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**Steps to perform:**

**Basic configurations before running the actual code: -**

1. Unzip the folder from Canvas
2. Download Pycharm
3. Create a folder named server, Client1, Client2, Client3 on your desktop
4. After downloading Pycharm, click on open import the unzipped folder from step 1.
5. Expand the code open the constants file point the constant ROOT Variable to your desktop location.
6. Click on add configuration button on top right side of your PyCharm. Click on + sign.
7. Select the Script\_path to client\_gui.py in my case it is /Users/el/Desktop/4THSEM/DS/Final Ds Lab1/Fernandes\_emf2253/client\_gui.py

(It could be different in your system- depends on where you save the unzipped file)

1. Give the parameter name as the folder you created for Client1 in **step3**. Apply->ok

A screenshot of a video game

Description automatically generated

1. Since the requirement is for 3 clients, do the same step for Client 2 and client 3.
2. You will see all the 3 clients in your Pycharm IDE as shown below: -
3. Parameters for client1 is client1 , for client2 is client2 , for client 3 is client3.(those are the folders which you create on your desktop)

A screenshot of a cell phone

Description automatically generated

1. You can add more clients if you wish to (Program handles more than 3 clients).

Start server, cliemt1, client2, client3.Connect all 3 clients with 3 different usernames.

Two phase commit functionalities: -

1. Delete the file from one of the folders. say suppose client 1 it acts as a coordinator
2. Since I have implemented a randomizer (as it was told in the doc)
3. If the other two clients vote request as commit, then file will be deleted from all the 3 folders
4. If any one of the clients aborts then file will be restored operation aborted.

Note: Code is written purely by me. I have used some tutorials on socket programming and on the tkinter gui for references. Below are the references (These references used just to get an idea on how socket programming and tkinter works): -

**References: -**

<https://www.bogotobogo.com/python/python_network_programming_server_client_file_transfer.php>

<https://www.python-course.eu/python_tkinter.php>