

10-Day Project Plans - Training Handbook

Online Bookstore Application

Day 1 – Requirement Gathering

- Read the problem statement: An online bookstore where users can search, add to cart, and checkout.
- List functional requirements: Search books, view details, add to cart, checkout.
- List non-functional requirements: Fast search, secure payment, responsive design.
- Deliverable: A written 'Requirement Specification Document.'

Day 2 – OOAD & Design

- Draw Class Diagram (Book, User, Cart, Order).
- Draw Use Case Diagram showing how users interact with the system.
- Prepare an ER diagram for MySQL tables (Book, User, Cart, Orders).
- Deliverable: Diagrams uploaded to project repo.

Day 3 – Environment Setup

- Install Java 17 and MySQL on Linux VM.
- Create project structure (src/main/java, src/test/java).
- Write Book and User classes with attributes (title, author, price, username, etc.).
- Deliverable: Project runs with 'Hello Bookstore' message.

Day 4 – Implement Book Search

- Create BookService class with CRUD methods.
- Write SQL queries to insert and fetch books.
- Test with sample books: 'Clean Code', 'Design Patterns'.
- Deliverable: User can search by title/author from DB.

Day 5 – Cart & Checkout

- Implement Cart class using HashMap (key=Book, value=Quantity).

- Add methods: addBook(), removeBook(), calculateTotal().
- Create CheckoutService to place orders in DB.
- Deliverable: Add books → Checkout → Insert order record in DB.

Day 6 – DynamoDB Integration

- Install AWS SDK / DynamoDB local.
- Store 'Recommended Books' in DynamoDB table.
- Write Java code to fetch top 5 recommended books for a user.
- Deliverable: Recommendations displayed in console/UI.

Day 7 – Data Structures

- Implement browsing history with LinkedList.
- When user views a book, add to LinkedList.
- Provide feature: 'View Recently Browsed Books.'
- Deliverable: LinkedList displayed on screen.

Day 8 – BDD Scenarios

- Install Cucumber.
- Write feature file: SearchBook.feature.
- Scenario: User searches a book by title
Given the bookstore has 'Clean Code'
When the user searches for 'Clean Code'
Then the system shows 'Clean Code' with author name
- Deliverable: Tests pass successfully.

Day 9 – DevOps Setup

- Create Git repo and push code.
- Setup Jenkins pipeline → Build + Test + Package.
- Deploy JAR to Linux VM.
- Deliverable: Automated build and deployment working.

Day 10 – Deployment & Demo

- Deploy full app on Linux server.
- Test: Add → Checkout → Order Success.

- Write project report (Requirement → Design → Implementation → Testing → Deployment).

- Deliverable: Live demo + Report.