Ansible-Single-Node-Setup

Single Server

Steps:

1. **Installing Ansible Software on the Ansible Controller**
2. **Setup hostname's all the nodes with "/etc/hosts"**
3. **Setup ssh-keygen on the ansible controller**
4. **Running adhoc commands.**

Step1: Installing Ansible Software on the Ansible Controller

On RHEL and CentOS:

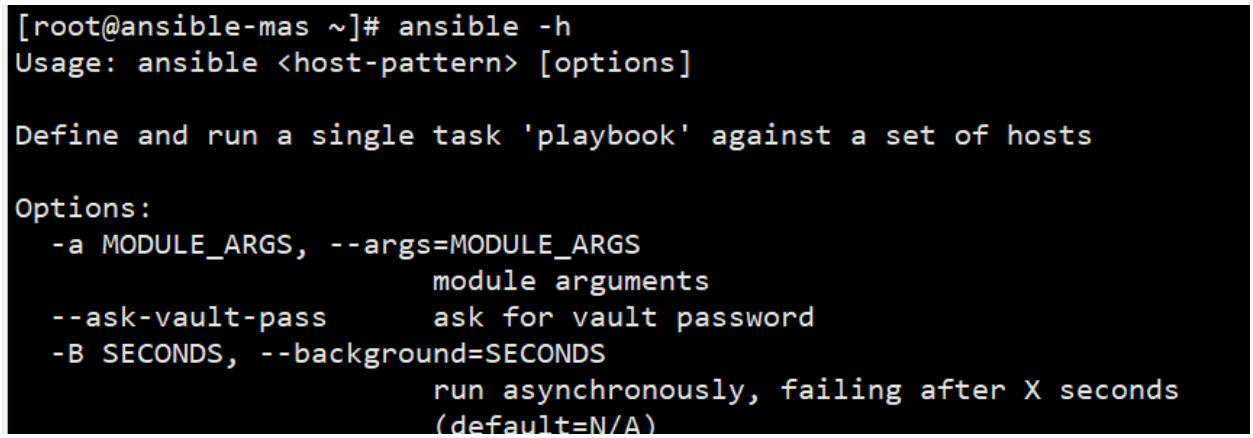
```
$ sudo yum update -y
$ sudo yum install ansible -y
```

This would successfully install the ansible.

Also recommended to do is an update after the installation of ansible

```
$ sudo yum update -y
```

To Check if Ansible is installed

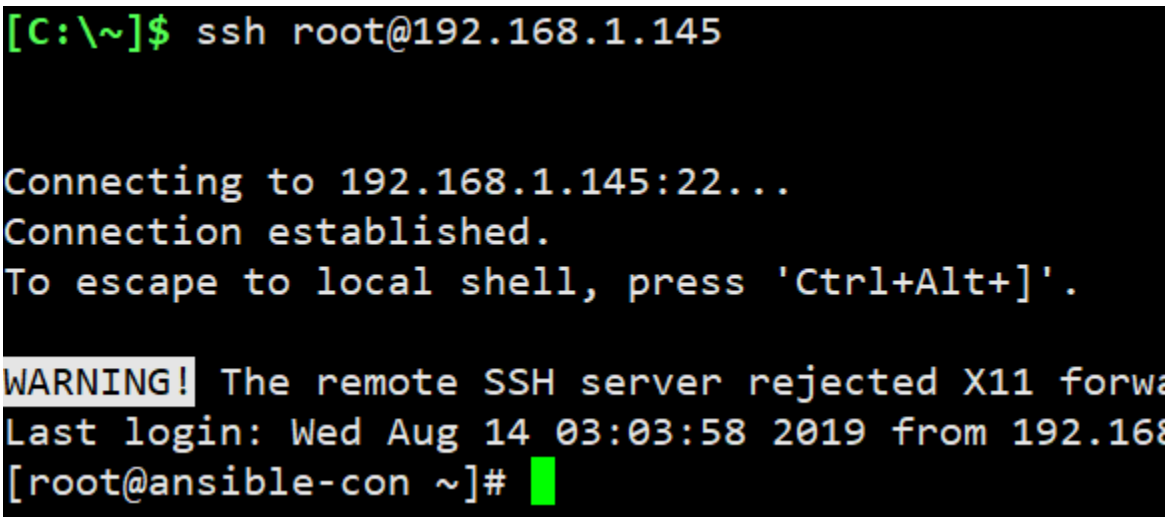


Step2: Configure hostname on the machine.

