

ADVANCED OPERATING SYSTEMS

CS 550

Programming Assignment – 2

Manual Document


By

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PROCEDURE:

- Download the PA2.zip file and extract the folder that is present.
- The folder **Assignment** consists of all the java source files and the class files.
- Check the Configuration file **Config.txt** that represents which peers are neighbouring to each other and how the topology works.
- The programming is done using the Java language and the version is **jdk 13.0.2**
- This was run and tested on Windows 10 and Linux Environment

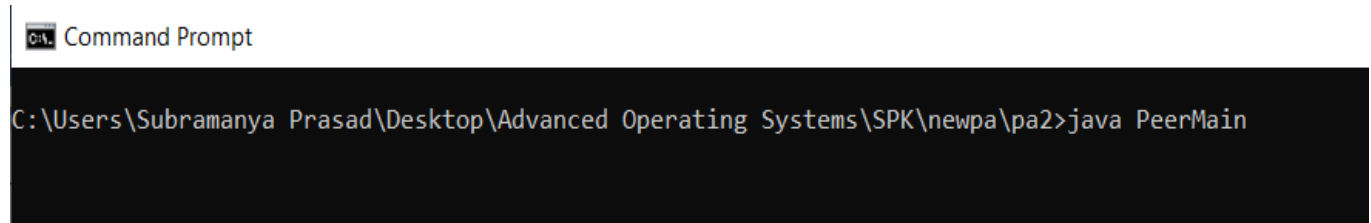
 config - Notepad

File Edit Format View Help

```
p1 127.0.0.1 8010 p2 p3 p4 p5 p6 p7 p8 p9 p0
p2 127.0.0.1 8020 p1 p3 p5
p3 127.0.0.1 8030 p1 p2 p4 p6
p4 127.0.0.1 8040 p1 p3 p7
p5 127.0.0.1 8050 p2 p6 p8
p6 127.0.0.1 8060 p3 p5 p7 p8
p7 127.0.0.1 8070 p4 p6 p8
p8 127.0.0.1 8080 p5 p6 p7
p9 127.0.0.1 8090 p5 p6 p7
p0 127.0.0.1 8100 p5 p6 p7
```

This indicates the peer connections to the other available peers.

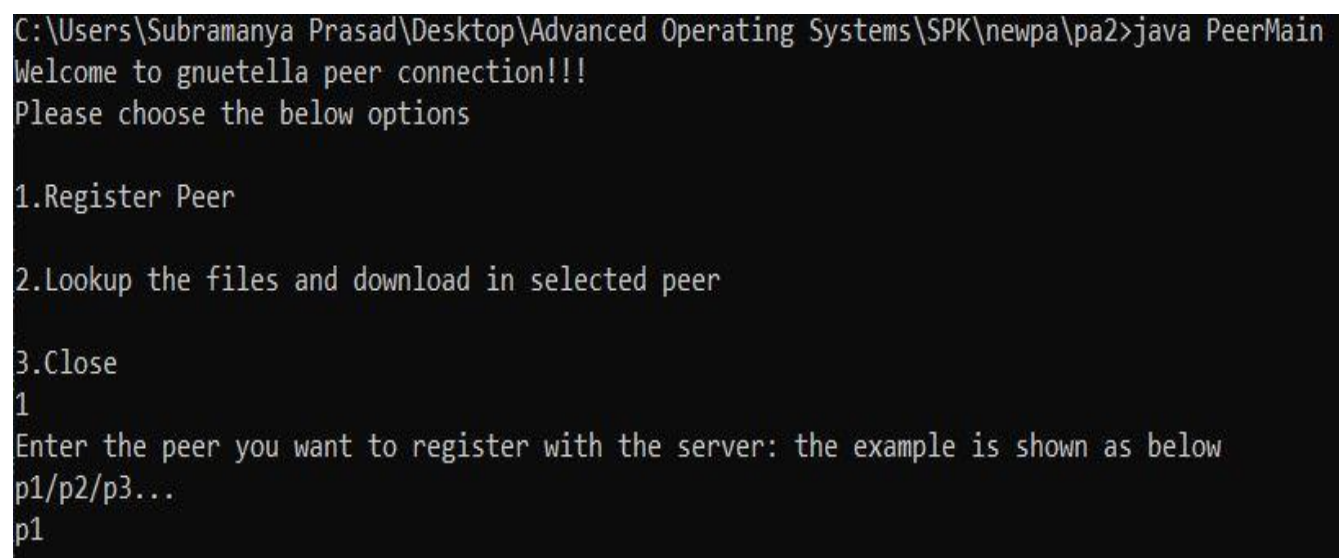
- Run the file PeerMin.java by using the command
“java PeerMain”



```
C:\Users\Subramanya Prasad\Desktop\Advanced Operating Systems\SPK\newpa\pa2>java PeerMain
```

- The folder where the file is stored is indicated in the picture.

