root@s22-foggy:~# apt install software-properties-common
root@s22-foggy:~# wget https://github.com/FOGProject/fogproject/archive/1.5.9.tar.gz
root@s22-foggy:~ # ls
1.5.9.tar.gz  snap
root@s22-foggy:~ #
root@s22-foggy:~ # tar -xvzf 1.5.9.tar.gz
root@s22-foggy:~/fogproject-1.5.9
root@s22-foggy:~/fogproject-1.5.9# cd fogproject-1.5.9/
root@s22-foggy:~/fogproject-1.5.9# ./bin/installfog.sh
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]
1) Redhat Based Linux (Redhat, CentOS, Mageia)
2) Debian Based Linux (Debian, Ubuntu, Kubuntu, Edubuntu)
3) Arch Linux

Choice: [2] 2

Starting Debian based Installation

FOG Server installation modes:
* Normal Server: (Choice N)
  This is the typical installation type and will install all FOG components for you on this machine. Pick this option if you are unsure what to pick.

* Storage Node: (Choice S)
  This install mode will only install the software required to make this server act as a node in a storage group


What type of installation would you like to do? [N/s (Normal/Storage)] N
Starting Debian based Installation

FOG Server installation modes:
  * Normal Server: (Choice N)
    This is the typical installation type and will install all FOG components for you on this machine. Pick this option if you are unsure what to pick.

  * Storage Node: (Choice S)
    This install mode will only install the software required to make this server act as a node in a storage group

More information:

What type of installation would you like to do? [N/s (Normal/Storage)] N

We found the following interfaces on your system:
  * ens4 - 144.38.199.35/28

Would you like to change the default network interface from ens4? If you are not sure, select No. [y/N]

Would you like to setup a router address for the DHCP server? [Y/n] Y
* Normal Server: (Choice N)
  This is the typical installation type and will install all FOG components for you on this machine. Pick this option if you are unsure what to pick.

* Storage Node: (Choice S)
  This install mode will only install the software required to make this server act as a node in a storage group

More information:

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* ens4 - 144.38.199.35/28

Would you like to change the default network interface from ens4?
If you are not sure, select No. [y/N]

Would you like to setup a router address for the DHCP server? [Y/n] Y
What is the IP address to be used for the router on the DHCP server? [144.38.199.33]

Would you like DHCP to handle DNS? [Y/n] Y
What DNS address should DHCP allow? [127.0.0.53] 144.38.192.2
* Storage Node: (Choice S)
  This install mode will only install the software required
  to make this server act as a node in a storage group

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Would you like DHCP to handle DNS? [Y/n] Y
What DNS address should DHCP allow? [127.0.0.53] 144.38.192.2

Would you like to use the FOG server for DHCP service? [y/N] N

This version of FOG has internationalization support, would
you like to install the additional language packs? [y/N] N
What type of installation would you like to do? [N/s (Normal/Storage)] N

We found the following interfaces on your system:
   * ens4 - 144.38.199.35/28

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Using encrypted connections is state of the art on the web and we encourage you to enable this for your FOG server. But using HTTPS has some implications within FOG, PXE and fog-client and you want to read https://wiki.fogproject.org/HTTPS before you decide!
Would you like to enable secure HTTPS on your FOG server? [y/N] N
Would you like to change the default network interface from ens4? If you are not sure, select No. [y/N]

Would you like to setup a router address for the DHCP server? [Y/n] Y
What is the IP address to be used for the router on the DHCP server? [144.38.199.33]

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Would you like to enable secure HTTPS on your FOG server? [y/N] N

Which hostname would you like to use? Currently is: s22-foggy
Note: This hostname will be in the certificate we generate for your FOG webserver. The hostname will only be used for this but won't be set as a local hostname on your server!
Would you like to change it? If you are not sure, select No. [y/N] N
Here are the settings FOG will use:
* Base Linux: Debian
* Detected Linux Distribution: Ubuntu
* Interface: ens4
* Server IP Address: 144.38.199.35
* Server Subnet Mask: 255.255.255.240
* Server Hostname: s22-foggy
* 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. 144.38.199.35)
* Option 067/filename is the bootfile: (e.g. undionly.kpxe)

Are you sure you wish to continue (Y/N) Y
While that is installing, I will add those options to my dhcp server.
ftpd-hpa unzip vsftpd wget xinetd zlib1g

* Installing package: apache2..........................OK
* Skipping package: bc..................................(Already Installed)
* Installing package: build-essential..................OK
* 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)
* Installing package: genisoimage......................OK
* Skipping package: git..................................(Already Installed)
* Skipping package: gzip.................................(Already Installed)
* Installing package: htdoc..............................OK
* Installing package: isoldoc............................OK
* Installing package: lftp...............................OK
* Installing package: libapache2-mod-php7.4.........OK
* Skipping package: lib6c..............................(Already Installed)
* Skipping package: libcurl4...........................(Already Installed)
* Installing package: liblzma-dev......................OK
* Installing package: m4.................................OK
* Installing package: mariadb-client..................OK
* Installing package: mariadb-server..................OK
* Installing package: net-tools........................OK
* Installing package: nfs-kernel-server...............OK
* 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.                          .OK

* You still need to install/update your database schema. 
* This can be done by opening a web browser and going to:

http://144.38.199.35/fog/management

* Press [Enter] key when database is updated.installed.
Install / Update Successful!

