Experiment - 6

CONCURRENT FILE SERVER (USING TCP)

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Compiling the Program

To compile the program:

`javac Server.java`

`javac Client.java`

Running the Program

In a terminal, run the Server program. While the Server is running, run the Client programs in other terminals. The server listens on port 5000 and the clients try to connect to 127.0.0.1:5000 by default. This value is hardcoded.

In the first terminal:

`java Server`

In the other terminals, run:

`java Client`

The client requests have to be typed by the user into the terminal when prompted (i.e., when seeing '>>').

You can authenticate yourself with the server using a valid token. Two tokens have been hardcoded in the server:

- **userpass**
- **adminpass**

Supported Commands

→ **auth** : Authenticate to the file server.
→ **get** : Request a file from the server.
→ **put** : Send a file to the server.
→ **exit** : Logout and exit the program.

Screenshots

```
PS D:\Downloads\S6\Network Programming Lab\File Server\src> ls .\client-storage\


    Directory: D:\Downloads\S6\Network Programming Lab\File Server\src\client-storage


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-a----          5/10/2021   10:42 AM        96477 skull.jpg


PS D:\Downloads\S6\Network Programming Lab\File Server\src> ls .\server-storage\


    Directory: D:\Downloads\S6\Network Programming Lab\File Server\src\server-storage


Mode                 LastWriteTime         Length Name
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-a----          9/28/2020    7:16 PM        33796 clarkson.jpg


PS D:\Downloads\S6\Network Programming Lab\File Server\src>
```

```
PS D:\Downloads\S6\Network Programming Lab\File Server\src> java Server

 .d8888b.
d88P  Y88b
Y88b.
 "Y888b.    .d88b.  888d888 888  888  .d88b.  888d888
    "Y88b. d8P  Y8b 888P"   888  888 d8P  Y8b 888P"
      "888 88888888 888     Y88  88P 88888888 888
Y88b  d88P Y8b.     888      Y8bd8P  Y8b.     888
 "Y8888P"   "Y8888  888       Y88P    "Y8888  888

Tokens:[userpass, adminpass]
Created server socket successfully. File Server listening on port 5000
Established connection with client @ 127.0.0.1:53718
Client successfully authenticated with: Thread-0
Client exited. Thread-0 terminated.
PS D:\Downloads\S6\Network Programming Lab\File Server\src>
```

```
PS D:\Downloads\S6\Network Programming Lab\File Server\src> java Client

 .d8888b.  888 d8b                        888
d88P  Y88b 888 Y8P                        888
888    888 888                            888
888        888 888  .d88b.  88888b.   888888
888        888 888 d8P  Y8b 888 "88b 888
888    888 888 888 88888888 888  888 888
Y88b  d88P 888 888 Y8b.     888  888 Y88b.
 "Y8888P"  888 888  "Y8888  888  888  "Y888

Connected to File Server @ localhost:5000. Using local port 53718.

 >> get
Process ID: 35172 |  Thread ID: 15
Error 403: Access Denied.

 >> auth
Enter authentication token:
userpass
Successfully logged in to the file server.

 >> get
Process ID: 35172 |  Thread ID: 15
Enter File Name: clarkson.jpg
Status Code: 200 (OK). File Transfer Successful.

 >> put
Enter File Name: skull.jpg
Process ID: 35172 |  Thread ID: 15
Status Code: 200 (OK). File Transfer Successful.

 >> put
Enter File Name: skull.jpg
Process ID: 35172 |  Thread ID: 15
Error 400: File already exists.

 >> exit
Connection with file server terminated. Exiting...
```

```
PS D:\Downloads\S6\Network Programming Lab\File Server\src> ls .\client-storage\


    Directory: D:\Downloads\S6\Network Programming Lab\File Server\src\client-storage


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-a----         5/10/2021  10:45 AM          33796 clarkson.jpg
-a----         5/10/2021  10:42 AM          96477 skull.jpg


PS D:\Downloads\S6\Network Programming Lab\File Server\src> ls .\server-storage\


    Directory: D:\Downloads\S6\Network Programming Lab\File Server\src\server-storage


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-a----         9/28/2020   7:16 PM          33796 clarkson.jpg
-a----         5/10/2021  10:45 AM          96477 skull.jpg


PS D:\Downloads\S6\Network Programming Lab\File Server\src>
```