UW Extension
Certificate in .NET Advanced Web Development
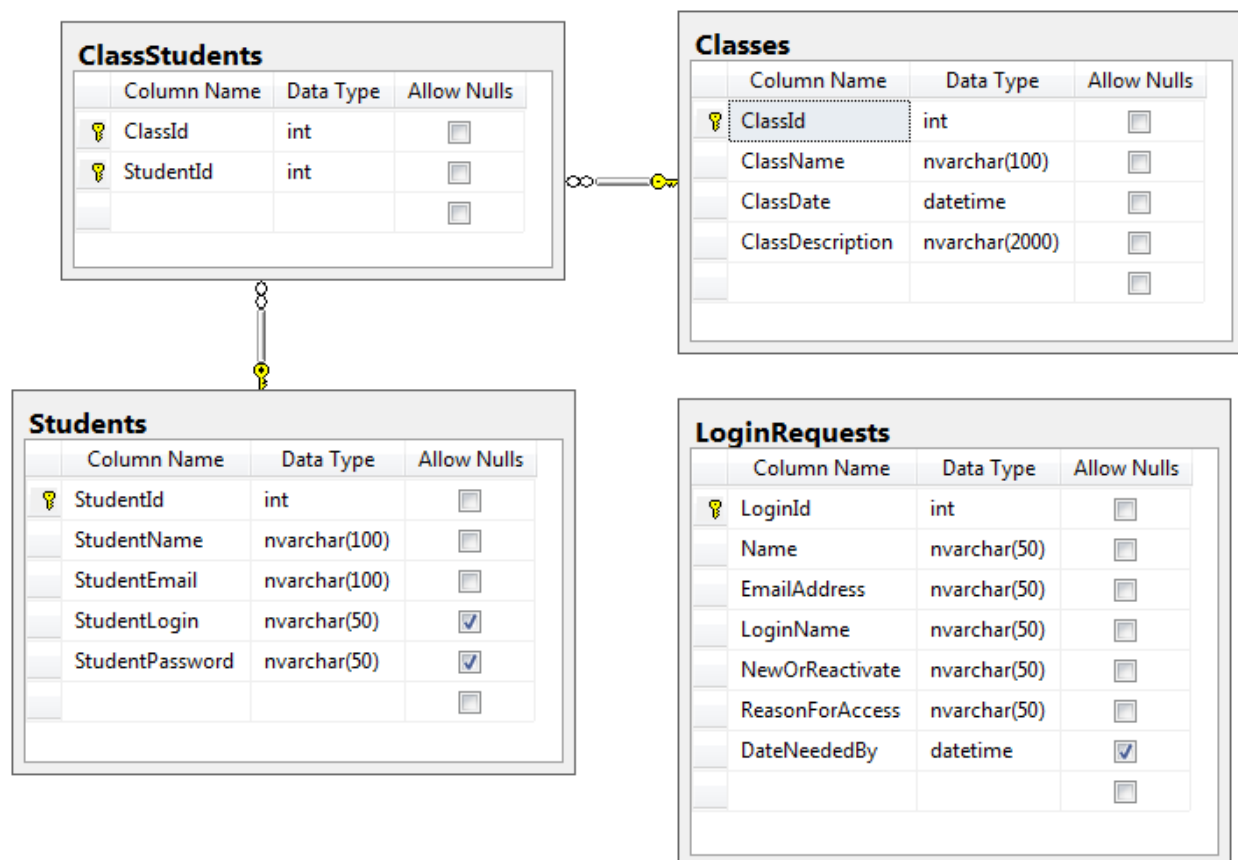

High Performance Data Integration with SQL Server Project

In this project you create a simple data driven website using Microsoft's ASP.Net and a SQL Server database. You instructor has created this database for you, and your job will be to use this database to create the solution.

