

Ansible

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1 Introduction

Ansible est un outil d'automatisation sans agent que vous installez sur un nœud de contrôle. Depuis le nœud de contrôle, Ansible gère les machines et autres appareils à distance (par défaut, via le protocole SSH).

Vous n'avez pas besoin d'installer une base de données ou d'exécuter des démons. Ansible peut gérer toute une flotte de machines distantes à partir de ce nœud de contrôle. [Ansible](#).

2 Playbook de base

2.1 Timezone

- name: Set timezone and configure timesyncd

hosts: "*"

become: yes

tasks:

- name: set timezone

shell: timedatectl set-timezone africa/casablanca

```
root@pre:~/ansible/playbook# ansible-playbook timezone.yml -vvv --ask-become-pass
ansible-playbook 2.7.7
config file = /etc/ansible/ansible.cfg
configured module search path = ['/root/.ansible/plugins/modules', '/usr/share/ansible/plugins/modules']
ansible python module location = /usr/lib/python3/dist-packages/ansible
executable location = /usr/bin/ansible-playbook
python version = 3.7.3 (default, Jan 22 2021, 20:04:44) [GCC 8.3.0]
using /etc/ansible/ansible.cfg as config file
SUDO password:
/etc/ansible/hosts did not meet host_list requirements, check plugin documentation if this is unexpected
/etc/ansible/hosts did not meet script requirements, check plugin documentation if this is unexpected
Parsed /etc/ansible/hosts inventory source with ini plugin

PLAYBOOK: timezone.yml *****1 plays in timezone.yml
what is your username?: ibrahim
what is your password?:

PLAY [Set timezone and configure timesyncd] *****
TASK [Gathering Facts] *****task path: /root/ansible/playbook/timezone.yml:1
<10.10.2.56> ESTABLISH SSH CONNECTION FOR USER: ibrahim
<10.10.2.56> SSH: EXEC ssh -C -o ControlMaster=auto -o ControlPersist=60s -o KbdInteractiveAuthentication=no -o PreferredAuthentications=gssapi-with-mic,gssapi-keyex,hostbased,publickey -o PasswordAuthentication=no -o User=ibrahim -o ConnectTimeout=10 -o ControlPath=/root/.ansible/cp/b542c5a8f2 10.10.2.56 '/bin/sh -c ''''echo ~ibrahim && sleep 0'''''
<10.10.2.56> (0, b'/home/ibrahim/n', b'')
<10.10.2.56> ESTABLISH SSH CONNECTION FOR USER: ibrahim
<10.10.2.56> SSH: EXEC ssh -C -o ControlMaster=auto -o ControlPersist=60s -o KbdInteractiveAuthentication=no -o PreferredAuthentications=gssapi-with-mic,gssapi-keyex,hostbased,publickey -o PasswordAuthentication=no -o User=ibrahim -o ConnectTimeout=10 -o ControlPath=/root/.ansible/cp/b542c5a8f2 10.10.2.56 '/bin/sh -c ''''( umask 77 && mkdir -p "" echo /home/ibrahim/.ansible/tmp && mkdir /home/ibrahim/.ansible/tmp/ansible-tmp-1640246544.1407964-13661-186834012318019 && echo ansible-tmp-1640246544.1407964-13661-186834012318019="" echo /home/ibrahim/.ansible/tmp/ansible-tmp-1640246544.1407964-13661-186834012318019 "" ) && sleep 0'''''
<10.10.2.56> (0, b'ansible-tmp-1640246544.1407964-13661-186834012318019=/home/ibrahim/.ansible/tmp/ansible-tmp-1640246544.1407964-13661-186834012318019/n', b'')
Using module file /usr/lib/python3/dist-packages/ansible/modules/system/setup.py
<10.10.2.56> PUT /root/.ansible/tmp/ansible-local-13591n9vn87s8/tmpi8qkn15c TO /home/ibrahim/.ansible/tmp/ansible-tmp-1640246544.1407964-13661-186834012318019/AnsiballZ_setup.py
<10.10.2.56> SSH: EXEC sftp -b - -C -o ControlMaster=auto -o ControlPersist=60s -o KbdInteractiveAuthentication=no -o PreferredAuthentications=gssapi-with-mic,gssapi-keyex,hostbased,publickey -o PasswordAuthentication=no -o User=ibrahim -o ConnectTimeout=10 -o ControlPath=/root/.ansible/cp/b542c5a8f2 '[10.10.2.56]'
<10.10.2.56> (0, b'sftp> put /root/.ansible/tmp/ansible-local-13591n9vn87s8/tmpi8qkn15c /home/ibrahim/.ansible/tmp/ansible-tmp-1640246544.1407964-13661-186834012318019/AnsiballZ_setup.py\n', b'')
```

