

Manual

This document lists the steps needed to run out 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.

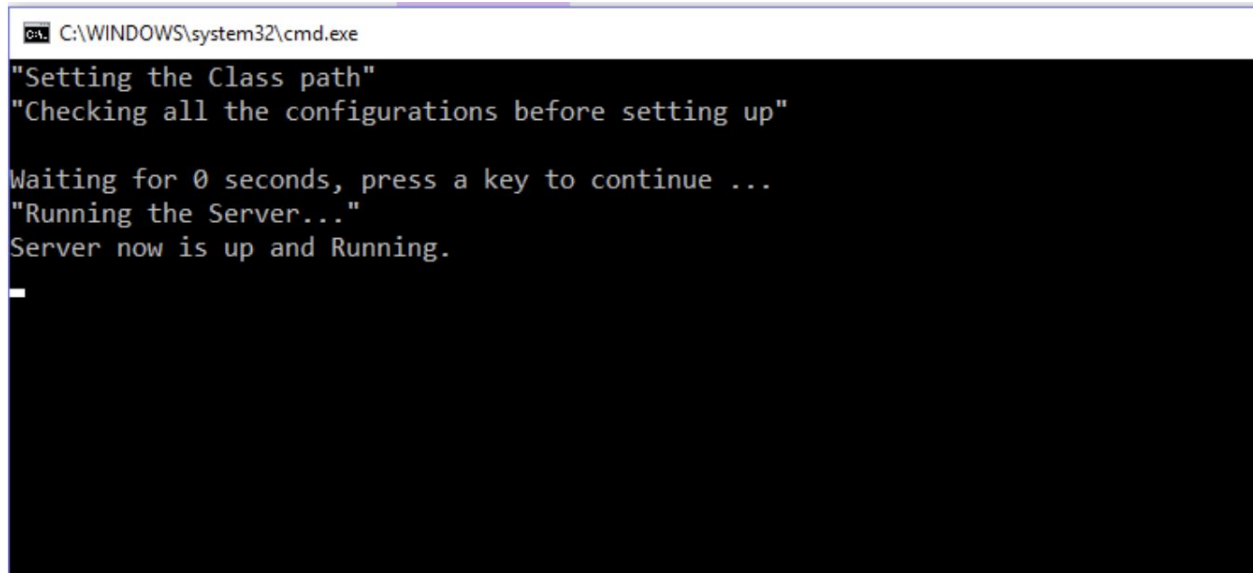
These bat files will run only when you have the corresponding ".jar" files present ("File_Transfer_P2P.jar" and "javax.ws.rs-api-2.0.jar")

Step 1

Open the run_server.bat file.

We will get a message in the command prompt stating that the server is up and running.

The server will now listen at the port 3455.



```
C:\WINDOWS\system32\cmd.exe
"Setting the Class path"
"Checking all the configurations before setting up"

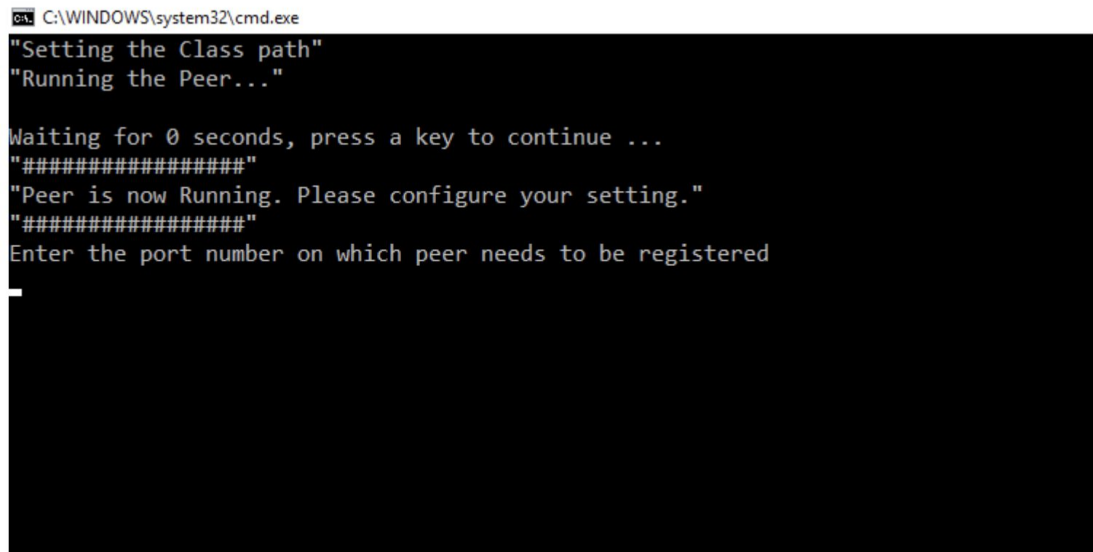
Waiting for 0 seconds, press a key to continue ...
"Running the Server..."
Server now is up and Running.
_
```

