

# Information Technology University of Punjab

## Software Development & Construction

### Semester Project Proposal

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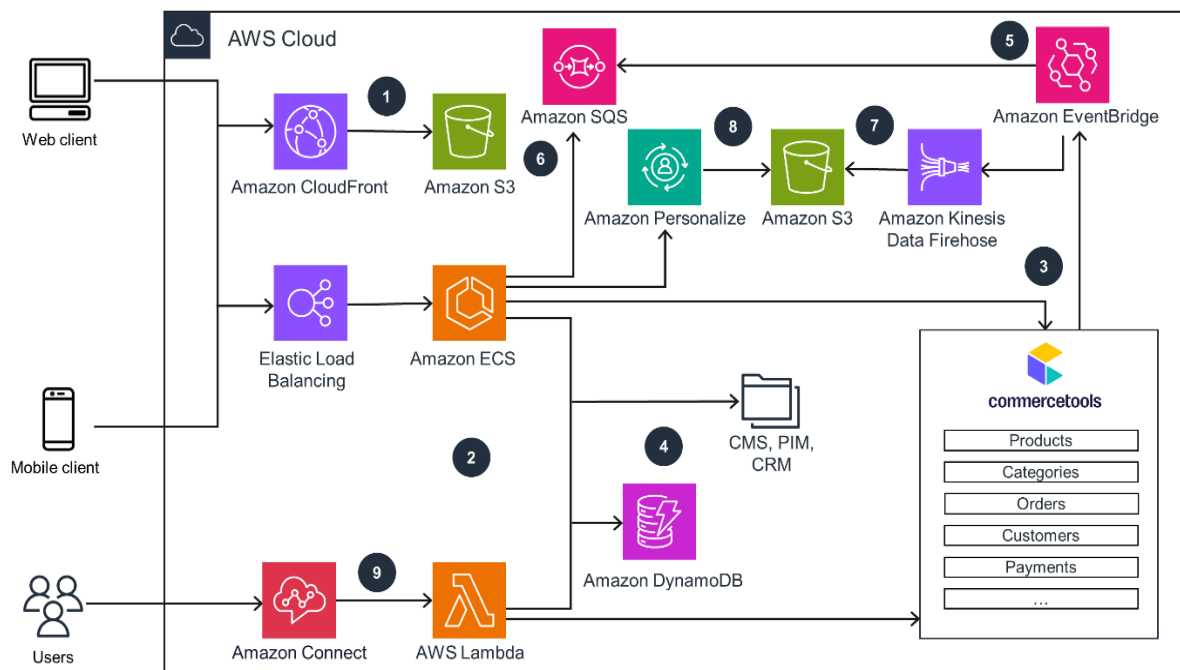
#### Group Members:

1) Muhammad Numan – BSSE23069 (Group Leader)

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**Selected Scenario Title: Microservices-Based E-Commerce Platform Using AWS Cloud and Commerce tools**

#### Architecture Diagram:



## **Project Scenario:**

A company named ShopSwift wants to make an online shopping website that is fast, reliable, and modern. Their old system is slow and cannot handle many customers at the same time.

To solve this, they decide to use AWS microservices and Commercetools.

In the new system:

- 1) The website pages and images are stored in Amazon S3 and shown to users through CloudFront, so the site loads fast.
- 2) The main backend code (like products, orders, payments) runs using Amazon ECS and AWS Lambda.
- 3) All product and order data is handled through Commercetools API.
- 4) Customer information and session data are saved in Amazon DynamoDB.
- 5) When a new order is placed, an event is sent through Amazon EventBridge.
- 6) The event goes to Amazon SQS for processing and to Amazon Kinesis for analytics.
- 7) The system uses Amazon Personalize to show product recommendations based on customer behavior.
- 8) For customer support, the company uses Amazon Connect so users can call or chat easily.

This setup helps ShopSwift create a fast, scalable, and personalized e-commerce platform using AWS cloud services.