

Final Runbook

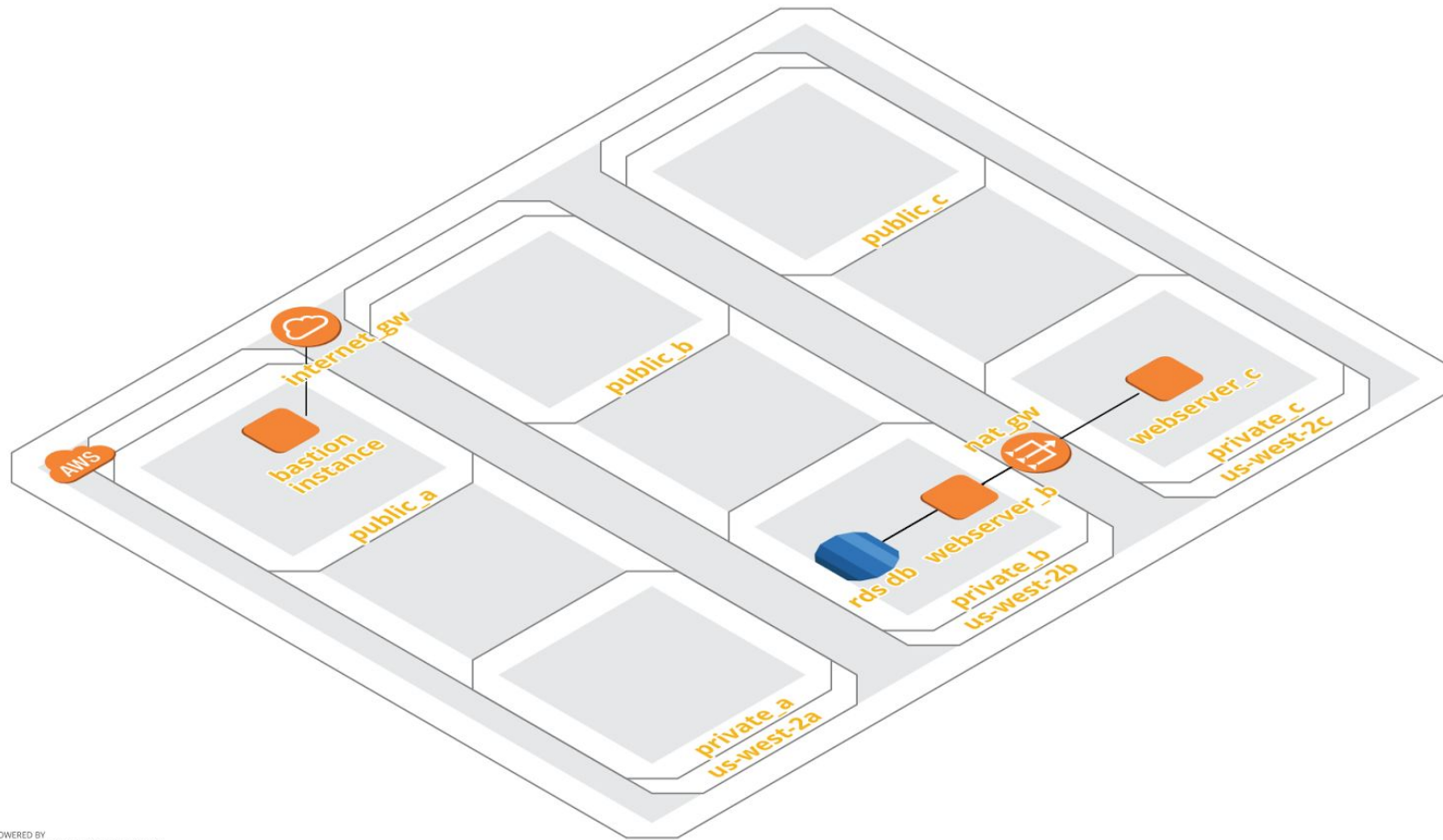
Short Description

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; the format of the JSON object is as follows:

Required Software

- AWSCLI
- Git/git bash
- Terraform
- Ansible
- AWS services(ec2, vpc, and rds)

Architecture Diagram



Deployment

To start the assignment off, we need to get download and install git: <https://git-scm.com/book/en/v2/Getting-Started-Installing-Git>. Also, install git bash along with git and once completed, open git bash and clone your repo.

Next we download Terraform, from <https://www.terraform.io/intro/getting-started/install.html> follow the steps for your OS to have it configured correctly. An example of running Terraform, <https://www.terraform.io/intro/examples/index.html>.

We now get AWSCLI, <http://docs.aws.amazon.com/cli/latest/userguide/cli-chap-getting-set-up.html> this guide takes you through the signup for AWS and installation of awscli. Refer to this page awscli commands <https://aws.amazon.com/cli/>. After the installation is complete, link your aws account your machine. Also, create a key pair name cit360 through the aws management console and download the .pem file into your terraform folder(should be in your repo).

Once, all the previous steps are completed you want to configure your infra.tf file and apply it. After applying successfully, ssh into your bastion instance. You can get the command through the aws console under ec2 service. Type yes if it prompts you to add the bastion instance to the list of known hosts. There shouldn't be any trouble getting into the instance, so once inside, you want to download and install Ansible; refer to this, http://docs.ansible.com/ansible/intro_installation.html. Also, get git on the instance. Change directory into your ansible folder in your repo and run the playbooks, but before this happens exit out of the bastion instance and secure copy your .pem file to your bastion ansible path. We need the .pem file to run the web.yml file. After using scp on your local machine, ssh back into bastion, use the commands "eval "\$(ssh-agent -s)" and "ssh-add cit360.pem" then perform the prior step. After all these tasks from the web.yml and db.yml playbook performs successfully, you can exit out of the bastion instance. Type in the command "aws elb describe-load-balancers", to get the web address of the website created.

Issues

Title: SSH Connection Issue With db.yml

Description: An error saying unable to connect to host via ssh

Remediation Steps: Invoke --connection=local along with ansible-playbook

Title: SSH Connection Issue With web.yml

Description: An error saying unable to connect to host via ssh

Remediation Steps: Secure copy cit360.pem from local machine to ec2-user. Input “eval “\$(ssh-agent -s)”” and “ssh-add cit360.pem” commands.

Title: Not enough memory

Description: Composer could not be installed into service_dir because lack of memory

Remediation Steps: Manually ssh into both webserver instances and run these commands:

```
/bin/dd if=/dev/zero of=/var/swap.1 bs=1M count=1024
```

```
/sbin/mkswap /var/swap.1
```

```
/sbin/swapon /var/swap.1
```