



# E-Commerce Analytics & Management

Transforming Data into Seamless Shopping Experiences



## Objective

The goal of this project is to develop a **Comprehensive E-Commerce Order Management System** for managing the entire flow of product orders, customer details, payments, and delivery. The system will allow customers to browse and order products, track their orders, make payments, and interact with customer support. The back-end will utilize **MySQL** for transactional data and **MongoDB** for handling customer reviews, product feedback, and file storage (like invoices, shipping labels) stored in **AWS S3**.

This project will help attendees gain hands-on experience in building robust e-commerce systems by implementing APIs for CRUD operations, integrating with MySQL and MongoDB, and working with file storage and cloud services.

## Brief Requirement

The system should allow customers to:

1. **Browse products** based on categories (e.g., electronics, clothing).
2. **Add products to cart** and proceed to checkout.
3. **Make payments** using multiple methods (Credit Card, PayPal, etc.).
4. **View order history** and track delivery status.
5. **Leave product reviews and ratings**.

The admin section will allow:

1. **Managing products**, such as adding, updating, or deleting products.
2. **Managing orders**, including processing payments and updating order status.
3. **Viewing sales statistics and customer feedback**.

**MySQL** will be used for structured data, including customer details, orders, and payment information. **MongoDB** will be used for unstructured data, including product reviews and file paths for invoices and delivery labels stored in **AWS S3**.

## Database Architecture

- **MySQL:** Used for structured, transactional data like customers, orders, products, and payments.
  - **Customers:** Store customer details (name, address, contact info).
  - **Products:** Store product details like name, category, price, and stock.
  - **Orders:** Store orders placed by customers.
  - **Payments:** Track payments made for each order.
- **MongoDB:** Used to store unstructured feedback data and file paths for invoices and shipping labels.
  - **Product Reviews:** Store customer reviews and ratings for products.
  - **Order Files:** Store file paths for invoices and shipping labels.