

Module 5: Ansible Assignment - 4

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Course Offered: -Advanced Cloud Computing and Devops

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Tasks To Be Performed:

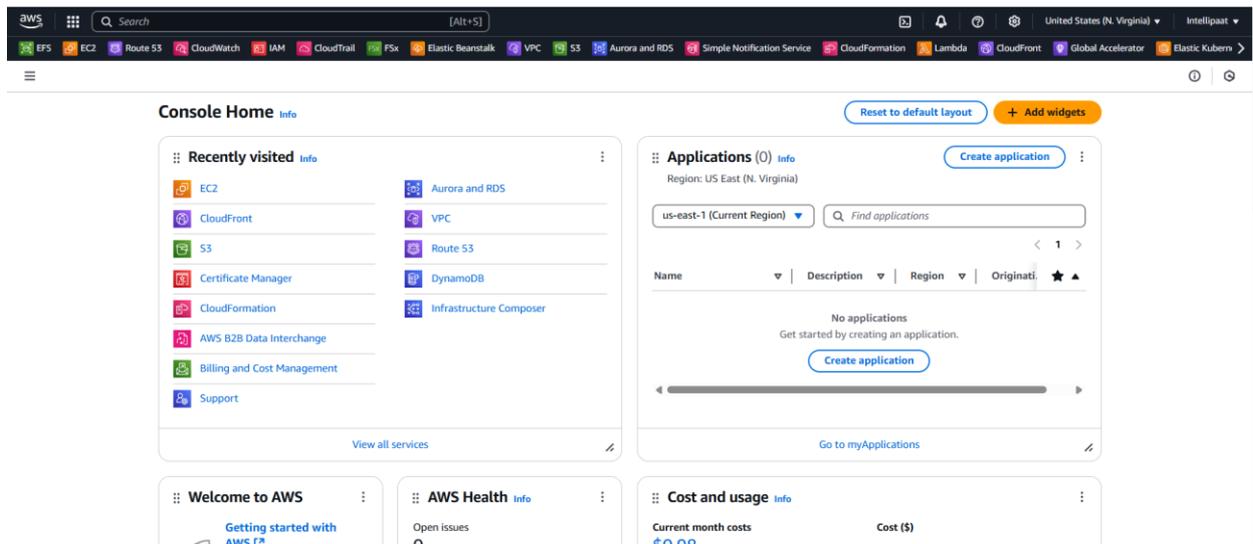
1. Use the previous deployment of Ansible cluster
2. Configure the files folder in the role with index.html which should be replaced with the original index.html

All of the above should only happen on the slave which has NGINX installed using the role.

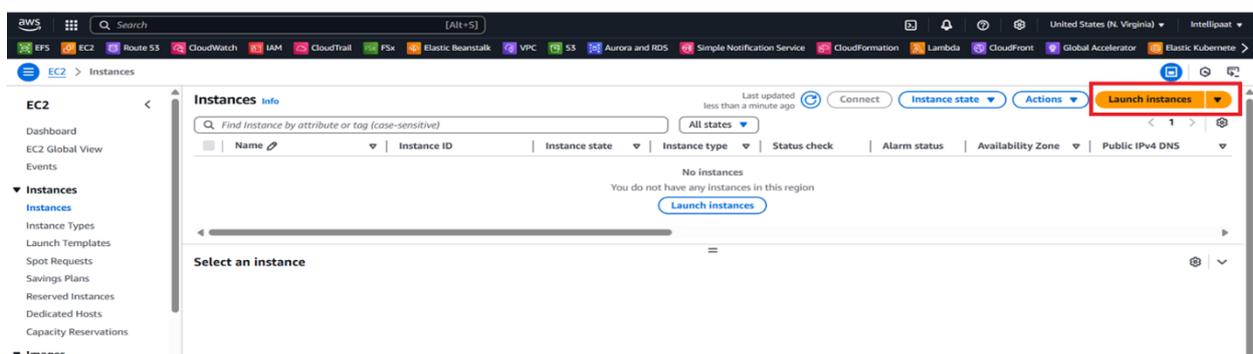
SOLUTION

Go To AWS Management Console And create 3 ec2 instances 1 is master node and 2 is slave node.

