# LAB 10 Install FOG

**Course Name**: Malware Analysis and Reverse Engineering (IAM302)
**Student Name**: Nguyễn Trần Vinh – SE160258
**Instructor Name**: Mai Hoàng Đỉnh
**Lab Due Date**: 22/2/2023

## Purpose

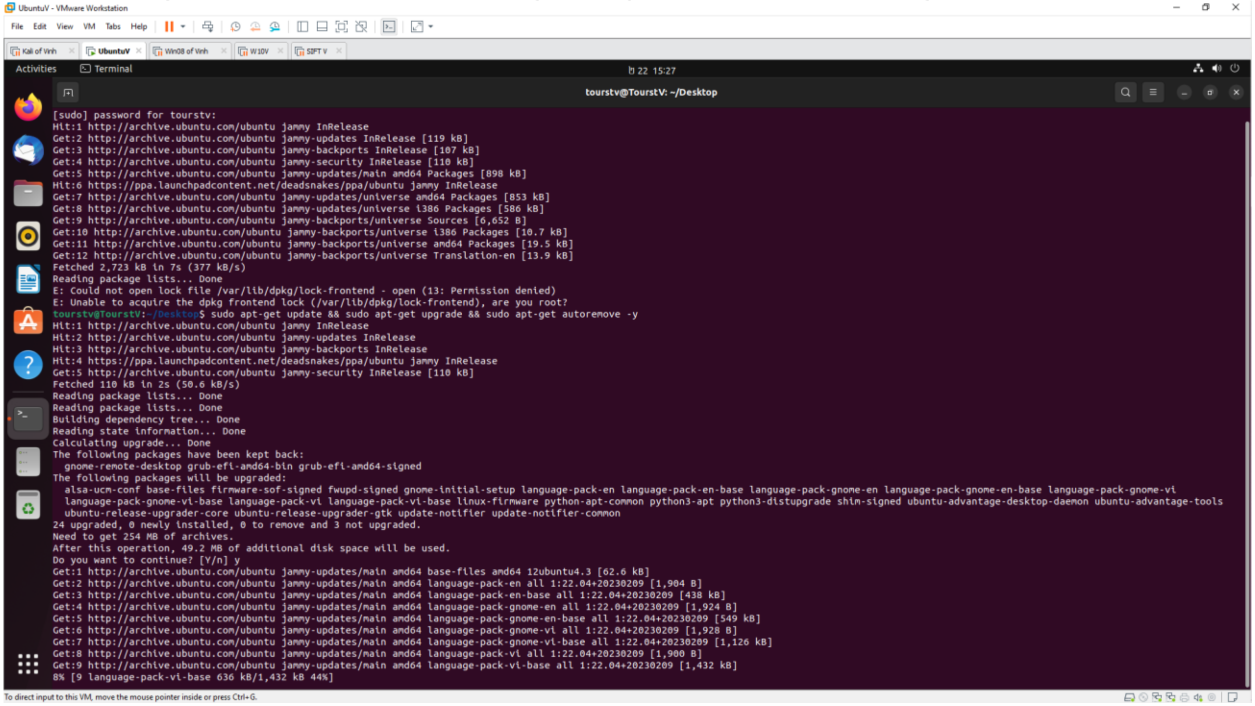
- Install FOG

## What we need

- Ubuntu workstation

## Step to step

- sudo apt-get update && sudo apt-get upgrade && sudo apt-get autoremove



UbuntuV - VMware Workstation
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Activities
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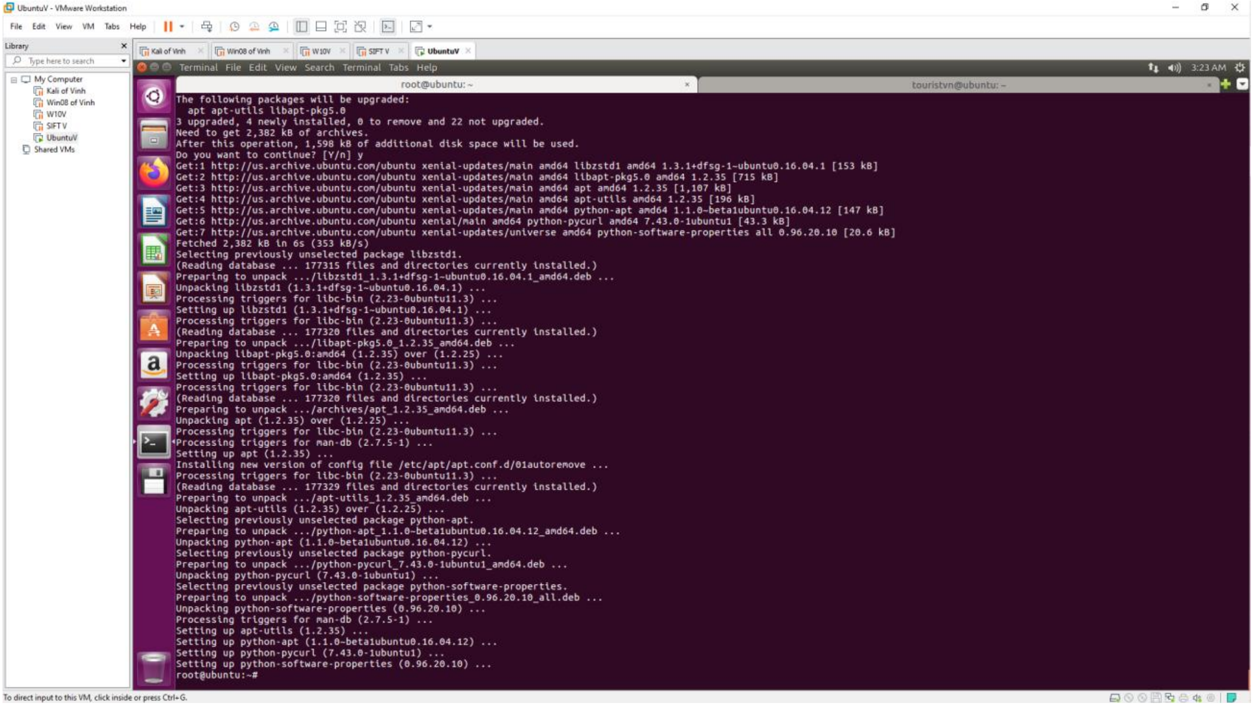
22 15:27
tourstv@TourstV: ~/Desktop
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

