

Ansible Mini-Project

I- One ansible controller(Ubuntu) and four clients (2 linux and 2 ubuntu) set up

1- Screenshot of the keypair generated for ubuntu-host1 and ubuntu-host2

```
root@ubuntu-host1:~# cd .ssh
root@ubuntu-host1:~/.ssh# ll
total 12
-rwx----- 2 root root 4096 Jul 30 18:59 ./
-rwx----- 4 root root 4096 Jul 30 18:59 ../
-rw----- 1 root root 556 Jul 30 18:59 authorized_keys
root@ubuntu-host1:~/.ssh# cat authorized_keys
no-port-forwarding,no-agent-forwarding,no-X11-forwarding,command="echo 'Please login as the user \"ubuntu\" rather than the user \"root\".';echo;sleep 10;exit 142" ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQACINDJwI3edZ9yPWQSYw4+aZCMa4zYTxUQsQExBuZuaFuD4dhJWdaK104ECohGyYSgncvpp5qYvVFeULJ8Ts0HDBdwruMgsAwKao1J02LDTsDCsC3rbJPss6e+Lz8l14ajJn8i683gyUILFXZ31G70r97aY03Hk8IK8wHEQ2XGMxcTtd9lrJkUNVfMlftZdc4gS0BsgNtpzIulaUkftMZJ+40WNIr4Rk99KSagBcSGMk0mpa1UqUaFwJL2Xly2sjKgftGksbe/hJ6PvEnnjRFFbWUWU9ler10ircPNgtjgI/wii/hhLYLTUGV7ZR3fKpYcqmd1MufnYdbr+7cQEwj ubuntu-key
root@ubuntu-host1:~/.ssh# vi authorized_keys
root@ubuntu-host1:~/.ssh# █
```

```
root@ubuntu-host2:~# cd .ssh
root@ubuntu-host2:~/.ssh# ll
total 12
drwx----- 2 root root 4096 Jul 30 18:58 ./
drwx----- 4 root root 4096 Jul 30 18:58 ../
-rw----- 1 root root 556 Jul 30 18:58 authorized_keys
root@ubuntu-host2:~/.ssh# cat authorized_keys
no-port-forwarding,no-agent-forwarding,no-X11-forwarding,command="echo 'Please login as the user \"ubuntu\" rather than the user \"root\".';echo;sleep 10;exit 142" ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQACINDJwI3edZ9yPWQSYw4+aZCMa4zYTxUQsQExBuZuaFuD4dhJWdaK104ECohGyYSgncvpp5qYvVFeULJ8Ts0HDBdwruMgsAwKao1J02LDTsDCsC3rbJPss6e+Lz8l14ajJn8i683gyUILFXZ31G70r97aY03Hk8IK8wHEQ2XGMxcTtd9lrJkUNVfMlftZdc4gS0BsgNtpzIulaUkftMZJ+40WNIr4Rk99KSagBcSGMk0mpa1UqUaFwJL2Xly2sjKgftGksbe/hJ6PvEnnjRFFbWUWU9ler10ircPNgtjgI/wii/hhLYLTUGV7ZR3fKpYcqmd1MufnYdbr+7cQEwj ubuntu-key
root@ubuntu-host2:~/.ssh# vi authorized_keys
root@ubuntu-host2:~/.ssh# █
```

2- Screenshot of the keypair generated for linux-host1 and linux-host2

```
[root@linux-host1 ~]# cd .ssh
[root@linux-host1 .ssh]# ll
total 4
-rw----- 1 root root 548 Jul 30 19:07 authorized_keys
[root@linux-host1 .ssh]# cat authorized_keys
no-port-forwarding,no-agent-forwarding,no-X11-forwarding,command="echo 'Please login as the user \"ec2-user\" rather than the user \"root\".';echo;sleep 10" ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQACpfoVwg+YM6K0vr4X0xkGnZL0axPnL8BWVv7Svhh1g1lN1dHLtubxKpfc9opxQKV0xGBE6t008MvG7Yk9gep8B i3TAuN0I+BrfYVQh i1FkB2J+H1ZkyTySrM PZEn0MY8ixkULHLIdZYPvzfrmtZxwqx7L4wt+t/Q/0LE/LYNCECXJTUK7GMDpv+ijx4uDY37wt1rCMUv+Y/z7cgYLkdeBMr4IduLD3Qu6SG2varYltGvCk13ZtMY2JUyoZ6B6ABYDxJc0D0rtyIw0NfjE2m0YYhaEXAbkXt7/zymt+3bqHoasTynmiMbv5dDybNoX3twUTGRckj0WfrqFF48u7iNyh linux-key
[root@linux-host1 .ssh]# vi authorized_keys
[root@linux-host1 .ssh]# █
```

```
root@linux-host2 ~]# cd .ssh
root@linux-host2 .ssh]# ll
total 4
-rw----- 1 root root 548 Jul 30 19:07 authorized_keys
root@linux-host2 .ssh]# cat authorized_keys
no-port-forwarding,no-agent-forwarding,no-X11-forwarding,command="echo 'Please login as the user \"ec2-user\" rather than the user \"root\".';echo;sleep 10" ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQACpfoVwg+YM6K0vr4X0xkGnZL0axPnL8BWVv7Svhh1g1lN1dHLtubxKpfc9opxQKV0xGBE6t008MvG7Yk9gep8B i3TAuN0I+BrfYVQh i1FkB2J+H1ZkyTySrM PZEn0MY8ixkULHLIdZYPvzfrmtZxwqx7L4wt+t/Q/0LE/LYNCECXJTUK7GMDpv+ijx4uDY37wt1rCMUv+Y/z7cgYLkdeBMr4IduLD3Qu6SG2varYltGvCk13ZtMY2JUyoZ6B6ABYDxJc0D0rtyIw0NfjE2m0YYhaEXAbkXt7/zymt+3bqHoasTynmiMbv5dDybNoX3twUTGRckj0WfrqFF48u7iNyh linux-key
root@linux-host2 .ssh]# vi authorized_keys
root@linux-host2 .ssh]# █
```

