CGI Instructions

Revised for the cgi3.zip example

Understand local vs. remote

Some of the commands need to be done "locally", that is on *your* computer. You will be doing them in the terminal but without connecting to yoda through ssh. When you are in a *local* shell, you are essentially giving commands to your computer. Other commands need to be done "remotely", that is on yoda. When you are in a *remote* shell, you are giving commands to yoda. It is confusing, because the two shells looks very similar. You do have one clue, though. When you are in your local shell, you will see your *local* computer name at the beginning of the line. If you connected to yoda, you will see something like "skywalke@inf1004:~". (Yoda is officially known as "inf1004" on the network, don't ask why.)

To go from local to remote, run ssh. To return to local type "exit" in your remote shell. Often you will want to have both open at the same time: a remote shell in one terminal window and a local shell in another.

Create a CGI directory

If you weren't in class when we started with CGI, you will need to create a directory called "cgi-bin" and give it proper permissions. To do this, first connect to yoda over SSH, then run the following commands ***remotely***:

```
mkdir ~/public_html/cgi-bin
chmod a+rx ~/public_html/cgi-bin
```

Install the Sample Script

Get cgi3.zip from http://takhteyev.org/courses/11W/inf1343/cgi3.zip. Unzip it and find the following files in it:

    form.html
    cgi-bin/personas.cgi
    cgi-bin/personas_xml.cgi

Open personas.cgi and personas_xml.cgi with a program like Notepad++ (Windows), TextWranger (Mac) or Gedit (Linux). Change the line that says:

```
config = "/home/kenobio1/.my.cnf"
```

so that it would have your username (utorid) instead of "kenobio1". For example, if your username/utorid is "skywalke", you should change that line to

```
config = "/home/skywalke/.my.cnf"
```

At this point you should be careful to not make ANY other changes. (There will be an opportunity for experimentation later.)

Copy the files to yoda. To do this, open a terminal and use scp to copy over the files. Do this ***locally***. (Either exit your remote shell or open a new terminal and do not connect to yoda in it.)

The form.html file should go into your "public_html" directory, while the files from the cgi-bin directory should go to your "public_html/cgi-bin" directory.

```
scp form.html skywalke@yoda.ischool.utoronto.ca:~/public_html/
scp cgi-bin/personas.cgi skywalke@yoda.ischool.utoronto.ca:~/public_html/cgi-bin/
scp cgi-bin/personas_xml.cgi skywalke@yoda.ischool.utoronto.ca:~/public_html/cgi-bin/
```

(You should be running this from the directory where the unzipped files are or specify the full file path to each file.)

If you find the command-line SCP client too confusing, you can try a GUI SCP program. On Windows, WinSCP is a popular option. There is probably something for OSX too.

Once you copy the files, you still need to set the right permissions. Otherwise, the web server won't be able to use them. For form.html the right permissions are "a+r" (everyone is allowed to read). For the CGI files, it's "a+rx" (everyone is allowed to read or execute). Do this *remotely* (after connecting to yoda with ssh).

```
cd ~/public_html/
chmod a+r form.html
cd ~/public_html/cgi-bin/
chmod a+rx personas.cgi
chmod a+rx personas_xml.cgi
```

Test it

You should be able to go to

   http://yoda.ischool.utoronto.ca/~skywalke/form.html

(substitute your username for "skywalke") and see the same result as at

   http://yoda.ischool.utoronto.ca/~kenobio1/form.html

Namely, you should see a page with three HTML forms, which allow you to submit three kinds of requests. Have a look at the source of this page ("View > Source"). Fill in the first form and click on "submit". This should take you to a URL that would look roughly like this:

   http://yoda.ischool.utoronto.ca/~kenobio1/cgi-bin/personas.cgi?species=Human&gender=F

Notice that the values that you chose become included in the URL: if you chose the species to be "Human", then you would see "species=Human" in the URL.

The page you get back should display the submitted values, the template of the SQL query, and the SQL query after the values were filled-in. (That's what eventually get sent to the database.)

The second query is the same except that the user gets to fill in any values they want.

The third query is different in that it gives us XML output rather than HTML.

If things aren't working at this point, go through all the steps again, consult with your colleagues or check with me.

Experiment

If you got my version of the form and the two scripts working, you start experimenting with it. Edit the files, then copy it to yoda again and see if you can, for example, have it display different columns, show results of a different query, display them a little differently or eventually to query your own database.