Tutorial 4
Detail Guide for assignment 1

CSCI 4140: Open-Source Software Project Development Spring 2018

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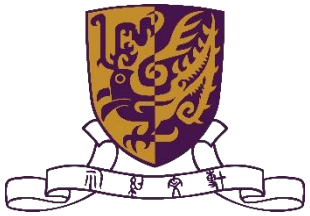
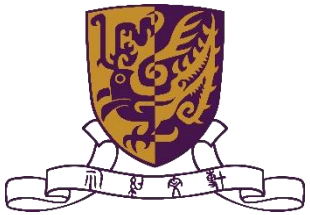


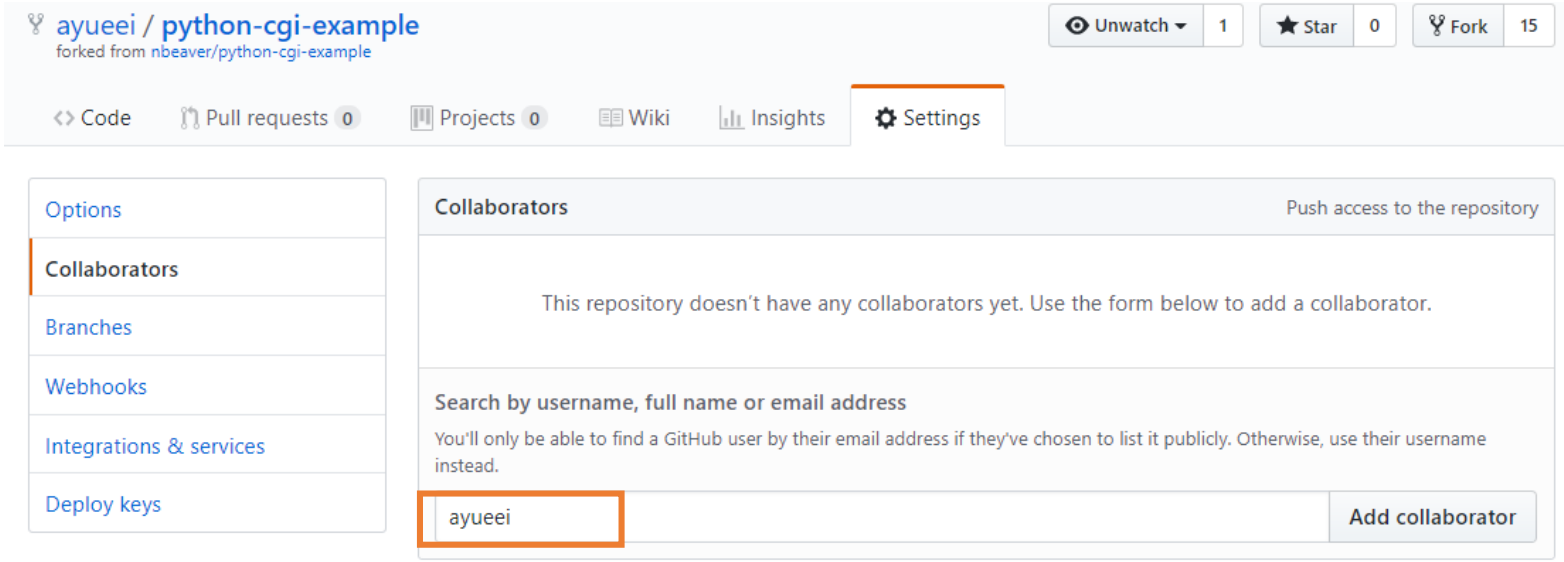
Outlines

- Development setting
- Some pitfalls to avoid
- Cookie



Development Setting

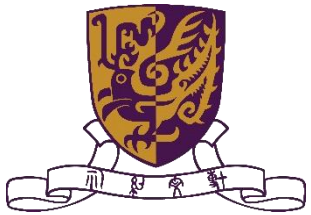
- Put your code in a private repository!
- Add me as your collaborators (or if you use bitbucket or gitlab, give me right to access your codes)