There shows a list of options when the PeerMain.java file is run



```
C:\Users\Subramanya Prasad\Desktop\Advanced Operating Systems\SPK\newpa\pa2>java PeerMain
Welcome to gnutella peer connection!!!
Please choose the below options

1.Register Peer

2.Lookup the files and download in selected peer

3.Close
1
Enter the peer you want to register with the server: the example is shown as below
p1/p2/p3...
p1
```

1) Register Peer

- This is an option that is used for the registering the particular peer to the Gnutella network.
- Once the Peer is set up, the files are linked and the operations can be accessed between them.
- Different command terminals are opened to access the other peers.

- Commands related to the files can be sent and received across these terminals.
- When the Peer P1 is registered, the files are also registered and the output is seen as this:

```
Enter the peer you want to register with the server: the example is shown as below
p1/p2/p3...
p1

Server successfully connected...!!!

The files are successfully registered!
P0: File successfully registered in the local peer!!
P1: File successfully registered in the local peer!!
P2: File successfully registered in the local peer!!
P3: File successfully registered in the local peer!!
P4: File successfully registered in the local peer!!
P5: File successfully registered in the local peer!!
P6: File successfully registered in the local peer!!
P7: File successfully registered in the local peer!!
P8: File successfully registered in the local peer!!
P9: File successfully registered in the local peer!!
Welcome to gnetella peer connection!!!
Please choose the below options

1.Register Peer
2.Lookup the files and download in selected peer
3.Close
```

- Similarly, other peers will be registered by using the Register Peer option.
- Once the registration of the peers is complete, the next operation is locating the files and downloading them.

2) Lookup and Download Files

- There might be a file xyz present in Peer 6 that is essential for Peer7.
- These Peers have to be on the same network for the operation to take place.
- The peers can contact each other to search for the file and then download it.
- In this program, search and download are included in the same option.
- This helps to locate where the file is present and if the file is present, download will be completed.

- The operation takes place in this way:

```
P1: File successfully registered in the local peer!!
P2: File successfully registered in the local peer!!
P3: File successfully registered in the local peer!!
P4: File successfully registered in the local peer!!
P5: File successfully registered in the local peer!!
P6: File successfully registered in the local peer!!
P7: File successfully registered in the local peer!!
P8: File successfully registered in the local peer!!
P9: File successfully registered in the local peer!!
Welcome to gnuetella peer connection!!!
Please choose the below options

1.Register Peer

2.Lookup the files and download in selected peer

3.Close
2
Please enter the file you want to lookup and download:
C:\Users\Subramanya Prasad\Desktop\Advanced Operating Systems\SPK\newpa\pa2\Files\P6\ten.txt
```

- The filename along with the path is being entered for the lookup and download.
- The file to download is **ten.txt**, which is present in the Peer P6.
- The content present in the ten.txt is printed on the terminal screen of Peer P7, which asked for the download.

Close

- The close operation helps to exit from the Gnutella network.

