

ansible

ansible

“ ansible, ansible-doc, ansible-galaxy, ansible-lint, ansible-playbook, ansible-pull, ansible-vault

“ ssh 10.44.111.115:179

```
sudo yum install -y vim wget lrzsz screen
```

```
username root/develop
password 2019@eagle/develop
```

- ip: 172.17.163.179
- netmask 255.255.255.240
- gateway
- route 172.17.163.177
- DNS 172.17.163.177

ansible

```
sudo yum install ansible -y
```

ssh-keygen ssh key ssh-copy-id server

```
[develop@localhost ~]$ ssh-keygen
```

Generating public/private rsa key pair.

Enter file in which to save the key (/home/develop/.ssh/id_rsa):

Created directory '/home/develop/.ssh'.

Enter passphrase (empty for no passphrase):

Enter same passphrase again:

Your identification has been saved in /home/develop/.ssh/id_rsa.

Your public key has been saved in /home/develop/.ssh/id_rsa.pub.

The key fingerprint is:

SHA256: i8laZFq8RAn0UEBdWLIy8LpDbZUiri9MbFmh+RKnUz4 develop@localhost.locald

The key's randomart image is:

+---[RSA 2048]-----+

```
|..+++++0          |
| o =0+. .         |
| . *. =00         |
| . =0*00         |
| ooXo  * S        |
| oX. E B + .      |
| B o o * .        |
|. +   o           |
| .. .            |
```

+----[SHA256]-----+

```
[develop@localhost ~]$ cat .ssh/id_rsa.pub
```

ssh-rsa

AAAAB3NzaC1yc2EAAAADAQABAAQDFCAJp1+ER36dn1HN92/e2VbFAex1bLvaKEqXyG07l7NmQ0hXsfLHMFkaHgRiVKdI

develop@localhost.localdomain

```
[develop@localhost ~]$
```

```
[develop@localhost ~]$ ssh-copy-id -i ~/.ssh/id_rsa.pub 172.17.163.181
```

/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/develop/.ssh/id_rsa.pub"

The authenticity of host '172.17.163.181 (172.17.163.181)' can't be established.

ECDSA key fingerprint is SHA256: iVZEKj9NsHP/zhwdfu/gZLfV51LIsidtEhp2HpNg9k0.

ECDSA key fingerprint is MD5: 54: 99: 0d: aa: e8: c5: 8a: 5e: f2: e6: a6: e9: 4c: d6: db: ac.

Are you sure you want to continue connecting (yes/no)? yes

/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed

/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys

develop@172.17.163.181's password:

Number of key(s) added: 1

Now try logging into the machine, with: "ssh '172.17.163.181'"

and check to make sure that only the key(s) you wanted were added.

```
[develop@localhost ~]$ ssh 172.17.163.181
Last login: Sat Nov  2 14:00:59 2019 from gateway
[develop@localhost ~]$ exit

Connection to 172.17.163.181 closed.
[develop@localhost ~]$
```

ansible

```
sudo vim /etc/ansible/ansible.cfg

sudo vim /etc/ansible/hosts
```

host

```
sudo vim /etc/ansible/hosts
```

```
server-spring-cloud ansible_ssh_host=10.44.111.231 ansible_ssh_port=22
ansible_ssh_user=spring-cloud ansible_ssh_pass=spring-cloud
```

```
server-test-vars ansible_ssh_host=10.44.111.127 ansible_ssh_port=2222
ansible_ssh_user=develop ansible_ssh_pass=develop
```

```
[test]
172.17.163.179
172.17.163.181
172.17.163.186
172.17.163.184
```

```
[test:vars] #
ansible_ssh_port=22
ansible_ssh_user=develop
ansible_ssh_pass=develop
```

```
[test:children] #
10.44.111.127
```

```
server-centos-01 ansible_ssh_host=10.44.111.115 ansible_ssh_port=179 ansible_ssh_pass=develop
server-centos-02 ansible_ssh_host=10.44.111.115 ansible_ssh_port=181 ansible_ssh_pass=develop
server-ubuntu-01 ansible_ssh_host=10.44.111.115 ansible_ssh_port=190 ansible_ssh_pass=develop
server-ubuntu-02 ansible_ssh_host=10.44.111.115 ansible_ssh_port=189 ansible_ssh_pass=develop
```

