



# Java SpringBoot Assignment 3

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## Add, View, Update and Delete data using JDBC

### Code:

```
import java.sql.*;
import java.util.Scanner;

public class Assignment3 {
    public static void main(String[] args) {
        Connection connection = null;
        try {

            // Open a connection
            String url = "jdbc:mysql://localhost:3306/employees";
            String username = "root";
            String password = "root";
            connection = DriverManager.getConnection(url, username, password);

            // Connection successful
            System.out.println("Connected to the database!\n");
            System.out.println("Options Available:");
            System.out.println("1. Add Data");
            System.out.println("2. View Data");
            System.out.println("3. Update Data");
            System.out.println("4. Delete Data");
            System.out.print("Enter the option:");
        } catch (SQLException e) {
            e.printStackTrace();
        }
    }
}
```

```

        Scanner sc = new Scanner(System.in);
        int option = sc.nextInt();

        switch (option){
            case 1: addRecord(connection);
                    break;
            case 2: viewRecords(connection);
                    break;
            case 3: updateRecord(connection);
                    break;
            case 4: deleteRecord(connection);
                    break;
            default: System.out.println("Invalid Option");
        }
    } catch (SQLException e) {
        e.printStackTrace();
    } finally {
        if (connection != null) {
            try {
                connection.close();
            } catch (SQLException e) {
                e.printStackTrace();
            }
        }
    }
}

private static void addRecord(Connection connection) throws SQLException {
    int id,age;
    String name,department;

    Scanner sc = new Scanner(System.in);

    System.out.print("Enter the id:");
    id=sc.nextInt();
    sc.nextLine();
    System.out.print("Enter the name:");
    name=sc.nextLine();
    System.out.print("Enter the age:");
    age=sc.nextInt();
    sc.nextLine();
    System.out.print("Enter the department:");
    department=sc.nextLine();

    String sql = "INSERT INTO employees (id, name, age, department) VALUES (?, ?, ?, ?)";
    PreparedStatement statement = connection.prepareStatement(sql);

    statement.setInt(1, id);
    statement.setString(2, name);
    statement.setInt(3, age);
    statement.setString(4, department);

    int rowsInserted = statement.executeUpdate();
    if (rowsInserted > 0) {

```

```

        System.out.println("A new record has been added.");
    }
}

private static void viewRecords(Connection connection) throws SQLException {
    String sql = "SELECT * FROM employees";
    Statement statement = connection.createStatement();
    ResultSet resultSet = statement.executeQuery(sql);

    System.out.println("Employee records:");
    System.out.println("ID\tName\tAge\tDepartment");
    while (resultSet.next()) {
        int id = resultSet.getInt("id");
        String name = resultSet.getString("name");
        int age = resultSet.getInt("age");
        String department = resultSet.getString("department");

        System.out.print(id + "\t" + name + "\t" + age + "\t" + department+"\n");
    }
}

private static void updateRecord(Connection connection) throws SQLException {
    int id, age;
    String name, department;

    Scanner sc = new Scanner(System.in);

    System.out.print("Enter the id to update:");
    id=sc.nextInt();
    sc.nextLine();

    String sql = "UPDATE employees SET name = ?, age = ?, department = ? WHERE id = ?";
    PreparedStatement statement = connection.prepareStatement(sql);

    System.out.print("Enter the name:");
    name=sc.nextLine();
    System.out.print("Enter the age:");
    age=sc.nextInt();
    sc.nextLine();
    System.out.print("Enter the department:");
    department=sc.nextLine();

    statement.setString(1, name);
    statement.setInt(2, age);
    statement.setString(3, department);
    statement.setInt(4, id);

    int rowsUpdated = statement.executeUpdate();
    if (rowsUpdated > 0) {
        System.out.println("The record has been updated.");
    }
}
}

```

```

private static void deleteRecord(Connection connection) throws SQLException {
    int id;
    Scanner sc = new Scanner(System.in);

    System.out.print("Enter the id to update:");
    id=sc.nextInt();

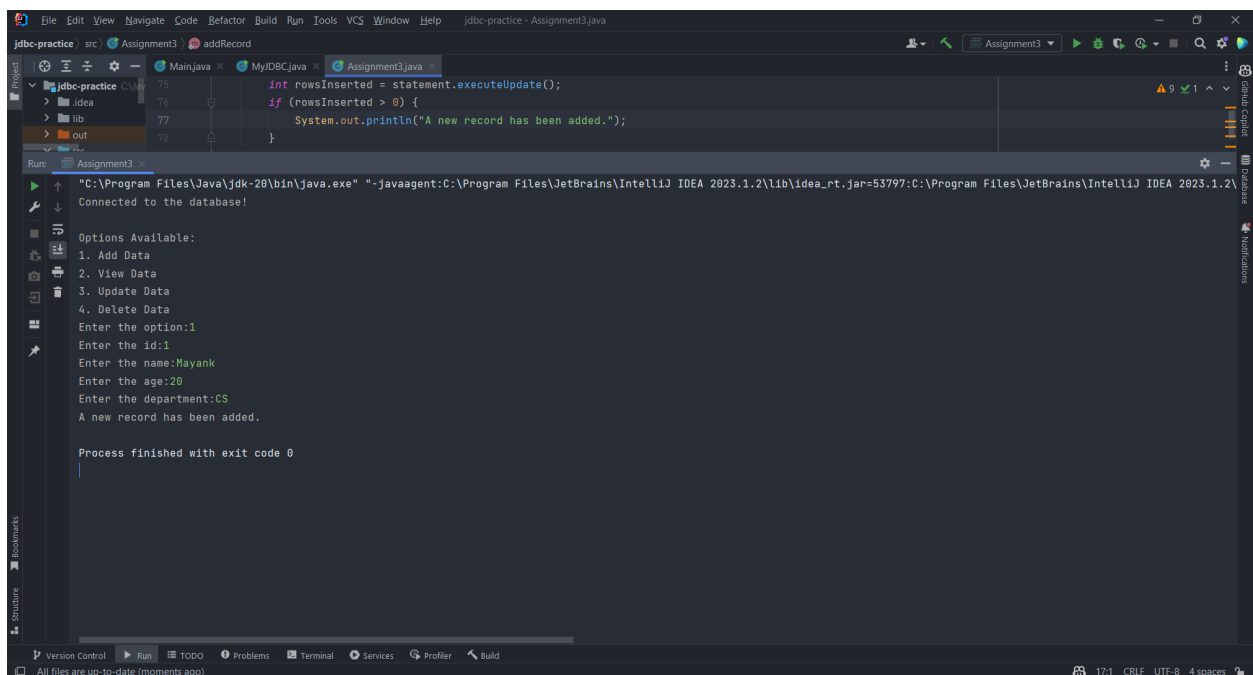
    String sql = "DELETE FROM employees WHERE id = ?";
    PreparedStatement statement = connection.prepareStatement(sql);

    statement.setInt(1, id);

    int rowsDeleted = statement.executeUpdate();
    if (rowsDeleted > 0) {
        System.out.println("The record has been deleted.");
    }
}
}

