

Ansible 1

1. Run Ansible Ad-hoc commands:

1.1 To execute command in bash and see the result

```
# This is the default ansible 'hosts' file.
#
# It should live in /etc/ansible/hosts
#
# - Comments begin with the '#' character
# - Blank lines are ignored
# - Groups of hosts are delimited by [header] elements
# - You can enter hostnames or ip addresses
# - A hostname/ip can be a member of multiple groups
#
# Ex 1: Ungrouped hosts, specify before any group headers.
## green.example.com
## blue.example.com
## 192.168.100.1
## 192.168.100.10
34.200.242.52
```

```
jay@Jay-Patel:Downloads $ ansible --key-file Jay.pem all -m ping
The authenticity of host '34.200.242.52 (34.200.242.52)' can't be established.
ECDSA key fingerprint is SHA256:jjd8PJRAFQzMDb6ivTtfPGZQLM15VrcyDVhx6zcm8Pc.
Are you sure you want to continue connecting (yes/no)? yes
ubuntu@34.200.242.52 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
```

1.2 To check all running processes on node.

```
jay@Jay-Patel:Downloads $ ansible all -m shell -a "ps"
ubuntu@34.200.242.52 | CHANGED | rc=0 >>
  PID TTY          TIME CMD
  3181 pts/0      00:00:00 sh
  3182 pts/0      00:00:00 python3
  3184 pts/0      00:00:00 sh
  3185 pts/0      00:00:00 ps
jay@Jay-Patel:Downloads $
```

1.3 To copying files to multiple nodes concurrently.

```
# - A hostname/ip can be a member of multiple groups
#
# Ex 1: Ungrouped hosts, specify before any group headers.
## green.example.com
## blue.example.com
## 192.168.100.1
## 192.168.100.10
34.200.242.52
3.222.177.44
```

```

The authenticity of host '172.31.24.47 (172.31.24.47)' can't be established.
ECDSA key fingerprint is SHA256:jjd8PJRAfQzMdb6ivTtfPGZQlM15VrcyDVhx6zcm8Pc.
Are you sure you want to continue connecting (yes/no)? 172.31.24.198 | CHANGED => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": true,
  "checksum": "a777be51c79c607edd61c8e12cd9b775ddc8a6c6",
  "dest": "/tmp/hosts",
  "gid": 1000,
  "group": "ubuntu",
  "md5sum": "1463508f28edb4d6d5ae349b20e00409",
  "mode": "0664",
  "owner": "ubuntu",
  "size": 221,
  "src": "/home/ubuntu/.ansible/tmp/ansible-tmp-1587511620.97-2956-13524278627895/source",
  "state": "file",
  "uid": 1000
}
yes
172.31.24.47 | CHANGED => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": true,
  "checksum": "a777be51c79c607edd61c8e12cd9b775ddc8a6c6",
  "dest": "/tmp/hosts",
  "gid": 1000,
  "group": "ubuntu",
  "md5sum": "1463508f28edb4d6d5ae349b20e00409",
  "mode": "0664",
  "owner": "ubuntu",
  "size": 221,
  "src": "/home/ubuntu/.ansible/tmp/ansible-tmp-1587511655.78-2957-166212020581933/source",
  "state": "file",
  "uid": 1000
}
ubuntu@ip-172-31-24-31:~$ █

```

1.4 To add and delete users.

```

ubuntu@ip-172-31-24-31:~$ ansible all -b -m user -a "name=jay"
172.31.24.198 | CHANGED => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": true,
  "comment": "",
  "create_home": true,
  "group": 1001,
  "home": "/home/jay",
  "name": "jay",
  "shell": "/bin/sh",
  "state": "present",
  "system": false,
  "uid": 1001
}
172.31.24.47 | CHANGED => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": true,
  "comment": "",
  "create_home": true,
  "group": 1001,
  "home": "/home/jay",
  "name": "jay",
  "shell": "/bin/sh",
  "state": "present",
  "system": false,
  "uid": 1001
}

