

# CHAPTER III

## PLANNING

Table 1: Project Management

Activities	August			September			October		
Analysis									
Install VirtualBox									
Installation and update Ubuntu 14.04, Fedora 22 dan openSUSE 13.1									
Configuration VirtualBox features in Guest									
Installation Database Server in Ubuntu, installation Network Server in Fedora, installation Daily Software in openSUSE									
Installation PHPVirtualBox and XAMPP in Host									
Create The									



5. Configuration of the CDROM, with the inclusion of the CDROM Windows 7 and check out the CDROM can be read in every Guest.
6. Configuration network in virtualbox, use Host-Only Adapter in a Guest.

#### Week 2

1. Installation the Database Server on the Guest Ubuntu 14.04 VirtualBox by installing XAMPP, Apache Derby and PostgreSQL
2. Installation the Network Server on the Guest Fedora 22 VirtualBox by installing Samba Server, Squid, Midori dan Google Chrome
3. Installation Daily Software on the Guest openSUSE 13.1 by installing vlc, themes and Laptop mode tools

#### Week 3

1. Installation PHPVirtualBox and XAMPP in Host
2. Configuration PHPVirtualBox
3. Create an ID and password for the admin PHPVirtualBox
4. open a Web Browser and then create Guest Ubuntu 14.04, Fedora 22 dan openSUSE 13.1 in PHPVirtualBox, and wlan network configuration for Guest in PHPVirtualBox.
5. LAN cable connection in Host then open terminal and type ifconfig to know the IP of the Host.

6. Replace localhost in the url into the Host's IP address, and then run in a web browser Host.
7. Write the IP address of the Host to other hosts that are still one network, then run Guest Ubuntu 14.04, Fedora 22 and openSUSE 13.1 in PHPVirtualBox.



# CHAPTER IV

## ANALYSIS DESIGN

### 4.1 Design

- 1) Installation VirtualBox-4.3.30
  - a) Installation Oracle VM VirtualBox Extension
- 2) Installation Operating System Ubuntu 14.04LTS
  - a) Installation XAMPP
  - b) Installation PostgreSQL
  - c) Installation Apache Derby
- 3) Installation Operating System Fedora 22
  - a) Installation Google Chrome
  - b) Installation Samba Server
  - c) Installation Squid
  - d) Installation Midori
- 4) Installation Operating System openSUSE 13.1
  - a) Installation VLC
  - b) Installation themes OpenSUSE
  - c) Installation Laptop mode tools OpenSUSE

5) Installation PHPVirtualBox-4.3-3

- a) Update and Upgrade Host
- b) Install build-essential dkms
- c) Install apache2, php-soap and PHP5
- d) Install XAMPP
- e) Show Guest PHPVirtualBox in a web browser
- f) Operates a Guest PHPVirtualBox in Host and displays it on a second computer via a LAN cable.



# CHAPTER V

## IMPLEMENTATION AND TESTING

### 5.1 Implementation

#### 5.1.1. Installation VirtualBox

Open a Terminal and log to the root and write the command `vi/etc/apt/sources.list.d/virtualbox.list` and after going to the display of the virtualbox. list, click `i` to start write and type `'deb http://download.virtualbox.org/virtualbox/debian trusty'` and then click `Ctrl + wq` to save.

```
root@nugraha-Aspire-E1-470G:/home/nugraha# sudo apt-get install virtualbox-4.3
```

*Figure 1: Installation VirtualBox*

install VirtualBox.

```
sudo VBoxManage extpack install Oracle_VM_VirtualBox_Extension_Pack-4.3.12-93733.vbox-extpack
```

*Figure 2: Installation VirtualBox Extension*

install VirtualBox Extension.

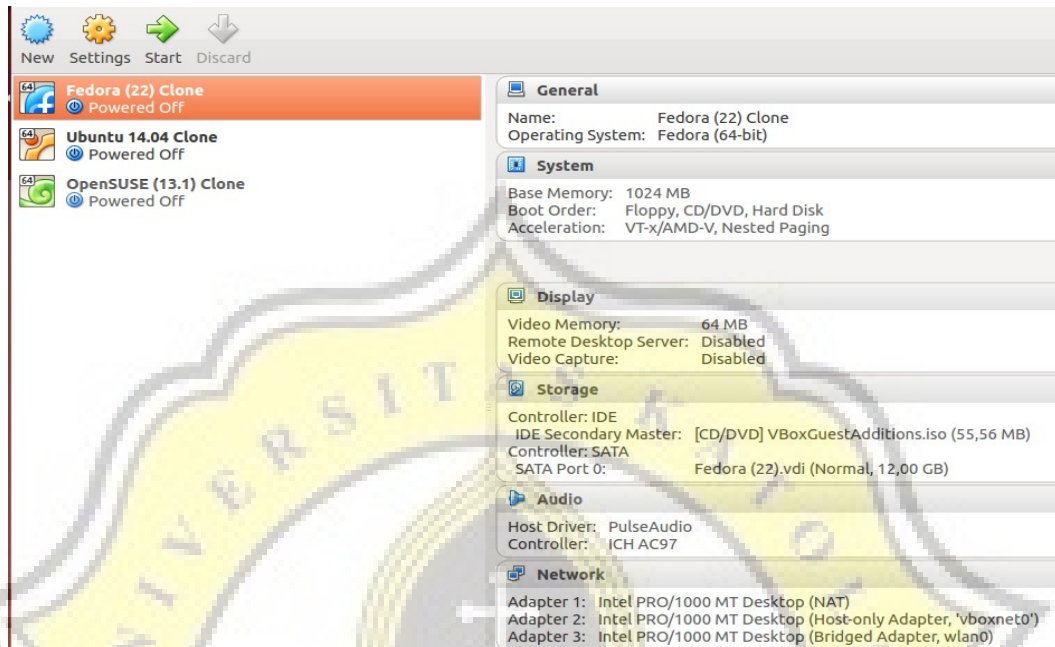


Figure 3: Display VirtualBox

Display VirtualBox already installed.

### 5.1.2. Creating Operating System in VirtualBox

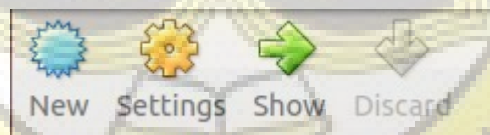


Figure 4: Menu VirtualBox

First open VirtualBox Application and click New.



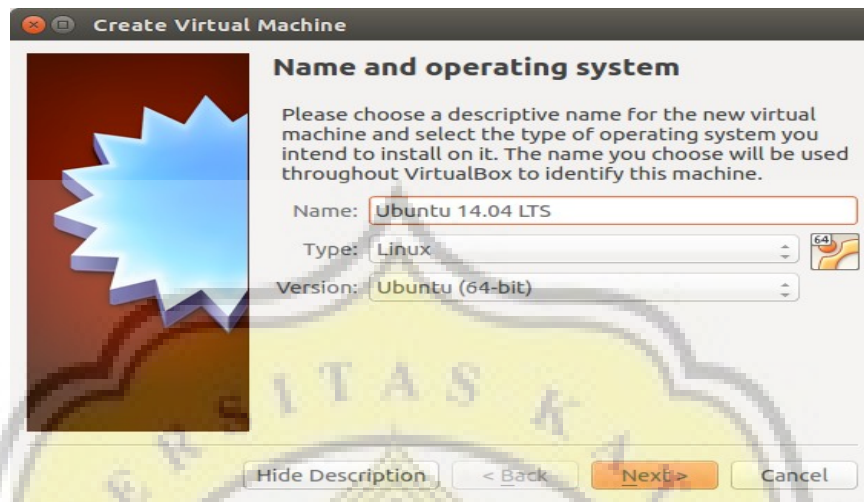


Figure 5: Name and operating system VirtualBox

Then write the name, select its type and version.

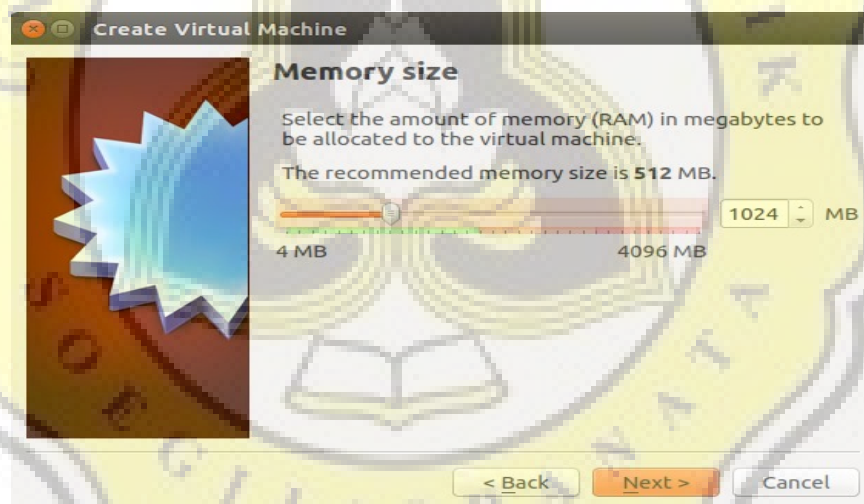


Figure 6: Memory size VirtualBox

Set memory size to 1024 MB.

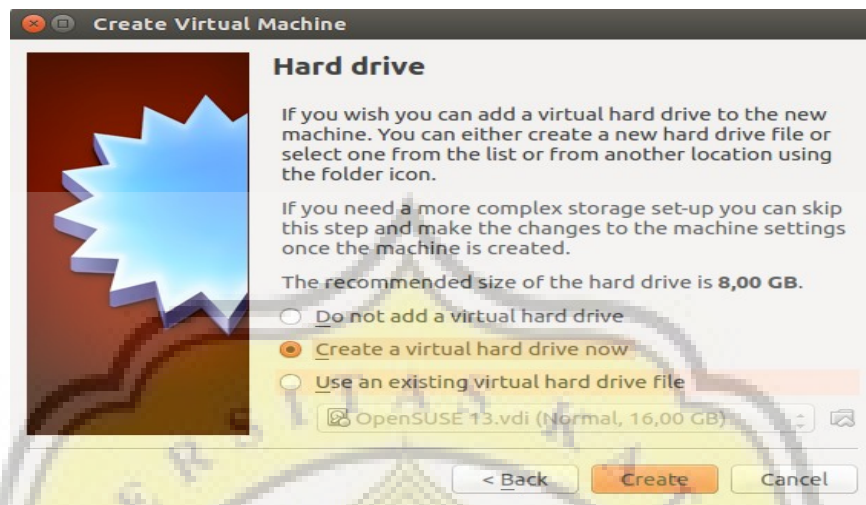


Figure 7: Hard Drive VirtualBox

Select Create a virtual hard drive now and klik Create.

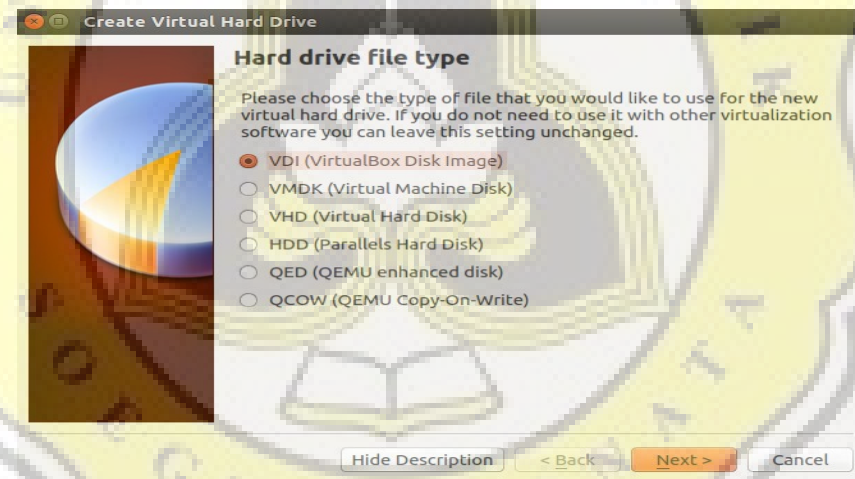


Figure 8: Hard Drive VirtualBox

Then select the VDI and click Next.

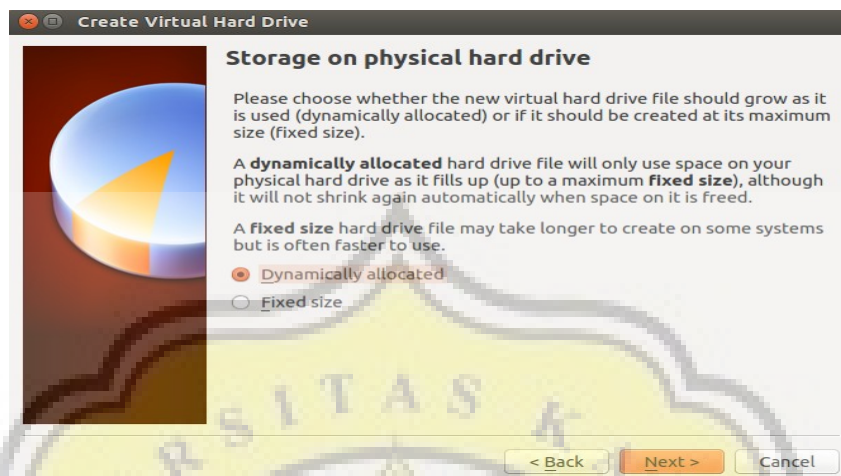


Figure 9: Storage on physical Hard Drive

Choose Dinamically allocated and klik Next.