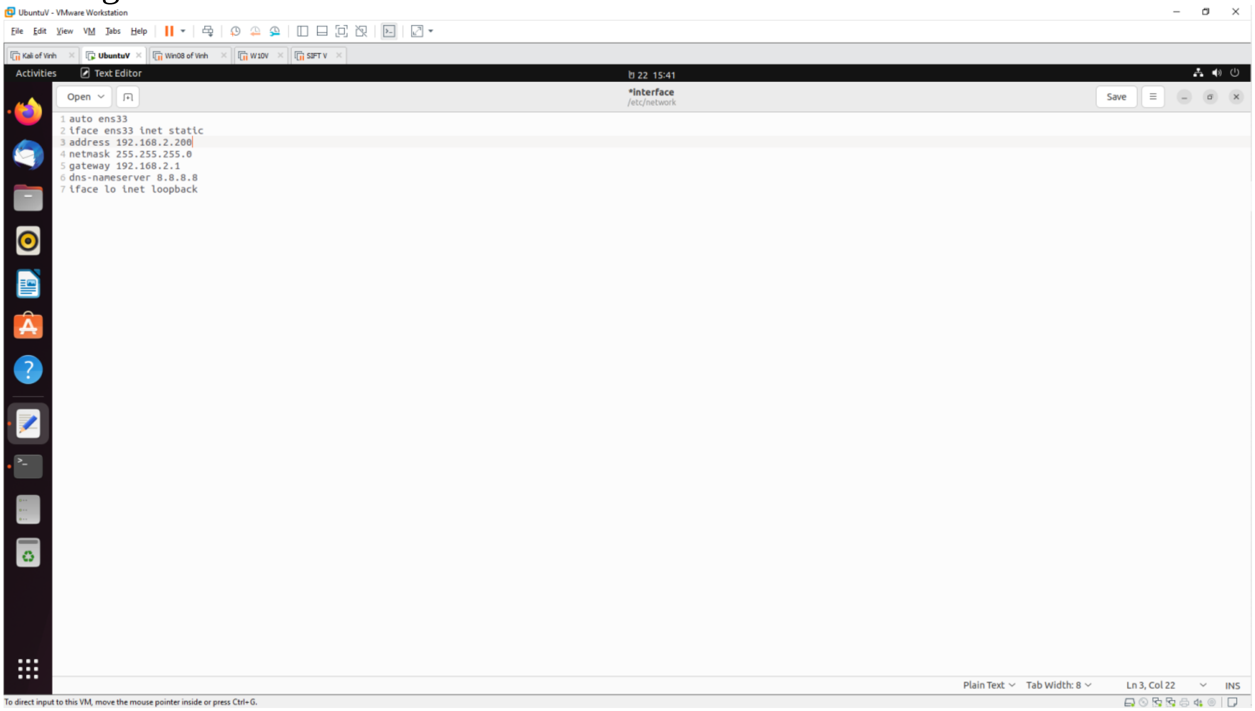
```
[sudo] password for tourstv:
Hit:1 http://archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [107 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [898 kB]
Hit:6 https://ppa.launchpadcontent.net/deadsnakes/ppa/ubuntu jammy InRelease
Get:7 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [853 kB]
Get:8 http://archive.ubuntu.com/ubuntu jammy-updates/universe i386 Packages [586 kB]
Get:9 http://archive.ubuntu.com/ubuntu jammy-backports/universe Sources [6,652 B]
Get:10 http://archive.ubuntu.com/ubuntu jammy-backports/universe i386 Packages [10.7 kB]
Get:11 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [19.5 kB]
Get:12 http://archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [13.9 kB]
Fetched 2,723 kB in 7s (377 kB/s)
Reading package lists... Done
E: Could not open lock file /var/lib/dpkg/lock-frontend - open (13: Permission denied)
E: Unable to acquire the dpkg frontend lock (/var/lib/dpkg/lock-frontend), are you root?
tourstv@TourstV:~/Desktop$ sudo apt-get update && sudo apt-get upgrade && sudo apt-get autoremove -y
Hit:1 http://archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 https://ppa.launchpadcontent.net/deadsnakes/ppa/ubuntu jammy InRelease
Get:5 http://archive.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Fetched 110 kB in 2s (50.6 kB/s)
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages have been kept back:
  gnome-remote-desktop grub-efi-amd64-bin grub-efi-amd64-signed
The following packages will be upgraded:
  alsa-ucm-conf base-files firmware-sof-signed fwupd-signed gnome-initial-setup language-pack-en language-pack-en-base language-pack-gnome-en language-pack-gnome-en-base language-pack-gnome-vi
  language-pack-gnome-vi-base language-pack-vi language-pack-vi-base linux-firmware python-apt-common python3-apt python3-distupgrade shim-signed ubuntu-advantage-desktop-daemon ubuntu-advantage-tools
  ubuntu-release-upgrader-core ubuntu-release-upgrader-gtk update-notifier update-notifier-common
24 upgraded, 0 newly installed, 0 to remove and 3 not upgraded.
Need to get 254 MB of archives.
After this operation, 49.2 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 base-files amd64 12ubuntu4.3 [62.6 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 language-pack-en all 1:22.04+20230209 [1,904 B]
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 language-pack-en-base all 1:22.04+20230209 [438 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 language-pack-gnome-en all 1:22.04+20230209 [1,924 B]
Get:5 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 language-pack-gnome-en-base all 1:22.04+20230209 [549 kB]
Get:6 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 language-pack-gnome-vi all 1:22.04+20230209 [1,928 B]
Get:7 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 language-pack-gnome-vi-base all 1:22.04+20230209 [1,126 kB]
Get:8 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 language-pack-vi all 1:22.04+20230209 [1,900 B]
Get:9 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 language-pack-vi-base all 1:22.04+20230209 [1,432 kB]
8% [9 language-pack-vi-base 636 kB/1,432 kB 44%]
```

- sudo apt-get install python-software-properties



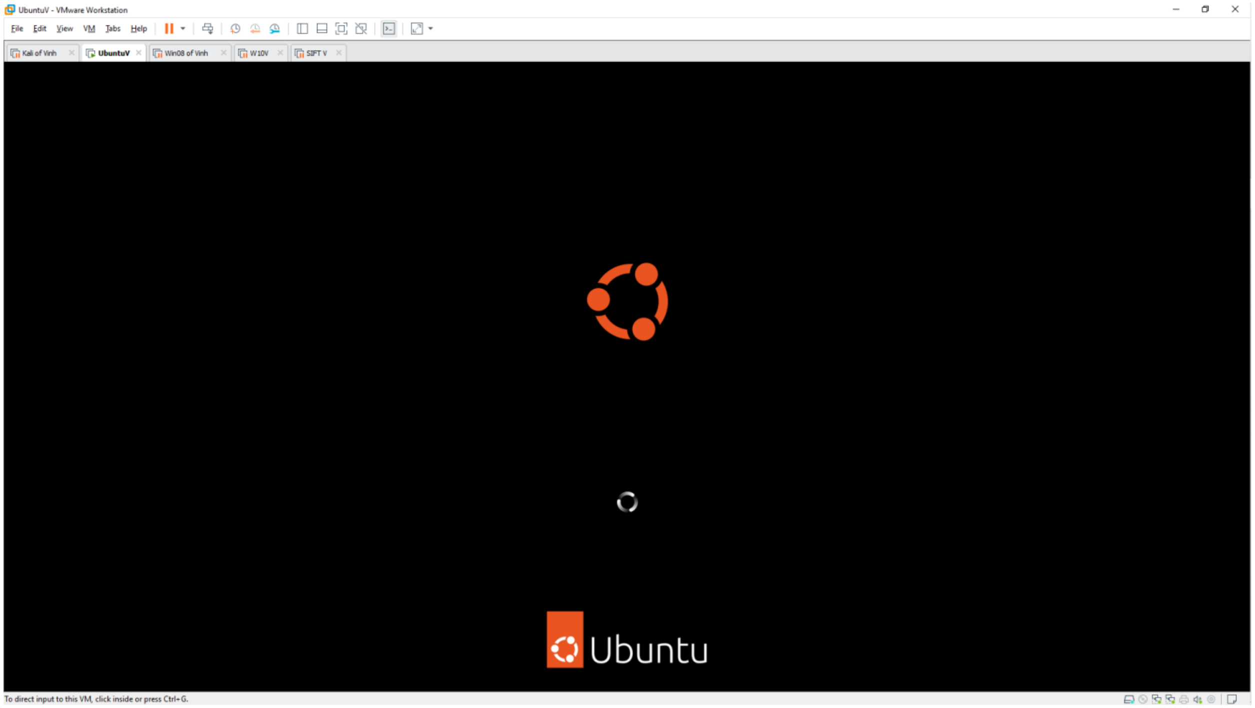
```
The following packages will be upgraded:
  apt apt-utils libapt-pkg5.0
3 upgraded, 4 newly installed, 0 to remove and 22 not upgraded.
Need to get 2,382 kB of archives.
After this operation, 1,598 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us.archive.ubuntu.com/ubuntu xenial-updates/main amd64 libzstd1 amd64 1.3.1+dfsg-1~ubuntu0.16.04.1 [153 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu xenial-updates/main amd64 libapt-pkg5.0 amd64 1.2.35 [715 kB]
Get:3 http://us.archive.ubuntu.com/ubuntu xenial-updates/main amd64 apt amd64 1.2.35 [1,107 kB]
Get:4 http://us.archive.ubuntu.com/ubuntu xenial-updates/main amd64 apt-utils amd64 1.2.35 [196 kB]
Get:5 http://us.archive.ubuntu.com/ubuntu xenial-updates/main amd64 python-apt amd64 1.1.0~beta1ubuntu0.16.04.12 [147 kB]
Get:6 http://us.archive.ubuntu.com/ubuntu xenial/main amd64 python-pycurl amd64 7.43.0-1ubuntu1 [43.3 kB]
Get:7 http://us.archive.ubuntu.com/ubuntu xenial-updates/universe amd64 python-software-properties all 0.96.20.10 [20.6 kB]
Fetched 2,382 kB in 6s (353 kB/s)
Selecting previously unselected package libzstd1.
(Reading database ... 177315 files and directories currently installed.)
Preparing to unpack .../libzstd1_1.3.1+dfsg-1~ubuntu0.16.04.1_amd64.deb ...
Unpacking libzstd1 (1.3.1+dfsg-1~ubuntu0.16.04.1) ...
Processing triggers for libc-bin (2.23-0ubuntu11.3) ...
Setting up libzstd1 (1.3.1+dfsg-1~ubuntu0.16.04.1) ...
Processing triggers for libc-bin (2.23-0ubuntu11.3) ...
(Reading database ... 177320 files and directories currently installed.)
Preparing to unpack .../libapt-pkg5.0_1.2.35_amd64.deb ...
Unpacking libapt-pkg5.0:amd64 (1.2.35) over (1.2.25) ...
Processing triggers for libc-bin (2.23-0ubuntu11.3) ...
Setting up libapt-pkg5.0:amd64 (1.2.35) ...
Processing triggers for libc-bin (2.23-0ubuntu11.3) ...
(Reading database ... 177320 files and directories currently installed.)
Preparing to unpack .../archives/apt_1.2.35_amd64.deb ...
Unpacking apt (1.2.35) over (1.2.25) ...
Processing triggers for libc-bin (2.23-0ubuntu11.3) ...
Processing triggers for man-db (2.7.5-1) ...
Setting up apt (1.2.35) ...
Installing new version of config file /etc/apt/apt.conf.d/01autoremove ...
Processing triggers for libc-bin (2.23-0ubuntu11.3) ...
(Reading database ... 177329 files and directories currently installed.)
Preparing to unpack .../apt-utils_1.2.35_amd64.deb ...
Unpacking apt-utils (1.2.35) over (1.2.25) ...
Selecting previously unselected package python-apt.
Preparing to unpack .../python-apt_1.1.0~beta1ubuntu0.16.04.12_amd64.deb ...
Unpacking python-apt (1.1.0~beta1ubuntu0.16.04.12) ...
Selecting previously unselected package python-pycurl.
Preparing to unpack .../python-pycurl_7.43.0-1ubuntu1_amd64.deb ...
Unpacking python-pycurl (7.43.0-1ubuntu1) ...
Selecting previously unselected package python-software-properties.
Preparing to unpack .../python-software-properties_0.96.20.10_all.deb ...
Unpacking python-software-properties (0.96.20.10) ...
Processing triggers for man-db (2.7.5-1) ...
Setting up apt-utils (1.2.35) ...
Setting up python-apt (1.1.0~beta1ubuntu0.16.04.12) ...
Setting up python-pycurl (7.43.0-1ubuntu1) ...
Setting up python-software-properties (0.96.20.10) ...
root@ubuntu:~#
```

