Puppet

Puppet Installation:

1.Clone the repository:

git clone <https://github.com/AnjuMeleth/DevOpsMasterPuppet.git>

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2.Run the Puppet Master installationscript

sh puppetmasterinstall.sh

3. Edit the file /etc/default/puppetserver:

sudo vi /etc/default/puppetserver

JAVA\_ARGS="-Xms512m -Xmx512m -XX:MaxPermSize=256m"

JAVA\_ARGS="-Xms512m -Xmx512m -XX:MaxPermSize=256m"

4 Open port 8140:

sudo ufw allow 8140

5 Edit hosts file to enter the ipaddress of the master with a DNS name puppet

sudo vi /etc/hosts

54.87.144.102 puppert

6 .Start the puppetserver:

sudo systemctl start puppetserver

sudo systemctl status puppetserver

Machine generated alternative text:
•efault/puppetserver 
ons sudo 
sudo version 1.8.21p2 
sudoers policy plugin version 1.8.21p2 
sudoers file grammar version 46 
sudoers I/O plugin version 1.8.21p2 
lubuntu@i P-172 - 31-26-87 : -/DevopsMasterpuppet/1_Insta11 ati ons 

Machine generated alternative text:
;udo version 1.8.21p2 
;udoers policy plugin version 1.8.21p2 
;udoers file grammar version 46 
;udoers I/O plugin version 1.8.21p2 
sudo 
2tc/defau1t/puppetserver 
2tc/hosts 
2tc/hosts 
11 low 8140 
W les updated 
w les updated 
: -/DevopsMasterpuppet/1_Insta1 lati ons sudo 
-31-26-87 
: -/DevopsMasterpuppet/1_Insta1 lati ons sudo 
-31-26-87 
: -/DevopsMasterpuppet/1_Insta1 lati ons sudo 
-31-26-87 
• -/DevopsMasterpuppet/1_Insta1 lati ons sudo 
-31-26-87. 
2mct1 start puppetserver 
sudo 
2mct1 status puppetserver 
puppetserver . service - 
puppetserver servi ce 
Loaded: 
loaded (/1 ib/systemd/system/puppetserver. servi ce; dis 
: active (running) since sun 2020-10-04 13:50:25 UTC; 4 
Acti ve 
4257 Execstart=/opt/puppetl abs/ server/ apps/puppetserv 
process: 
: 4292 (java) 
Main PID 
Tasks: 
40 (limit: 4915) 
/ system. sl i ce/puppetserver . servi ce 
CGroup: 
1—4292 /usr/bi n/ java -xms512m -xmx512m -XX: MaxpermSiz 
•49:47 ip-172-31-26-87 systemd Starting puppetserve 
04 13. 
•49:47 ip-172-31-26-87 puppetserverC4257]: openJDK 64-8 
04 13. 
•50: 25 ip-172-31-26-87 systemdC1]: started puppetserver 
04 13. 

Task2 :

TASK 2:HOW TO INSTALL A PACKAGE IN PUPPET MASTER LOCALLY

sudo vi /etc/default/puppetserver

1. Go to manifests folder /etc/puppetlabs/code/environments/production/manifests/ :

cd /etc/puppetlabs/code/environments/production/manifests/

2.Create a file site.pp :

sudo vi site.pp

exec { 'apt-update': # exec resource named 'apt-update'

command => '/usr/bin/apt-get update' # command this resource will run

}

# install tree package

package { 'tree':

require => Exec['apt-update'], # require 'apt-update' before installing

ensure => installed,

}

3 .Run the manifests

sudo /opt/puppetlabs/bin/puppet apply site.pp

4 Check the version of tree installed :

tree --version

Machine generated alternative text:
ubuntu@i p -172 - 31-26-87 : /etc/puppetl abs/code/envi ronments/producti on/m 
ani festsS sudo vi site. pp 
ubuntu@i p -172 - 31-26-87 : /etc/puppetl abs/code/envi ronments/producti on/m 
ani festsS sudo /opt/puppetl abs/bin/puppet apply site. pp 
Notice: compiled catalog for ip-172-31-26-87.ec2.interna1 in environm 
ent production in 0.59 seconds 
Noti ce: [stage [mai n] [Mai n/ Exec Capt-update]/returns: executed successf 
ully 
Noti ce: [stage [mai n] [Mai n/package [tree] [ensure: created 
Notice: Applied catalog in 8.12 seconds 
ubuntu@i p -172 - 31-26-87 : /etc/puppetl abs/code/envi ronments/producti on/m 
ani festsS tree --version 
tree VI. 7.0 (C) 1996 
2014 by Steve Baker, Thomas Moore, Francesc RO 
cher, Florian Sesser, Kyosuke T0koro 
ubuntu@i p -172 - 31-26-87 : /etc/puppetl abs/code/envi ronments/producti on/m 
ani festsS 