```

2. Create nginx ansible-playbook and run the node, also check if nginx service and default page is running or not.

```
--- #nginx.yml

- hosts: all
  become: yes
  tasks:
    - name: install nginx
      apt:
        name: nginx
        state: present

  handlers:
    - name: restart nginx
      service:
        name: nginx
        state: restarted
```

```
ubuntu@ip-172-31-24-31:~$ ansible-playbook nginx.yml

PLAY [all] *********************************************************************

TASK [Gathering Facts] *********************************************************
ok: [172.31.24.47]
ok: [172.31.24.198]

TASK [install nginx] *********************************************************
ok: [172.31.24.47]

changed: [172.31.24.198]

PLAY RECAP *********************************************************************
172.31.24.198      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
172.31.24.47      : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

ubuntu@ip-172-31-24-31:~$
ubuntu@ip-172-31-24-31:~$
```

← → ↺ 🏠 3.222.177.44 ... 📄 ☆

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.



Welcome to nginx!

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Commercial support is available at nginx.com.

Thank you for using nginx.

3. Create the roles for the same playbook and use custom conf file and index.html.

```
ubuntu@ip-172-31-24-31:~/nginx$ tree
.
├── nginx
│   ├── README.md
│   ├── defaults
│   │   └── main.yml
│   ├── files
│   ├── handlers
│   │   └── main.yml
│   ├── meta
│   │   └── main.yml
│   ├── tasks
│   │   └── main.yml
│   ├── templates
│   │   └── index.html.j2
│   ├── tests
│   │   ├── inventory
│   │   └── test.yml
│   └── vars
│       └── main.yml
└── nginx.yml

9 directories, 10 files
ubuntu@ip-172-31-24-31:~/nginx$
```

```

# tasks file for nginx
- name: install nginx
  apt: name=nginx state=present

- name: copy an index.html
  template: src=index.html dest=/var/www/html/index.html
- name: delete an default file
  file: path=/var/www/html/index.nginx-debian.html state=absent
  notify: restart nginx

```

tasks/main.yml

```

# handlers file for nginx
- name: restart nginx
  service: name=nginx state=restarted

```

handlers/main.yml

```

ubuntu@ip-172-31-24-31:~/nginx/nginx/templates$ cat index.html
<h1> Hello from ansible1 </h1>
ubuntu@ip-172-31-24-31:~/nginx/nginx/templates$

```

nginx/templates/index.html.j2

```

-- #nginx.yml
- name: Install nginx with index file
  hosts: all
  become: yes

  roles:
  - nginx

```

Nginx.yml(main file)

```

ubuntu@ip-172-31-24-31:~/nginx$ ansible-playbook nginx.yml

PLAY [Install nginx with index file] *****

TASK [Gathering Facts] *****
ok: [172.31.24.198]
ok: [172.31.24.47]

TASK [nginx : install nginx] *****
ok: [172.31.24.198]
ok: [172.31.24.47]

TASK [nginx : copy an index.html] *****
changed: [172.31.24.47]
changed: [172.31.24.198]

PLAY RECAP *****
172.31.24.198      : ok=3    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
172.31.24.47      : ok=3    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

ubuntu@ip-172-31-24-31:~/nginx$

```



Hello from ansible1

4. Using loops, copy multiple files from ansible machine to remote node.

```

- hosts: all
  become: yes
  tasks:
    - name: coopy multiple files
      copy: src=/home/ubuntu/{{ item }} dest=/tmp/
      with_items:
        - f1
        - f2

```

```

ubuntu@ip-172-31-24-31:~$ ansible-playbook file.yml

PLAY [all] *****

TASK [Gathering Facts] *****
ok: [172.31.24.47]
ok: [172.31.24.198]

TASK [coopy multiple files] *****
changed: [172.31.24.198] => (item=f1)
changed: [172.31.24.47] => (item=f1)
changed: [172.31.24.47] => (item=f2)
changed: [172.31.24.198] => (item=f2)

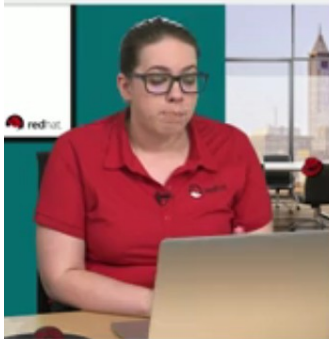
PLAY RECAP *****
172.31.24.198      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
172.31.24.47      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

ubuntu@ip-172-31-24-31:~$

