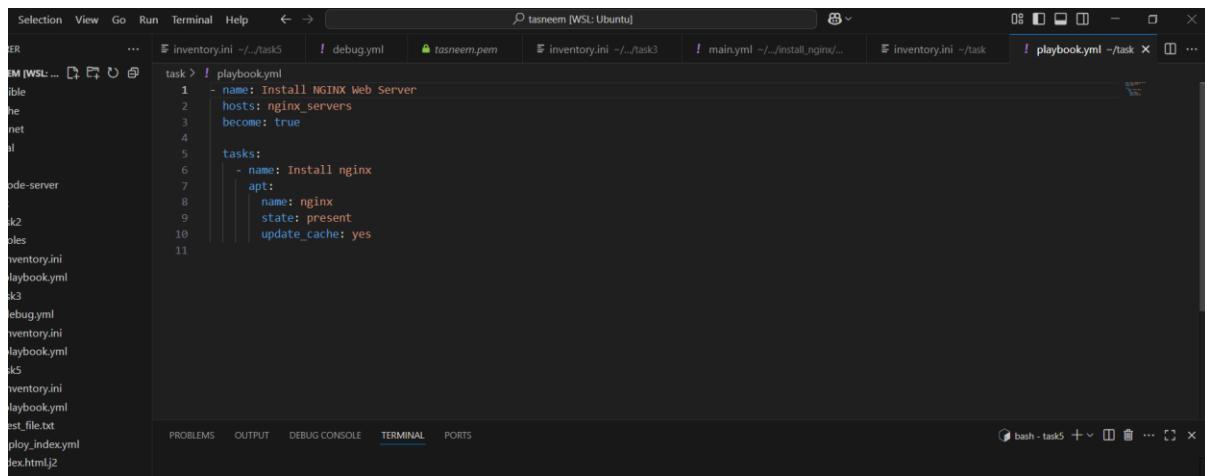


```
# Make sure to open your machine on port 80
```

Task 1

1. create module to install Inginx



The screenshot shows a terminal window titled "tasneem [WSL: Ubuntu]" with the following Ansible playbook code:

```
task > I playbook.yml
      1 - name: Install NGINX Web Server
      2   hosts: nginx_servers
      3   become: true
      4
      5   tasks:
      6     - name: Install nginx
      7       apt:
      8         name: nginx
      9         state: present
     10        update_cache: yes
     11
```

The terminal also displays a file tree on the left side of the window.

```
# Replace NGINX Index Page Using a Jinja2 HTML Template
```

2. **Create a Jinja2 template file** named `index.html.j2` that generates a dynamic HTML page with the following content:

```
<!DOCTYPE html>

<html>

<head>
  <title>[site_name] - Welcome</title>
</head>

<body>
  <h1>Welcome to [site_name] !</h1>
  <p>Hostname: [ansible_hostname]</p>
  <p>Deployed on: [ansible_date_time.date]</p>
```

```
</body>
```

```
</html>
```

The screenshot shows the VS Code interface with several tabs open in the background:

- index.html.j2
- main.yml
- main.yml
- playbook.yml
- inventory.ini
- playbook.yml
- playbook.yml

The main editor area contains the following code:

```
<!DOCTYPE html>
<html>
<head>
    <title>Welcome to {{ site_name }}</title>
</head>
<body>
    <h1>Welcome to {{ site_name }}!</h1>
    <p>Hostname: {{ ansible_hostname }}</p>
    <p>Deployed on: {{ ansible_date_time.date }}</p>
</body>
</html>
```

The terminal at the bottom shows the command:

```
tasneem@DESKTOP-0VT5601:~/task/tasks$ ansible-playbook -i inventory.ini playbook.yml
```

PLAY [Copy] ****

The screenshot shows the VS Code interface with several tabs open in the background:

- test_file.txt
- inventory.ini
- debug.yml
- tasneem.pem
- inventory.ini
- main.yml
- inventory.ini

The Explorer sidebar shows a file structure under 'TASNEEM (WSL)'. The 'task' folder contains sub-folders 'task2', 'task3', and 'task5', each containing 'roles', 'inventory.ini', and 'playbook.yml' files.

