Lesson 06 Demo 02

Creating YAML Script with Ansible

Objective: To create and execute an Ansible playbook and add a YAML script for installing Node.js

Tools required: Ansible

Prerequisites: You need to have Ansible installed to proceed with this demo. If you don't have it installed, refer to Demo 1 of Lesson 6.

Steps to be followed:

1. Create an Ansible playbook
2. Add a YAML script to the playbook
3. Run the playbook

Step 1: Create an Ansible playbook

1.1 Use the below command to create a **node.yml** file:

sudo vi node.yml

```
labsuser@ip-172-31-32-128:~$ sudo vi node.yml
labsuser@ip-172-31-32-128:~$
```

Note: To save the file and exit, press **Esc**, then type **:wq**, and press **Enter**

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

ssh-keygen -t rsa (Press **Enter** when asked for File and Paraphrase details)

```
labsuser@ip-172-31-32-128:~$ ssh-keygen -t rsa
Generating public/private rsa key pair.

Enter file in which to save the key (/home/labsuser/.ssh/id_rsa): /home/labsuser/.ssh/id_rsa already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/labsuser/.ssh/id_rsa
Your public key has been saved in /home/labsuser/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:2pWhe//lEvsnFqKK/ve3Xh2wRLsDh7AYgwhMSSabjfk labsuser@ip-172-31-32-128
The key's randomart image is:
+---[RSA 3072]----+
|==o . .o .   .   |
|oO . .  + o o .  |
|= .    . ..o =   |
| .       . o+ +  |
|  E     S o  + . |
|       o o  . + o|
|      . o .. . ++|
|       . .o.  *+.|
|     .o.oo .o=+=+|
+----[SHA256]-----+
labsuser@ip-172-31-32-128:~$
```

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

ssh localhost -p 42006

(Type **yes** when prompted)

```
labsuser@ip-172-31-32-128:~$ cat .ssh/id_rsa.pub >> .ssh/authorized_keys
labsuser@ip-172-31-32-128:~$ ssh localhost -p 42006
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-1018-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  System information as of Fri Feb  9 09:31:15 UTC 2024

  System load:  0.18408203125      Processes:               222
  Usage of /:   75.8% of 19.20GB   Users logged in:         0
  Memory usage: 65%                IPv4 address for docker0: 172.17.0.1
  Swap usage:   0%                 IPv4 address for ens5:    172.31.32.128

 * Ubuntu Pro delivers the most comprehensive open source security and
   compliance features.

   https://ubuntu.com/aws/pro
```

1.3 Now, add the localhost in ansible file **/etc/ansible/hosts**
sudo vi /etc/ansible/hosts

```
Last login: Thu Feb  8 04:13:03 2024 from 127.0.0.1
labsuser@ip-172-31-32-128:~$ sudo vi /etc/ansible/hosts
```

1.4 When the file opens, add the below two lines of code at the end of the file:
[webservers]
localhost:42006

```
## db-[99:101]-node.example.com

# Ex 3: A collection of database servers in the 'dbservers' group:

## [dbservers]
##
## db01.intranet.mydomain.net
## db02.intranet.mydomain.net
## 10.25.1.56
## 10.25.1.57


# Ex4: Multiple hosts arranged into groups such as 'Debian' and 'openSUSE':

## [Debian]
## alpha.example.org
## beta.example.org

## [openSUSE]
## green.example.com
## blue.example.com
[webservers]
localhost:42006
"/etc/ansible/hosts" 56L, 1204B
```

Note: To save the file and exit, press **Esc**, then type **:wq**, and press **Enter**

Step 2: Add a YAML script to the playbook

2.1 Open the node.yaml file by using the below command, and then add the following code:
sudo vi node.yml
Copy and paste the below code:

```
---

- hosts: webservers
  become: true
  tasks:
    - name: add apt key for nodesource
      become: true
      apt_key:
        url: https://deb.nodesource.com/gpgkey/nodesource.gpg.key

    - name: add repo for nodesource
      become: true
      apt_repository:
        repo: 'deb https://deb.nodesource.com/node_0.10 {{ ansible_distribution_release
   }} main'
        update_cache: no

    - name: install nodejs
      become: true
      apt:
        name: nodejs
```

```
---
- hosts: webservers
  become: true
  tasks:
    - name: add apt key for nodesource
      become: true
      apt_key: url=https://deb.nodesource.com/gpgkey/nodesource.gpg.key
    - name: add repo for nodesource
      become: true
      apt_repository:
                repo: 'deb https://deb.nodesource.com/node_0.10 {{ ansible_distribution_release }} main'
                update_cache: no
    - name: install nodejs
      become: true
      apt: name=nodejs
```

Step 3: Run the Ansible playbook

3.1 Run **node.yaml** file using below command:

ansible-playbook node.yml

```
labsuser@ip-172-31-32-128:~$ ansible-playbook node.yml

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

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

TASK [add apt key for nodesource] *******************************************************************************************************************************
ok: [localhost]

TASK [add repo for nodesource] **********************************************************************************************************************************
ok: [localhost]

TASK [install nodejs] *******************************************************************************************************************************************
ok: [localhost]

PLAY RECAP ******************************************************************************************************************************************************
localhost                  : ok=4    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

By following the above steps, you have successfully created and executed a YAML script using Ansible to install Node.js.