

Configuration Management with Ansible and Terraform

Course-End Project 02 Problem Statement

Hady Alkadri



Get Certified. Get Ahead.

A solid blue horizontal bar at the bottom of the page.

Course-End Project 02

Web Application using Ansible

Project Agenda: To deploy a static HTML website with Ansible

Description:

Ansible is a configuration management tool that you can use to configure servers and deploy applications. Ansible is free, easy to set up with few dependencies, and allows you to model complex configuration and deployment workflows. Learning how to deploy a web application end to end will make you more proficient in using Ansible.

In this lab, you will learn how to create and configure an Ansible role, and you will create and configure a role that deploys a web application.

Ansible Roles are a structured way of grouping tasks, handlers, vars, and other properties. They increase reusability. For this project, we will use two Ubuntu machines. The first one will be your Ansible controller and the second one will be your target machine for Apache installation.

Tools required: Ansible and jinja2

Expected Deliverables:

- Initialize the directory
- Apply the configuration
- Deploy the website

Solution

Step 1

```
root@ip-127-23-44-01:~# Sudo su -
root@ip-127-23-44-01:~# cd /etc/ansible/roles
root@ip-127-23-44-01:~# ansible-galaxy init projectAnsible
root@ip-127-23-44-01:~# cd projectAnsible
root@ip-127-23-44-01:~# rm -rf tests meta README.md
```

```

Applications: root@ip-172-31-23-83: /...
root@ip-172-31-23-83: /etc/ansible/roles/projectAnsible
File Edit View Search Terminal Help
},
"changed": false,
"ping": "pong"
}
root@ip-172-31-23-83:/etc/ansible# ls
ansible.cfg hosts roles
root@ip-172-31-23-83:/etc/ansible# cd roles
root@ip-172-31-23-83:/etc/ansible/roles# ls
root@ip-172-31-23-83:/etc/ansible/roles# cd
root@ip-172-31-23-83:~# cd /etc/ansible
root@ip-172-31-23-83:/etc/ansible# cd roles
root@ip-172-31-23-83:/etc/ansible/roles# cd ..
root@ip-172-31-23-83:/etc/ansible# vim index.html
root@ip-172-31-23-83:/etc/ansible# ls
ansible.cfg hosts index.html roles
root@ip-172-31-23-83:/etc/ansible# cd roles
root@ip-172-31-23-83:/etc/ansible/roles# ansible-galaxy init projectAnsible
- Role projectAnsible was created successfully
root@ip-172-31-23-83:/etc/ansible/roles# ls
projectAnsible
root@ip-172-31-23-83:/etc/ansible/roles# cd projectAnsible
root@ip-172-31-23-83:/etc/ansible/roles/projectAnsible# ls
README.md defaults files handlers meta tasks templates tests vars
root@ip-172-31-23-83:/etc/ansible/roles/projectAnsible# rm -rf test meta README.md
root@ip-172-31-23-83:/etc/ansible/roles/projectAnsible# ls
defaults files handlers tasks templates tests vars
root@ip-172-31-23-83:/etc/ansible/roles/projectAnsible#

```

Step 2:

```
root@ip-127-23-44-01:~# vim tasks/main.yml
```

press i

- name: To execute a command
command: hostname -s
notify: Print command message
- name: Install apache on webserver
package: name={{pkg_name}} state={{pkg_state}}
- name: Start apache Server
service: name={{pkg_name}} state=started
- name: Deploy html page on apache
template: src=index.html.j2 dest=/var/www/html/index.html
notify: Restart the apache2 server