Ansible Controller.

Ssh to the Ansible in our case, **IP: 192.168.1.145**

```
$ hostnamectl set-hostname ansible-con
```



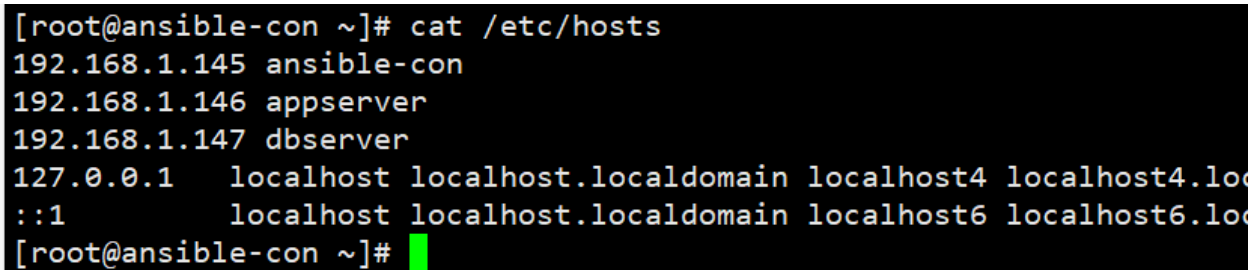
Configure the "/etc/hosts" file on server with below config

Note: -- It is best practice to use the hostname's of the client in the Ansible setup

*But its **NOT** compulsory.*

```
192.168.1.145 ansible-con
```

On Ansible Controller



Step3: Configure the VM with ssh-keygen for ansible to work.

a. On the **Ansible controller** , login as **root**

b. run "**ssh-keygen**"

```
[root@ansible-con ~]# ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/root/.ssh/id_rsa):
Created directory '/root/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /root/.ssh/id_rsa.
Your public key has been saved in /root/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:X6jEIqhZ5B7mp9ZFzRwA3WBepvgo0xg2crs+B+UzR7E root@ansible-con
The key's randomart image is:
+---[RSA 2048]----+
|    .o++o        |
|     +o+o        |
|. * . o* .       |
| * B.oE.+  .     |
|  @o+oo S . .    |
| B.=+.oo o .     |
|o +o.=  . .      |
| .ooo            |
| .oo             |
+----[SHA256]-----+
[root@ansible-con ~]#
```

Now, to run all the ansible command's

Copy the "id_rsa.pub" file to a new file called "authorized_keys".

Beware that the name of the new file is exactly as above and all in LOWER case.

```
[root@js-ansible-con .ssh]# cp id_rsa.pub authorized_keys
cp: overwrite 'authorized_keys'? yes
[root@js-ansible-con .ssh]#
```

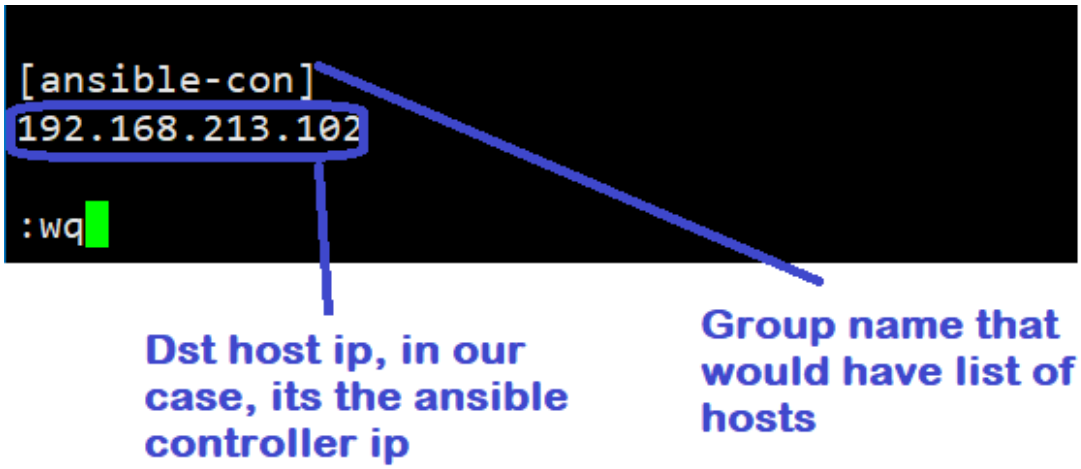
Step4: Running adhoc commands.

