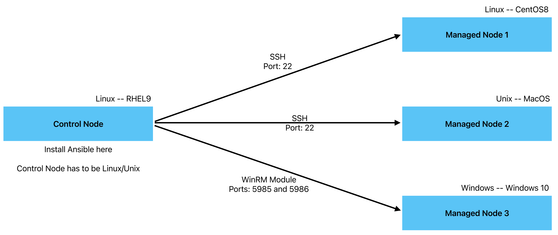
ANSIBLE

Task to setup Apache Webserver:

1. Having the server (on premise, cloud, virtualisation)
2. Install OS
3. Setup Networking
4. Attach Subscription
5. Install the package (Apache)
6. Make the necessary changes in the configuration changes
7. Copy the data to the document root
8. Start and enable the httpd service
9. Done!

Ansible is a:
Configuration Management Tool
Opensource Automation Platform

ANSIBLE ARCHITECTURE



CN + MN
Ansible is Cross Platform
Ansible communicates through the most secure channel available
Ansible is Agentless
Control Node has to be Linux/Unix

Important Terms

Inventory:
Collection of all the managed node IP's/Hostnames

Playbook:
Desired state of the managed nodes
Written in: YAML / JSON

Module:
These are pieces of code that we use inside a Playbook
95% of modules are written in Python

Ansible requires the Python Interpreter

Various Configuration Management Tools in the Market

Chef
CN + MN, Ruby + Erlang, SSL, Pull Theory, Needs Agent, CLI

Puppet
CN + MN, Puppet DSL, SSL, Pull Theory, Needs Agent , CLI

Saltstack
CN + MN, YAML, SSH, Push Theory, Needs Agent, CLI

Ansible
CN + MN, YAML, SSH, Push Theory, Agentless, CLI + WebGUI

Features and Benefits of Ansible

- Cross Platform
- Agentless
- It can manage many servers at a single time (configuration management)
- Uses SSH (most secure channel)
- Doesn't require to learn any extra language
- It is based in YAML
- It has a WebGUI available (Ansible Tower)
- Based on the Push Theory
- Ansible is using Python for its modules
- Huge User Community of Ansible
- A big module library
- Red Hat Subscription available

Adhoc Commands

Single use, single task commands of Ansible

Syntax:
Ansible <on which hosts you want to run the command> -m <name of module> -a "<argument for the module>"

Examples:

Ansible all -m ping
ansible all -m copy -a "src=abc.txt dest=/home"

Using Ansible Documentations:

Ansible-doc -l
Ansible-doc <name of module>

Some Useful Modules:

Yum
File
User
Copy
Lineinfile
Command
raw

DNF / YUM Module States:

Latest : Ansible will check that the package should be present it should be in latest version
Present : Ansible will check that the package should be present
Absent : Ansible will check that the package should be absent

Sample Inventory File

```
192.168.137.128                                 # Ungrouped Hosts
192.168.137.139

[webserver]                                     # Grouped Hosts
10.0.0.1
servera.example.com


[prod]
192.168.0.[1:10]                                # Using Patterns and Ranges
server[a:d].example.com
192.[0:2].23.[1:10]


[operations:children]                           # Parent (Group of Groups)
webserver
prod
```