- sudo gedit /etc/network/interface

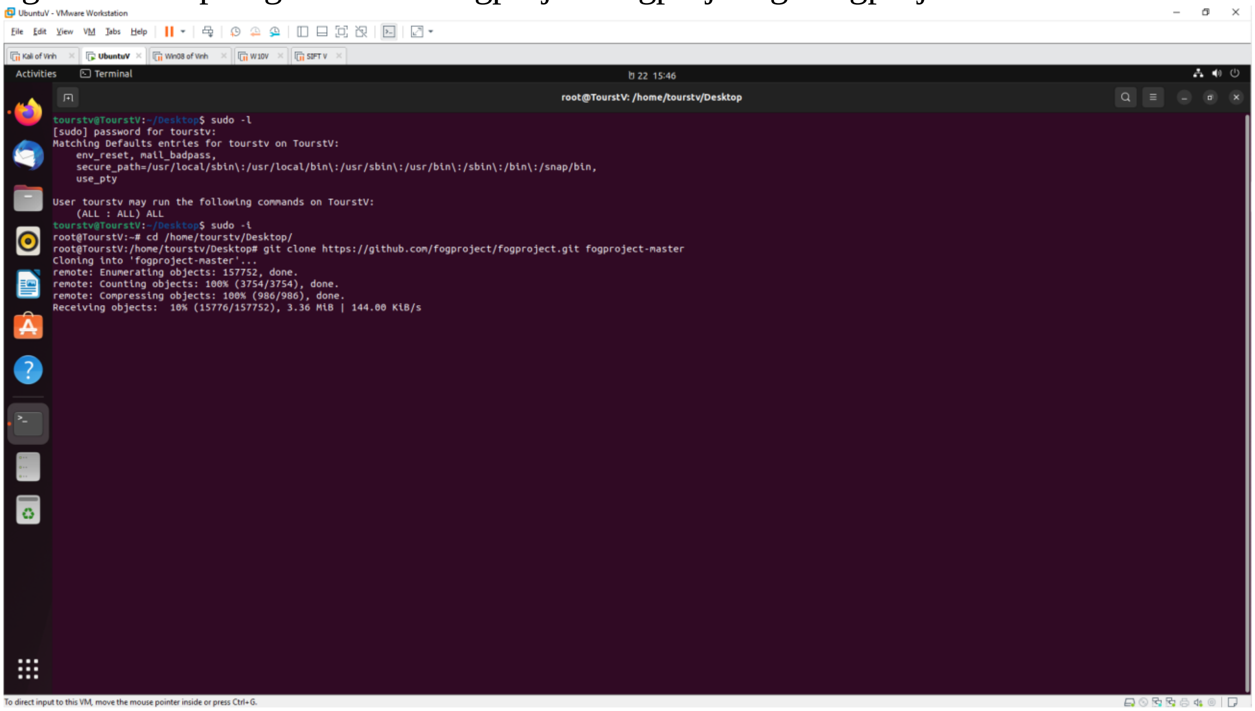


```
auto ens33
iface ens33 inet static
address 192.168.2.200
netmask 255.255.255.0
gateway 192.168.2.1
dns-nameserver 8.8.8.8
iface lo inet loopback
```

- sudo reboot now



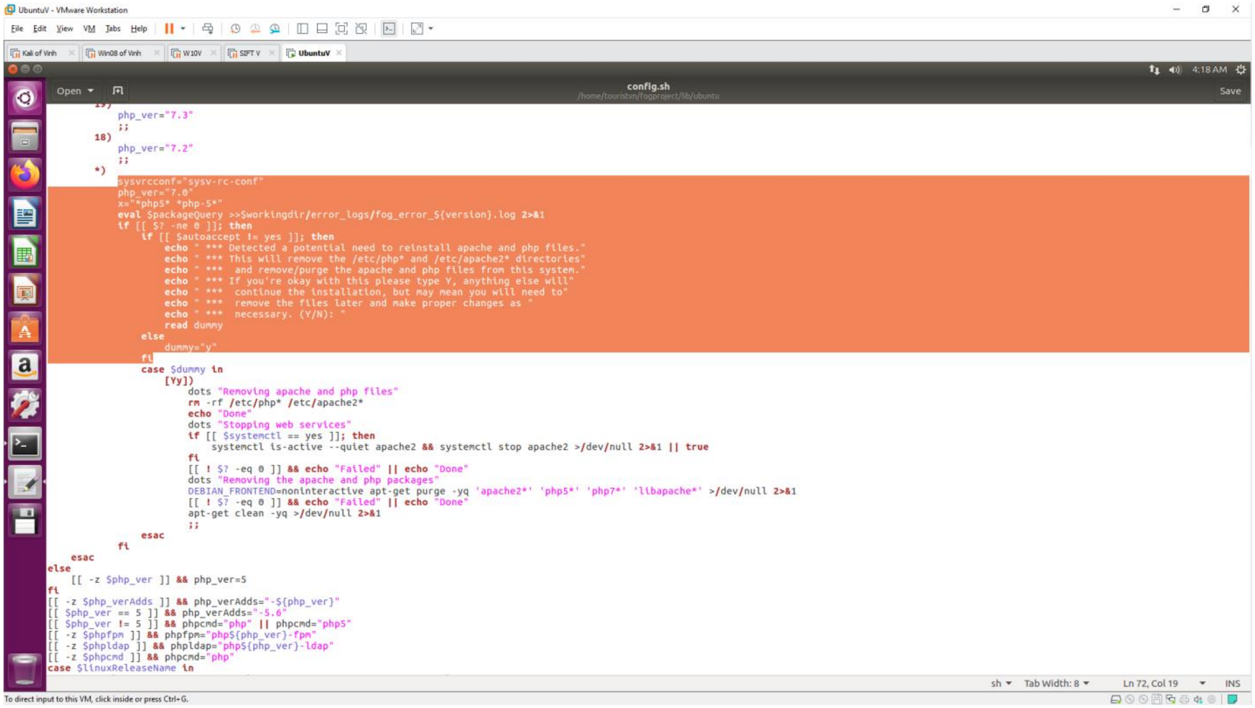
- git clone https://github.com/fogproject/fogproject.git fogproject-master



```
tourstv@TourstV:~/Desktop$ sudo -l
[sudo] password for tourstv:
Matching Defaults entries for tourstv on TourstV:
    env_reset, mail_badpass,
    secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin\:/snap/bin,
    use_pty

User tourstv may run the following commands on TourstV:
    (ALL : ALL) ALL
tourstv@TourstV:~/Desktop$ sudo -i
root@TourstV:~# cd /home/tourstv/Desktop/
root@TourstV:/home/tourstv/Desktop# git clone https://github.com/fogproject/fogproject.git fogproject-master
Cloning into 'fogproject-master'...
remote: Enumerating objects: 157752, done.
remote: Counting objects: 100% (3754/3754), done.
remote: Compressing objects: 100% (986/986), done.
Receiving objects:  10% (15776/157752), 3.36 MiB | 144.00 KiB/s
```

