UE16CS352: Cloud Computing – Assignment 1

SelfieLessActs on Amazon AWS

During this semester for the cloud computing course, you will develop a cloud based web application called ***SelfieLessActs*****,** that is used to share information about anything that is good for the society that you observe. Examples of such acts could be

- Picking up a piece of garbage and dumping it in a garbage can
- Road getting laid in your area
- Someone helping a blind man cross the road.
- You helping your mother at home in the kitchen.

The *SelfieLessActs* application will allow users of the application to upload image of the act with a small caption and a categories. A user of the application will be presented with a screen that

- Shows them lists of categories on which Acts have been shared. An act is a combination of an image and a caption for that image.
- Allows them to select to a topic.
- On selection, they will be shown all Acts in a category sorted in reverse chronological order (latest image first).
- Upvote a particular Act.
- Upload an Act.
- Delete an Act

The entire application will be built using Amazon Web Services. We will provide you with an AWS educate starter account preloaded with $75 of credit.

Scope of Assignment 1

You will be building a web site for *SelfieLessActs* on an Amazon EC2 instance. The web-site can be a static web site which performs the basic operations of selecting a topic, uploading an act, upvoting an act and viewing all Acts in a category. For phase 1, you can hard code the Acts and the Categories, meaning that you can keep a couple of acts and a couple of categories prepopulated on the web site and just show that when the browser views the web site.

The following will be deliverables for Assignment 1 (each deliverable will be evaluated)

- Create an Amazon EC2 instance
- Install a web server on this instance
- Create a mock-up web page for *SelfieLessActs* as defined above
- View this page from a browser (you need to figure out what a public IP address is for the EC2 instance.)

Total : 5 Marks

Due Date: Jan 24, 2019

What is Amazon EC2?

Amazon Elastic Compute Cloud is a web service that provides resizable compute capacity in the cloud. You can use it to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. It’s designed to make web-scale computing

easier for developers.

Instructions for using Amazon EC2

1. The process of creating AWS accounts for all of you is in progress. You will be receiving mails as we sign you up for the instance.
2. Once mail is received, login to AWS Educate. Go to AWS Console page. Under ‘Services’ tab, click on EC2.
3. You’ll reach the EC2 console page. Click Launch Instance.
4. Here you’ll be presented with a list of Amazon Machine Images (AMI). They’re essentially the virtual OS's that will run your server. We recommend you pick Ubuntu as you’re likely to be familiar with its command line tools and package manager.
5. Now you’ll be presented with a list of Instance Types. Each one has different machine specs like number of vCPUs, size of memory, storage volume type, etc. Pick one that is appropriate to your needs.
6. You can leave the default settings in the Configure Instance, Add Storage, and Add Tags pages.
7. On the Configure Security Group page, make sure you allow traffic on SSH and HTTP. Make sure to also install an SSH client on your local machine. Learn about how to remotely login to another machine using SSH.
8. Create a cryptographic key pair and download the private key. Then launch the instance.
9. Find the public DNS for your instance. Use that and the private key to SSH into your instance. You’ll need to figure out what the default user name of your VM is, and how to point your SSH

client to the private key. (https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/AccessingInstancesLinux.html)

10. Once logged in securely into your EC2 instance, install a web server of your choice (Apache, Nginx) and set it up by editing necessary config files.

11. You can use the ‘scp’ command to copy files from your local computer to the instance. If you want to edit files on the instance through a GUI editor, look into ‘sshfs’.