Step 2

Once the server is up and running you can leave it as it is.

Now run the run_peer.bat. Once it opens, a message will be displayed that the Peer is now running.

A prompt will request the user to enter the Port No. at which the peer needs to be registered.(Enter a different port no. for each Peer)



```
C:\WINDOWS\system32\cmd.exe
"Setting the Class path"
"Running the Peer..."

Waiting for 0 seconds, press a key to continue ...
"#####
"Peer is now Running. Please configure your setting."
"#####
Enter the port number on which peer needs to be registered
_
```

Step 3

Enter the port number at which you want your peer to be registered.

Once done the prompt will request for the directory path where the files of the peer are stored.

C:\WINDOWS\system32\cmd.exe

"Setting the Class path"

"Running the Peer..."

Waiting for 0 seconds, press a key to continue ...

"#####"

"Peer is now Running. Please configure your setting."

"#####"

Enter the port number on which peer needs to be registered

1004

Enter the directory path

Step 4

Enter the directory path where the files are stored for that particular peer.

The path should look something like this :

K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1

Once you enter this, the screen will now prompt for the Peer ID.

C:\WINDOWS\system32\cmd.exe

"Setting the Class path"

"Running the Peer..."

Waiting for 0 seconds, press a key to continue ...

"#####"

"Peer is now Running. Please configure your setting."

"#####"

Enter the port number on which peer needs to be registered

1004

Enter the directory path

K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1

Peer is up and Running.

Enter Your Peer ID

Step 5

Enter 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.

