School of Digital, Technology, Innovation and Business
Department of Computing

Assessment Information	
Student number:	
Module Title: **Enterprise Cloud Computing in the AWS Environment**	Module Code: **COCS71188**
Module Tutor: **Dr Carolin Bauer**	
Assessment Submission Date: **23:59 12th May 2024**	
Presentation Date: **Not Required**	
Contribution to module grade: **100%**	
Group Work: **N/A**	

Overview

This document will provide you with information regarding the assessment for the module Enterprise Cloud Computing in the AWS Environment. Here you will find an overview of the group which you are consulting for and details of their requirements. A charity called

LocalBooks has received funding for an initial feasibility study for the support of local community libraries throughout the UK. They have asked you to look into the idea of using Cloud computing technology to assist them. Other consultants are looking at other solutions for example on-premise or to simply streamline what they do now rather than introducing any technology.

Company Background

Localbooks is a charity and they are hoping to encourage more reading of books in the UK. Currently, there are a lot of groups that are lending out books that a person can take and then return when they can do so. The idea of this work is to gather a little more information on what type of books are being loaned and to organise this in a central system. There will be no cost involved for the local groups as LocalBooks will provide any hardware that is required and cover the costs of any specified cloud infrastructure. All that the local groups would need to provide is the Internet connection which can be very low bandwidth.

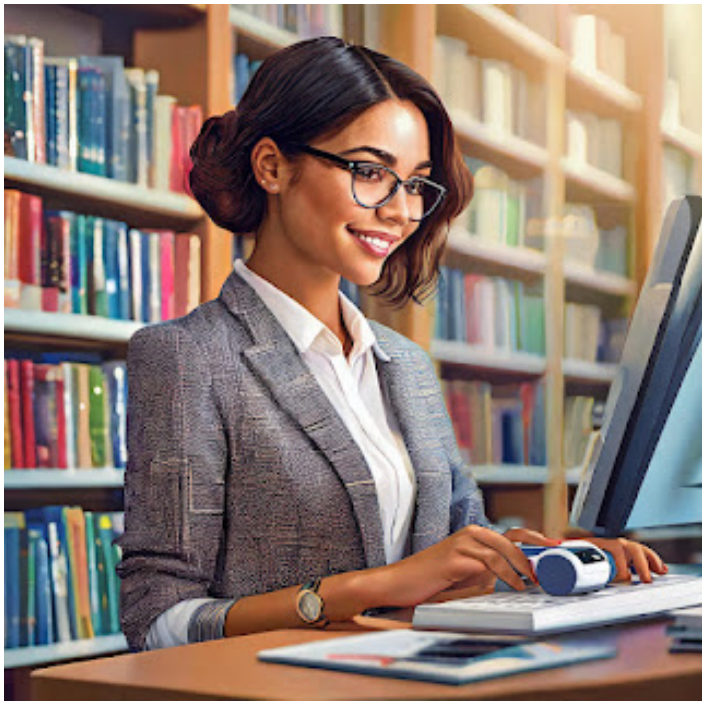

Figure 1 - Example of a user using a barcode reader in a bookstore

When a person wants to take a book they will simply scan the bar code on the book and this is then sent to a central location. The person's details are not stored as this is simply to work out which books are popular and this data can at a later stage be used to work out which books to buy from the County provided libraries.

The scanner that is used will gather the barcode number and then send this - as an HTTPS POST action - to a server. The server will be statically configured in the barcode reader.

Figure 2 - Handheld Barcode Reader

When the book is returned it is simply scanned again which will indicate that the book is now available again at this location.

If a person wants to donate a book to the charity they will take it to the group and the front and back covers will be scanned and these images will be uploaded. The idea is that the details will be available via a website, so people will know which of the local locations currently has a copy of that book. A scanner will be provided to the location and this will require a laptop which again will be provided.

This project intends to gather your knowledge on the feasibility of the technical aspects of this idea. Assuming it goes ahead it will be trialed in three locations for 6 months to see the success or otherwise. At the end of this trial period, it will be evaluated and expanded upon or simply stopped at this stage.