Because php7.1 does not exist in Ubuntu 16.04 so we need to change to php7.0 in /lib/ubuntu/config.sh



UbuntuV - VMware Workstation
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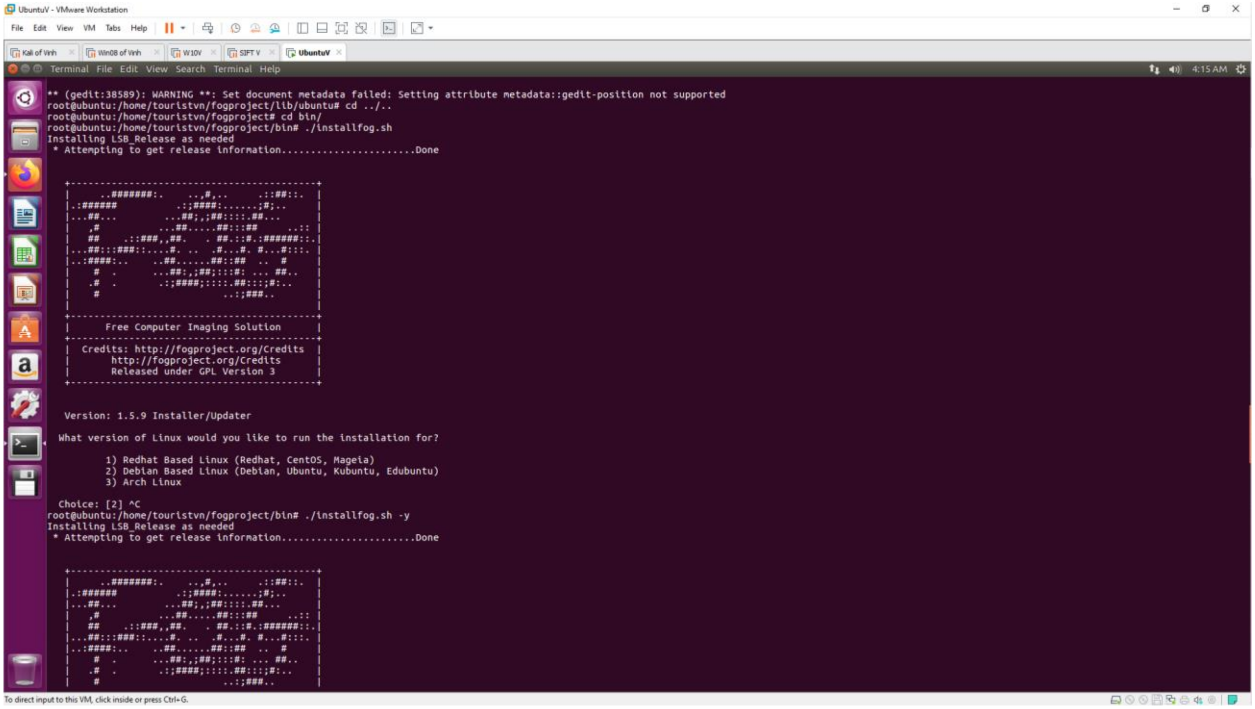
Open
config.sh
/home/touristvn/fogproject/lib/ubuntu
Save
sh
Tab Width: 8
Ln 72, Col 19
INS
To direct input to this VM, click inside or press Ctrl+G.

```
        19)
            php_ver="7.3"
            ;;
        18)
            php_ver="7.2"
            ;;
        *)
            sysvrcconf="sysv-rc-conf"
            php_ver="7.0"
            x="*php5* *php-5*"
            eval $packageQuery >>$workingdir/error_logs/fog_error_${version}.log 2>&1
            if [[ $? -ne 0 ]]; then
                if [[ $autoaccept != yes ]]; then
                    echo " *** Detected a potential need to reinstall apache and php files."
                    echo " *** This will remove the /etc/php* and /etc/apache2* directories"
                    echo " ***  and remove/purge the apache and php files from this system."
                    echo " *** If you're okay with this please type Y, anything else will"
                    echo " ***  continue the installation, but may mean you will need to"
                    echo " ***  remove the files later and make proper changes as "
                    echo " ***  necessary. (Y/N): "
                    read dummy
                else
                    dummy="y"
                fi
                case $dummy in
                    [Yy])
                        dots "Removing apache and php files"
                        rm -rf /etc/php* /etc/apache2*
                        echo "Done"
                        dots "Stopping web services"
                        if [[ $systemctl == yes ]]; then
                            systemctl is-active --quiet apache2 && systemctl stop apache2 >/dev/null 2>&1 || true
                        fi
                        [[ ! $? -eq 0 ]] && echo "Failed" || echo "Done"
                        dots "Removing the apache and php packages"
                        DEBIAN_FRONTEND=noninteractive apt-get purge -yq 'apache2*' 'php5*' 'php7*' 'libapache*' >/dev/null 2>&1
                        [[ ! $? -eq 0 ]] && echo "Failed" || echo "Done"
                        apt-get clean -yq >/dev/null 2>&1
                        ;;
                esac
            fi
    esac
else
    [[ -z $php_ver ]] && php_ver=5
fi
[[ -z $php_verAdds ]] && php_verAdds="-${php_ver}"
[[ $php_ver == 5 ]] && php_verAdds="-5.6"
[[ $php_ver != 5 ]] && phpcmd="php" || phpcmd="php5"
[[ -z $phpfpm ]] && phpfpm="php${php_ver}-fpm"
[[ -z $phpldap ]] && phpldap="php${php_ver}-ldap"
[[ -z $phpcmd ]] && phpcmd="php"
case $linuxReleaseName in
```