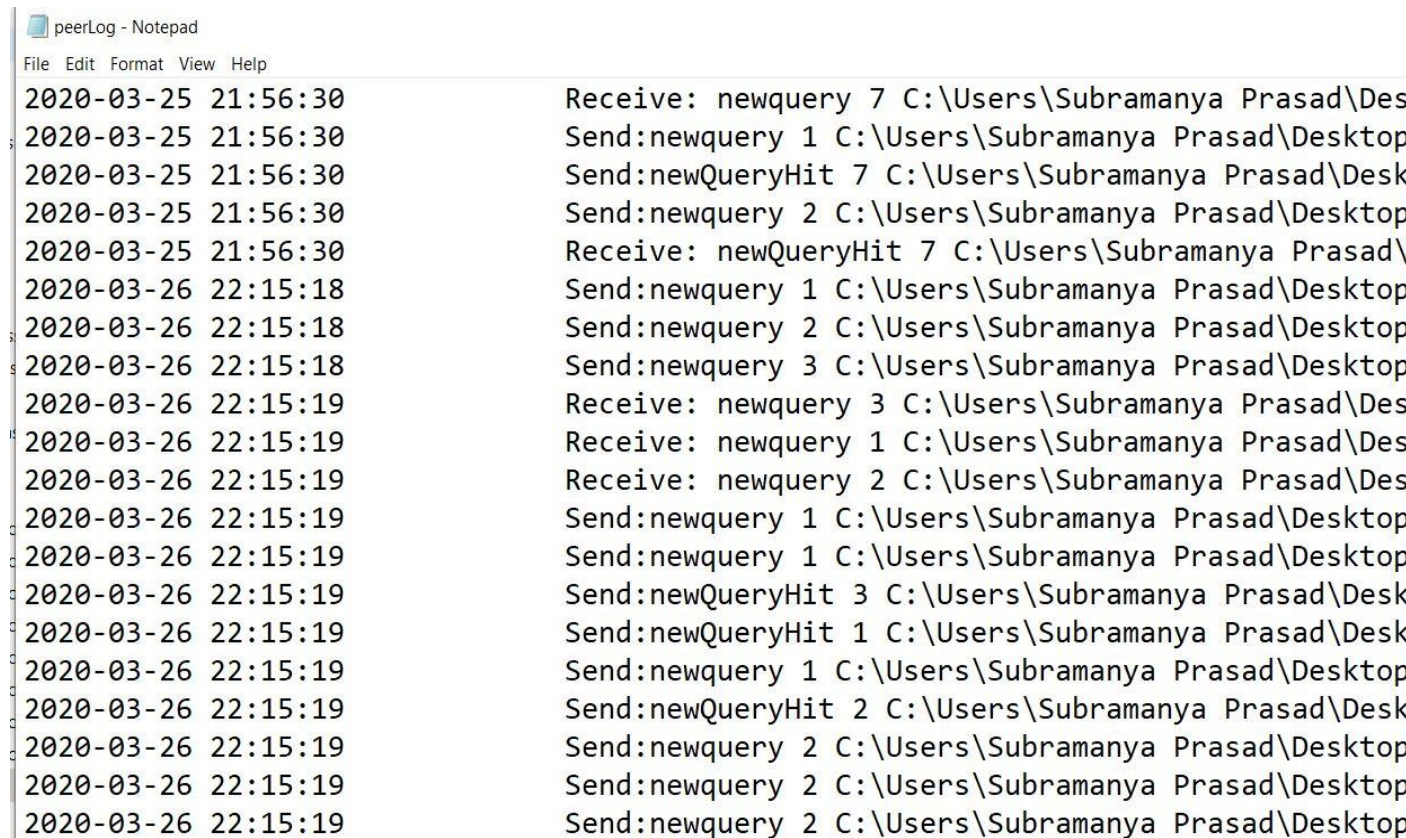
```
Command Prompt
P6: File successfully registered in the local peer!!
P7: File successfully registered in the local peer!!
P8: File successfully registered in the local peer!!
P9: File successfully registered in the local peer!!
Welcome to gnutella peer connection!!!
Please choose the below options

1.Register Peer
2.Lookup the files and download in selected peer
3.Close
3

C:\Users\Subramanya Prasad\Desktop\Advanced Operating Systems\SPK\newpa\pa2>
```


LOG

- The operations that are performed on these files are saved in a file named Peerlog.txt. The flow goes like this:



```
peerLog - Notepad
File Edit Format View Help
2020-03-25 21:56:30 Receive: newquery 7 C:\Users\Subramanya Prasad\Des
2020-03-25 21:56:30 Send:newquery 1 C:\Users\Subramanya Prasad\Desktop
2020-03-25 21:56:30 Send:newQueryHit 7 C:\Users\Subramanya Prasad\Desk
2020-03-25 21:56:30 Send:newquery 2 C:\Users\Subramanya Prasad\Desktop
2020-03-25 21:56:30 Receive: newQueryHit 7 C:\Users\Subramanya Prasad\
2020-03-26 22:15:18 Send:newquery 1 C:\Users\Subramanya Prasad\Desktop
2020-03-26 22:15:18 Send:newquery 2 C:\Users\Subramanya Prasad\Desktop
2020-03-26 22:15:18 Send:newquery 3 C:\Users\Subramanya Prasad\Desktop
2020-03-26 22:15:19 Receive: newquery 3 C:\Users\Subramanya Prasad\Des
2020-03-26 22:15:19 Receive: newquery 1 C:\Users\Subramanya Prasad\Des
2020-03-26 22:15:19 Receive: newquery 2 C:\Users\Subramanya Prasad\Des
2020-03-26 22:15:19 Send:newquery 1 C:\Users\Subramanya Prasad\Desktop
2020-03-26 22:15:19 Send:newquery 1 C:\Users\Subramanya Prasad\Desktop
2020-03-26 22:15:19 Send:newQueryHit 3 C:\Users\Subramanya Prasad\Desk
2020-03-26 22:15:19 Send:newQueryHit 1 C:\Users\Subramanya Prasad\Desk
2020-03-26 22:15:19 Send:newquery 1 C:\Users\Subramanya Prasad\Desktop
2020-03-26 22:15:19 Send:newQueryHit 2 C:\Users\Subramanya Prasad\Desk
2020-03-26 22:15:19 Send:newquery 2 C:\Users\Subramanya Prasad\Desktop
2020-03-26 22:15:19 Send:newquery 2 C:\Users\Subramanya Prasad\Desktop
2020-03-26 22:15:19 Send:newquery 2 C:\Users\Subramanya Prasad\Desktop
```