

# Puppet Installation Guide

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## Installation Notes

edureka!

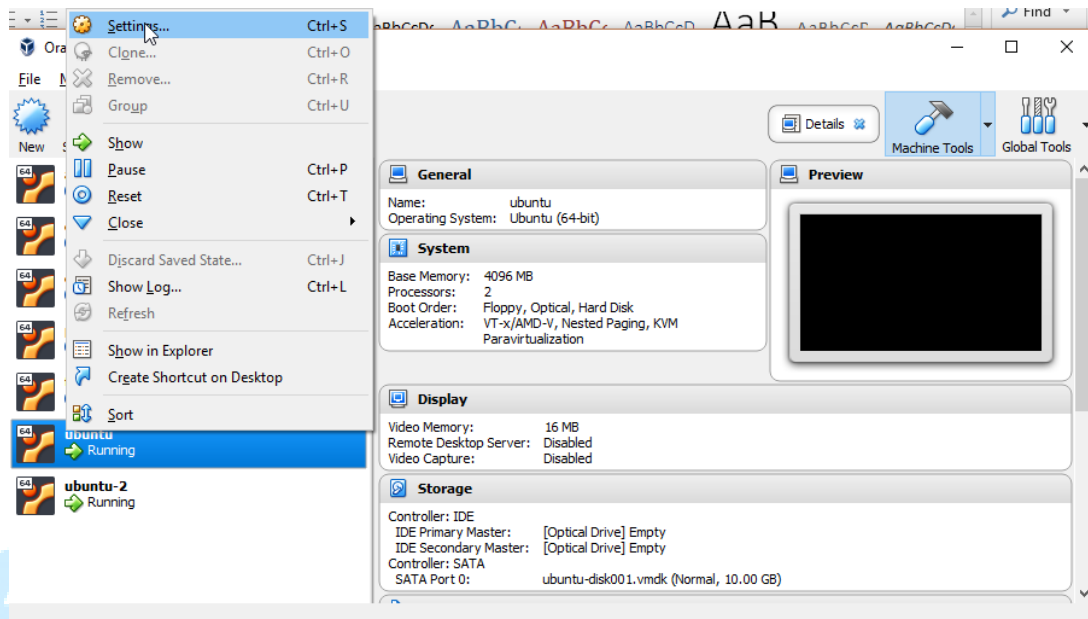
**edureka!**

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## Prerequisite:

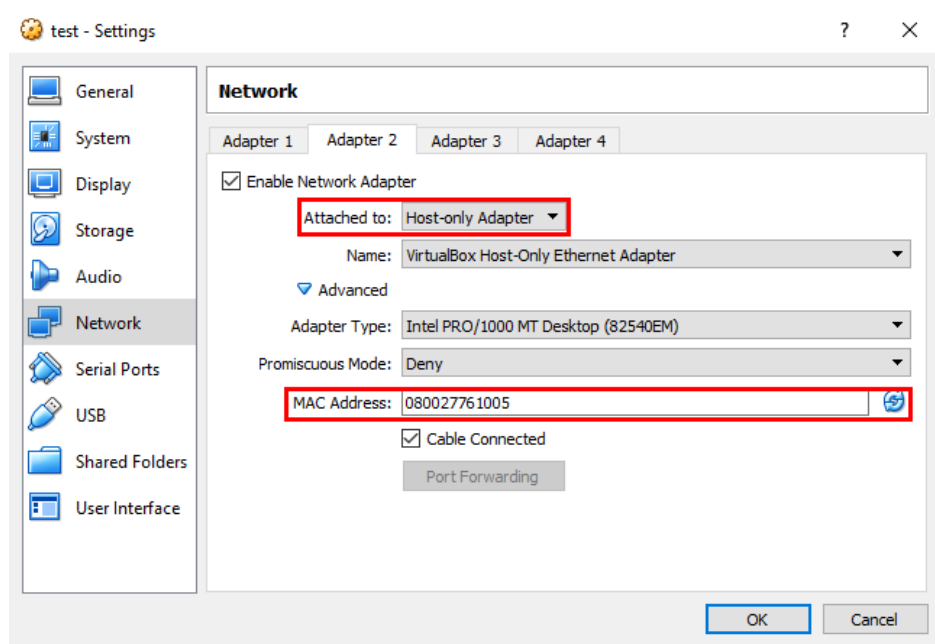
Setup the Virtual machines before installing Puppet.

**Step 1:** Right click on the Machine and switch to Network tab



**Step 2:** Add 2<sup>nd</sup> adapter in the virtual machine settings and set it to Host-only Adapter

Note: Remember to change the MAC addresses of all the subsequent cloned machines for both the adapters.



