# FKM1 – FKM1 TASK1: BANKING CLOUD APPLICATION AND INFRASTRUCTURE

CLOUD ARCHITECTURE – D088 PRFA – FKM1

### **COMPETENCIES**

#### 4069.3.1: Systems Evaluation

The graduate evaluates current systems to determine alignment with business needs.

#### 4069.3.2: Deployment Planning

The graduate designs a deployment plan for cloud migration that addresses business needs.

#### 4069.3.3: Cloud Services Management

The graduate manages the operation and security of the cloud services throughout the project life cycle.

### INTRODUCTION

When acting on an organization's cloud computing strategy, the cloud adoption plans, cloud application design, and cloud management and monitoring elements must be defined. A team of IT professionals oversees the application architecture and deployment in the cloud. When designing and developing a cloud application, the business requirements inform the need for the supporting infrastructure.

In this task, you will describe the holistic, cloud-based infrastructure needed to support a cloud application that is being developed to support individual banking activities in concert with applicable laws and regulations.

### **SCENARIO**

See the attached "Merrilton Banking Cloud Application and Infrastructure Scenario" found in the Supporting Documents section.

### **REQUIREMENTS**

Your submission must be your original work. No more than a combined total of 30% of the submission and no more than a 10% match to any one individual source can be directly quoted or closely paraphrased from sources, even if cited correctly. The originality report that is provided when you submit your task can be used as a guide.

You must use the rubric to direct the creation of your submission because it provides detailed criteria that will be used to evaluate your work. Each requirement below may be evaluated by more than one rubric aspect. The rubric aspect titles may contain hyperlinks to relevant portions of the course.

- A. Propose an authentication process for the cloud application that meets the applicable device, browser, and user security requirements.
- B. Explain how an employee will remotely access the cloud environment by using two-factor authentication.
- C. Propose an end-to-end encryption solution for the communication between the application and the cloud.
- D. Propose an end-to-end encryption solution for the communication between the home office and the cloud.
- E. Describe systems that will integrate with *each* of the following internal application program interfaces (APIs), including technical details or diagrams to support the explanation of the mechanics of the integration:
  - bank fraud services
  - branch location information
  - all log data
- F. Describe systems that will integrate with *each* of the following external APIs, including technical details or diagrams to support the explanation of the mechanics of the integration:
  - single sign-on (SSO)
  - credit score provider
  - location data look-up
- G. Summarize a deployment plan for the cloud application and its cloud infrastructure, including the following points:
  - cloud backend timeline
  - resources
  - estimated costs
  - redundancies
- H. Summarize a maintenance strategy for the cloud application that addresses the needs of the business and the short- and long-term considerations for *each* of the following points:
  - patch management
  - updates and redevelopment
- I. Summarize the systems, processes, and procedures of a disaster recovery plan for the cloud application.
- J. Explain how you will maintain compliance with key applicable laws and regulations imposed on the

cloud application.

K. Acknowledge sources, using in-text citations and references, for content that is quoted, paraphrased, or summarized.

L. Demonstrate professional communication in the content and presentation of your submission.

#### **File Restrictions**

File name may contain only letters, numbers, spaces, and these symbols: ! - \_ . \* '()

File size limit: 200 MB

File types allowed: doc, docx, rtf, xls, xlsx, ppt, pptx, odt, pdf, txt, qt, mov, mpg, avi, mp3, wav, mp4, wma, flv, asf, mpeg, wmv, m4v, svg, tif, tiff, jpeg, jpg, gif, png, zip, rar, tar, 7z

### RUBRIC-

A:DEVICE AUTHENTICATION 🖸

#### **NOT EVIDENT**

An authentication process proposal is not provided.

## APPROACHING COMPETENCE

The proposed authentication process does not meet the applicable device, browser, or user security requirements.

#### COMPETENT

The proposed authentication process meets the applicable device, browser, and user security requirements.

B:REMOTE ACCESS

#### **NOT EVIDENT**

The submission does not explain how an employee will remotely access the cloud environment.

## APPROACHING COMPETENCE

The submission explains how an employee will remotely access the cloud environment but does not address two-factor authentication. Or the explanation of how two-factor authentication should be used is inaccurate or not feasible. Or the proposed course of action would not enable employees to

#### **COMPETENT**

The submission explains how an employee will remotely access the cloud environment by using two-factor authentication. The explanation of how two-factor authentication should be used is accurate and feasible. The proposed course of action would enable employees to securely access the bank's resources that they are authorized to use.

securely access the bank's resources that they are authorized to use.

#### C:APPLICATION SECURITY 🗗

#### **NOT EVIDENT**

An encryption solution is not proposed.

