

Network Programming and Automation Lab Tutorials

Lab Tutorial 1

Ansible Lab Setup:

1. Create one virtual machine Ansible Controller and two Target Virtual Machine using CentOS 7 1804(64 bits). You may Install CentOS from Osboxes.org and check their IP configuration.
2. Establish SSH connections for all three Terminals. You may access from MobaXterm for this purpose. Ping the machines.
3. Install Ansible in Ansible Controller machine and check whether Ansible has been installed properly and check the version of the Ansible using command.
4. Check Connectivity using Ansible to other target Machines.

Lab Tutorial 2 (18/11/2020)

1. Generate public key cryptography in controller machine and copy it on target machine for login using Ansible to target machine
2. Go to ansible inventory file location and link with target machines of group of target machine (vi /etc/ansible/hosts)
3. Ping Target machine/group of machines located on inventory file location using Ansible for controller
4. Open ansible playbook and code for installing and deployment of nginx webservice on target machine:

- hosts: all

tasks:

- name: Add epel-release

yum:

name: epel-release

state: present

- name: install nginx

yum:

name: nginx

state: present

- name: start nginx

service:

name: nginx

state: started

5. Test Whether webservice is working on target machine with different testing methods

6. Install and deploy nginx webservice for group of machines.

Lab Tutorial 3 (25/11/2020)

Apache Webservice Installation(httpd) using ansible to target machine:

- 1.Generate public key cryptography in controller machine and copy it on target machine for login using Ansible to target machine
- 2.Go to ansible inventory file location and link with target machines of group of target machine (vi /etc/ansible/hosts)
3. Ping Target machine/group of machines located on inventory file location using Ansible for controller (ansible -m ping test)
- 4.Open ansible playbook and code for installing and deployment of Apache webservice on target machine. Vi apache.yml
- 5.Test Whether webservice is working on target machine with different testing methods (ansi ble-playbook apache.yml -C)
6. Install and deply Apache webservice for group of machines.

- hosts: test

tasks:

- name: add epel-release

yum:

name: epel-release

state: present

- name: install httpd

yum:

name: httpd

state: present

- name: start httpd

service:

name: httpd

state: started

Test Target Machine:

httpds -v

ip address in the browser

Lab Tutorial 4 (25/11/2020)

PHP Installation Using Ansible to target machine:

1. Generate public key cryptography in controller machine and copy it on target machine for login using Ansible to target machine
2. Go to ansible inventory file location and link with target machines of group of target machine (vi /etc/ansible/hosts)
3. Ping Target machine/group of machines located on inventory file location using Ansible for controller (ansible -m ping test)
4. Open ansible playbook and code for installing and deployment of PHP on target machine: vi php.yml

5. Test PHP is working on target machine with different testing methods (ansi ble-playbook php.yml -C)

6. Install and deploy PHP for group of machines.

- hosts: test

tasks:

- name: add epel-release

yum:

name: epel-release

state: present

- name: install php

yum:

name: php

state: present

- name: start php

service:

name: php

state: started

Lab Tutorial 5 (02/12/2020)

Mariadb/MySQL installation using Ansible to Target Machines:

1. Generate public key cryptography in controller machine and copy it on target machine for login using Ansible to target machine
2. Go to ansible inventory file location and link with target machines of group of target machine (vi /etc/ansible/hosts)
3. Ping Target machine/group of machines located on inventory file location using Ansible for controller (ansible -m ping test)
4. Open ansible playbook and code for installing and deployment of Apache webservice on target machine. Vi mariadb.yml
5. Test Whether webservice is working on target machine with different testing methods (ansi ble-playbook mariadb.yml -C)
6. Install and deploy Mariadb/MySQL to target machines

Ansible playbook commands for installation of Mariadb:

- name: MariaDB

hosts: all

gather_facts: true

become: true

tasks:

- name: install

yum:

name:

- mariadb-server
- python3-PyMySQL

state: latest

-name: start mariadb

service:

name: mariadb

enabled: true

state: started

Testing Target Machines:

Type

Mysql

Mysql -v