

Homework 1

Ansible Cluster with Controller:

- Amazon Linux nodes
- Ubuntu nodes

```
# 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-nodes]
10.0.1.93
10.0.1.193

[amazon-nodes]
10.0.1.127
10.0.1.230

# If you have multiple hosts following a pattern, you can specify
# them like this:
# Ex 3: A collection of database servers in the 'dbservers' group:

#[ubuntu-nodes]
#10.0.1.93
#10.0.1.193
## 10.25.1.57

# Here's another example of host ranges, this time there are no
# leading 0s:

## db-[99:101]-node.example.com

~
"hosts" 42L, 919B
```

```
root@ansible-controller:~/.ssh# cd /etc/ansible/
root@ansible-controller:/etc/ansible# ll
total 20
drwxr-xr-x  3 root root 4096 Jan 13 06:49 ./
drwxr-xr-x 99 root root 4096 Jan 11 04:25 ../
-rw-r--r--  1 root root  614 Dec  5 16:41 ansible.cfg
-rw-r--r--  1 root root  919 Jan 13 06:49 hosts
drwxr-xr-x  2 root root 4096 Dec  6 16:58 roles/
root@ansible-controller:/etc/ansible# vi hosts
root@ansible-controller:/etc/ansible# ansible -m ping all
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details
[WARNING]: Platform linux on host 10.0.1.236 is using the discovered Python interpreter at /usr/bin/python3.7, but future
could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.13/reference_appendices/interpreter_c
10.0.1.236 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3.7"
  },
  "changed": false,
  "ping": "pong"
}
[WARNING]: Platform linux on host 10.0.1.127 is using the discovered Python interpreter at /usr/bin/python3.7, but future
could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.13/reference_appendices/interpreter_c
10.0.1.127 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3.7"
  },
  "changed": false,
  "ping": "pong"
}
10.0.1.93 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
10.0.1.193 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
root@ansible-controller:/etc/ansible#
```

Homework 2

Installing Apache playbook in the root ansible controller

1 – Amazon Linux - Configuration

```
10. 18.212.94.99 (ubuntu) 6. 54.208.224.217 (ubuntu) 8. 54.236.20.187 (ubuntu)
- name: Setting up apache webserver on ubuntu servers
  hosts: ubuntu-nodes

  tasks:
    - name: Update all packages to their latest version
      ansible.builtin.apt:
        name: "*"
        state: latest

    - name: Install apache httpd
      ansible.builtin.apt:
        name: apache2
        state: latest

    - name: Start service httpd, if not started # systemctl start httpd
      ansible.builtin.service:
        name: apache2
        state: started

    - name: Enable service httpd at server launch # systemctl enable httpd
      ansible.builtin.service:
        name: apache2
        enabled: yes

    - name: Copy index.html file from the controller to the nodes at /var/www/html
      ansible.builtin.copy:
        src: /root/webs/index.html
        dest: /var/www/html/

~
```

```

root@ansible-controller:~/web# ansible-playbook webserver-apache-config-playbook.yml
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details

PLAY [Setting up apache webserver on amazon linux servers] *****

TASK [Gathering Facts] *****
[WARNING]: Platform linux on host 10.0.1.37 is using the discovered Python interpreter at /usr/bin/python3.7, but futur
interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.13/reference_appendices/
information.
ok: [10.0.1.37]
[WARNING]: Platform linux on host 10.0.1.106 is using the discovered Python interpreter at /usr/bin/python3.7, but futu
interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.13/reference_appendices/
information.
ok: [10.0.1.106]

TASK [Upgrade all packages on the server] *****
ok: [10.0.1.37]
ok: [10.0.1.106]

TASK [Install the latest version of Apache] *****
changed: [10.0.1.37]
changed: [10.0.1.106]

TASK [Start service httpd, if not started] *****
changed: [10.0.1.106]
changed: [10.0.1.37]

TASK [Enable service httpd at server launch] *****
changed: [10.0.1.106]
changed: [10.0.1.37]

TASK [Copy index.html file from the controller to the nodes at /var/www/html] *****
changed: [10.0.1.37]
changed: [10.0.1.106]

PLAY RECAP *****
10.0.1.106      : ok=6    changed=4    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
10.0.1.37      : ok=6    changed=4    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

root@ansible-controller:~/web# █

```



⚠ Not secure | 34.224.56.205



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Starting a Bu:

We are creating the file at the root which is the controller. In Turn it will copy it to the nodes!!