Development Setting

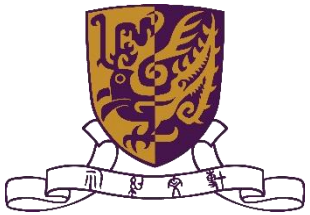
- Basic development procedure:
  - Test your codes locally first
    - e.g. “python app.py” to run a server, then go to the browser to visit web page generated by your cgi scripts
  - Git push it into your github repository
  - Deploy it on OpenShift
    - use OpenShift to create a project
    - new an application using python image with your source codes
    - expose the service with a route
    - you can use **MiniShift** to do the testing for this part

- An example:
  - https://github.com/ayueei/python-cgi-example



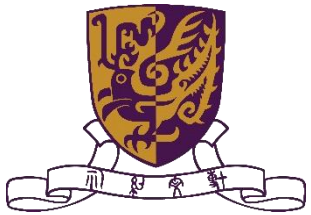
Development Setting

- Requirements for assignment #1
  - You need to use python (2 or 3) and html for this assignment
  - Allows:
    - CSS (we welcome ugly web page, this part will not be considered for grading)
    - Packages for database (**sqlite**, mysql, mongodb)
    - Packages for server (**python http.server** , apache http server)
  - Not-allows:
    - Javascript, php and other web programming languages
    - Packages other than database and server packages
      - E.g. Django, Flask, Nodejs…
- Minimum choice
  - A python image is enough for this assignment
    - Sqlite and python http.server are included



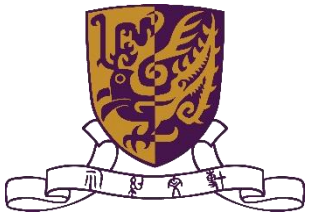
Development Setting

- Store all your python cgi scripts in a folder “cgi-bin”
- You might create some cgi files like:
  - index.py
  - register.py
  - login.py
  - logout.py
  - change_password.py
  - upload.py
  - edit.py
  - …
- You can create some template html files for use
  - Use python regex: re



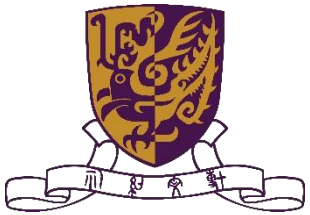
Some Pitfalls to Avoid

- Use private github repositories (if you cannot get a github student account, you can use bitbucket or gitlab)
- Generate a SSH key (private and public)
  - Add public key into your github
  - Add private key into your local machine (then you can connect to your github)
  - Add private key into OpenShift when adding an application into project (then OpenShift can clone your codes in the github)
- Some commands:
  - ssh-keygen -t rsa -b 4096 -C your_email@example.com
  - Enter a file in which to save the key (/c/Users/you/.ssh/id_rsa):[Press enter]
  - Enter passphrase (empty for no passphrase): [Type a passphrase] **Keep it empty!!!**
  - eval $(ssh-agent -s)
  - ssh-add ~/.ssh/id_rsa
- Two useful links:
  - https://help.github.com/articles/generating-a-new-ssh-key-and-adding-it-to-the-ssh-agent/
  - https://blog.openshift.com/deploy-private-git-repositories/



