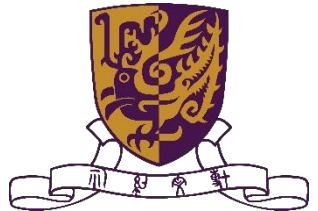


Tutorial 4

Detail Guide for assignment 1

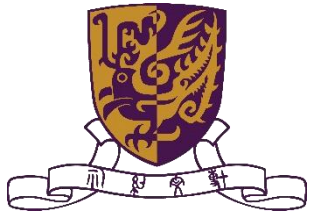
CSCI 4140: Open-Source Software Project Development Spring 2018

WANG, Yue
02/08/2018



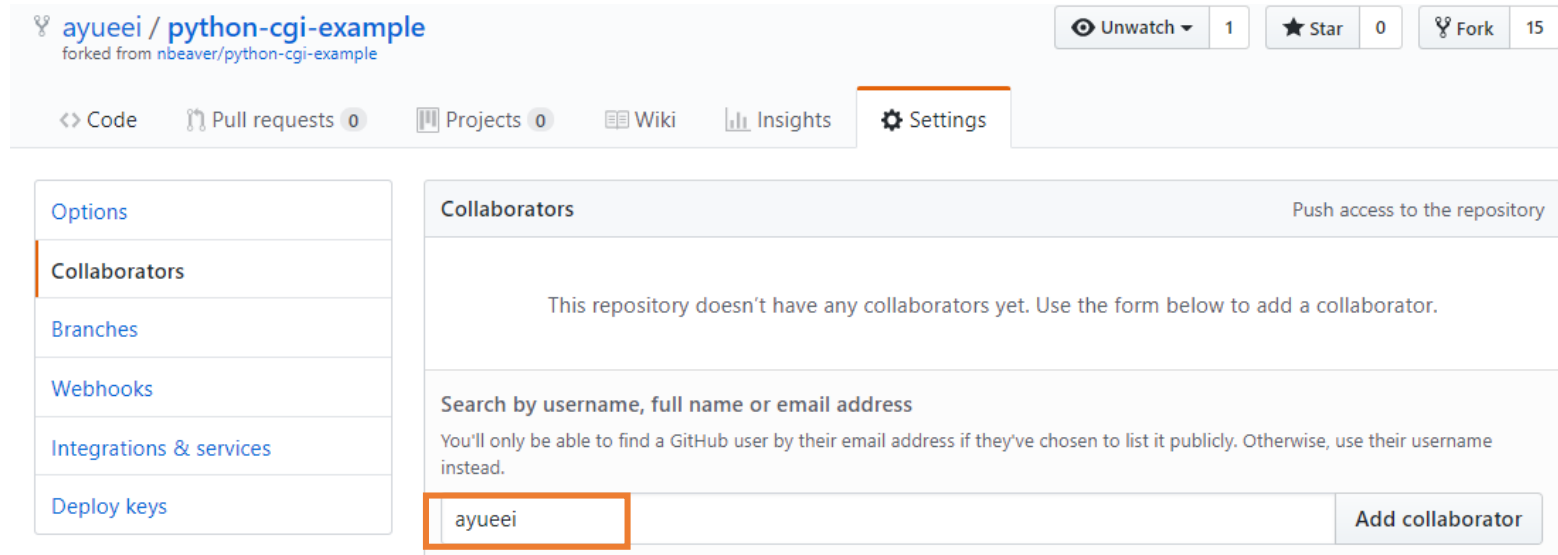
Outlines

- Development setting
- Some pitfalls to avoid
- Cookie

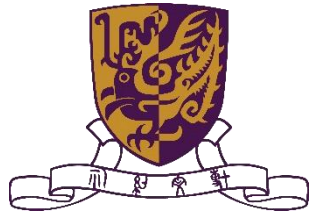


Development Setting

- 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)



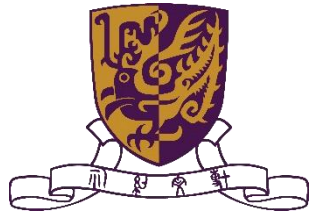
The screenshot shows the GitHub repository settings for 'ayueei / python-cgi-example', which is a fork of 'nbeaver/python-cgi-example'. The 'Settings' tab is selected, and the 'Collaborators' sub-tab is active. The interface includes a sidebar with links to Options, Collaborators, Branches, Webhooks, Integrations & services, and Deploy keys. The main content area shows that the repository currently has no collaborators. A search bar is provided with the placeholder text 'Search by username, full name or email address'. Below the search bar, a note states: 'You'll only be able to find a GitHub user by their email address if they've chosen to list it publicly. Otherwise, use their username instead.' The search bar contains the text 'ayueei', and an 'Add collaborator' button is visible to the right.