Once this is done, the peer will register itself along with it's files on the index server and you will now be able to see a prompt for the operation you want to perform(search, delete or exit).

```
C:\WINDOWS\system32\cmd.exe
"Setting the Class path"
"Running the Peer..."

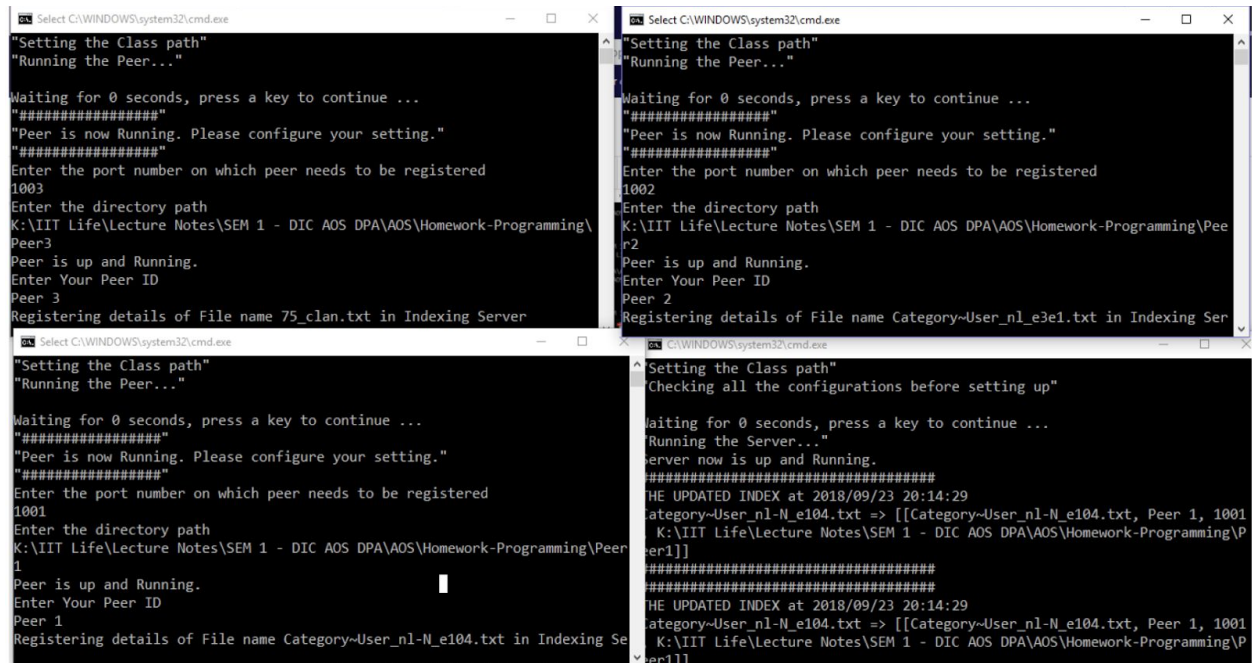
Waiting for 0 seconds, press a key to continue ...
"#####"
"Peer is now Running. Please configure your setting."
"#####"
Enter the port number on which peer needs to be registered
1004
Enter the directory path
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1
Peer is up and Running.
Enter Your Peer ID
Peer 1
Registering details of File name arrow_left.txt in Indexing Server
Registering details of File name Category~User_n1-N_e104.txt in Indexing Server
Registering details of File name COPYING.txt in Indexing Server
Registering details of File name DIC_27082018.txt in Indexing Server
Registering details of File name feed.txt in Indexing Server
Registering details of File name IE60Fixes.txt in Indexing Server
Registering details of File name lookup.txt in Indexing Server
Registering details of File name preview.txt in Indexing Server
Registering details of File name quickbar-right.txt in Indexing Server
Registering details of File name User_talk~Node_ue_c819.txt in Indexing Server
Registering details of File name User~EdmundEzekielMahmudIsa_fe9e.txt in Indexing Server
Registering details of File name Wikipedia~Sandbox_ae3e.txt in Indexing Server
Do you want to Search a File, Delete File or Exit? (Search/Delete/Exit)
-
```

After the peers are registered, the server screen will look like this :

```
C:\WINDOWS\system32\cmd.exe
"Setting the Class path"
"Checking all the configurations before setting up"

Waiting for 0 seconds, press a key to continue ...
"Running the Server..."
Server now is up and Running.
#####
THE UPDATED INDEX at 2018/09/23 20:14:29
Category~User_n1-N_e104.txt => [[Category~User_n1-N_e104.txt, Peer 1, 1001, K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1]]
#####
THE UPDATED INDEX at 2018/09/23 20:14:29
Category~User_n1-N_e104.txt => [[Category~User_n1-N_e104.txt, Peer 1, 1001, K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1]]
COPYING.txt => [[COPYING.txt, Peer 1, 1001, K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1]]
#####
THE UPDATED INDEX at 2018/09/23 20:14:29
DIC_27082018.txt => [[DIC_27082018.txt, Peer 1, 1001, K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1]]
Category~User_n1-N_e104.txt => [[Category~User_n1-N_e104.txt, Peer 1, 1001, K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1]]
COPYING.txt => [[COPYING.txt, Peer 1, 1001, K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1]]
#####
THE UPDATED INDEX at 2018/09/23 20:14:29
DIC_27082018.txt => [[DIC_27082018.txt, Peer 1, 1001, K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1]]
Category~User_n1-N_e104.txt => [[Category~User_n1-N_e104.txt, Peer 1, 1001, K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1]]
feed.txt => [[feed.txt, Peer 1, 1001, K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1]]
COPYING.txt => [[COPYING.txt, Peer 1, 1001, K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1]]
#####
THE UPDATED INDEX at 2018/09/23 20:14:29
DIC_27082018.txt => [[DIC_27082018.txt, Peer 1, 1001, K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1]]
```

