Deployment of WordPress Environment

Question: Course-end Project 2

Description:

You are a DevOps engineer at XYZ Ltd. Your company is working mostly on WordPress projects. A lot of development hours are lost to perform WordPress setup with all dependencies like PHP, MySQL, etc. The Company wants to automate it with the help of a configuration management tool so that they can follow a standard installation procedure for WordPress and its components whenever a new requirement or client comes in. The below mentioned components should be included:

PHP

Nginx/Apache Web Server

MySQL

WordPress

Solution:

github project link: https://github.com/02ygiuwsdbklh/wordpress-ans-tf.git

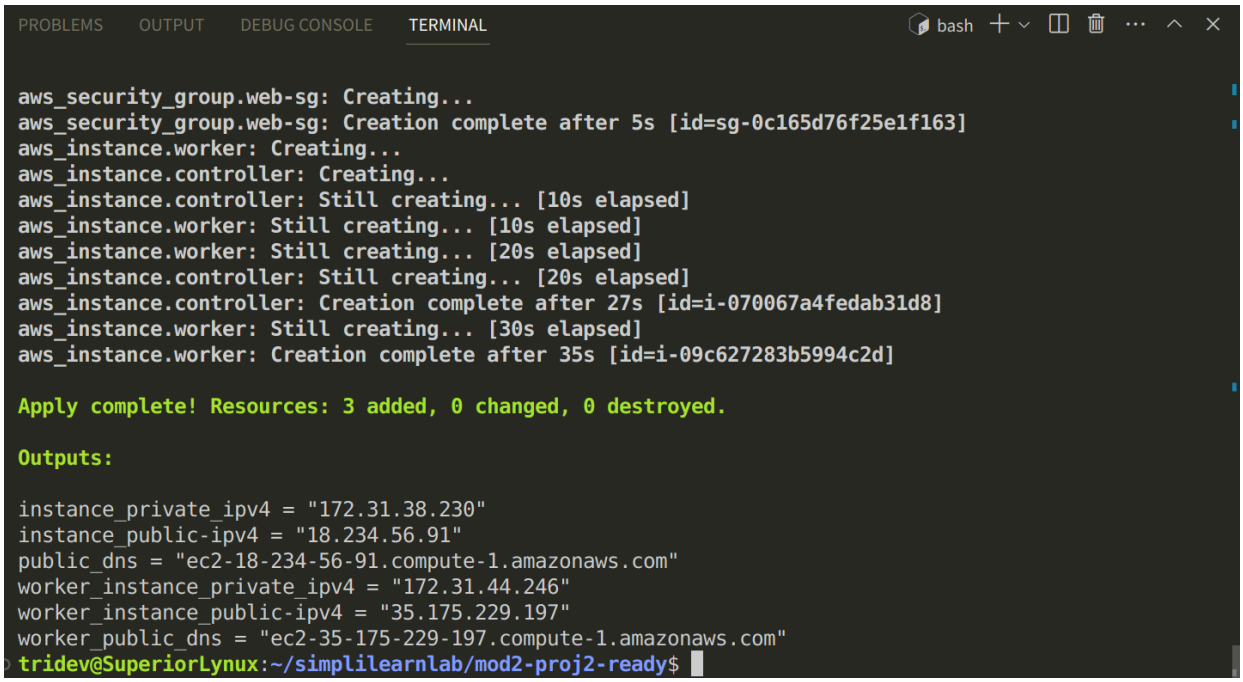
project files structure in LAPTOP (terraform is installed on laptop):