The main editor area contains the following code:

```
[nginx_servers]
35.88.152.40 ansible_user=ubuntu ansible_ssh_private_key_file=/home/tasneem/task/tasneem.pem
```

The terminal at the bottom shows the command:

```
tasneem@DESKTOP-0VT5601:~/task/tasks$ ansible-playbook -i inventory.ini playbook.yml
```

PLAY [Copy] ****

3. **Write an Ansible playbook** (`deploy_index.yml`) that:

- Uses the `template` module to copy the rendered template to:

````

/var/www/html/index.html

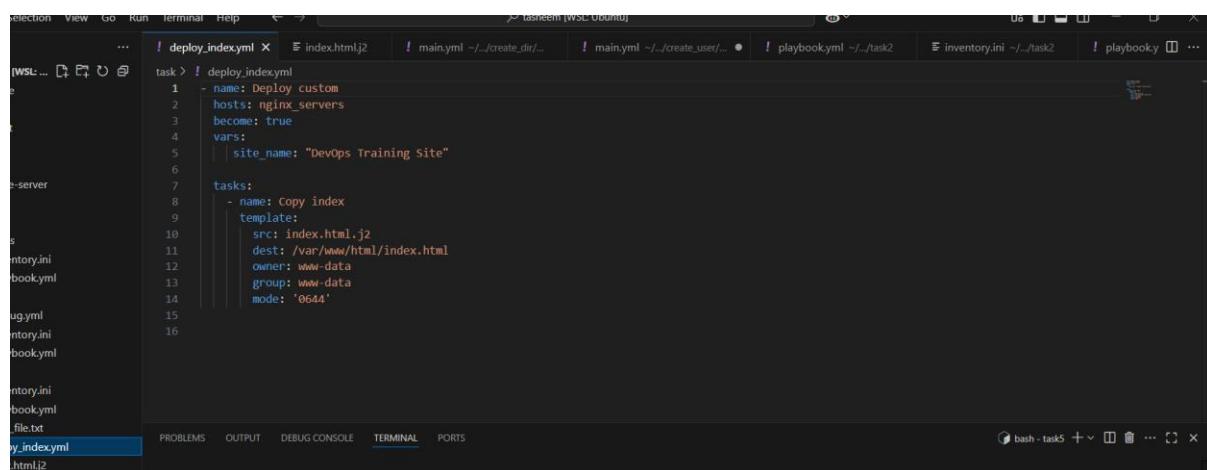
```

- Sets file ownership and permissions:

- Owner: `www-data`
- Group: `www-data`
- Mode: `0644`

- Defines the variable:

```
```yaml
site_name: "DevOps Training Site"
````
```



The screenshot shows a terminal window with several tabs open, including 'deploy_index.yml' which is the active tab. The code in 'deploy_index.yml' defines a task named 'Deploy custom' that copies an index.html template to the '/var/www/html' directory, setting the owner to 'www-data', group to 'www-data', and mode to '0644'. The terminal also shows other files like 'index.html.j2', 'main.yml', 'playbook.yml', and 'inventory.ini'.

```
task > deploy_index.yml
  1 - name: Deploy custom
  2   hosts: nginx_servers
  3   become: true
  4   vars:
  5     | site_name: "DevOps Training Site"
  6
  7   tasks:
  8     - name: Copy index
  9       template:
 10         | src: index.html.j2
 11         | dest: /var/www/html/index.html
 12         | owner: www-data
 13         | group: www-data
 14         | mode: '0644'
 15
 16
```

4. **Run your playbook** on your NGINX server and verify the page is updated correctly by visiting: Your public IP:80

Welcome to DevOps Training Site!

