CMPUT 410 Lab 4 – Flask, SQLite3

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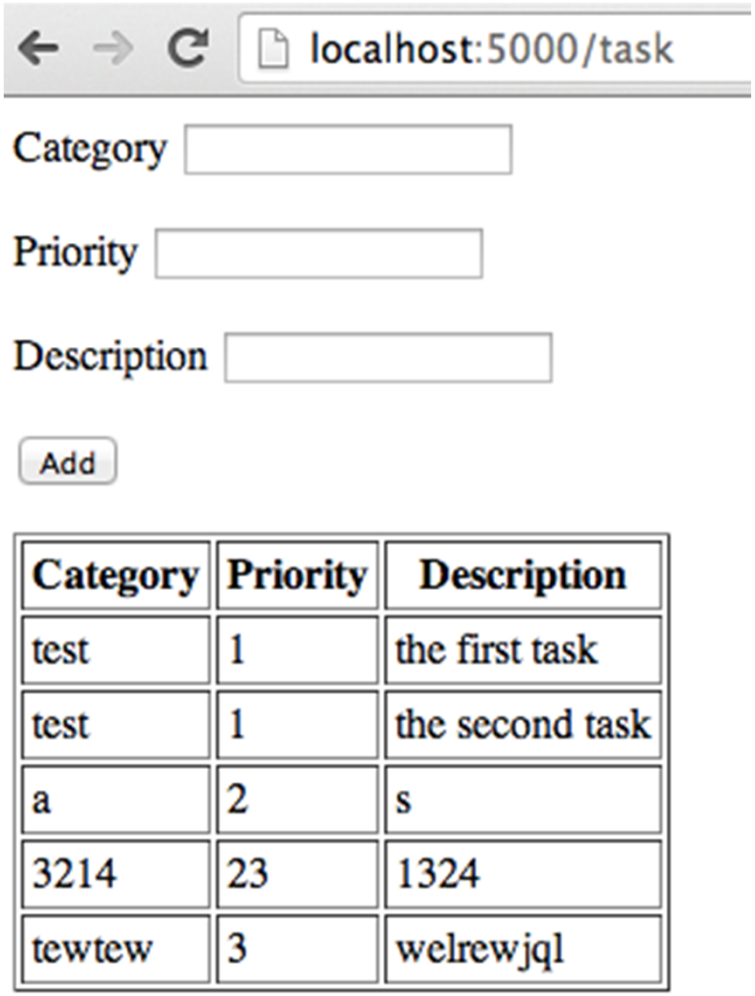
All or some parts of the slides of this presentation are duplicated / changed from the References (last page)

Summary

- Exercises
- Introduction
- Installation
- Examples
  - hello Flask!
  - todo-list
  - database (sqlite3)
  - integration
- References

Exercises

- Build a todo-list with Flask
  - category – string
  - priority – integer
  - description – string
  - use database for persistence



- Extra tasks
  - Change the port #
  - Make sure that "priority" is an integer
  - Provide functionality to remove an item

Introduction

- Flask is a micro web development framework for Python
  - micro – simple, fit into one Python file, still extensible
  - depends on two external libraries
    - Jinja2 - http://jinja.pocoo.org/2/documentation/
    - Werkzeug - http://werkzeug.pocoo.org/documentation/
  - tutorials - http://flask.readthedocs.org/en/latest/

Installation

- Create a virtual environment
  - virtualenv env-lab4
  - source env-lab4/bin/activate
- Install Flask
  - pip install Flask
- Testing
  - python
  - import flask
    - No error should be returned
  - python hello.py
    - will show message: * Running on http://127.0.0.1:5000/

Examples

1. Hello Flask!
2. Hello Flask2!
3. A simple list, supporting "add"
4. Connecting to Database (see next pages for guidance)
5. Integrating the above two examples

SQLite3 …

- a lightweight SQL database engine that supports most of SQL92
- Version in lab machines: 2.8.17 (newest: 3.8.8.2)
- launch
  - sqlite3 your-database-name.db
- create a table
  - CREATE TABLE person (name VARCHAR, age INT);
- check schema: .schema

… SQLite3

- List tables: .tables
- See the details of fields: pragma table_info(person)
- See columns separately: .mode column
- See column headers: .headers on
- insert some values
  - INSERT INTO person (name, age) VALUES ('John', 20);

Happy Coding!

1. Lab exercise: Complete the code (see page 3 for the definition)
2. Want an extra exercise?

Reference

1. http://flask.readthedocs.org/en/latest/
2. https://docs.python.org/2/library/sqlite3.html#sqlite3.Connection#sqlite3.Connection