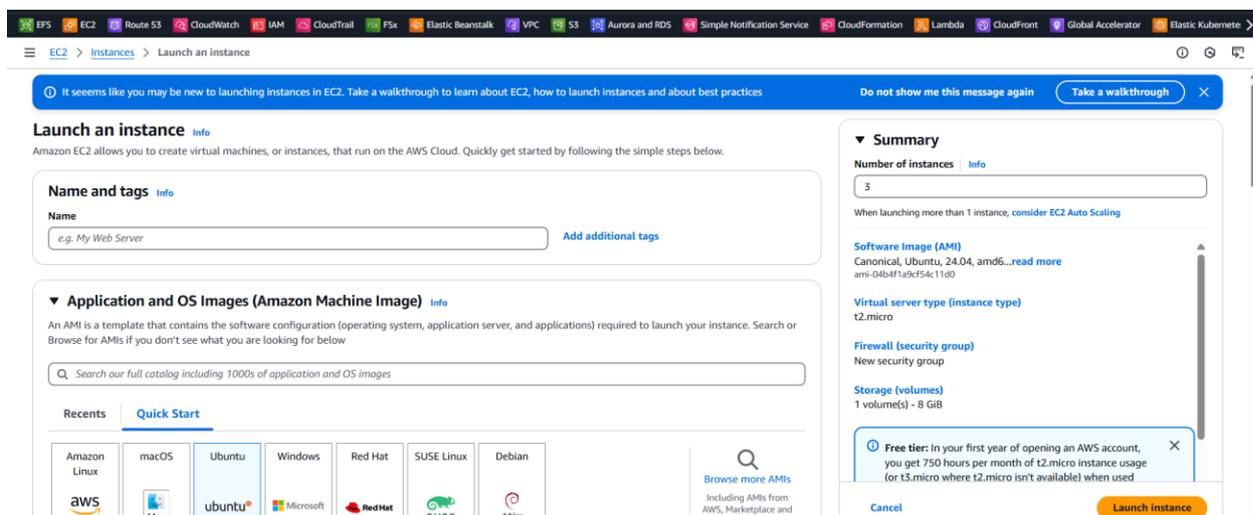
After Login the aws console you will see like this screen.



Then Click EC2 then click the instances and click the launch instance

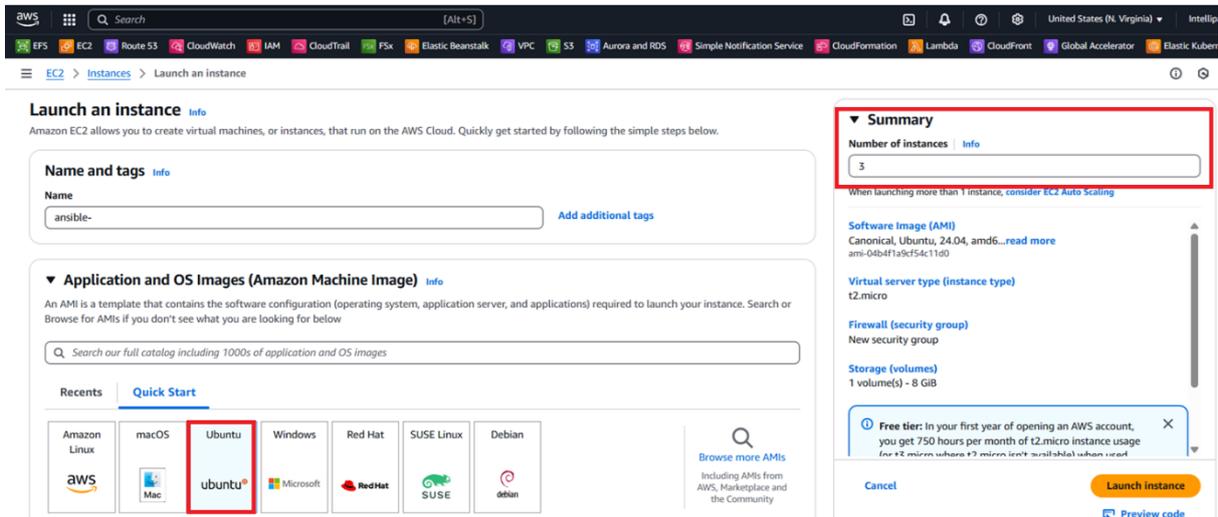


After Click the launch instance you will see like this page.