inventory

```
ansible_ssh_host #
ansible_ssh_port #      22
ansible_ssh_user # ssh
ansible_ssh_pass # ssh
ansible_sudo_pass # sudo
ansible_ssh_private_key_file #      ssh-agent
ansible_shell_type # shell      sh
ansible_connection # SSH      local , ssh , paramiko  ansible 1.2      paramiko      Cc
ansible_python_interpreter #      python      ruby perl
```

```
ansible test -m shell -a 'echo "Hello Ansible.." && date'
```

```
172.17.163.186 | SUCCESS | rc=0 >>
```

```
Hello Ansible..
```

```
2019 11 02 14:47:00 CST
```

```
172.17.163.184 | SUCCESS | rc=0 >>
```

```
Hello Ansible..
```

```
2019 11 02 14:47:00 CST
```

```
172.17.163.181 | SUCCESS | rc=0 >>
```

```
Hello Ansible..
```

```
2019 11 02 14:47:00 CST
```

```
172.17.163.179 | SUCCESS | rc=0 >>
```

```
Hello Ansible..
```

```
2019 11 02 14:47:00 CST
```

```
[develop@localhost ~]$
```

inventory

inventory , CMDB zabbix ansible inventory ansible

```
#!/usr/bin/env python
# coding=utf-8
import json
masterIp = ['172.17.163.179']
slaveIp = ['172.17.163.181', '172.17.163.186', '172.17.163.184']
masterGroup = 'master'
slaveGroup = 'slave'
hostdata = {masterGroup: {"hosts": masterIp}, slaveGroup: {"hosts": slaveIp}}
print json.dumps(hostdata, indent=4)
```

```
[develop@localhost ~]$ python inverti.py
```

```
{
  "slave": {
    "hosts": [
```

```

        "172.17.163.181",
        "172.17.163.186",
        "172.17.163.184"
    ]
},
"master": {
    "hosts": [
        "172.17.163.179"
    ]
}
}

```

```

[root@vagrant-centos65 opt]# ansible -i inverti.py all -a 'date'
SSH password:
192.168.1.15 | SUCCESS | rc=0 >>
    07:25:27 up 3:56, 3 users, load average: 0.00, 0.00, 0.00
192.168.1.110 | SUCCESS | rc=0 >>
    07:25:27 up 7 min, 3 users, load average: 0.00, 0.02, 0.00

```

ping

```
ansible test -m ping
```

setup

```
ansible test -m setup
```

```
ansible test -m setup -a 'filter=ansible_default_ipv4'
```

```
ansible test -m setup -a 'filter=ansible_memory_mb'
```

```
ansible test -m setup -a 'filter=*mb'
```

```

ansible_all_ipv4_addresses:    ipv4
ansible_devices:
ansible_distribution:          : centos,suse
ansible_distribution_major_version:

```

```
ansible_distribution_version:
ansible_machine:           : 32    64
ansible_eth0:      eth0
ansible_hostname:
ansible_kernel:
ansible_lvm:    lvm
ansible_memtotal_mb:
ansible_memfree_mb:
ansible_memory_mb:
ansible_swaptotal_mb:      swap
ansible_swapfree_mb:      swap
ansible_mounts:
ansible_processor:  cpu (    cpu  )
ansible_processor_vcpus:  cpu (    )
ansible_python_version:  python
```

