

Ansible Architecture

Ansible is AgentLess

- 1. Graphical tool to work with Ansible
- 2. Easy based on Browser
- 3. Schedule your play's to run as specific time
- 4. Logs of plays run
- 5. RBAC

Modules Path:
/usr/lib/python2.7/site-packages/ansible/modules/

1. Copy module.py from Control Node to Managed Host (Temp Folder)
2. Change permission of module.py to executable via `chmod u+x module.py`
3. Check & Execute using "python module.py" and make changes(if not DESIRED)
4. Remove Module which was copied (`rm -rf Module_path`)

Managed Hosts/Nodes

Python Installed

Linux

```
become: true
become_user: root
become_method: sudo/su
become_ask_pass: true/false
```

user

PowerShell Installed

Windows

```
become: true
become_user: administrator
become_method: runas
become_ask_pass: true/false
```

Python May/May Not

Network Device

```
become: true
become_user: admin
become_method: enable
become_ask_pass: true/false
```

Cloud

```
## Default Settings
ansible_connection: ssh
ansible_port: 22
ansible_user: root (variable file)
# remote_user=devops (ansible.cfg)
ansible_password: redhat (SSH_KEY) [-ask-pass for Ad-hoc]
```

```
ansible_connection: winrm
ansible_port: 5986
ansible_user: devops (remote_user)
ansible_password: redhat (SSH_KEY)
```

```
ansible_connection: network_cli/netconf
ansible_port: 22 (Depend)
ansible_user: admin/vyos (remote_user)
ansible_password: student/vyos (SSH_KEY)
```

Idempotent Modules/Behaviour
Desired State (OK, Changed, Fatal, ignoring)
Check if the Managed Hosts has already those configs?
If Yes, Nothing Happen
If No, Config Changed Done

- In Network Device Case which doesn't have python(Normally):
1. Copy Module.py from Control Node to Itself(CN) (Temp Folder)
 2. `chmod u+x module.py` on the module copied on Control Node
 3. Check & Execute module on Control Node (on behalf of Network Device) and create commands if changes required 'python module.py'
 4. Push Commands to Device and (On Control Node) Remove Module which was copied from localhost (Control Node) (`rm -rf Module_path`)

Control Node/Workstation (Linux/Unix Only)

Python Installed

`yum install ansible python -y`

Inventory

Static [static file with system name/IP
(yaml/ini)]

Dynamic [Active Directory, LDAP, Satellite
CMDB, Openstack,AWS,VMWare,
VirtualBox] via python script

Push a Task to Managed Hosts

1. Ad-Hoc Command (Development/Testing) One time NOT reusable
`ansible hostname -m Module_name -a 'option1=value1 option2=value2'`
2. Playbook (Production). Reusable as many time
`ansible-playbook play1.yml`

Playbooks in yaml:

(Indentation)

`vim play.yaml`

- name: Playbook Purpose

hosts: list_host

tasks:

- name: Install httpd

yum:

name: httpd

state: latest

- name: Create user

Module_name:

Module_options:

INVENTORY:

Default File: /etc/ansible/hosts [root access]
Custom File: YOUR_CUSTOM_PATH

ANSIBLE Configuration File:

Default File: /etc/ansible/ansible.cfg
User file(Home Dir): ~/.ansible.cfg
Project specific: ./ansible.cfg
Define Env Variable: `ANSIBLE_CONFIG #=/tmp/ansible.config`

Level 1

Level 2

Level 3

Level 4

thread

thread

thread

thread

forks=5