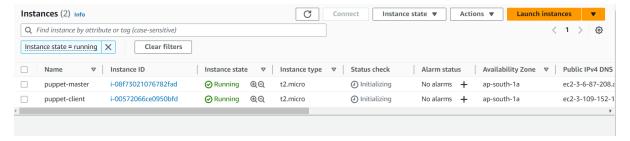
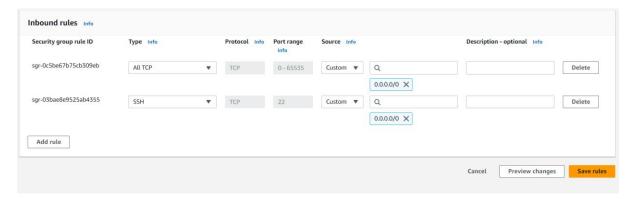
- 1. Create 2 EC2 instances on AWS.
 - a. One of them should be master
 - b. The other should be client.



2. Make sure the following inbound rules are set in the security groups. Use the same security group for both the instances.



3. Enter the following command in both master and client to update the package: sudo apt-get update -y

master

```
ubuntu@ip-172-31-42-144:~$ sudo apt-get update -y
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InReleas
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:5 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 Page
```

client

```
ubuntu@ip-172-31-41-29:~$ sudo apt-get update -y
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease [108 kB]
Get:5 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [14.1 MB]
Get:6 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [800 kB]
Get:7 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [156 kB]
```

4. On both master and client instances, set up the hostname

Go to \rightarrow sudo nano /etc/hosts.

3.6.87.208 puppetmaster puppet

3.109.152.166 puppetclient

Here, we have to mention respective IPv4 public address of the respective instances.

```
GNU nano 6.2

127.0.0.1 localhost

# The following lines are desirable for IPv6 capable hosts

::1 ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
ff02::3 ip6-allhosts

3.6.87.208 puppetmaster puppet
3.109.152.166 puppetclient
```

Run the following commands on Master Instance only.

5. Get the latest pupper version wget https://apt.puppetlabs.com/puppet6-release-focal.deb

6. After downloading, install the package by using dpkg sudo dpkg -i puppet6-release-focal.deb

```
ubuntu@ip-172-31-42-144:~$ sudo dpkg -i puppet6-release-focal.deb
Selecting previously unselected package puppet6-release.
(Reading database ... 63657 files and directories currently installed.)
Preparing to unpack puppet6-release-focal.deb ...
Unpacking puppet6-release (6.0.0-23focal) ...
Setting up puppet6-release (6.0.0-23focal) ...
```

- 7. Update the package repo with \rightarrow sudo apt-get update-y
- 8. Then install the puppet server with \rightarrow sudo apt-get install puppetserver -y

```
ubuntu@ip-172-31-42-144:~$ sudo apt-get install puppetserver -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
    ca-certificates-java fontconfig-config fonts-dejavu-core java-
    libjpeg8 liblcms2-2 libpcsclite1 libxi6 libxrender1 libxtst6 n
Suggested packages:
    default-jre cups-common liblcms2-utils pcscd libnss-mdns fonts
The following NEW packages will be installed:
```

9. Open the puppetserver file, and lessen the memory size. This prevents the overloading of our instance.

sudo nano /etc/default/puppetserver

- 10. Restart and enable the Puppet Service
 - a. sudo systemctl restart puppetserver
 - b. sudo systemctl enable puppetserver

```
ubuntu@ip-172-31-42-144:~$ sudo nano /etc/default/puppetserver ubuntu@ip-172-31-42-144:~$ sudo systemctl restart puppetserver sudo systemctl enable puppetserver
```

11. Verify the status of the service \rightarrow sudo systematl status puppetserver

If the output is such as the above, this means that the master or the server has been configured and is running successfully.

Now, on the client machine→

12. Download latest version of Puppet as done before. wget https://apt.puppetlabs.com/puppet6-release-focal.deb

13. Use dpkg to install the package after this. sudo dpkg -i puppet6-release-focal.deb

```
ubuntu@ip-172-31-41-29:~$ sudo dpkg -i puppet6-release-focal.deb
Selecting previously unselected package puppet6-release.
(Reading database ... 63657 files and directories currently installed.)
Preparing to unpack puppet6-release-focal.deb ...
Unpacking puppet6-release (6.0.0-23focal) ...
Setting up puppet6-release_(6.0.0-23focal) ...
```

- 14. Update the package repo with → sudo apt-get update-y
- 15. Then install the puppet server with \rightarrow sudo apt-get install puppetserver

```
ubuntu@ip-172-31-41-29:~$ sudo apt-get install puppet-agent -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
   puppet-agent
0 upgraded, 1 newly installed, 0 to remove and 40 not upgraded.
Need to get 38.0 MB of archives.
After this operation, 144 MB of additional disk space will be used.
Get:1 http://apt.puppetlabs.com focal/puppet6 amd64 puppet-agent am
Fetched 38.0 MB in 1s (54.3 MB/s)
```

- 16. Restart and enable the Puppet Service
 - a. sudo systemctl restart puppetserver
 - b. sudo systemctl enable puppetserver

Thus, the Puppet agent has been started too.

We can Configure the Agent Certificate on the Master Machine.

17. Go to the Master node and list the requested certificates. sudo /opt/puppetlabs/bin/puppetserver ca list

```
ubuntu8ip-172-31-44-174:-$ sudo /opt/puppetlabs/bin/puppetserver ca list
Requested Certificates:
ip-172-31-47-90.ap-south-1.compute.internal (SHA256) E0:5C:C0:3D:FB:8B:22:CE:7B:28:48:7C:D5:11:42:93:12:27:8A:0C:21:7C:76:54:83:90:3F:F4:7E:34:75:9D
ubuntu8ip-172-31-44-174:-$
ubuntu8ip-172-31-44-174:-$
```

18. Sign all the requested certificates sudo /opt/puppetlabs/bin/puppetserver ca sign --all

```
ubuntu@ip-172-31-44-174:~$ sudo /opt/puppetlabs/bin/puppetserver ca sign --all Successfully signed certificate request for ip-172-31-47-90.ap-south-1.compute.internal
```

19. To test the connection and working of the cluster use → sudo /opt/puppetlabs/bin/puppet agent --test

```
ubuntu@ip-172-31-44-174:~$ sudo /opt/puppetlabs/bin/puppet agent --test
Info: Using environment 'production'
Info: Retrieving pluginfacts
Info: Retrieving plugin
Info: Retrieving locales
Info: Caching catalog for ip-172-31-44-174.ap-south-1.compute.internal
Info: Applying configuration version '1682961796'
Info: Creating state file /opt/puppetlabs/puppet/cache/state/state.yaml
Notice: Applied catalog in 0.01 seconds
```

The "Applied catalog" dialogue means that puppet was configured successfully on both-Master and Client Machines.