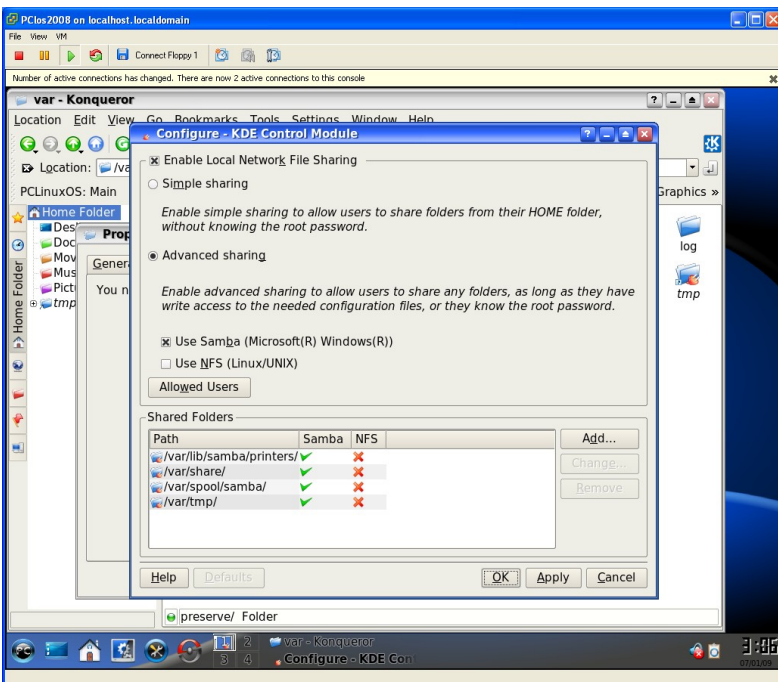


Figure 50