

FTP - File Transfer Protocol

CISC 856-010: TCP/IP and Upper Layer Protocols

Due: 15 Nov 2012

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Part 1

Read Chapter 21 in TCP/IP Protocol Suite by Forouzan

1. Complete online quiz for Chapter 21 and email quiz results to Professor Amer
2. Turn in answers for problems: 1, 5, 8, 9, 11, 15
3. Why does FTP sometimes work in passive mode when FTP did not work in active mode?
4. Why do we need 2 connections in FTP protocol?

Part 2 – Understanding FTP Connections

In this part you will establish an ftp connection from your laptop while you are in campus (i.e. you should have UD IP address) to a ftp server named *cisc856.acad.cis.udel.edu*

Your username should be “*anonymous*” and the password is your *email address*.

You should upload your client.txt file in */cisc856* and download files from */pub/cisc856*

The file that you create and upload should be named: *YOURNAME.txt*. For example, my name is Paul Amer, so the file I upload is *PaulAmer.txt*. The delete permission is not given on the files so if you are trying to a upload file multiple times (overwrite) you will get an error, so instead, every time upload the file with different file name (e.g. PaulAmer1.txt, PaulAmer2.txt...)

NOTE: Create a small size file on your ftp client named *YOURNAME.txt*

1. Start **Wireshark** on the client to monitor all traffic between the client and the anonymous FTP server.
2. From the client machine, establish an **ftp** connection with the server

```
ftp -d cisc856.acad.cis.udel.edu
```

[the -d flag turns on client debugging]
3. Use the command **cd directory** to change the path to */cisc856* Upload your file *YOURNAME.txt* to the server.

```
put YOURNAME.txt
```
4. Use the command **cd directory** to change the path to */pub/cisc856* Download all (3) the server*.txt files from the server

```
mget *.txt
```

You should observe that *several* data connections are used. Make sure you annotate how many connections are created, and what is the purpose of each one.

5. Toggle your client-server from active mode to passive mode by entering
passive
6. Repeat steps 3 - 4 (annotate in the **Wireshark** output when step 5 was performed).
7. Exit ftp and close **Wireshark**.

Turn in an annotated transcript of your **Wireshark** output, and an annotated transcript of the client session along with the answers to the following questions:

1. Indicate where in the **Wireshark** any control connection(s) is (are) opened/closed.
2. Annotate the PDUs containing your username “anonymous” and password “email address” being sent over the control connection. (Can you see the password?)
3. Annotate *each* data connection in the **Wireshark** output using a different color, and explain what “data” is being transferred over each connection. Use analogous colors to highlight the user session to match the **Wireshark** output.
4. How many data connections were opened/closed? Highlight their different port numbers.
5. Who (server or client) initiates each connection? The FTP RFC states that the server opens the data connection. If you witness the client opening a data connection, explain why.
6. How many server side port numbers were used for FTP?