Assignment 1

CSCI 5410 (Serverless Data Processing)
Date Given: May 24, 2023
Due Date: Jun 7, 2023 at 11:59 pm
Late Submissions are not accepted. A deduction of 10% per day will be applied for late submission.

To avoid any additional charges for resource consumption - Delete the AWS S3 storage after fulfilling the assignment submission requirements.

Objective:

The primary objective of this assignment is to introduce you to the cloud computing platform by using a static webhosting in S3 and perform a cloud computing literature review.

Plagiarism Policy:

- This assignment is an individual task. Collaboration of any type amounts to a violation of the academic integrity policy and will be reported to the AIO.
- Content cannot be copied verbatim from any source(s). Please understand the concept and write in your own words. In addition, cite the actual source. Failing to do so will be considered as plagiarism and/or cheating.
- The Dalhousie Academic Integrity policy applies to all material submitted as part of this course. Please understand the policy, which is available at: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Assignment Rubric - based on the discussion board rubric (McKinney, 2018)

	Excellent (25%)	Proficient (15%)	Marginal (5%)	Unacceptable (0%)	Problem # where applied
Completeness including Citation	All required tasks are completed	Submission highlights tasks completion. However, missed some tasks in between, which created a disconnection	Some tasks are completed, which are disjoint in nature.	Incorrect and irrelevant	**Part A** **Part B**
Correctness	All parts of the given tasks are correct	Most of the given tasks are correct However, some portions need minor modifications.	Most of the given tasks are incorrect. The submission requires major modifications.	Incorrect and unacceptable	**Part A** **Part B**
Novelty	The submission contains novel contribution in key segments, which is a clear indication	The submission lacks novel contributions. There are some evidence of	The submission does not contain novel contributions. However, there is	There is no novelty	**Part A** **Part B**

	of application knowledge.	novelty, however, it is not significant	an evidence of some effort.		
Clarity	The written or graphical materials, and developed applications provide a clear picture of the concept and highlights the clarity.	The written or graphical materials, and developed applications do not show clear picture of the concept. There is room for improvement	The written or graphical materials, and developed applications fail to prove the clarity. Background knowledge is needed.	Failed to prove the clarity. Need proper background knowledge to perform the tasks.	**Part A** **Part B**

Citation:
McKinney, B. (2018). The impact of program-wide discussion board grading rubrics on students' and faculty satisfaction. Online Learning, 22(2), 289-299.

Tasks:

This assignment has two parts. Part A has a reading task, and part B has a small programming tasks:

Part A. Read the following paper and write a summary (visit IEEE from libraries.dal.ca)

P. Vahidinia, B. Farahani and F. S. Aliee, "Mitigating Cold Start Problem in Serverless Computing: A Reinforcement Learning Approach," in IEEE Internet of Things Journal, doi: 10.1109/JIOT.2022.3165127.
URL: https://ieeexplore-ieee-org.ezproxy.library.dal.ca/document/9749611

- It can be approximately 1-page summary and must be written in your own words. **Your in-depth review of the paper is expected**.
- There should be inline citations in an acceptable format.
- The summary should include - (a) what the authors have presented in the paper, (b) if any specific issue is addressed, (c) if any experiments or studies performed, (d) analysis or findings made by the authors.

Part A - Submission requirement: A pdf file with the summary

Part B. AWS S3 experiment:

Using AWS Academy account, perform the following:
take screenshots at every step and document your work in bullet points or paragraphs:

a. Create an index.html file in your computer and add your profile information as the content of the page. The file should contain
    - Your full name
    - Your banner number
    - Your email
    - A declaration – "This assignment is my own work; I did not take help from anyone"

b. Explore AWS SDK for Java - and write a Java program using the SDK specification for creating a S3 bucket.
c. Using Java program or method, upload the index.html file from your computer to the S3 bucket you created.
d. Once the file is uploaded on S3 bucket, enable hosting, and change the policy of your S3 bucket for hosting the static webpage that you have uploaded.
e. Create a flowchart or write paragraph on the operations that you have performed.
f. You need to take screenshots for every step and provide numbering/captions for the screenshots.
g. Submit the Java code as in Gitlab, and in addition, include the code in the PDF
h. Include citations for the manual you read or tools you refer.

Part B - Submission requirement: A pdf file with the (i) a flowchart of operations (ii) a paragraph on your overall observation of the Java SDK, (iii) screenshots of the S3 buckets and operations (capture all steps) (iv) copy-paste the program script in the pdf. (In addition, submit the source in gitlab)