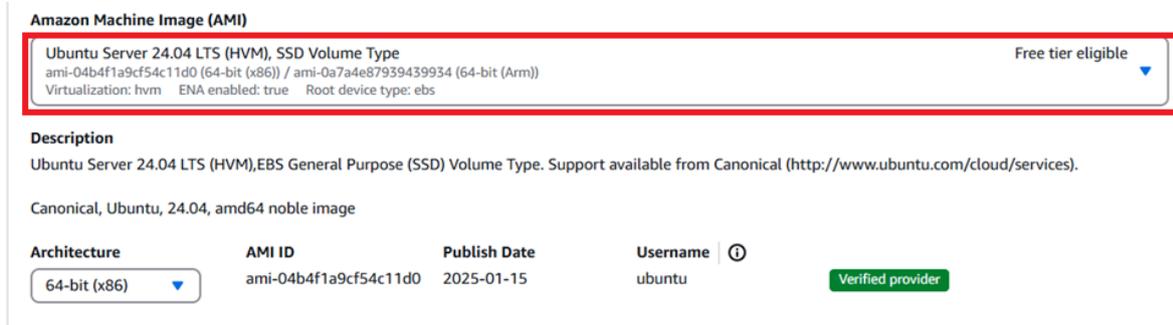


Assign the name of instance

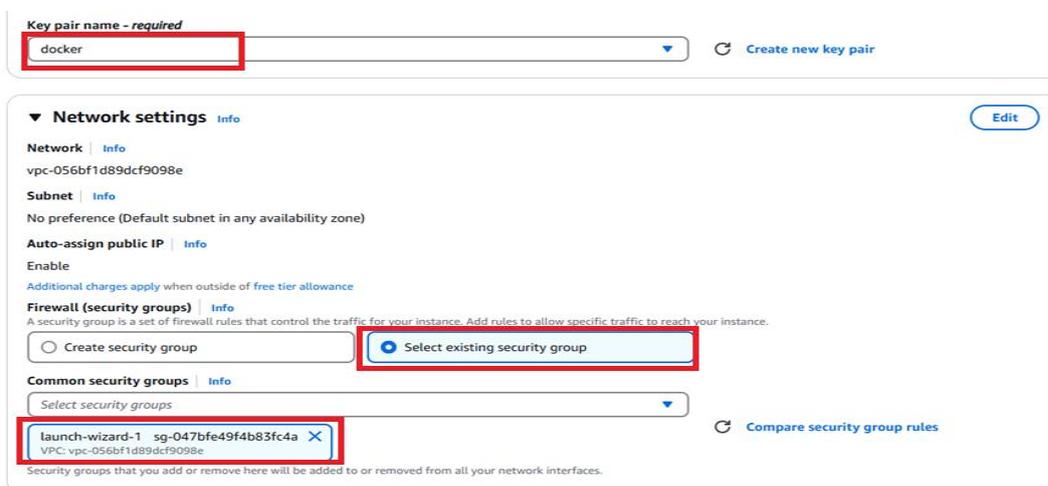
Select AMI is ubuntu



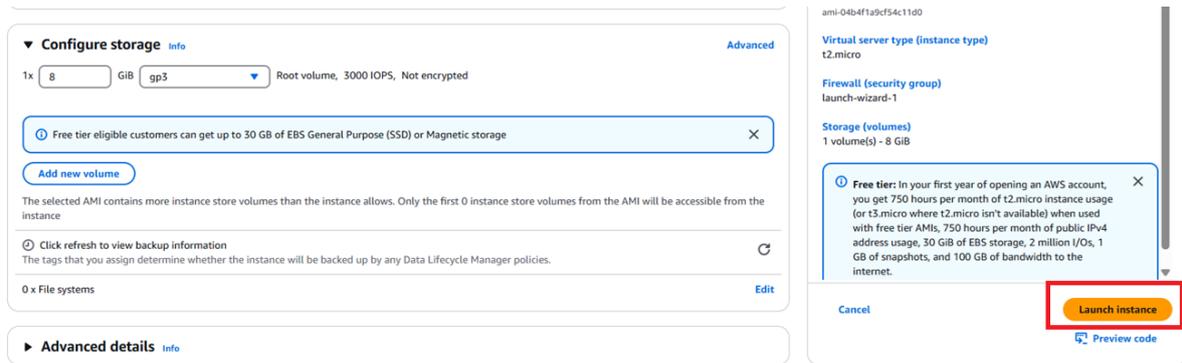
Select the Amazon Machine Image(AMI) as a ubuntu with free tier.



