IS590WF – Web Development Using Application Frameworks
Coding Assignment: Migrations
Instructions

Overview

The Forms coding assignment is the sixth in a series of assignments in which we will be developing the EZ University database system, a full C-R-U-D database application for a simplified university record keeping. In the Migrations coding assignment, we work with database migrations. Pure data migrations, pure schema migrations, and hybrid migrations are all covered in this tutorial.

Tools

I am expecting you to use the tools that are demonstrated in the tutorial videos: Anaconda, PyCharm, Git, and SourceTree.

Tool Versions

In the current semester, I am expecting you to use Python 3.6 and Django 2.1.1.

Tutorial Parts

This is a four-part tutorial.

Part 1 – Catch-up Migration

Each time we make a change to a model class, there are potential changes that need to be migrated to the database schema. In this tutorial, we work together to catch up on any model changes that have not been migrated to our database schema. This will be an example of a pure schema migration.

Part 2 – Data Migration for Semester

In this part, we add data to the Semester table. We work on this part together to design and implement this pure data migration.

Part 3 – Add New Tables and Migrate

In this part, we add two new tables to the EZ University database:

- Period
- Year

We are adding these two tables in anticipation of making changes to the Semester table. The actual Semester table changes will not be made until Part 4 of the tutorial. During the video, we work together to add new model class code, create hybrid migration code (both schema and data), and apply the migration for the following model class:

- Period

At the conclusion of the Part 3 video, you are instructed to do similar work for the following model class:

- Year

Part 4 – Make Changes to Semester Table, Do a Conversion Migration
In this part, we make changes to the Semester model class and convert the Semester table with a conversion migration. While you will need to type in some of the code, I have provided the following migration code file as a starter file:

- 0007_semester_schema_and_data_conversion.py

By eliminating the typing for this file, I want to make it easier for you to concentrate on how the migration code works and how it needs to be tested.

Before finishing Part 4, we test the converted application and make final adjustments required due to having changed the Semester table.

Deliverables

Please be sure that the project you submit includes the following:

1. A test user (username = "tester", password = "(secret)"
2. Sufficient test data present in the database to allow for testing all functions

Submission

Submit 1 properly named and properly organized zip file containing your PyCharm project. Remember to use the following naming conventions:

- Project Name: yourLastName_yourFirstName_ez_university
- File Name: yourLastName_yourFirstName_ez_university.zip

Due Date

Please see the Weekly Schedule for the date and time when this assignment is due.