Hostname: ip-172-31-37-135
Deployed on: 2025-07-26

=====

Task2:

```
# using ansible roles create 3 roles
```

1- install nginx

2- create user ansible roles

3- create dir with name my_dir - file name test file

```
# use var for package_name - dir_name – file_name
```

The screenshot shows the VS Code interface with multiple tabs open. The terminal tab displays the output of an Ansible playbook run:

```
* tasneem@DESKTOP-BVTS601:~/task/task2$ ansible-playbook -i inventory.ini playbook.yml
PLAY [Run all roles] ****
TASK [Gathering Facts] ****
ok: [44.243.31.20]
TASK [roles/install_nginx : install nginx] ****
ok: [44.243.31.20]
TASK [roles/create_dir : create directory] ****
changed: [44.243.31.20]
TASK [roles/create_dir : create a file] ****
changed: [44.243.31.20]
PLAY RECAP ****
44.243.31.20 : ok=4    changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
* tasneem@DESKTOP-BVTS601:~/task/task2$
```

The screenshot shows the VS Code interface with multiple tabs open. The terminal tab displays the content of the main.yml file:

```
task > task2 > roles > create_dir > tasks > main.yml
1 - name: Create directory
2   file:
3     path: "/home/{{ dir_name }}"
4     state: directory
5
6 - name: Create a file
7   file:
8     path: "/home/{{ dir_name }}/{{ file_name }}"
9     state: touch
```

The screenshot shows the VS Code interface with the main.yml file selected in the Explorer sidebar. The code editor displays the following YAML configuration:

```
task > task2 > roles > install_nginx > tasks > main.yml
1 < - name: Install nginx
2 < - apt:
3   name: "{{ package_name }}"
4   state: present
5   update_cache: yes
```

The screenshot shows the VS Code interface with the playbook.yml file selected in the Explorer sidebar. The code editor displays the following YAML configuration:

```
task > task2 > playbook.yml
1 - name: Run all roles
2 hosts: nginx_servers
3 become: true
4 vars:
5   package_name: nginx
6   dir_name: my_dir
7   file_name: test_file.txt
8
9 roles:
10  - roles/install_nginx
11  - roles/create_user
12  - roles/create_dir
```

=====

task3

create file contains

username - password

encrypt the file and print values in the terminal using debug modul

EXPLORER ...

TASNEEM [WSL: UBUNTU]

- > ansible
- > .cache
- > .dotnet
- > .local
- > .ssh
- > vscode-server
- < task
- < task2
- > roles
- ! inventory.ini
- ! playbook.yml
- < task3
- ! playbook.yml
- ! deploy_index.yml
- ! index.html.j2
- ! inventory.ini
- ! playbook.yml
- ! tasneem.pem
- ! .bash_history
- \$.bash_logout
- \$.bashrc
- ! .motd_shown
- \$.profile
- \$ sudo_as_admin_successful
- \$ wget-hsts

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

bash - task3

```
ok: [44.243.31.20]
TASK [roles/install_nginx : Install nginx] *****
ok: [44.243.31.20]

TASK [roles/create_dir : Create directory] *****
changed: [44.243.31.20]

TASK [roles/create_dir : Create a file] *****
changed: [44.243.31.20]

PLAY RECAP *****
44.243.31.20 : ok=4 changed=2 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0

● tasneem@DESKTOP-0VTS601:/task/task2$ cd ..
● tasneem@DESKTOP-0VTS601:/task$ cd task3
● tasneem@DESKTOP-0VTS601:/task/task3$ ansible-vault encrypt playbook.yml
New Vault password:
Confirm New Vault password:
Encryption successful
```

OUTLINE TIMELINE

EXPLORER ...

sk2

- > ansible
- > .cache
- > .dotnet
- > .local
- > .ssh
- > vscode-server
- < task
- < task2
- > roles
- ! inventory.ini
- ! playbook.yml
- < task3
- ! debug.yml
- ! inventory.ini
- ! playbook.yml
- < task5
- ! inventory.ini
- ! playbook.yml
- ! test_file.txt

playbook.yml

```
task > task3 > ! debug.yml
  1 - name: Show encrypted credentials
    hosts: nginx_servers
    become: true
    vars_files:
      - playbook.yml
  tasks:
    - name: Print credentials
      debug:
        var: login
```

File Edit Selection View Go Run Terminal Help

tasneem [WSL: Ubuntu]

EXPLORER ...