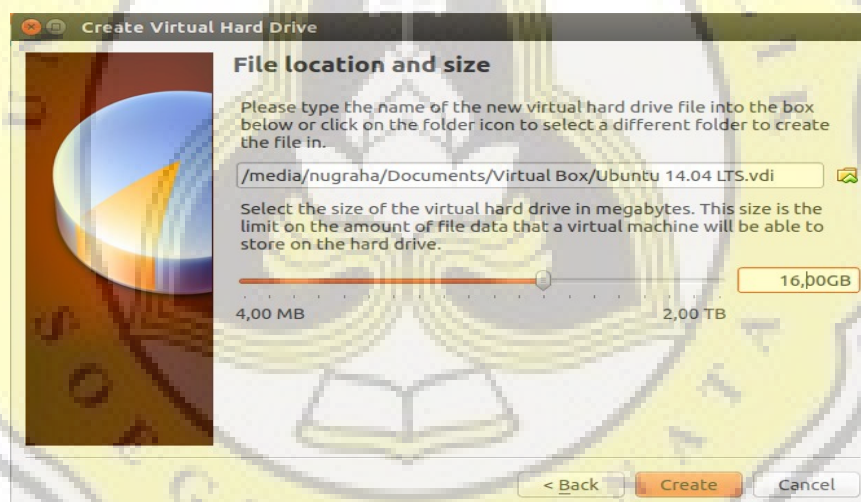


Figure 10: File location and size

Adjust the size of the virtual hard drive up to 16 GB and to set the storage location of vdi files with a click images folder in the right hand column.

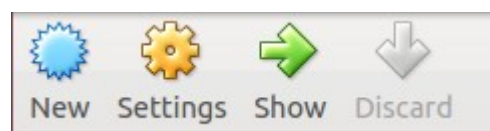


Figure 11: Menu VirtualBox

After that select the Virtual Machine already made and then click settings.

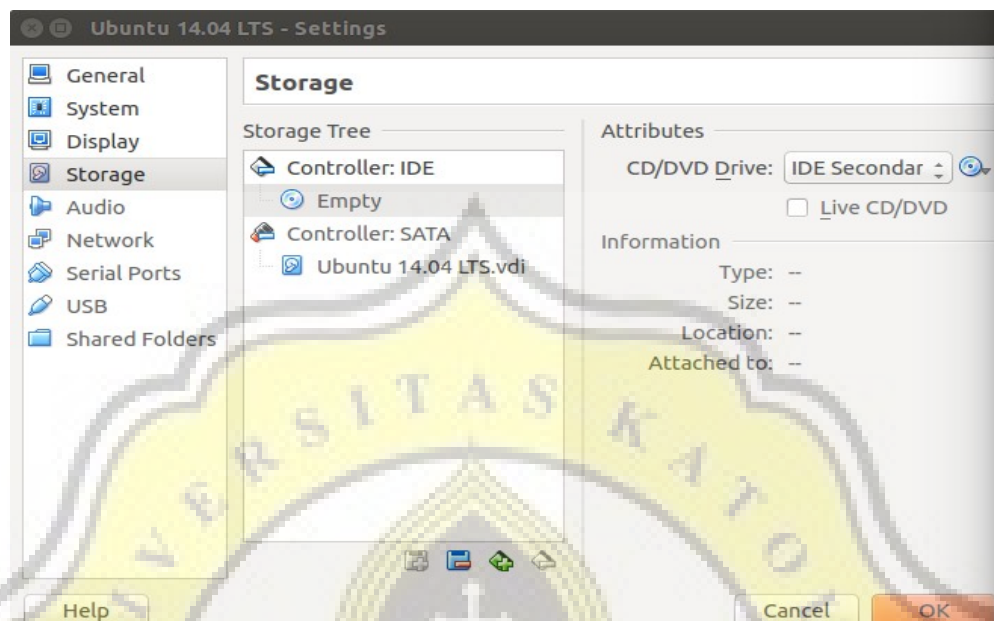


Figure 12: Storage VirtualBox

Click Storage then click the right tip to CD images. Then select the CDROM to start installation.

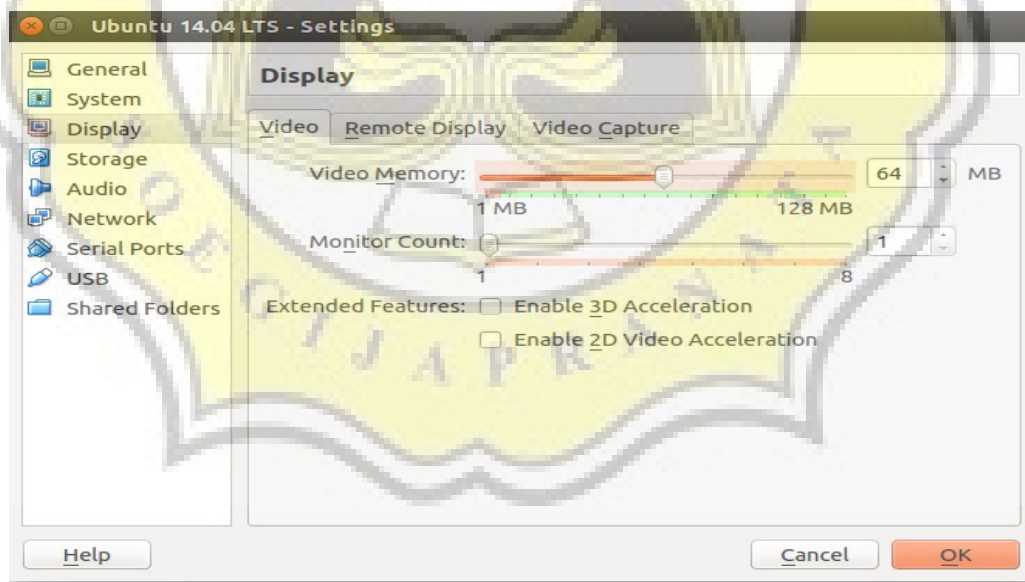


Figure 13: Display VirtualBox

Then click Display and then set the video memory up to 64 MB in order to make the installation process faster. Then click OK to close the settings.



Figure 14: Menu VirtualBox

Click Start to Start installation Operating System in VirtualBox.

### 5.1.3. Installation Operating System Ubuntu 14.04 in VirtualBox

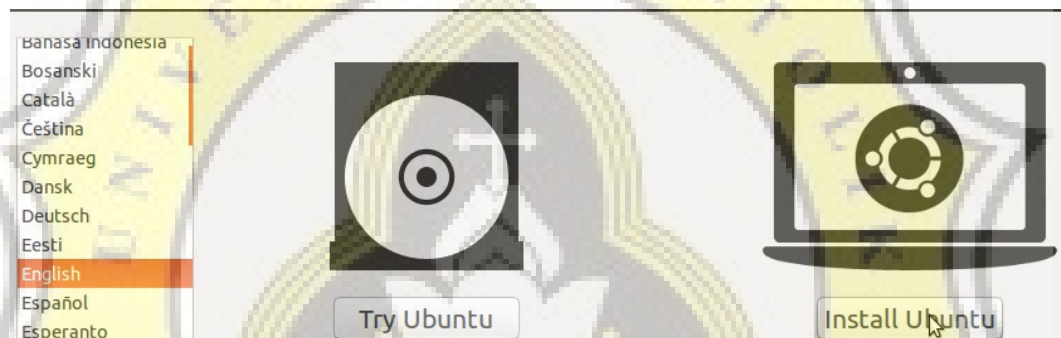


Figure 15: Install Ubuntu 14.04

Choose language and click Install Ubuntu.

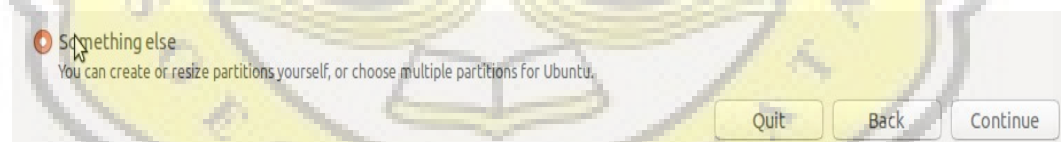


Figure 16: Options installation Ubuntu

Click continue to emerge options like the image above and then click Something else and click continue.



Figure 17: Button New Partition

Klik New Partition Table.

Device	Type	Mount point	Format?	Size	Used	System
<b>/dev/sda</b>						
/dev/sda1	ext4	/	<input checked="" type="checkbox"/>	9999 MB	unknown	
/dev/sda5	ext4	/home	<input checked="" type="checkbox"/>	5998 MB	unknown	
/dev/sda6	swap		<input type="checkbox"/>	1177 MB	unknown	

*Figure 18: Ubuntu Partition*

set the partition 10MB for root, 6MB for home and 1MB for Swap then Klik OK.

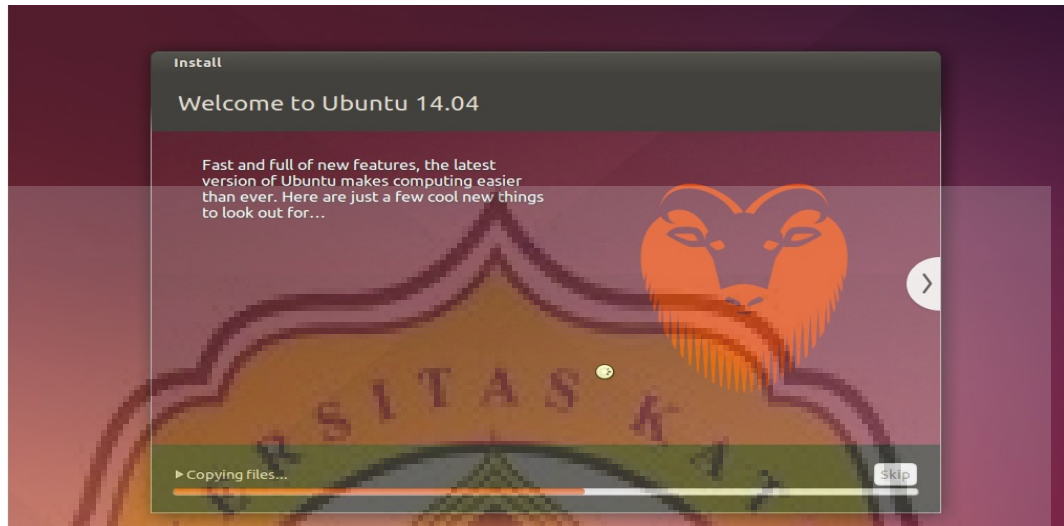
*Figure 19: User Location*

Then type 'Jakarta' in a column and then click continue.

*Figure 20: User Registration*

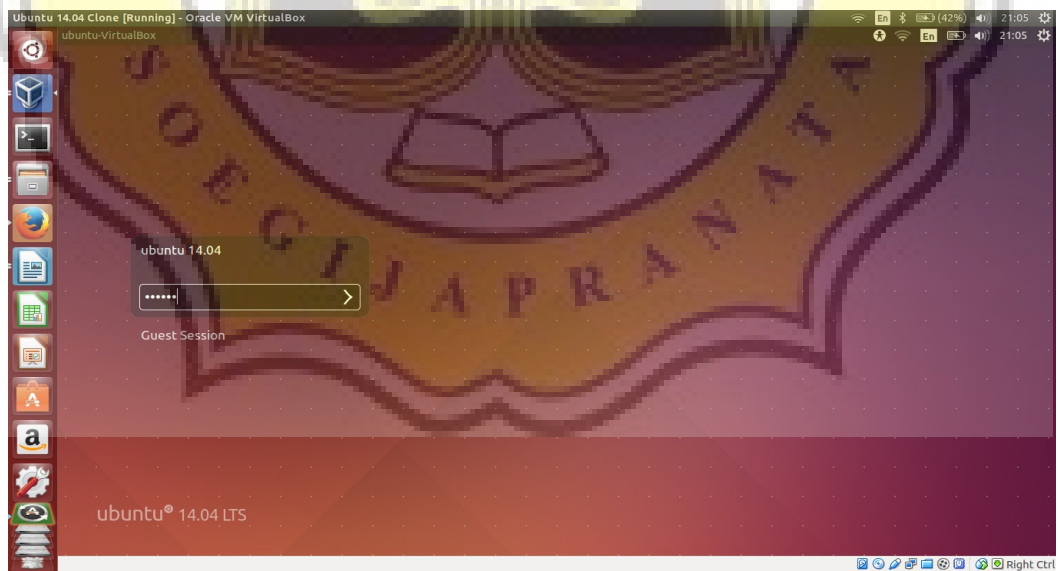
Next click continue to display above and then write the column and click continue.





*Figure 21: Ubuntu Processing Installation*

After that wait for the installation process to complete and once finished close virtual machine operating system Ubuntu. After coming into Display VirtualBox, Click on Settings again and empty the Ubuntu installation CD and then click OK. Click Start to start the operating System using Ubuntu in VirtualBox.



*Figure 22: Ubuntu Desktop*

the end result of the Ubuntu Installation.

### 5.1.4. Installation Operating System Fedora 22 in VirtualBox



Figure 23: Install Fedora 22

Click Picture install to Hard Drive.



Figure 24: Language and Keyboard Layout Fedora

Choose Language and click Continue.



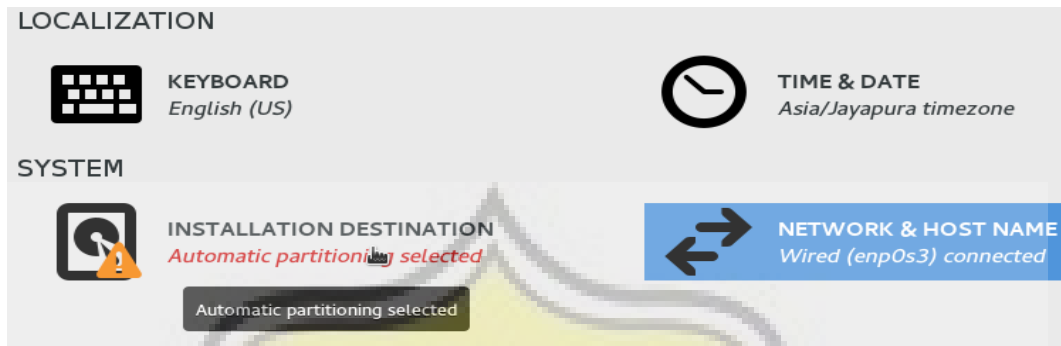


Figure 25: Menu Installation Fedora

Click INSTALLATION DESTINATION. Then click picture ATA VBOX HARDDISK and Click Automatically configure partitioning, Then click Done.