The new project database (called AdvWebDevProject) contains the tables shown in Figure 1. Your instructor will provide you with a SQL Script that creates these tables, as well all of the stored procedures required for the project.
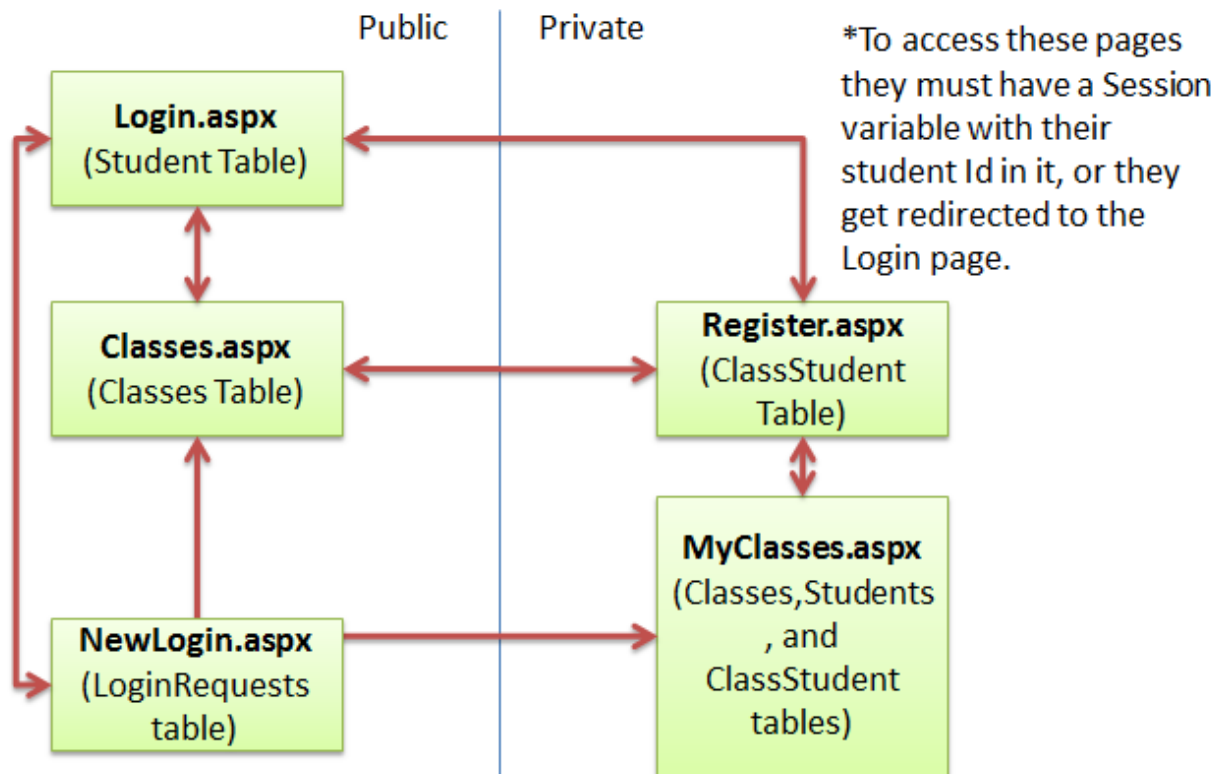
Figure1: The tables of the AdvWebDevProject database.

ClassStudents

	Column Name	Data Type	Allow Nulls
🔑	ClassId	int	☐
🔑	StudentId	int	☐
			☐

Classes

	Column Name	Data Type	Allow Nulls
🔑	ClassId	int	☐
	ClassName	nvarchar(100)	☐
	ClassDate	datetime	☐
	ClassDescription	nvarchar(2000)	☐
			☐

Students

	Column Name	Data Type	Allow Nulls
🔑	StudentId	int	☐
	StudentName	nvarchar(100)	☐
	StudentEmail	nvarchar(100)	☐
	StudentLogin	nvarchar(50)	☑
	StudentPassword	nvarchar(50)	☑
			☐

LoginRequests

	Column Name	Data Type	Allow Nulls
🔑	LoginId	int	☐
	Name	nvarchar(50)	☐
	EmailAddress	nvarchar(50)	☐
	LoginName	nvarchar(50)	☐
	NewOrReactivate	nvarchar(50)	☐
	ReasonForAccess	nvarchar(50)	☐
	DateNeededBy	datetime	☑
			☐

The Web Site

Using the tables shown in Figure 1, you will create the set of web pages shown in Figure 2.