TASNEEM [WSL: UBUNTU]

- > ansible
- > .cache
- > .dotnet
- > .local
- > .ssh
- > vscode-server
- < task
- < task2
- > roles
- ! inventory.ini
- ! playbook.yml
- < task3
- ! debug.yml
- ! inventory.ini
- ! playbook.yml
- ! deploy_index.yml
- ! index.html.j2
- ! inventory.ini
- ! playbook.yml
- ! tasneem.pem
- ! tasneem.pem.Zone.Identifier
- ! .bash_history
- \$.bash_logout
- \$.bashrc
- ! .motd_shown
- \$.profile
- \$ sudo_as_admin_successful
- \$ wget-hsts

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

bash - task3

```
● tasneem@DESKTOP-0VTS601:/task/task3$ ansible-vault encrypt playbook.yml
New Vault password:
Confirm New Vault password:
Encryption successful
● tasneem@DESKTOP-0VTS601:/task/task3$ ansible-playbook -i inventory.ini debug.yml --ask-vault-pass
Vault password:

PLAY [Show encrypted credentials] *****
TASK [Gathering Facts] *****
ok: [35.88.152.40]
OK: [35.88.152.40] => {
    "login": {
        "password": "mypassword123",
        "username": "tasneem"
    }
}

PLAY RECAP *****
35.88.152.40 : ok=1 changed=0 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0
```

OUTLINE TIMELINE

=====

task 4:

install and use this role `raj-pushp.nginx-custom` from galaxy

```
PLAY RECAP ****
● tasneem@DESKTOP-0VTS601:~/task/task3$ ansible-galaxy install raj-pushp.nginx-custom
Starting galaxy role install process
- downloading role 'nginx-custom', owned by raj-pushp
- downloading role from https://github.com/raj-pushp/ansible-role-nginx-custom/archive/main.tar.gz
- extracting raj-pushp.nginx-custom to /home/tasneem/.ansible/roles/raj-pushp.nginx-custom
  raj-pushp.nginx-custom (main) was installed successfully
○ tasneem@DESKTOP-0VTS601:~/task/task3$
```

=====

5. Use Handler for Service Restart

- create file in your machine test file and copy it to the target
- Only if the file is changed Update the file (e.g., `/etc/motd`) with this message "test file updated at [Time]"
- Hint : look at the ansible facts to get the right time

The screenshot shows the Visual Studio Code interface with the following details:

- EXPLORER:** Shows files in the workspace, including `playbook.yml`, `test_file.txt`, `inventory.ini`, and `debug.yml`.
- TERMINAL:** Shows the command `ansible-playbook -i inventory.ini playbook.yml` being run, and the resulting output:

```
tasneem@DESKTOP-0VTS601:~/task/task5$ ansible-playbook -i inventory.ini playbook.yml
PLAY [copy] *****
TASK [Gathering Facts] *****
ok: [35.88.152.40]
TASK [copy test file] *****
ok: [35.88.152.40]

PLAY RECAP *****
35.88.152.40 : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

ASNEEM (WSL: UBUNTU)

```
task > task5 > test_file.txt
      1 Hello Taseem!
```

ansible .cache .dotnet Local ssh vscode-server task

task2 > roles

inventory.ini playbook.yml

task3

debug.yml inventory.ini playbook.yml

task5

inventory.ini playbook.yml

test_file.txt

deploy_index.yml index.html.j2 inventory.ini playbook.yml tasneem.pem tasneem.pemZone.Identifier bash_history .bash_logout .bashrc .motd_shown .profile

OUTLINE TIMELINE

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PLAY [Copy] ****

TASK [Gathering Facts] ****

ok: [35.88.152.40]

TASK [Copy test file] ****

changed: [35.88.152.40]

RUNNING HANDLER [update file] ****

changed: [35.88.152.40]

PLAY RECAP ****

35.88.152.40 : ok=3 changed=2 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0

tasneem@DESKTOP-QVTS691:~/task/task5\$