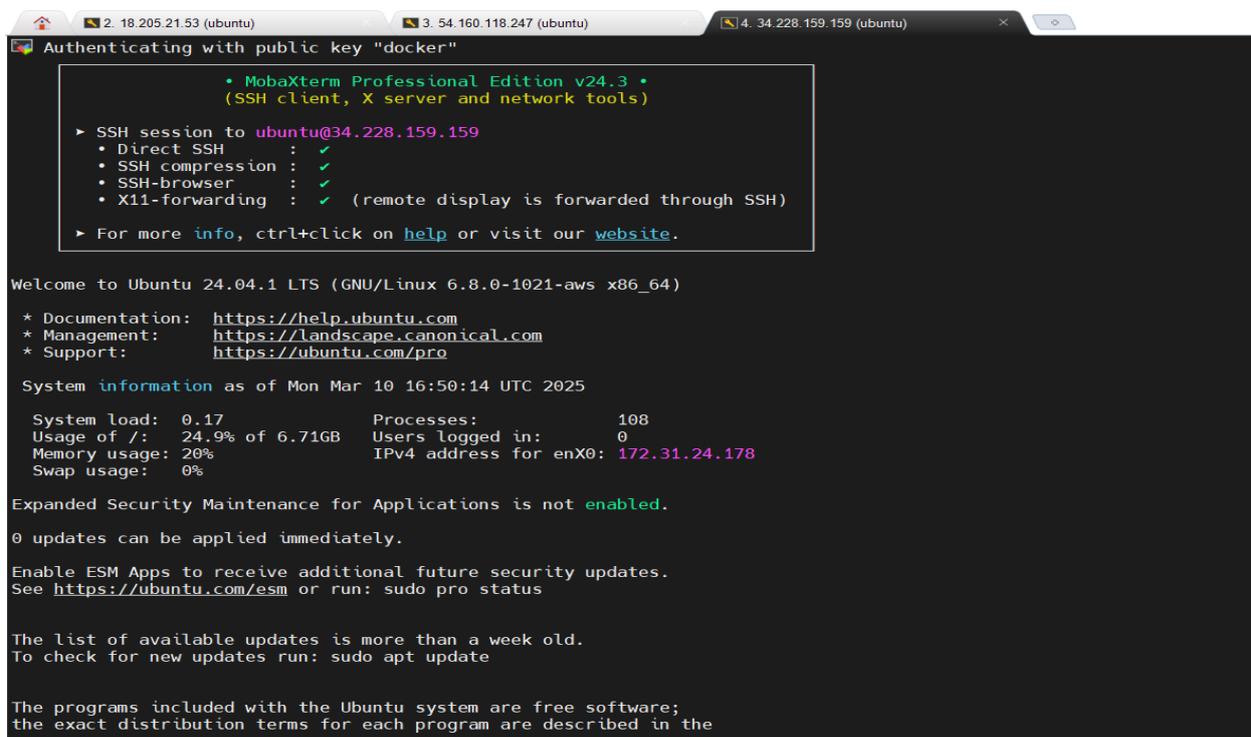
Now We need choose keypair and then select firewall I choose to select existing security group I have already created.



Now Click Launch the instance.



Now We need to connect the all instances one by one



1. Use the previous deployment of Ansible cluster

1. Create 2 Ansible roles

To create ansible roles:

sudo ansible-galaxy init apache

sudo ansible-galaxy init nginx

```
ubuntu@ip-172-31-31-188:/etc/ansible$ sudo ansible-galaxy init apache
sudo ansible-galaxy init nginx
- Role apache was created successfully
- Role nginx was created successfully
ubuntu@ip-172-31-31-188:/etc/ansible$
```