Repeat the steps 2 to 5 for all the remaining peers before proceeding, to the next step. A screenshot has been attached showing 3 registered peers and 1 server.



```

C:\WINDOWS\system32\cmd.exe
"Setting the Class path"
"Running the Peer..."

Waiting for 0 seconds, press a key to continue ...
#####
"Peer is now Running. Please configure your setting."
#####
Enter the port number on which peer needs to be registered
1003
Enter the directory path
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\
Peer3
Peer is up and Running.
Enter Your Peer ID
Peer 3
Registering details of File name 75_clan.txt in Indexing Server

C:\WINDOWS\system32\cmd.exe
"Setting the Class path"
"Running the Peer..."

Waiting for 0 seconds, press a key to continue ...
#####
"Peer is now Running. Please configure your setting."
#####
Enter the port number on which peer needs to be registered
1002
Enter the directory path
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Pe
r2
Peer is up and Running.
Enter Your Peer ID
Peer 2
Registering details of File name Category-User_n1_e3e1.txt in Indexing Ser

C:\WINDOWS\system32\cmd.exe
"Setting the Class path"
"Running the Peer..."

Waiting for 0 seconds, press a key to continue ...
#####
"Peer is now Running. Please configure your setting."
#####
Enter the port number on which peer needs to be registered
1001
Enter the directory path
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer
1
Peer is up and Running.
Enter Your Peer ID
Peer 1
Registering details of File name Category-User_n1-N_e104.txt in Indexing Se

C:\WINDOWS\system32\cmd.exe
"Setting the Class path"
"Running the Server..."
"Checking all the configurations before setting up"

Waiting for 0 seconds, press a key to continue ...
"Server now is up and Running."
#####
THE UPDATED INDEX at 2018/09/23 20:14:29
Category-User_n1-N_e104.txt => [[Category-User_n1-N_e104.txt, Peer 1, 1001
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Pe
er1]]
#####
THE UPDATED INDEX at 2018/09/23 20:14:29
Category-User_n1-N_e104.txt => [[Category-User_n1-N_e104.txt, Peer 1, 1001
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Pe
er1]]

```

Note : While performing anything in Step 6 keep all the tabs(servers and corresponding peers) shown above open all the time.

