Leeds Beckett University

Report Title

Module: Cloud Computing Development

Student Name:

Student ID:

Word Count: (2000-4000)

Year:

NOTES:

* The report should be written in the third person.
* The below headings and subheadings are required.
* The word count does not include front matter, references, tables and image captions.
* Please avoid plagiarism – all reports with the similarity level higher that 25% will be peer-investigated; aim to put all cited work into your own words; do not copy/paste.

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# Introduction

This section should include a very clear statement of the cloud provider you use, cloud service model you selected, development technology and a brief description of your service.

# Overview of Cloud Computing Technologies

## Definition of Cloud Computing and its characteristics

In this section you should discuss what Cloud Computing is and discuss main features and characteristics of cloud computing.

## Cloud computing service models

This section should introduce the most common cloud computing service models including IaaS, PaaS, SaaS, FaaS, etc. and discuss their suitability, proc and contras

## Cloud computing deployment models

This section should introduce and discuss existing cloud computing deployment models including Public, Private and Hybrid Clouds.

## Cloud computing providers

This section should introduce and discuss the most popular cloud computing providers and compare services they offer, prices, SLAs, etc.

## Selection and justification of the cloud provider, the service model and implementation technology

This section should explain your choice of the cloud provider and service model you will be developing in the second part of your report. Describe your implementation technology, language, IDE, cloud frameworks/plugin/add-ons.

# Development and Deployment of the Cloud Service

## Service and Client Development

Using UML diagrams (e.g. Use-Case, block chart, sequence diagram) whenever it is appropriate (e.g. to document service/client specifications, interactions and algorithms) is appreciated and will give you a higher mark.

## Service specification

This section should introduce and describe your service and its functions/operations.

Your service should provide a set of APIs that take one or several input values and produce one or several outputs. As an idea for your service you can consider, for example, a currency exchange service; a stock quote service; a health calculator to estimate BMI, BAI, Waist-to-hip ratio, etc.; a scientific calculator with the extended set of functions; a unit convertor (converting different imperial units to metric and vice versa).

## Service development and implementation

This section should introduce and describe algorithm(s) of your service, give examples of the most important parts of the code and discuss them with technical details.

## Client development and implementation

This section should introduce and describe the client application, give examples of the most important parts of the code and discuss them with technical details.

Your client could be a simple console application. But you will get a higher mark if your client app has a GUI, or a web-form to invoke the service.

## Local service testing

This section should demonstrate outcomes of the local deployment and testing of your service. Use the client app and other suitable tools (e.g. SoapUI) to make sure that your service is fully operational.

## Service Deployment with the Cloud Provider

Here you should provide a step-by step description (a guideline) of the process of the service deployment with the cloud provider of your choice. For example, it could be deployed with PaaS (e.g. AWS Elastic Beanstalk, Azure App), FaaS (AWS Lambda, Azure Functions) or directly on the top of the VM you rented as an IaaS.

## Service management

Here you should show and discuss what options and tools are offered by the cloud provider to monitor the state of your service and manage it (e.g. start, stop, delete, update the version, scale-up/out, login to the underlaying VM, etc.).

# Conclusion

The conclusion should firstly concisely summarise your report (including your service and a cloud provider you used) and then conclude it with any closing remarks you may have regarding Cloud Computing technologies.

# References

Aim to have 10+ references, ideally 20+, including scholarly references. This should be implemented using the Harvard referencing style. Make sure that all your references are properly cited in the text of the report. Please refer to the Leeds Beckett University guide below if you are unsure how to do so:

<https://libguides.leedsbeckett.ac.uk/subject_support/harvard_referencing/quote_unquote_online>