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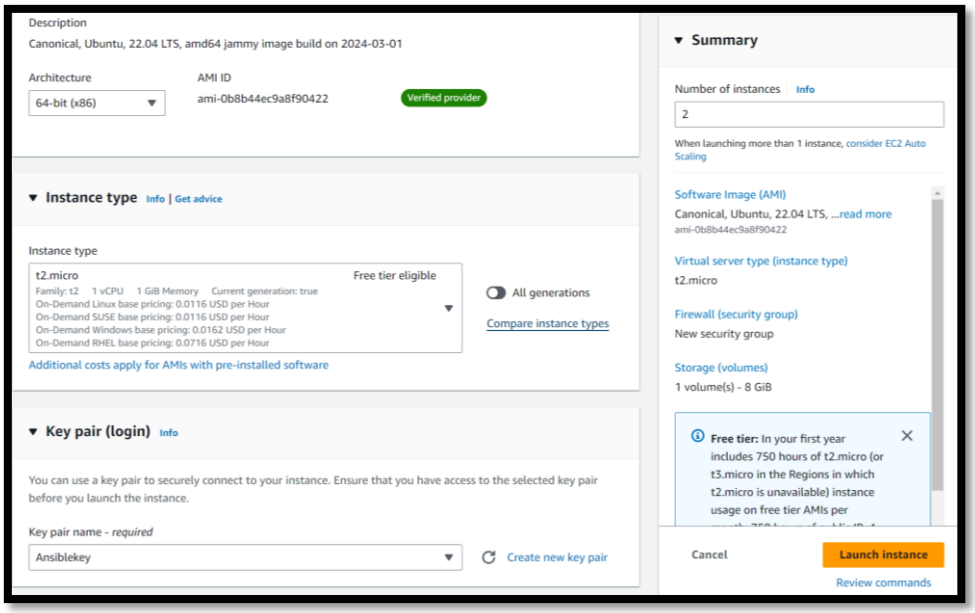
Experiment-11

Ansible Installation

1. Create 2 AWS EC2 Instance with same key-pair.



1. Install Ansible in one of the Insatance.

```
52 packages can be upgraded. Run 'apt list --upgradable' to see them.
ubuntu@ip-172-31-44-171:~$  sudo apt-add repository ppa:ansible/ansible
 sudo apt update
 sudo apt install ansible
```

```
Selecting previously unselected package python3-ntlm-auth.
Preparing to unpack .../12-python3-ntlm-auth_1.4.0-1_all.deb ...
Unpacking python3-ntlm-auth (1.4.0-1) ...
Selecting previously unselected package python3-requests-kerberos.
Preparing to unpack .../13-python3-requests-kerberos_0.12.0-2_all.deb ...
Unpacking python3-requests-kerberos (0.12.0-2) ...
Progress: [ 35%] [#########################################.....................................................................]
```

2. Verify installation by checking version.

```
ubuntu@ip-172-31-44-171:~$ ansible --version
ansible [core 2.16.5]
  config file = /etc/ansible/ansible.cfg
  configured module search path = ['/home/ubuntu/.ansible/plugins/modules', '/usr/share/ansible/plugins/modules']
  ansible python module location = /usr/lib/python3/dist-packages/ansible
  ansible collection location = /home/ubuntu/.ansible/collections:/usr/share/ansible/collections
  executable location = /usr/bin/ansible
  python version = 3.10.12 (main, Nov 20 2023, 15:14:05) [GCC 11.4.0] (/usr/bin/python3)
  jinja version = 3.0.3
  libyaml = True
ubuntu@ip-172-31-44-171:~$
```

3.Make a directory and using scp copy key-pair PEM file.

```
PS C:\Users\pulki\Downloads> scp -i "Ansiblekey.pem" Ansiblekey.pem ubuntu@ec2-3-144-76-19.us-east-2.compute.amazonaws.com:/home/ubuntu/keys
The authenticity of host 'ec2-3-144-76-19.us-east-2.compute.amazonaws.com (3.144.76.19)' can't be established.
ED25519 key fingerprint is SHA256:A8HYIniES1/6HhmwGB5gP7VoXZOMcKamevfnXe88PA4.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])?
Warning: Permanently added 'ec2-3-144-76-19.us-east-2.compute.amazonaws.com' (ED25519) to the list of known hosts.
Ansiblekey.pem                                                100% 1674     2.4KB/s   00:00
PS C:\Users\pulki\Downloads>
```

3. Edit **ansible host** file and add the public IP of another server.

```
  GNU nano 6.2                                          hosts
# This is the default ansible 'hosts' file.
#
# It should live in /etc/ansible/hosts
#
#   - Comments begin with the '#' character
#   - Blank lines are ignored
#   - Groups of hosts are delimited by [header] elements
#   - You can enter hostnames or ip addresses
#   - A hostname/ip can be a member of multiple groups

# Ex 1: Ungrouped hosts, specify before any group headers:

## green.example.com
## blue.example.com
## 192.168.100.1
## 192.168.100.10

# Ex 2: A collection of hosts belonging to the 'webservers' group:

[webservers]
server1 ansible_host=18.217.29.22
[webservers:vars]
ansible_python_interpreter=/usr/bin/python3
ansible_user=ubuntu
ansible_ssh_private_key_file=/home/ubuntu/keys/Ansiblekey.pem
```

4. Now check connection by **ansible webservers -m ping**

```
ubuntu@ip-172-31-44-171:/etc/ansible$ chmod 0600 /home/ubuntu/keys/Ansiblekey.pem
ubuntu@ip-172-31-44-171:/etc/ansible$ ansible webservers -m ping
server1 | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
ubuntu@ip-172-31-44-171:/etc/ansible$
```

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Experiment-12

Ansible Playbook

1. Create a **nginxplay.yml** file.

```
GNU nano 6.2                                    nginxplay.yml
---
- name: Install and start Nginx
  hosts: webservers
  become: yes
  tasks:
    - name: Install Nginx
      apt:
        name: nginx
        state: latest

    - name: Start Nginx
      service:
        name: nginx
        state: started
        enabled: yes
```

2. Execute this playbook by **ansible-playbook nginxplay.yml**

```
ubuntu@ip-172-31-44-171:~$ ansible-playbook nginxplay.yml

PLAY [Install and start Nginx] ************************************************************************************************************************************************

TASK [Gathering Facts] ********************************************************************************************************************************************************
ok: [server1]

TASK [Install Nginx] **********************************************************************************************************************************************************
ok: [server1]

TASK [Start Nginx] ************************************************************************************************************************************************************
ok: [server1]

PLAY RECAP ********************************************************************************************************************************************************************
server1                    : ok=3    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

ubuntu@ip-172-31-44-171:~$
```

3. To verify open the IP of another server and **Nginx** webpage will be up.