Step 6

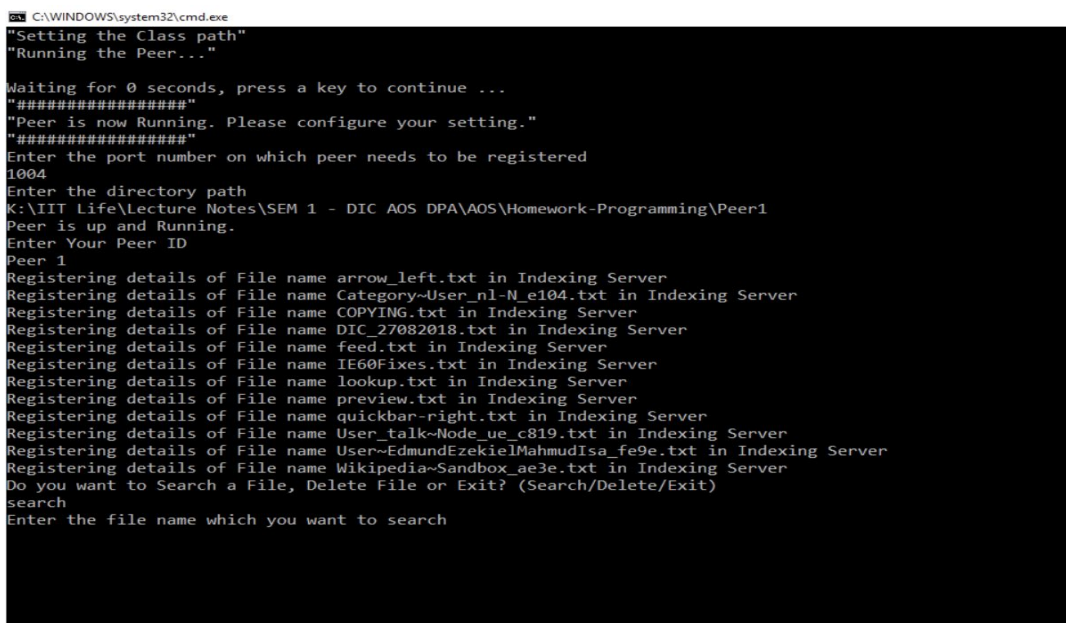
The prompt in any peer will now ask if you want to search or delete a file or exit the program.

Search File

If you want to search for the file, first type search in the prompt of the peer where you want to search. For ex: If you want to search file using Peer 1 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.



```

C:\WINDOWS\system32\cmd.exe
"Setting the Class path"
"Running the Peer..."

Waiting for 0 seconds, press a key to continue ...
#####
"Peer is now Running. Please configure your setting."
#####
Enter the port number on which peer needs to be registered
1004
Enter the directory path
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1
Peer is up and Running.
Enter Your Peer ID
Peer 1
Registering details of File name arrow_left.txt in Indexing Server
Registering details of File name Category-User_n1-N_e104.txt in Indexing Server
Registering details of File name COPYING.txt in Indexing Server
Registering details of File name DIC_27082018.txt in Indexing Server
Registering details of File name feed.txt in Indexing Server
Registering details of File name IE60Fixes.txt in Indexing Server
Registering details of File name lookup.txt in Indexing Server
Registering details of File name preview.txt in Indexing Server
Registering details of File name quickbar-right.txt in Indexing Server
Registering details of File name User_talk-Node_ue_c819.txt in Indexing Server
Registering details of File name User~EdmundEzekielMahmudIsa_fe9e.txt in Indexing Server
Registering details of File name Wikipedia-Sandbox_ae3e.txt in Indexing Server
Do you want to Search a File, Delete File or Exit? (Search/Delete/Exit)
search
Enter the file name which you want to search

```


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

The file is located at Peer 2 and we are searching the file from Peer 1.

```
C:\WINDOWS\system32\cmd.exe
"Setting the Class path"
"Running the Peer..."

Waiting for 0 seconds, press a key to continue ...
"#####"
"Peer is now Running. Please configure your setting."
"#####"
Enter the port number on which peer needs to be registered
1001
Enter the directory path
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1
Peer is up and Running.
Enter Your Peer ID
Peer 1
Registering details of File name Category~User_nl-N_e104.txt in Indexing Server
Registering details of File name COPYING.txt in Indexing Server
Registering details of File name DIC_27082018.txt in Indexing Server
Registering details of File name feed.txt in Indexing Server
Registering details of File name IE60Fixes.txt in Indexing Server
Registering details of File name lookup.txt in Indexing Server
Registering details of File name preview.txt in Indexing Server
Registering details of File name quickbar-right.txt in Indexing Server
Registering details of File name User_talk~Node_ue_c819.txt in Indexing Server
Registering details of File name User~EdmundEzekielMahmudIsa_fe9e.txt in Indexing Server
Registering details of File name Wikipedia~Sandbox_ae3e.txt in Indexing Server
Do you want to Search a File, Delete File or Exit? (Search/Delete/Exit)
search
Enter the file name which you want to search
rtl.txt
```

