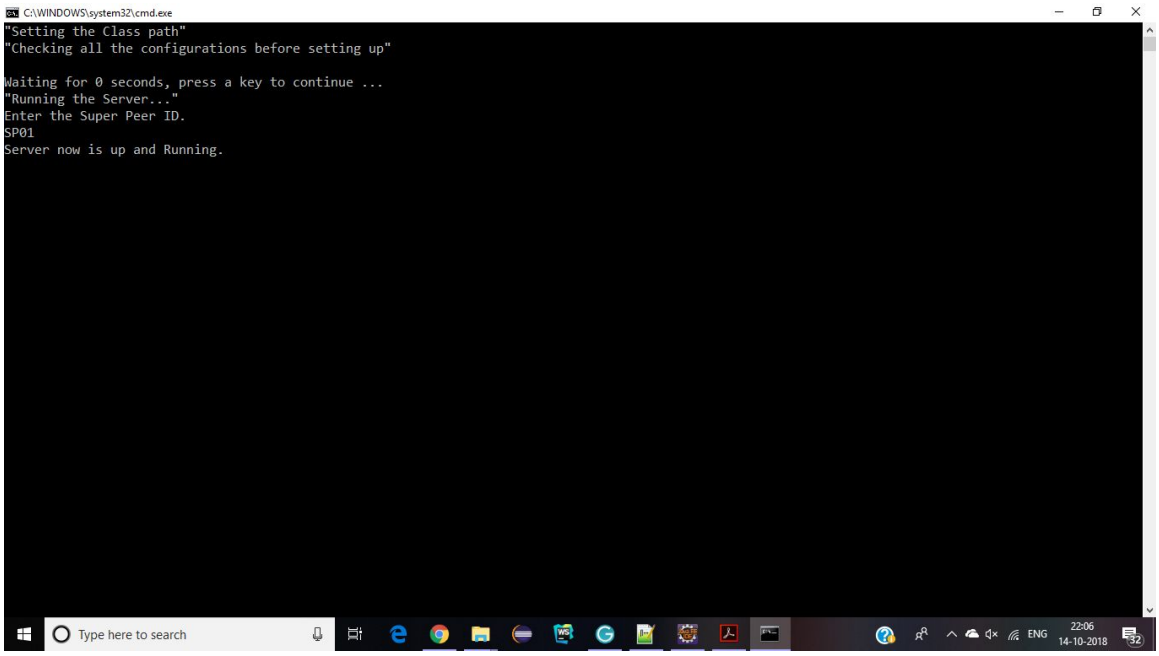
Manual

This document lists the steps needed to run us the program. Screenshots have been attached for reference.
We have three files that need to be run for the program namely :
run_server.bat, run_peer.test, run_test.bat.
These bat files will run only when you have the corresponding ".jar" files present ("Gnutella_P2P.jar" and "javax.ws.rs-api-2.0.jar")

Step 1

Open the run_server.bat file.
We will get a message in the command prompt asking the user to enter the super-peer ID. Once you enter the ID say "SP01" a message will be displayed saying that the server is now up and running. The server will now listen at the port mentioned in the property file.



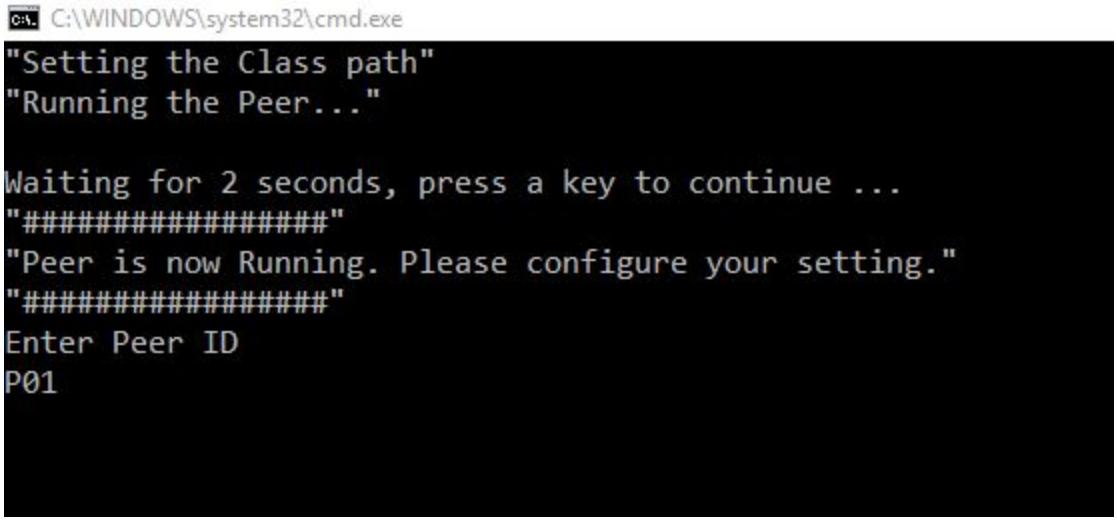
Repeat this step for the number of super-peers you want to set-up (maximum of 10 in our case. For additional super-peers you will have to modify the property file accordingly.)
Please note that the ID for each super-peer should be different.

