Assignment 2 – Cloud Computing Service Models

1 Introduction

The purpose of this assignment is to give you the basic understanding of IaaS, PaaS, and Serverless Architecture. You will be asked to carry out a series of practical tasks.

2 Tasks

Task 1
Build a question-answer web application to allow the user to ask a question, any question and immediately get an answer to that question, using the Wolfram Alpha API. Wolfram Alpha is an online service that answers factual queries directly.

Task 2
Launch an EC2 instance from Amazon and install Tomcat and Tomcat management web apps. And deploy the web application developed in Task 1 on your tomcat server and test your application.

Task 3
Deploy the web application developed in Task 1 on Amazon Elastic Beanstalk platform and test it.

Task 4
Launch a RDS MySQL instance from Amazon, and create a table named **QA** with two columns: **question** and **answer**.

Task 5
Upgrade your application developed in Task1. Store all questions asked by the users and corresponding answers to the table **QA** created in Task 4. When the user asks a question, check to see if the question has been asked previously. If the question has been asked previously, retrieve the answer from the database, instead of querying the Wolfram Alpha API unnecessarily.

Task 6
Describe the differences between IaaS, PaaS and Serverless Architecture.

Task 7
Discuss and study the possible technologies used to implement AWS EBS, AWS EFS, AWS VPC.

3 Note

An essential part of the assignment will be to document the procedures by which you completed each task from beginning to end. Each task should be described in series of numbered steps. In addition, for each task, you should provide legible screen shots as evidence that you have actually worked through the task. (Screen shots are normally placed at the most important stages/steps in any task). The documentation should be laid out like a professional user's manual, aimed at the novice technician (someone who knows little of such procedures). At the end of the assignment you will be required to submit **the document and the code**.

Sign up for Wolfram Alpha's API from the link below and create an AppID after registering, which you will need to query Wolfram Alpha. A sample code has been provided on moodle to get you up with Wolfram Alpha.

https://developer.wolframalpha.com/portal/apisignup.html