If the file is not available :

It will show the message that the file doesn't exist in our server as shown below.

```
Enter the file name which you want to search
dfsef
Sorry, File which you are searching doesnt exist in our Server.
Do you want to search again ? (Yes/No)
```

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

```
Registering details of File name Wikipedia~Sandbox_ae3e.txt in Indexing Server
Do you want to Search a File, Delete File or Exit? (Search/Delete/Exit)
search
Enter the file name which you want to search
rtl.txt
Peer providing the file with Peer ID is Peer 2
Peer providing the file with Peer ID is Peer 3
Enter Peer ID you wish to take the file from
```

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.

```
Enter the file name which you want to search
rtl.txt
Peer providing the file with Peer ID is Peer 2
Peer providing the file with Peer ID is Peer 3
Enter Peer ID you wish to take the file from
Peer 2
3420
File Downloading Successful.
Display File rtl.txt
Do you want to search again ? (Yes/No)
```

Delete File

To delete a file, we type delete in the prompt received at Step 6 or once you are done searching and downloading a file.

```
C:\WINDOWS\system32\cmd.exe
"Setting the Class path"
"Running the Peer..."

Waiting for 0 seconds, press a key to continue ...
"#####"
"Peer is now Running. Please configure your setting."
"#####"
Enter the port number on which peer needs to be registered
1001
Enter the directory path
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Peer1
Peer is up and Running.
Enter Your Peer ID
Peer 1
Registering details of File name Category~User_nl-N_e104.txt in Indexing Server
Registering details of File name COPYING.txt in Indexing Server
Registering details of File name DIC_27082018.txt in Indexing Server
Registering details of File name feed.txt in Indexing Server
Registering details of File name IE60Fixes.txt in Indexing Server
Registering details of File name lookup.txt in Indexing Server
Registering details of File name preview.txt in Indexing Server
Registering details of File name quickbar-right.txt in Indexing Server
Registering details of File name rtl.txt in Indexing Server
Registering details of File name User_talk~Node_ue_c819.txt in Indexing Server
Registering details of File name User~EdmundEzekielMahmudIsa_fe9e.txt in Indexing Server
Registering details of File name Wikipedia~Sandbox_ae3e.txt in Indexing Server
Do you want to Search a File, Delete File or Exit? (Search/Delete/Exit)
delete_
```

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 6.

```
Registering details of File name Wikipedia~Sandbox_ae3e.txt in Indexing Server
Do you want to Search a File, Delete File or Exit? (Search/Delete/Exit)
delete
Enter the file name which you want to delete
rtl.txt
File deleted Successfully.
Do you want to delete more files? (Yes/No)
yes
Enter the file name which you want to delete
kr;grjor
Failed to delete the File
Do you want to delete more files? (Yes/No)
no
Do you want to Search a File, Delete File or Exit? (Search/Delete/Exit)
```

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 7

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 500 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 500 consecutive requests.

