Ansible

Definitions

Control node

Main node where Ansible is installed and will have access via ssh to managed node
Very sensible machine (access to everything) ⇔ reinforced security

Managed node

All nodes managed by Ansible. They have a user with privilege elevation and ssh connection ready for control node

Inventory

Inventory of the machines in ini (flat) or yaml and variable files host_vars and group_vars folders it can be static or dynamic (python), it can uses patterns

Groups

We can regroup machines into groups (example nginx/db/debian …) this will classify machines in boxes and we can create a tree (origin == group “all”)

Group_vars

all varaibles for the same group

Host_vars

in opposition to group_vars, host_vars contains variable(s) to specific host. Has precedence on group_vars where the machine is included

Task

one action (create user/use template/check var...) done by Ansible

Module

define action to a specific action (postgresql: create user/db/roles...) can be used by a task

Roles

it's a group of actions specific to a deployment (install nginx/configure)
Has different tools to help: tasks, templates, handlers, variables, meta
Tons available on the galaxy hub
use git/versioning system

Playbook

File that coordinate inventory/tasks/roles on infrastructure machine ⇔groups⇔ role

Plugin

Improves Ansible (tests/output/...)

Install

Control node

```
apt install ansible
```

```
yum install ansible || dnf install ansible
```

Managed node

Python is required

```
apt install python
```

```
yum install python || dnf install python
```

SSH

Generate

```
ssh-keygen -t ecdsa
```

Install

```
ssh-copy-id -i ~/.ssh/id_ecdsa.yourkey user@host
```

more security

Add in .ssh/authorized_keys in front of the key:

```
 from="192.168.1.80" ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABAQC0xc3q73y8Upi1irKzRAQk...
```

Other values:

```
from="192.168.1.?,*.fortier-family.com",no-X11-forwarding ssh-<type> Key...
```

.ssh/config

```
Host *
    User ansible
    IdentityFile /home/ansible/.ssh/id_rsa.ansible
    Compression yes
    ForwardAgent yes
```

```
  ServerAliveInterval 300
  TCPKeepAlive no
  ServerAliveCountMax 2
  IPQoS=throughput
```

Managed node user

Create user

```
useradd -m ansible
```

Grant sudo

```
export EDITOR=vi
visudo
usermod -aG sudo ansible
```

We add user **ansible** to **sudo** OR **wheel** group

test

```
sudo -i
sudo -l # for a list
```

SSHkey

```
 ssh localhost # to create ~/.ssh folder
```

```
echo "ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABgQC5D93eG2AQnUysic1Pms1OPSUKxIr/opOcRaxSqKQsuD9B
F401xChc2ydT7/2iXCiAvH4kecPiEhuQP++nKbxZeXR07ljAsXa70nK9EajmRORcBiDejLQ3NN0p
i3PKpUdyb+xgh6IPblWCjcxENryrtWeOiqItXT5eegKh+dJ5W+evAOJI7qMp97me2vOiC23rwcKp
XV7IptfK95ddvaXzYzRTB93qjrSyGedYtTApQxEd/s8GydAODpC70FdlY1d9z/J5teaF/eFSNy5k
2TjH3N87P8luRohk+8apfavyM3Tqxb3Tn989V3Y5CWnMYnepTPRCHxLIvnw2rUmkL42JNOuxjqFn
o7YdVg+urtImGvmih5DOu6VpXq9/aYNNgBXVgv2wJse1vwzhX1j5BZ56tTAly//AbFATZwnj+Dpm
wbSHM/tFHrNAwPUDXyHy4AjAF3nTFOZFxbKEFKeaGWWgT/WlfqrsmcARvrWqUnZQFi0s6Y/MIwmt
zAxDrC6Isbk= cc.fortier-family.com">> ~/.ssh/authorized_keys
```

Check ansible connection from control node

from control node

```
ansible -i "HOST," all -u ansible -m ping
```

changing **HOST** by the managed host

```
ansible -i "dns," all -u ansible -m command -a uptime --one-line
```

Examples

```
ansible -i "dns," all -u ansible -b -K -m apt -a "name=pkg"
```

Gather fact from machine

```
ansible -i "dns," all -u ansible -m setup
```

References

- tuto french - Commandes et sources
- official documentation
- Ansible Install Rocky/Alma Linux 8.X
- Mitogen

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