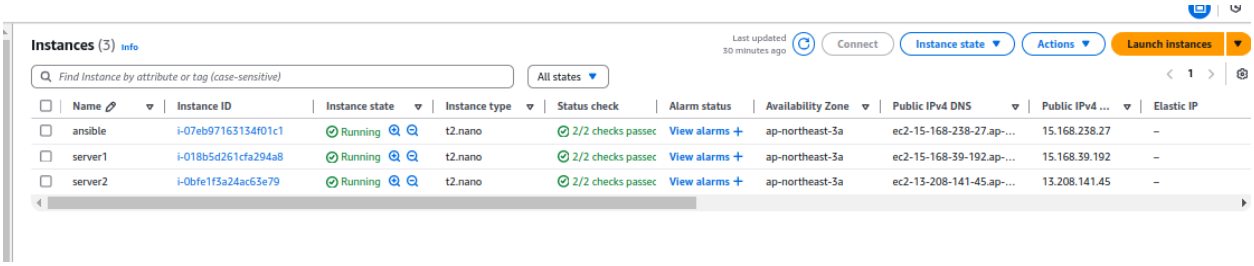
How to setup Ansible and SSH keys in AWS

1) Create 3 AWS ec2 instance in ubuntu



First instance - Ansible
Two instance - Server1 and server2

2) Login in Ansible EC2 instance and use these commands

→ switch as root
sudo su -

→ update packages
apt update -y

→ run the following command to include the official project's PPA (personal package archive) in your system's list of source
apt-add-repository ppa:ansible/ansible

→ Next, refresh your system's package index so that it is aware of the packages available in the newly included PPA:
apt update

→ Following this update, you can install the Ansible software with:
apt install ansible -y

→ Check ansible version
ansible --version

→ Go the hosts and add your server1 and server2
nano /etc/hosts

```
 GNU nano 6.2                                    /etc/hosts
127.0.0.1 localhost

15.168.39.192 server1
13.208.141.45 server2


# 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
```

Add : **15.168.39.192 server1**
13.208.141.45 server2

→ Generate ssh key from ansible server

ssh-keygen -t rsa

And

Press - Enter → Enter → Enter

```
root@ip-172-31-37-136:~# cd .ssh/
root@ip-172-31-37-136:~/.ssh# ls
authorized_keys  id_rsa  id_rsa.pub  known_hosts  known_hosts.old
root@ip-172-31-37-136:~/.ssh#
```

Your you can see ssh keys of public key and private key

→ Copy the public key (id_rsa.pub) and paste it in athuorized_key on server1 and server2

cat id_rsa.pub

```
root@ip-172-31-37-136:~/.ssh# cat id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQCcOXHg7gtY+ppKXeAkuHKW2rJj7PIG5ga5TzBVKPckcieH0FYYarLO4YO3qCfoXZzvknoKpU3Cs4lsr5Nai5BYh/Pq96HJvkQ3O20rMsfxOMOOoCnNRgo7o4VXjmTK5pTD3vKTOkT/LdwsFCBw2u5Jp4zAxoqbyQg93Gu+5DIkBfCx
LERIKfsPBzSri7YThwDME80/mWhMXag/B5T5RvaUT07uu2Zh+m8IezawJZnRv+srwrtaRjxgt9fEhAx7Ub2+rs01/ztFOCpoWCk+Vf4rCldTgfjsDhtkNNCQZMqIcPn6iBZvSDoZEM7z+MErBvdtaoJ35U8JmOu1TA5PeSQJ5tvVFiSg1lZ3NCkdEm6UBdm6en3PG5GNjtHTC6WRGX0Y
23/eqU8PJBeURQVCvsrXRUFE2Q9Gd+rtkzCUbl2++zBxW8mVLB+PDdfScMjaBnAepQdvUL7pqkcq6etEaQYqUXMV5yj8r70q2iv6Qf8x3KzusiiX8aM5Mvr6UQ4gHuM= root@ip-172-31-37-136
root@ip-172-31-37-136:~/.ssh#
```

