

**<https://github.com/keith1221221/MySQL>**  
**[https://youtu.be/4s1vtEE-Z\\_K](https://youtu.be/4s1vtEE-Z_K)**

## package projects;

```
import java.math.BigDecimal;  
import java.util.List;  
import java.util.Objects;  
import java.util.Scanner;
```

```
import projects.dao.DbConnection;
import projects.entity.Project;
import projects.exceptions.DbException;
import projects.service.ProjectServices;
```

```
public class ProjectsApp {
    ProjectServices projectServices = new ProjectServices();
}
```

```
private Scanner scanner = new Scanner(System.in);
```

```
//@formatter:on
private List<String> operations = List.of(
    "1) Add a project"
```

```
//@formatter:off
```

```
public static void main(String[] args) {
    new ProjectsApp().processUserSelections();
}
```

```
private void processUserSelections() {
    // TODO Auto-generated method stub
    boolean done = false;
    while (!done) {
        try {
            int selection = getUserSelections();
            switch (selection) {
                case 1:
                    done = exitMenu();
                    break;
                case 1:
            }
        }
    }
}
```

```

        createProject();

        default:
            System.out.println(selection + " is not a valid option. Try
again.");
    }
} catch (Exception e) {
    System.out.println("Error; " + e.toString() + " Try Again");
}
}
}

private void createProject() {
    // TODO Auto-generated method stub
    String name = getStringInput("Enter the project name");
    BigDecimal estimatedHours = getDecimalInput("Enter estimated hours");
    BigDecimal actualHours = getDecimalInput("Enter the actual hours");
    Integer difficulty = getIntInput("Enter the project difficulty 1-5");
    String notes = getStringInput("Enter project notes");
    Project project = new Project();

    project.setProjectName(name);
    project.setEstimatedHours(estimatedHours);
    project.setActualHours(actualHours);
    project.setDifficulty(difficulty);
    project.setNotes(notes);
    Project dbProject = projectServices.addProject(project);
}

private boolean exitMenu() {

    System.out.println("Exiting the menu");
    return true;
}

private int getUserSelections() {
    // TODO Auto-generated method stub
    PrintOperations();
    Integer input = getIntInput("Enter a menu selesction");
}

```

```

        return Objects.isNull(input) ? -1 : input;
    }

    private Integer getIntInput(String prompt) {
        // TODO Auto-generated method stub
        String input = getStringInput(prompt);

        if (Objects.isNull(input)) {
            return null;
        }
        try {
            return Integer.valueOf(input);
        }
        catch (NumberFormatException e) {
            throw new DbException(input + "This is not a valid option");
        }
    }

    private String getStringInput(String prompt) {
        // TODO Auto-generated method stub
        System.out.println(prompt + ":");
        String line = scanner.nextLine();

        return line.isBlank() ? null : line.trim();
    }

    private BigDecimal getDecimalInput(String prompt) {
        String input = getStringInput(prompt);
        if (Objects.isNull(input)) {
            return null;
        }
        try {
            return new BigDecimal(input).setScale(2);
        }
        catch (NumberFormatException e) {
            throw new DbException(input + "This is not a valid option");
        }
    }

```

```

    }

    private void PrintOperations() {
        // TODO Auto-generated method stub
        System.out.println();
        System.out.println("\nThese are the available selections. Press the Enter key to
quit");

        operations.forEach line -> System.out.println("'" + line);
    }

}

package projects.service;

import projects.entity.Project;
import provided.util.DaoBase;

public class ProjectServices extends DaoBase {

    private ProjectDao projectDao = new ProjectDao();

    public Project addProject Project project {
        // TODO Auto-generated method stub
        return projectDao.insertProject project ;
    }

}

package projects.service;

import java.math.BigDecimal;

```

```

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.SQLException;

import projects.dao.DbConnection;
import projects.entity.Project;
import projects.exceptions.DbException;

```

```

public class ProjectDao {

```

```

    private static final String CATEGORY_TABLE = "category";
    private static final String MATERIAL_TABLE = "material";
    private static final String PROJECT_TABLE = "project";
    private static final String PROJECT_CATEGORY_TABLE = "project_category";
    private static final String STEP_TABLE = "step";

```

```

    public Project insertProject Project project {
        // TODO Auto-generated method stub
        //@formatter:off
        String sql = ""
            + "INSERT INTO " + PROJECT_TABLE + " "
            + "(project_name, estimated_hours, difficulty, notes) "
            + "VALUES "
            + "(?, ?, ?, ?)";
        //@formatter:off
        try Connection conn = DbConnection.getConnection();
            startTransaction conn;

            try PreparedStatement stmt = conn.prepareStatement(sql){
                setParamater stmt, 1 project.getProjectName(), String class;
                setParamater stmt, 2 project.getEstimatedHours(),
                    BigDecimal class;

                setParamater stmt, 3 project.getActualHours(),
                    BigDecimal class;

                setParamater stmt, 4 project.getDifficulty(), Integer class;
                setParamater stmt, 5 project.getNotes(), String class;

                stmt.executeUpdate();
            }
        }
    }

```

PROJECT\_TABLE;

Integer projectId = getLastInsertId = getLastInsertId conn,

commitTransaction conn;

project setProjectId projectId;

return project;

catch Exception e {

// TODO Auto-generated catch block

rollbackTransaction conn;

throw new DbException e;

catch SQLException e {

throw new DbException e;