**Case Study Document: Integrate JAVA with Database**

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**1. Introduction**

**1.1 Purpose**

The purpose of this case study is to demonstrate the integration of Java with Database. The assignment aims to showcase the implementation of essential features using this technology stack.

**1.2 Technologies Used**

- JAVA

- SQL

**2. Business Scenario**

**2.1 Background**

The assignment is based on a scenario where a company requires a web application to manage Book data. The data consists of Book’s information like bookid, Book name. The application should support storing, retrieving, updating, and deleting book records.

**2.2 Problem Statement**

The company needs an efficient solution to manage book data.

**2.3 Objectives**

The main objectives of this case study are:

1. write a java application to perform the below operations
   1. we should be able to get the book details
   2. book details should be editable
   3. we should be able to delete the book details

**3. System Architecture**

**3.1 High-Level Overview**

The system will follow a typical have the following:

1. Presentation Layer: A menu-based application that will help Book to perform the operations

2. Business Logic Layer: Contains application logic and coordinates data access.

3. Data Access Layer: Manages interaction with Database.

**3.3 Data Flow**

The data flow within the system is as follows:

1. Book will select an operation

2. Take an input from book.

3.Perform the operation and read/write to database.

**4. Features**

The web application will offer the following features:

**4.1 Book Management**

- Create new book records with book name, ISBN

- Retrieve book records by Book ID.

- Update existing book information.

- Delete book records.

**4.2 Data Storage and Retrieval**

- Retrieve Book data from Database.

**4.3 CRUD Operations**

- Implement Create, Read, Update, and Delete operations using Java and Database.

- Validate inputs and handle exceptions gracefully.

**5. Implementation Steps – To be filled and submitted by the learner**

**5.1 Creating a java Project**

<<Steps for creating a new java program or any other method.>>

**5.2 Implementing Book Management**

<<Step-by-step guide to creating the necessary steps for book management.>>

**5.3 Handling Data Storage and Retrieval**

<<Demonstrate how to store book data in file and retrieve it using JAVA.>>

**5.4 Implementing CRUD Operations**

<<Walk through the implementation of Create, Read, Update, and Delete.>>