

COMPX527-19B Cloud Computing Technologies and Security

Assignment 1 (Group) – Amazon Web Services Mashup

Demonstration: Week starting Sep 2nd (Presentation Schedule will be announced soon)

Report Deadline: Friday, August 30, 2019, 11:59 PM

Weightage: (30%) of overall marks

Objectives

This assignment is a teamwork assignment to create a mashup cloud-based solution. We are expecting students to be using Amazon Web Services (AWS) for this assignment.

The main objectives of this assignment are as follows:

- Gain hands-on experience on cloud-based solution development
- Gain hands-on experience on project management
- Gain experience on a collegial collaboration
- Gain experience on capacity planning and management
- Practice security assessment

Any group found plagiarising will be reported to the disciplinary committee.

Marking Scheme

The marking scheme for this assignment will take into account the following criteria:

- Creativity (20%)
- Presentation and demo (20%)
- Final report (20%)
- Individual contribution (40%)

Task 1: AWS Account Registration

Brief

Every student has to register a new AWS account. In other words, in every team, every member has to own his/her own AWS account and use the account for this assignment.

Requirements

- You, as a team member, have to create a new AWS account. Note that Amazon requires an email address for signing up an AWS account and the email address will be used as an AWS

login. You are advised to use your own University of Waikato email account to sign up for the new AWS account as a valid University email account is required by AWS Educate.

- You have to apply to join AWS Educate to get free AWS credit (in US dollars) that can be spent on services available in AWS. Note that you can apply to join AWS Educate and also sign up a new AWS account at the same time.
 - When joining AWS Educate, you can provide a valid credit/debit card to get the full amount of free AWS credit (at least US\$ 40). Without providing a credit/debit card, you get smaller AWS credit (approximately 25% less).
 - If you provide a valid credit/debit card when signing up the AWS account, you are eligible to obtain AWS Free Tier which allows you to gain free access to a number of AWS services capped with some usage limitations.
 - Getting the full amount of free AWS credit from AWS Educate and/or AWS Free Tier is not a requirement of this mission.

References

- AWS Educate <https://aws.amazon.com/education/awseducate/>
- AWS Educate FAQ <https://www.awseducate.com/microsite/FAQs>
- AWS Free Tier <https://aws.amazon.com/free/>
- AWS Free Usage Tier FAQ <https://aws.amazon.com/free/faqs/>

Note: We are in the process of requesting AWS to add the student email address domain (students.waikato.ac.nz) as a valid university email domain. In the meantime, if you received an email stating that your application was not approved, please create a support case at <https://console.aws.amazon.com/support> and attach a copy of the front and back of your school ID for further review.

Task 2: Mashup Development

Brief

Your task is to compose a cloud-based solution meeting the following requirements as a team. The solution should demonstrate potential business value or broader benefits for the society.

Requirements

- Refer to <https://github.com/olafayomi/COMPx527>
- You must utilise one or more AWS Public Datasets listed here: <https://aws.amazon.com/public-datasets/>

Task 3: Live Demo and Presentation

Brief

The presentations and demo will be during the lecture hours in the week starting Sep 2. The venue for the presentations will be announced later.

Requirements

- Present live demos of your solution in front of the class and invited panel.
- Time is limited to 10 mins maximum (including Q&A).
- Describe the services you used and explain your solution architecture.
- Comment on the security of your data.

Task 4: Report and Security Assessment

Brief

You will provide a final report describing your proposed solution, including security assessment of your solution. The report also needs to have a section describing what was done by each individual in the group. The final report (one per group) is to be submitted to Moodle by **Friday 30 August 2019 11:59pm NZT**.

Requirements

- The report must follow the two-column A4 IEEE Template for Conference Proceedings (https://www.ieee.org/conferences_events/conferences/publishing/templates.html).
- The report must not exceed 20 pages (excluding references).

- The report structure must include the following sections:
 - Solution summary (250 words maximum)
 - Motivation
 - Proposed solution
 - Actual AWS expenditure (Steps taken to reduce expenditure)
 - Team members and individual contribution within the team
 - References

Note: Since individual contribution is a major component of the grade, clear identification of the contributions will help in proper assessment.