**Step 3:** Now, for every machine, edit the interfaces file in the network folder to make the IP address static

Syntax: `sudo vi /etc/network/interfaces`

And add the following code to it:

```
auto enp0s8
```

```
iface enp0s8 inet static
```

```
address <ip address>
```

```
edureka@edureka1:~$ sudo vi /etc/network/interfaces
```

```
## interfaces(5) file used by ifup(8) and ifdown(8)
auto lo
iface lo inet loopback

auto enp0s8
iface enp0s8 inet static
address 192.168.56.101
```

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## Installing Puppet:

**Note:** All the commands in this installation are run as root.

Syntax: `sudo su`

### Setup hosts file on Machines:

**Step 1:** On the master edit the host file and add the IP address of the master itself in the **hosts** file naming it puppet

**Step 2:** On the Agent machines add the master IP as puppet and the Agent's IP address as puppet-agent

Syntax: `nano /etc/hosts`

```
127.0.0.1      localhost
127.0.1.1      edureka-1

192.168.56.101 puppet
192.168.56.102 puppet-agent
```

### Setup the Puppet Server:

**Step 1:** Download the puppet package for ubuntu using

Syntax: `wget https://apt.puppetlabs.com/puppetlabs-release-pc1-xenial.deb`

```
root@edureka-1:/home/edureka# wget https://apt.puppetlabs.com/puppetlabs-release-pc1-xenial.deb
--2018-04-17 21:43:37-- https://apt.puppetlabs.com/puppetlabs-release-pc1-xenial.deb
Resolving apt.puppetlabs.com (apt.puppetlabs.com)... 13.33.170.63, 13.33.170.113, 13.33.170.27, ...
Connecting to apt.puppetlabs.com (apt.puppetlabs.com)|13.33.170.63|:443... ^C
root@edureka-1:/home/edureka# wget https://apt.puppetlabs.com/puppetlabs-release-pc1-xenial.deb
--2018-04-17 21:45:26-- https://apt.puppetlabs.com/puppetlabs-release-pc1-xenial.deb
Resolving apt.puppetlabs.com (apt.puppetlabs.com)... 54.230.190.201, 54.230.190.59, 54.230.190.73, ...
Connecting to apt.puppetlabs.com (apt.puppetlabs.com)|54.230.190.201|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 13662 (13K) [application/x-debian-package]
Saving to: 'puppetlabs-release-pc1-xenial.deb'

puppetlabs-release-pc1-xenial.deb 100%[=====] 13.34K --.-KB/s in 0s

2018-04-17 21:45:26 (295 MB/s) - 'puppetlabs-release-pc1-xenial.deb' saved [13662/13662]
```

**dStep 2:** After downloading the package install it using `dpkg` with `-i` flag

Syntax: `dpkg -i puppetlabs-release-pc1-xenial.deb`

```
root@edureka:/home/edureka# dpkg -i puppetlabs-release-pc1-xenial.deb
Selecting previously unselected package puppetlabs-release-pc1.
(Reading database ... 176816 files and directories currently installed.)
Preparing to unpack puppetlabs-release-pc1-xenial.deb ...
Unpacking puppetlabs-release-pc1 (1.1.0-2xenial) ...
Setting up puppetlabs-release-pc1 (1.1.0-2xenial) ...
```

**Step 3:** Run the ubuntu update command to ensure all the packages are up-to-date

Syntax: apt-get update

**Step 4:** Now install the puppet server using the apt-get command

Syntax: apt-get install puppetserver

```
root@edureka:/home/edureka# apt-get puppetserver
E: Invalid operation puppetserver
root@edureka:/home/edureka# apt-get install puppetserver
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  ca-certificates-java java-common openjdk-8-jre-headless puppet-agent
Suggested packages:
  default-jre fonts-dejavu-extra fonts-ipafont-gothic fonts-ipafont-mincho fonts-wqy-microhei fonts-wqy-zenhei fonts-indic
The following NEW packages will be installed:
  ca-certificates-java java-common openjdk-8-jre-headless puppet-agent puppetserver
0 upgraded, 5 newly installed, 0 to remove and 408 not upgraded.
Need to get 77.8 MB of archives.
After this operation, 236 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
```

This has installed puppet server on the master machine

### Configuring Puppet Server

**NOTE:** If you've allocated the virtual machine less than 4GB of memory, you'll have to change the default(2GB) memory size for Puppet

**Step 1:** Open puppetserver default file

Syntax: nano /etc/default/puppetserver

**Step 2:** The Xms and Xmx parameter of the JAVA\_ARGS dictates the amount of memory Puppet Server is going to consume

**Step 3:** For a system with memory less than 4GB decrease it to approx. half the system memory

```
#####
# Init settings for puppetserver
#####

# Location of your Java binary (version 7 or higher)
JAVA_BIN="/usr/bin/java"

# Modify this if you'd like to change the memory allocation, enable JMX, etc
JAVA_ARGS="-Xms1g -Xmx1g -XX:MaxPermSize=256m"
```

