Web Development Using Application Frameworks
Coding Assignment: Deployment
Instructions

Overview

The Deployment coding assignment is the tenth in a series of assignments in which we have developed the EZ University database system, a full C-R-U-D database application for simplified university record keeping. In this assignment, we make changes to our Django project to support configuration for both development and production environments. Following that, we deploy the EZ University application to a production server at PythonAnywhere.

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.X.

Tutorial Parts

This is a 3-part tutorial.

Part 1 – Create Multiple Settings Files

In this part of the tutorial, we work together to replace our single settings.py file with a hierarchy of settings files contained in a settings directory. Activities include:

1. Refactoring a single settings file into a hierarchy of settings files contained in a settings directory that support separate settings for development and production.

2. Testing the revised settings configuration and repairing side effects that impact the location of the database file and the location at which static files are aggregated by the *collectstatic* command.

Part 2 – Create Requirements Files, Check That Project is Under Version Control, Revise Migration Files for Production

In this part of the tutorial, we work together to further prepare our Django project for production deployment. Activities include:

1. Creating a directory to hold requirements files used to synchronize virtual environments between development and production platforms.

2. Check that our project is under version control using Git and that we have proper settings in .gitignore .

3. Remove test data migrations for students and instructors from the migrations chain.

4. Test migrations as they will be run in the production environment.

5. Test setting up users with proper group membership and passwords.

Part 3 – Deploy Project to Production Using PythonAnywhere, Test

In this part of the tutorial, we work together to deploy our Django project to a production server at PythonAnywhere. Activities include:

1. Creating a *bash* console.

2. Cloning our project repository.

3. Creating a properly configured virtual environment.

4. Configuring our project as a PythonAnywhere Web application.

5. Configuring your WISGI.py file.

6. Running migrations on the new database.

7. Creating a superuser.

8. Collecting static files.

9. Creating users with proper group membership and passwords.

10. Populating the application with a minimum set of test data.

11. Testing the application as deployed and configured on the production server.

Deliverables

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

1. A test user (username = "tester", password = "(secret)"

2. Other users consistent with those created for the Migrations coding assignment (see instructions for that assignment).

3. Sufficient test data present in the database to allow for testing all functions

Submission

This assignment has a different submission procedure. Since I will be evaluating your application and your code on your PythonAnywhere account, you will not need to submit the code directly to me. Instead, please do the following:

1. Set up a PythonAnywhere account. If possible, use the same username as you use at Illinois.

2. Identify me as your teacher on the PythonAnywhere Account page. When you set me up as your teacher on PythonAnywhere, you will need to specify my user id. This id will be different for students taking my course at UWM vs. students taking my course at Illinois. Please use the ids shown below:

   a. UWM user id: trainork

   b. Illinois user id: trainor1

3. Submit a one-page PDF document to the submission activity for this assignment that says that you have completed your assignment and tells me what userid you are using on PythonAnywhere. Your file should be named using the following scheme:

   a. yourLastName_yourFirstName_deployment_coding_assignment.pdf

Due Date

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