Development Setting

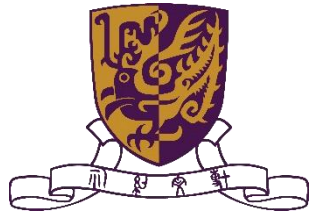


- Basic development procedure:
 - Test your codes locally first
 - e.g. “python app.py” to run a server, then go to the browser to visit web page generated by your cgi scripts
 - Git push it into your github repository
 - Deploy it on OpenShift
 - use OpenShift to create a project
 - new an application 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>



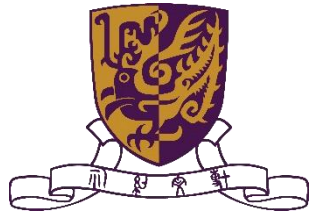
Development Setting

- 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



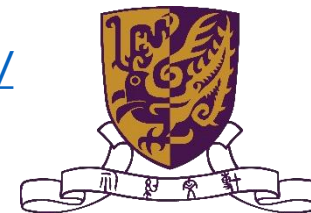
Development Setting

- 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



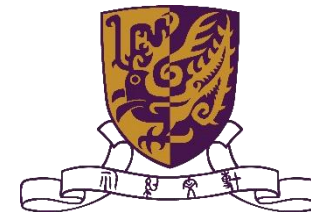
Some Pitfalls to Avoid

- 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/>



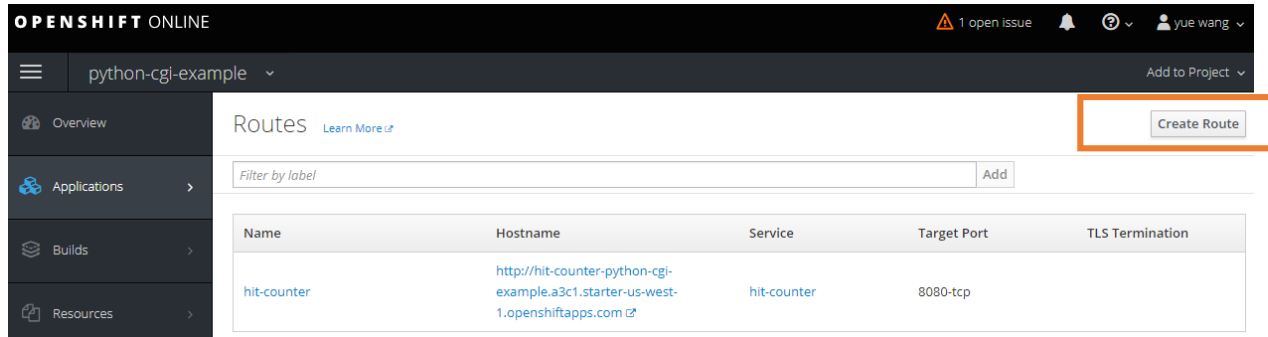
Some Pitfalls to Avoid

- 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



OPENSIFT ONLINE

python-cgi-example

Routes [Learn More](#)

Filter by label Add

Name	Hostname	Service	Target Port	TLS Termination
hit-counter	http://hit-counter-python-cgi-example.a3c1.starter-us-west-1.openshiftapps.com	hit-counter	8080-tcp	

Create Route

Routes » Create Route

Create Route

Routing is a way to make your application publicly visible.

*** Name**

A unique name for the route within the project.

Hostname

Public hostname for the route. If not specified, a hostname is generated.

Path

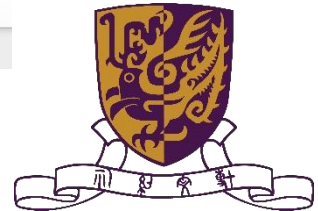
Path that the router watches to route traffic to the service.

*** Service**

Service to route to.

Target Port

Target port for traffic.



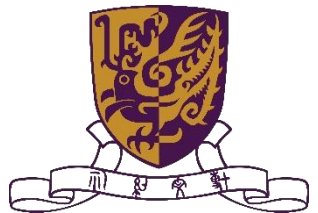
Cookie

```
#!/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"
```

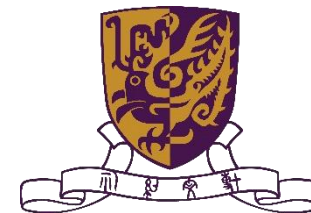
```
try:
```

```
    cookie = Cookie.SimpleCookie(os.environ["HTTP_COOKIE"])
```

```
    print "session = " + cookie["session"].value
```

```
except (Cookie.CookieError, KeyError):
```

```
    print "session cookie not set!"
```



Thanks for listening !

