

Day 56: Understanding Ad-hoc commands in Ansible

Ansible ad hoc commands are one-liners designed to achieve a very specific task they are like quick snippets and your compact Swiss army knife when you want to do a quick task across multiple machines.

To put simply, Ansible ad hoc commands are one-liner Linux shell commands and playbooks are like a shell script, a collective of many commands with logic.

Ansible ad hoc commands come in handy when you want to perform a quick task.

Task-01

- write an ansible ad hoc ping command to ping 3 servers from inventory file

```
ubuntu@ip-172-31-82-83:~$ ansible servers -m ping
The authenticity of host '44.197.170.121 (44.197.170.121)' can't be established.
ED25519 key fingerprint is SHA256:aODROiqJJp8xuI+smXPcyBY7pu3IM1Z6BjqKy2Dn49c.
This host key is known by the following other names/addresses:
  ~/.ssh/known_hosts:1: [hashed name]
The authenticity of host '44.200.72.249 (44.200.72.249)' can't be established.
ED25519 key fingerprint is SHA256:YciTi6+awp6XfnaqL5/Z6FzZWnI07uyN0qWffGe5Ylo.
This host key is known by the following other names/addresses:
  ~/.ssh/known_hosts:2: [hashed name]
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
server1 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
yes
server2 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
ubuntu@ip-172-31-82-83:~$
```

- Write an ansible ad hoc command to check uptime

```
ubuntu@ip-172-31-82-83:~$ ansible servers -a uptime
server2 | CHANGED | rc=0 >>
  09:10:26 up 8 min,  1 user,  load average: 0.04, 0.11, 0.06
server1 | CHANGED | rc=0 >>
  09:10:26 up 8 min,  1 user,  load average: 0.05, 0.08, 0.03
ubuntu@ip-172-31-82-83:~$
```

- Write an ansible ad hoc command to check free memory or memory usage

```

ubuntu@ip-172-31-82-83:~$ ansible servers -a "free -m"
server1 | CHANGED | rc=0 >>
      total        used          free      shared  buff/cache   available
Mem:      966        181          147           0        637         641
Swap:      0           0           0
server2 | CHANGED | rc=0 >>
      total        used          free      shared  buff/cache   available
Mem:      966        180          131           0        654         640
Swap:      0           0           0

```

- Write an ansible ad hoc command to get the physical memory allocated to it

```

ubuntu@ip-172-31-82-83:~$ ansible servers -m shell -a "cat /proc/meminfo|head -2"
server2 | CHANGED | rc=0 >>
MemTotal:    989388 kB
MemFree:     134000 kB
server1 | CHANGED | rc=0 >>
MemTotal:    989388 kB
MemFree:     149128 kB

```

- Write an ansible ad hoc command to Execute a command as root user (sudo) host

In the earlier versions of ansible there is an option named as **sudo** (deprecated), Since ansible 2.0 there are two new options named as **become** and **become_user**

In this example, we are going to access one of the privileged configuration files. We are going to check if the user exists by searching the **/etc/passwd** file

```

ubuntu@ip-172-31-82-83:~$ ansible servers -m shell -a "cat /etc/passwd| grep -i ubuntu"
server1 | CHANGED | rc=0 >>
ubuntu:x:1000:1000:Ubuntu:/home/ubuntu:/bin/bash
server2 | CHANGED | rc=0 >>
ubuntu:x:1000:1000:Ubuntu:/home/ubuntu:/bin/bash

```

- Write an ansible ad hoc command to Create a user group.

Here we are creating a username group named **weblogic** using the ansible group module, the same task can be reversed to delete the group if you change the state to **absent**

```

ubuntu@ip-172-31-82-83:~$ ansible servers -b -m group -a "name=weblogic state=present"
server2 | CHANGED => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": true,
  "gid": 1001,
  "name": "weblogic",
  "state": "present",
  "system": false
}
server1 | CHANGED => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": true,
  "gid": 1001,
  "name": "weblogic",
  "state": "present",
  "system": false
}

```

```
ubuntu@ip-172-31-82-83:~$ ansible servers -b -m group -a "name=weblogic state=absent"
server2 | CHANGED => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": true,
  "name": "weblogic",
  "state": "absent"
}
server1 | CHANGED => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": true,
  "name": "weblogic",
  "state": "absent"
}
```

- Write an ansible ad hoc command to Create a user.

```
ubuntu@ip-172-31-82-83:~$ ansible servers -m user -a "name=user1 group=weblogic" -b
server2 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "append": false,
  "changed": false,
  "comment": "",
  "group": 1001,
  "home": "/home/user1",
  "move_home": false,
  "name": "user1",
  "shell": "/bin/sh",
  "state": "present",
  "uid": 1001
}
server1 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "append": false,
  "changed": false,
  "comment": "",
  "group": 1001,
  "home": "/home/user1",
  "move_home": false,
  "name": "user1",
  "shell": "/bin/sh",
  "state": "present",
  "uid": 1001
}
```