Click here to login
* 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

* You still need to install/update your database schema.
* This can be done by opening a web browser and going to:

http://144.38.199.35/fog/management

* Press [Enter] key when database is updated installed.
* 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://144.38.199.35/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 original files:
* /etc/vsftpd.conf <=> /etc/vsftpd.conf.1643217518
* /etc/exports <=> /etc/exports.1643217518

root@s22-foggy:~/fogproject-1.5.9#
Install / Update Successful!

Click here to login
```
root@s22-foggy:~/.fogproject-1.5.9# echo "Don't forget to restart the dhcp service"
Don't forget to restart the dhcp service
root@s22-foggy:~/.fogproject-1.5.9# echo "Test netboot"
Test netboot
root@s22-foggy:~/.fogproject-1.5.9# ```
root@s22-dhcp:/etc/dhcp# service isc-dhcp-server restart
root@s22-dhcp:/etc/dhcp# echo "make sure your filename directive has quotes around it"
make sure your filename directive has quotes around it
root@s22-dhcp:/etc/dhcp# cat dhcpd.conf | grep filename
  # filename "ubuntu/pxelinux.0";
  filename "undionly.kpxe";
  # filename "vmunix.passacaglia";
root@s22-dhcp:/etc/dhcp#
Host is NOT registered!
_________________________
Boot from hard disk

Run Memtest86:
Perform Full Host Registration and Inventory
Quick Registration and Inventory
Deploy Image
Join Multicast Session
Client System Information (Compatibility)

FOG Project
Open Source Computer Cloning Solution
Host is NOT registered!
---------------------
Boot from hard disk
Run Memtest86+
Perform Full Host Registration and Inventory
Quick Registration and Inventory
Deploy Image
Join Multicast Session
Client System Information (Compatibility)

FOG Project
Open Source Computer Cloning Solution
It registered that host for me!

root@s22-foggy:~#
**Host Management Edit: 52540008007a**

### Host general

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host Name</td>
<td>samplehost</td>
</tr>
<tr>
<td>Primary MAC</td>
<td>52:54:00:06:00:7a</td>
</tr>
<tr>
<td>Host description</td>
<td>Created by FOG Reg on January 26, 2022, 5:37 pm</td>
</tr>
<tr>
<td>Host Product Key</td>
<td></td>
</tr>
<tr>
<td>Host Image</td>
<td>No items found</td>
</tr>
<tr>
<td>Host Kernel</td>
<td></td>
</tr>
<tr>
<td>Host Kernel Arguments</td>
<td></td>
</tr>
<tr>
<td>Host Init</td>
<td></td>
</tr>
<tr>
<td>Host Primary Disk</td>
<td></td>
</tr>
<tr>
<td>Host Bios Exit Type</td>
<td>- Please Select an option -</td>
</tr>
</tbody>
</table>
Host Tasks

**Deploy**

Deploy action will send an image saved on the FOG server to the client computer with all included snapsins.

**Capture**

Capture will pull an image from a client computer that will be saved on the server.

**Advanced**

View advanced tasks for this host.
Create an image before you capture one
# Image Management

## Main Menu
- List All Images
- Create New Image
- Export Images
- Import Images
- Multicast Image

## All Images

<table>
<thead>
<tr>
<th>Image Name</th>
<th>Storage Group</th>
<th>Image Size: ON CLIENT</th>
<th>Captured</th>
</tr>
</thead>
<tbody>
<tr>
<td>basicubuntu - 1</td>
<td>default</td>
<td>0.00 iB</td>
<td>Invalid date</td>
</tr>
</tbody>
</table>

## Delete Selected

Delete selected images: [Delete]
root@s22-foggy:~# df -h

Filesystem     Size  Used  Avail  Use% Mounted on
udev           2.0G   0   2.0G   0% /dev
tmpfs          403M  1.2M  402M   1% /run
/dev/sda3      8.8G  6.0G  2.4G  72% /
tmpfs           2.0G   0   2.0G   0% /dev/shm
tmpfs           5.0M   0   5.0M   0% /run/lock
tmpfs           2.0G   0   2.0G   0% /sys/fs/cgroup
/dev/loop0     55M   55M    0 100% /snap/core18/1880
/dev/loop1     30M   30M    0 100% /snap/snapd/8542
/dev/loop2     72M   72M    0 100% /snap/lxd/16099
/dev/loop3     44M   44M    0 100% /snap/snapd/14549
/dev/loop4     56M   56M    0 100% /snap/core18/2284
/dev/loop5     62M   62M    0 100% /snap/core20/1270
/dev/loop6     68M   68M    0 100% /snap/lxd/21835
tmpfs          403M   0  403M    0% /run/user/0

root@s22-foggy:~# echo "Not sure if we have enough space, but we shall see"
Not sure if we have enough space, but we shall see

root@s22-foggy:~#