Task 3: TASK 3: **HOW TO DO PUPPET AGENT INSTALLATION ON A SLAVE**

1. Clone the repository

git clone <https://github.com/AnjuMeleth/DevOpsMasterPuppet.git>

2. Run the Puppet agent installation script:

sh puppetagentinstall.sh

3. Open port 8140:

sudo ufw allow 8140

4. Edit hosts file to enter the ipaddress of the master and agent with a DNS name puppet

and puppet-agent

sudo vi /etc/hosts

54.87.144.102 puppet

3.83.234.47 puppet-agent

5. Start the puppet agent

sudo systemctl start puppet

sudo systemctl enable puppet

Machine generated alternative text:
:reated symlink /etc/systemd/system/multi -user. target. wants/puppet. servi ce 
)/systemd/system/puppet . servi ce . 
:reated symlink /etc/systemd/system/multi -user. target. wants/pxp-agent. serv 
(1 i b/ systemd/system/pxp-agent . servi ce . 
Qemoved /etc/systemd/system/multi -user. target. wants/pxp-agent. servi ce. 
-172-31-30-182. 
172-31-30-182 
172-31-30-182 
172-31-30-182. 
'rocessing triggers 
Ibuntu@ip-172 
W les updated 
w les updated 
Ibuntu@i p 
Ibuntu@i p- 
puppet 
Ibuntu@i p- 
le puppet 
Ibuntu@i p- 
-31-30-182 
libc-bin (2.27-3ubuntu1.2) 
ons sudo ufw allo 
• -/DevopsMasterpuppet/1_Insta1 lati ons sudo vi [etc/ 
: -/DevopsMasterpuppet/1_Insta1 lati ons sudo systemct 
: -/DevopsMasterpuppet/1_Insta1 lati ons sudo systemct 
• -/DevopsMasterpuppet/1_Insta11 ati ons 

TASK 4: HOW TO SIGN

CERTIFICATES ON PUPPET

MASTER

1 On Puppet master list the

certificate list

sudo /opt/puppetlabs/bin/puppetserver ca list

Requested Certificates:

ip-172-31-20-166.ec2.internal (SHA256) 7C:19:45:9C:8D:BD:25:92:D3:51:6E:3B:68:E9:23:9A:86:39:60:73:D8:97:5D:C8:70:52:1A:22:A6:A1:5E:41

Machine generated alternative text:
ubuntu@i p -172-31-31-18 : /etc/puppetl abs /code/envi ronments [producti on [man i fests 
udo /opt/puppetl abs/bin/puppetserver ca list 
Requested certificates : 
ip-172-31-20-166. ec2 . internal 
(SHA256) :D3: 
ubuntu@i P-172-31-31-18 : /etc/puppetl abs /code/envi ronments [producti on [man i fests 

2 Sign the slave certifcate

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

Machine generated alternative text:
ubuntu@i p -172-31-31-18 : /etc/puppetl abs /code/envi ronments [producti on [man i fests 
udo /opt/puppetl abs/bin/puppetserver ca list 
Requested certificates : 
ip-172-31-20-166. ec2 . internal 
(SHA256) :D3: 
ubuntu@i p -172-31-31-18 : /etc/puppetl abs /code/envi ronments [producti on [man i fests 
udo /opt/puppetl abs/bin/puppetserver ca sign - all 
successfully signed certificate request for ip-172-31-20-166.ec2 . internal 
ubuntu@i p -172-31-31-18 : /etc/puppetl abs /code/envi ronments [producti on [man i fests 

Machine generated alternative text:
ubuntu@i p -172-31-31-18 : /etc/puppetl abs /code/envi ronments [producti on [man i fests S 
sudo /opt/puppetl abs/bin/puppetserver ca list 
NO certificates to list 
ubuntu@i p -172-31-31-18 : /etc/puppetl abs /code/envi ronments [producti on [man i fests S 