Step 2

Once the servers are up and running you can leave them as they are.

Now run the run_peer.bat. Once it opens, a message asking the user to enter the Peer-ID. This ID is a unique name for the peer at the Index Server. Although we have used names here, alternatively IP addresses can also be used.

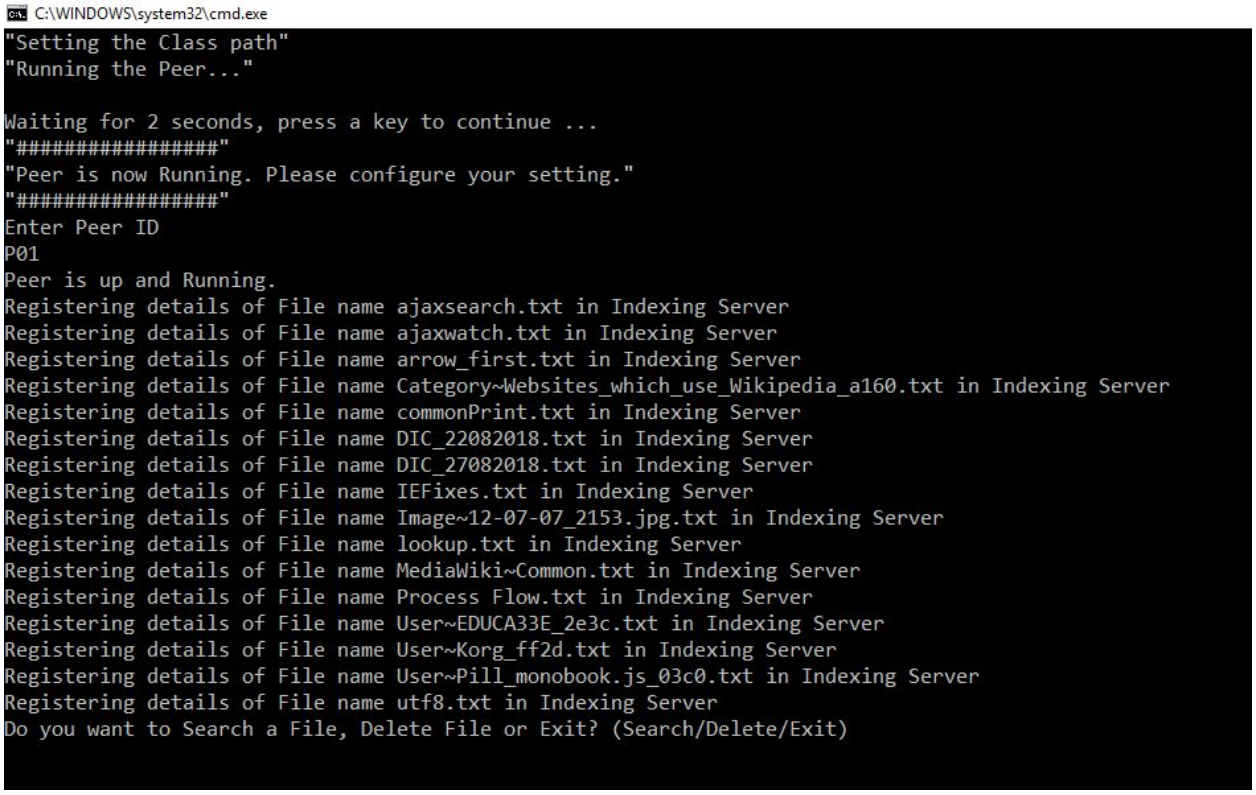
The Port No. at which the peer needs to be registered will be read from the property file.