file

<https://docs.ansible.com/ansible/latest/cli/ansible.html>

file

```
[develop@localhost ~]$ ansible test -m file -a 'src=/etc/fstab dest=/home/develop/fstab
state=link'
172.17.163.186 | SUCCESS => {
    "changed": true,
    "dest": "/home/develop/fstab",
    "gid": 1000,
    "group": "develop",
    "mode": "0777",
    "owner": "develop",
    "secontext": "unconfined_u:object_r:user_home_t:s0",
    "size": 10,
    "src": "/etc/fstab",
    "state": "link",
    "uid": 1000
}
172.17.163.184 | SUCCESS => {
    "changed": true,
```

```
"dest": "/home/develop/fstab",
"gid": 1000,
"group": "develop",
"mode": "0777",
"owner": "develop",
"secontext": "unconfined_u:object_r:user_home_t:s0",
"size": 10,
"src": "/etc/fstab",
"state": "link",
"uid": 1000
}
```

```
172.17.163.181 | SUCCESS => {
  "changed": true,
  "dest": "/home/develop/fstab",
  "gid": 1000,
  "group": "develop",
  "mode": "0777",
  "owner": "develop",
  "secontext": "unconfined_u:object_r:user_home_t:s0",
  "size": 10,
  "src": "/etc/fstab",
  "state": "link",
  "uid": 1000
}
```

```
172.17.163.179 | SUCCESS => {
  "changed": true,
  "dest": "/home/develop/fstab",
  "gid": 1000,
  "group": "develop",
  "mode": "0777",
  "owner": "develop",
  "secontext": "unconfined_u:object_r:user_home_t:s0",
  "size": 10,
  "src": "/etc/fstab",
  "state": "link",
  "uid": 1000
}
```

```
[develop@localhost ~]$ ansible test -a 'ls -l'
```

```
172.17.163.181 | SUCCESS | rc=0 >>
```



```
lrwxrwxrwx. 1 develop develop 10 11 2 16:42 fstab -> /etc/fstab
```

```
172.17.163.186 | SUCCESS | rc=0 >>
```

```
0
```

```
lrwxrwxrwx. 1 develop develop 10 11 2 16:42 fstab -> /etc/fstab
```

```
172.17.163.184 | SUCCESS | rc=0 >>
```

```
0
```

```
lrwxrwxrwx. 1 develop develop 10 11 2 16:42 fstab -> /etc/fstab
```

```
172.17.163.179 | SUCCESS | rc=0 >>
```

```
108
```

```
lrwxrwxrwx. 1 develop develop 10 11 2 16:42 fstab -> /etc/fstab
```

```
-rwxrwxr-x. 1 develop develop 295 11 2 15:42 inverti.py
```

```
-rw-rw-r--. 1 develop develop 102710 11 2 16:26 sysinfo
```

```
[develop@localhost ~]$
```

```
[develop@localhost ~]$ ansible test -m file -a 'path=/home/develop/touch.txt state=touch'
```

```
172.17.163.186 | SUCCESS => {
```

```
  "changed": true,
  "dest": "/home/develop/touch.txt",
  "gid": 1000,
  "group": "develop",
  "mode": "0664",
  "owner": "develop",
  "secontext": "unconfined_u:object_r:user_home_t:s0",
  "size": 0,
  "state": "file",
  "uid": 1000
```

```
}
```

```
172.17.163.181 | SUCCESS => {
```

```
  "changed": true,
  "dest": "/home/develop/touch.txt",
  "gid": 1000,
  "group": "develop",
```

```
"mode": "0664",
"owner": "develop",
"secontext": "unconfined_u:object_r:user_home_t:s0",
"size": 0,
"state": "file",
"uid": 1000
}
```

```
172.17.163.184 | SUCCESS => {
```

```
  "changed": true,
  "dest": "/home/develop/touch.txt",
  "gid": 1000,
  "group": "develop",
  "mode": "0664",
  "owner": "develop",
  "secontext": "unconfined_u:object_r:user_home_t:s0",
  "size": 0,
  "state": "file",
  "uid": 1000
```

```
}
```

```
172.17.163.179 | SUCCESS => {
```

```
  "changed": true,
  "dest": "/home/develop/touch.txt",
  "gid": 1000,
  "group": "develop",
  "mode": "0664",
  "owner": "develop",
  "secontext": "unconfined_u:object_r:user_home_t:s0",
  "size": 0,
  "state": "file",
  "uid": 1000
```

```
}
```

```
[develop@localhost ~]$ ansible test -a 'ls -l'
```

```
172.17.163.184 | SUCCESS | rc=0 >>
```

```
0
```

```
lrwxrwxrwx. 1 develop develop 10 11  2 16:42 fstab -> /etc/fstab
-rw-rw-r--. 1 develop develop  0 11  2 16:45 touch.txt
```

```
172.17.163.186 | SUCCESS | rc=0 >>
```

```
0
```

```
lrwxrwxrwx. 1 develop develop 10 11  2 16:42 fstab -> /etc/fstab
```

```
-rw-rw-r--. 1 develop develop 0 11 2 16:45 touch.txt
```

```
172.17.163.181 | SUCCESS | rc=0 >>
```

```
0
```

```
lrwxrwxrwx. 1 develop develop 10 11 2 16:42 fstab -> /etc/fstab
```

```
-rw-rw-r--. 1 develop develop 0 11 2 16:45 touch.txt
```

```
172.17.163.179 | SUCCESS | rc=0 >>
```

```
108
```

```
lrwxrwxrwx. 1 develop develop 10 11 2 16:42 fstab -> /etc/fstab
```

```
-rwxrwxr-x. 1 develop develop 295 11 2 15:42 inverti.py
```

```
-rw-rw-r--. 1 develop develop 102710 11 2 16:26 sysinfo
```

```
-rw-rw-r--. 1 develop develop 0 11 2 16:45 touch.txt
```

```
[develop@localhost ~]$
```