TASK 5:HOW TO INSTALL A PACKAGE IN PUPPET SLAVE

TASK 5:HOW TO INSTALL A PACKAGE IN PUPPET SLAVE

# Steps Commands

1. Go to manifests folder /etc/puppetlabs/code/environments/production/manifests/

cd /etc/puppetlabs/code/environments/production/manifests/

2. Create a file site.pp

sudo vi site.pp

3. Go to puppet agent and run the manifests

sudo /opt/puppetlabs/bin/puppet agent -t

4 .If getting an error certificatedoesn’t match private key deletethe certificate from the agent

cd /etc/puppetlabs/puppet/ssl/certs/

ls

sudo rm -rf

<certificate name>

5 Delete the certificate from master

sudo /opt/puppetlabs/bin/puppetserver ca list --all

sudo /opt/puppetlabs/bin/puppetserver caclean --certname

<certificate name>

Machine generated alternative text:
sudo 
/opt/puppetl abs/bin/puppet agent -t 
Info: 
using configured envi ronment 'production ' 
Info: 
Retrieving pluginfacts 
Info: 
Retrieving plugin 
Info: 
Retrieving locales 
Info: caching catalog for ip-172-31-20-166.ec2.interna1 
Info: 
Applying configuration version '1602442931' 
Notice: [Stage [main] /Main/Exec Capt-update] [returns: executed successf 
cti ve) 
Notice: Applied catalog in 8.68 seconds 
ubuntu@i p -172-31-20-166 : /etc/puppetl abs /code/envi ronments [producti on/ 

TASK 6 :HOW TO INSTALL PDK

/etc/puppetlabs/code/environments/production/manifests/

1 Get the executable

sudo wget <https://apt.puppet.com/puppet-tools-release-bionic.deb>

2 Unpack

sudo dpkg -i puppet-tools-release-bionic.deb

3 Perform apt update

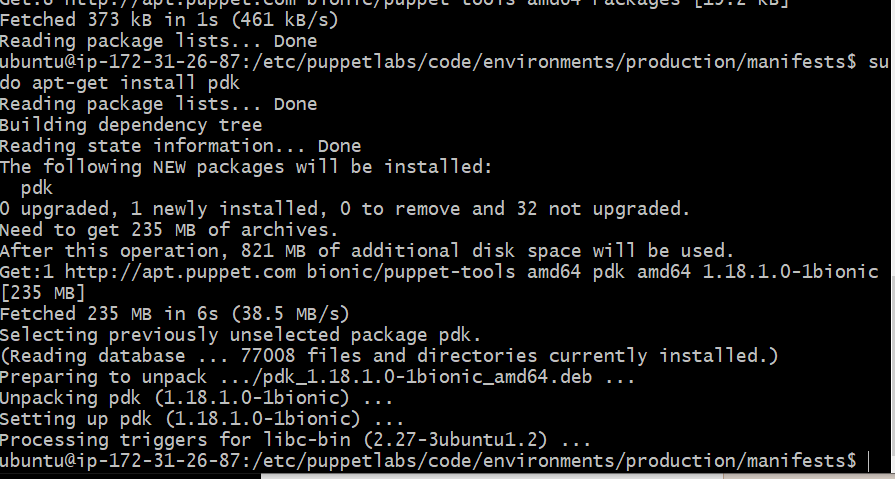
sudo apt-get update

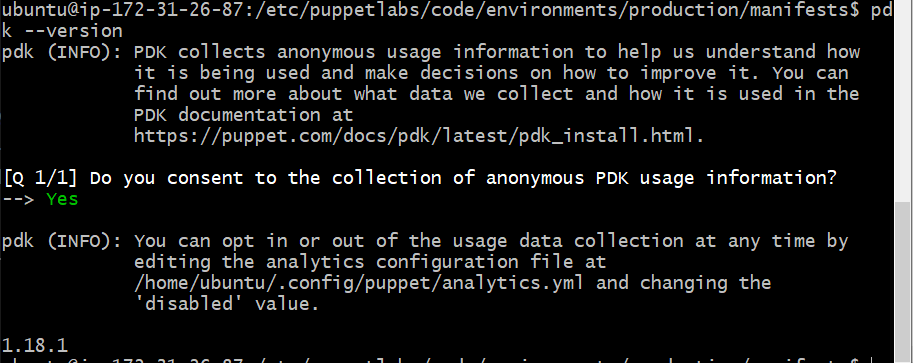
4 Install PDK IN puppet master

sudo apt-get install pdk

5 Verify the PDK installation

pdk --version





Task :7

Task 7 HOW TO CREATE A MODULE IN PUPPET

1 Create a folder and go to the folder

mkdir modules

cd modules

2. Create a puppet module nginx

pdk new module christu-nginx

3. Edit init.pp file in manifestsfolder of the nginx module

cd manifestsfolder

vi init.pp

class nginx{

exec { 'apt-update': # exec resource named 'apt-update'

