

CS2021-Week 8

Web Development

“Building a Weblog using
Python”

Udacity CS253 - Units 1-4

Breaks down project into 4 unit
modules

Unit 1 - How Web Works

Unit 2 - Forms

Unit 3 - Databases and Building Blog

Unit 4 - User Accounts

Udacity Web
Development Courses

<https://www.udacity.com/>

courses/web-development

Acquire skills to become a Front-End Engineer, Back-End Engineer, or a Full-Stack Engineer.

Beginner, Intermediate, and Advanced Courses

Our focus is on CS253 Web Development in Python
Instructor is Steve Huffman, co-founder of *reddit* and *hipmunk*

Udacity cs253

Web Development

Course Materials

- <https://www.udacity.com/>

wiki/cs253

Lesson 1: How the Web Works

Lesson 2: Forms and Input

Lesson 3: Databases

Lesson 4: User Accounts and
Security

Lesson 5: APIs

Lesson 6: Caching

Lesson 7: Scaling

Final Project: Build fully
functional wiki

Unit 1 The Web

The basics of the web

HTML

Text, markup, refs, links

URLs

Protocol, host, port, path, query parameters

HTTP

Communication protocol between browser and server: browser requests (gets or posts) and server responses

Web Applications

Code for a web server that specifies how to respond to http requests

Use GoogleApp Engine

We will install Google App Engine using tutorial:

<https://www.udacity.com/wiki/cs253/GAE>

Google App Engine: Platform as a Service

Google App Engine lets you build and run applications on Google's infrastructure. App Engine applications are easy to create, easy to maintain, and easy to scale as your traffic and data storage needs change. With App Engine, there are no servers for you to maintain. You simply upload your

application and it's ready to go.

Homework for this week

Install Google App Engine for Python

Create "Hello World" Web app

Deploy locally

Deploy on Google Server

Submit URL

Install GAE Python SDK

In order to install the GAE

Python SDK you can download it from

<https://cloud.google.com/>

[appengine/downloads?hl=en](#)

The Python SDK includes a web server application that simulates the App Engine environment locally.

The Python SDK runs on any computer with Python 2.7 and versions are available for Windows, Mac OSX, and Linux.

(Note: The Python SDK is not compatible with Python 3.x)

Check off the three steps below needed for the installation.

- ✓ Sign up for GAE.

- ✓ Have Python 2.7

installed in your system.

✓ Install the GAE Python SDK.

More detailed instructions for
command-line users:

[https://docs.google.com/
document/d/
1ImNWU1p4SFvlt1rdY5NDIxU0p
RQ_TZMGtGTBWn0ZWKE/pub](https://docs.google.com/document/d/1ImNWU1p4SFvlt1rdY5NDIxU0pRQ_TZMGtGTBWn0ZWKE/pub)

2) Creating

the Configuration Files

An App Engine application has a configuration file called `app.yaml`. Among other things, this file describes which handler scripts should be used for which URLs. Inside the `helloworld` directory, create a file named `app.yaml` with the content

below. You need to make sure the application name matches the one on your GAE account.

```
application: HelloWorld
version: 1
runtime: python27
api_version: 1
threadsafe: yes
handlers:
- url: /favicon\.ico
  static_files:
  favicon.ico
  upload: favicon\.ico
- url: .*
  script: main.app
libraries:
```

- name: webapp2
version: "2.5.2"

Deploying locally

3. Install dependencies in the project's lib directory.

Note: App Engine can only import libraries from inside your project directory.

```
```\n\ncd appengine-python-skeleton\npip install -r requirements.txt -t\nlib\n```\n
```

4. Run this project locally from the command line:

```
```\n\n dev_appserver.py . #don't\nforget .\n```\n
```

Visit the application <http://localhost:8080>

Deploy on GAE Server

See [the development server documentation] (<https://developers.google.com/appengine/docs/python/tools/devserver>)

for options when running
dev_appserver.

Deploy

To deploy the application:

1. Use the [Admin Console]
(<https://appengine.google.com>)
to create a
project/app id. (App id and
project id are identical)
1. [Deploy the
application]([https://
developers.google.com/
appengine/docs/python/tools/
uploadinganapp](https://developers.google.com/appengine/docs/python/tools/uploadinganapp)) with

```

```
appcfg.py -A <your-project-id>
--oauth2 update .
```

```

**Congratulations! Your
application is now live at your-
app-id.appspot.com**