- force: , : yes|no
- group: /
- mode: /
- owner: /
- path: /
- recurse:
- src: state=link
- dest: state=link
- state:
 - directory:
 - file:
 - link:
 - hard:
 - touch:
 - absent:

copy

```
[develop@localhost ~]$ ansible test -m copy -a 'src=/home/develop/xxx dest=/home/develop/xxx owner=develop mode=0700'
```

```
172.17.163.184 | SUCCESS => {
```

```
  "changed": true,
```

```
  "checksum": "da39a3ee5e6b4b0d3255bfef95601890afd80709",
```

```
  "gid": 1000,
```

```
"group": "develop",
"mode": "0700",
"owner": "develop",
"path": "/home/develop/xxx",
"secontext": "unconfined_u:object_r:user_home_t:s0",
"size": 0,
"state": "file",
"uid": 1000
}
172.17.163.181 | SUCCESS => {
  "changed": true,
  "checksum": "da39a3ee5e6b4b0d3255bfef95601890afd80709",
  "gid": 1000,
  "group": "develop",
  "mode": "0700",
  "owner": "develop",
  "path": "/home/develop/xxx",
  "secontext": "unconfined_u:object_r:user_home_t:s0",
  "size": 0,
  "state": "file",
  "uid": 1000
}
172.17.163.186 | SUCCESS => {
  "changed": true,
  "checksum": "da39a3ee5e6b4b0d3255bfef95601890afd80709",
  "gid": 1000,
  "group": "develop",
  "mode": "0700",
  "owner": "develop",
  "path": "/home/develop/xxx",
  "secontext": "unconfined_u:object_r:user_home_t:s0",
  "size": 0,
  "state": "file",
  "uid": 1000
}
172.17.163.179 | SUCCESS => {
  "changed": true,
  "checksum": "da39a3ee5e6b4b0d3255bfef95601890afd80709",
  "gid": 1000,
  "group": "develop",
```

```

    "mode": "0700",
    "owner": "develop",
    "path": "/home/develop/xxx",
    "secontext": "unconfined_u:object_r:user_home_t:s0",
    "size": 0,
    "state": "file",
    "uid": 1000
}
[develop@localhost ~]$ ansible test -a 'ls -l'
172.17.163.181 | SUCCESS | rc=0 >>
    0
lrwxrwxrwx. 1 develop develop 10 11  2 16:42 fstab -> /etc/fstab
-rw-rw-r--. 1 develop develop  0 11  2 16:45 touch.txt
-rwx-----. 1 develop develop  0 11  2 17:41 xxx

172.17.163.186 | SUCCESS | rc=0 >>
    0
lrwxrwxrwx. 1 develop develop 10 11  2 16:42 fstab -> /etc/fstab
-rw-rw-r--. 1 develop develop  0 11  2 16:45 touch.txt
-rwx-----. 1 develop develop  0 11  2 17:41 xxx

172.17.163.184 | SUCCESS | rc=0 >>
    0
lrwxrwxrwx. 1 develop develop 10 11  2 16:42 fstab -> /etc/fstab
-rw-rw-r--. 1 develop develop  0 11  2 16:45 touch.txt
-rwx-----. 1 develop develop  0 11  2 17:41 xxx

172.17.163.179 | SUCCESS | rc=0 >>
    108
lrwxrwxrwx. 1 develop develop    10 11  2 16:42 fstab -> /etc/fstab
-rwxrwxr-x. 1 develop develop   295 11  2 15:42 inverti.py
-rw-rw-r--. 1 develop develop 102710 11  2 16:26 sysinfo
-rw-rw-r--. 1 develop develop     0 11  2 16:45 touch.txt
-rwx-----. 1 develop develop     0 11  2 17:34 xxx

[develop@localhost ~]$

```

backup	no	no	yes/no	
content	no			content src

dest	yes			<div><div>src</div><div>dest</div><div>dest</div><div>dest</div><div>src</div><div>dest</div><div>src</div><div>dest</div><div>dest</div></div>
follow	no	no	<div>yes/no</div>	
force	no	yes	<div>yes/no</div>	<div>no</div>
group	no			<div>chown</div>
local_follow	no	yes	<div>yes/no</div>	
mode	no			064
owner	no			/chown
remote_src(2.0+)	no	no	<div>yes/no</div>	yes src
src	no			;
unsafe_writes	no		<div>yes/no</div>	
validate	no	None		

service

1

```
ansible test -m service -a "name=nginx state=started"
```

2

```
ansible test -m service -a "name=nginx state=stopped"
```

3

```
ansible test -m service -a "name=nginx state=restarted"
```

4

```
ansible test -m service -a "name=nginx enable=yes"
```

5

```
ansible test -m service -a "name=nginx enable=no"
```

6

```
ansible test -m service -a "name=network state=restarted args=eth0"
```

- `name` `nginx`
- `state` `state` `started` `state` `stopped` `started` `stopped` `restarted` `reloaded`
- `enabled` `yes` `no`