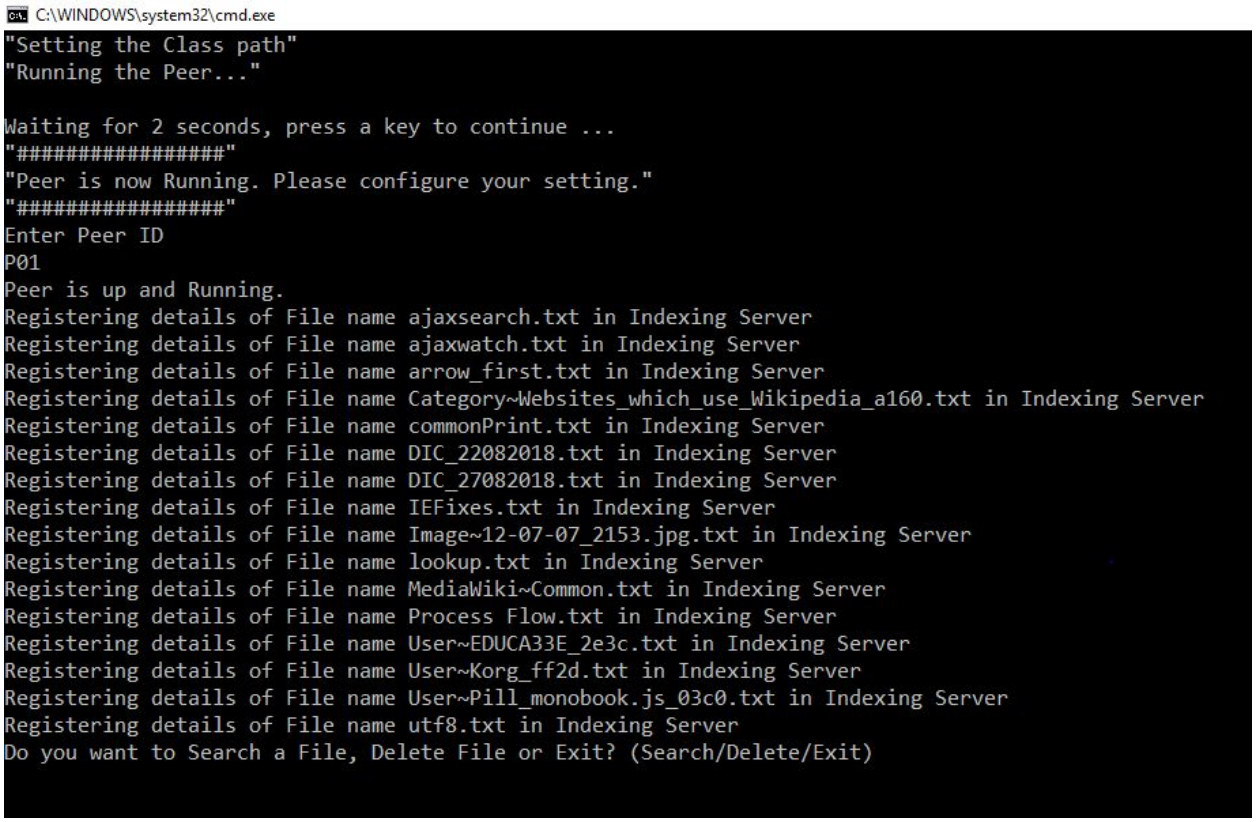


Repeat the step for the number of leaf nodes you want to set up. Please note that the Peer-ID for each should be different.

Step 3

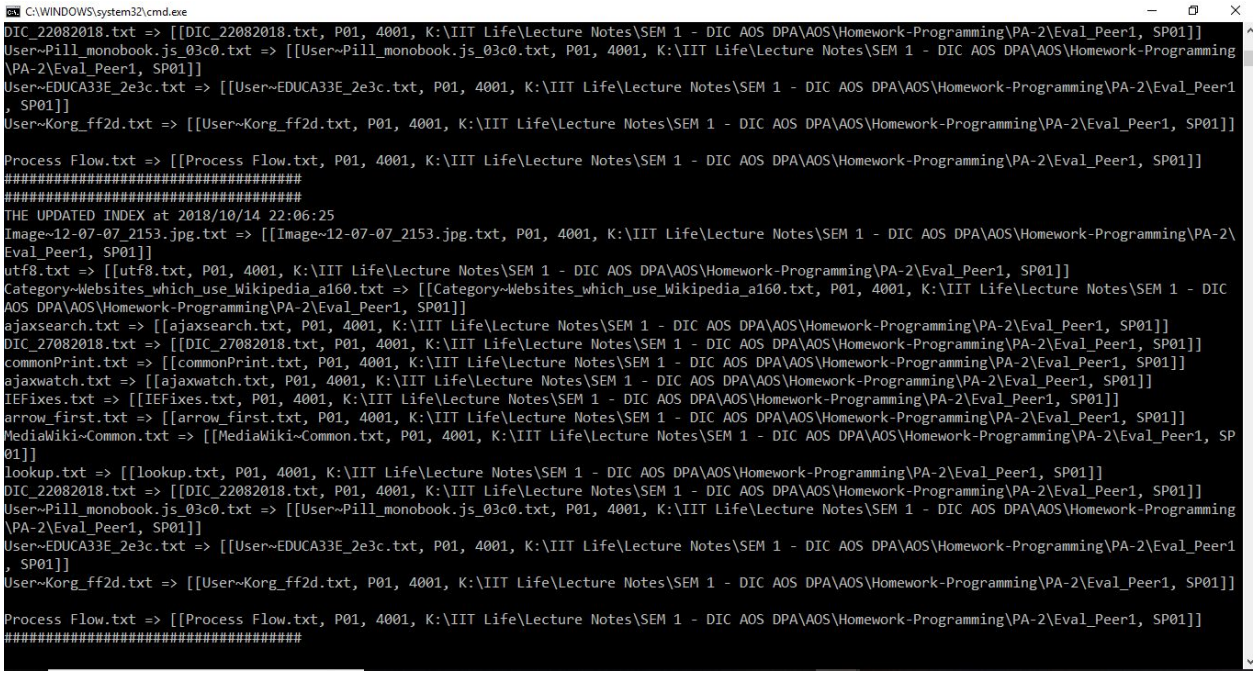
Once you enter the Peer IDs the command prompt will display as follows for the peer :