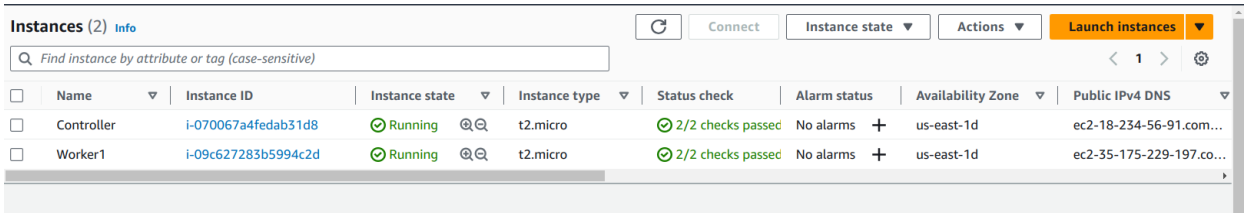
```
tridev@SuperiorLynux:~/simplilearnlab/mod2-proj2-ready$ tree
.
├── ansible
│   ├── files
│   │   ├── apache.conf.j2
│   │   └── wp-config.php.j2
│   ├── README.md
│   ├── Steps.txt
│   ├── vars
│   │   └── default.yml
│   └── wordpress.yaml
├── controller.tf
├── output.tf
├── providers.tf
├── sg.tf
├── terraform.tfstate
├── tfans.pem
├── user-data.sh
├── variables.tf
└── worker.tf

3 directories, 15 files
```

Step 1:

Run: terraform init && terraform apply and mention yes in prompt.

result: created 2 instances ansible controller node(name: controller) and name: worker on aws with terraform script.





step 2: create connectivity between ansible controller and worker nodes
distribute ssh keys -> on controller run:
$ ssh-keygen ; cat ~/.ssh/id_rsa.pub and copy the contents and paste it in worker nodes's ~/.ssh/authorized_keys file.
Do all the following steps in ansible controller:
utilize dynamic inventory in ansible:

```
ubuntu@ip-172-31-38-230:~/playhere$ cat aws_ec2.yaml
---
plugin: aws_ec2
aws_access_key: AJFDASJDBFKDZORE
aws_secret_key: n2wBWxtcDJASKDGKASRDZWLrBEwraQY8fayscbR

regions:
  - us-east-1

filters:
  tag:Team:
#    - DevOPS
    - workers

keyed_groups:
  - key: tags.Team

hostnames:
  - ip-address
ubuntu@ip-172-31-38-230:~/playhere$ tail /etc/ansible/ansible.cfg

[defaults]
inventory = /home/ubuntu/playhere/aws_ec2.yaml
host_key_checking = False
remote_user = ubuntu

[inventory]
enable_plugins = aws_ec2 , yaml
```

Test connectivity between ansible controller and worker node:

```
ubuntu@ip-172-31-38-230:~/playhere$ ansible-inventory --graph
@all:
  |--@_workers:
  |  |--35.175.229.197
  |--@aws_ec2:
  |  |--35.175.229.197
  |--@ungrouped:
ubuntu@ip-172-31-38-230:~/playhere$ ansible _workers -m ping
35.175.229.197 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
ubuntu@ip-172-31-38-230:~/playhere$
```

Successfully established connectivity.

step 3: create wordpress required ansible yaml files.

```
ubuntu@ip-172-31-38-230:~/playhere/files$ cd ..
ubuntu@ip-172-31-38-230:~/playhere$ tree
.
├── aws_ec2.yaml
├── files
│   ├── apache.conf.j2
│   └── wp-config.php.j2
├── vars
│   └── default.yml
└── wordpress.yaml

2 directories, 5 files
ubuntu@ip-172-31-38-230:~/playhere$
```

