

# Puppet Installation Guide

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## Installation Notes

edureka!

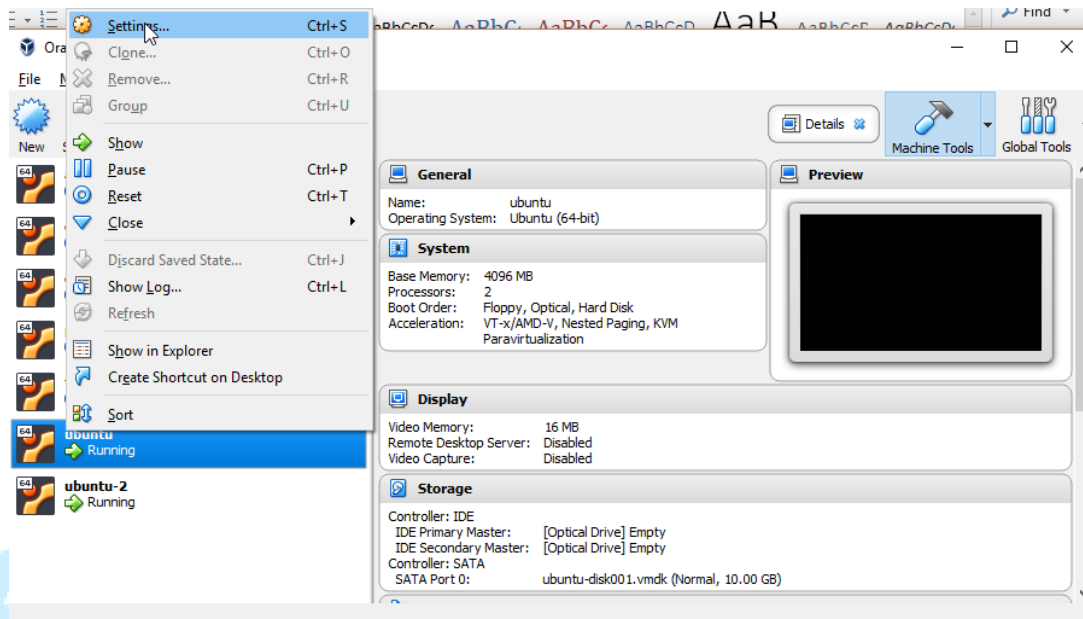
**edureka!**

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## Prerequisite:

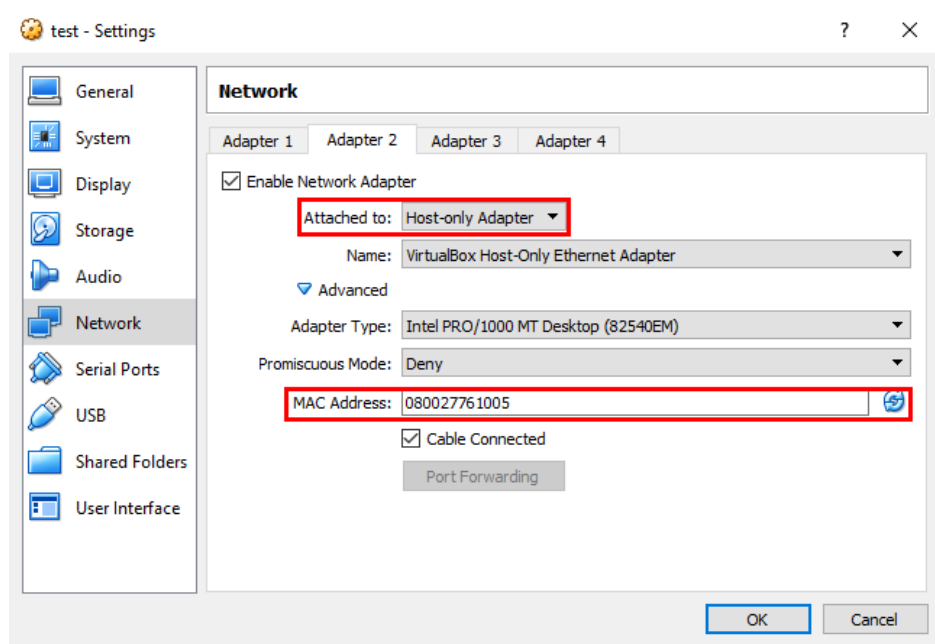
Setup the Virtual machines before installing Puppet.

