CS499 Cloud Computing and Big Data
Assignment 1 - Run Applications in AWS EC2

Due Date
Wed before class, January 18, 2016

Score
50

Questions and Directions

Your first assignment is to try running web applications in an AWS EC2 server. There are two applications you need to deploy and run.

1. A Web Service Program to Host A Simple Web Page

You need to build a simple web service using either Python or Node.js. For Python, a simple framework such as Python Flask (http://flask.pocoo.org/docs/0.12/) is recommended. For Node.js, express (http://expressjs.com/) is a good option.

The web service only needs to host a static HTML web page. Ideally, you can put a simple personal HTML page to talk about yourself. You do not need to build a fancy HTML page, nor any HTTP APIs. We just want to make sure that you can build a simple web service with the new languages and tools quickly.

You should develop and test your web service locally. Then, deploy that to an EC2 instance in Amazon. Make sure you choose the free-tier EC2 instance type. If you need help on EC2, please see the official developer guide at https://aws.amazon.com/ec2/getting-started/

You need to check in your web service source code to a new repository in your GitHub account.

2. Host a WorldPress Site

WorldPress (https://wordpress.com/) is the most popular Content Management System (CMS) used today. Most of the websites on the Internet today have been built using WordPress.

In this assignment, you need to install and config WorldPress in your AWS EC2 instance, and build a site using a WorldPress theme or plugin. Specially, you need to install the LAMP Stack and make the right configurations for WorldPress. There are tons of tutorials talking about the whole process. For instance, AWS has a guide at here. Please use the online resources to accomplish this task.

One important thing to note for this task is that you should NOT rely on any of the pre-configured EC2 images such as the one described in this [tutorial](). In other words, you need to install Apache, PHP, MySql, and WordPress step by step.

Once your WorldPress is setup, you need to apply a theme (https://wordpress.org/themes/) or/and a plugin (https://wordpress.org/plugins/) to the site. You can choose any of the themes or plugins.

3. Setup a Load Balancer

Your two applications in this assignment should be deployed to the SAME instance. You also need to setup a Load Balance using AWS (ELB) to associate both applications to the load balancer. You can choose any port number you want.

Submission

You need to submission 3 URLs:

1. The URL to your GitHub repo that contains the web service source code
2. The URL (load balancer URL + port number) to your web service
3. The URL (load balancer URL + port number) to your WorldPress site

Please use Turnitin to submit your URLs.