Ansible Playbook Runbook

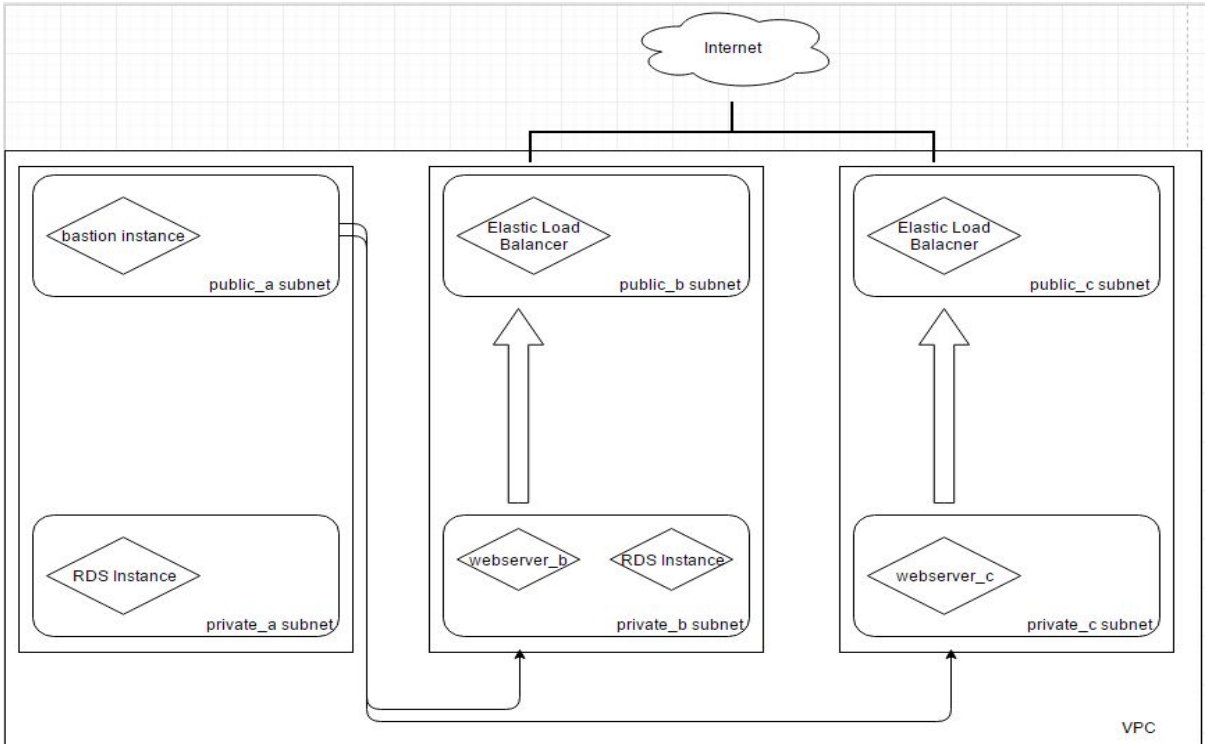
Short Description

The curriculum web service gives information about courses and classes. This information is derived from the CSUN catalog and SOLAR. The web service provides a gateway to access the information via a REST-ful API. The information is retrieved by creating a specific URI and giving values to filter the data. The information that is returned is a JSON object that contains a set of courses or classes.

Required Software

- Ansible
- AWS
- Terraform
- AWS CLI
- Git
- Various dependencies for said software

Architecture Diagram



Deployment

Setup Your Infrastructure on AWS

1. **cd** into your directory where your terraform file is.

2. Execute the file by using the command: `terraform apply`,

```
keanparto@Keans-MacBook-Pro terraform (master) $ terraform apply
var.db_password
  Enter a value:
```

After you run the command and it is successful, you will get a message that looks like this:

```
Apply complete! Resources: 27 added, 0 changed, 0 destroyed.

The state of your infrastructure has been saved to the path
below. This state is required to modify and destroy your
infrastructure, so keep it safe. To inspect the complete state
use the `terraform show` command.

State path: terraform.tfstate
keanparto@Keans-MacBook-Pro terraform (master) $
```

Go to AWS after running the terraform file and check to see that everything was made correctly. Once you verify that your infrastructure is working properly it's time to setup your webservers and database.

Create Your Database and Webservers

1. ssh into your bastion instance:
ssh -i "cit360.pem" ec2-user@ec2-35-164-196-252.us-west-2.compute.amazonaws.com

2. Once we ssh into the instance, we need to install some packages to get everything to work.
   - sudo yum install git
   - sudo yum install python34
   - sudo pip install ansible

3. After we install those packages, we need to copy over your private key pair into the instance. You can put it in any directory you want, I put it into ~/.ssh.
4. Next we need to clone our git repository onto the instance:
git clone https://github.com/kdp19742/cit-360.git

5. Make sure that the IPs in the host file are correct as well as the RDS endpoint in the db.yml and web.yml files.

hosts.ini file:

```
[web]
172.31.9.54 ansible_ssh_private_key_file=~/.ssh/cit360.pem
172.31.12.166 ansible_ssh_private_key_file=~/.ssh/cit360.pem
```

Instance: i-07f69b6b0ab9e7e48 Private IP: 172.31.12.166

Instance: i-0c35cae27ba80fcde Private IP: 172.31.9.54

web.yml file:

```
db_host: tf-20161211014009278710662kf7.cwssjdtggppd.us-west-2.rds.amazonaws.com
```

db.yml file:

```
    - name: Run the script to make the database
      become: yes
      command: ./make_databases.sh {{ db_password }} tf-20161211014009278710662kf7.cwssjdtggppd.us-west-2.rds.amazo
naws.com chdir=~/db
      ignore_errors: True
```

```
tf-
20161210231140406393872cy6.cwssjdt
ggppd.us-west-2.rds.amazonaws.com
```

6. After you verify that everything is correct, cd into your ansible directory and run the following command:
ansible-playbook --inventory-file=hosts.ini --ask-vault-pass web.yml db.yml

If the command runs successfully, you will get play recap that looks like this:

```
PLAY RECAP *********************************************************************
172.31.12.166              : ok=19   changed=16   unreachable=0    failed=0
172.31.9.54                : ok=19   changed=16   unreachable=0    failed=0
localhost                  : ok=6    changed=4    unreachable=0    failed=0
```

7. Go back to AWS EC2 and check your load balancer to see that the two instances have passed the health check. Note: It won't be instant, it takes some time.

8. When both your instances are in service copy the DNS name associated with the load balancer, it looks like this:
`tf-lb-20161211014032028785038qhh-403099800.us-west-2.elb.amazonaws.com`

Enter this address into your address bar and the website should be fully functioning.

Issues

Title: Getting a PDOException when clicking on any of the links on the website.
Description: Clicking on any of the links will yield an exception which means that you are missing a php module, in this case it is the php54-pdo module. And in some cases it is also the php54-mysql module.
Remediation Steps: Edit your web.yml file and add both php-pdo and php-mysql to where php and all it's modules are being installed.