Figure 26: Start Installation Fedora

click Begin Installation



Figure 27: User Setting

click USER CREATION.

The screenshot shows the 'User Configuration' screen. It has several input fields and checkboxes. The 'Full name' field contains 'Fedora 22'. The 'User name' field contains 'fedora'. Below these fields is a tip: 'Tip: Keep your user name shorter than 32 characters and do not use spaces.' There are two checkboxes: 'Make this user administrator' (unchecked) and 'Require a password to use this account' (checked). The 'Password' field contains six dots, and below it is a strength indicator showing a red bar and the word 'Weak'. The 'Confirm password' field contains six dots.

Figure 28: User Configuration

Then write all column then click Done button.

The root account is used for administering the system. Enter a password for the root user.

Root Password:

Confirm:

Weak

Figure 29: Root Configuration

Click ROOT PASSWORD. Then write all column then click Done button.

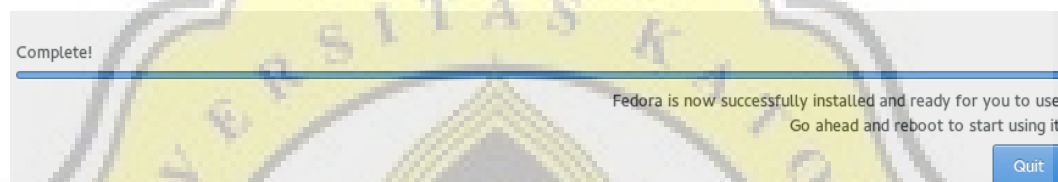


Figure 30: Fedora Processing Installation

After that wait for the installation process to complete and once finished close virtual machines the Fedora operating system. After coming into Display VirtualBox, Click on Settings again and empty the Fedora installation CD and then click OK. Click Start to start the operating System using Fedora in VirtualBox.

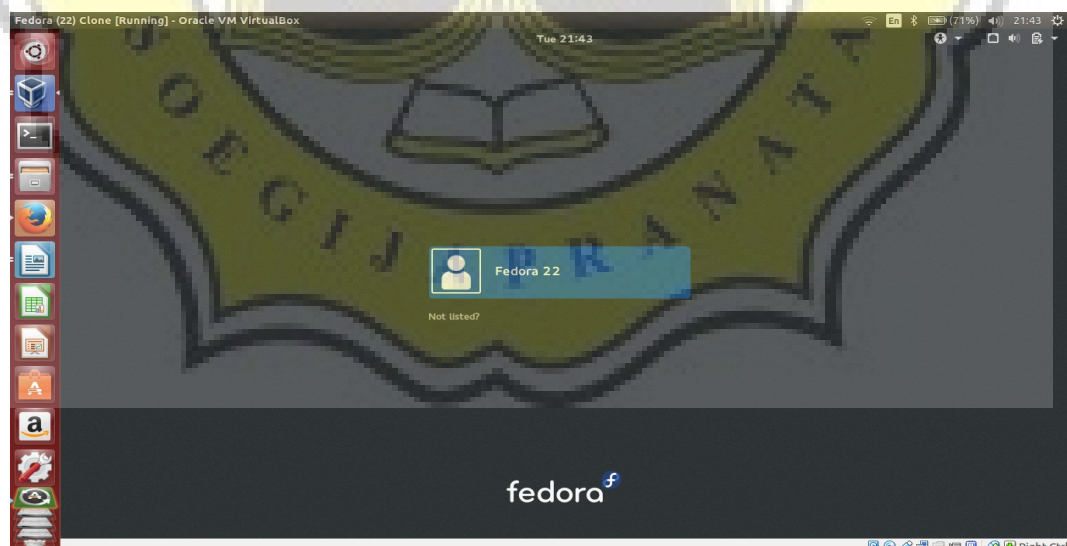


Figure 31: Fedora Desktop

the end result of the Fedora Installation.

### 5.1.5. Install Operating System OpenSUSE 13.1 in VirtualBox



Figure 32: Language and Keyboard Layout OpenSUSE

Select Language and Keyboard Layout, Then click Next.

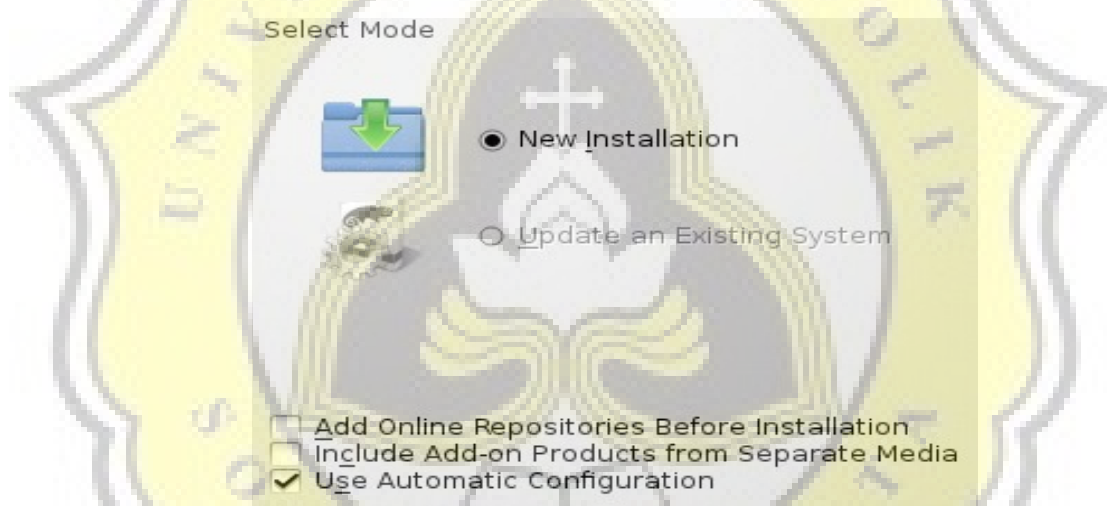


Figure 33: Mode Installation openSUSE

Select New Installation and click Use Automatic Configuration.

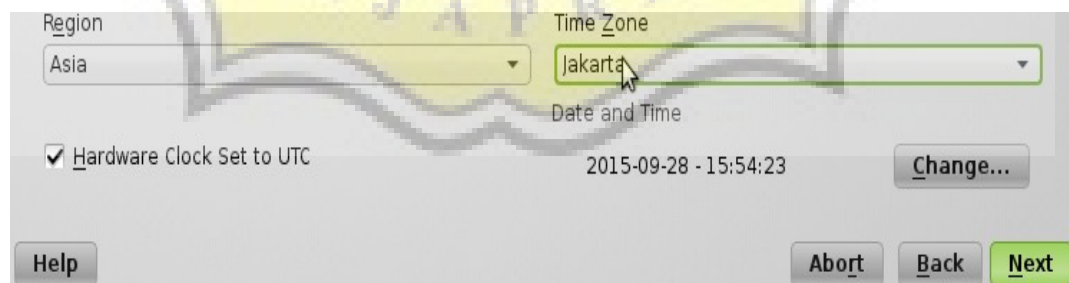


Figure 34: Region and Time Zone openSUSE

Select a Region and Time Zone and click Next.

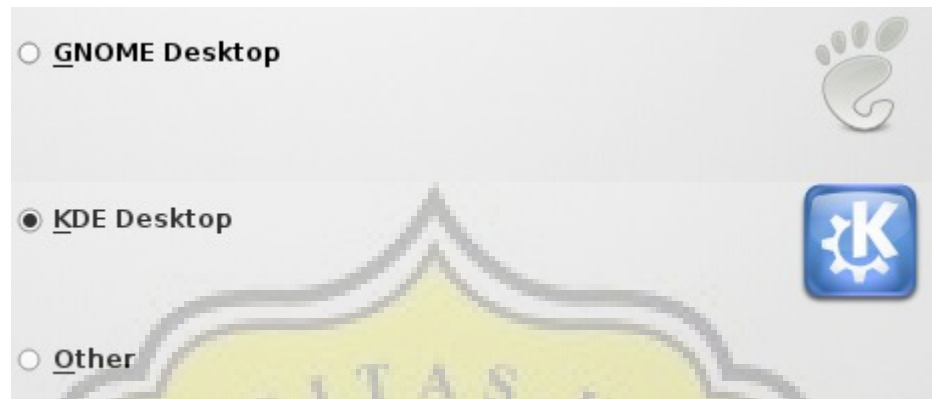


Figure 35: Desktop openSUSE

Click KDE Desktop.

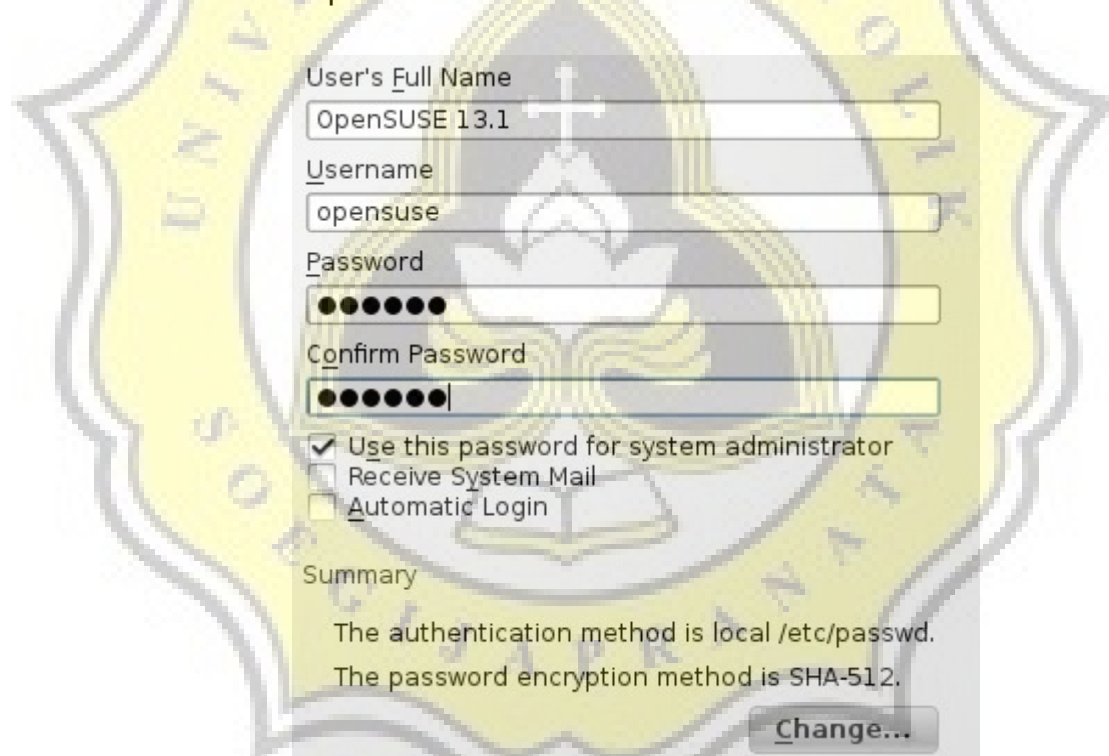
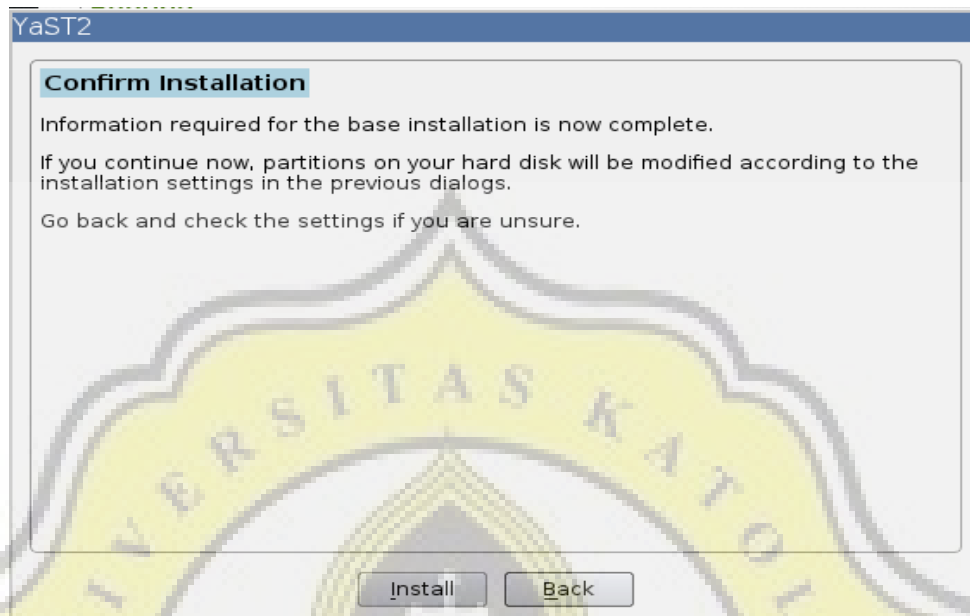


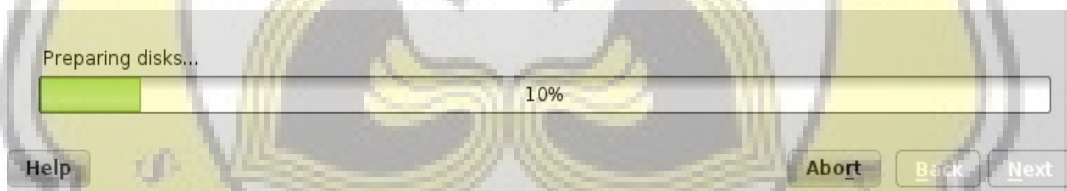
Figure 36: User Configuration openSUSE

Next to view the image above and then write the column and click Next. to next page click Install to start installation.