**Step 4:** Open port number 8140 for puppet

Syntax: ufw allow 8140

**Start Puppet Server:**

**Step 1:** Use systemctl command to start, check status, and enable puppetserver service

Syntax: systemctl start puppetserver

Syntax: systemctl status puppetserver

Syntax: systemctl enable puppetserver

```
root@edureka:/home/edureka# systemctl start puppetserver
root@edureka:/home/edureka# systemctl status puppetserver
● puppetserver.service - puppetserver Service
   Loaded: loaded (/lib/systemd/system/puppetserver.service; disabled; vendor preset: enabled)
   Active: active (running) since Tue 2018-04-17 22:41:10 IST; 8s ago
     Process: 5620 ExecStart=/opt/puppetlabs/server/apps/puppetserver/bin/puppetserver start (code=exited, status=0/SUCCESS)
    Main PID: 5629 (java)
      CGroup: /system.slice/puppetserver.service
              └─5629 /usr/bin/java -Xms1g -Xmx1g -XX:MaxPermSize=256m -Djava.security.egd=/dev/urandom -XX:OnOutOfMemoryError=kill -9 %p -cp /opt

Apr 17 22:40:25 edureka systemd[1]: Starting puppetserver Service...
Apr 17 22:40:25 edureka puppetserver[5620]: OpenJDK 64-Bit Server VM warning: ignoring option MaxPermSize=256m; support was removed in 8.0
Apr 17 22:41:10 edureka systemd[1]: Started puppetserver Service.
```

```
root@edureka:/home/edureka# systemctl enable puppetserver
Synchronizing state of puppetserver.service with SysV init with /lib/systemd/systemd-sysv-install...
Executing /lib/systemd/systemd-sysv-install enable puppetserver
```

## Setup Puppet-Agent

**Note:** Follow step 1-3 of the Puppet Server setup.

**Step 1:** Install puppet agent using apt-get command

Syntax: apt-get install puppet-agent

```
root@edureka-1:/home/edureka# apt-get install puppet-agent
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  puppet-agent
0 upgraded, 1 newly installed, 0 to remove and 408 not upgraded.
Need to get 16.3 MB of archives.
After this operation, 92.5 MB of additional disk space will be used.
```

**Step 2:** Start and enable the puppet service

Syntax: systemctl start puppet

Syntax: systemctl enable puppet

```
root@edureka-1:/home/edureka# systemctl start puppet
root@edureka-1:/home/edureka# systemctl status puppet
● puppet.service - Puppet agent
   Loaded: loaded (/lib/systemd/system/puppet.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2018-04-17 22:42:22 IST; 5s ago
     Main PID: 2667 (puppet)
    CGroup: /system.slice/puppet.service
            └─2667 /opt/puppetlabs/puppet/bin/ruby /opt/puppetlabs/puppet/bin/puppet agent --no-daemonize

Apr 17 22:42:22 edureka-1 systemd[1]: Started Puppet agent.
root@edureka-1:/home/edureka# systemctl enable puppet
```

## Signing Certificates

**Step 1:** To show the all the Unsigned Certificates on Puppet Server Use cert list command

Syntax: sudo /opt/puppetlabs/bin/puppet cert list

```
edureka@edureka:~$ sudo /opt/puppetlabs/bin/puppet cert list
[sudo] password for edureka:
"edureka-1" (SHA256) 00:B6:FB:43:2A:D8:E1:88:AC:7D:2C:84:DB:B3:09:AA:70:B8:73:A4:44:89:24:D7:90:65:B3:5E:7E:DC:A5:E1
"edureka-2" (SHA256) 14:B9:74:35:53:97:AA:F8:3B:86:A0:27:38:64:DF:7B:7A:BF:50:FB:1A:88:00:DD:85:46:FE:87:CF:35:78:C2
edureka@edureka:~$
```

Step 2: Certificates can be signed individually using sign command with the Agent Name

Syntax: /opt/puppetlabs/bin/puppet cert sign <agent name>

OR

All the pending certificates can be signed at once by adding the --all flag

Syntax: /opt/puppetlabs/bin/puppet cert sign --all

```
edureka@edureka:~$ sudo /opt/puppetlabs/bin/puppet cert sign --all
Signing Certificate Request for:
"edureka-1" (SHA256) 00:B6:FB:43:2A:D8:E1:88:AC:7D:2C:84:DB:B3:09:AA:70:B8:73:A4:44:89:24:D7:90:65:B3:5E:7E:DC:A5:E1
Notice: Signed certificate request for edureka-1
Notice: Removing file Puppet::SSL::CertificateRequest edureka-1 at '/etc/puppetlabs/puppet/ssl/ca/requests/edureka-1.pem'
Signing Certificate Request for:
"edureka-2" (SHA256) 14:B9:74:35:53:97:AA:F8:3B:86:A0:27:38:64:DF:7B:7A:BF:50:FB:1A:88:00:DD:85:46:FE:87:CF:35:78:C2
Notice: Signed certificate request for edureka-2
Notice: Removing file Puppet::SSL::CertificateRequest edureka-2 at '/etc/puppetlabs/puppet/ssl/ca/requests/edureka-2.pem'
edureka@edureka:~$
```

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