→ Go to the server 1 and server 2
→ Login server1 and paste this public key in .ssh/athuorized_key

nano .ssh/authorized_keys

```
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQCcOXHg7gtY+ppKXeAkuHKW2rJj7PIG5ga5TzBVKPckcieH0FYYarLO4YO3qCfoXZzvknoKpU3Cs4lsr5Nai5BYh/Pq96HJvkQ3O20rMsfxOMOOoCnNRgo7o4VXjmTK5pTD3vKTOkT/LdwsFCBw2u5Jp4zAxoqbyQg93Gu+5DIkBfCx
```

Save it and come out from the shell

→ Login server1 and paste this public key in .ssh/athuorized_key

nano .ssh/authorized_keys

```
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQCcOXHg7gtY+ppKXeAkuHKW2rJj7PIG5ga5TzBVKPckcieH0FYYarLO4YO3qCfoXZzvknoKpU3Cs4lsr5Nai5BYh/Pq96HJvkQ3O20rMsfxOMOOoCnNRgo7o4VXjmTK5pTD3vKTOkT/LdwsFCBw2u5Jp4zAxoqbyQg93Gu+5DIkBfCx
```

Save it and come out from the shell

→ Return to the Ansible server and check if the ping is working on server1 and server2.

ping server1

```
root@ip-172-31-37-136:~# ping server1
PING server1 (15.168.39.192) 56(84) bytes of data.
64 bytes from server1 (15.168.39.192): icmp_seq=1 ttl=63 time=1.01 ms
64 bytes from server1 (15.168.39.192): icmp_seq=2 ttl=63 time=0.769 ms
64 bytes from server1 (15.168.39.192): icmp_seq=3 ttl=63 time=0.873 ms
64 bytes from server1 (15.168.39.192): icmp_seq=4 ttl=63 time=1.39 ms
^C
--- server1 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3032ms
rtt min/avg/max/mdev = 0.769/1.011/1.391/0.235 ms
root@ip-172-31-37-136:~#
```

ping server2

```
root@ip-172-31-37-136:~# ping server2
PING server2 (13.208.141.45) 56(84) bytes of data.
64 bytes from server2 (13.208.141.45): icmp_seq=1 ttl=63 time=0.570 ms
64 bytes from server2 (13.208.141.45): icmp_seq=2 ttl=63 time=1.91 ms
64 bytes from server2 (13.208.141.45): icmp_seq=3 ttl=63 time=1.05 ms
^C
--- server2 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2040ms
rtt min/avg/max/mdev = 0.570/1.175/1.911/0.555 ms
root@ip-172-31-37-136:~#
```

It is working fine in Ansible server

→ Create a directory in the name of Ansbile

mkdir ansible

```
root@ip-172-31-37-136:~# ls
ansible  snap
root@ip-172-31-37-136:~#
```

→ Get in the Ansible directory

cd ansible

→ Create a inventory file and add these hosts

nano inventory

[webservers]

server1

server2 (save it and come out from the shell)

→ Create ansible.cfg file and these lines

nano ansible.cfg

[defaults]

inventory=/root/ansible/inventory
remote_user=ubuntu
ask_pass=false (save it and come out from the shell)

→ For testing purpose, we need to install nginx in server 1 and apache in server2 from ansible server
→ Create a yml file for install nginx and apache in server1 and server2
nano install_webservers.yml

```
---
- name: Install Web Servers
  hosts: webservers
  become: true
  tasks:

    - name: Install Nginx on server1
      apt:
        name: nginx
        state: present
      when: inventory_hostname == 'server1'

    - name: Install Apache on server2
      apt:
        name: apache2
        state: present
      when: inventory_hostname == 'server2'

    - name: Ensure Nginx is started and enabled on server1
      service:
        name: nginx
        state: started
        enabled: yes
      when: inventory_hostname == 'server1'

    - name: Ensure Apache is started and enabled on server2
      service:
        name: apache2
        state: started
        enabled: yes
      when: inventory_hostname == 'server2'
```

(save it and come out from the shell)

→run ansible yml file following this command

ansible-playbook -i /root/ansible/inventory install_webservers.yml

Here you can see installing nginx and apache each servers and you can test by copy each servers ip and paste it browser.