2. Install Apache2 on slave1 using one role and NGINX on slave2 using the other role

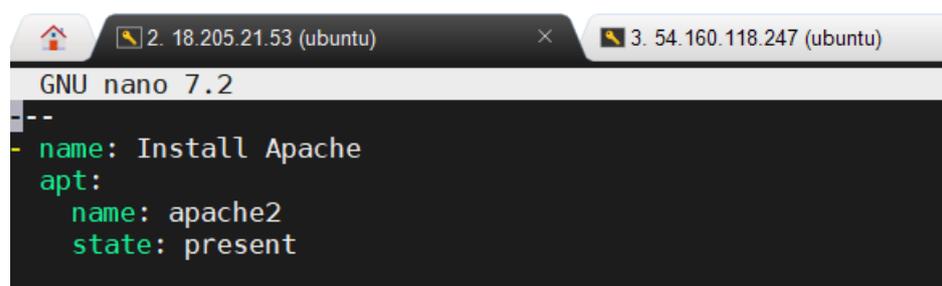
path of Ansible Apache role
/etc/ansible/roles/apache/tasks/
path of Ansible nginx role
/etc/ansible/roles/nginx/tasks/
add the yaml playbook files inside tasks

First need to set the apache task

So to this path /etc/ansible/roles/apache/tasks/ here You need to create the file name is install.yaml

sudo nano install.yaml write this code and save it then exit this file

```
---
- name: install apache
  apt:
    name: apache2
    state: present
```

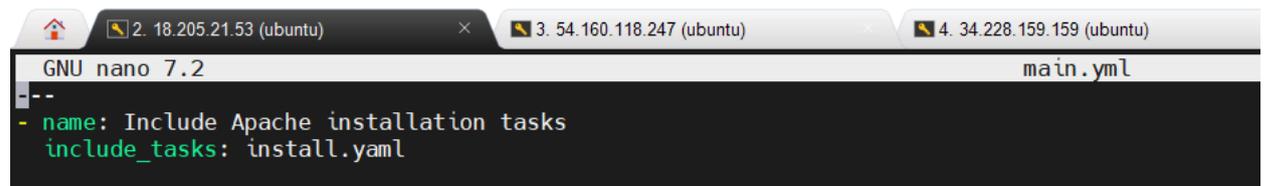


```
GNU nano 7.2
---
- name: Install Apache
  apt:
    name: apache2
    state: present
```

Then after you will main.yaml file open this file

Sudo nano main.yaml.write this code in main.yaml and save it this and exit from file.

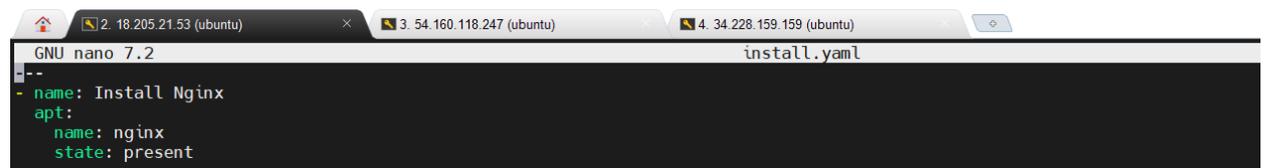
```
---
- name: include apache installation tasks
  include_tasks: install.yaml
```



```
GNU nano 7.2 main.yml
---
- name: Include Apache installation tasks
  include_tasks: install.yml
```

Then go to /etc/ansible/roles/nginx/tasks/ path
Create one file like install.yml.write this code

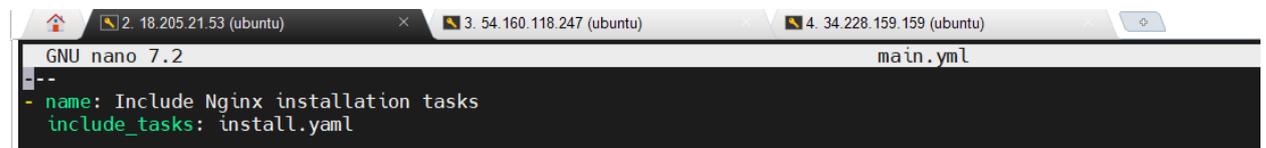
```
---
- name: Install Nginx
  apt:
    name: nginx
    state: present
```



```
GNU nano 7.2 install.yml
---
- name: Install Nginx
  apt:
    name: nginx
    state: present
```

Sudo nano main.yml.write this code in main.yml and save it this and exit
from file.

```
---
- name: include Nginx installation tasks
  include_tasks: install.yml
```



```
GNU nano 7.2 main.yml
---
- name: Include Nginx installation tasks
  include_tasks: install.yml
```