**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.



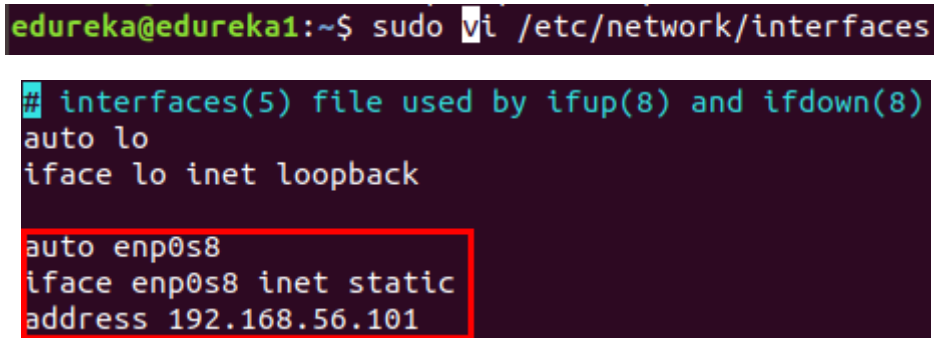
**Step 3:** Now, for every machine, edit the interfaces file in the network folder to make the IP address static

Different address for different machine

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
```

**Step 4:** Instal ntp ntpdate packages to sync date and time on your servers

Syntax: `sudo apt update`

`sudo apt install -y ntp ntpdate`

`sudo ntpdate -u 0.ubuntu.pool.ntp.org`

## 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
```

### Adding Puppet Repo on Machines:

Follow these steps on both the master and the slave machines

- Puppet uses port 8140 to communicate through ssl. Open the port using ufw command

Syntax: `ufw enable`

`ufw allow 8140`

```
root@edureka:/home/edureka# ufw enable
Firewall is active and enabled on system startup

root@edureka:/home/edureka# ufw allow 8140
Rules updated
Rules updated (v6)
```

- Add the puppet6 repository on all the machines

Syntax: apt update

wget <https://apt.puppetlabs.com/puppet6-release-bionic.deb>

dpkg -i puppet6-release-bionic.deb

apt update

```
root@edureka:/home/edureka# wget https://apt.puppetlabs.com/puppet6-release-bionic.deb
--2019-05-29 12:28:34-- https://apt.puppetlabs.com/puppet6-release-bionic.deb
Resolving apt.puppetlabs.com (apt.puppetlabs.com)... 54.230.71.50, 54.230.71.127, 54.230.71.75, ...
Connecting to apt.puppetlabs.com (apt.puppetlabs.com)|54.230.71.50|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 11888 (12K) [application/x-debian-package]
Saving to: 'puppet6-release-bionic.deb'

puppet6-release-bionic.deb      100%[=====] 11.61K
2019-05-29 12:28:34 (252 MB/s) - 'puppet6-release-bionic.deb' saved [11888/11888]

root@edureka:/home/edureka# dpkg -i puppet6-release-bionic.deb
Selecting previously unselected package puppet6-release.
(Reading database ... 131401 files and directories currently installed.)
Preparing to unpack puppet6-release-bionic.deb ...
Unpacking puppet6-release (6.0.0-4bionic) ...
Setting up puppet6-release (6.0.0-4bionic) ...
root@edureka:/home/edureka# apt update
```

## Installing Puppet Server

- On the master machine run the following

Syntax: apt install -y puppetserver

```
root@edureka:/home/edureka# apt install -y 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
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 564 not upgraded.
Need to get 124 MB of archives.
```

