Lab 5.1 Setup Apache Web Server Using Ansible

This section will guide you to:

Setup apache web server using Ansible

This lab has four sub-sections:

- 5.1.1 Install Ansible on Ubuntu
- 5.1.2 Establish connectivity between ansible controller and node machine
- 5.1.3 Write Ansible YAML script to install ansible software
- 5.1.4 Run Ansible YAML script

Step 5.1.1: Install Ansible on Ubuntu

Use the below commands on Ubuntu system to install ansible software.

sudo apt-get install software-properties-common

sudo apt-add-repository ppa:ansible/ansible

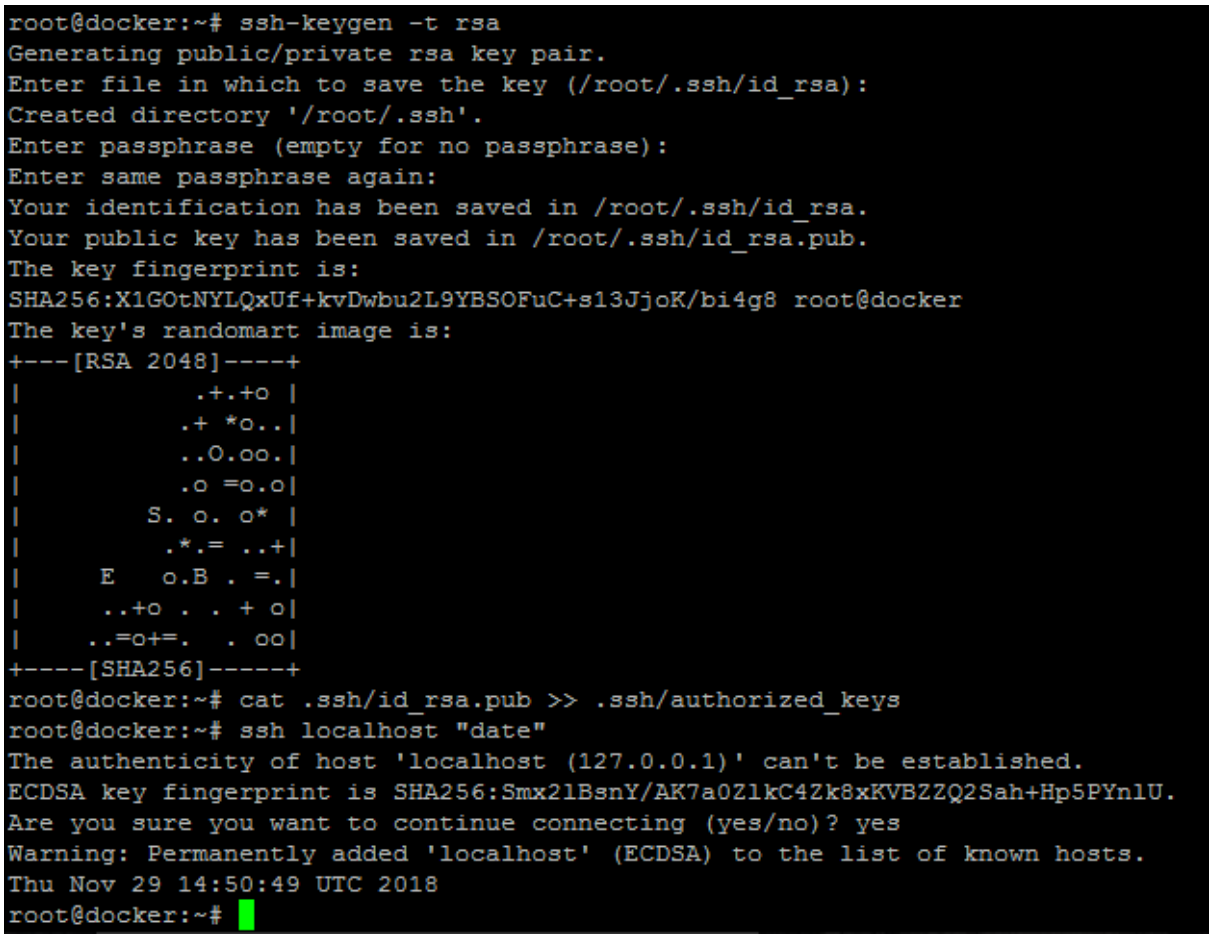
sudo apt-get update

sudo apt-get install ansible

```
root@docker:~# apt-get install software-properties-common
Reading package lists... Done
Building dependency tree
Reading state information... Done
software-properties-common is already the newest version (0.96.24.32.5).
0 upgraded, 0 newly installed, 0 to remove and 4 not upgraded.
root@docker:~# apt-add-repository ppa:ansible/ansible
 Ansible is a radically simple IT automation platform that makes your applications and systems easier to deploy. Avoid writing scripts or custom code to deploy and upda
te your applicationsá automate in a language that approaches plain English, using SSH, with no agents to install on remote systems.

http://ansible.com/
 More info: https://launchpad.net/~ansible/+archive/ubuntu/ansible
Press [ENTER] to continue or Ctrl-c to cancel adding it.

Hit:1 http://us-east1.gce.archive.ubuntu.com/ubuntu bionic InRelease
Hit:2 http://us-east1.gce.archive.ubuntu.com/ubuntu bionic-updates InRelease
Hit:3 http://us-east1.gce.archive.ubuntu.com/ubuntu bionic-backports InRelease
Ign:4 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:6 https://pkg.jenkins.io/debian-stable binary/ Release
Hit:5 https://packages.cloud.google.com/apt kubernetes-xenial InRelease
Hit:7 http://security.ubuntu.com/ubuntu bionic-security InRelease
Hit:8 http://ppa.launchpad.net/ansible/ansible/ubuntu bionic InRelease
Hit:9 http://archive.canonical.com/ubuntu bionic InRelease
Reading package lists... Done
root@docker:~# apt install -y ansible
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  ieee-data python-certifi python-chardet python-jmespath python-kerberos python-libcloud python-lockfile python-netaddr python-openssl python-requests python-selinux
  python-simplejson python-urllib3 python-xmltodict
Use 'apt autoremove' to remove them.
The following additional packages will be installed:
```

Establish SSH key pair in linux system to have SSH connectivity with localhost using the following commands:

```
ssh-keygen -t rsa

cat root/.ssh/id_rsa.pub >> root/.ssh/authorized_keys

ssh localhost “date”
```