1. Ping module

First lets add the Hostnames in the /etc/ansible/hosts

```
[root@ansible-con .ssh]# vi /etc/ansible/hosts

# This is the default ansible 'hosts' file.
#
# It should live in /etc/ansible/hosts
#
```



Save this file

Note: -- Put YOUR ansible controller ip for it work.

$ ansible ansible-con -m ping

Here “ansible-con” is the host group name

```
[root@js-ansible-con .ssh]# cat /etc/ansible/hosts | tail -6

[ansible-con]
192.168.213.102
```

```
[root@js-ansible-con .ssh]# ansible ansible-con  -m ping
192.168.213.102 | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
[root@js-ansible-con .ssh]#
```

Previously, we used the ping module of Ansible,

The below one is using the “ping” as an linux command

```
[root@js-ansible-con .ssh]# ansible ansible-con -a "ping 8.8.8.8 -c 5"
192.168.213.102 | SUCCESS | rc=0 >>
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=128 time=48.1 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=128 time=46.8 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=128 time=45.5 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=128 time=105 ms
64 bytes from 8.8.8.8: icmp_seq=5 ttl=128 time=52.2 ms

--- 8.8.8.8 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4004ms
rtt min/avg/max/mdev = 45.597/59.606/105.143/22.881 ms

[root@js-ansible-con .ssh]# ansible ansible-con -a "ping 7.7.7.7 -c 5"
192.168.213.102 | FAILED | rc=1 >>
PING 7.7.7.7 (7.7.7.7) 56(84) bytes of data.

--- 7.7.7.7 ping statistics ---
5 packets transmitted, 0 received, 100% packet loss, time 4000msnon-zero return code
```

```
[root@js-ansible-con .ssh]# ansible ansible-con -m command -a "ping 7.7.7.7 -c 5"
192.168.213.102 | FAILED | rc=1 >>
PING 7.7.7.7 (7.7.7.7) 56(84) bytes of data.

--- 7.7.7.7 ping statistics ---
5 packets transmitted, 0 received, 100% packet loss, time 4000msnon-zero return code
```

For using the command module, u **may or may not** specify the module name

2. yum module

$ ansible webservers -m yum -a "name=httpd state=present“

```
[root@js-ansible-con .ssh]# ansible ansible-con -m yum -a "name=httpd state=present"
192.168.213.102 | SUCCESS => {
    "changed": true,
    "msg": "",
    "rc": 0,
    "results": [
        "Loaded plugins: fastestmirror, langpacks\nLoading mirror speeds from cached hostfile\n * base: mirror.nbr
\n * extras: mirror.nbrc.ac.in\n * updates: mirror.nbrc.ac.in\nResolving Dependencies\n--> Running transaction che
> Package httpd.x86_64 0:2.4.6-89.el7.centos.1 will be installed\n--> Processing Dependency: httpd-tools = 2.4.6-8
entos.1 for package: httpd-2.4.6-89.el7.centos.1.x86_64\n--> Processing Dependency: /etc/mime.types for package: h
4.6-89.el7.centos.1.x86_64\n--> Processing Dependency: libaprutil-1.so.0()(64bit) for package: httpd-2.4.6-89.el7.
1.x86_64\n--> Processing Dependency: libapr-1.so.0()(64bit) for package: httpd-2.4.6-89.el7.centos.1.x86_64\n--> R
transaction check\n---> Package apr.x86_64 0:1.4.8-3.el7_4.1 will be installed\n---> Package apr-util.x86_64 0:1.5
7 will be installed\n---> Package httpd-tools.x86_64 0:2.4.6-89.el7.centos.1 will be installed\n---> Package mailc
```