*Figure 37: Confirm Installation openSUSE*

Click Install for continue Installation openSUSE.



*Figure 38: openSUSE Processing Installation*

Wait until the installation is complete and when you are finished close the machine operating systems OpenSUSE VirtualBox. After coming into Display VirtualBox, Click Settings, and clear your OpenSUSE installation CD and then click OK. Click Start to start using OpenSUSE operating system in VirtualBox.

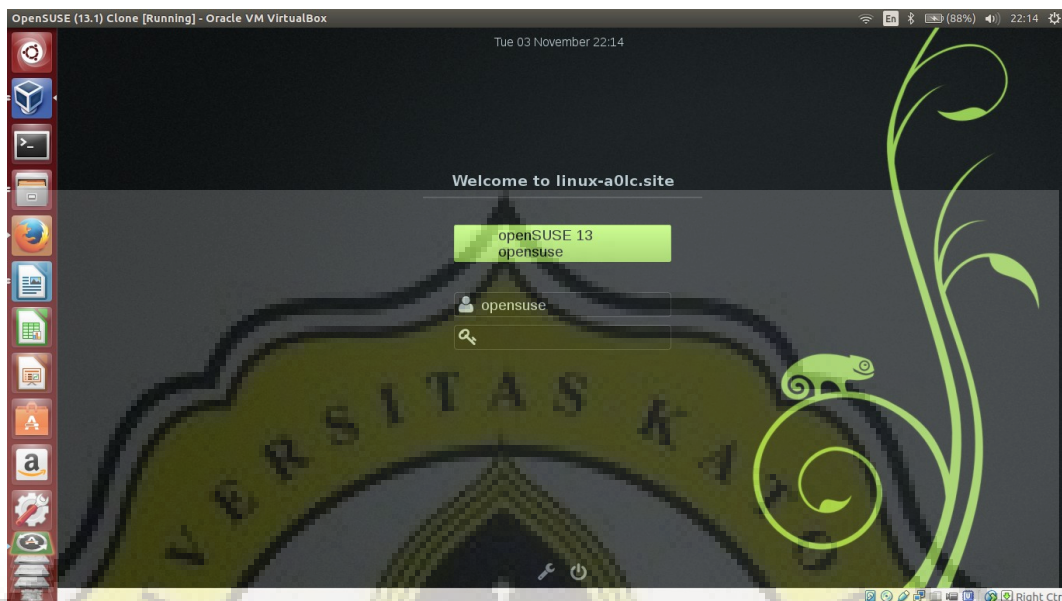


Figure 39: opensSUSE Desktop

the end result of the openSUSE Installation.

### 5.1.6.Update Ubuntu 14.04 VirtualBox

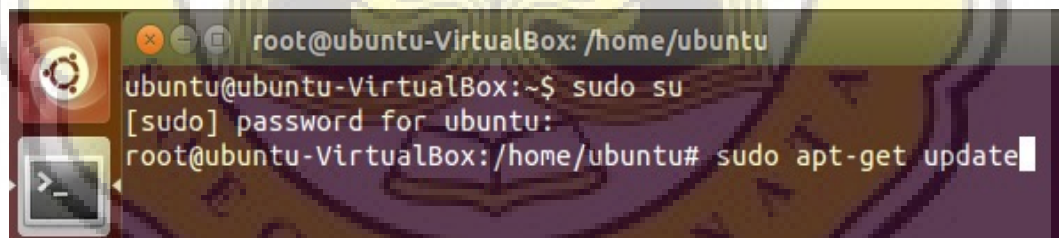


Figure 40: command update Ubuntu

After going to the Ubuntu Desktop, click Terminal and then sign in to root and type 'sudo apt-get update' to update Ubuntu.



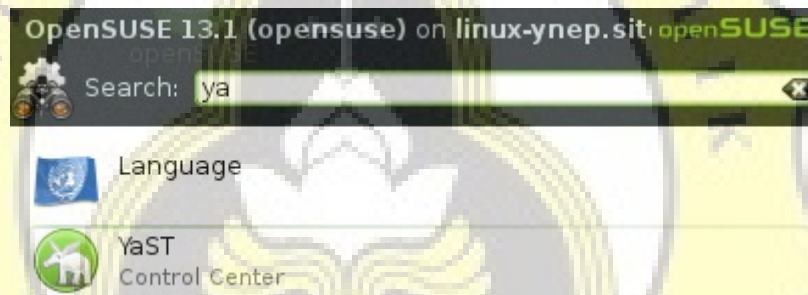
### 5.1.7.Update Fedora 22 VirtualBox

```
[fedora@localhost ~]$ sudo su
[sudo] password for fedora:
[root@localhost fedora]# sudo dnf update
```

*Figure 41: command update Fedora*

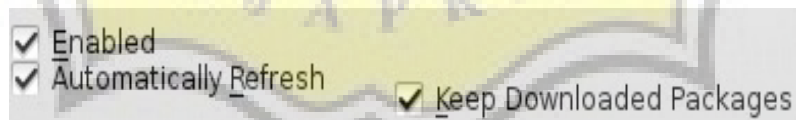
After signing in Fedora Desktop, click Terminal. Then sign in to root and type 'sudo dnf update' for update. Then type Y untuk start update.

### 5.1.8.Update OpenSUSE 13.1 VirtualBox



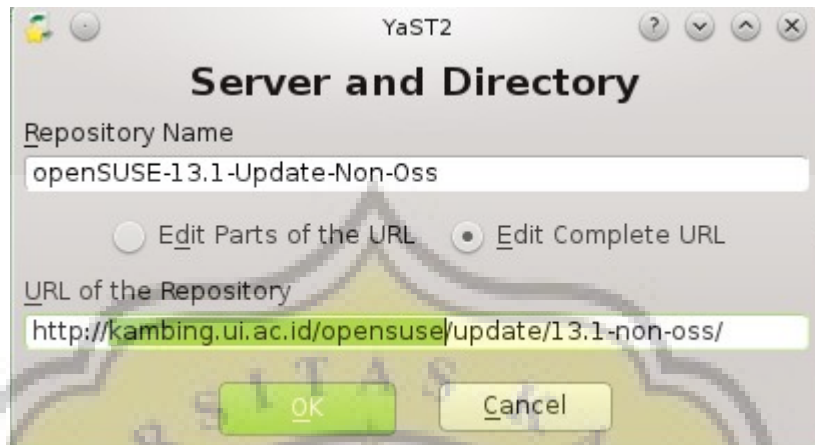
*Figure 42: open YaST from Start Up openSUSE*

Once inside OpenSUSE Desktop click StartUp and write in the search "YaST" then click to open the YaST Application. After signing in YaST then select Software Repositories.



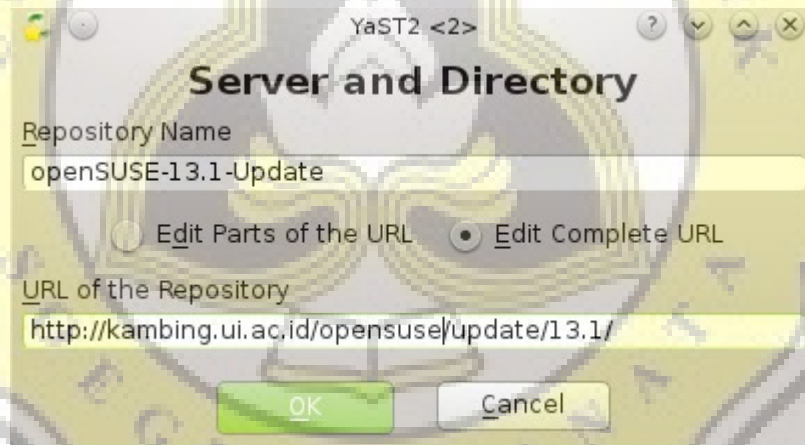
*Figure 43: Properties Configured Repositories*

Click Enabled, Automatically Refresh and Keep Downloaded Packages



*Figure 44: Server and Directory openSUSE-13.1-Update-Non-Oss*

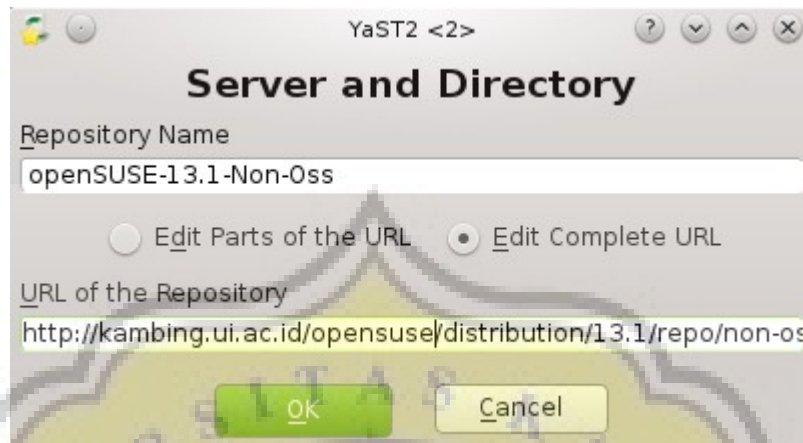
Select openSUSE-13.1-Update-Non-Oss then click Edit. Replace the URL in the address column and then click OK



*Figure 45: Server and Directory openSUSE-13.1-Update*

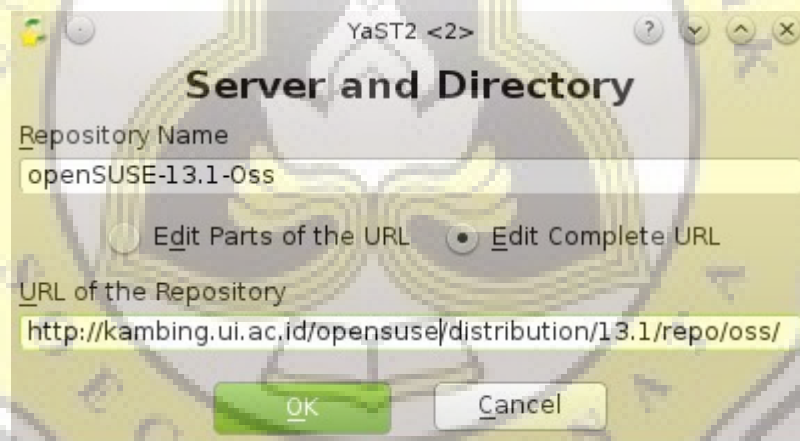
Select the openSUSE-13.1-Update and then click Edit. Replace the URL in the address column and then click OK





*Figure 46: Server and Directory openSUSE-13.1-Non-Oss*

Select the openSUSE-13.1-Non-Oss and then click Edit. Replace the URL in the address column and then click OK.



*Figure 47: Server and Directory openSUSE-13.1-Oss*

Select openSUSE-13.1-Oss and then click Edit. Replace the URL in the address column and then click OK. After that click Next to the License Agreement.

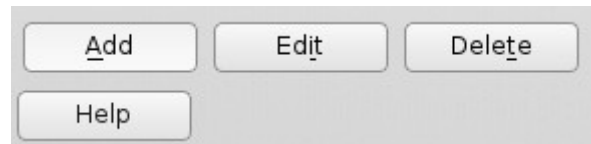


Figure 48: Properties Configured Repositories

Click Add for make New Repository.

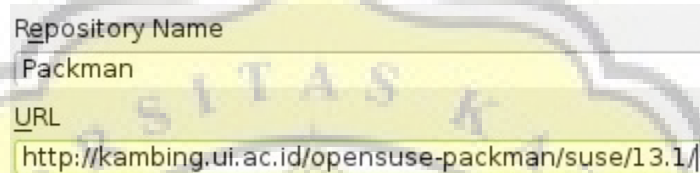


Figure 49: Repositories URL

Click Next until the image above Page and then fill in the fields and then click OK.

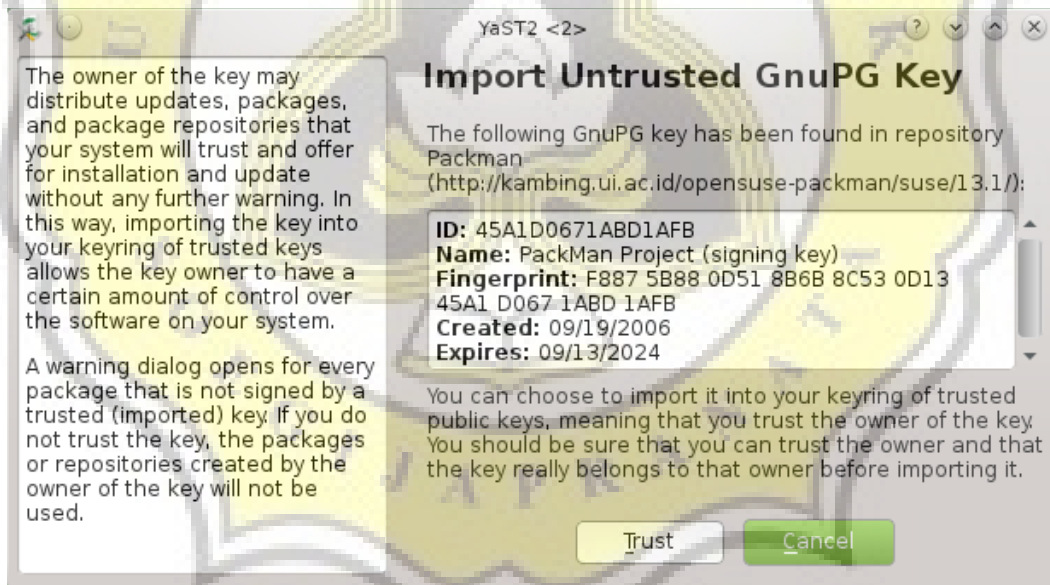


Figure 50: Import Untrusted GnuPG Key

Then Click Trust. Once completed it will go back to YaST Control Panel. then click Online Update. After entering Online Update display click Accept. Wait until the process is completed Online Update and click OK. After Finish click Accept.

