Django Quickstart

For this class, many of the homework assignments will concern creating and editing Django applications. Django (https://www.djangoproject.com/) is a popular web framework written in Python.

Installation

1. Install Python 3 if you haven't done so already. (Go to https://python.org for downloads.)

2. Create a virtual environment:
   - Choose a location in which to create the virtual environment. I call it "venv" and don't put it in my repo, but if you put it anywhere in your repo, be sure to put the name of the virtual environment directory into your `.gitignore`. (Our default `.gitignore` contains venv.)
     ```
     cd <location for your virtual environment folder>
     python3 -m venv venv
     ```

> On Windows , you may need to use "py" instead of "python3"

> Creating a virtual environment is optional but recommended because it simplifies package installation and reduces conflicts with other software you have on your laptop. See: https://docs.python.org/3/library/venv.html

3. Activate your virtual environment using the appropriate command for your shell:
   - MAC zsh: `source venv/bin/activate`
   - MS cmd.exe: `venv\Scripts\activate.bat`
   - Linux csh: `source venv/bin/activate.csh`

   (See https://docs.python.org/3/library/venv.html for other shells)

4. Install Django
   - Upgrade pip to the most current version:
     ```
     python3 -m pip install --upgrade pip
     ```

   - Then install Django
     ```
     python3 -m pip install django
     ```

5. <u>Outside</u> of your class repository, clone one of the class examples and try to run it:
   ```
   git clone https://github.com/cmu-webapps/django-intro.git
   cd django-intro
   python3 manage.py migrate
   python3 manage.py runserver
   ```

> If using SSH authentication with GitHub clone with:
> `git@github.com:cmu-webapps/django-intro.git`

6. Visit `http://localhost:8000` and verify that the application is working.

> Some systems require `http://127.0.0.1:8000`

> If running on an Andrew Linux cluster or server computer, start server using
> `python3 manage.py runserver 0.0.0.0:8000`
> then visit http://linux-xx.andrew.cmu.edu:8000 (replace xx with your number)

Create a new Django project for Homework #3:

1. Connect to the directory in your class repository for Homework #3:
   ```
   cd hw3
   ```

2. Using the command prompt to create the project directory:
   ```
   python3 -m django startproject webapps .
   ```
   The "." at the end of the line above causes the project to be created in the current directory.

   > Notice the dot

Creating a Django Application

Create the Wordish application in your project:

1. Run the following Django command to create a new application:
   ```
   python3 manage.py startapp wordish
   ```

2. Even though you're storing no data in the database, you'll need to create a database for some of Django's internal state with the following command:
   ```
   python3 manage.py migrate
   ```

3. Configure the project using `webapps/settings.py`
   - Add `'wordish'` to the list of `INSTALLED_APPS`

4. Configure URL routes using `urls.py` file(s)

5. Create your templated views in `wordish/templates/wordish`

6. Put your static files in `wordish/static/wordish`

7. Create your actions in `wordish/views.py`

8. Test your solution (and fix the bugs :-)
   ```
   python3 manage.py runserver
   ```

Deactivating your Virtual Environment

You may simply close your shell, but you can also run the "`deactivate`" command to leave the virtual environment.

Additional resources

See the class examples and the https://djangoproject.com website.