

Web Search Engines (CS2580)

Homework 0

Due: 2013-02-13 5pm ET

Department of Computer Science, NYU

Spring 2013

This homework is not graded, it is assigned for you to get familiar with the coding environment.

1 Form a 3-person group

You will be working in groups of three for the project (and its homeworks). Please form the group as soon as possible (by February 13, 5pm) and register your group at:

<https://docs.google.com/spreadsheet/viewform?formkey=dH1NeVQzcGtGR29VeXJHMEFWTW5EZhc6MQ>

After registration, your group will be assigned a 2-digit group number (e.g., 03), via email from one of us. Remember this number: it will be used to identify homework submissions belonging to your group. If you don't hear from us 24 hours after registration, please give us a ping.

2 Implement an EchoServer

Your goal here is to implement a simple HTTP server that takes a user query at path `/search` through CGI argument `query`, and returns the same query back to the user. For example, if I do:

```
congyu@linserv1[~]$ curl localhost:258XX/search?query=test + query
```

I should simply get:

```
congyu@linserv1[~]$ test query
```

Note that `XX` should be replaced by your group number, and `+` in the query indicates a space.

2.1 Download Instructor Code

Your group directory inside `hw0` will be created after your group has been formed and confirmed with us. Once you've done that, you can follow the steps below:

1. Get access to `linserv1.cims.nyu.edu`. Note that `linserv1` is not accessible from outside and you must connect to `access.cims.nyu.edu` or some other departmental machines to get access to it.
2. Move to the `hw0` directory:

```
congyu@linserv1[~]$ cd /home/congyu/cs2580/hw0
```

You should see the directory `instructor` within.

3. Verify the content of the instructor's EchoServer code is readable to you:
`congyu@linserv1[hw0]$ cat instructor/edu/nyu/cs/cs2580/EchoServer.java`
 This instructor version of the code is a skeleton and your job is to modify it to do the "echo" task.
4. Copy the instructor code to your group directory:
`congyu@linserv1[hw0]$ cp -r instructor/* gXX`
5. Modify the port number inside the instructor code!
6. Compile the modified code:
`congyu@linserv1[hw0]$ cd gXX`
`congyu@linserv1[gXX]$ javac edu/nyu/cs/cs2580/EchoServer.java`
7. Run the compiled code:
`congyu@linserv1[gXX]$ java edu.nyu.cs.cs2580.EchoServer`
 You should see the message:
`Listening on port: 258XX`
8. Test the server through another terminal:
`congyu@linserv1[~]$ curl localhost:258XX`
 You should see the message:
`Request received, but I am not smart enough to echo yet!`

You may find the instruction helpful at:

<http://cims.nyu.edu/webapps/content/systems/resources/computeservers/linserv>

2.2 Do the Homework

Modify the instructor's code to accomplish the "echo" task. You don't have to develop your code on `linserv1`. In fact, it is better to work on the code somewhere else and submit the code when the code is almost done.

2.3 Submitting Your Code

Submission for hw0 is not required. However, it is highly recommended to go through the submission process once you have the group formed: this basic server will be used in future homeworks:

1. If you are developing your code elsewhere, copy it into `/home/congyu/cs2580/hw0/gXX/` (on `linserv1`), maintaining the same subdirectory structure as before.
2. Compile and run to make sure everything works properly.
3. Give us the permission to access your code
Note: you must make sure your group directory is recursively accessible by us (i.e., every file inside the whole directory tree rooted at gXX). Often, after you recompile your code, some files will be created with the wrong permission, it is YOUR responsibility to set the permission correctly. If we can't read your code, you will get a ZERO for the homework.
`congyu@linserv1[gXX]$ cd /home/congyu/cs2580/hw0/gXX`
`congyu@linserv1[gXX]$ chgrp -R cs2580gXXsp13 *`
`congyu@linserv1[gXX]$ chmod -R 750 *`
4. At 5pm ET on February 13th, we will turn off access to `hw0` and the grading will begin (although not this time since this homework is not graded).