17CS352: Cloud Computing – Assignment 0

Create a Cloud Based Web Application on AmazonAWS

During this semester for the cloud computing course, you will develop a cloud based web.

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 0

You will create a web page on an Amazon EC2 instance. The web-site can be a static web page. The following will be deliverables for Assignment 0. There will be no marks for this assignment as it is only a prerequisite for further assignments.

- Create an Amazon EC2 instance
- Install a web server on this instance (Apache2/Nginx/Caddy)
- Create a mock-up web page
- View this page from a browser (you need to figure out what a public IP address/DNS is for the EC2 instance.)

Due Date: Jan 15, 2020

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 OSes 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. For this assignment a t2.medium or t2.small type instance should be good enough.

6. You can leave the default settings in the Configure Instance, Add Storage, and Add Tags pages, or configure it according to your needs.
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 username 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, Caddy) 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 RDP/VNC protocols.

NOTE: Please do not forget to turn off your instances after you are done working on them. YOU WILL BE BILLED FOR EVERY HOUR THE INSTANCE IS "RUNNING" EVEN IF YOU ARE NOT USING IT. If you have any elastic IPs or storage volumes attached, you will also be billed hourly for that. The instructors will not be in a position to reverse the credits on your account, if they are used up.