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| Advanced Programming |
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# Build Notes

My windows forms project was developed using 3 tiered architecture consisting of the DAL (data access layer), BIZ(business layer) and the presentation layer where the database is also located. When the application runs, it shows the login form and the user is prompted to login and is redirected to the main menu form which shows the datagridview and provides the user with options to add, edit and delete a student or view the database history of actions. At any point in the program the user can go back to the main menu, logout or exit the application. The presentation layer also includes the Students database with students and users table and all the forms used in the application:

* Main menu form show datagridview;
* Add Student Form;
* Modify Student Form;
* Delete Student Form;
* Log of Actions form;
* Enums for counties and courses to populate the drop down lists, are also included in this layer.

The BIZ layer includes all methods used to executes the tasks provided by the forms. They are all C# classes:

* Add new Student;
* Deleting Student;
* Showing Student;
* Showing transactions;
* Updating Student

The DAL layer includes the data access object or DAO, opening and closing database connections and also classes with SQL statement methods to be used by the methods in the BIZ layer:

* Check login;
* Add Data;
* Delete Data;
* Show Data;
* Update Data;
* Show Transactions

Login Credentials for project:

Username: Admin

Password: admin

# Use Case Diagram



# Sequence Diagrams

# User Login Sequence Diagram and Management System Sequence Diagram