Step 4

The super peer will register all the leaf node files and the server screen will be visible as shown below.

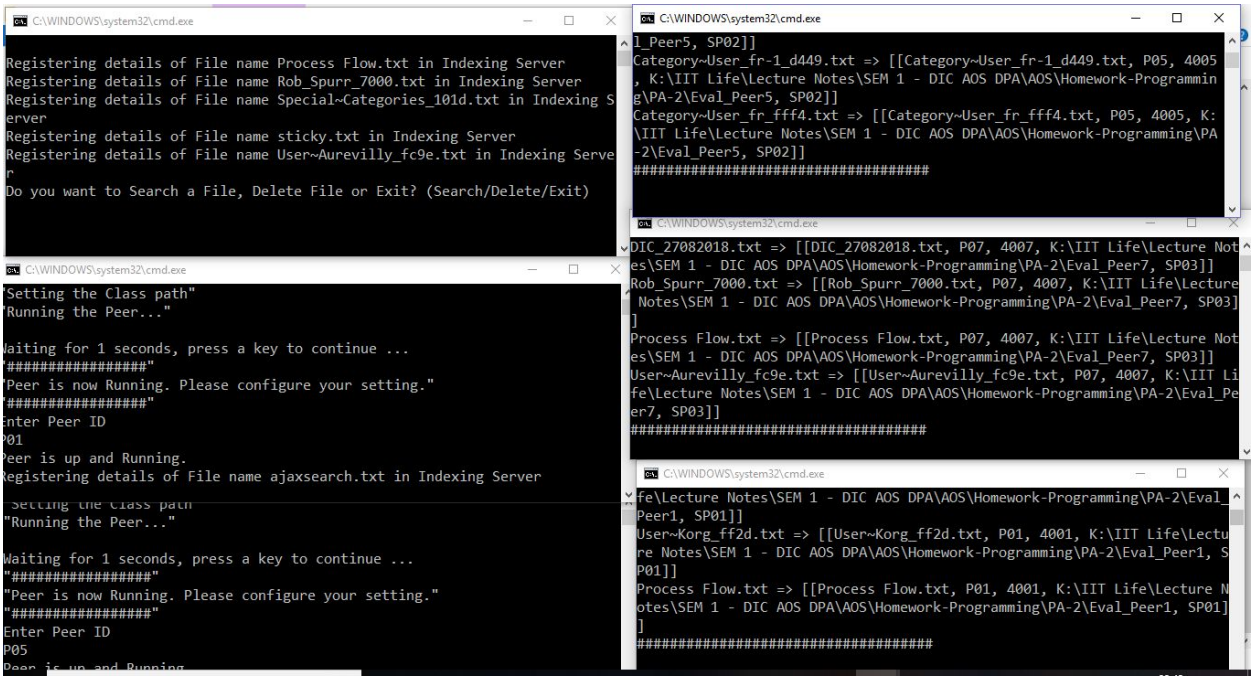


Step 5

Once the above steps are done you will now be able to see a prompt for the operation you want to perform(search, delete or exit) for all the peers that you have set up.

Step 6

Repeat the steps 1 to 5 for all the remaining supe-peersand leaf nodes before proceeding, to the next step. A screenshot has been attached showing 3 registered super-peers and 1 corresponding leaf node for each super-peer.



Note: While performing anything from Step 7 onwards keep all the tabs(servers and corresponding peers) shown above open all the time.