2 - Ubuntu -configuration

```
10. 18.212.94.99 (ubuntu) 6. 54.208.224.217 (ubuntu) 8. 54.236.20.187 (ubuntu)
- name: Setting up apache webservers on ubuntu servers
  hosts: ubuntu-nodes

  tasks:
    - name: Update all packages to their latest version
      ansible.builtin.apt:
        name: "*"
        state: latest

    - name: Install apache httpd
      ansible.builtin.apt:
        name: apache2
        state: latest

    - name: Start service httpd, if not started # systemctl start httpd
      ansible.builtin.service:
        name: apache2
        state: started

    - name: Enable service httpd at server launch # systemctl enable httpd
      ansible.builtin.service:
        name: apache2
        enabled: yes

    - name: Copy index.html file from the controller to the nodes at /var/www/html
      ansible.builtin.copy:
        src: /root/webs/index.html
        dest: /var/www/html/

~
```


CONFIGURING UBUNTU SERVERS FROM THE CONTROLLER TO THE NODES. PLAY2 IS ALMOST DONE

root@ansible-controller:~/webs# pwd

/root/webs

root@ansible-controller:~/webs# vim webserver-apache-config-playbook.yml

root@ansible-controller:~/webs# ansible-playbook webserver-apache-config-playbook.yml

[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details

PLAY [Setting up apache webserver on ubuntu servers] *****

TASK [Gathering Facts] *****

ok: [10.0.1.13]

ok: [10.0.1.16]

TASK [Update all packages to their latest version] *****

ok: [10.0.1.13]

ok: [10.0.1.16]

TASK [Install apache httpd] *****

ok: [10.0.1.13]

ok: [10.0.1.16]

TASK [Start service httpd, if not started] *****

ok: [10.0.1.13]

ok: [10.0.1.16]

TASK [Enable service httpd at server launch] *****

ok: [10.0.1.16]

ok: [10.0.1.13]

TASK [Copy index.html file from the controller to the nodes at /var/www/html] *****

changed: [10.0.1.13]

changed: [10.0.1.16]

PLAY RECAP *****

10.0.1.13 : ok=6 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0

10.0.1.16 : ok=6 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0

root@ansible-controller:~/webs#



Not secure | 54.208.224.217

CONFIGURING UBUNTU SERVERS FROM THE CONTROLLER TO THE NODES. PLAY2 IS ALMOST DONE

3- Install GIT on all hosts.

- **Amazon Linux Servers**

```
- name: Setting up apache webserver on amazon linux servers
hosts: amazon-nodes

tasks:
  - name: Upgrade all packages on the server #yum update -y
    ansible.builtin.yum:
      name: '*'
      state: latest

  - name: Install the latest version of Apache #yum install httpd -y
    ansible.builtin.yum:
      name: httpd
      state: latest

  - name: Start service httpd, if not started # systemctl start httpd
    ansible.builtin.service:
      name: httpd
      state: started

  - name: Enable service httpd at server launch # systemctl enable httpd
    ansible.builtin.service:
      name: httpd
      enabled: yes

  - name: Copy index.html file from the controller to the nodes at /var/www/html
    ansible.builtin.copy:
      src: /root/web/index.html
      dest: /var/www/html/

  - name: Install the latest git # yum install git -y
    ansible.builtin.yum:
      name: git
      state: latest

- name: ping all the servers
hosts: all

tasks:
  - name: ping all the nodes
```