Figure 2: The project web pages

Public | Private

```
┌─────────────────────┐          ┌──────────────────────┐
│    Login.aspx       │◄─────────┤   *To access these   │
│  (Student Table)    │          │   pages they must    │
└─────────────────────┘          │   have a Session     │
         ▲                       │   variable with their│
         │                       │   student Id in it,  │
         ▼                       │   or they get        │
┌─────────────────────┐          │   redirected to the  │
│   Classes.aspx      │◄────────►│   Login page.        │
│  (Classes Table)    │          └──────────────────────┘
└─────────────────────┘
         ▲
         │
┌─────────────────────┐
│  NewLogin.aspx      │
│  (LoginRequests     │
│      table)         │
└─────────────────────┘
```

*To access these pages they must have a Session variable with their student Id in it, or they get redirected to the Login page.

Login.aspx (Student Table)

Classes.aspx (Classes Table)

Register.aspx (ClassStudent Table)

MyClasses.aspx (Classes,Students , and ClassStudent tables)

NewLogin.aspx (LoginRequests table)

Abstraction Layers

The Presentation, Processing, and Data layers of your web application need to be separated using abstraction. So, all data processing code must be created in one or more classes and placed either in the App_Code folder or compiled into a .dll and added to the Bin folder. In addition, all of your transactional SQL code needs to be placed in stored procedures and not in your C# methods. Figure 3 shows the connections between the different layers of abstraction.

Figure 3: The project's abstraction layers.
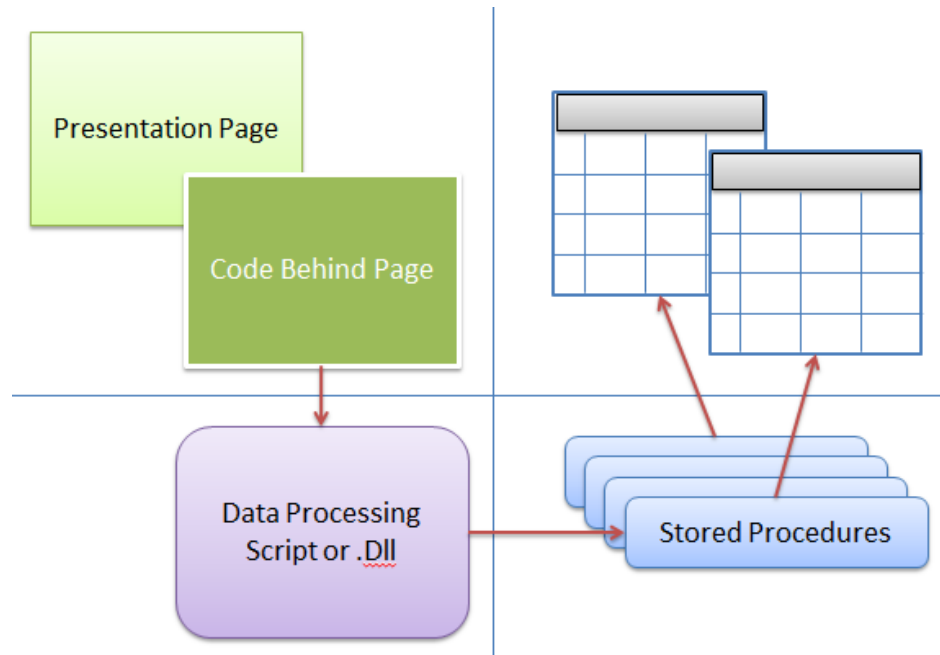
Project Partners

Each student will have a project partner. Project partner provide assistance and peer reviews during the process. The partnership allows you to valid your design and progress. You can share ideas freely not only with your partner, but with any of your fellow students.