Now, lets try to update the downloaded package

$ ansible webservers -m yum -a "name=httpd state=latest“

```
[root@js-ansible-con .ssh]# ansible ansible-con -m yum -a "name=httpd state=latest"
192.168.213.102 | SUCCESS => {
    "changed": false,
    "msg": "",
    "rc": 0,
    "results": [
        "All packages providing httpd are up to date",
        ""
    ]
}
[root@js-ansible-con .ssh]#
```

Let’s, uninstall the package

$ ansible webservers -m yum -a "name=httpd state=absent“

```
[root@js-ansible-con .ssh]# ansible ansible-con -m yum -a "name=httpd state=absent"
192.168.213.102 | SUCCESS => {
    "changed": true,
    "msg": "",
    "rc": 0,
    "results": [
        "Loaded plugins: fastestmirror, langpacks\nResolving Dependencies\n--> Running transactior
tpd.x86_64 0:2.4.6-89.el7.centos.1 will be erased\n--> Finished Dependency Resolution\n\nDependenc
================================================================================\n Package      Arch
           Repository       Size\n================================================================================
ving:\n httpd        x86_64        2.4.6-89.el7.centos.1         @updates        9.4 M\n\nTransact
================================================================================\nRemove  1 Package\n\nInsta
oading packages:\nRunning transaction check\nRunning transaction test\nTransaction test succeeded\
 Erasing    : httpd-2.4.6-89.el7.centos.1.x86_64                          1/1 \n  Verifying  : ht
```

3. yum module with multiple package

```
[root@js-ansible-con .ssh]# ansible ansible-con -m yum -a "name=httpd,wget state=latest"
192.168.213.102 | SUCCESS => {
    "changed": true,
    "msg": "",
    "rc": 0,
    "results": [
        "All packages providing wget are up to date",
        "Loaded plugins: fastestmirror, langpacks\nLoading mirror speeds from cached hostfile\n * base: centos.e
a.net\n * extras: centos.excellmedia.net\n * updates: centos.excellmedia.net\nPackage wget-1.14-18.el7_6.1.x86_6
 installed and latest version\nResolving Dependencies\n--> Running transaction check\n---> Package httpd.x86_64
9.el7.centos.1 will be installed\n--> Finished Dependency Resolution\n\nDependencies Resolved\n\n==============
================================================\n Package      Arch          Version
sitory      Size\n================================================================================\nInstalling:\
      x86_64        2.4.6-89.el7.centos.1          updates        2.7 M\n\nTransaction Summary\n===============
================================================\nInstall  1 Package\n\nTotal download size: 2.7 M\nInsta
```

```
[root@js-ansible-con .ssh]# ansible ansible-con -m yum -a "name=httpd,wget state=absent"
192.168.213.102 | SUCCESS => {
    "changed": true,
    "msg": "",
    "rc": 0,
    "results": [
        "Loaded plugins: fastestmirror, langpacks\nResolving Dependencies\n--> Running transaction check\
tpd.x86_64 0:2.4.6-89.el7.centos.1 will be erased\n---> Package wget.x86_64 0:1.14-18.el7_6.1 will be era
d Dependency Resolution\n\nDependencies Resolved\n\n================================================================
==========\n Package      Arch          Version                    Repository       Size\n==========
================================================\nRemoving:\n httpd        x86_64        2.4.6-89.el
   @updates        9.4 M\n wget         x86_64        1.14-18.el7_6.1            @updates        2.0 M
Summary\n================================================================================\nRemove  2 Pack
d size: 11 M\nDownloading packages:\nRunning transaction check\nRunning transaction test\nTransaction tes
ning transaction\n  Erasing    : httpd-2.4.6-89.el7.centos.1.x86_64                          1/2 \n  Era
```