○ Middle East Technical University ◆ Department of Computer Engineering

CENG 495

Cloud Computing

Spring '2016-2017

Assignment 1 - Heroku

Due date: March 26th 2016, Sunday, 23:55

1   Objective

This homework aims to get you familiar with the Platform as a Service (PAAS) systems. Heroku is an example of the PAAS platforms. You will develop and deploy an online currency converter application using Heroku API.
In short; develop and deploy your SaaS (Software as a Service) over PaaS (Platform as a Service).

Keywords: *Cloud Computing, PaaS, SaaS, Heroku, Salesforce*

2   Problem Definition

3   Specifications

1. In this homework you will develop the converter application and deploy it on Heroku. Heroku being as a PaaS, needs a free account. Therefore, as the initial steps of your assignment, you need to:

   - Get a free Heroku Account.
   - Create a new application using Heroku Dashboard.

2. After performing these steps, you can deploy your application to Heroku. Your application must be accessible from the address ***your-app-id.herokuapp.com***

3. You are free to use any programming languages supported by Heroku (Java, Python, etc.).

4. Your application should support at least 25 different currencies and the datas about currencies should be real-time and updated with real world (Check the example application!); meaning that someone can use your application if he/she needs a currency converter.

5. You can use open source currency APIs for dealing real time exchange rates. (I have used ***http://fixer.io/***)

4   Deliverables

In this assignment, you are expected to both deploy your solution to Heroku and submit your source code to COW. For submission on COW, a tar.gz archive file (named hw1.tar.gz) that contains all your source code files and a README file which includes your app-id and your language choice is expected. For your Heroku submission, you should deploy your solution to **your-app-id.herokuapp.com**.

5   Evaluation

1. Submission schedule will be strict. However you will have **3** extra days with penalty. Penalty formula is **-5xDayxDay**. Submission time will be determined by your last source code submission to coursepage on COW.

2. Your application will be tested only once except the objection. You should also keep in mind that you should attend the objection hour of the day which you submit your code if you want to object your grade. Any objection after that day will not be accepted.

3. You can visit A301 for objections.

6   Useful Links

1. An example application for this assignment can be found at (Please examine the web app carefully and use it to see web app's reactions. For example, try to leave empty 'amount' input box or set the two 'currency' boxes to the same exchange. Also, observe that what happens when you enter characters instead of numbers etc.):
   `https://ceng495-hw1.herokuapp.com/`

2. Main page for Heroku documentation:
   `https://devcenter.heroku.com/start`
   As the first step, you are strongly recommended to follow the quick start tutorials in this site and deploy a sample application to your-app-id.herokuapp.com.

7   Cheating

We have zero tolerance policy for cheating. There is no teaming up! People involved in cheating will be punished according to the university regulations and will get 0. You can discuss design choices or language preferences, but sharing code between each other or using third party code is strictly forbidden. In case a match is found, this will be considered as cheating. Even if you take a "part" of the code from somewhere/somebody else - this is also cheating. Please be aware that there are "very advanced tools" that detect if two codes are similar. So please don't think you can get away with by changing a code obtained from another source.

You cannot use sample currency converter widget codes from internet. If you use them, you will get 0 and it will count as cheating!. For example; there are some widgets and their codes on `https://freecurrencyrates.com/en/get-widget` and you can check them while

doing your homework in terms of design etc. I will check both of your web applications and codes, so if you have any sample widget code on your homework, your homework will be graded as 0 and it will count as cheating, so please be aware of that!