Figure 1: synchronisation de timezone.

```

<10.10.2.56> ESTABLISH SSH CONNECTION FOR USER: ibrahimiy
<10.10.2.56> SSH: EXEC ssh -C -o ControlMaster=auto -o ControlPersist=60s -o KbdInteractiveAuthentication=no -o PreferredAuthentications=gssapi-
sed,publickey -o PasswordAuthentication=no -o User=ibrahimiy -o ConnectTimeout=10 -o ControlPath=/root/.ansible/cp/b542c5a8f2 10.10.2.56 '/bin/sh
himiy/.ansible/tmp/ansible-tmp-1640247029.73907-14981-34812102439542/ > /dev/null 2>&1 && sleep 0''''''
<10.10.2.56> (0, b'', b'')
changed: [10.10.2.56] => {
  "changed": true,
  "cmd": "timedatectl set-timezone Africa/Casablanca",
  "delta": "0:00:01.438724",
  "end": "2021-12-22 05:37:09.658577",
  "invocation": {
    "module_args": {
      "_raw_params": "timedatectl set-timezone Africa/Casablanca",
      "_uses_shell": true,
      "argv": null,
      "chdir": null,
      "creates": null,
      "executable": null,
      "removes": null,
      "stdin": null,
      "warn": true
    }
  },
  "rc": 0,
  "start": "2021-12-22 05:37:08.219853",
  "stderr": "",
  "stderr_lines": [],
  "stdout": "",
  "stdout_lines": []
}
META: ran handlers
META: ran handlers

PLAY RECAP *****
10.10.2.56 : ok=2 changed=1 unreachable=0 failed=0

```

Figure 2: synchronisation de timezone.

```

ibrahimiy@mysql:~/ssh$ timedatectl status
    Local time: mer. 2021-12-22 07:35:23 +01
    Universal time: mer. 2021-12-22 06:35:23 UTC
    RTC time: mer. 2021-12-22 07:35:23
    Time zone: Africa/Casablanca (+01, +0100)
System clock synchronized: no
    NTP service: active
    RTC in local TZ: yes

```

Figure 3: synchronisation de timezone.

2.2 Uncomplicated Firewall (ufw)

- hosts: "*"

remote-user: root

become: yes

tasks:

install basic tools - name: install UFW - Uncomplicated Firewall

apt: name=ufw state=latest

- name: set logging

ufw: logging=on

- name: allow port 22

ufw: rule=allow port=22

- name: allow port 80

ufw: rule=allow port=80

- name: enable ufw

ufw: state=enabled policy=allow

- name: Set firewall default policy

ufw: state=enabled policy=reject

become: true

```

red connection to 10.10.2.56 closed. (r) /
<10.10.2.56> ESTABLISH SSH CONNECTION FOR USER: ibrahim
<10.10.2.56> SSH: EXEC ssh -C -o ControlMaster=auto -o ControlPersist=60s -o KbdInteractiveAuthentication=no -o PreferredAuthentications=gssapi-with-mic,gssapi-keyex,publickey -o PasswordAuthentication=no -o User=ibrahim -o ConnectTimeout=10 -o ControlPath=/root/.ansible/cp/b542c5a8f2 10.10.2.56 '/bin/sh -c ''rm -f -r /h
himy/.ansible/tmp/ansible-tmp-1640248533.679884-18972-265475327299645/ > /dev/null 2>&1 && sleep 0''''''
<10.10.2.56> (0, b'', b'')
ok: [10.10.2.56] => {
  "changed": false,
  "commands": [
    "/usr/sbin/ufw logging on"
  ],
  "invocation": {
    "module_args": {
      "app": null,
      "comment": null,
      "default": null,
      "delete": false,
      "direction": null,
      "from_ip": "any",
      "from_port": null,
      "insert": null,
      "interface": null,
      "log": false,
      "logging": "on",
      "proto": null,
      "route": false,
      "rule": null,
      "state": null,
      "to_ip": "any",
      "to_port": null
    }
  },
  "msg": "Status: inactive"
}

TASK [allow port 22] *****
task path: /root/.ansible/playbook/firewall.yml:15