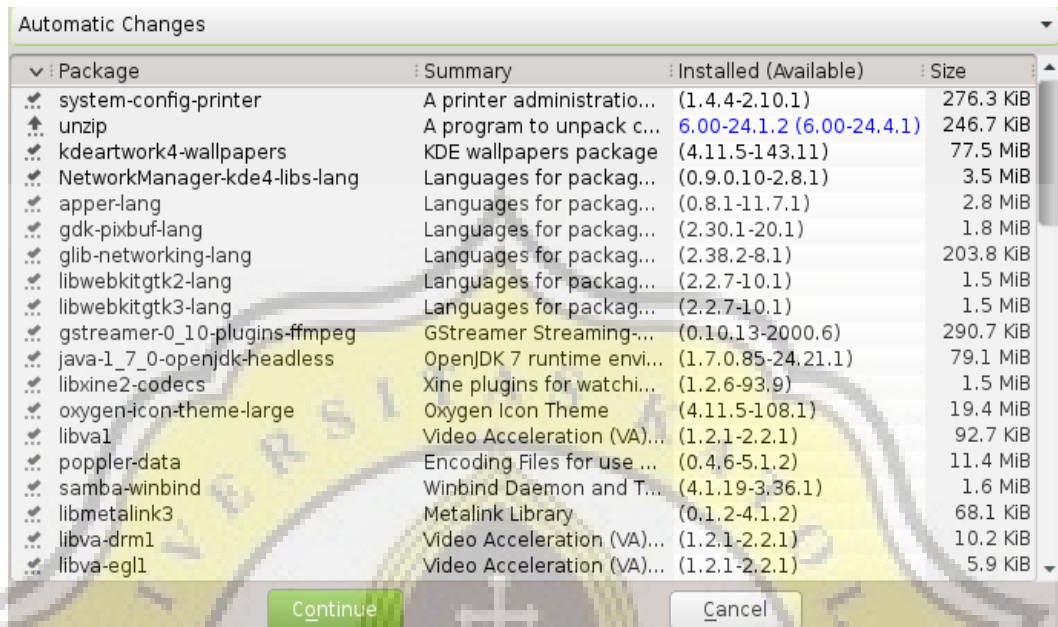


Figure 51: installation Package openSUSE

Click continue for return Update.

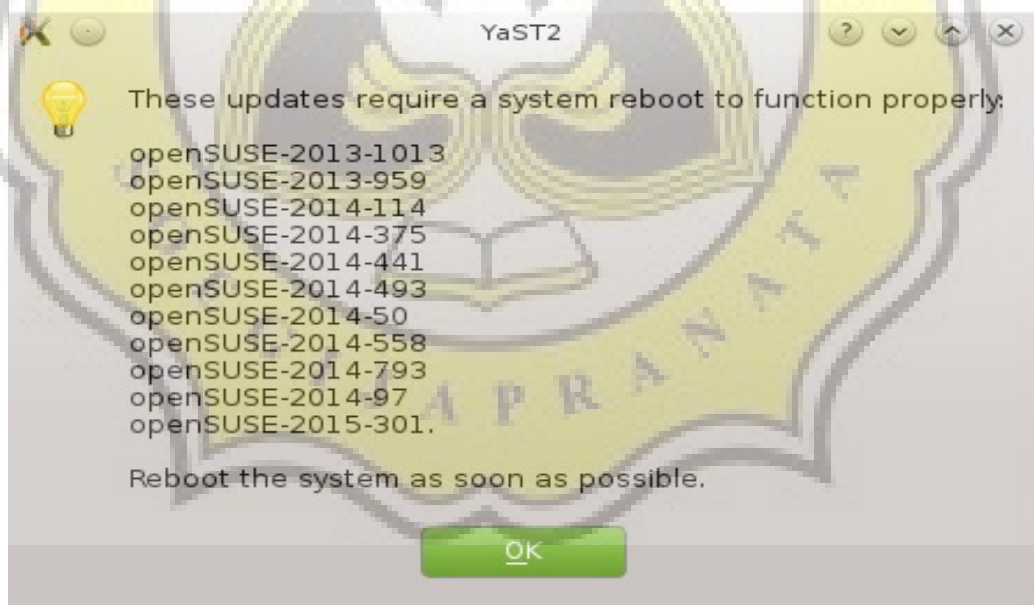


Figure 52: the results of the openSUSE update

Then Click OK and restart OpenSUSE.

### 5.1.9. Full Screen configuration of Ubuntu 14.04 in VirtualBox



```

root@ubuntu-VirtualBox: /home/ubuntu
ubuntu@ubuntu-VirtualBox:~$ sudo su
[sudo] password for ubuntu:
root@ubuntu-VirtualBox:/home/ubuntu# cd /media/ubuntu/VBOXADDITIONS_4.3.30_101610/

```

Figure 53: the command to enter the address of the VBOXADDITIONS

Input VBOXADDITIONS in Ubuntu Virtual machine and open a Terminal, enter root and enter the address VBOXADDITIONS.



```

root@ubuntu-VirtualBox:/media/ubuntu/VBOXADDITIONS_4.3.30_101610# ./VboxLinuxAdditions.run

```

Figure 54: command to install VBOXADDITIONS in Ubuntu

Type in './VboxLinuxAdditions.run' then type 'reboot' to restart and enable fullscreen on Ubuntu.

### 5.2.0. Full Screen configuration of Fedora 22 in VirtualBox

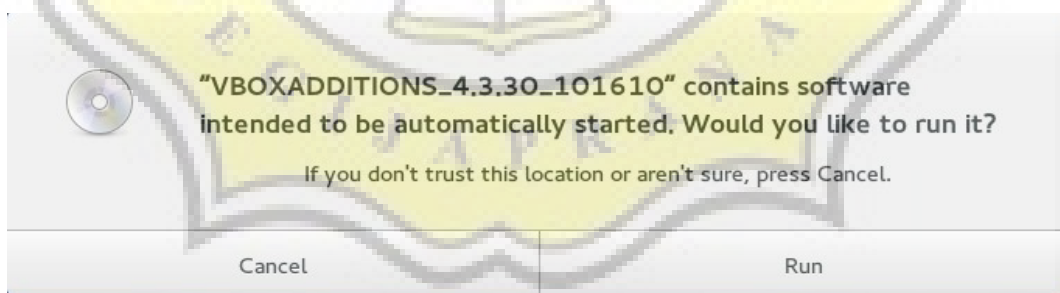


Figure 55: installation VBOXADDITIONS in Fedora

After signing in to your Fedora Desktop then input VBOXADDITIONS Fedora in a Virtual machine and click Run. Once finished Restart the Fedora to enable Full Screen.

## 5.2.1. Full Screen configuration of OpenSUSE 13.1 in VirtualBox

```
opensuse@linux-a01c:~> cd ..
opensuse@linux-a01c:/home> cd ..
opensuse@linux-a01c:/> cd var/
opensuse@linux-a01c:/var> cd run/
opensuse@linux-a01c:/var/run> cd media/
opensuse@linux-a01c:/var/run/media> cd opensuse/
opensuse@linux-a01c:/var/run/media/opensuse> ls
VBOXADDITIONS_4.3.30_101610
opensuse@linux-a01c:/var/run/media/opensuse> cd VBOXADDITIONS_4.3.30_101610/
```

*Figure 56: the command to enter the address of the VBOXADDITIONS*

Input VBOXADDITIONS in OpenSUSE Virtual machine and then open a Terminal and enter the address VBOXADDITIONS.

```
./VBoxLinuxAdditions.run
```

*Figure 57: command to install VBOXADDITIONS in openSUSE*

Type './VboxLinuxAdditions.run' and then restart OpenSUSE to enable Full Screen.

## 5.2.2. Share File in VirtualBox

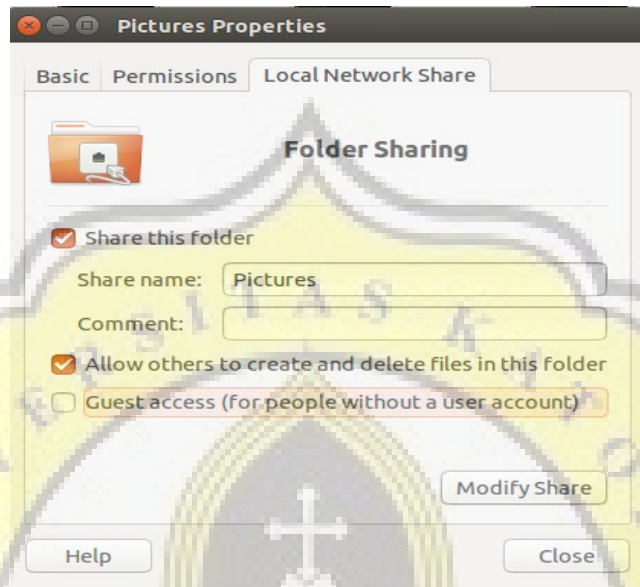


Figure 58: Pictures Properties on the Host computer

Right-click the File Pictures on the Host computer and then select Share this folder and Allow others to create and delete files in this folder then click Modify Share and click Close.

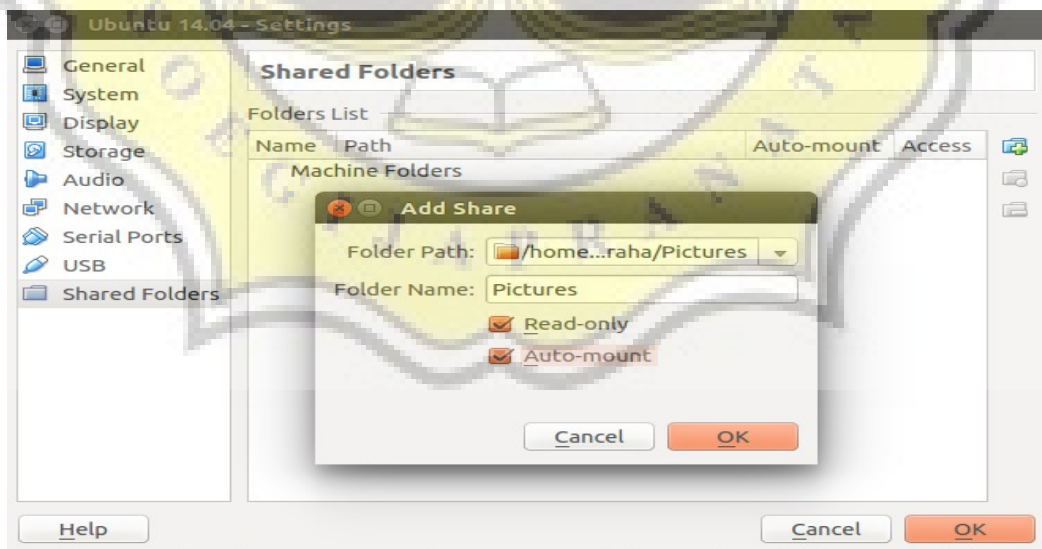
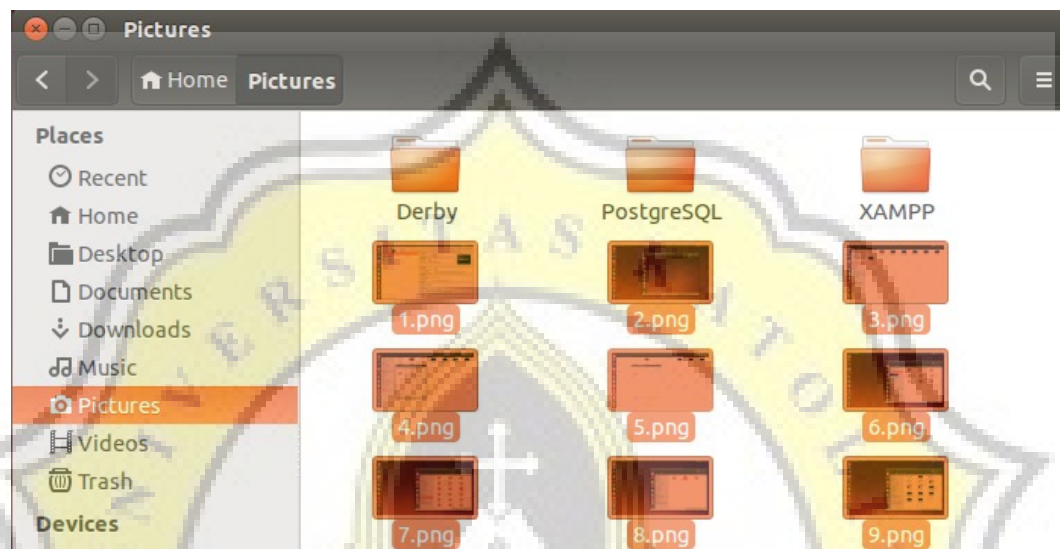


Figure 59: Share Folders on Virtual Machine Ubuntu Setting



Open VirtualBox and select one of the virtual machine for example Ubuntu, click settings and select Shared Folders and then click the Add Share, select the Path and Folder Name, and then click OK.



*Figure 60: Folder Pictures Host Computer*

Click Start to run the Virtual Machine Ubuntu. Once inside the Ubuntu Desktop, open the file in the media and then click sf\_Pictures. sf\_Pictures is a File Pictures on the Host.

*Figure 61: Folder sf\_Pictures Guest Computer*

When you've read File Pictures in Host then can already use Share Folders between Host and Guest. To test copy files in sfPictures.