Then go to this path cd /etc/ansible and create one more file for installing
Apache and nginx like name is play.yml

finally create a playbook to execute the tasks of the role and write this below
code in play.yml

```
---
- name: installing apache2
  hosts: webserver
  become: true
  roles:
```

— apache

- name: installing nginx

hosts: prod

become: true

roles:

— nginx

```
GNU nano 7.2 play3.yaml
---
- name: installing apache2
  hosts: webservers
  become: true
  roles:
  - apache

- name: installing nginx
  hosts: prod
  become: true
  roles:
  - nginx
```

Now Save it this yamL.we need to deploy the both apache and nginx through role based.

Now Run this command.the command is

ansible-playbook play3.yaml

After complete the deployment go to aws instance and copy the public ip and paste it to browser.

```
ubuntu@ip-172-31-31-188:/etc/ansible$ ansible-playbook play3.yaml
PLAY [Installing apache2] *****
TASK [Gathering Facts] *****
[WARNING]: Platform linux on host 172.31.18.6 is using the discovered Python interpreter at /usr/bin/python3.12, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.18.6]
TASK [apache : Include Apache installation tasks] *****
included: /etc/ansible/apache/tasks/install.yaml for 172.31.18.6
TASK [apache : Install Apache] *****
ok: [172.31.18.6]
PLAY [Installing nginx] *****
TASK [Gathering Facts] *****
[WARNING]: Platform linux on host 172.31.24.178 is using the discovered Python interpreter at /usr/bin/python3.12, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.24.178]
TASK [nginx : Include Nginx installation tasks] *****
included: /etc/ansible/nginx/tasks/install.yaml for 172.31.24.178
TASK [nginx : Install Nginx] *****
changed: [172.31.24.178]
PLAY RECAP *****
172.31.18.6      : ok=3    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
172.31.24.178  : ok=3    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
ubuntu@ip-172-31-31-188:/etc/ansible$
```

Now we need to see the output in both server:

Ansible Slave 1



Ansible Slave 2



2. Configure the files folder in the role with index.html which should be replaced with the original index.html

```
ubuntu@ip-172-31-81-146:/etc/ansible$ cd roles/
ubuntu@ip-172-31-81-146:/etc/ansible/roles$ ll
total 16
drwxr-xr-x  4 root root 4096 Mar 12 15:19 ./
drwxr-xr-x  3 root root 4096 Mar 12 15:43 ../
drwxr-xr-x 10 root root 4096 Mar 12 15:19 apache/
drwxr-xr-x 10 root root 4096 Mar 12 15:19 nginx/
ubuntu@ip-172-31-81-146:/etc/ansible/roles$ cd apache/
ubuntu@ip-172-31-81-146:/etc/ansible/roles/apache$ ll
total 44
drwxr-xr-x 10 root root 4096 Mar 12 15:19 ./
drwxr-xr-x  4 root root 4096 Mar 12 15:19 ../
-rw-r--r--  1 root root 1328 Mar 12 15:19 README.md
drwxr-xr-x  2 root root 4096 Mar 12 15:19 defaults/
drwxr-xr-x  2 root root 4096 Mar 12 15:21 files/
drwxr-xr-x  2 root root 4096 Mar 12 15:19 handlers/
drwxr-xr-x  2 root root 4096 Mar 12 15:19 meta/
drwxr-xr-x  2 root root 4096 Mar 12 15:56 tasks/
drwxr-xr-x  2 root root 4096 Mar 12 15:19 templates/
drwxr-xr-x  2 root root 4096 Mar 12 15:19 tests/
drwxr-xr-x  2 root root 4096 Mar 12 15:19 vars/
ubuntu@ip-172-31-81-146:/etc/ansible/roles/apache$
```

go to /etc/ansible/roles/apache/files

create one file index.html

in my case I write in index.html

```
<h1>Hi $user</h1>
```

```
ubuntu@ip-172-31-81-146:/etc/ansible/roles/apache$ cd files
ubuntu@ip-172-31-81-146:/etc/ansible/roles/apache/files$ cat index.html
<h1>Hi $user</h1>
ubuntu@ip-172-31-81-146:/etc/ansible/roles/apache/files$
```

After write this code and save this code.

