

# Cloud Op Engineer

## Case Study Assignment

### Introduction

This exercise is designed to assess your architecting, technical and business writing, and presentation skills.

### System Description

As a part of the exercise scenario, you play the role of Cloud Op Engineer, and your customer has not used any Public Cloud before, and he would like to implement a new e-commerce application on AWS. The following are the customer's high-level requirements:

- 3-tier application architecture (Web, App, DB) to be implemented on AWS.
- Customers from different countries can see the items in their local currency, by detecting their geolocation information.
- The design should satisfy the following:
  - High availability
  - Scalability
  - Security
  - Cost optimization
  - High performance
- A secure connectivity between the customer's office and the new infrastructure on the public cloud should be implemented for the customers' employees to manage the infrastructure.
- CI/CD for the application development.
- **Observability:** Monitoring and alerting for high observability. Explain the differences between metrics, logs, and traces in the context of cloud observability. Describe the steps and best practices for creating an observability strategy for a cloud-based application.

Note: You can consider any Web, Application, and any relational database within your design.

### Instructions

1. Please prepare a short and concise design document describing your recommended solution to satisfy each of the customer requirements described above, making sure to include the following within your design document:
  - a. High-level solution architecture
  - b. AWS consumption calculator
  - c. Short-term and long-term recommendations considering the modern application architecture and future growth of the application.
2. Please prepare a short presentation to describe your solution to the customer, highlighting the value proposition of having the solution implemented on a public cloud not hosted on premise.