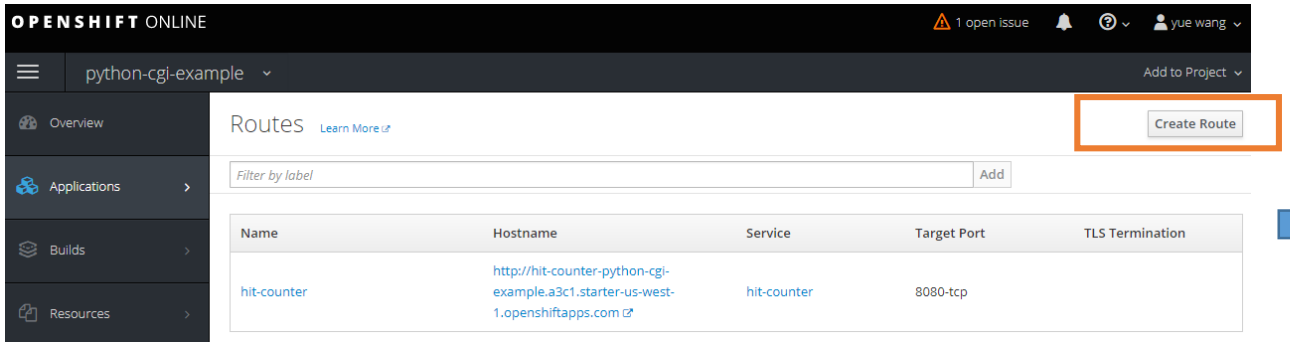
Some Pitfalls to Avoid

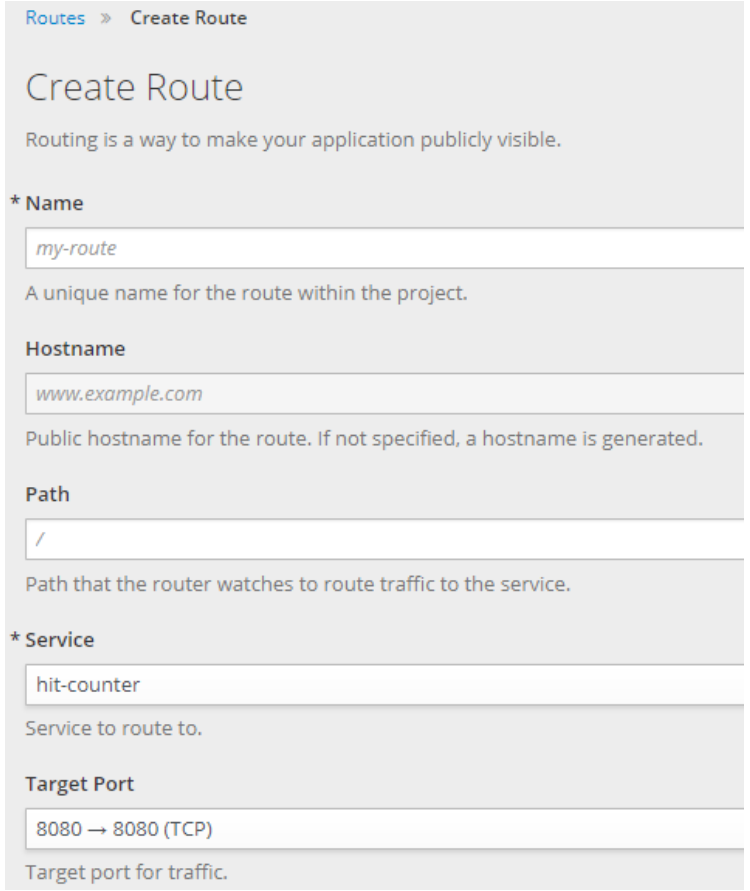
- Let OpenShift know where to run a server:
  - Name the script that activates a server as app.py (default)
  - (Or) add an environment variable in deployconfig: APP_FILE=<your_file>
- Make sure the scripts are executable (use "chmod +x <your_file>" to make the file executable)
- Add "#!/usr/bin/env python" into the first line of your python scripts
- When creating the route, you need to specify the path to your target script.
  - E.g. oc expose svc/hit-counter --path=/cgi-bin/hit-counter.py
  - (Or) do this in the web console (see next slide)



Some Pitfalls to Avoid

- Go to here





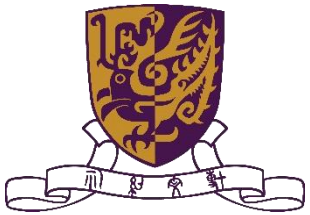
Cookie

```
#!/usr/bin/env python

import Cookie
import datetime
import random

expiration = datetime.datetime.now() + datetime.timedelta(days=30)
cookie = Cookie.SimpleCookie()
cookie["session"] = random.randint(1000000000)
cookie["session"]["path"] = "/"
cookie["session"]["expires"] = \
expiration.strftime("%a, %d-%b-%Y %H:%M:%S PST")

print "Content-type: text/plain"
print cookie.output()
```



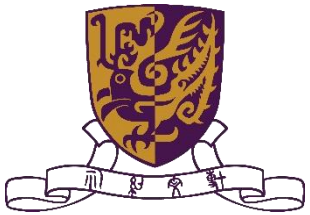
Cookie

```
#!/usr/bin/env python

import Cookie
import os

print "Content-type: text/plain\n"

try:
    cookie = Cookie.SimpleCookie(os.environ["HTTP_COOKIE"])
    print "session = " + cookie["session"].value
except (Cookie.CookieError, KeyError):
    print "session cookie not set!"
```



Thanks for listening !