Step 7

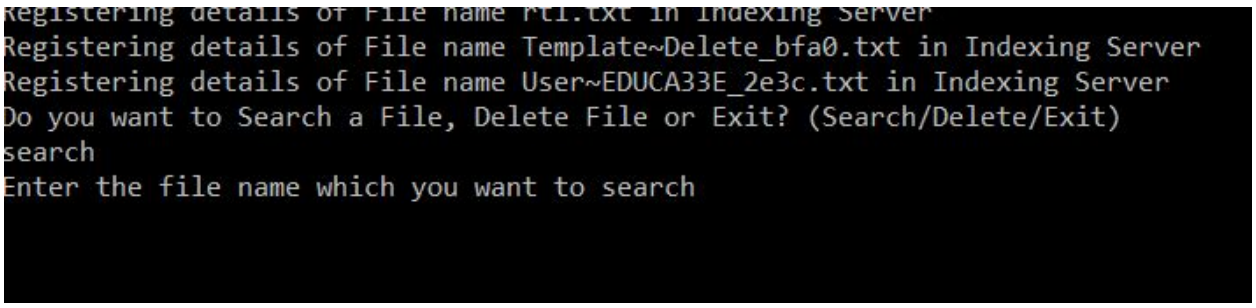
The prompt in any peer will now ask if you want to search or delete a file or exit the program.

Search File

If you want to search for the file, first type search in the prompt of the leaf node where you want to search. For ex: If you want to search file using leaf node 1 (Peer ID = P01) type search in the first peer's tab.

The entry is not case sensitive.

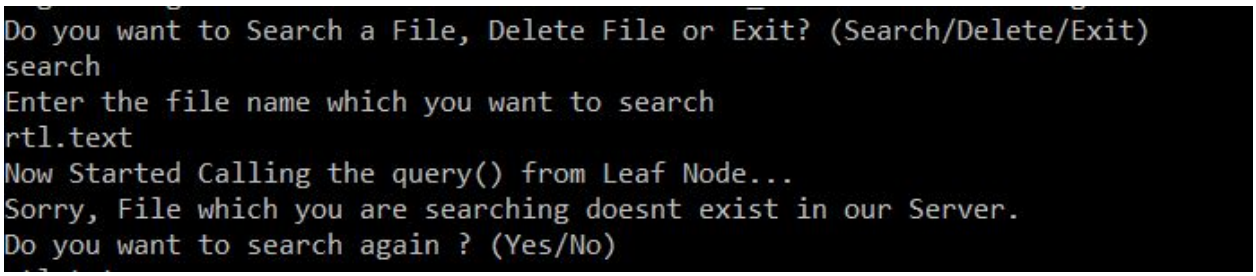
After this, the prompt will request for the file name you want to search.



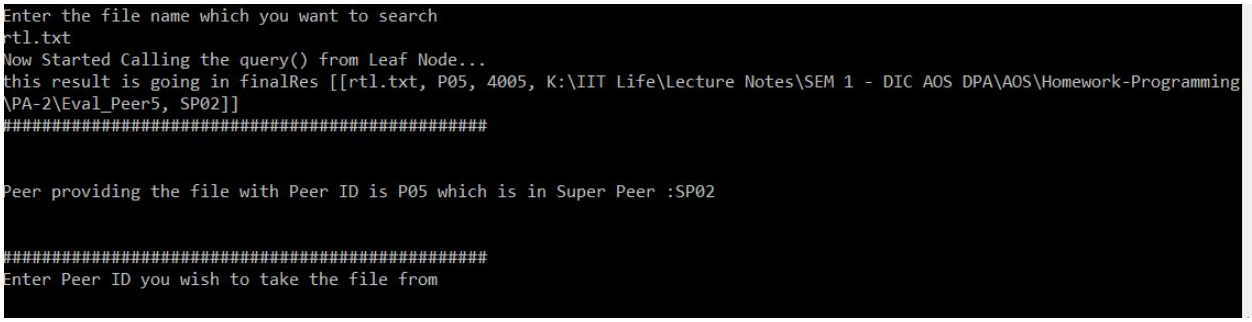
We search for the file "rtl.txt" as an example.

The file is located at Leaf Node 5 (Peer ID = P05) and we are searching the file from Leaf Node1 (Peer ID = P01) .

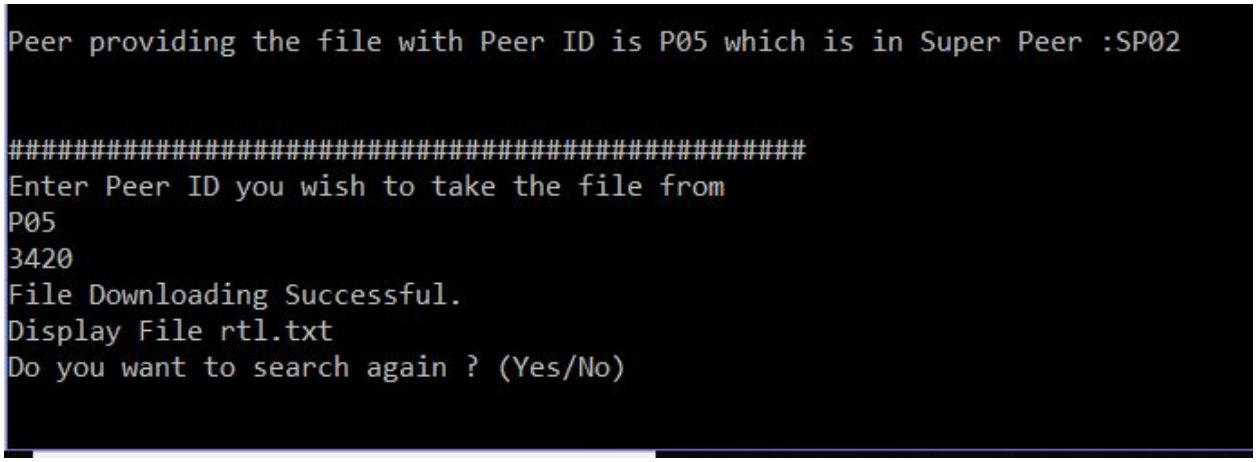
If the file is not available :
It will show the message that the file doesn't exist in our server as shown below.