Now then go to go to /etc/ansible/roles/apache/tasks

and create a new file which is copy.yaml

```
GNU nano 7.2 copy.yaml
--
- name: copy index.html
  copy: src=/etc/ansible/roles/apache/files/index.html dest=/var/www/html
```

Then Save this files.

include the copy.yaml file in the main.yaml

```
GNU nano 7.2 main.yaml
--
# tasks file for apache
- include_tasks: copy.yaml
```

Now go to /etc/ansible/roles/nginx/files

```
ubuntu@ip-172-31-81-146:/etc/ansible/roles$ cd nginx/
ubuntu@ip-172-31-81-146:/etc/ansible/roles/nginx$ ll
total 44
drwxr-xr-x 10 root root 4096 Mar 12 15:19 ./
drwxr-xr-x  4 root root 4096 Mar 12 15:19 ../
-rw-r--r--  1 root root 1328 Mar 12 15:19 README.md
drwxr-xr-x  2 root root 4096 Mar 12 15:19 defaults/
drwxr-xr-x  2 root root 4096 Mar 12 15:59 files/
drwxr-xr-x  2 root root 4096 Mar 12 15:19 handlers/
drwxr-xr-x  2 root root 4096 Mar 12 15:19 meta/
drwxr-xr-x  2 root root 4096 Mar 12 16:00 tasks/
drwxr-xr-x  2 root root 4096 Mar 12 15:19 templates/
drwxr-xr-x  2 root root 4096 Mar 12 15:19 tests/
drwxr-xr-x  2 root root 4096 Mar 12 15:19 vars/
ubuntu@ip-172-31-81-146:/etc/ansible/roles/nginx$ cd files
ubuntu@ip-172-31-81-146:/etc/ansible/roles/nginx/files$ ll
total 12
drwxr-xr-x  2 root root 4096 Mar 12 15:59 ./
drwxr-xr-x 10 root root 4096 Mar 12 15:19 ../
-rw-r--r--  1 root root   18 Mar 12 15:59 index.html
ubuntu@ip-172-31-81-146:/etc/ansible/roles/nginx/files$
```

create one file index.html

in my case I write in index.html

```
<h1>Hi $user</h1>
```

```
ubuntu@ip-172-31-81-146:/etc/ansible/roles/nginx/files$ cat index.html
<h1>Hi $user</h1>
ubuntu@ip-172-31-81-146:/etc/ansible/roles/nginx/files$
```

After write this code and save this code.

Now then go to go to /etc/ansible/roles/nginx/tasks

and create a new file which is copy.yaml

```
GNU nano 7.2 copy.yaml
--
- name: copy index.html
  copy: src=/etc/ansible/roles/nginx/files/index.html dest=/var/www/html/
```

Then Save this files.

include the copy.yaml file in the main.yaml

```
GNU nano 7.2 main.yaml
--
- name: Include Nginx installation tasks
  include_tasks: copy.yaml
```

Now run the play book

```
ubuntu@ip-172-31-81-146:/etc/ansible$ ansible-playbook play.yaml
PLAY [Installing Apache2] *****
TASK [Gathering Facts] *****
[WARNING]: Platform linux on host 172.31.93.75 is using the discovered Python interpreter at /usr/bin/python3.12, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.93.75]
TASK [apache : include_tasks] *****
included: /etc/ansible/roles/apache/tasks/copy.yaml for 172.31.93.75
TASK [apache : copy index.html] *****
ok: [172.31.93.75]
PLAY [Installing Nginx] *****
TASK [Gathering Facts] *****
[WARNING]: Platform linux on host 172.31.83.178 is using the discovered Python interpreter at /usr/bin/python3.12, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.83.178]
TASK [nginx : Include Nginx installation tasks] *****
included: /etc/ansible/roles/nginx/tasks/copy.yaml for 172.31.83.178
TASK [nginx : copy index.html] *****
changed: [172.31.83.178]
PLAY RECAP *****
172.31.83.178      : ok=3    changed=1  unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
172.31.93.75     : ok=3    changed=0  unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

This is Apache Server.



Not secure 34.207.194.255

soft98.ir Artificial Intelligenc... Ocean of Games Search Result Page... Introd

Hi \$user

This is Nginx Server.



Not secure 3.85.159.253

soft98.ir Artificial Intelligenc... Ocean of Games Search Result Page...

Hi \$user