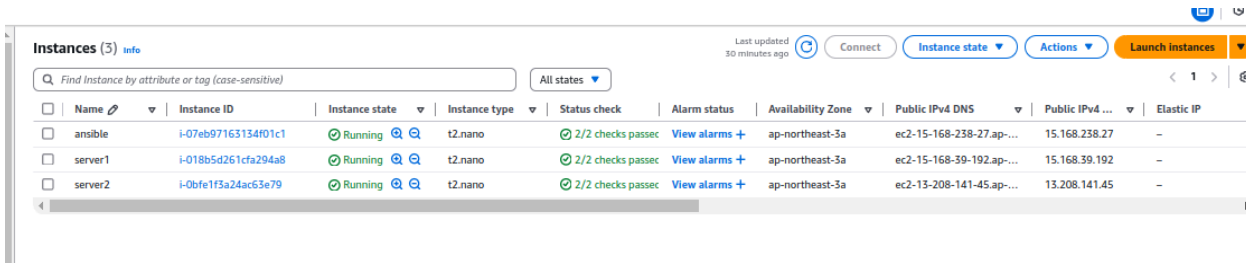


# How to setup Ansible and SSH keys in AWS

## 1) Create 3 AWS ec2 instance in ubuntu



| Name    | Instance ID         | Instance state | Instance type | Status check      | Alarm status  | Availability Zone | Public IPv4 DNS          | Public IPv4 ... | Elastic IP |
|---------|---------------------|----------------|---------------|-------------------|---------------|-------------------|--------------------------|-----------------|------------|
| ansible | i-07eb97163134f01c1 | Running        | t2.nano       | 2/2 checks passed | View alarms + | ap-northeast-3a   | ec2-15-168-238-27.ap-... | 15.168.238.27   | -          |
| server1 | i-018b5d261cfa294a8 | Running        | t2.nano       | 2/2 checks passed | View alarms + | ap-northeast-3a   | ec2-15-168-39-192.ap-... | 15.168.39.192   | -          |
| server2 | i-0bfe1f3a24ac65e79 | Running        | t2.nano       | 2/2 checks passed | View alarms + | ap-northeast-3a   | ec2-13-208-141-45.ap-... | 13.208.141.45   | -          |

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 -y**

→ 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 : **public IP server 1**

**public IP server 2**

→ Generate ssh key from ansible server

And

**Press - Enter → Enter → Enter**

```
root@ip-172-31-37-136:~# nano /etc/hosts
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#
```

You can see ssh keys of public key and private key

- Copy the public key (id\_rsa.pub) and paste it in authorized\_key on server1 and server2

**cat id\_rsa.pub**

```
root@ip-172-31-37-136:~/.ssh# cat id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGC0Xhg7gtY+ppKX6AKUHKM2rJJ7P165ga5TzBVKPCk1eH8FYarL04Y03qCf0xZzvknokpU3Cs4lsf5Na15BYh/Pq96HJvkQ3028rMsfX0M00ocnNRgo7o4VXjntK5pT03vKT0kT7/LdwsFCBw2u5Jp4ZAxoqbyQg93Gu+501k8FC
LERIKfSP6Zsr17YtMDME8B/mMkXag/B5TSRyaU70uuZZH+8IezawJZnRv+srwtarjxgt9FEHAX7UBz+rs8I/zTF0cpowCK+VF4rC1dGfJsdhtKNNCQZnqIcPh61BZVS00ZEN72+MErBvdtaoJ3S08Jm0u1TASPeSQtStvVF1Sg1L23NCKdEm6U8dm6en3P6S0NjTHTC6WRGXBY
23/eu8p3eU9VQV9VYXRUFEZQ0Gd4+TzZcub12++ZBkwBVLB+PodfScJjdnHepq0vUL7pKcQetEaQVQUXW9yJ8r70q21vqf6x3kZus11XaMSWfrouQ4hUak root@ip-172-31-37-136
```

- Go to the server 1 and server 2
- Login server1 and paste this public key in .ssh/authorized\_keys

**nano .ssh/authorized\_keys**

```
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGC0Xhg7gtY+ppKX6AKUHKM2rJJ7P165ga5TzBVKPCk1eH8FYarL04Y03qCf0xZzvknokpU3Cs4lsf5Na15BYh/Pq96HJvkQ3028rMsfX0M00ocnNRgo7o4VXjntK5pT03vKT0kT7/LdwsFCBw2u5Jp4ZAxoqbyQg93Gu+501k8FC
```

Save it and come out from the shell

- Login server1 and paste this public key in .ssh/authorized\_keys

**nano .ssh/authorized\_keys**

```
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGC0Xhg7gtY+ppKX6AKUHKM2rJJ7P165ga5TzBVKPCk1eH8FYarL04Y03qCf0xZzvknokpU3Cs4lsf5Na15BYh/Pq96HJvkQ3028rMsfX0M00ocnNRgo7o4VXjntK5pT03vKT0kT7/LdwsFCBw2u5Jp4ZAxoqbyQg93Gu+501k8FC
```

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 Ansible

**mkdir ansible**

```
root@ip-172-31-37-136:~# cd
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)

cat inventory

→ 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 yaml 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**

```
root@ip-172-31-37-136:~/ansible# nano install_webservers.yml
root@ip-172-31-37-136:~/ansible# ansible-playbook -i /root/ansible/inventory install_webservers.yml

PLAY [Install Web Servers] *****

TASK [Gathering Facts] *****
[WARNING]: Platform linux on host server1 is using the discovered Python interpreter at /usr/bin/python3.10, but future installation of another Python interpreter could change the meaning of that path. See
https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [server1]
[WARNING]: Platform linux on host server2 is using the discovered Python interpreter at /usr/bin/python3.10, but future installation of another Python interpreter could change the meaning of that path. See
https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [server2]

TASK [Install Nginx on server1] *****
skipping: [server2]
changed: [server1]

TASK [Install Apache on server2] *****
skipping: [server1]
changed: [server2]

TASK [Ensure Nginx is started and enabled on server1] *****
skipping: [server2]
ok: [server1]

TASK [Ensure Apache is started and enabled on server2] *****
skipping: [server1]
ok: [server2]

PLAY RECAP *****
server1 : ok=3    changed=1    unreachable=0    failed=0    skipped=2    rescued=0    ignored=0
server2 : ok=3    changed=1    unreachable=0    failed=0    skipped=2    rescued=0    ignored=0
```

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