```

Figure 4: installation et logging de ufw.

```

<10.10.2.56> SSH: EXEC ssh -C -o ControlMaster=auto -o ControlPersist=60s -o KbdInteractiveAuthentication=no -o PreferredAuthentications=gssapi-with-mic,gssapi-keyex,publickey -o PasswordAuthentication=no -o User=ibrahim -o ConnectTimeout=10 -o ControlPath=/root/.ansible/cp/b542c5a8f2 10.10.2.56 '/bin/sh -c ''rm -f -r /h
himy/.ansible/tmp/ansible-tmp-1640248539.7957451-18981-105575630808093/ > /dev/null 2>&1 && sleep 0''''''
<10.10.2.56> (0, b'', b'')
changed: [10.10.2.56] => {
  "changed": true,
  "commands": [
    "/usr/sbin/ufw allow from any to any port 22"
  ],
  "invocation": {
    "module_args": {
      "app": null,
      "comment": null,
      "default": null,
      "delete": false,
      "direction": null,
      "from_ip": "any",
      "from_port": null,
      "insert": null,
      "interface": null,
      "log": false,
      "logging": null,
      "port": "22",
      "proto": null,
      "route": false,
      "rule": "allow",
      "state": null,
      "to_ip": "any",
      "to_port": "22"
    }
  },
  "msg": "Status: inactive"
}

```

Figure 5: enable de port 22.

```
<10.10.2.56> ESTABLISH SSH CONNECTION FOR USER: ibrahimiy
<10.10.2.56> SSH: EXEC ssh -C -o ControlMaster=auto -o ControlPersist=60s -o KbdInteractiveAuthentication=no -o PreferredAuthentications=password,publickey -o PasswordAuthentication=no -o User=ibrahimiy -o ConnectTimeout=10 -o ControlPath=/root/.ansible/cp/b542120120 himiy/.ansible/tmp/ansible-tmp-1640248546.180519-19011-174629272570695/ > /dev/null 2>&1 && sleep 0''''''
<10.10.2.56> (0, b'', b'')
changed: [10.10.2.56] => {
  "changed": true,
  "commands": [
    "/usr/sbin/ufw allow from any to any port 80"
  ],
  "invocation": {
    "module_args": {
      "app": null,
      "comment": null,
      "default": null,
      "delete": false,
      "direction": null,
      "from_ip": "any",
      "from_port": null,
      "insert": null,
      "interface": null,
      "log": false,
      "logging": null,
      "port": "80",
      "proto": null,
      "route": false,
      "rule": "allow",
      "state": null,
      "to_ip": "any",
      "to_port": "80"
    }
  },
  "msg": "Status: inactive"
}
```

Figure 6: enable de port 80.

```

fredAuthentication=gssapi-with-mic,gssapi-keyex,hostbased,pubkey -o PasswordAuthentication=no -o User=ibrahimy -o
ConnectTimeout=10 -o ControlPath=/root/.ansible/cp/b542c5a8f2 10.10.2.56 '/bin/sh -c ''rm -f -r /home/ibrahimy/.a
nsible/tmp/ansible-tmp-1640253257.5759757-30721-130145394853738/ > /dev/null 2>&1 && sleep 0'''''
<10.10.2.56> (0, b'', b'')
changed: [10.10.2.56] => {
    "changed": true,
    "commands": [
        "/usr/sbin/ufw -f enable",
        "/usr/sbin/ufw default reject"
    ],
    "invocation": {
        "module_args": {
            "app": null,
            "comment": null,
            "default": "reject",
            "delete": false,
            "direction": null,
            "from_ip": "any",
            "from_port": null,
            "insert": null,
            "interface": null,
            "log": false,
            "logging": null,
            "policy": "reject",
            "proto": null,
            "route": false,
            "rule": null,
            "state": "enabled",
            "to_ip": "any",
            "to_port": null
        }
    },
    "msg": "Status: active\nlogging: on (low)\nDefault: reject (incoming), allow (outgoing), disabled (routed)\nNew p
rofiles: skip\n\nTo Action From\n-----\n\n22\n\n22 (v6) ALLOW IN Anywhere\n\n\nALLOW IN Anywhere (v6) \n80 (v6) ALLOW IN Anywhere\n\n\nhere (v6)"
}
META: ran handlers
META: ran handlers

PLAY RECAP *****
10.10.2.56 : ok=7 changed=1 unreachable=0 failed=0

```

Figure 7: recap de ufw.

2.3 Install mysql server

- name: Install mysql server initialize

hosts: dbserver

gather-facts: false

become: true

vars:

mysql-root-password: '****'

ansible-python-interpreter: /usr/bin/python3

tasks:

- name: Ensure required packages are installed

apt:

name:

- mysql-server

state: latest

- name: Install Required pip modules

pip:

name:

- PyMySQL

state: present

executable: pip3

- name: Ensure mysql service is running

systemd:

name: mysqld

state: restarted

enabled: yes

- name: Add .my.cnf to user home

template:

src: /root/ibrahimy/my.conf

dest: /tmp/dump.sql