- After the installation, change the memory allocation for Puppet server. The Default setting is 2GB. Set it 1 GB or 512 MB according to the memory allocated to your VM  
Open the default puppet server file and change the following line

Syntax: vi /etc/default/puppetserver

```
# Modify this if you'd like to change the memory allocation, enable JMX, etc
JAVA_ARGS="-Xms2g -Xmx2g -Djruby.logger.class=com.puppetlabs.jruby_utils.jruby.Slf4jLogger"
```

```
# Modify this if you'd like to change the memory allocation, enable JMX, etc
JAVA_ARGS="-Xms512m -Xmx512m -Djruby.logger.class=com.puppetlabs.jruby_utils.jruby.Slf4jLogger"
```

- Edit the puppet.conf file and add the following lines to it

Syntax: vi /etc/puppetlabs/puppet/puppet.conf

```
[main]
certname = puppet
server = puppet
environment = production
runinterval = 15m
```

- Now, setup the puppetserver certificate

Syntax: /opt/puppetlabs/bin/puppetserver ca setup

```
root@edureka:/home/edureka# /opt/puppetlabs/bin/puppetserver ca setup
Generation succeeded. Find your files in /etc/puppetlabs/puppet/ssl/ca
```

- Start and enable the puppet server

Syntax: systemctl start puppetserver  
systemctl enable puppetserver

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

## Setting up Agent Nodes

- Install Puppet Agent

Syntax: apt install -y puppet-agent

```
root@edureka:/home/edureka# apt install -y 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 564 not upgraded.
Need to get 18.8 MB of archives.
After this operation, 110 MB of additional disk space will be used.
```

- Edit the puppet.conf file on agent machine and add the following lines to it

Syntax: vi /etc/puppetlabs/puppet/puppet.conf

```
[main]
certname = puppetagent
server = puppet
environment = production
runinterval = 15m
```

- Start and enable the puppet server on the agent machine

Syntax: /opt/puppetlabs/bin/puppet resource service puppet ensure=running enable=true

```
root@edureka:/home/edureka# /opt/puppetlabs/bin/puppet resource service puppet ensure=running enable=true
Notice: /Service[puppet]/ensure: ensure changed 'stopped' to 'running'
service { 'puppet':
  ensure => 'running',
  enable => 'true',
}
```

Running the puppet service on the agents will generate send the certificate for authentication on the master server

### Signing the Certificate

- First list all the certificates left for signing on the master machine

Syntax: /opt/puppetlabs/bin/puppetserver ca list

You can choose to either individually sign the certificates all sign them all together

Syntax: /opt/puppetlabs/bin/puppetserver ca sign <certName>

or

/opt/puppetlabs/bin/puppetserver ca sign --all

```
root@edureka:/home/edureka# /opt/puppetlabs/bin/puppetserver ca list
Requested Certificates:
  puppetagent (SHA256) 52:F6:64:78:D1:9A:AB:4A:FD:C0:50:AF:E0:97:BA:0B:4C:56:B4:B4:9D:13:58:39:A2:BE:8D:50:8B:F7:3A:7B
root@edureka:/home/edureka# /opt/puppetlabs/bin/puppetserver ca sign --all
Successfully signed certificate request for puppetagent
```



- To verify open the agent and use the test command

Syntax: `/opt/puppetlabs/bin/puppet agent -test`

```
root@edureka:/home/edureka# /opt/puppetlabs/bin/puppet agent --test
Info: csr_attributes file loading from /etc/puppetlabs/puppet/csr_attributes.yaml
Info: Creating a new SSL certificate request for puppetagent
Info: Certificate Request fingerprint (SHA256): 52:F6:64:78:D1:9A:AB:4A:FD:C0:50:AF:8
B:F7:3A:7B
Info: Downloaded certificate for puppetagent from puppet
Info: Using configured environment 'production'
Info: Retrieving pluginfacts
Info: Retrieving plugin
Info: Retrieving locales
Info: Caching catalog for puppetagent
Info: Applying configuration version '1559121079'
Notice: Applied catalog in 0.02 seconds
```

# edureka!