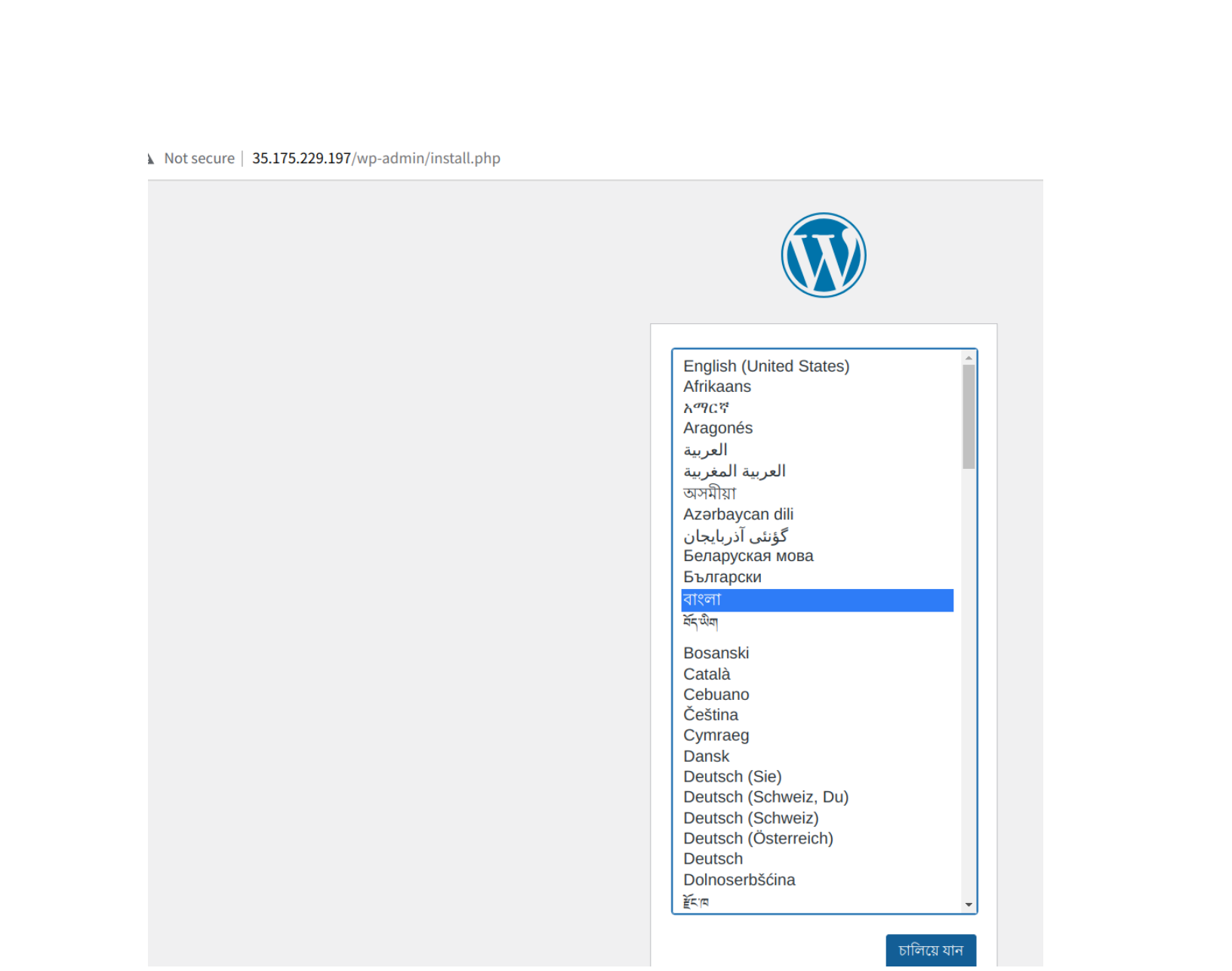
step 4: run ansible wordpress playbook - Execute scripts to perform installation of complete WordPress environment