Considerations for your solution

- Host a website which can be searched for a particular book
- A location where the barcodes can be sent to record that a book is returned or loaned out
- A secure location where volunteers can log in, to gather statistics on the usage of their facility
- Ability to produce reports which the charity LocalBooks can use to see how the system is working
- A location to store pictures of the books that are taken for analysis and storing for the website
- Send an email if a particular location has less than 50 books still available
    - The idea is that books can be moved from a different location

Within this list, you can add additional information that will be useful based on your knowledge and understanding of this area.

The charity will require a Cloud infrastructure that will be able to meet these requirements. They have no experience in cloud computing as stated and as such are open to suggestions on the technology they can use to get this system operating as quickly as possible.

In the report, give a brief overview to the management team on what AWS Polly is and where this can assist with this project. In addition, give examples where this technology is currently

used, so the management team can relate and do further reading in this area.

Meeting
If there is anything that you need to clarify with the company you can book a single 20-minute meeting with LocalBooks by emailing jjc1@staffs.ac.uk or cib1@staffs.ac.uk. The project managers of the charity are involved with a lot of other projects and as such they do not have time for several meetings. Therefore you need to plan to ensure that - when you have the meeting - you have a list of questions that will provide you with the information you require to provide a solution.

Assessment Details
As a part of this, you will need to consider:

- The potential problems which you recognise that they need to resolve
- Potential technology that will resolve these issues and a discussion of why
- Benefits and risks of Developing a cloud-based IT Strategy Discussion
- Creation of a suitable topology using the AWS environment, with screen captures to show
- Discussion on Amazon Polly and its usage

As a part of this, you will create an environment inside of AWS Cloud. To resolve this issue we recommend that you use the **AWS Learner labs** which we have provided for you separately. In the AWS Learner lab, you have $100 of credit which you can spend and you can work on an environment for 4 hours. At the end of the 4 hours all of your work will still be saved and you simply need to stop and start again the environment. There is no requirement to write code for this assignment; you are simply building the infrastructure so please just get appropriate screen grabs of the console to show this setup, with additional suitable screens to assist the reader. There is no requirement to show any of this working so even if you specify technology that you can not use in the Learner Labs - you will usually have access to configure it.

The screen grabs should be put into the **Appendix** at the end of the report and with this discuss the different options which you have chosen and why in the setup.

The word limit for this assignment is **3000(+-10%)** words

Marking Sheet

Student ID_____

Section	Marks Awarded	Marks Available
Research Element (30% of the marks of the module)		
Discussion on the use of Amazon Polly so the reader can understand how it operates and what functionality this provides		/10
Discussion on which organisations are using Amazon Polly and how they are using this to benefit them. In addition discuss where this could assist this project in the future	No discussion on	/20
Course Work Element (70% of the marks of the module)		

Good defined analysis of the problems that you see this infrastructure will need to overcome		/10
Discussion of the AWS technologies could be used so that the reader can understand why and where this would meet their needs		/30
Screen captures of the technology that you have specified and discussion on options		/15
Clear design of an example topology using the AWS environment		/5
Discuss the benefits and risks of moving the infrastructure to the Cloud		/5
The report is professionally formatted with sections, an introduction, findings, references, and a conclusion		/5
Total:		/100

Assessment Advice
As with any assessment at Staffordshire University, if an element is not clear then please speak to your tutors. The teaching team wants to make sure that you do well on the module and as such we are happy to assist you and explain unclear elements. It might be that you see a term that you do not understand - again please ask. You are not expected to create the final environment within AWS at this stage; this is a discussion and a design that you are providing. If the work is considered an advantage to the company then a different IT team will be hired to create the infrastructure. In reality, you will need some software being written which will link this all together, which is beyond the scope of this module. Hopefully during your tutorials you will see that it is quite straightforward to create the environment. The hardest part is providing a suitable design for the given problem and communicating this to the customer.

Feedback
Initial feedback on the work will be provided at the presentation. We will then fully mark your work and provide you with written comments. This will happen within 20 working days of your submission. We will of course aim to provide feedback sooner so that you can enhance any work for other modules.