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*S1108900 | Software Development for Business*

*Cloud platform development*

Coursework

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I declare that all work submitted for this coursework is the work of Iona Wright alone unless stated otherwise.

# Problem and cost-optimised solution (10 marks)

## Description of problem and your approach to solve it. You can also suggest improvements/changes to the application architecture

## SN.CPD GA/FT Coursework. 2021-22 Tri B. Diet 1 Page 5 of 5 shown in Figure 1 providing justifications.

The bucket name can be between 3 and 63 characters long, and can contain only lower-case characters, numbers, periods, and dashes.

<https://docs.aws.amazon.com/AmazonS3/latest/userguide/bucketnamingrules.html>

Subscription to SNS –

Btw one important hint for when you're setting up the queue and subscription make sure you tick the box that says enable raw message delivery. You'll get all sorts of weird characters in the messages that will make extracting file names a pain in the arse if you don't.

## Description of how the application can be cost optimised considering many image files uploads and running over a longer period of time

Log events show how much you are billed for

Amazon SNS provides in-transit encryption by default but not at-rest. Enabling at-rest to the server side will increased the security.

SQS queue

KmsDataKeyReusePeriodSeconds

The length of time in seconds for which Amazon SQS can reuse a data key to encrypt or decrypt messages before calling AWS KMS again. The value must be an integer between 60 (1 minute) and 86,400 (24 hours). The default is 300 (5 minutes).

MaximumMessageSize

The limit of how many bytes that a message can contain before Amazon SQS rejects it. You can specify an integer value from 1,024 bytes (1 KiB) to 262,144 bytes (256 KiB). The default value is 262,144 (256 KiB).

# Security features and application testing (10 marks)

## Brief description of how the application can be secured using the features available in AWS

AWS IAM – security credentials: <https://www.youtube.com/watch?v=5q7FtT_DyME>

Create our own (SSH) key – don’t use the default

## Application Testing

Create SQS

<https://boto3.amazonaws.com/v1/documentation/api/latest/guide/sqs.html>

Cloud Formation:

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/Welcome.html>

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-resource-sqs-queue.html#cfn-sqs-queue-deduplicationscope>

Upload a file boto3

<https://boto3.amazonaws.com/v1/documentation/api/latest/guide/s3-uploading-files.html>