./installfog.sh



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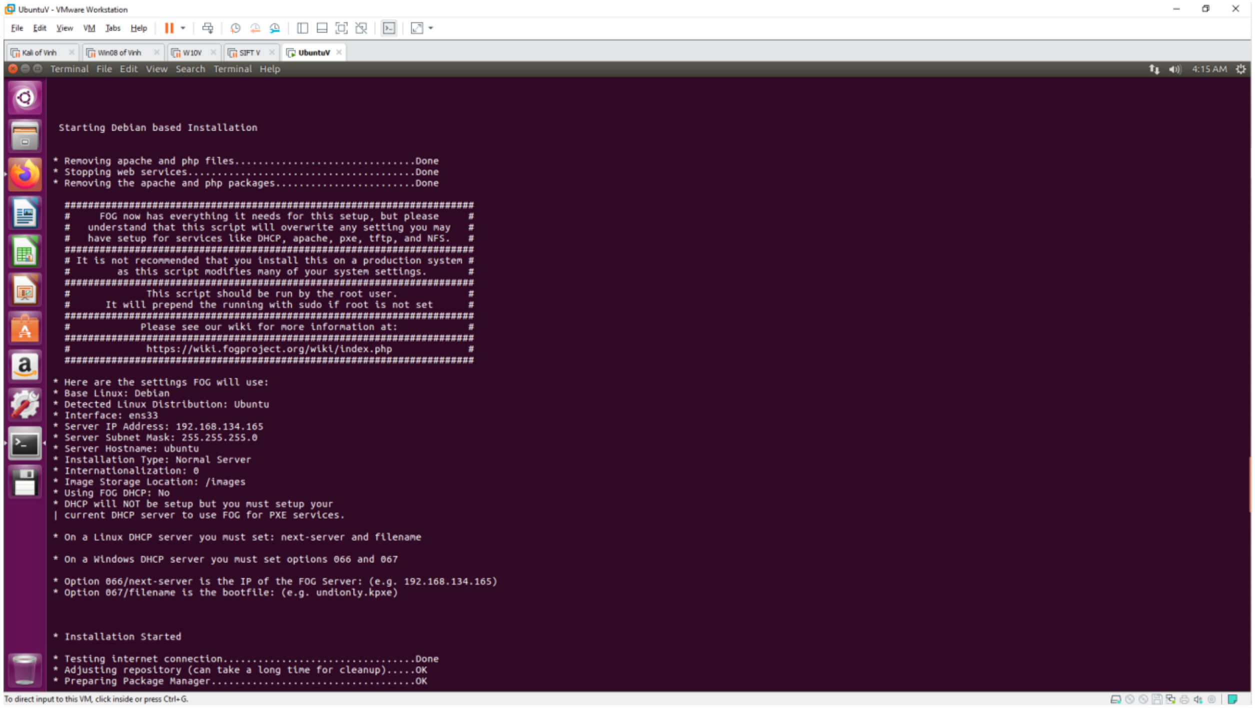
Terminal File Edit View Search Terminal Help
4:15 AM
To direct input to this VM, click inside or press Ctrl+G.

```
** (gedit:38589): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/home/touristvn/fogproject/lib/ubuntu# cd ../..
root@ubuntu:/home/touristvn/fogproject# cd bin/
root@ubuntu:/home/touristvn/fogproject/bin# ./installfog.sh
Installing LSB_Release as needed
 * Attempting to get release information.......................Done


   +--------------------------------------------+
   |     ..#######:.    ..,#,..     .::##::.   |
   |.:######          .:;####:......;#;..      |
   |...##...        ...##;,;##::::.##...       |
   |   ,#          ...##.....##:::##     ..::  |
   |   ##    .::###,,##.   . ##.::#.:######::.|
   |...##:::###::....#. ..  .#...#. #...#:::. |
   |..:####:..    ..##......##::##  ..  #     |
   |    #  .      ...##:,;##;:::#: ... ##..   |
   |   .#  .       .:;####;::::.##:::;#:..    |
   |    #                     ..:;###..       |
   |                                           |
   +--------------------------------------------+
   |      Free Computer Imaging Solution       |
   +--------------------------------------------+
   |  Credits: http://fogproject.org/Credits   |
   |       http://fogproject.org/Credits       |
   |       Released under GPL Version 3        |
   +--------------------------------------------+


   Version: 1.5.9 Installer/Updater

  What version of Linux would you like to run the installation for?

          1) Redhat Based Linux (Redhat, CentOS, Mageia)
          2) Debian Based Linux (Debian, Ubuntu, Kubuntu, Edubuntu)
          3) Arch Linux

  Choice: [2] ^C
root@ubuntu:/home/touristvn/fogproject/bin# ./installfog.sh -y
Installing LSB_Release as needed
 * Attempting to get release information.......................Done


   +--------------------------------------------+
   |     ..#######:.    ..,#,..     .::##::.   |
   |.:######          .:;####:......;#;..      |
   |...##...        ...##;,;##::::.##...       |
   |   ,#          ...##.....##:::##     ..::  |
   |   ##    .::###,,##.   . ##.::#.:######::.|
   |...##:::###::....#. ..  .#...#. #...#:::. |
   |..:####:..    ..##......##::##  ..  #     |
   |    #  .      ...##:,;##;:::#: ... ##..   |
   |   .#  .       .:;####;::::.##:::;#:..    |
   |    #                     ..:;###..       |
```



UbuntuV - VMware Workstation
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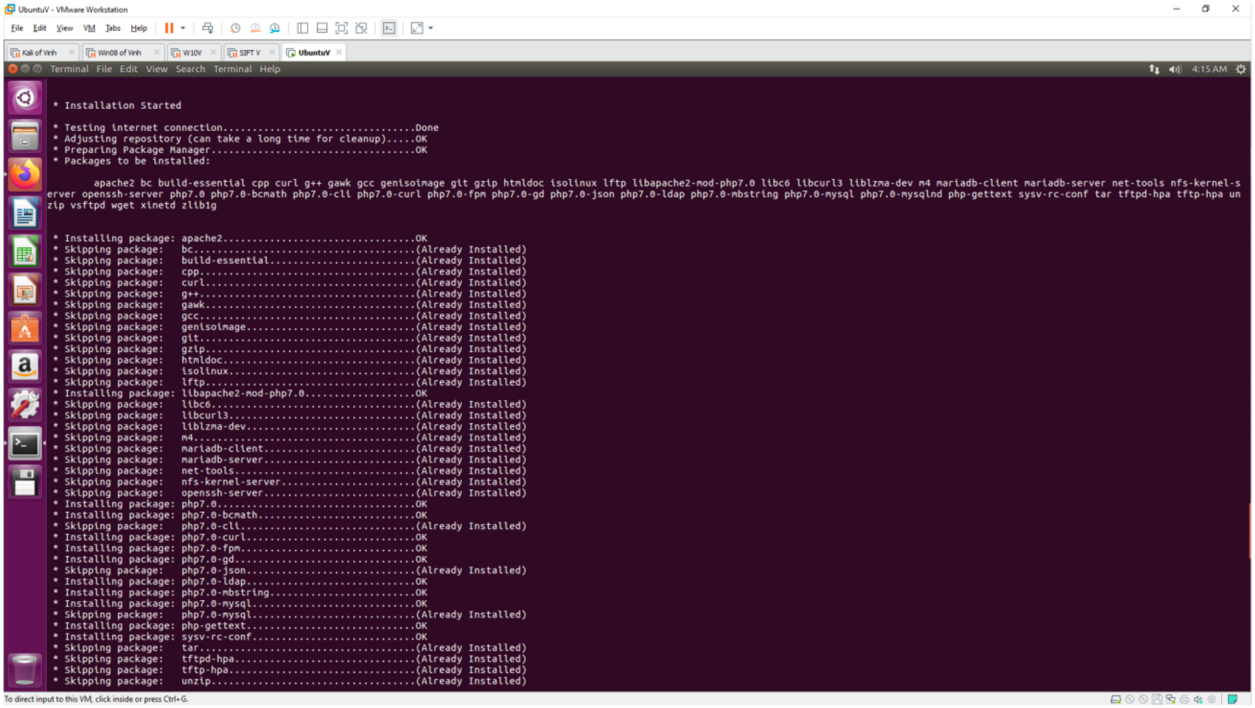
Terminal File Edit View Search Terminal Help
4:15 AM
To direct input to this VM, click inside or press Ctrl+G.

```
 Starting Debian based Installation

* Removing apache and php files...............................Done
* Stopping web services.......................................Done
* Removing the apache and php packages........................Done

  ######################################################################
  #     FOG now has everything it needs for this setup, but please     #
  #   understand that this script will overwrite any setting you may   #
  #   have setup for services like DHCP, apache, pxe, tftp, and NFS.   #
  ######################################################################
  # It is not recommended that you install this on a production system #
  #        as this script modifies many of your system settings.       #
  ######################################################################
  #             This script should be run by the root user.            #
  #      It will prepend the running with sudo if root is not set      #
  ######################################################################
  #            Please see our wiki for more information at:            #
  ######################################################################
  #             https://wiki.fogproject.org/wiki/index.php             #
  ######################################################################

* Here are the settings FOG will use:
* Base Linux: Debian
* Detected Linux Distribution: Ubuntu
* Interface: ens33
* Server IP Address: 192.168.134.165
* Server Subnet Mask: 255.255.255.0
* Server Hostname: ubuntu
* Installation Type: Normal Server
* Internationalization: 0
* Image Storage Location: /images
* Using FOG DHCP: No
* DHCP will NOT be setup but you must setup your
| current DHCP server to use FOG for PXE services.

* On a Linux DHCP server you must set: next-server and filename

* On a Windows DHCP server you must set options 066 and 067

* Option 066/next-server is the IP of the FOG Server: (e.g. 192.168.134.165)
* Option 067/filename is the bootfile: (e.g. undionly.kpxe)



* Installation Started

* Testing internet connection.................................Done
* Adjusting repository (can take a long time for cleanup).....OK
* Preparing Package Manager...................................OK
```