Now, add the host localhost in ansible host file /etc/ansible/hosts.

```
sudo vi /etc/ansible/hosts
```

When the file opens, add the following content:

```
[webservers]
```

localhost

Once that is done, validate using Ansible command:

```
root@docker:~# cat /etc/ansible/hosts
[webservers]
localhost
root@docker:~# ansible -m ping webservers
localhost | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
root@docker:~#
```

Step 5.1.2: Establish connectivity between Ansible controller and node machine

execute the below command to validate host inventory file.

```
ansible –m ping webservers
```

```
root@docker:~# ansible -m ping webservers
localhost | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
```

Step 5.1.3: Write Ansible YAML script to install Ansible software

Once connectivity is established, add the following code in the apache.yaml file and proceed with execution.

```
sudo vi apache2.yaml
```

```
---
- hosts: webservers
  sudo: yes
  tasks:
    - name: install apache2
      apt: name=apache2 update_cache=yes state=latest

    - name: enabled mod_rewrite
      apache2_module: name=rewrite state=present
      notify:
         - restart apache2

  handlers:
    - name: restart apache2
      service: name=apache2 state=restarted
~
~
~
~
~
~
~
~
-- INSERT --                                                    15,44         A
```

Step 5.1.4: Run Ansible YAML script

Run apache.yaml file using below command:

```
ansible-playbook apache2.yaml
```

```
root@docker:~# ansible -m ping webservers
localhost | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
root@docker:~# ansible-playbook apache2.yaml
[DEPRECATION WARNING]: Instead of sudo/sudo_user, use become/become_user and make sure become_method is 'sudo'
Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.

PLAY [webservers] *************************************************************************************************

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

TASK [install apache2] ********************************************************************************************
changed: [localhost]

TASK [enabled mod_rewrite] ****************************************************************************************
changed: [localhost]

RUNNING HANDLER [restart apache2] *********************************************************************************
changed: [localhost]

PLAY RECAP ********************************************************************************************************
localhost                  : ok=4    changed=3    unreachable=0    failed=0

root@docker:~#
```

Validate installation using the command:

```
ansible -m shell -a "service apache2 status" webservers
```