Coursework Assignment 1 Brief

Academic year and term:	2021 – Semester-2, Year 2
Module title:	**Cloud Computing**
Module code:	**QAC020N254H**
Module Convener:	
Learning outcomes assessed within this piece of work as agreed at the programme level meeting	*On successful completion of this module, students will be able to* 1. Critically appraise of design and development methods and services that access local and remote data from various data sources. 2. Design, develop, deploy and test services to cloud environments. 3. Identify the hardware required for different Cloud Computing models. 4. Evaluate and elaborate on the importance of dataflow-computational processing in the Cloud. 5. Create scalable, load-balanced services and implement growth strategies.
Type of assessment:	Group work – Report-suggested word count: 2000 words Students will work as a group of 3-4 students
Assessed Learning outcomes	2, 3 & 5
Weighting	60%
Assessment 1 deadline:	**06/07/21** <u>via Turnitin</u> **(no later than 2 pm)** **Specific submission requirements: word document format**
Kind reminder: *it is student's full responsibility to ensure that all assignments are submitted on the correct link and on time (before 2pm). Failure to do so may result in Resit and/or failure of the module.*	

Assignment Support and Guidance

60%: Assignment 1-group work (involving a case study)

Note: To pass this module:
- You **must attempt all pieces** of assessment and you must achieve at least 40% overall.
- If you have a re-sit, you **must attempt all the elements you have failed** as failing marks cannot be carried forward without attempting re-sits.

Suggested word count: 2000

Suggested requirements for the assignment: Amazon AMI, AWS, MySQL, WordPress, PHP, MySQL, Apache, Elastic Beanstalk services

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Word count

Don't exceed the word count

You need to state the word count at the end of their assignment. 10% over the stated word count is permitted without penalty.

If students go beyond this, then there is a penalty of 5 marks for every additional 10% beyond the word count with a maximum of a 15-mark penalty reduction.

There is no specific penalty for submitting a piece that is below the word count, but please note that shorter submissions are likely to attract poorer grades, particularly where they lack the necessary depth of analysis.

Tables and figures (e.g. diagrams, graphs, photographs, etc) may be used as evidence to support academic argument. They are mostly used in report writing. However, it is important that tables and figures are used purposefully (i.e. with good reasons) and when appropriate. They should also be referenced correctly.

How do you calculate the word count?

The word count includes the Abstract or Executive Summary and all in-text citations. The word count does not include the Bibliography and Appendices.

Please note that Appendices should only include supplementary information, not information critical to your work.

Use of pictures/images:

It is **<u>mandatory</u>** that you add the following statement to your assignment: <mark>'disclosure: diagrams, pictures or any other images used in this assignment are for educational purposes only'.</mark>

Although images, diagrams and photographs etc..can be used in assignments, they MUST be referenced. However, you can access the following websites (copyright-friendly):

Pixabay

Free photos for commercial and private use - no attribution necessary. Some photos may come from other websites, such as Shutterstock, which may not fall under public domain - check each photo to ensure that it is public domain.

Photos Public Domain

Search public domain clip art and photos by category. All photos on this site were taken by the author and released as public domain.

Picdrome

The Picdrome gallery is divided by categories (e.g. Abstract, Food & Drink, Nature, Technology, etc.). You may also search for specific images, but the search will take you to a custom Google search of Picdrome, which makes viewing the photos a bit more difficult.

Ars Publik

Browse images under categories such as medical, advertisements, people, sports, space, etc.

Public Domain Images

Browse by category or search for images. Varied categories; the site also includes vintage photography and space images.

Unsplash

"All photos published on Unsplash are licensed under Creative Commons Zero which means you can copy, modify, distribute and use the photos for free, including commercial purposes, without asking permission from or providing attribution to the photographer or Unsplash."

Shutterography

Free images for personal and commercial use.

(adapted from the University of Pennsylvania: https://guides.library.upenn.edu/c.php?g=475958&p=3255323)

Scenario:

Established in 2010, Artizan limited is an online retail company that sells home/kitchen items. Over the years, it has grown into a £10 million turnover company. The company is headquartered in London, where the company was originally founded, with regional offices in Manchester and Wales.