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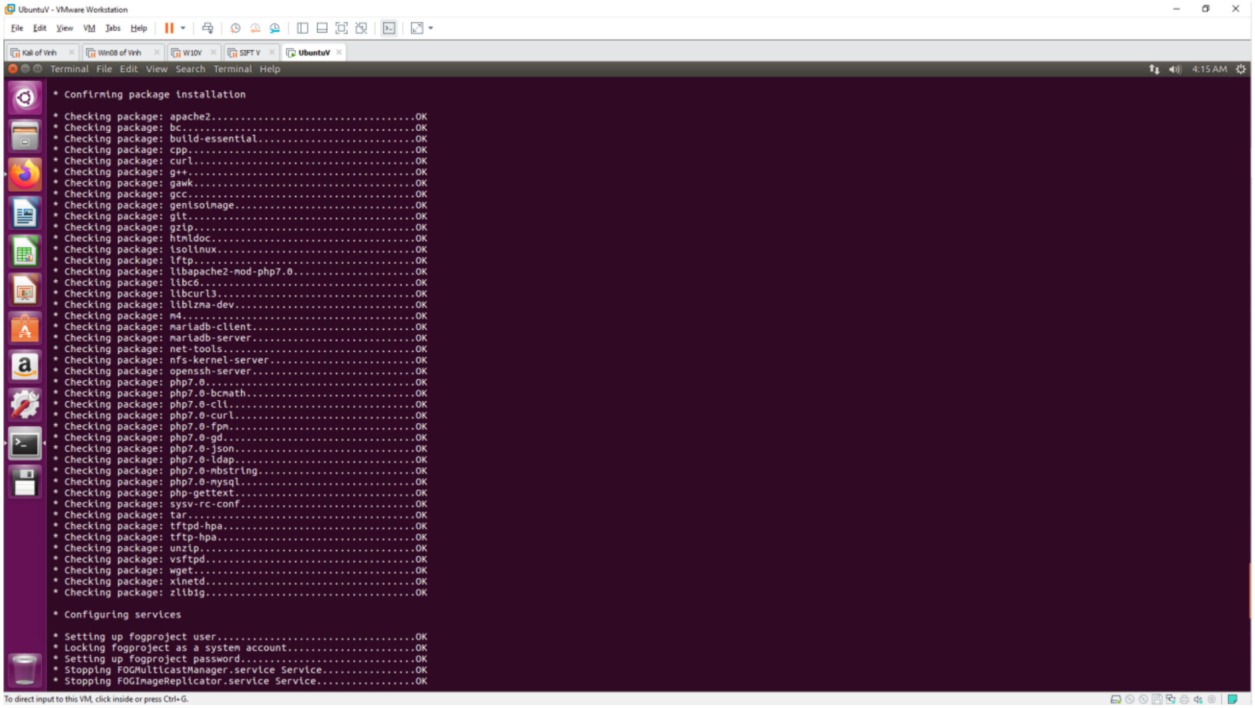
```
* Installation Started

* Testing internet connection.................................Done
* Adjusting repository (can take a long time for cleanup).....OK
* Preparing Package Manager...................................OK
* Packages to be installed:

       apache2 bc build-essential cpp curl g++ gawk gcc genisoimage git gzip htmldoc isolinux lftp libapache2-mod-php7.0 libc6 libcurl3 liblzma-dev m4 mariadb-client mariadb-server net-tools nfs-kernel-s
erver openssh-server php7.0 php7.0-bcmath php7.0-cli php7.0-curl php7.0-fpm php7.0-gd php7.0-json php7.0-ldap php7.0-mbstring php7.0-mysql php7.0-mysqlnd php-gettext sysv-rc-conf tar tftpd-hpa tftp-hpa un
zip vsftpd wget xinetd zlib1g


* Installing package: apache2.................................OK
* Skipping package:   bc......................................(Already Installed)
* Skipping package:   build-essential.........................(Already Installed)
* Skipping package:   cpp.....................................(Already Installed)
* Skipping package:   curl....................................(Already Installed)
* Skipping package:   g++.....................................(Already Installed)
* Skipping package:   gawk....................................(Already Installed)
* Skipping package:   gcc.....................................(Already Installed)
* Skipping package:   genisoimage.............................(Already Installed)
* Skipping package:   git.....................................(Already Installed)
* Skipping package:   gzip....................................(Already Installed)
* Skipping package:   htmldoc.................................(Already Installed)
* Skipping package:   isolinux................................(Already Installed)
* Skipping package:   lftp....................................(Already Installed)
* Installing package: libapache2-mod-php7.0...................OK
* Skipping package:   libc6...................................(Already Installed)
* Skipping package:   libcurl3................................(Already Installed)
* Skipping package:   liblzma-dev.............................(Already Installed)
* Skipping package:   m4......................................(Already Installed)
* Skipping package:   mariadb-client..........................(Already Installed)
* Skipping package:   mariadb-server..........................(Already Installed)
* Skipping package:   net-tools...............................(Already Installed)
* Skipping package:   nfs-kernel-server.......................(Already Installed)
* Skipping package:   openssh-server..........................(Already Installed)
* Installing package: php7.0..................................OK
* Installing package: php7.0-bcmath...........................OK
* Skipping package:   php7.0-cli..............................(Already Installed)
* Installing package: php7.0-curl.............................OK
* Installing package: php7.0-fpm..............................OK
* Installing package: php7.0-gd...............................OK
* Skipping package:   php7.0-json.............................(Already Installed)
* Installing package: php7.0-ldap.............................OK
* Installing package: php7.0-mbstring.........................OK
* Installing package: php7.0-mysql............................OK
* Skipping package:   php7.0-mysql............................(Already Installed)
* Installing package: php-gettext.............................OK
* Installing package: sysv-rc-conf............................OK
* Skipping package:   tar.....................................(Already Installed)
* Skipping package:   tftpd-hpa...............................(Already Installed)
* Skipping package:   tftp-hpa................................(Already Installed)
* Skipping package:   unzip...................................(Already Installed)
```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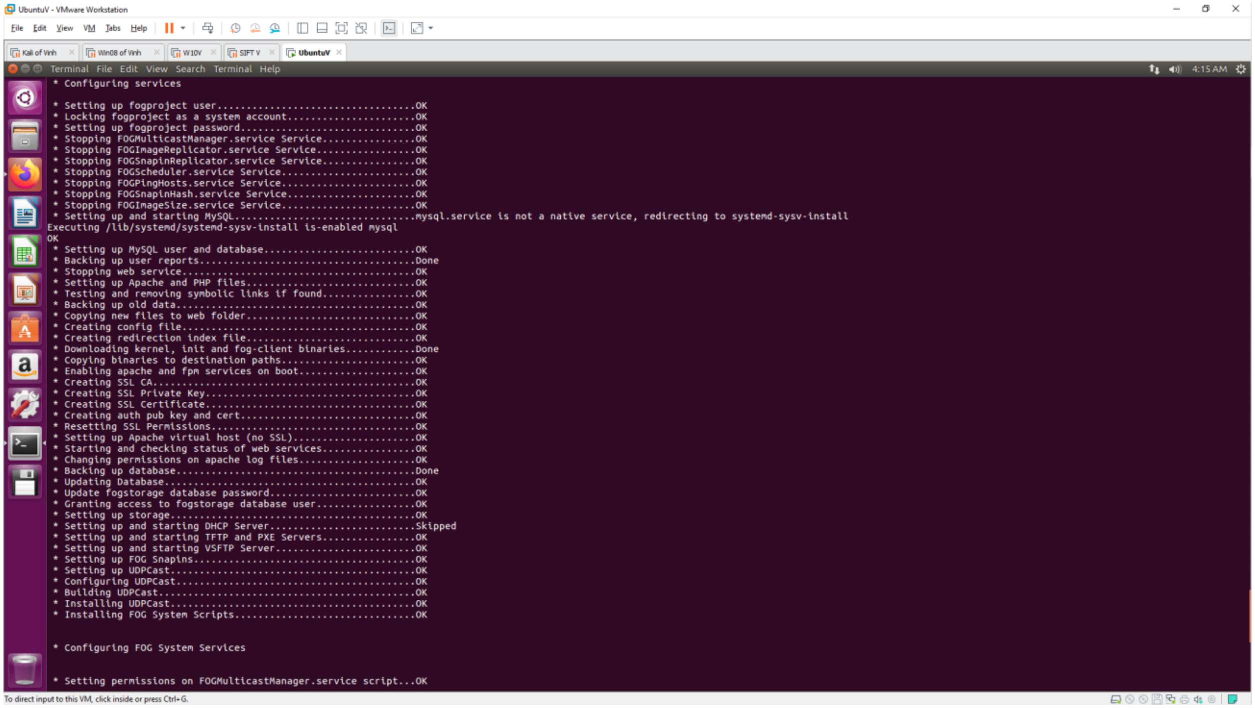
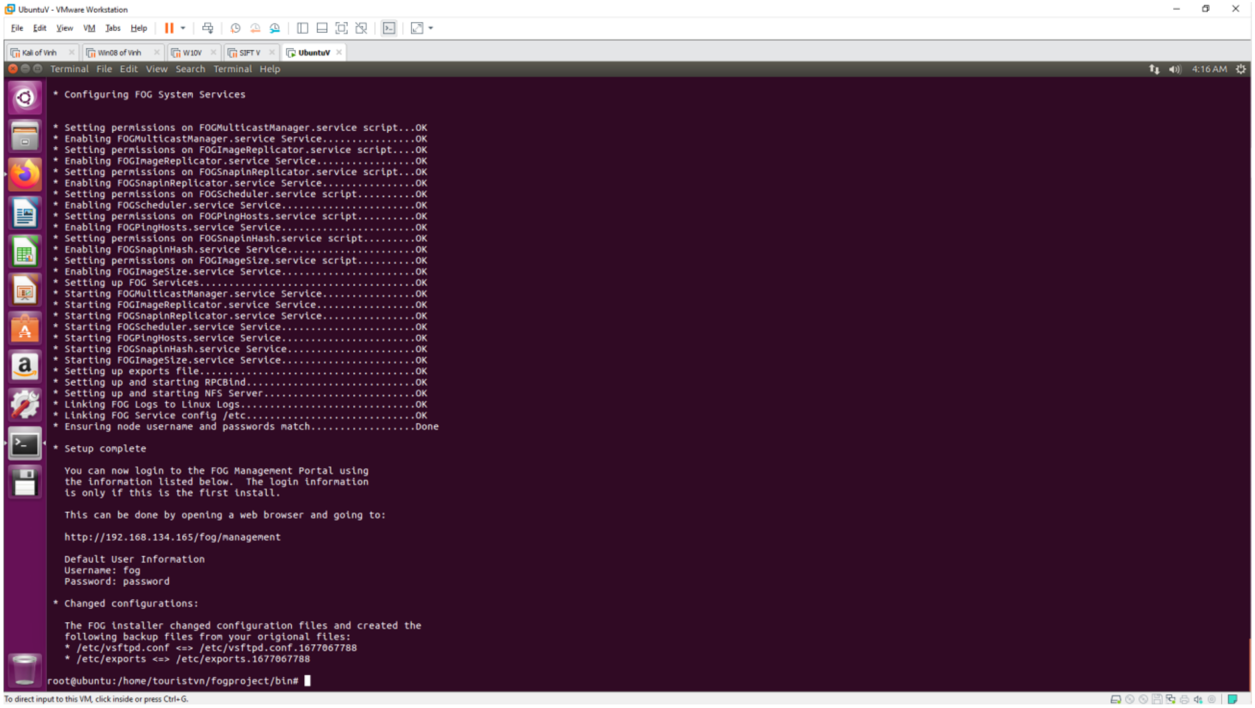
Kali of Vinh
Win08 of Vinh
W10V
SIFT V
UbuntuV
Terminal File Edit View Search Terminal Help
4:15 AM
To direct input to this VM, click inside or press Ctrl+G.

```
 * Confirming package installation

 * Checking package: apache2...................................OK
 * Checking package: bc........................................OK
 * Checking package: build-essential...........................OK
 * Checking package: cpp.......................................OK
 * Checking package: curl......................................OK
 * Checking package: g++.......................................OK
 * Checking package: gawk......................................OK
 * Checking package: gcc.......................................OK
 * Checking package: genisoimage...............................OK
 * Checking package: git.......................................OK
 * Checking package: gzip......................................OK
 * Checking package: htmldoc...................................OK
 * Checking package: isolinux..................................OK
 * Checking package: lftp......................................OK
 * Checking package: libapache2-mod-php7.0.....................OK
 * Checking package: libc6.....................................OK
 * Checking package: libcurl3..................................OK
 * Checking package: liblzma-dev...............................OK
 * Checking package: m4........................................OK
 * Checking package: mariadb-client............................OK
 * Checking package: mariadb-server............................OK
 * Checking package: net-tools.................................OK
 * Checking package: nfs-kernel-server.........................OK
 * Checking package: openssh-server............................OK
 * Checking package: php7.0....................................OK
 * Checking package: php7.0-bcmath.............................OK
 * Checking package: php7.0-cli................................OK
 * Checking package: php7.0-curl...............................OK
 * Checking package: php7.0-fpm................................OK
 * Checking package: php7.0-gd.................................OK
 * Checking package: php7.0-json...............................OK
 * Checking package: php7.0-ldap...............................OK
 * Checking package: php7.0-mbstring...........................OK
 * Checking package: php7.0-mysql..............................OK
 * Checking package: php-gettext...............................OK
 * Checking package: sysv-rc-conf..............................OK
 * Checking package: tar.......................................OK
 * Checking package: tftpd-hpa.................................OK
 * Checking package: tftp-hpa..................................OK
 * Checking package: unzip.....................................OK
 * Checking package: vsftpd....................................OK
 * Checking package: wget......................................OK
 * Checking package: xinetd....................................OK
 * Checking package: zlib1g....................................OK

 * Configuring services

 * Setting up fogproject user..................................OK
 * Locking fogproject as a system account......................OK
 * Setting up fogproject password..............................OK
 * Stopping FOGMulticastManager.service Service................OK
 * Stopping FOGImageReplicator.service Service.................OK
```