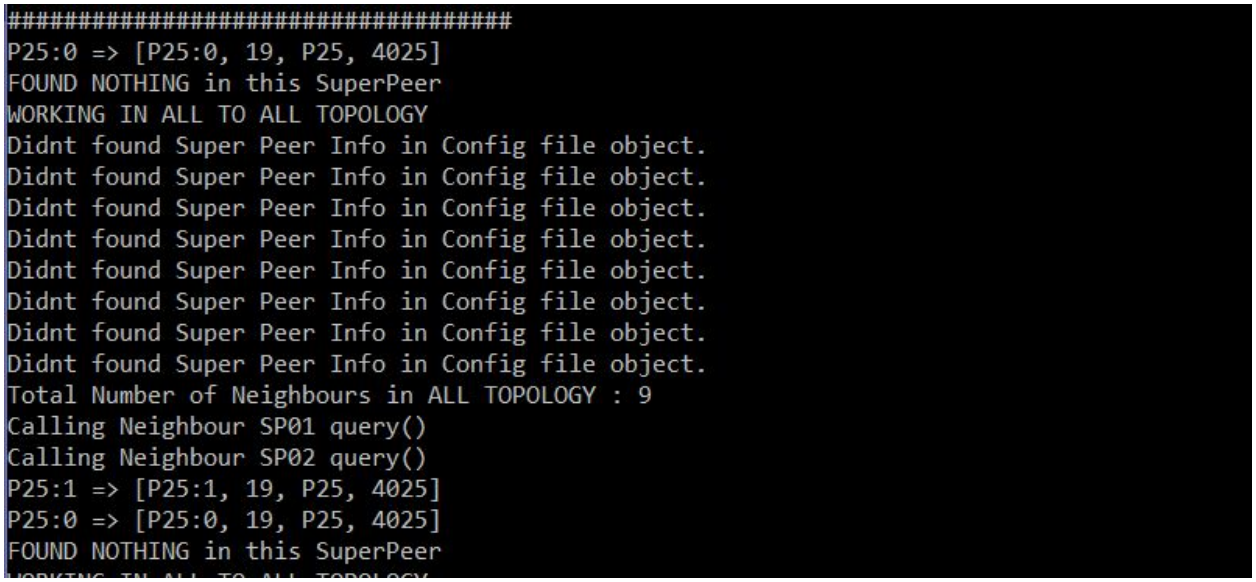
If the file is found it will display the message as follows :

