CNT 5106 Computer Networks

Project I Individual Project

Implementation of FTP client and server

1. Description

In this project, you will implement a simple version of FTP client/server software. It consists of two programs: ftpclient and ftpserver. First, the ftpserver is started on a computer. It listens on a certain TCP port. Then, the ftpclient is executed on the same or a different computer; the server's address and port number are supplied in the command line, for example, "ftpclient sand.cise.ufl.edu 5106". The client will prompt for username and password. After logon, the user can issue three commands at the client side: "dir" is to retrieve the list of file names available at the server, "get <filename>" is to retrieve a file from the server, and "upload < filename>" is to upload a file to the server.

The implementation does not have to conform to the FTP standard. Data and command may use the same TCP connection or different connections. The server should support multiple concurrent clients.

2. Programming Environment

Programming language: Java, C, C++, C#, Python
Operating System: Windows, Mac OS or Linux
Programming Tool: Eclipse, IntelliJ, Jcreator, Netbeans, … whatever you like.

To use Eclipse, please go through the following list:

1. Download JDK from: https://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html

2. Download Eclipse from: http://www.eclipse.org/downloads/

3. Here is a link for eclipse tutorial:
http://eclipsetutorial.sourceforge.net/totalbeginner.html

4. Here is a tutorial for socket programming in Java:
http://java.sun.com/docs/books/tutorial/networking/sockets/

3. Code Submission

If you use Java, you will need to submit the following files: ftpserver.java, ftpclient.java, (optional README.txt with instructions on how to run your code) in a zipped directory, e.g., project1.rar.

If you use C/C++/C# or Python please put all source files and executables in a zipped directory. Submit the project through Canvas:

1) Go to https://ufl.instructure.com/
2) Login with your gator link username/password
3) Go in CNT 5106C
4) Click on "Assignments" and submit your project

This is an **individual** project. Students must submit their code via Canvas, by **October 13**. Before uploading your code on Canvas, please make sure it compiles and runs. We will use the uploaded files during the demo. We will run an automatic tool to catch submissions with identical or similar code. There will be **no** late submissions.

4. Demo Policy

Each student must present a demo of their project to a TA during office hours from Monday October 14th to Wednesday October 23rd. Office hours will be held as usual at E309 (or E312 in case E309 is occupied) on Monday 2-4 p.m. and Wednesday 1-3 p.m. There will be a Google Doc where you must pick a time slot and put down your name. You must sign up for your demo and show up during the time slot that you sign up for. You can run your demo either on a CISE computer, or on your own laptop. Each student will only have 5 minutes to present their demo, so please prepare your system in advance. You'll have to download the zip file that you uploaded on Canvas, compile the ftpserver.java and ftpclient.java files and use them for the demo. Do not bring other project files with you at the demo day. We will ask you to run the commands as they are presented in the project description. We might also ask you to open your java files and briefly talk about your code.