## APPROACHING COMPETENCE

The proposed solution is not an end-to-end encryption between the application and the cloud.

#### COMPETENT

The proposed end-to-end solution adequately addresses the encryption of the communication between the application and the cloud.

#### D:NETWORK SECURITY 🗗

#### **NOT EVIDENT**

An encryption solution is not proposed.

## APPROACHING COMPETENCE

The proposed solution is not an end-to-end encryption between the home office and the cloud.

#### **COMPETENT**

The proposed end-to-end solution adequately addresses the encryption of the communication between the home office and the cloud.

#### E:INTERNAL APIS

#### **NOT EVIDENT**

A description of systems is not provided, or the technical details or diagrams are not provided.

## APPROACHING COMPETENCE

The described systems will not integrate with *each* of the given internal APIs. Or the technical details or diagrams provided do not support the explanation of the mechanics of the integration or contain errors.

#### COMPETENT

The described systems will integrate with *each* of the given internal APIs. The technical details or diagrams provided support the explanation of the mechanics of the integration and are free of errors.

### F:EXTERNAL APIS

#### **NOT EVIDENT**

A description of systems is not

## APPROACHING COMPETENCE

#### **COMPETENT**

The described systems will inte-

provided, or the technical details or diagrams are not provided.

The described systems will not integrate with *each* of the given external APIs. Or the technical details or diagrams are not provided to support the explanation of the mechanics of the integration or contain errors.

grate with *each* of the given external APIs. The technical details or diagrams provided support the explanation of the mechanics of the integration and are free of errors.

G:DEPLOYMENT PLAN

#### **NOT EVIDENT**

A summary of the deployment plan is not provided.

## APPROACHING COMPETENCE

The summarized deployment plan is not relevant to the cloud application and infrastructure or does not include logical responses for *each* of the given points.

#### **COMPETENT**

The summarized deployment plan for the cloud application and infrastructure includes logical responses for *each* of the given points.

H:MAINTENANCE STRATEGY

#### **NOT EVIDENT**

A summary of a maintenance strategy is not provided.

## APPROACHING COMPETENCE

The summarized maintenance strategy for the cloud application does not logically address the given points. Or the shortor long-term considerations are not plausible or are not included for *each* of the given points. Or the maintenance strategy outlined would not meet the needs of the business.

#### **COMPETENT**

The summarized maintenance strategy for the cloud application logically addresses the given points. Plausible short- and long-term considerations are included for *each* of the given points. The maintenance strategy outlined meets the needs of the business.

I:DISASTER RECOVERY

#### **NOT EVIDENT**

A submission summarizing elements of a disaster recovery

## APPROACHING COMPETENCE

The submission does not sum-

#### **COMPETENT**

The submission summarizes appropriate systems, processes,

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plan is not provided.

marize appropriate systems, processes, or procedures to ensure continuous business operations of the cloud application in the case of a disaster, or 1 or more key elements are missing.

and procedures to ensure continuous business operations of the cloud application in the case of a disaster.

J:REGULATORY COMPLIANCE

#### **NOT EVIDENT**

An explanation about maintaining compliance for the cloud application is not provided.

### **APPROACHING COMPETENCE**

The submission does not logically explain how compliance will be maintained for 1 or more key applicable laws and regulations for the cloud application, or the laws or regulations do not apply.

#### COMPETENT

The submission logically explains how compliance will be maintained for all key applicable laws and regulations for the cloud application.

K:SOURCES

#### **NOT EVIDENT**

The submission does not include both in-text citations and a reference list for sources that are quoted, paraphrased, or summarized.

#### **APPROACHING** COMPETENCE

The submission includes in-text citations for sources that are quoted, paraphrased, or summarized and a reference list; however, the citations or reference list is incomplete or inaccurate.

#### **COMPETENT**

The submission includes in-text citations for sources that are properly quoted, paraphrased, or summarized and a reference list that accurately identifies the author, date, title, and source location as available.

L:PROFESSIONAL COMMUNICATION



#### **NOT EVIDENT**

Content is unstructured, is disjointed, or contains pervasive errors in mechanics, usage, or grammar. Vocabulary or tone is unprofessional or distracts

### **APPROACHING** COMPETENCE

Content is poorly organized, is difficult to follow, or contains errors in mechanics, usage, or grammar that cause confusion.

#### COMPETENT

Content reflects attention to detail, is organized, and focuses on the main ideas as prescribed in the task or chosen by the candidate. Terminology is pertinent,

from the topic.

Terminology is misused or ineffective.

is used correctly, and effectively conveys the intended meaning. Mechanics, usage, and grammar promote accurate interpretation and understanding.

### SUPPORTING DOCUMENTS

Merrilton Banking Cloud Application and Infrastructure Scenario.pdf