You are free to pick your own partner. If you do not find won though, your instructor will pick one for you.

Timeline

The project contains 2 milestones. At each of these milestones a portion of the project is due. The milestones are:

- *Create the data processing code and test harness (Due by class 8)*

- *Create the Website (Due by class 10)*

As each milestone is completed students are to submit their work to their project partner for a peer review. Peer reviews should be returned within 3 to 5 days (please!)

After the Peer review, students will post their work on the Moodle site under its associated milestone topics (Figure 4).

Figure 4: The Milestone topics on the Moodle website.
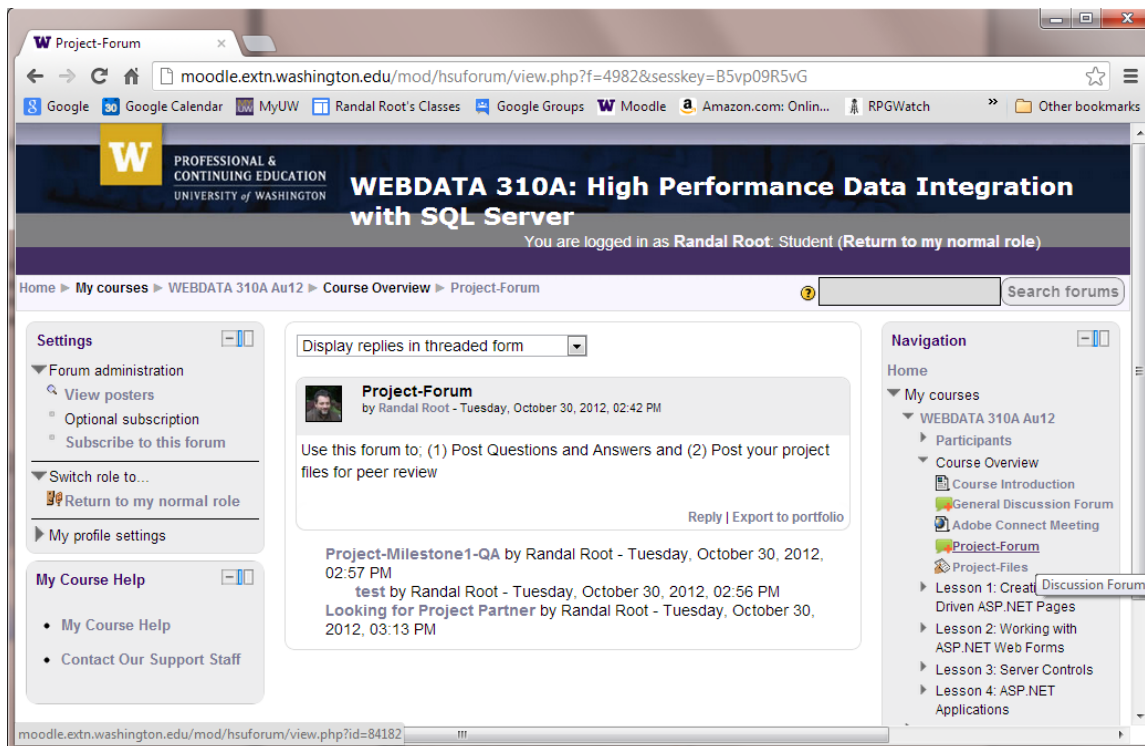
At the end of the project each submitted project will be evaluated and voted on by all of the students to elect the top (3) solutions, based on completeness, consistency, and correctness.

Note:

Students need only to turn in a project to qualify for a passing grade. The only purpose of the evaluation is for everyone to see and analyze the different ways that the project can be done.