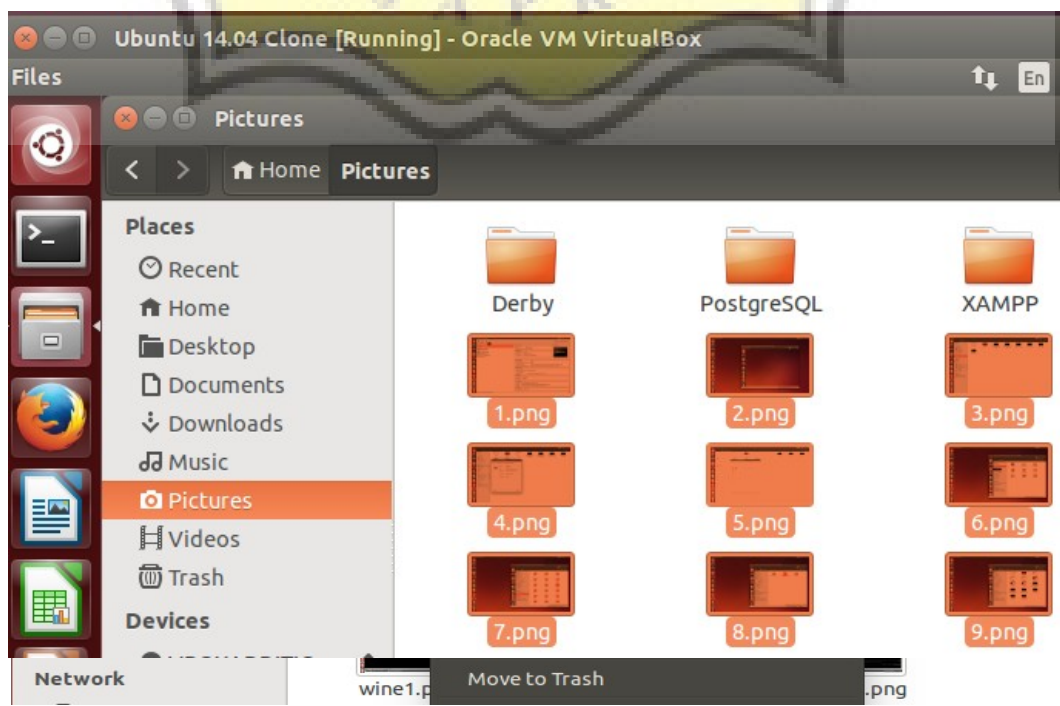


Figure 62: Folder Pictures Guest Computer

Then Paste it to the Pictures on the Guest Ubuntu VirtualBox.

### 5.2.3. Configuration of the USB in VirtualBox

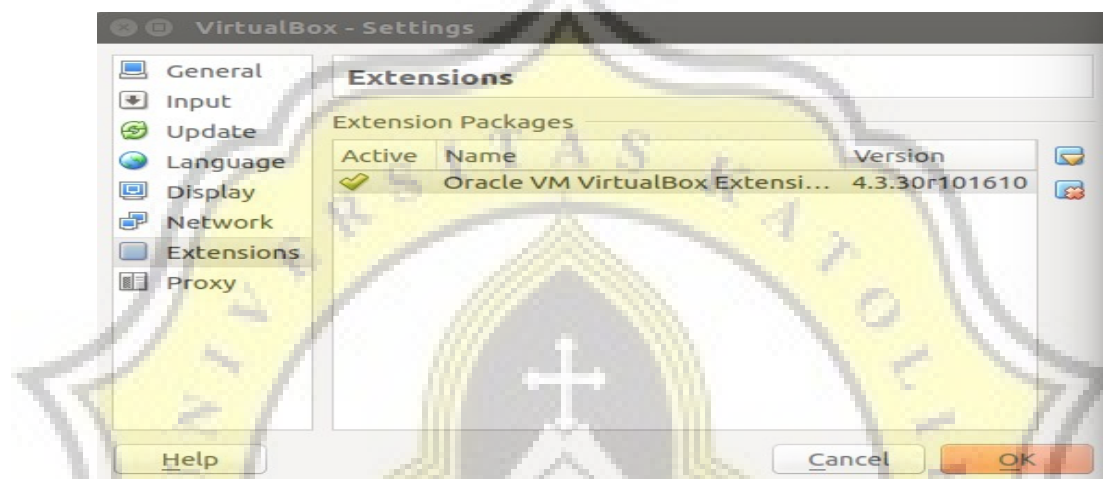


Figure 63: Extensions VirtualBox

Download VirtualBox\_Extension in accordance with the version of VirtualBox. Open the application VirtualBox and then open the Setting VirtualBox, select Extensions and then select new Extensions. Select the VirtualBox Extension already downloaded. Then click OK and the display appears when VirtualBox-Question click reinstall. Click I Agree for Install extension. Input the Root Password and then click Authenticate. Click OK and then click OK to close the settings-VirtualBox.

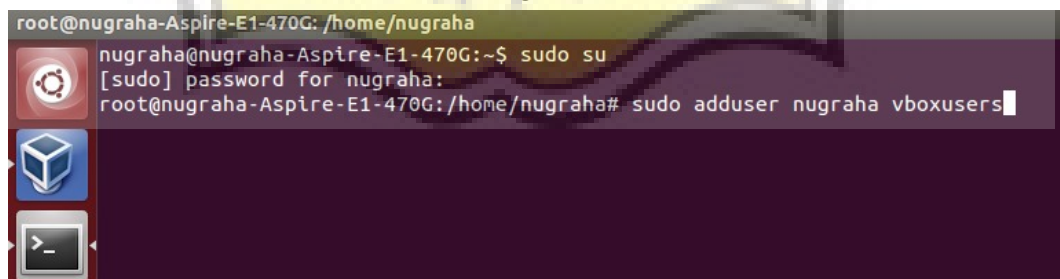
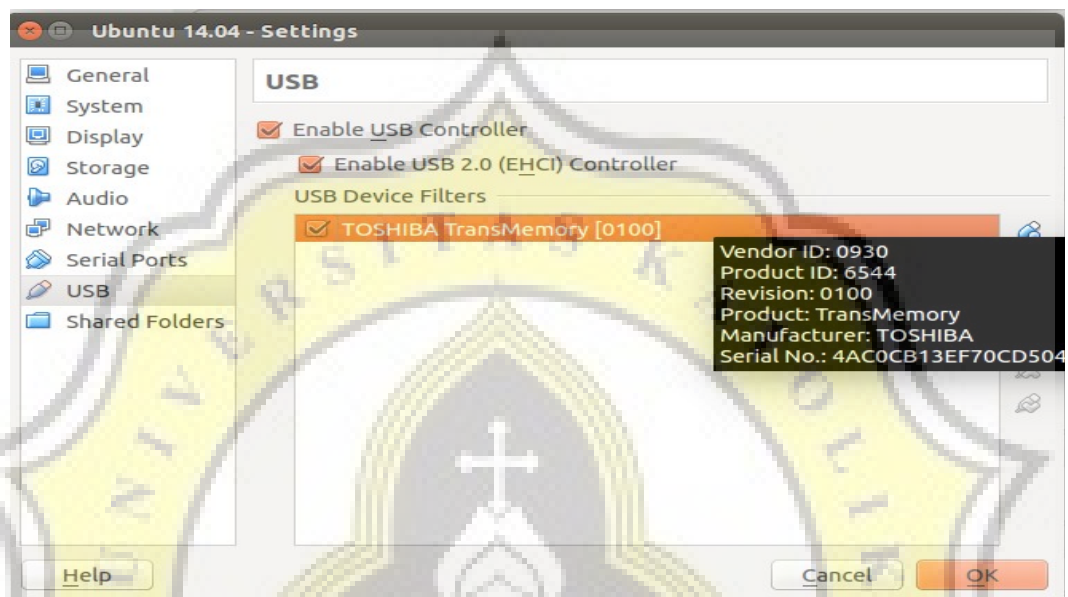


Figure 64: Terminal Host Computer



Enter the Host Terminal and log to the root and write commands 'adduser  
'; so that the User's computer is registered and can use VirtualBox  
features. Then Restart Computer.



*Figure 65: USB VirtualBox*

Once done restart, input Flashdisk to test the application. open VirtualBox  
and go into the settings and select USB. Flashdisk auto detected.

## 5.2.4. Network configuration the Host and the Guest VirtualBox

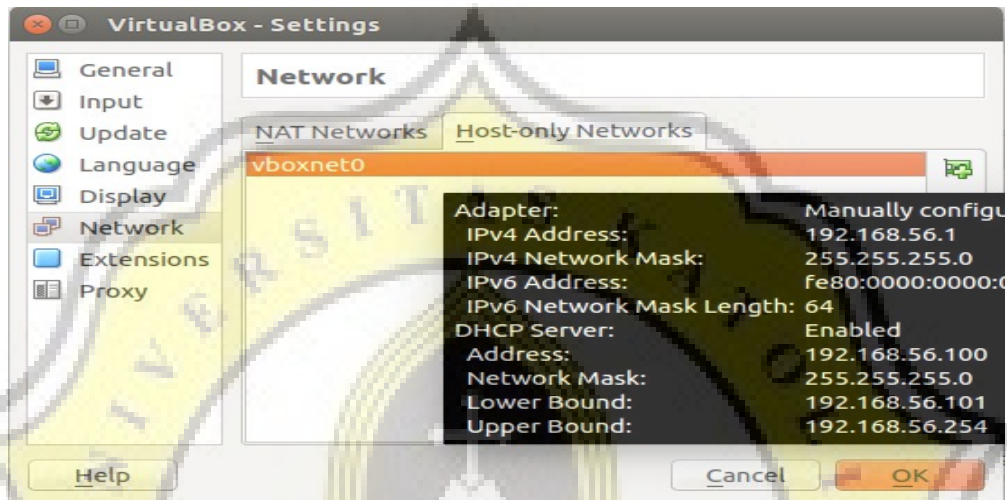


Figure 66: Network VirtualBox Setting

Open the application VirtualBox and sign in VirtualBox-Setting and select Network. Click Host-only Network and create a new network with the name vboxnet0.

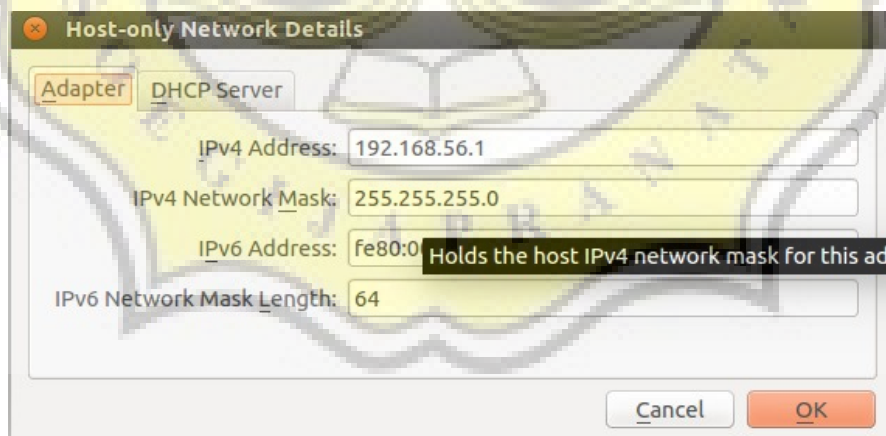


Figure 67: Host Only Network Setting

Set the adapters and DHCP Server then click OK. Then select the Ubuntu Virtual machine and click Settings.

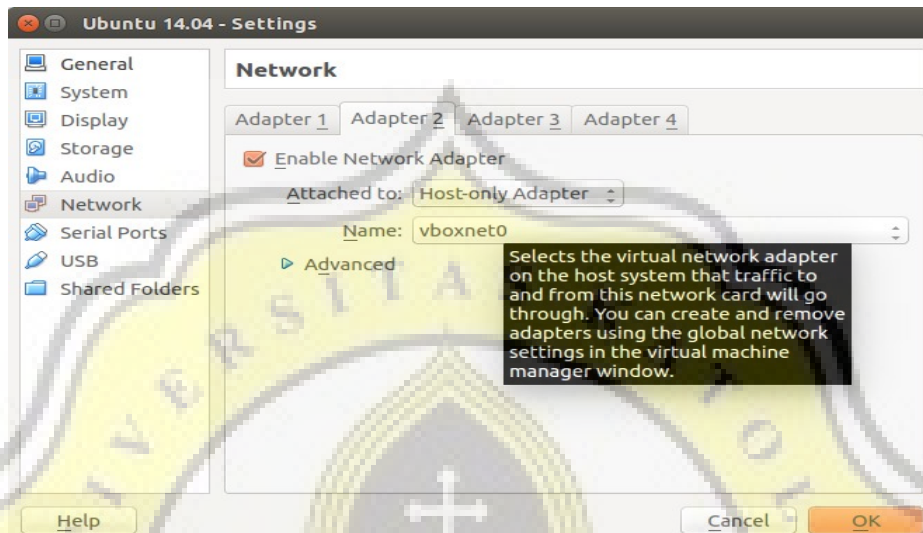


Figure 68: Adapter 2 Setting

Select a Network and click the Adapters 2, select the Enable Network Adapter replace Attached to with the Host-only Adapter and choose a Name with vboxnet0. Click Ok.

```
eth1    Link encap:Ethernet  HWaddr 08:00:27:c4:fc:85
        inet addr:192.168.56.101  Bcast:192.168.56.255  Mask:255.255.255.0
        inet6 addr: fe80::a00:27ff:fec4:fc85/64 Scope:Link
        UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
        RX packets:6 errors:0 dropped:0 overruns:0 frame:0
        TX packets:49 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:1568 (1.5 KB)  TX bytes:8896 (8.8 KB)
```

Figure 69: Ifconfig Guest Computer

Click Start Ubuntu VirtualBox Virtual machines after signing in Desktop open a terminal and type ' ifconfig ' and view the address of eth1.

```
vboxnet0 Link encap:Ethernet HWaddr 0a:00:27:00:00:00
inet addr:192.168.56.1 Bcast:192.168.56.255 Mask:255.255.255.0
inet6 addr: fe80::800:27ff:fe00:0/64 Scope:Link
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:0 errors:0 dropped:0 overruns:0 frame:0
TX packets:281 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:0 (0.0 B) TX bytes:66329 (66.3 KB)
```

*Figure 70: Ifconfig Host Computer*

Open a Terminal on the Host and type 'ifconfig'. See the address vboxnet0.

```
ubuntu@ubuntu-VirtualBox:~$ ping 192.168.56.1
PING 192.168.56.1 (192.168.56.1) 56(84) bytes of data:
64 bytes from 192.168.56.1: icmp_seq=1 ttl=64 time=0.260 ms
64 bytes from 192.168.56.1: icmp_seq=2 ttl=64 time=0.403 ms
64 bytes from 192.168.56.1: icmp_seq=3 ttl=64 time=0.206 ms
64 bytes from 192.168.56.1: icmp_seq=4 ttl=64 time=0.207 ms
64 bytes from 192.168.56.1: icmp_seq=5 ttl=64 time=0.291 ms
```

*Figure 71: Results ping Host to Guest in terminal Guest*

Type ping 192.168.56.1 in terminal Guest.

```
nugraha@nugraha-Aspire-E1-470G:~$ ping 192.168.56.101
PING 192.168.56.101 (192.168.56.101) 56(84) bytes of data:
64 bytes from 192.168.56.101: icmp_seq=1 ttl=64 time=0.236 ms
64 bytes from 192.168.56.101: icmp_seq=2 ttl=64 time=0.231 ms
64 bytes from 192.168.56.101: icmp_seq=3 ttl=64 time=0.508 ms
64 bytes from 192.168.56.101: icmp_seq=4 ttl=64 time=2.73 ms
64 bytes from 192.168.56.101: icmp_seq=5 ttl=64 time=0.329 ms
64 bytes from 192.168.56.101: icmp_seq=6 ttl=64 time=0.347 ms
```

*Figure 72: Results ping Host to Guest in terminal Host*

Type ping 192.168.56.101 in terminal Host.