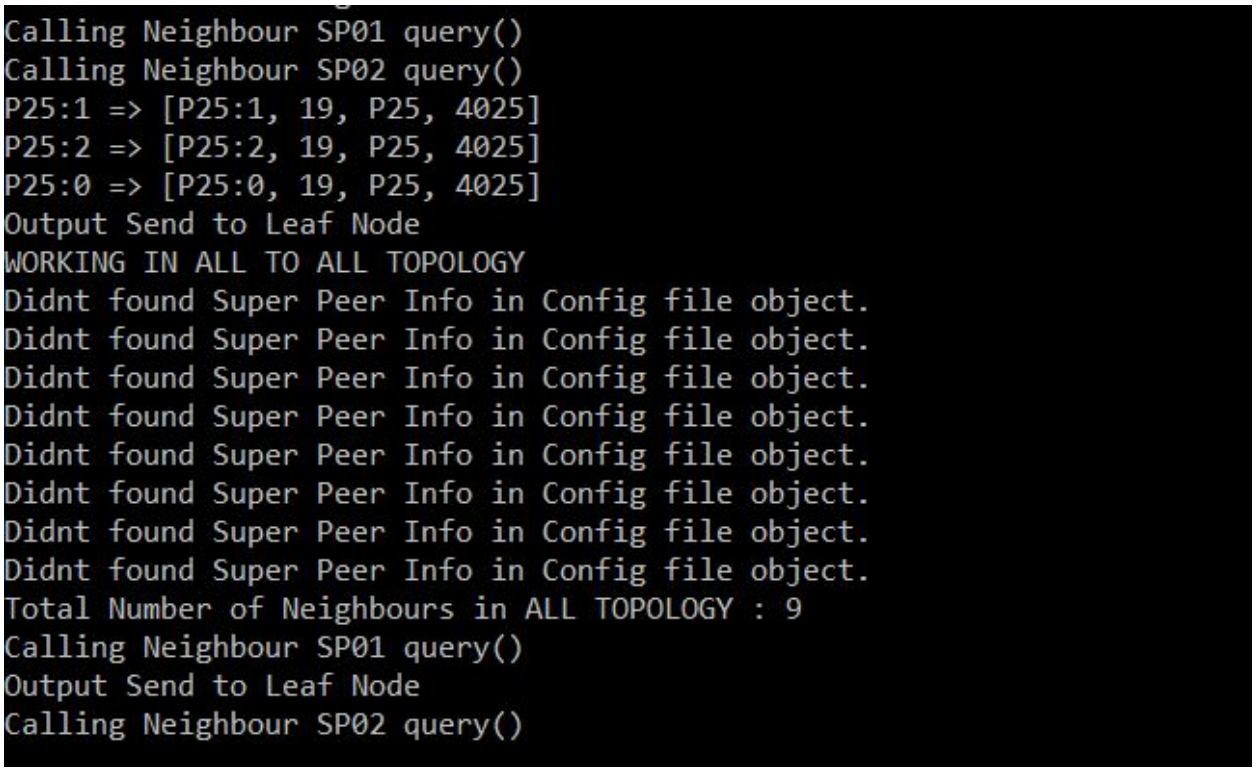


The prompt will now ask you to enter the Peer ID from where you wish to download the file.
Enter the Peer-ID and download the desired File.
The screen will display the message shown below.



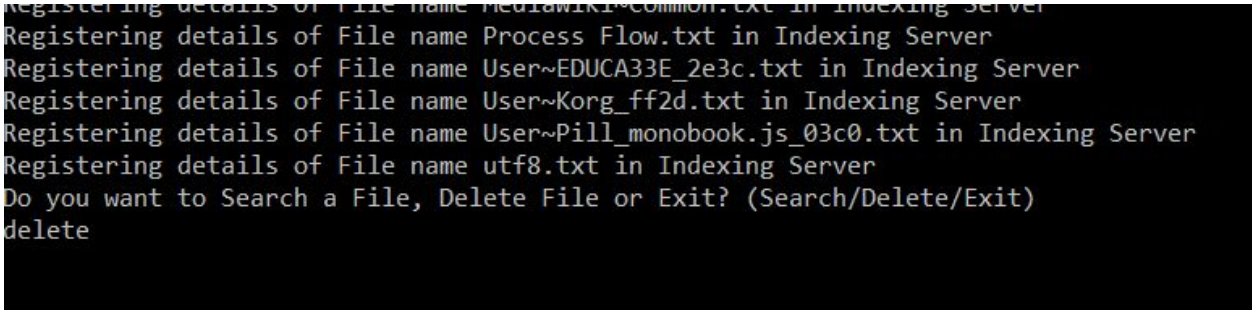
The super-peer screen will show as follows



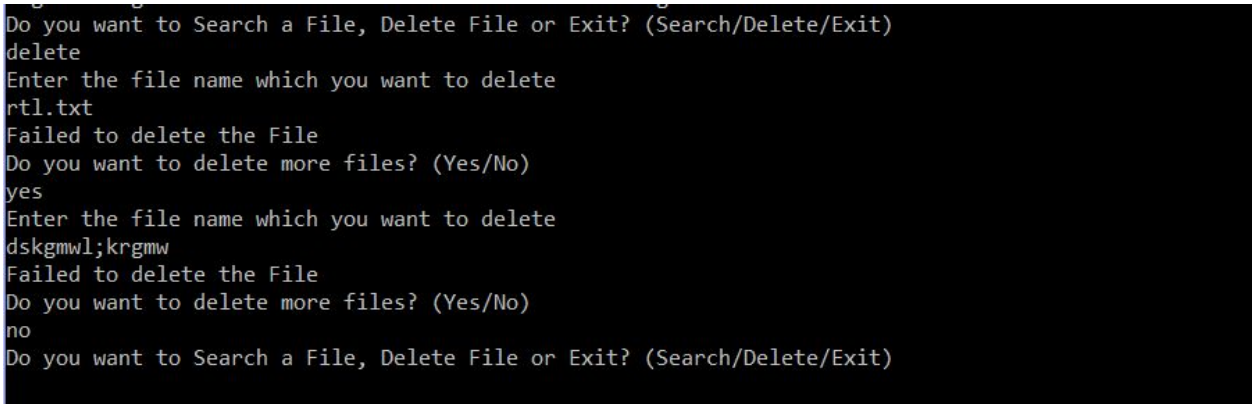


Delete File

To delete a file, we type delete in the prompt received at Step 5 or once you are done searching and downloading a file.