UbuntuV - VMware Workstation
File Edit View VM Tabs Help
Kali of Vinh
Win08 of Vinh
W10V
SIFT V
UbuntuV
Terminal File Edit View Search Terminal Help
4:15 AM
To direct input to this VM, click inside or press Ctrl+G.

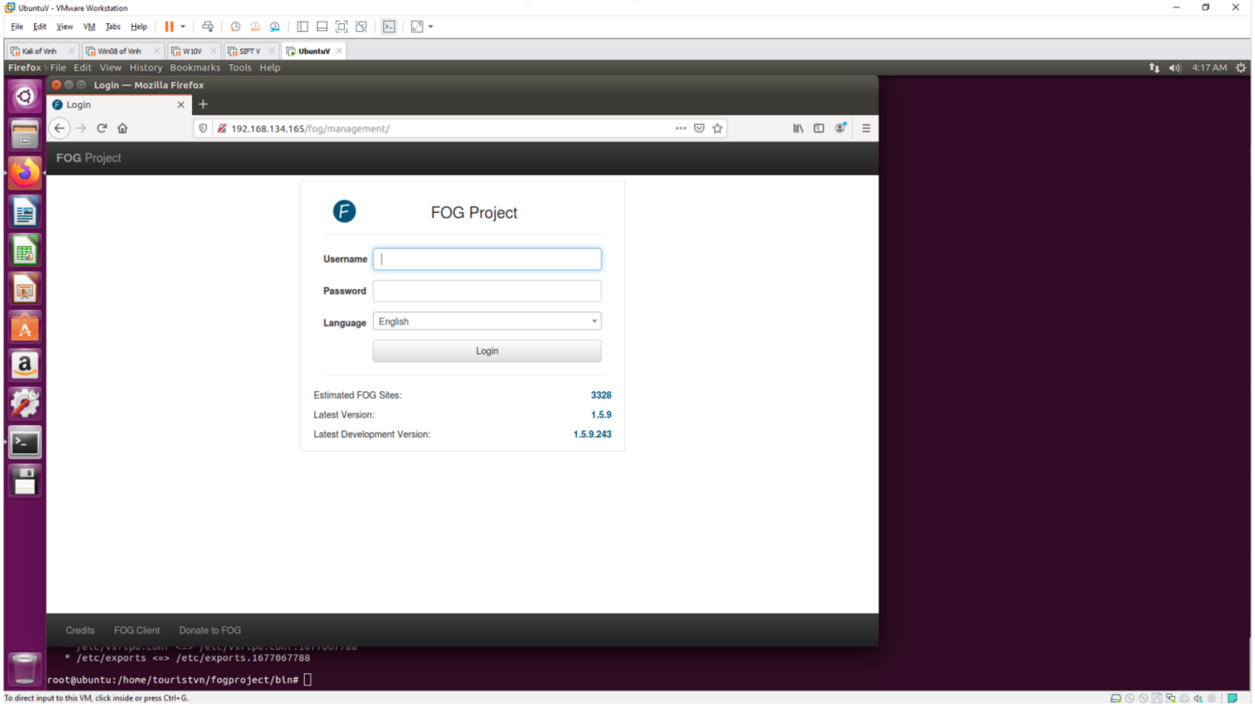
```
 * Configuring services

 * Setting up fogproject user..................................OK
 * Locking fogproject as a system account......................OK
 * Setting up fogproject password..............................OK
 * Stopping FOGMulticastManager.service Service................OK
 * Stopping FOGImageReplicator.service Service.................OK
 * Stopping FOGSnapinReplicator.service Service................OK
 * Stopping FOGScheduler.service Service.......................OK
 * Stopping FOGPingHosts.service Service.......................OK
 * Stopping FOGSnapinHash.service Service......................OK
 * Stopping FOGImageSize.service Service.......................OK
 * Setting up and starting MySQL...............................mysql.service is not a native service, redirecting to systemd-sysv-install
Executing /lib/systemd/systemd-sysv-install is-enabled mysql
OK
 * Setting up MySQL user and database..........................OK
 * Backing up user reports.....................................Done
 * Stopping web service........................................OK
 * Setting up Apache and PHP files.............................OK
 * Testing and removing symbolic links if found................OK
 * Backing up old data.........................................OK
 * Copying new files to web folder.............................OK
 * Creating config file........................................OK
 * Creating redirection index file.............................OK
 * Downloading kernel, init and fog-client binaries............Done
 * Copying binaries to destination paths.......................OK
 * Enabling apache and fpm services on boot....................OK
 * Creating SSL CA.............................................OK
 * Creating SSL Private Key....................................OK
 * Creating SSL Certificate....................................OK
 * Creating auth pub key and cert..............................OK
 * Resetting SSL Permissions...................................OK
 * Setting up Apache virtual host (no SSL).....................OK
 * Starting and checking status of web services................OK
 * Changing permissions on apache log files....................OK
 * Backing up database.........................................Done
 * Updating Database...........................................OK
 * Update fogstorage database password.........................OK
 * Granting access to fogstorage database user.................OK
 * Setting up storage..........................................OK
 * Setting up and starting DHCP Server.........................Skipped
 * Setting up and starting TFTP and PXE Servers................OK
 * Setting up and starting VSFTP Server........................OK
 * Setting up FOG Snapins......................................OK
 * Setting up UDPCast..........................................OK
 * Configuring UDPCast.........................................OK
 * Building UDPCast............................................OK
 * Installing UDPCast..........................................OK
 * Installing FOG System Scripts...............................OK


 * Configuring FOG System Services


 * Setting permissions on FOGMulticastManager.service script...OK
```



