

# Ansible

Automation is crucial these days, with IT environments that are too complex and often need to scale too quickly, for system administrators and developers to keep up if they had to do everything manually. Automation simplifies complex tasks

So we will be using Ansible, an automation tool to setup firewall.

## Introduction.

Ansible is an open-source automation tool, or platform, used for IT tasks such as configuration management, application deployment, intra-service orchestration, and provisioning.

**First things first, let's setup ansible.**

## Ansible Installation

Note: There is no need to install ansible on host nodes.

We just have to install ansible on controller node.

### Installation on Ubuntu machine

```
sudo apt update
sudo apt install ansible
```

### Installation on mac

```
# using homebrew
brew install ansible
# using python pip
sudo pip install ansible
```

## Verifying the installation

```
ansible --version
```

## Adding host machine entries in inventory file of Ansible controller node.

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

## Example host file

```
[testing]  
  
128.156.134.22 ansible_user=root ansible_port=22 ansible_private_key_file=~/.ssh/id_rsa
```

Here [testing] is host name and following that we have defined the ip address , user , port and ssh key of the controller node which will be used to access the host machine using ansible.

## Basic Info about Ansible

In Ansible we use playbooks to execute tasks on the host nodes.

Ansible Playbooks offer a repeatable, re-usable, simple configuration management and multi-machine deployment system.

Playbooks are expressed in YAML format with a minimum of syntax.

## A basic playbook example to create a file in host node.

```
---
- name: Playbook to create an empty file
  hosts: marshal

  tasks:
    - name: creating an empty file
      file:
        path: /root/newfile
        state: touch
...
```

## Playbook creation and Execution

Create a file with `.yaml` extension and define various attributes like hosts, task and all.

After that it's a good practice to do syntax validation of playbook before running it.

```
touch playbook1.yaml
```

```
ansible-playbook playbook1.yaml --check
```

### Now after syntax validation we can go further to execute the playbook

To execute ansible playbook following command is used.

```
ansible-playbook playbook1.yaml
```