The prompt will then ask for the filename of the file you want to delete.
The file will be deleted if present and the prompt will show a message showing that the deletion was successful and ask if you want to delete more files.
If the file is not found, a message will be displayed saying “Failed to delete file”.
The prompt will return to asking if you want to delete more files.
Once you type “no” into the prompt it will return to the prompt at step 5.



Exit

To exit the screen, you just need to type exit and press enter. The screen will close off, thus shutting down the peer.

Step 8

We need to test the implementation in terms of average response time. To do this we run the run_test.bat file.

On opening this, a prompt will ask if you want to perform Single Client Evaluation or Multi-Client Evaluation.

Single client evaluation option will measure the average response time of a single peer that sends 200 consecutive requests to the server. Multi-client evaluation will also measure the average response time but for multiple peers (max 5 for our implementation) for 200 consecutive requests.

We have 30 folders ready for this purpose named “Eval_PeerID” where PeerID is Peer1, Peer2 and so on.

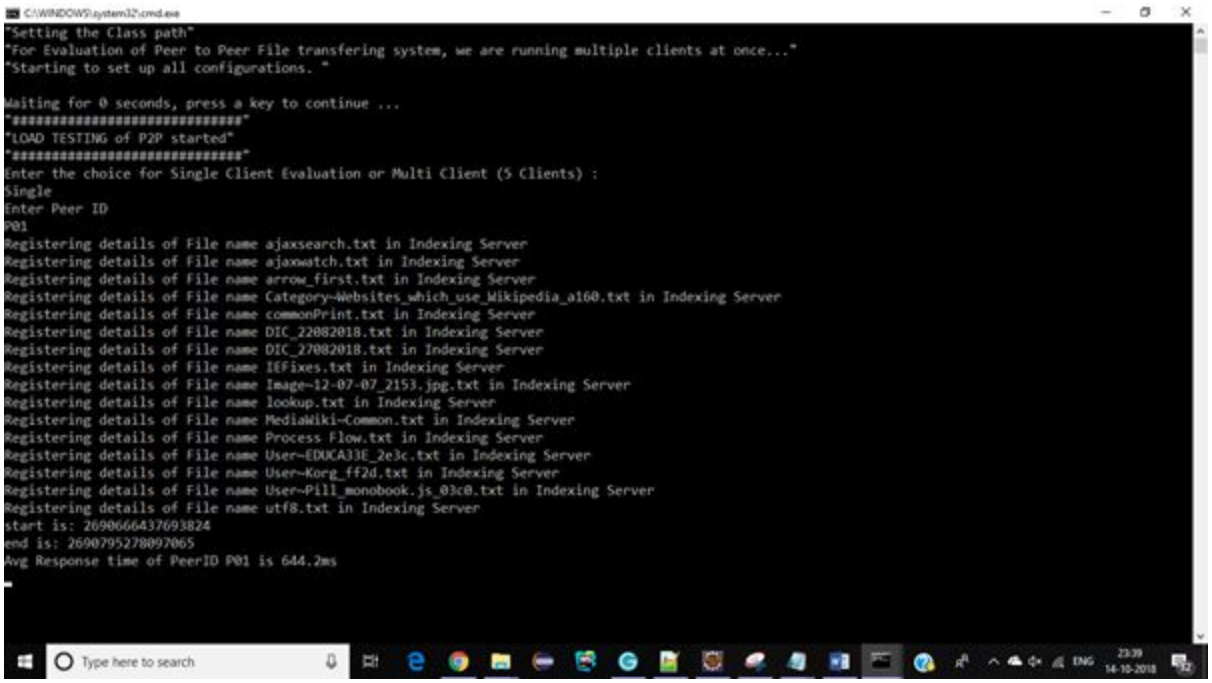
For ex: the folder name for Peer 1 is “Eval_Peer1”

Single Client Evaluation for All to All Topology

To perform this evaluation, type single into the prompt and press enter.

The prompt will then ask for the path. You need to enter the path of any of the “Eval_PeerID” folders into the prompt to perform the evaluation.

Once you enter the path, the bat file will evaluate the same and return the average response time as shown below :



Multi-Peer Evaluation

Here, you perform the evaluation for 3 clients sending 200 sequential requests each.

You need to type multi in the prompt and press enter.

The prompt will then ask for the paths of all the folders Eval_Peer1 through Eval_Peer3.

Once you enter all the paths, as shown above, the bat file will evaluate all folders for average response time and display the results as shown below.