They are looking to develop an effective e-commerce solution using Amazon Web Services to meet the needs of their growing business. As a junior Cloud Consultant, you have been asked to develop and deploy effective e-commerce solutions for them.

Tasks / Deliverables of the Assignment 1:

Marks are awarded for producing a properly documented system that meets the requirements as specified below:

Task 1: [30%]

1. Critically evaluate *Identity & Access Management (IAM) services*, first create two users (admin, non-admin) and then allocate appropriate privileges according to their role.Finally, evaluate their usage and effectivelenss. [15%]

2. Critically evaluate the *Amazon EC2 and Elastic Beanstalk service.* First, create a virtual machine (Amazon AMI) using **admin** user in the AWS cloud for the given case study, e.g. Launch an Amazon EC2 Instance, next configure and select Amazon AMI, then create a new security key pair and connect to the instance. Finally, evaluate your findings. [15%]

   Note: Students must provide all screenshots and explanations

Task 2: [30%]

1. Critically evaluate Amazon *Relational Database Service (RDS)* and **connect** to the MySQL database using MySQL Workbench e.g. Create a MySQL DB Instance for the given scenario, download a SQL Client (Workbench), and connect to the MySQL Database.

Note: Students must provide all screenshots and explanations

Task 3: [35%]

1. Discuss any 3 of the following AWS services and how these can be useful for the Online retail company company [15%]

   I.   Amazon SageMaker

   II. Amazon Redshift

   III. Amazon CloudSearch

   IV. GuardDuty

2. Critically evaluate ***Amazon Website and App Services***. Deploy web applications of the given case study to cloud environments e.g. download, Install, Configure WordPress, PHP, MySQL, Apache into EC2 instance to query and manipulate cloud-based data structures. [20%]

   Note: Students must provide all screenshots and explanations

Referencing: [5%]

Although your report will make use of an existing body of knowledge, you must write your assignment with your own words to demonstrate your understanding of the subject. You are required to follow the **Harvard referencing system** when citing others' work. An accompanying list of references must also be provided as part of your report. Extensively referenced work reflects the level of research you conducted in the process of producing the document. It is also an acknowledgement of other people's work. Correct referencing demonstrates your academic and professional skill. It also reflects your academic honesty and thus to some degree protects you from cases of plagiarism.

Please refer to Moodle for the latest version of the Roehampton Harvard referencing System or ask the library.

Marking Criteria

Task	Guidance/Criteria	Marks
1	You have provided a detailed practical and theoretical explanation of: Including Amazon EC2/ Elastic Beanstalk services, launch of Amazon EC2 Instance. You have configured and selected Amazon AMI, created a new security key pair, and connected to Instance.	30
2	You have provided a detailed theoretical and practical explanation of Amazon Relational Database Service (RDS), Created MySQL DB Instance for the given scenario, downloaded a SQL Client (Workbench), Connected to the MySQL Database in the cloud environment.	30
3	You have fully analysed any 3 given Amazon web services, the website and the app services. You have also correctly uploaded the web app to the cloud and correctly loaded the web app to the cloud environment.	35
Referencing	Your report is well laid out and formatted according to the given requirements. Your report is free from grammatical and spelling errors. Harvard Referencing has been used to cite the work where necessary, and a list of references is provided.	5
Total		**100**

Assignment Checklist

TASKS COMPLETED	tick ✓
Cover sheet completed	
Table of content	
Task 1 completed (refer to marking criteria)	
Task 2 completed (refer to marking criteria)	
Task 3 completed (refer to marking criteria)	
Grammatical and spelling errors checked	
In-text citations correctly written	
Reference list on a separate page, completed and in the correct format	