## 5.2.5. Network configuration between Guest in VirtualBox

Adjust the Setting of the 2 Adapter in Fedora and OpenSUSE Virtual machines the same as Setting the Adapter 2 in Ubuntu Virtual machine.

```
enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
  inet 192.168.56.102 netmask 255.255.255.0 broadcast 192.168.56.255
  inet6 fe80::a00:27ff:feee:bf64 prefixlen 64 scopeid 0x20<link>
  ether 08:00:27:ee:bf:64 txqueuelen 1000 (Ethernet)
  RX packets 2 bytes 1180 (1.1 KiB)
  RX errors 0 dropped 0 overruns 0 frame 0
  TX packets 18 bytes 2874 (2.8 KiB)
  TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

Figure 73: Ifconfig Guest Fedora

Start the Virtual Machine after signing in to Fedora Desktop open a terminal and type 'ifconfig'. See the address enp0s8.

```
eth1      Link encap:Ethernet HWaddr 08:00:27:c4:fc:85
          inet addr:192.168.56.101 Bcast:192.168.56.255 Mask:255.255.255.0
          inet6 addr: fe80::a00:27ff:fec4:fc85/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
          RX packets:6 errors:0 dropped:0 overruns:0 frame:0
          TX packets:49 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:1568 (1.5 KB) TX bytes:8896 (8.8 KB)
```

Figure 74: Ifconfig Guest Ubuntu

Click Start Ubuntu VirtualBox Virtual machine upon entering the Desktop open a terminal and type 'ifconfig' and view the address of eth1.

```
ubuntu@ubuntu-VirtualBox:~$ ping 192.168.56.102
PING 192.168.56.102 (192.168.56.102) 56(84) bytes of data:
64 bytes from 192.168.56.102: icmp_seq=1 ttl=64 time=1.27 ms
64 bytes from 192.168.56.102: icmp_seq=2 ttl=64 time=0.466 ms
64 bytes from 192.168.56.102: icmp_seq=3 ttl=64 time=0.876 ms
64 bytes from 192.168.56.102: icmp_seq=4 ttl=64 time=0.478 ms
```

Figure 75: Results ping Guest to Guest in Ubuntu terminal

Type ping 192.168.56.102 to make sure the Ubuntu Virtual machine is connected to a Fedora Virtual machine.

```
[fedora@localhost ~]$ ping 192.168.56.101
PING 192.168.56.101 (192.168.56.101) 56(84) bytes of data:
64 bytes from 192.168.56.101: icmp_seq=1 ttl=64 time=3.79 ms
64 bytes from 192.168.56.101: icmp_seq=2 ttl=64 time=0.395 ms
64 bytes from 192.168.56.101: icmp_seq=3 ttl=64 time=0.841 ms
64 bytes from 192.168.56.101: icmp_seq=4 ttl=64 time=3.98 ms
64 bytes from 192.168.56.101: icmp_seq=5 ttl=64 time=2.75 ms
```

*Figure 76: Results ping Guest to Guest in Fedora terminal*

Type ping 192.168.56.101 Fedora Virtual machine to make sure it is connected to the Ubuntu Virtual machine.

## **5.2.6.install Software Database Server in Ubuntu**

### **14.04**

#### **5.2.6.1.Install XAMPP**

Open a Terminal in Ubuntu Virtual Machines and log Root. Download XAMPP and then type 'cd/home/Download/' for entry into the file already downloaded XAMPP. Type ./xampp-linux-64-5.6.12-0-installer.run to run the XAMPP installation.





Figure 77: XAMPP Setup

Click Next. Then select all component XAMPP and then click Next.

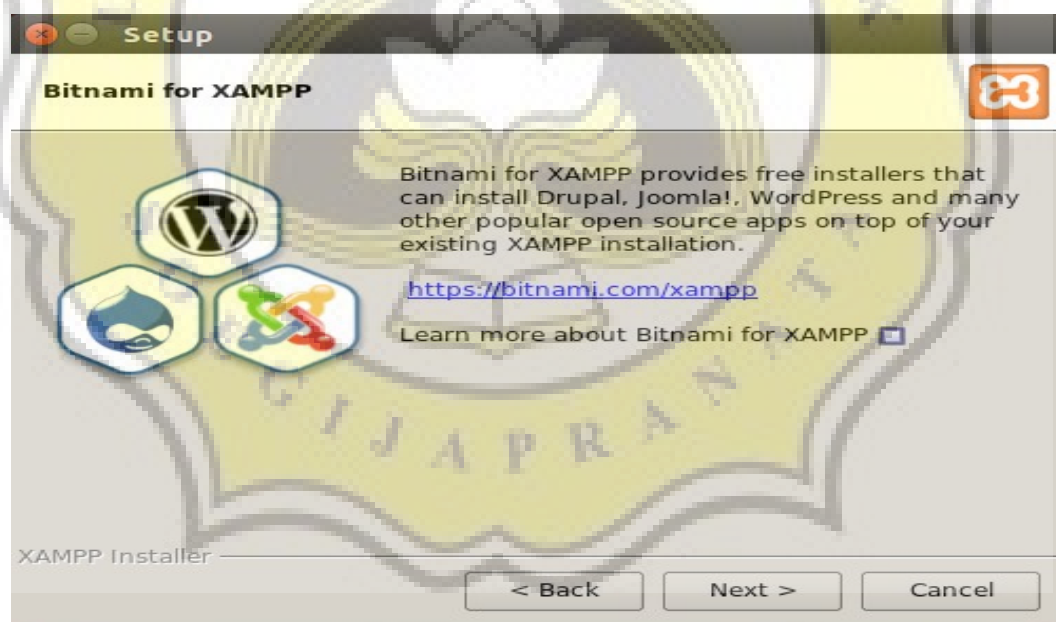


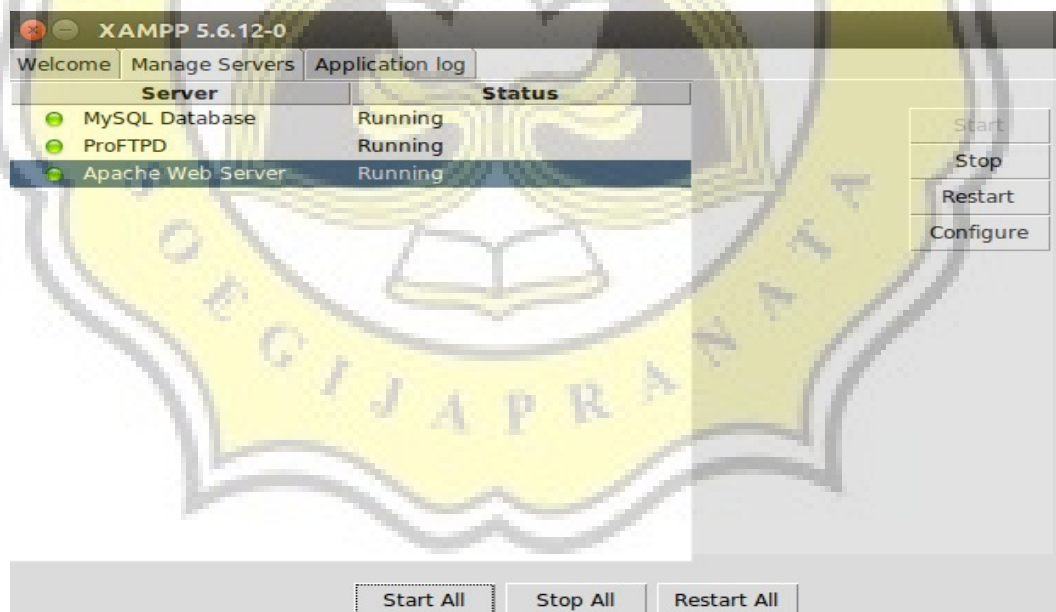
Figure 78: Bitnami for XAMPP

Do not select the Learn more about Bitnami for XAMPP and then click Next.



*Figure 79: Installing XAMPP*

Wait for the process of installing XAMPP. Then Click Finish and check Launch XAMPP.



*Figure 80: XAMPP Manager Servers*

Click Start All to enable MySQL, ProFTPD and Apache and XAMPP already to use.



### 5.2.6.2. Install PostgreSQL

```
ubuntu@ubuntu-VirtualBox:~$ sudo su
[sudo] password for ubuntu:
root@ubuntu-VirtualBox:/home/ubuntu# sudo apt-get install postgresql postgresql
```

Figure 81: Command for installation PostgreSQL

Open a Terminal and then enter root and type in the command above to install postgresql. Then type Y to continue Installation.

```
root@ubuntu-VirtualBox:/home/ubuntu# sudo -i -u postgres
postgres@ubuntu-VirtualBox:~$ psql
psql (9.3.9)
Type "help" for help.

postgres=#
```

Figure 82: Command for start PostgreSQL

Type 'sudo-i-u postgres' to enter database and type in 'psql' for operates database.

```
postgres=# \q
postgres@ubuntu-VirtualBox:~$
```

Figure 83: Command for quit PostgreSQL

Type in '\q' to quit the postgresQL.

### 5.2.6.3. Install Apache Derby

Download package Derby then open a Terminal and log to the Root.

```
root@ubuntu-VirtualBox:/home/ubuntu/Downloads# tar xvzf home/Downloads/db-derby-10.11.1.1-bin.tar.gz -C /tmp/
```

Figure 84: Extract file Download

Command for extract files derby and move it to the tmp.

```
root@ubuntu-VirtualBox:/tmp# sudo su -c "chown -R root:root /tmp/db-derby-10.11.1.1-bin.tar.gz"
```

*Figure 85: Read file Download*

Command for read derby files in tmp.

```
root@ubuntu-VirtualBox:/tmp# sudo su -c "mv /tmp/db-derby-10.11.1.1-bin.tar.gz /opt/derby"
```

*Figure 86: Move file Download*

Command for move the extract files from tmp to /opt/derby/.

```
root@ubuntu-VirtualBox:/tmp# nano $HOME/.bashrc
```

*Figure 87: Open File .bashrc*

Command for open file .bashrc.

```
export DERBY_HOME=/opt/derby
export PATH=$PATH:$DERBY_HOME/bin
```

*Figure 88: Command for File .bashrc*

Type command in file .bashrc.

```
root@ubuntu-VirtualBox:/tmp# bash
root@ubuntu-VirtualBox:/tmp# java -jar $DERBY_HOME/lib/derbyrun.jar ij
ij version 10.11
ij> CONNECT 'jdbc:derby:mydb;create=true';
ij> |
```

*Figure 89: Command for Start Derby Database*

Type 'java -jar \$DERBY\_HOME/lib/derbyrun.jar ij' to run the Derby Database.

## 5.2.7.install Software Network Server in Fedora 22

### 5.2.7.1.Install Google Chrome

```
[root@localhost ~]# dnf install google-chrome-stable
```

*Figure 90: command to install google chrome*

Open a Terminal in Fedora and then sign in to root and then type 'dnf install google-chrome-stable' to install google chrome. Then type Y to continue with the installation process.

### 5.2.7.2.Install Midori

```
[root@localhost ~]# sudo dnf install midori
```

*Figure 91: command to install midori*

Open a Terminal in Fedora and then sign in to root and then type the command to install midori. Then type Y to continue with the installation process.

### 5.2.7.3.Install Samba

```
[root@localhost ~]# dnf -y install samba samba-client
```

*Figure 92: command to Install samba*

the command to start the samba-client.

```
[root@localhost ~]# mkdir /home/share
[root@localhost ~]# chmod 777 /home/share
[root@localhost ~]# vi /etc/samba/smb.conf
```

*Figure 93: Make share folder and open file smb.conf*

Once completed install Samba, type 'mkdir /home/share' to make new folder with name Share and type 'chmod 777 /home/share' for read share folder. Then type 'vi /etc/samba/smb.conf' for open file smb.conf.

```
[Share]
# any name you like
path = /home/share
# shared directory
writable = yes
# writable
guest ok = yes
# guest OK
guest only = yes
# guest only
create mode = 0777
# fully accessed
directory mode = 0777
# fully accessed
share modes = yes
# warn if some people access to a file
```

*Figure 94: Configuration Samba for share file*

Then after opening the file smb.conf, type the command above picture at the end of the file.