```

## Add data



## View Data

```
File Edit View Navigate Code Refactor Build Run Tools VCS Window Help jdbc-practice - Assignment3.java
jdbc-practice src Assignment3 addRecord
Main.java MyIDBC.java Assignment3.java
75 int rowsInserted = statement.executeUpdate();
76 if (rowsInserted > 0)
77     System.out.println("A new record has been added.");
78

Run: Assignment3
"C:\Program Files\Java\jdk-20\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.1.2\lib\idea_rt.jar=53891:C:\Program Files\JetBrains\IntelliJ IDEA 2023.1.2\bin" -Dfile.encoding=UTF-8
Connected to the database!

Options Available:
1. Add Data
2. View Data
3. Update Data
4. Delete Data
Enter the option:2
Employee records:
ID Name Age Department
1 Mayank 20 CS
2 Abhishek 21 IT
3 Karan 25 HR

Process finished with exit code 0
```

## Update Data

```
File Edit View Navigate Code Refactor Build Run Tools VCS Window Help jdbc-practice - Assignment3.java
jdbc-practice src Assignment3 addRecord
Main.java MyIDBC.java Assignment3.java
75 int rowsInserted = statement.executeUpdate();
76 if (rowsInserted > 0)
77     System.out.println("A new record has been added.");
78

Run: Assignment3
"C:\Program Files\Java\jdk-20\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.1.2\lib\idea_rt.jar=53930:C:\Program Files\JetBrains\IntelliJ IDEA 2023.1.2\bin" -Dfile.encoding=UTF-8
Connected to the database!

Options Available:
1. Add Data
2. View Data
3. Update Data
4. Delete Data
Enter the option:3
Enter the id to update:2
Enter the name:Abhi
Enter the age:21
Enter the department:IT
The record has been updated.

Process finished with exit code 0
```

```
File Edit View Navigate Code Refactor Build Run Tools VCS Window Help jdbc-practice - Assignment3.java
jdbc-practice src Assignment3 addRecord
Main.java MyIDBC.java Assignment3.java
75 int rowsInserted = statement.executeUpdate();
76 if (rowsInserted > 0) {
77     System.out.println("A new record has been added.");
78 }

Run: Assignment3
"C:\Program Files\Java\jdk-20\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.1.2\lib\idea_rt.jar=53951:C:\Program Files\JetBrains\IntelliJ IDEA 2023.1.2\
Connected to the database!

Options Available:
1. Add Data
2. View Data
3. Update Data
4. Delete Data
Enter the option:2
Employee records:
ID Name Age Department
1 Mayank 20 CS
2 Abhi 21 IT
3 Karan 25 HR

Process finished with exit code 0
```

## Delete Data

```
File Edit View Navigate Code Refactor Build Run Tools VCS Window Help jdbc-practice - Assignment3.java
jdbc-practice src Assignment3 addRecord
Main.java MyIDBC.java Assignment3.java
75 int rowsInserted = statement.executeUpdate();
76 if (rowsInserted > 0) {
77     System.out.println("A new record has been added.");
78 }

Run: Assignment3
"C:\Program Files\Java\jdk-20\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.1.2\lib\idea_rt.jar=53981:C:\Program Files\JetBrains\IntelliJ IDEA 2023.1.2\
Connected to the database!

Options Available:
1. Add Data
2. View Data
3. Update Data
4. Delete Data
Enter the option:4
Enter the id to update:3
The record has been deleted.

Process finished with exit code 0
```

```
File Edit View Navigate Code Refactor Build Run Tools VCS Window Help jdbc-practice - Assignment3.java

Project | jdbc-practice | src | Assignment3 | addRecord | Assignment3.java |
75 | int rowsInserted = statement.executeUpdate();
76 | if (rowsInserted > 0) {
77 |     System.out.println("A new record has been added.");
78 | }

Run: | Assignment3 |
"C:\Program Files\Java\jdk-20\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.1.2\lib\idea_rt.jar=54012:C:\Program Files\JetBrains\IntelliJ IDEA 2023.1.2\
Connected to the database!

Options Available:
1. Add Data
2. View Data
3. Update Data
4. Delete Data
Enter the option:2
Employee records:
ID Name Age Department
1 Mayank 20 CS
2 Abhi 21 IT

Process finished with exit code 0

Version Control | Run | TODO | Problems | Terminal | Services | Profiler | Build
All files are up-to-date (moments ago) | 16:1 CRLF UTF-8 4 spaces
```