Assignment Preparation Guidelines

- All components of the assignment (text, diagrams. code etc.) must be submitted in **one-PDF/word file** (hand-written text or hand drawn diagrams are not acceptable), any other accompanied materials such as simulation file, code, etc. should be attached in appendices.
- Standard and commonly used fonts such as Arial or Calibri should be used, font size must be within the range of 10 to 15 points including the headings, body text and any texts within diagrams,
- Spacing should not be less than 1.5
- Pay attention to the Assessment criteria / Marking scheme, the work is to be concise and technical. Try to analyse, compare and evaluate rather than simply describe.
- All figures, screenshots, graphs and tables must be numbered and labelled.
- Screenshots without description / discussion does not constitute understanding and maybe assumed irrelevant.
- Tables and figures (e.g. diagrams, graphs, photographs, etc) may be used as evidence to support academic argument. They are mostly used in report writing. However, it is important that tables and figures are used purposefully (i.e. with good reasons) and when appropriate. They should also be referenced correctly.
- For written assignments, you need to state the word count at the end of the assignment. 10% over the stated word count is permitted without penalty. If you go beyond this, then there is a penalty of 5 marks for every additional 10% beyond the word count. The word count includes the Abstract or Executive Summary and all in-text citations. The word count excludes the Reference list and Appendices. Please note that Appendices should only include supplementary information not provided in the main text. There is no specific penalty for submitting a piece which is below the word count, however, please note that shorter written submissions are likely to attract poorer grades, particularly where they lack the necessary depth of analysis.
- The assignment should be logically structured, the core of the report may start by defining the problem / requirements, followed by the proposed solution including a detailed discussion, analysis and evaluation, leading to implementation and testing stage, finally a conclusion and/or personal reflection on learning.
- Please access your Turnitin Test Page via Dashboard or My modules to learn more about Turnitin and to make a test submission and to check your similarity score before uploading your final version
- You will have opportunity to submit as many times to your module pages as you want up until the deadline.
- Make sure to make backup of your work to avoid distress for loss or damage of your original work, use multiple storage media (memory stick, cloud and personal computer).

Assignment support:

- Although you will be guided throughout the module by your lecturer, you can get extra support for your assignment, just make an appointment with the ACE team for any language, research and study skills issues and/or talk, email the Computing ACE expert for any advice on how to approach your assignment. REMEMBER: they are not here to give you the answers!
- Students will have access to formative feedback on each task set in workshops, thereby helping them to refine their approach to the summative tasks that have been set.

Plagiarism and Collusion

- **Academic Integrity** is a matter that is taken very seriously at the university and student should endeavour to enforce it to all their assignments. In other words, plagiarism, collusion (working and copying from another student) and ghost writing will not be tolerated and will result in sanctions eg: capped resit, suspension and/or withdrawal. Correct referencing demonstrates your academic and professional skill. It also reflects your academic honesty and thus to some degree protects you from cases of plagiarism.
- You must write your assignment in your own words to demonstrate your understanding of the subject.
- Material from external sources must be properly referenced and cited within the text using the Harvard referencing system,
- You are required to follow the **Roehampton Harvard referencing System**. Please refer to Moodle for the latest version of the **Roehampton Harvard referencing System** or ask the library.
- An accompanying list of references (on a **separate page and in alphabetical order**) must also be provided as part of your work.
- It is **mandatory** that you add the following statement to your assignment: *'disclosure: diagrams, pictures or any other images used in this assignment are for educational purposes only'*.
- Plagiarism: occurs when you present somebody else's work as your own, whether that work is an idea, graphs, figure, illustration or a pure text. Be it available in web, textbooks, reports or otherwise.
- Wholesale use of text and diagrams from websites is considered as plagiarism when not acknowledged.
- Plagiarism will be dealt with firmly and can lead to serious consequences and disciplinary procedures.
- Collusion: occurs when copying another student's report (Text, Figures, Illustration etc..) and submitting it as your own.

Submission and Late submission

- Students must ensure that their work is satisfactory and fit for purpose, both academically and free from any plagiarism.
- Students must use an appropriate coversheet, which must include the subject, assignment title, student ID and date-time.
- Tutors, lecturers and module convenors do not have the authority to extend the submission deadlines nor the exam time/date. In case of any mitigating circumstances, students should fill in the relevant mitigating circumstances form(s) available at **------ Student Services -----**
- The marking of the assignment will be capped at 40 if the assignment is submitted within first seven (7) days after the deadline, any submission late than 7 days will be ignored.
- The Submission File should be appropriate to the topic/title of the assignment and contain the Student ID, (Student ID-Assignment title)
- All coursework related material must be attached as an appendix in the final coursework/assignment document, including any computer-generated document, software/ code, simulation file etc.