.....

playbook

```
playbook playbook playbook shell playbook shell      playbook task task shell
playbook playbook playbook
```

playbook

```
playbook yml -" " playbook
```

```
---                                #
- hosts: webservers                #  playbook
  vars:                             #
    http_port: 80                  #    key: value  http_port    80
    max_clients: 200
  remote_user: root                #          vars
  tasks:                           #  playbook tasks  task  - name:    name
- name: ensure apache is at the latest version #
  yum: pkg=httpd state=latest          #yum                                shell

- name: write the apache config file          # task
  template: src=/srv/httpd.j2 dest=/etc/httpd.conf

#          python
```

-  **Tasks** Variables Templates Handlers R

- hosts users

```
playbook      play          hosts          remote_user
```

```
---
```

```
- hosts: test                                #
  remote_user: root                          #
```

sudo

```
# vim ping.yml
---
- hosts: test
  remote_user: root
  become: yes                #2.6          sudo
  become_user: mysql         # sudo      mysql

playbook
# ansible-playbook ping.yml -K
```

• Tasks list `action`

```
1 Play      task      task      hosts      playbook
2  task      name      playbook      task      name 'action'
name=httpd 4 ansible  command  shell      key=value
```

playbook

```
ansible-playbook playbook.yml [options]

-u REMOTE_USER, --user=REMOTE_USER
  ssh
-k, --ask-pass
  ssh
-s, --sudo
  sudo root      Linux      sudo
-U SUDO_USER, --sudo-user=SUDO_USER
  sudo
-K, --ask-sudo-pass      -sudo
-T TIMEOUT, --timeout=TIMEOUT
  ssh      10
-C, --check      playbook
-e EXTRA_VARS, --extra-vars=EXTRA_VARS
  key=value      YAML or JSON      -e
```



```

-f FORKS, --forks=FORKS          5
-i INVENTORY, --inventory-file=INVENTORY
    hosts          default=/etc/ansible/hosts
-l SUBSET, --limit=SUBSET
    pattern - hosts:
--list-hosts          playbook          playbook
--list-tasks          playbook          task
--private-key=PRIVATE_KEY_FILE
--step               task    task
--syntax-check        playbook          playbook
-t TAGS, --tags=TAGS   play    task    tag          tag
--skip-tags=SKIP_TAGS   play    task    tag
-v, --verbose          -vvv

```

<https://www.imooc.com/article/22729>

- ansible-playbook [yaml yml]
- ansible-playbook a.yml
-

```

-k(-ask-pass)      ssh -K(-ask-become-pass)      sudo -u

```

```

ansible-playbook a.yml --syntax-check      # yaml
ansible-playbook a.yml --list-task         # tasks
ansible-playbook a.yml --list-hosts        #
ansible-playbook a.yml --start-at-task='Copy Nginx.conf'      # task

```

```

# vim a.yml
---
- hosts: 192.168.200.129          //
  remote_user: root              //
  tasks:                          // ↓
    - name: disable selinux       //
      command: '/sbin/setenforce 0' // command
    - name: start httpd           // httpd
      service: name=httpd state=started // service httpd
# ansible-playbook a.yml --syntax-check      # yaml
# ansible-playbook a.yml

```

```
mkdir -p ansible-playbook/roles/nginx/tasks
```

```
cd ansible-playbook
```

```
touch site.yml
```

```
touch roles/nginx/tasks/main.yml
```

site.yml

```
---  
- hosts: dev1  
  gather_facts: no  
  remote_user: develop  
  roles:  
    - nginx
```

roles/nginx/tasks/main.yml

```
---  
- name: install nginx  
  yum: name=nginx state=present  
- name: start service nginx  
  service: name=nginx state=restated
```

```
ansible-playbook site.yml --syntax-check
```

```
ansible-playbook roles/nginx/tasks/main.yml --syntax-check
```

ansible centos -m user -a 'name=gdtdcs'

vim chgpwd.yml

```
---  
- hosts: centos  
  gather_facts: false  
  remote_user: root  
  tasks:
```

```
- name: Change password
  user: name={{ username }} password={{ passwd | password_hash(' sha512' ) }}
  update_password=always
```

ansible-playbook chgpwd.yml -e "username=root passwd=root"

ansible centos -a 'yum install -y /root/docker/docker-ce-19.03.3-3.el7.x86_64.rpm'

Revision #1

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