📔 Detailed Project Report – E-Commerce Website

1. Introduction

The **E-Commerce Website** is a full-stack web application that enables businesses to sell products online and allows customers to browse, purchase, and track their orders.
It provides a secure and user-friendly shopping experience while managing backend processes like product catalog, inventory, and payment.

This project is built using **Java (JSP + Servlet)** for backend, **MySQL** for database, and **HTML, CSS, JavaScript** for frontend.

2. Objectives

- Provide a digital marketplace for products.
- Allow users to **search, browse, and purchase** products easily.
- Enable admin to manage **product catalog, orders, and customers**.
- Securely store customer and transaction data.
- Implement role-based access for customers and admin.

3. Features

◆ Customer Module

- Register/login securely.
- Browse products by category.
- Add items to cart and checkout.
- Make payment (Cash on Delivery/Online).
- Track order status.

◆ Admin Module

- Add, edit, and delete products.
- Manage categories and stock.
- View all customer orders.
- Generate sales reports.

4. Technology Stack

- **Frontend:** HTML, CSS, JavaScript
- **Backend:** Java (JSP + Servlet)
- **Database:** MySQL
- **Web Server:** Apache Tomcat
- **Tools:** Eclipse / IntelliJ IDEA, MySQL Workbench

5. Database Design

Tables:

- **Users Table** → stores customer & admin login details.
- **Products Table** → stores product info (name, price, category, stock).
- **Cart Table** → temporary storage of items before checkout.
- **Orders Table** → stores order details (customer, items, total, status).
- **Payments Table** → stores transaction details.

6. System Architecture

1. **Customer browses products** → adds to cart → places order.
2. **System processes checkout** → stores order in database → updates stock.
3. **Admin manages inventory** → updates product details → tracks orders.

7. Advantages

- Provides a **24/7 shopping platform**.
- Eliminates geographical limitations.
- Improves customer convenience and experience.
- Automates order and inventory management.
- Scalable for future growth.

8. Future Enhancements

- Integration of **AI-based product recommendations**.
- Support for **multiple payment gateways** (UPI, PayPal, etc.).
- Mobile app integration.
- Real-time order tracking.
- Customer reviews & ratings system.

9. Conclusion

The **E-Commerce Website** is a modern online shopping solution that benefits both businesses and customers. It automates buying, selling, and order management, providing a **secure, efficient, and scalable platform** for digital commerce.