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Developer Information

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Git location: <https://github.com/benyamhadgug/PhaseTwoProject.git>

Requirement

The application has the administrator as sole user. Through the application, the administrator shall:

- Set up a master list of all the subjects for all the classes
- Set up a master list of all the teachers
- Set up a master list of all the classes
- Assign classes for subjects from the master list
- Assign teachers to a class for a subject (A teacher can be assigned to different classes for different subjects)
- Get a master list of students (Each student must be assigned to a single class)

Work Plan

Three sprints shall constitute the project lifespan from planning to delivery:

Sprint	Stories to Complete	Deliverable
1	<ul style="list-style-type: none">• Requirement's analysis• Database design• CRUD Student	<ul style="list-style-type: none">• Specification Document• Executable source code
2	<ul style="list-style-type: none">• CRUD Teacher• CRUD Subject	<ul style="list-style-type: none">• Executable source code
3	<ul style="list-style-type: none">• CRUD Class• Class-Subject assignment• Report Preparation	<ul style="list-style-type: none">• Executable source code

Application Flow

Deploying the application

The following environment shall be setup for using the developed application

- MySQL 5.*
- Apache Tomcat 9
- Java JDK 1.8
- Eclipse EE

Other Configurations and setup

The MySQL database account for use in the application is **root**. A password **root** shall be used to connect the application to persistence layer MySQL database. The database name is **academy**.

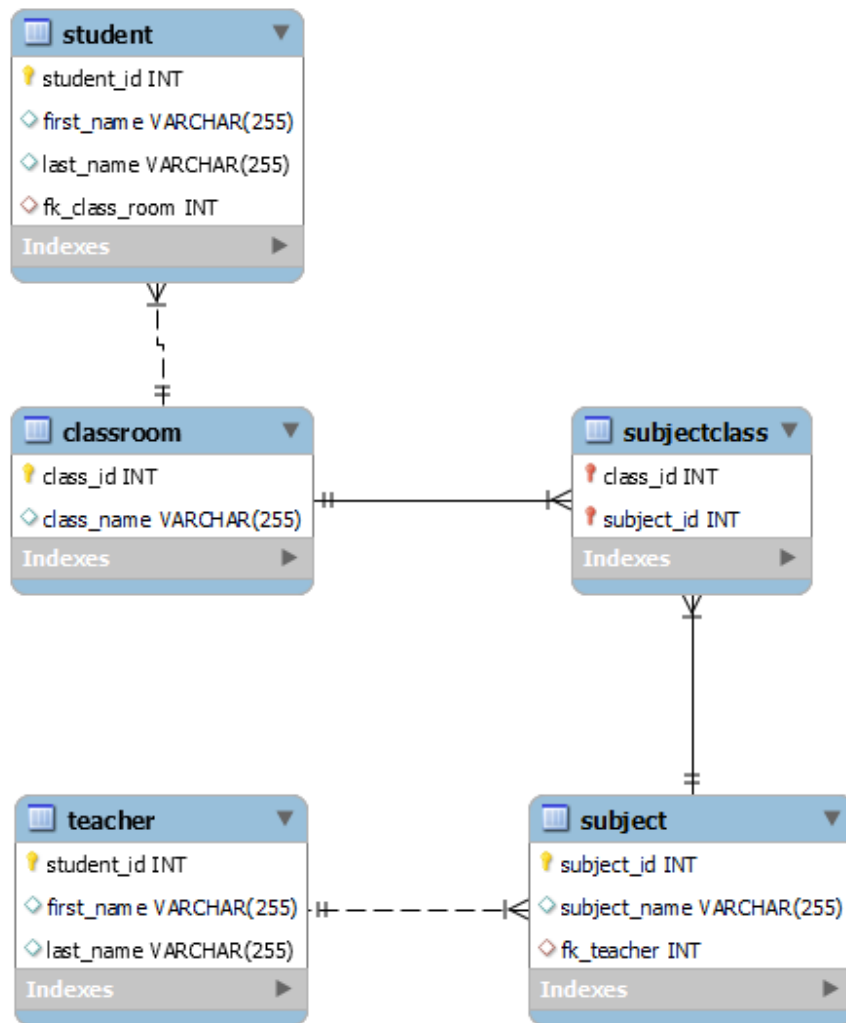
For convenience, the schema tables and their content is included in the project delivery. The folder containing those artifacts is name **Schema_Export**.

Application snapshots

The application's UI snapshots are organized according the subject_action images. For instance, student adding UI is named **students_add**. The snapshot collection for the application's UI is included in the folder **Snapshots**. Moreover, **compiled_snapshots.pdf** contains all snapshots in one file.

Entity Relationship Model

The application's database layer, reflective of the domain model, includes the following concepts.



Core concepts and Algorithms used

The following concepts and algorithms were used in the application development process.

Java Collection and operations

- Set
- List

Query Language

- SQL
- HQL

Persistence Layer Patterns

- MVC pattern
- DAO pattern

Entity Relationships/Associations

- OneToMany association
- ManyToMany association

Web Technologies

- JSTL
- JSP
- Servlet
- CSS

Other concepts

- Database Transaction (transation begin and commit)
- Hiberate Annotations
- Fetch Types (EAGER)