command => '/usr/bin/apt-get update' # command this resource will run

}

# install tree package

package { 'nginx':

require => Exec['apt-update'], # require 'apt-update' before installing

ensure => installed,

}

service { 'nginx':

require => Exec['apt-update'], # require 'apt-update' before installing

ensure => running,

enable => true,

}

}

cd ..

4. Build the module. Make sure you are in the nginx module

pdk build nginx

5 Install module in our default path. Make sure you are in modules folder

christu-nginx-0.1.0.tar.gz

cd .. // we have to in our module folder then install

sudo /opt/puppetlabs/bin/puppet module install ./nginx/pkg/christu-nginx-0.1.0.tar.gz

6. View the module in the path /etc/puppetlabs/code/environments/production/modules

cd /etc/puppetlabs/code/environments/production/modules

ls

cd .. //now in prodution , then we have to go to manifest folder

cd maifest

ls

7. Edit the main manifest file in the default manifests path

sudo vi site.pp

class {'nginx' :}

8 Run the puppet agent in slave

sudo /opt/puppetlabs/bin/puppet agent -t

----------------

1 Create a folder and go to the folder

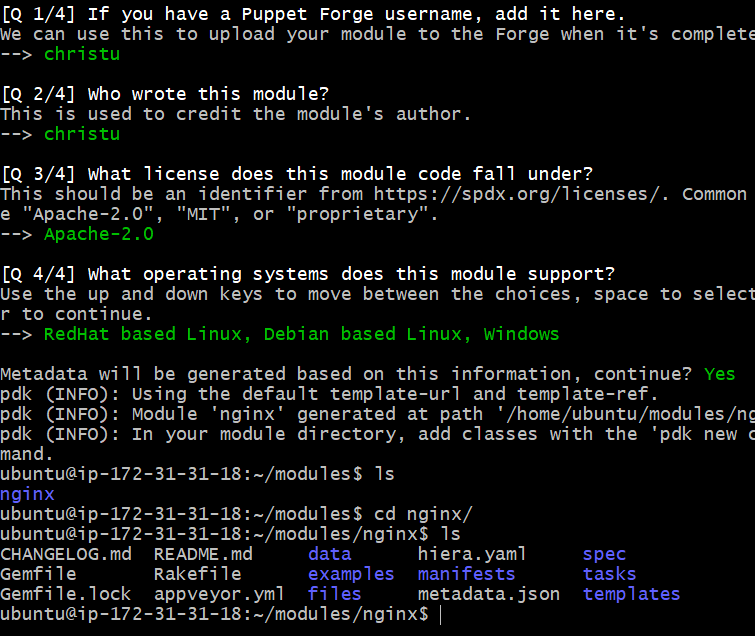
mkdir modules

cd modules

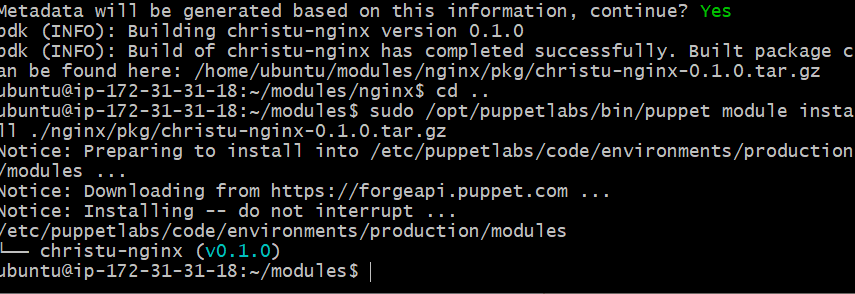
2. Create a puppet module nginx

pdk new module christu-nginx

Machine generated alternative text:
ubuntu@ip-172-31-31-18:-/modu1esS pdk new module christu-nginx 
pdk (INFO): creating new module: christu-nginx 
we need to create the metadata.json file for this module, so we're going to as 
k you 4 questions. 
If the question is not applicable to this module, accept the default option sh 
own after each question. you can modify any answers at any time by manually up 
dating the metadata.json file. 
[Q 1/4] If you have a puppet Forge username, add it here. 
we can use this to upload your module to the Forge when it's complete. 
--> (christu) 