3- Screenshot inventory on the controller (Ubuntu-controller)

```
[root@linux-host2 ~]# exit
logout
Connection to 10.0.1.183 closed.
root@ubuntu-controller:/etc/ansible# cat hosts
# 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

# Ex 2: A collection of hosts belonging to the 'webservers' group:

[ubuntu-hosts]
10.0.3.234
10.0.13.108

[linux-hosts]
10.0.10.85
10.0.1.183

## 192.168.1.100
## 192.168.1.110
```

II- Screenshot of all the hosts successfully pinged by the controller(Ubuntu-controller) using ad-hoc cmd PING

```
root@ubuntu-controller:~# ansible-playbook ubuntu-apache-playbook.yaml
[WARNING]: Platform linux on host 10.0.10.85 is using the discovered Python interpreter at /usr/bin/python3.7, but future
installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-
core/2.16/reference_appendices/interpreter_discovery.html for more information.
10.0.10.85 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3.7"
  },
  "changed": false,
  "ping": "pong"
}
[WARNING]: Platform linux on host 10.0.1.183 is using the discovered Python interpreter at /usr/bin/python3.7, but future
installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-
core/2.16/reference_appendices/interpreter_discovery.html for more information.
10.0.1.183 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3.7"
  },
  "changed": false,
  "ping": "pong"
}
10.0.13.108 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
10.0.3.234 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
root@ubuntu-controller:~#
```

III- Screenshot of both the controller and hosts of the playbook with the 3 phases

1- Result of the Controller running the play book

```
root@ubuntu-controller:~# ansible-playbook ubuntu-apache-playbook.yaml
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details

PLAY [Deploy Apache to Ubuntu webservers] *****

TASK [Gathering Facts] *****
ok: [10.0.13.108]
ok: [10.0.3.234]

TASK [Update all packages to their latest version] *****
ok: [10.0.13.108]
ok: [10.0.3.234]

TASK [Install Apache HTTP server] *****
changed: [10.0.3.234]
changed: [10.0.13.108]

TASK [Start Apache HTTP server, if not started] *****
ok: [10.0.3.234]
ok: [10.0.13.108]

TASK [Enable Apache HTTP server to start on boot] *****
ok: [10.0.13.108]
ok: [10.0.3.234]

TASK [Copy index file to the web server] *****
changed: [10.0.13.108]
changed: [10.0.3.234]

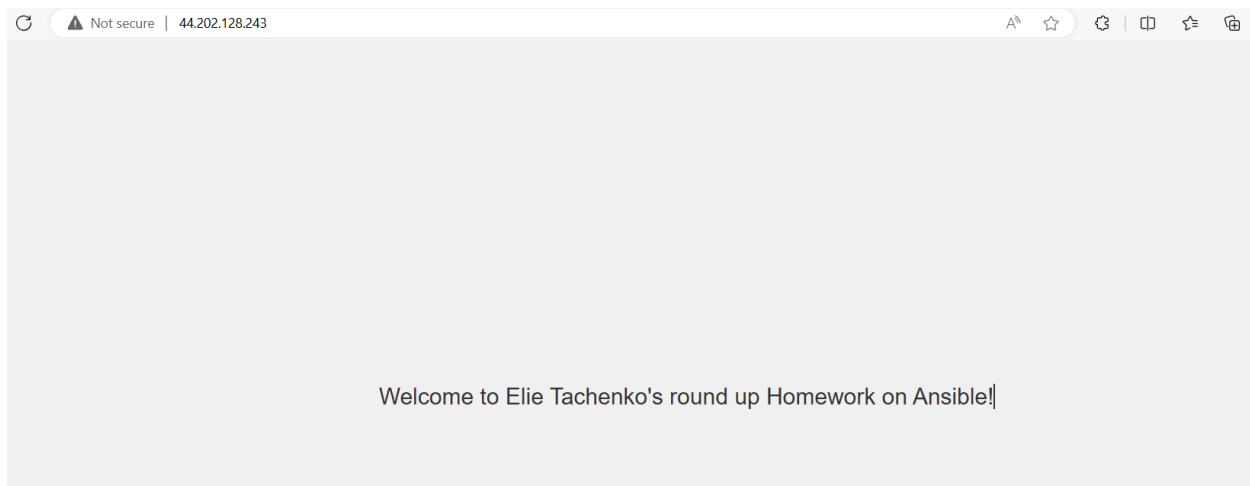
PLAY [Install Git on Ubuntu webservers] *****

TASK [Gathering Facts] *****
ok: [10.0.3.234]
ok: [10.0.13.108]

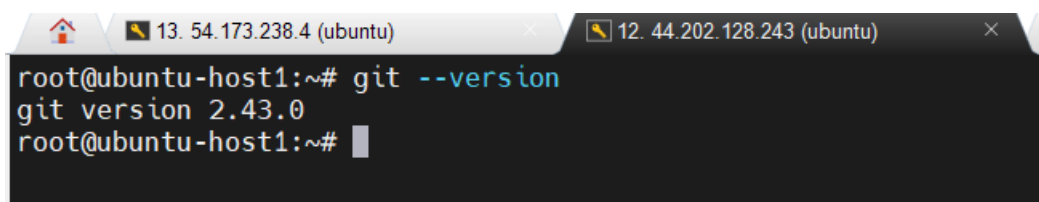
TASK [Install Git] *****
ok: [10.0.3.234]
ok: [10.0.13.108]
```