- Write an ansible ad hoc command to Create a Directory with 0755 permissions.

```

ubuntu@ip-172-31-82-83:~$ ansible servers -m file -a "path=/home/ubuntu/abc state=directory mode=0755"
server2 | CHANGED => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": true,
  "gid": 1000,
  "group": "ubuntu",
  "mode": "0755",
  "owner": "ubuntu",
  "path": "/home/ubuntu/abc",
  "size": 4096,
  "state": "directory",
  "uid": 1000
}
server1 | CHANGED => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": true,
  "gid": 1000,
  "group": "ubuntu",
  "mode": "0755",
  "owner": "ubuntu",
  "path": "/home/ubuntu/abc",
  "size": 4096,
  "state": "directory",
  "uid": 1000
}

```

Directory is created on Ansible worker

```

aws  Services  Search  [Alt+S]

* Management:  https://landscape.canonical.com
* Support:    https://ubuntu.com/advantage

System information as of Sat Mar 25 09:48:02 UTC 2023

System load:  0.0           Processes:      99
Usage of /:   22.2% of 7.57GB Users logged in: 0
Memory usage: 22%          IPv4 address for eth0: 172.31.14.208
Swap usage:   0%

* Introducing Expanded Security Maintenance for Applications.
  Receive updates to over 25,000 software packages with your
  Ubuntu Pro subscription. Free for personal use.

  https://ubuntu.com/aws/pro

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

Last login: Sat Mar 25 09:47:03 2023 from 18.207.216.254
ubuntu@ip-172-31-14-208:~$ cd /home/ubuntu/
ubuntu@ip-172-31-14-208:~$ ls
abc
ubuntu@ip-172-31-14-208:~$

```

- Write an ansible ad hoc command to Create a File with 0755 permissions.

```

ubuntu@ip-172-31-82-83:~$ ansible servers -m file -a "path=/home/ubuntu/demoFile state=touch mode=0755"
server1 | CHANGED => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": true,
  "dest": "/home/ubuntu/demoFile",
  "gid": 1000,
  "group": "ubuntu",
  "mode": "0755",
  "owner": "ubuntu",
  "size": 0,
  "state": "file",
  "uid": 1000
}
server2 | CHANGED => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": true,
  "dest": "/home/ubuntu/demoFile",
  "gid": 1000,
  "group": "ubuntu",
  "mode": "0755",
  "owner": "ubuntu",
  "size": 0,
  "state": "file",
  "uid": 1000
}

```

File is created on Ansible worker

```

System information as of Sat Mar 25 09:48:02 UTC 2023

System load:  0.0                Processes:            99
Usage of /:   22.2% of 7.57GB    Users logged in:     0
Memory usage: 22%                IPv4 address for eth0: 172.31.14.208
Swap usage:   0%

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The list of available updates is more than a week old.
To check for new updates run: sudo apt update

Last login: Sat Mar 25 09:47:03 2023 from 18.207.216.254
ubuntu@ip-172-31-14-208:~$ cd /home/ubuntu/
ubuntu@ip-172-31-14-208:~$ ls
abc
ubuntu@ip-172-31-14-208:~$ ls
abc demoFile
ubuntu@ip-172-31-14-208:~$

```

- Write an ansible ad hoc command to check free disk space

```

ubuntu@ip-172-31-82-83:~$ ansible all -a "df -h"
server2 | CHANGED | rc=0 >>
Filesystem      Size  Used Avail Use% Mounted on
/dev/root        7.6G  1.7G  5.9G  23% /
tmpfs            484M   0  484M   0% /dev/shm
tmpfs            194M  828K  193M   1% /run
tmpfs            5.0M   0   5.0M   0% /run/lock
/dev/xvda15      105M  6.1M   99M   6% /boot/efi
tmpfs            97M   4.0K   97M   1% /run/user/1000
server1 | CHANGED | rc=0 >>
Filesystem      Size  Used Avail Use% Mounted on
/dev/root        7.6G  1.7G  5.9G  23% /
tmpfs            484M   0  484M   0% /dev/shm
tmpfs            194M  820K  193M   1% /run
tmpfs            5.0M   0   5.0M   0% /run/lock
/dev/xvda15      105M  6.1M   99M   6% /boot/efi
tmpfs            97M   4.0K   97M   1% /run/user/1000
ubuntu@ip-172-31-82-83:~$

```

- You can refer to [this](#) blog to understand the different examples of ad-hoc commands and try out them, post the screenshots in a blog with an explanation.

happy Learning :)