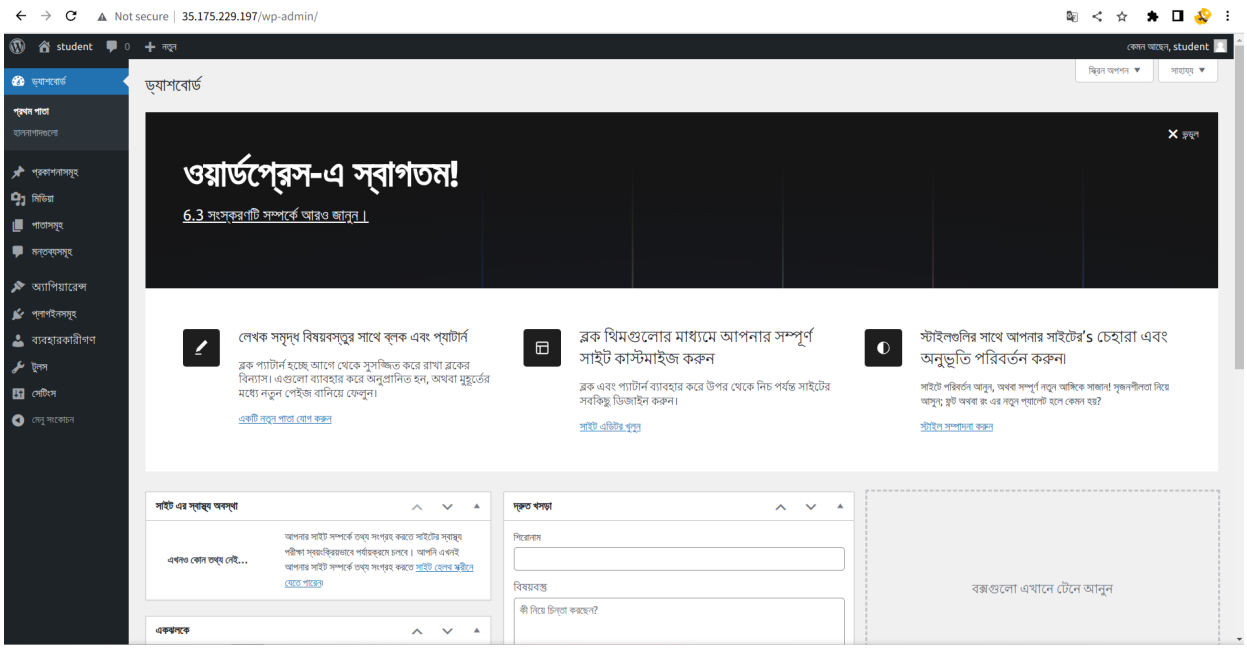
$ ansible-playbook wordpress.yaml

output:

```
TASK [Remove all anonymous user accounts] ********************************************************
ok: [35.175.229.197]

TASK [Remove the MySQL test database] ************************************************************
ok: [35.175.229.197]

TASK [Creates database for WordPress] ************************************************************
changed: [35.175.229.197]

TASK [Create MySQL user for WordPress] ***********************************************************
changed: [35.175.229.197]

TASK [UFW - Allow HTTP on port 80] ***************************************************************
changed: [35.175.229.197]

TASK [Download and unpack latest WordPress] ******************************************************
changed: [35.175.229.197]

TASK [Set ownership] *****************************************************************************
changed: [35.175.229.197]

TASK [Set permissions for directories] ***********************************************************
changed: [35.175.229.197]

TASK [Set permissions for files] *****************************************************************
changed: [35.175.229.197]

TASK [Set up wp-config] **************************************************************************
changed: [35.175.229.197]

RUNNING HANDLER [Reload Apache] ******************************************************************
changed: [35.175.229.197]

RUNNING HANDLER [Restart Apache] *****************************************************************
changed: [35.175.229.197]

PLAY RECAP ***************************************************************************************
35.175.229.197             : ok=22   changed=19   unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

Validate installation using the public IP of VM by accessing WordPress application:


Not secure | 35.175.229.197/wp-admin/install.php
English (United States)
Afrikaans
አማርኛ
Aragonés
العربية
العربية المغربية
অসমীয়া
Azərbaycan dili
گؤنئی آذربایجان
Беларуская мова
Български
বাংলা
Bosanski
Català
Cebuano
Čeština
Cymraeg
Dansk
Deutsch (Sie)
Deutsch (Schweiz, Du)
Deutsch (Schweiz)
Deutsch (Österreich)
Deutsch
Dolnoserbšćina
চালিয়ে যান



Wordpress is up and running in local bengali language in ansible worker node. Solved!