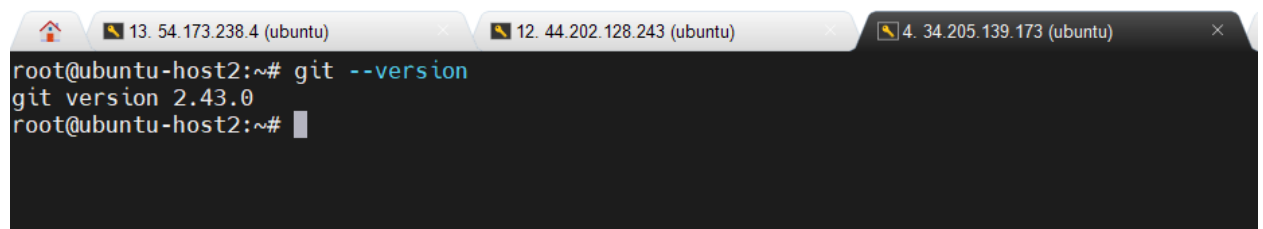
```
PLAY [Display the name of the student] *****
TASK [Gathering Facts] *****
ok: [10.0.13.108]
ok: [10.0.3.234]
[WARNING]: Platform linux on host 10.0.1.183 is using the discovered Python interpreter at /usr/bin/python3.7, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.16/reference_appendices/interpreter_discovery.html for more information.
ok: [10.0.1.183]
[WARNING]: Platform linux on host 10.0.10.85 is using the discovered Python interpreter at /usr/bin/python3.7, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.16/reference_appendices/interpreter_discovery.html for more information.
ok: [10.0.10.85]
TASK [Display the name of the student] *****
ok: [10.0.3.234] => {
  "msg": "The student name is: Elie Tachenko"
}
ok: [10.0.13.108] => {
  "msg": "The student name is: Elie Tachenko"
}
ok: [10.0.10.85] => {
  "msg": "The student name is: Elie Tachenko"
}
ok: [10.0.1.183] => {
  "msg": "The student name is: Elie Tachenko"
}
PLAY RECAP *****
10.0.1.183      : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
10.0.10.85     : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
10.0.13.108    : ok=10   changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
10.0.3.234     : ok=10   changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
root@ubuntu-controller:~/web#
```

2- Screenshot of the output of play1 on all Ubuntu-hosts



3- Screenshot of the output of play2 on all Ubuntu-hosts





A terminal window with three tabs. The first tab is titled '13. 54.173.238.4 (ubuntu)' and contains the command 'git --version' and its output 'git version 2.43.0'. The second tab is titled '12. 44.202.128.243 (ubuntu)' and is empty. The third tab is titled '4. 34.205.139.173 (ubuntu)' and is empty. The terminal text is as follows:

```
root@ubuntu-host2:~# git --version
git version 2.43.0
root@ubuntu-host2:~#
```