```
[root@localhost ~]# systemctl start smb
```

*Figure 95: Command to start the samba*

#### **5.2.7.4. Install Squid**

```
[root@localhost ~]# sudo dnf install squid
```

*Figure 96: command to Install squid*

the command to install squid. Then type Y to continue with the installation process.

## 5.2.8. Install Daily Software in OpenSUSE 13.1

### 5.2.8.1. Install VLC

```
linux-ynep:/home/opensuse # sudo zypper in -f --from VLC vlc vlc-noX
vlc-codecs vlc-qt vlc-noX-lang vlc-gnome libvlc5 libvlccore7
```

*Figure 97: command to Install VLC*

Open a Terminal in Fedora and then sign in to root and then type command picture above to start the installation. Then select the number 1 and enter. Choose number 1 again and wait until the installation is complete.

### 5.2.8.2. Install Laptop mode tools

```
opensuse@linux-a0lc:~> sudo zypper install laptop-mode-tools
```

*Figure 98: command to Install laptop-mode-tools*

Open a Terminal in Fedora and then sign in to root and then type the command to install Laptop mode tools OpenSUSE. Then type Y to continue Installation.

### 5.2.8.3. Install openSUSE Theme

```
sudo zypper install gtk3-theme-oxygen gtk3-engine-oxygen
```

*Figure 99: command to Install theme openSUSE*

Open a Terminal in Fedora and then sign in to root and then type the command to install OpenSUSE Theme. Then type Y to continue Installation

### 5.2.9. Install PHPVirtualBox

```
root@nugraha-Aspire-E1-470G:/home/nugraha# sudo apt-get update &&
sudo apt-get dist-upgrade && sudo apt-get autoremove
```

Figure 100: command to Update and Upgrade Ubuntu

Open a Terminal on the Host computer and then type the command to update and upgrade the operating system of the Host. Then type Y to continue.

```
sudo apt-get install build-essential dkms
```

Figure 101: command to Install build-essential and DKMS

```
root@nugraha-Aspire-E1-470G:/tmp# sudo useradd phpvbox
root@nugraha-Aspire-E1-470G:/tmp# sudo passwd phpvbox
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
root@nugraha-Aspire-E1-470G:/tmp# sudo usermod -aG vboxusers phpvbox
root@nugraha-Aspire-E1-470G:/tmp#
```

Figure 102: command to add users on the Host and VirtualBox

```
sudo apt-get install apache2 php5 php5-common php-soap php5-gd
```

Figure 103: command to install php5, apache2 and php-soap

Type the command to install php5, apache2 and php-soap. Then type Y to continue.

Download `phpvirtualbox-4.3-3.zip` and save it in a File Downloads. Open a Terminal and then enter root, open the file Downloads and then unzip the file `phpvirtualbox-4.3-3.zip`. Open the `htdocs` files then copy paste the file `phpvirtualbox` from the file downloads to the `htdocs` files before its type in terminal `'chmod -R 777 /opt/lampp/htdocs'`, `htdocs` file in order to be accessible and able to save the file.



```
sudo vi /etc/default/virtualbox
```

Figure 104: command to open virtualbox file

Then type the command to open the virtualbox files.

```
VBOXWEB_USER=root
VBOXWEB_HOST=localhost
VBOXWEB_PORT=18083
VBOXWEB_TIMEOUT=3000
VBOXWEB_CHECK_INTERVAL=5
VBOXWEB_THREADS=100
VBOXWEB_KEEPLIVE=100
VBOXWEB_LOGFILE=/var/log/vboxwebsrv.log
```

Figure 105: Add command to virtualbox file

Write down all the above pictures then save command with Ctrl + wq.

```
sudo /etc/init.d/apache2 stop
```

Figure 106: Command to stop apache2

Type the command to stop apache2.

```
./xampp-linux-x64-5.6.12-0-installer.run
```

Figure 107: Command to Install XAMPP

Download File XAMPP and Type the command to install XAMPP.

```
/opt/lampp/lampp start
```

Figure 108: Command to Start XAMPP

After you have finished the installation of XAMPP. Type "/opt/lampp/lampp start" to start XAMPP in web browser.



Figure 109: Start PHPVirtualBox in Web Browser

Then open a web browser and type URL 'localhost/phpvirtualbox-4.3-3/'.

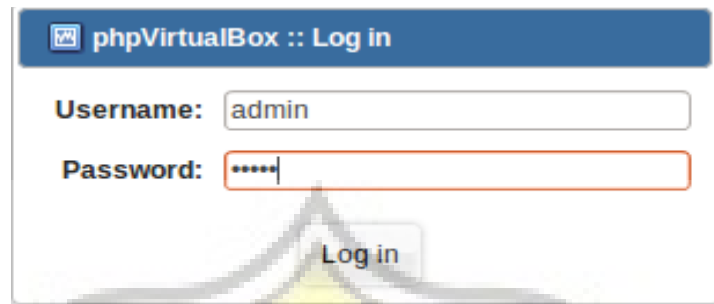


Figure 110: Log in PHPVirtualBox

Write the column Username ' admin ' and Password ' admin '.

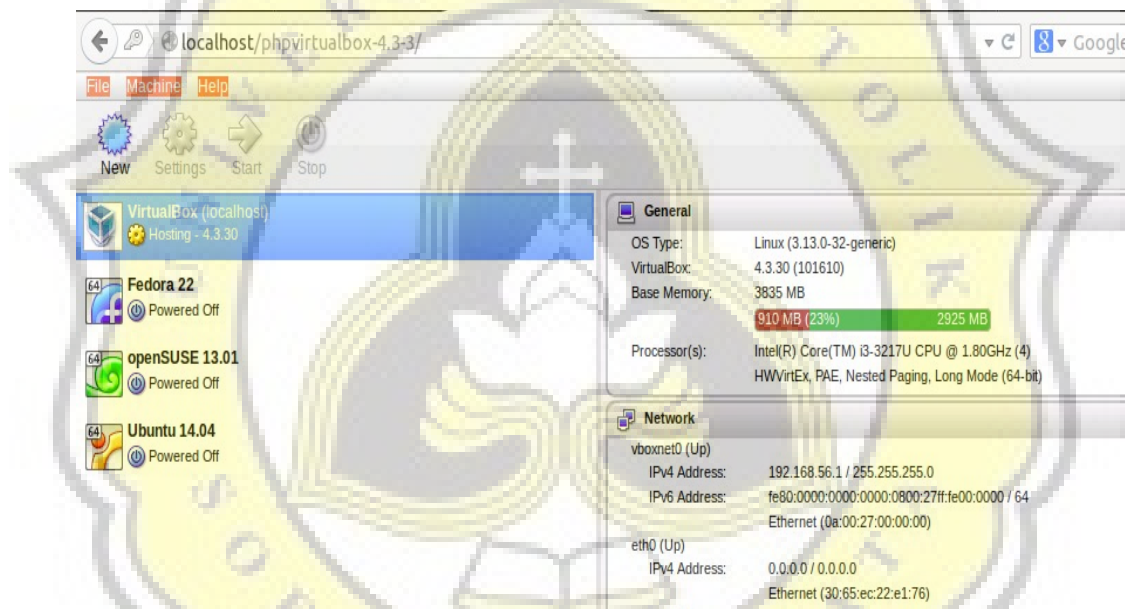


Figure 111: Display PHPVirtualBox

If it works then it will show up above picture.

### 5.3.0. Create a Virtual machine on PHPVirtualBox

First login to phpvirtualbox. Then click New to create the Virtual Machine in the PHPVirtualBox, made for Ubuntu 14.04, Fedora 22 and OpenSUSE 13.1. Once created, select the Virtual Machine and click settings.

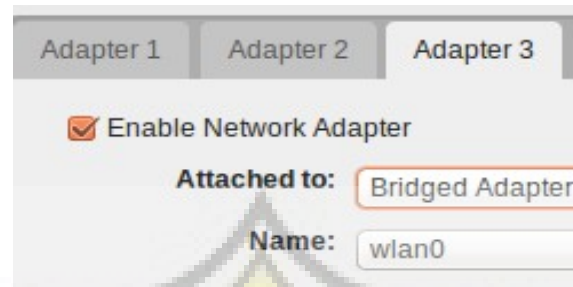


Figure 112: Setting Adapter 3

Select a Network and click the Adapters 3. check the Network Adapter and then select the Enable Attached to being Bridged Adapter Name and select wlan0. Select Storage and click Ubuntu 14.04 vdi that was made. Then click the image to the right and then click Choose a virtual hard disk files. Select the file that has previously been on vdi created in VirtualBox and click Ok. Done on all Virtual Machine at PHPVirtualBox.

### 5.3.1. Display PHPVirtualBox from the first computer to the second computer

```
eth0      Link encap:Ethernet  HWaddr 30:65:ec:22:e1:76
          inet addr:192.168.41.145  Bcast:192.168.41.255  Mask:255.255.255.0
          inet6 addr: fe80::3265:ecff:fe22:e176/64  Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:154 errors:0 dropped:0 overruns:0 frame:0
          TX packets:152 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:44253 (44.2 KB)  TX bytes:19057 (19.0 KB)
```

Figure 113: Ifconfig Ubuntu in Host Computer

Plug the LAN cable in your computer first and then open the terminal on the first computer and see the IP Address in eth0.

[192.168.41.145/phpvirtualbox-4.3-3/](http://192.168.41.145/phpvirtualbox-4.3-3/)

Figure 114: write IP Address first computer in the URL

Then open a web browser and write IP Address in URL. Then log in PHPVirtualBox use username 'admin' and password 'admin'.

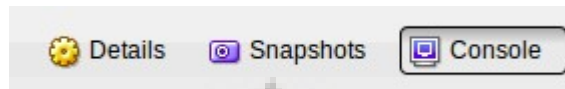


Figure 115: menu for show Virtual Machine PHPVirtualBox

Select one of the virtual machines in the phpvirtualbox and then click Start. Click console to open the virtual machine overview at phpvirtualbox. Then setting desktop size and click Connect. Click Detach to create a new display and separate web browser.

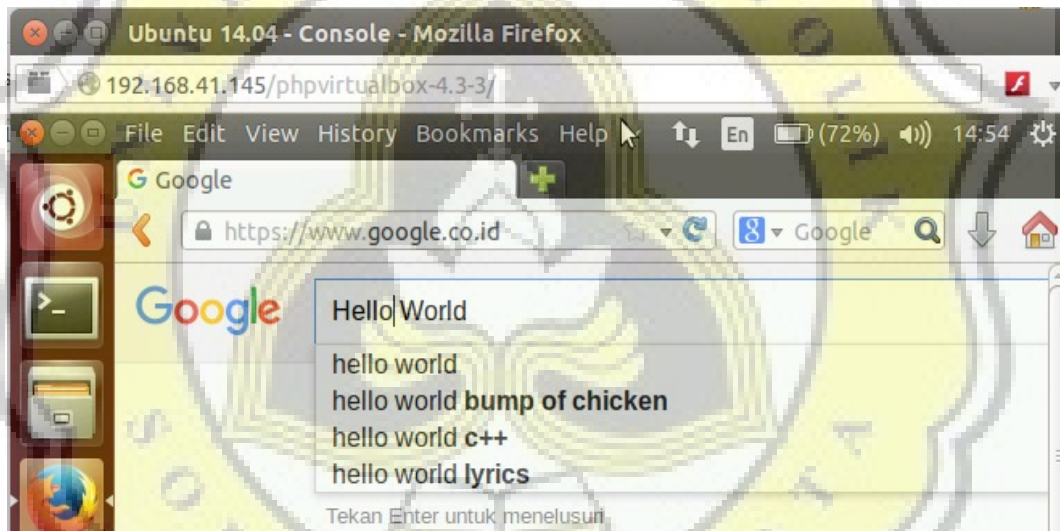


Figure 116: display by using the Detach

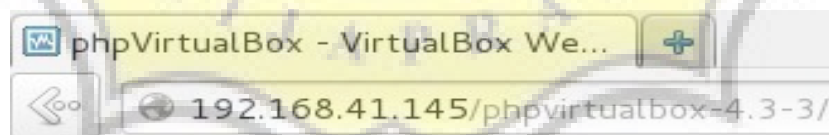


Figure 117: write IP Address first computer in the URL second computer

Then plug the LAN cable and open the web browser on a second computer and write IP Address first computer in the URL second computer. After going to the second computer web browser will display the same as in the first computer.

## CHAPTER VI

### CONCLUTION

#### 6.1 Conclusion

With reports about VirtualBox it could add to the knowledge about the history of VirtualBox, how the installation and use of VirtualBox and operates PHPVirtualBox from the first computer to the second computer use web browser.

#### 6.2 Futher Research

In this final Task have problems in installing VBOXAddition in Fedora and OpenSUSE and failure on the part of the Guest Addition Kernel.



## REFERENCES

- <http://tutorialforlinux.com/2014/12/18/how-to-install-apache-derby-on-ubuntu-14-04-trusty-lts-linux-easy-guide/>
- <https://techtunes007.wordpress.com/2014/07/30/how-to-install-xampp-for-linux-in-ubuntu-14-04-lts/>
- <https://www.digitalocean.com/community/tutorials/how-to-install-and-use-postgresql-on-ubuntu-14-04>
- <https://ask.fedoraproject.org/en/question/73302/how-to-install-google-chrome-in-fedora-22/>
- <http://midori-browser.org/download/fedora/>
- [http://www.server-world.info/en/note?os=Fedora\\_22&p=squid](http://www.server-world.info/en/note?os=Fedora_22&p=squid)
- [http://www.server-world.info/en/note?os=Fedora\\_22&p=samba](http://www.server-world.info/en/note?os=Fedora_22&p=samba)
- <http://alakulihal.blogspot.co.id/2013/11/hal-yang-dilakukan-setelah-install.html>
- <https://techknight.eu/2014/11/20/how-to-install-phpvirtualbox/>