```

5. Write a playbook to demonstrate the precedence of default and var file, override them from CLI.

VARIABLE PRECEDENCE



1. Extra vars
2. Task vars (only for the task)
3. Block vars (only for tasks in the block)
4. Role and include vars
5. Play vars_files
6. Play vars_prompt
7. Play vars
8. Set_facts
9. Registered vars
10. Host facts
11. Playbook host_vars
12. Playbook group_vars
13. Inventory host_vars
14. Inventory group_vars
15. Inventory vars
16. Role defaults

```

ubuntu@ip-172-31-24-31:~/nginx/nginx$ cat defaults/main.yml
---
# defaults file for nginx
#
var: "default_file"
ubuntu@ip-172-31-24-31:~/nginx/nginx$ cat vars/main.yml
---
# vars file for nginx
#
#
var: "jay"

ubuntu@ip-172-31-24-31:~/nginx/nginx$ cat tasks/main.yml
---
# tasks file for nginx
- name: install nginx
  apt:
    name: nginx
    state: present

- name: copy an index.html
  template:
    src: index.html.j2
    dest: /var/www/html/index.html

    #- name: Remove file delete file
    # file:

# path: /var/www/html/index.nginx-debian.html
# state: absent

# notfiy: restart nginx

- name: dir for Q5
  command: mkdir {{ var }}

```

Vars file contain var = jay

Default contain var = default file

```

ubuntu@ip-172-31-24-31:~/nginx$ ansible-playbook nginx.yml

PLAY [Install nginx with index file] *****

TASK [Gathering Facts] *****
ok: [172.31.24.47]
ok: [172.31.24.198]

TASK [nginx : install nginx] *****
ok: [172.31.24.47]
ok: [172.31.24.198]

TASK [nginx : copy an index.html] *****
ok: [172.31.24.198]
ok: [172.31.24.47]

TASK [nginx : dir for Q5] *****
[WARNING]: Consider using the file module with state=directory rather than running 'mkdir'. If you need to use command because file is
insufficient you can add 'warn: false' to this command task or set 'command_warnings=False' in ansible.cfg to get rid of this message.
changed: [172.31.24.47]
changed: [172.31.24.198]

PLAY RECAP *****
172.31.24.198      : ok=4    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
172.31.24.47      : ok=4    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

```



```
ubuntu@ip-172-31-24-47:~$ ll
total 48
drwxr-xr-x 7 ubuntu ubuntu 4096 Apr 22 01:25 ./
drwxr-xr-x 4 root    root    4096 Apr 21 23:31 ../
drwx----- 3 ubuntu ubuntu 4096 Apr 21 22:46 .ansible/
-rw----- 1 ubuntu ubuntu  114 Apr 21 23:26 .bash_history
-rw-r--r-- 1 ubuntu ubuntu  220 Apr  4  2018 .bash_logout
-rw-r--r-- 1 ubuntu ubuntu 3771 Apr  4  2018 .bashrc
drwx----- 2 ubuntu ubuntu 4096 Apr 21 22:36 .cache/
drwx----- 3 ubuntu ubuntu 4096 Apr 21 22:36 .gnupg/
-rw-r--r-- 1 ubuntu ubuntu  807 Apr  4  2018 .profile
drwx----- 2 ubuntu ubuntu 4096 Apr 21 23:25 .ssh/
-rw-r--r-- 1 ubuntu ubuntu    0 Apr 21 22:41 .sudo_as_admin_successful
-rw----- 1 ubuntu ubuntu 2107 Apr 21 23:25 .viminfo
drwxr-xr-x 2 root    root    4096 Apr 22 01:25 jay/
```

Remote machine output (dir as var= jay)