UbuntuV - VMware Workstation
File Edit View VM Tabs Help
Kali of Vinh
Win08 of Vinh
W10V
SIFT V
UbuntuV
Terminal File Edit View Search Terminal Help
4:16 AM
To direct input to this VM, click inside or press Ctrl+G.

```
* Configuring FOG System Services


* Setting permissions on FOGMulticastManager.service script...OK
* Enabling FOGMulticastManager.service Service................OK
* Setting permissions on FOGImageReplicator.service script....OK
* Enabling FOGImageReplicator.service Service.................OK
* Setting permissions on FOGSnapinReplicator.service script...OK
* Enabling FOGSnapinReplicator.service Service................OK
* Setting permissions on FOGScheduler.service script..........OK
* Enabling FOGScheduler.service Service.......................OK
* Setting permissions on FOGPingHosts.service script..........OK
* Enabling FOGPingHosts.service Service.......................OK
* Setting permissions on FOGSnapinHash.service script.........OK
* Enabling FOGSnapinHash.service Service......................OK
* Setting permissions on FOGImageSize.service script..........OK
* Enabling FOGImageSize.service Service.......................OK
* Setting up FOG Services.....................................OK
* Starting FOGMulticastManager.service Service................OK
* Starting FOGImageReplicator.service Service.................OK
* Starting FOGSnapinReplicator.service Service................OK
* Starting FOGScheduler.service Service.......................OK
* Starting FOGPingHosts.service Service.......................OK
* Starting FOGSnapinHash.service Service......................OK
* Starting FOGImageSize.service Service.......................OK
* Setting up exports file.....................................OK
* Setting up and starting RPCBind.............................OK
* Setting up and starting NFS Server..........................OK
* Linking FOG Logs to Linux Logs..............................OK
* Linking FOG Service config /etc.............................OK
* Ensuring node username and passwords match..................Done

* Setup complete

  You can now login to the FOG Management Portal using
  the information listed below.  The login information
  is only if this is the first install.

  This can be done by opening a web browser and going to:

  http://192.168.134.165/fog/management

  Default User Information
  Username: fog
  Password: password

* Changed configurations:

  The FOG installer changed configuration files and created the
  following backup files from your origional files:
  * /etc/vsftpd.conf <=> /etc/vsftpd.conf.1677067788
  * /etc/exports <=> /etc/exports.1677067788

root@ubuntu:/home/touristvn/fogproject/bin# 
```

Login to http://192.168.134.165/fog/management



UbuntuV - VMware Workstation
File Edit View VM Tabs Help
Kali of Vinh
Win08 of Vinh
W10V
SIFT V
UbuntuV
Firefox File Edit View History Bookmarks Tools Help
4:17 AM
Login — Mozilla Firefox
Login
FOG Project
Credits
FOG Client
Donate to FOG
To direct input to this VM, click inside or press Ctrl+G.

192.168.134.165/fog/management/

FOG Project

Username

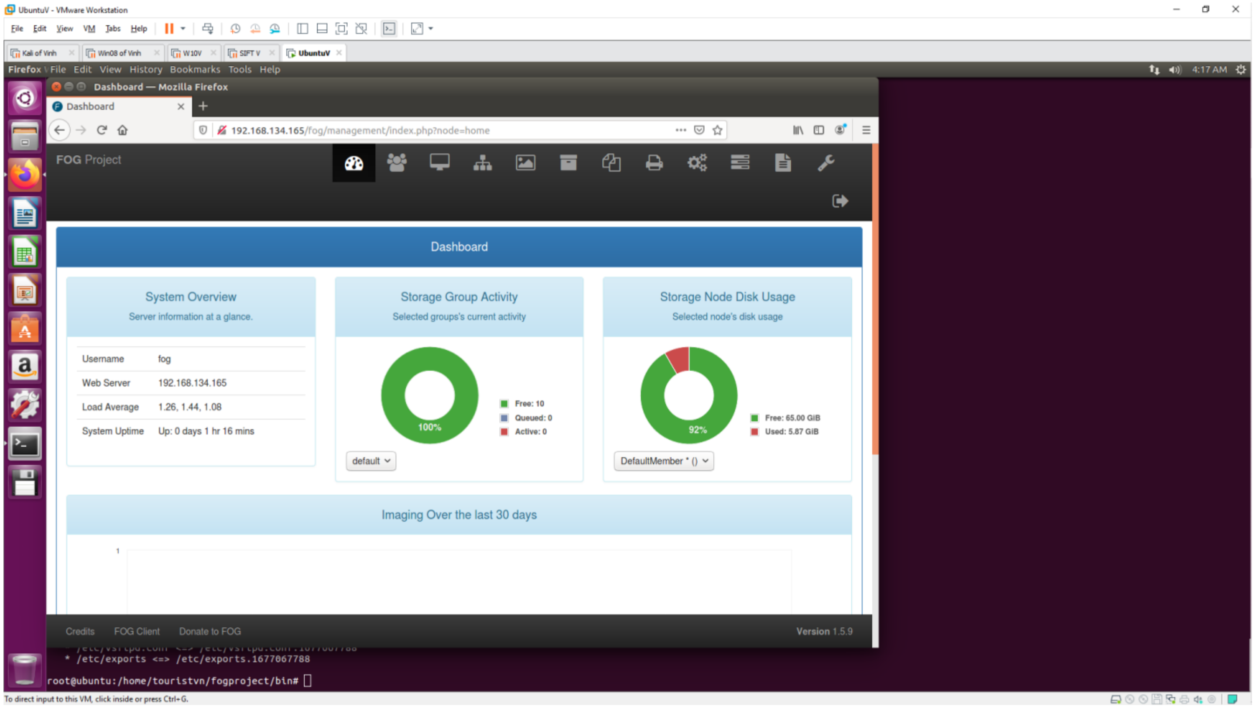
Password

Language English

Login

| | |
|---|---|
| Estimated FOG Sites: | 3328 |
| Latest Version: | 1.5.9 |
| Latest Development Version: | 1.5.9.243 |

```
  * /etc/exports <=> /etc/exports.1677067788

root@ubuntu:/home/touristvn/fogproject/bin# 
```



Dashboard

System Overview

Server information at a glance.

| | |
|---|---|
| Username | fog |
| Web Server | 192.168.134.165 |
| Load Average | 1.26, 1.44, 1.08 |
| System Uptime | Up: 0 days 1 hr 16 mins |

Storage Group Activity

Selected groups's current activity

🟩 Free: 10
🟦 Queued: 0
🟥 Active: 0

default

Storage Node Disk Usage

Selected node's disk usage

🟩 Free: 65.00 GiB
🟥 Used: 5.87 GiB

DefaultMember * ()

Imaging Over the last 30 days

```
  * /etc/vsftpd.conf <=> /etc/vsftpd.conf.1677067788
  * /etc/exports <=> /etc/exports.1677067788

root@ubuntu:/home/touristvn/fogproject/bin# 
```