Web Service Runbook

Short Description

The web service contains of a set of databases and a webserver that will host a webpage with curriculums and information about courses that are offered at CSUN. The database is installed on a RDS and the web services on two EC2 instances behind a load balancer.

Required Software

To run the databases following software are required:
- Configured RDS on AWS with MariaDB-server installed
- MariaDB-client

To run the web-server following software are required:
- Two configured EC2 instances
- Load balancer between the two EC2 instances
- Updated version of epel-release
- Updated versions of PHP-specific software
- Nginx
- Composer from https://getcomposer.org/installer

Architecture Diagram
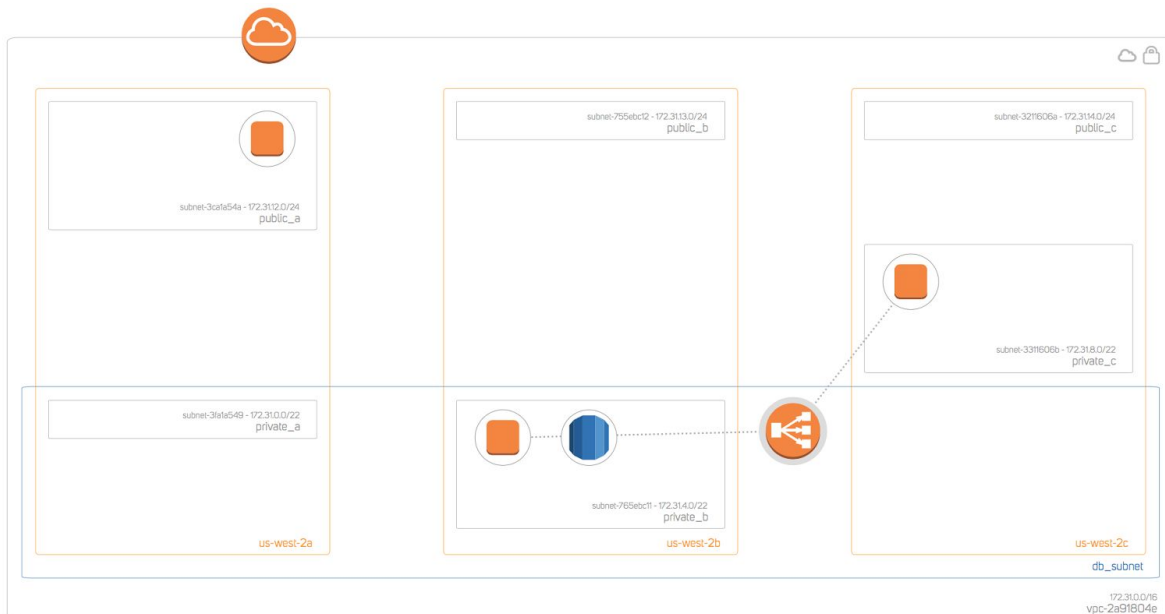
Deployment

Install terraform on host OS
Terraform apply -var 'db_password=<User Input>'
scp -i cit360.pem cit360.pem
ec2-user@ec2-35-164-131-189.us-west-2.compute.amazonaws.com:~/
ssh -i "cit360.pem" ec2-user@ec2-35-164-131-189.us-west-2.compute.amazonaws.com

Setup Ansible: *sudo easy_install ansible*
Check version: *ansible --version*, should be 2.2.0
Install git and clone repo:
sudo yum install git
git clone https://github.com/Encrypto94/cit-360
Change IP, DB-endpoint for hosts.yml, db.yml and web.yml to the current values from AWS-site

Run following two playbook-scripts:
ansible-playbook -i hosts.ini db.yml --ask-vault-pass
ansible-playbook -i hosts.ini ask.yml --ask-vault-pass
Both scripts should return no errors.
Note: For security reasons the password for the vault are not presented here.

Issues

Title: Overload
Description: A web service can get so many request that it overloads and slows down dramatically or completely stops working.
Remediation Steps: It's possible to solve this by upgrading the performance that the service have access to, either for all time the service is active or only for the duration of time that the usage of the service peaks.

Title: Memory leak
Description: If a service is poorly built it might have memory leaks, where the service allocates memory space but doesn't deallocate the space. This will fill up the memory quickly and give no memory left to other services which will make the system fail.
Remediation Steps: Update the service to another version.

Title: Corrupt service
Description: If a service stops working and are not able to start again it might be corrupt.
Remediation Steps: Update the service to another version. If that doesn't work destroy vagrant, reinstall and rerun the ansible scripts.