

### **Challenge 1:**

You are presented with the following scenario of a simple e-commerce website. Please go through the system description and the required deliverables.

Description:

- The system consists of a backend RESTful API and a frontend React SPA website.
- The system relies on the following components to work properly. MySQL DB to store orders, external payment gateway to process payments, and log store for monitoring.
- The API and website have separate codebase and hosted on different Azure Git Repos.
- The API and website are containerized and deployed to Kubernetes cluster.
- Jenkins is used for managing the CI/CD.

Deliverables:

1. System diagram that shows the mentioned components and how it connects.
2. Flow diagram that illustrates the steps in Jenkins CI/CD pipelines.
3. Simple helm chart that will deploy the backend API to K8s cluster.

### **Challenge 2:**

Write a script that reads the following XML file and creates an array of objects where each object represents one key/value pair, then print the array to the Console in a tabular format.

*Note: Please use any scripting language of your choice (e.g., Python, PowerShell, etc.).*

XML File Contents:

```
<?xml version="1.0"?>
<appSettings file="ConfigKeys.config">
  <add key="webpages:Version" value="1.0.0.0" />
  <add key="webpages:Enabled" value="true" />
  <add key="EnableCache" value="true" />
  <add key="ConnectionString" value="server=Server1,password=P@ssW0rd"/>
</appSettings>
```

Expected Output (Sample):

Key	Value
webpages:Version	1.0.0.0
webpages:Enabled	true
EnableCache	true
ConnectionString	server=Server1,password=P@ssW0rd

### **Challenge 3 (Optional):**

Write a Terraform script that creates EKS cluster on AWS with node autoscaling.

***Note: Please prepare only the scripts, there is no need for an actual running environment.***