We have 5 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

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 :

```
C:\WINDOWS\system32\cmd.exe
"Setting the Class path"
"For Evaluation of Peer to Peer File transferring system, we are running multiple clients at once..."
"Starting to set up all configurations. "

Waiting for 0 seconds, press a key to continue ...
"#####"
"LOAD TESTING of P2P started"
"#####"
Enter the choice for Single Client Evaluation or Multi Client (5 Clients) :
single
Please Enter a path
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Eval_Peer1
Registering details of File name ajaxsearch.txt in Indexing Server
Registering details of File name ajaxwatch.txt in Indexing Server
Registering details of File name arrow_first.txt in Indexing Server
Registering details of File name Category~Websites_which_use_Wikipedia_a160.txt in Indexing Server
Registering details of File name commonPrint.txt in Indexing Server
Registering details of File name DIC_22082018.txt in Indexing Server
Registering details of File name DIC_27082018.txt in Indexing Server
Registering details of File name IE70Fixes.txt in Indexing Server
Registering details of File name IEFixes.txt in Indexing Server
Registering details of File name Image~12-07-07_2153.jpg.txt in Indexing Server
Registering details of File name lookup.txt in Indexing Server
Registering details of File name MediaWiki~Common.txt in Indexing Server
Registering details of File name Process Flow.txt in Indexing Server
Registering details of File name User~EDUCA33E_2e3c.txt in Indexing Server
Registering details of File name User~Korg_ff2d.txt in Indexing Server
Registering details of File name User~Pill_monobook.js_03c0.txt in Indexing Server
Registering details of File name utf8.txt in Indexing Server
start is: 867037075122228
end is: 867037575127103
Avg Response time of PeerID Peer1 is 1.0ms
-
```

Multi-Peer Evaluation

Here, you perform the evaluation for 5 clients sending 500 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_Peer5.

```
C:\WINDOWS\system32\cmd.exe
"Setting the Class path"
"For Evaluation of Peer to Peer File transferring system, we are running multiple clients at once..."
"Starting to set up all configurations. "

Waiting for 0 seconds, press a key to continue ...
"#####"
"LOAD TESTING of P2P started"
"#####"
Enter the choice for Single Client Evaluation or Multi Client (5 Clients) :
multi
Please Enter a path for 1st Peer
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Eval_Peer1
Please Enter a path for 2nd Peer
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Eval_Peer2
Please Enter a path for 3rd Peer
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Eval_Peer3
Please Enter a path for 4th Peer
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Eval_Peer4
Please Enter a path for 5th Peer
K:\IIT Life\Lecture Notes\SEM 1 - DIC AOS DPA\AOS\Homework-Programming\Eval_Peer5
```

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 show below.

```
C:\WINDOWS\system32\cmd.exe
Registering details of File name protect.txt in Indexing Server
Registering details of File name Process Flow.txt in Indexing Server
Registering details of File name rtl.txt in Indexing Server
Registering details of File name wikistandard.txt in Indexing Server
Registering details of File name User~Korg_ff2d.txt in Indexing Server
Registering details of File name upload.txt in Indexing Server
Registering details of File name User~Pill_monobook.js_03c0.txt in Indexing Server
start is: 867724684986382
Registering details of File name Template~Delete_bfa0.txt in Indexing Server
Registering details of File name Rob Spurr_7000.txt in Indexing Server
Registering details of File name User~EDUCA33E_2e3c.txt in Indexing Server
Registering details of File name utf8.txt in Indexing Server
Registering details of File name User_talk~Node_ue_c819.txt in Indexing Server
start is: 867725035874271
start is: 867725096735058
Registering details of File name rtl.txt in Indexing Server
Registering details of File name Special~Categories_101d.txt in Indexing Server
Registering details of File name User~EdmundEzekielMahmudIsa_fe9e.txt in Indexing Server
Registering details of File name sticky.txt in Indexing Server
Registering details of File name User~Aurevilly_fc9e.txt in Indexing Server
start is: 867725478350989
Registering details of File name Wikipedia~Sandbox_ae3e.txt in Indexing Server
start is: 867725812798449
end is: 867726400110642
end is: 867726463338244
Avg Response time of PeerID Peer1 is 2.854ms
end is: 867726436402647
end is: 867726418240993
Avg Response time of PeerID Peer5 is 2.642ms
Avg Response time of PeerID Peer4 is 1.842ms
Avg Response time of PeerID Peer2 is 3.502ms
end is: 867726542673730
Avg Response time of PeerID Peer3 is 1.458ms
```