Machine generated alternative text:
[Q 4/4] If there is a public issue tracker for this module, 
)ptional . you can update this later in the metadata.json. 
-—> 
enter its URL here 
qetadata will be generated based on this information, continue? yes 
'dk (INFO): Building christu-nginx version O. 1.0 
'dk (INFO): Build of christu-nginx has completed successfully. Built package c 
In be found here: /home/ubuntu/modu1es/nginx/pkg/christu-nginx-O.1.O.tar .gz 
'buntu@i P-172-31-31-18 : -/modul es/ngi nxS 



Machine generated alternative text:
Sts/ 
'buntu@i p-172-31-31-18 : /etc/puppetl abs /code/envi ronments [producti on [man i fests S 
site. pp 
'buntu@i p-172-31-31-18 : /etc/puppetl abs /code/envi ronments [producti on [man i fests S 
sudo vi site. 
pp 
'buntu@i P-172 -31-31-18 : /etc/puppetl abs /code/envi ronments [producti on [man i fests S 
cat site. pp 
: lass {'nginx' 
'buntu@i p-172-31-31-18 : /etc/puppetl abs /code/envi ronments [producti on [man i fests S 

Agent server:

sudo /opt/puppetlabs/bin/puppet agent -t

Machine generated alternative text:
buntu@i p -172-31-20-166 : /etc/puppetl abs /code/envi ronments [producti on [man i fests S 
udo /opt/puppetl abs/bin/puppet agent -t 
nfo: using configured envi ronment 'production ' 
nfo: Retrieving pluginfacts 
nfo: Retrieving plugin 
nfo: Retrieving locales 
nfo: caching catalog for ip-172-31-20-166.ec2.interna1 
nfo: Applying configuration version '1602448179' 
otice: [Stage [main] /Nginx/Exec Capt-update] [returns: executed successfully (corr 
cti ve) 
otice: [Stage [main] /Nginx/Package nx) [ensure: created 
otice: Applied catalog in 9.01 seconds 
buntu@i p -172-31-20-166 : /etc/puppetl abs /code/envi ronments [producti on [mani fests S 

Machine generated alternative text:
A Not secure 
server 
54.90.236.112 
Imported From IE 
Imported 
Bookmarks bar 
DevApp 
Welcome to nginx! 
If you see this page, the nginx web server is successfully installed and 
working. Further configuration is required. 
For online documentation and support please refer to nginx.org. 
Commercial support is available at nginx.com. 
Thank you for using nginx. 

Task : 8:

TASK 8 :HOW TO RUN SPECIFIC MANIFESTS

TASK 8 :HOW TO RUN SPECIFIC MANIFESTS

1 Create Testing environment and development environment.

cd /etc/puppetlabs/code/environments/

sudo mkdir testing

sudo mkdir development

2 Create manifests folder inside the testing and development directories

sudo mkdir manifests

3 inside mainfests Create a file in the manifests folder

sudo vi site.pp

file {'/tmp/example.txt':

ensure => present,

mode => "0644",

content => "From The Development Environment \n",

}

4 In the slave edit puppet.conf file in

/etc/puppetlabs/puppet

sudo vi puppet.conf

[agent]

environment = development

5 Run the puppet agent

sudo /opt/puppetlabs/bin/puppet agent -t

Machine generated alternative text:
ubuntu@ip-172-31-20-166:/etc/puppet1abs/puppetS sudo /opt/puppetlabs/bin/puppet 
agent -t 
Info: using configured envi ronment 'development' 
Info: Retrieving pluginfacts 
Info: Retrieving plugin 
Info: Retrieving locales 
Info: caching catalog for ip-172-31-20-166.ec2.interna1 
Info: Applying configuration version '1602449927' 
Noti ce: [Stage [main] /Main/Fi le[/tmp/example.txt] [ensure: 
5}59f9ce1d4aad5fd155db7ccc2478a93b ' 
Notice: Applied catalog in 0.02 seconds 
abs/puppetS 
defined content as 
' {md 

TASK 9: HOW TO DEPLOY AN APPLICATION ON A PUPPET SLAVE

# Steps Commands

1 Edit the manifest file in production environment

sudo vi site.pp

2 Run the puppet agent in the slave

sudo /opt/puppetlabs/bin /puppet agent -t