CSCI 4145 / 5409 – Summer 2019

Assignment 4

Technologies used: As before plus a managed web service (so you need not create a VM on which to run your web service running on MS Azure).

In this assignment you are asked to apply the skills you obtained through tutorials and previous assignments. In short, you are asked to perform tasks similar to those of previous assignments, but instead of using AWS, you will be using MS Azure that provides managed web service (amongst many other services) that requires minimal configuration.

As in previous assignments, your task is to create a web service, with a number of routes/endpoints, as in the previous assignments, for management of jobs, but the web service should be a managed web service and may not be accomplished using serverless computing approach. Of course, your web service should

- be deployed as a container
- information should be stored in a relational DB that is a managed DB provided by the CSP as a service (DBaaS – DB as a Service).

Warning – you need to be mindful on how the Cloud Service Provider (CSP) charges users for services – in the case of a managed web service, Azure does charge per month (40 USD/month?), whether the service is running or not. There will be separate instructions posted on speedy assignment submission and evaluation in order for you to be able to delete the web service and avoid additional charges.

NOTE: For your best experience you would do this assignment using a managed web service on MS Azure as described in the tutorial *T-Azure-WS-4145-5409sum2020.* For information on MS Azure accounts, please see on Brightspace:

Content > Info & How-To > Info > CSP-Accounts-4145-5409sum2020.pdf

If you no longer have free credits on your MS Azure account(s) then you need to let me know asap (and provide some documentation showing that your free credits are expired on MS Azure) so that we are able to make some alternative arrangements.

SUBMISSION REQUIREMENTS

- *Code and Data Requirements*
  - Your JS code must be such that
    - Any identifier in your code (including function names for non-anonymous functions) needs to end with the last three digits of your Student ID. Exceptions are identifiers such as i in looping constructs. For instance, my Banner/Dal ID ends with "007" and therefore any name of an identifier needs to end in "0007".
    - Any values for IDs of parts or jobs must end with the three digits of your ID. For instance, when creating an array containing the job information with two objects would be:
  - let jobs007 = [{ 'j1007', 1007, 55 }, { 'j2007', 2007, 66}] … where
    'j1007' and 'j2007' are job IDs; 1007 and 2007 are part IDs; and 55 and 66 are quantities
  - If the above is not satisfied – the submission gets F

- *File Names* - when submitting a file, its name should be "A-X-Team#-StudentID-LastName.zzz", where
  - X … is the assignment number (4 in this case)
  - Team# … is a two digit ID/number of your group/team (enter "00" if the group/team has not been formed as yet)
  - StudentId … is your Dalhousie student (B00…) number
  - LastName … is your last name as it appears on you Dal's transcript
  - zzz … is a file extension, e.g., 'zip' for a zipped file or pdf, docx, …)

- In a separate section, brief description of deficiencies, such as containers are not used for deployment, or that the job information is not stored in a DB, but rather in an array, or that some of your endpoints do not work fully (and describe what does not work).

- Optionally, in a separate section, brief description of what you did in excess of requirements. Use this to highlight what you did particularly well or in excess of the requirements. In particular, if you are proud of your work and feel it deserves more than satisfying requirements (B+), highlight here why.

- Brief description of the major steps you performed to achieve your task - as an example of major steps, see tutorials. Your description should be supported by a few judiciously taken screenshots that demonstrate the results of these steps (and that they worked).

- Include in your appendix your code for web service routers/endpoints (in a textual form, not as a screenshot).

- Screenshots that demonstrate that you have a docker file:
  - Show the relevant part of your directory structure showing in, in the listing of files, the docker file you created
  - Content of your docker file

- When invoking your web service, your screenshots should show the URL and parameters/arguments passed.

- The results of testing of your endpoints while making sure that the HTTP request URL and parameters are shown, as well as the results returned by endpoints.

- Screenshot(s) from your MS Azure account that show that you have a managed web service and URLs for your web service endpoints.

Make sure that your web service is off/down. Also, your TA/marker may contact you to arrange for a mutually convenient time to meet on MS Team call for you to demo your web service or when the marker may ask you to examine/review your environment pertinent to the assignment, such as content of some of your directories.

Once the grades for this assignment are released, you will have 3 days to file with your TA any appeal that you may have in relation to marking your assignment. If you file an appeal, your assignment will be marked independently by a different marker and may result in an amended grade which, of course, could may be higher or lower or may be unchanged.