Save the file

```
Applications: root@ip-172-31-23-83: /... root@ip-172-31-23-83: /etc/ansible/roles/projectAnsible
File Edit View Search Terminal Help

# tasks file for projectAnsible

- name: To execute a command
  command: hostname -s
  notify: Print command message
- name: Install apache on webserver
  package: name={{pkg_name}} state={{pkg_state}}
- name: Start apache Server
  service: name={{pkg_name}} state=started
- name: Deploy html page on apache
  template: src=index.html.j2 dest=/var/www/html/index.html
  notify: Restart the apache2 server

-- INSERT (paste) --

Applications: root@ip-172-31-23-83: /... root@ip-172-31-23-83: /etc/ansible
File Edit View Search Terminal Help

root@ip-172-31-23-83:/etc/ansible/roles/projectAnsible/templates# vim index.html.j2
root@ip-172-31-23-83:/etc/ansible/roles/projectAnsible/templates# cd ../../
root@ip-172-31-23-83:/etc/ansible# cd ..
root@ip-172-31-23-83:/etc/ansible# vim playbookProject.yml
root@ip-172-31-23-83:/etc/ansible# ansible-playbook playbookProject.yml
```



```
root@ip-127-23-44-01:~# cd ../..
```

```
root@ip-127-23-44-01:~# vim playbookProject.yml
```

```
# ansible-playbook playbookProject.yml
```

```

Applications: root@ip-172-31-23-83: /...
root@ip-172-31-23-83: /etc/ansible/roles/projectAnsible
File Edit View Search Terminal Help
root@ip-172-31-23-83:/etc/ansible/roles/projectAnsible# ls
defaults files handlers tasks templates tests vars
root@ip-172-31-23-83:/etc/ansible/roles/projectAnsible# vim handlers/main.yml
root@ip-172-31-23-83:/etc/ansible/roles/projectAnsible#

```

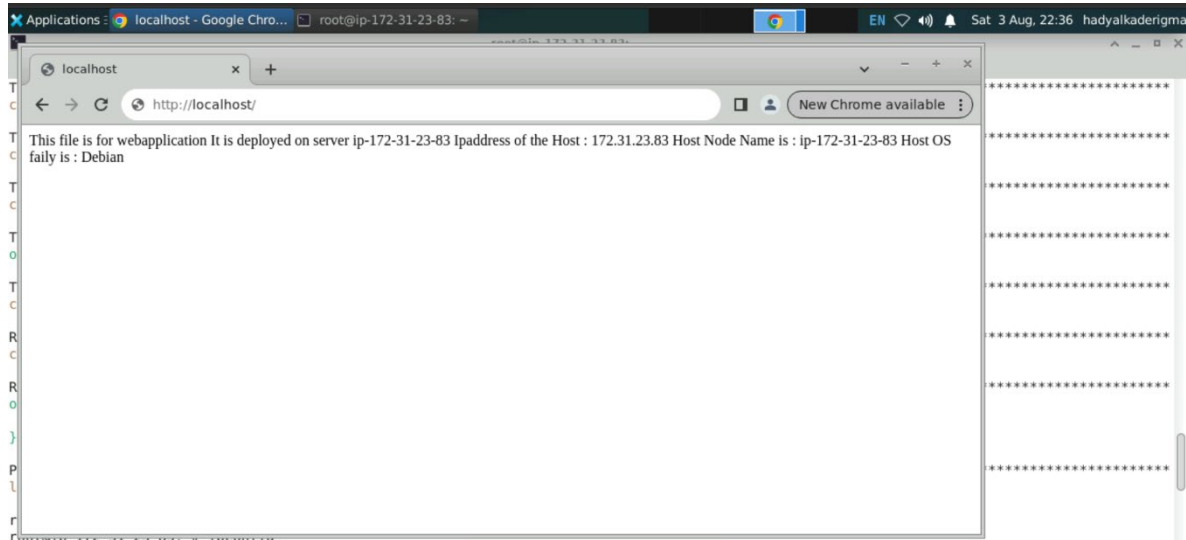
Final Prompt:

```

Applications: root@ip-172-31-23-83: /...
root@ip-172-31-23-83: /etc/ansible
File Edit View Search Terminal Help
TASK [projectAnsible : Update the apt cache] *****
changed: [localhost]
TASK [projectAnsible : To execute a command] *****
changed: [localhost]
TASK [projectAnsible : Install apache on webserver] *****
changed: [localhost]
TASK [projectAnsible : Start apache Server] *****
ok: [localhost]
TASK [projectAnsible : Deploy html page on apache] *****
changed: [localhost]
RUNNING HANDLER [projectAnsible : Restart the apache2 server] *****
changed: [localhost]
RUNNING HANDLER [projectAnsible : Print command message] *****
ok: [localhost] => {
  "msg": "command executed successfully"
}
PLAY RECAP *****
localhost : ok=8  changed=5  unreachable=0  failed=0  skipped=0  rescued=0  ignored=0
root@ip-172-31-23-83:/etc/ansible#

```

Here is the website hosted on the apache server:



Here is a detailed log for the apache server running:

