Runbook

Short Description

A website that is used for looking up information about course and class offerings at CSUN. The web service provides a gateway to access the information vis a REST-ful API.

Required Software

Amazon Web Services (AWS) account

- Access via provided user credentials
- Create a new account

Physical Machine

- Terraform
- AWS CLI
- GIT
- SSH capabilities (Windows: GIT Bash/PUTTY)

AWS Control Machine

- Ansible
- GIT
- MariaDB-client

Architecture Diagram

Deployment

The first step is to set up the environment on your physical machine. This involves installing and configuring GIT, Terraform, and AWS CLI. The following contains information on setting up each one from scratch so feel free to skip if you already have the services installed and configured.

Git

1. There are several ways to install Git depending on your operating system.
2. Go to https://git-scm.com/downloads
3. Select your OS and install the version that applies to you
4. Navigate to a directory you would like to use for the project and clone the project
5. In your terminal set your Git config:

Terraform

1. Download Terraform
2. Select the appropriate package for your system
3. Extract the zipped file where you want terraform to be installed.
4. Add terraform to the PATH of your OS

For Linux/Mac:

```
$ PATH=/usr/local/terraform/bin:/home/your-user-name/terraform:$PATH
```

5. Verify the installation, open a new terminal and type:

Amazon AWS Account

For the purposes of this service is expected that you already have an Amazon AWS account that is already set up that has the appropriate IAM group. You will also need to generate a key pair; you can do this through the web EC2 console under Network & Security. Create a key pair with the name cit360. Make you download it and remember which directory it is located, you will need this to SSH into the instances created later.

AWS CLI

The first step in setting up AWS CLI is to get credentials from the AWS website

1. You will need to access the IAM console.
2. In the navigation pane, choose Users

3. Choose your IAM user name (not the check box)
4. Choose the Security Credentials tab and then choose Create Access Key.
5. Select Show User Security Credentials. Download the credentials

Issues

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Connection refused

- **Description:** When trying to access the website it displays a 500 error code saying connection refused.
- **Remediation Steps:** It could be that the nginx service isn't running properly, restart the service using:

```
 $ sudo service nginx restart
```

Unreachable

- **Description:** When trying to run the playbook it gives the error message "Failed to connect to the host via ssh".
- **Remediation Steps:** It could be that ssh isn't properly configured between the control machine and the host. On the host machine open the sshd_config file:

```
$  sudo vim /etc/ssh/sshd_config  #use vi or nano if vim isn't installed
```

- In the file:

```
PublicKeyAuthentication yes
PasswordAuthentication yes
```

- Restart the sshd service:

```
$ sudo service sshd restart
```

- On the control machine:

```
 $ ssh-copy-id *host IP address*
```

- Yes and put in the password to the host machine.