"webserver-apache-config-playbook.yml" 43L, 1092B


```
root@ansible-controller:~/web# vim webserver-apache-config-playbook.yml
root@ansible-controller:~/web# ansible-playbook webserver-apache-config-playbook.yml
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details

PLAY [Setting up apache webserver on amazon linux servers] *****

TASK [Gathering Facts] *****
[WARNING]: Platform linux on host 10.0.1.106 is using the discovered Python interpreter at /usr/bin/python3.7, but futu
interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.13/reference_appendices/
information.
ok: [10.0.1.106]
[WARNING]: Platform linux on host 10.0.1.37 is using the discovered Python interpreter at /usr/bin/python3.7, but futu
interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.13/reference_appendices/
information.
ok: [10.0.1.37]

TASK [Upgrade all packages on the server] *****
ok: [10.0.1.106]
ok: [10.0.1.37]

TASK [Install the latest version of Apache] *****
ok: [10.0.1.106]
ok: [10.0.1.37]

TASK [Start service httpd, if not started] *****
ok: [10.0.1.106]
ok: [10.0.1.37]

TASK [Enable service httpd at server launch] *****
ok: [10.0.1.106]
ok: [10.0.1.37]

TASK [Copy index.html file from the controller to the nodes at /var/www/html] *****
ok: [10.0.1.106]
ok: [10.0.1.37]

TASK [Install the latest git] *****
ok: [10.0.1.106]
ok: [10.0.1.37]
```

```

PLAY [ping all the servers] *****

TASK [Gathering Facts] *****
ok: [10.0.1.106]
ok: [10.0.1.37]
ok: [10.0.1.13]
ok: [10.0.1.16]

TASK [ping all the nodes] *****
ok: [10.0.1.16]
ok: [10.0.1.106]
ok: [10.0.1.13]
ok: [10.0.1.37]

PLAY RECAP *****
10.0.1.106      : ok=9    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
10.0.1.13      : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
10.0.1.16      : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
10.0.1.37      : ok=9    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

root@ansible-controller:~/web#

```

- **Ubuntu Servers**

```
- name: Setting up apache webserver on ubuntu servers
hosts: ubuntu-nodes

tasks:
  - name: Update all packages to their latest version
    ansible.builtin.apt:
      name: "*"
      state: latest

  - name: Install apache httpd
    ansible.builtin.apt:
      name: apache2
      state: latest

  - name: Start service httpd, if not started # systemctl start httpd
    ansible.builtin.service:
      name: apache2
      state: started

  - name: Enable service httpd at server launch # systemctl enable httpd
    ansible.builtin.service:
      name: apache2
      enabled: yes

  - name: Copy index.html file from the controller to the nodes at /var/www/html
    ansible.builtin.copy:
      src: /root/webs/index.html
      dest: /var/www/html/

  - name: Install the latest git # yum install git -y
    ansible.builtin.apt:
      name: git
      state: latest
```

```
~
~
```

```
root@ansible-controller:~/webs# vim webserver-apache-config-playbook.yml
root@ansible-controller:~/webs# ansible-playbook webserver-apache-config-playbook.yml
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details

PLAY [Setting up apache webserver on ubuntu servers] *****

TASK [Gathering Facts] *****
ok: [10.0.1.16]
ok: [10.0.1.13]

TASK [Update all packages to their latest version] *****
ok: [10.0.1.13]
ok: [10.0.1.16]

TASK [Install apache httpd] *****
ok: [10.0.1.13]
ok: [10.0.1.16]

TASK [Start service httpd, if not started] *****
ok: [10.0.1.13]
ok: [10.0.1.16]

TASK [Enable service httpd at server launch] *****
ok: [10.0.1.13]
ok: [10.0.1.16]

TASK [Copy index.html file from the controller to the nodes at /var/www/html] *****
ok: [10.0.1.13]
ok: [10.0.1.16]

TASK [Install the latest git] *****
ok: [10.0.1.13]
ok: [10.0.1.16]

PLAY RECAP *****
10.0.1.13      : ok=7    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
10.0.1.16      : ok=7    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

root@ansible-controller:~/webs#
```