
OUTPUT FILE

DE-CENTRALIZED P2P SYSTEM

ASSIGNMENT 3

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COURSE: CS 550 ADVANCE OPERATING SYSTEM

OUTPUT FILE

1. All the 8 servers are connected and running on different ports.

```
Terminal Shell Edit View Window Help
S1 — java -jar Se S2 — jav S3 — S4 — java -jar Server.jar — 80x24
Last login: Fri Nov 6 14:35:22 on console Last login: Fri Nov 6 14:35:50 on Last login: Fri Nov 6 14:36:18 Last login: Fri Nov 6 14:36:28 on ttys002
Samis-MacBook-Pro:~ SamAK$ cd desktop Samis-MacBook-Pro:~ SamAK$ cd desk Samis-MacBook-Pro:~ SamAK$ cd d Samis-MacBook-Pro:~ SamAK$ cd desktop
Samis-MacBook-Pro:desktop SamAK$ cd P2PCL Samis-MacBook-Pro:desktop SamAK$ c Samis-MacBook-Pro:desktop SamAK Samis-MacBook-Pro:desktop SamAK$ cd P2PClusters
Samis-MacBook-Pro:P2PClusters SamAK$ cd S Samis-MacBook-Pro:P2PClusters SamAK Samis-MacBook-Pro:P2PClusters SamAK$ cd S4
Samis-MacBook-Pro:S1 SamAK$ java -jar Ser Samis-MacBook-Pro:S2 SamAK$ java - Samis-MacBook-Pro:S3 SamAK$ jav Samis-MacBook-Pro:S4 SamAK$ java -jar Server.jar
*****
| DECENTRALIZED P2P SYSTEM | | DECENTRALIZED P2P SYSTEM | | DECENTRALIZED P2P SYSTE | | DECENTRALIZED P2P SYSTEM |
*****
Enter a server ID between 1-8: 1 Enter a server ID between 1-8: 2 Enter a server ID between 1-8: 3 Enter a server ID between 1-8: 4
-----
SERVER STARTED... !! SERVER STARTED... !! SERVER STARTED... !! SERVER STARTED... !!
CURRENT SERVER INFORMATION CURRENT SERVER INFORMATION CURRENT SERVER INFORMATION CURRENT SERVER INFORMATION
-----
IP Address : 10.0.0.251 IP Address : 10.0.0.251 IP Address : 10.0.0.251 IP Address : 10.0.0.251
Port Number: 9111 Port Number: 9112 Port Number: 9113 Port Number: 9114
-----
Waiting for Peers to connect on port 9111 Waiting for Peers to connect on po Waiting for Peers to connect on port 9113... Waiting for Peers to connect on port 9114....
Connection made to: /127.0.0.1:49298 Connection made to: /127.0.0.1:493 Connection made to: /127.0.0.1:49302 Connection made to: /127.0.0.1:49302

S5 — java S6 — java S7 — java S8 — java -jar Server.jar — 80x24
Last login: Fri Nov 6 14:36:35 on console Last login: Fri Nov 6 14:37:58 on Last login: Fri Nov 6 14:38:06 on t Last login: Fri Nov 6 14:38:14 on ttys006
Samis-MacBook-Pro:~ SamAK$ cd desk Samis-MacBook-Pro:~ SamAK$ cd desk Samis-MacBook-Pro:~ SamAK$ cd desk Samis-MacBook-Pro:~ SamAK$ cd desktop
Samis-MacBook-Pro:desktop SamAK$ c Samis-MacBook-Pro:desktop SamAK$ c Samis-MacBook-Pro:desktop SamAK$ cd Samis-MacBook-Pro:desktop SamAK$ cd P2PClusters
Samis-MacBook-Pro:P2PClusters SamAK Samis-MacBook-Pro:P2PClusters SamAK Samis-MacBook-Pro:P2PClusters SamAK$ cd S8
Samis-MacBook-Pro:S5 SamAK$ java - Samis-MacBook-Pro:S6 SamAK$ java - Samis-MacBook-Pro:S7 SamAK$ java -ja Samis-MacBook-Pro:S8 SamAK$ java -jar Server.jar
*****
| DECENTRALIZED P2P SYSTEM | | DECENTRALIZED P2P SYSTEM | | DECENTRALIZED P2P SYSTEM | | DECENTRALIZED P2P SYSTEM |
*****
Enter a server ID between 1-8: 5 Enter a server ID between 1-8: 6 Enter a server ID between 1-8: 7 Enter a server ID between 1-8: 8
-----
SERVER STARTED... !! SERVER STARTED... !! SERVER STARTED... !! SERVER STARTED... !!
CURRENT SERVER INFORMATION CURRENT SERVER INFORMATION CURRENT SERVER INFORMATION CURRENT SERVER INFORMATION
-----
IP Address : 10.0.0.251 IP Address : 10.0.0.251 IP Address : 10.0.0.251 IP Address : 10.0.0.251
Port Number: 9115 Port Number: 9116 Port Number: 9117 Port Number: 9118
-----
Waiting for Peers to connect on po Waiting for Peers to connect on po Waiting for Peers to connect on port Waiting for Peers to connect on port 9118....
Connect
```

2. All the 8 Clients Started

The image shows eight terminal windows, labeled C1 through C8, each running the command `java -jar Client.jar`. The windows are arranged in two rows of four. Each window displays the following text:

```
Last login: Fri Nov 6 19:15:44 on ttys007
Samis-MacBook-Pro:~ SamAK$ cd desktop/P2PClusters/
Samis-MacBook-Pro:C1 SamAK$ java -jar Client.jar
*****
!! WELCOME TO DECENTRALIZED DHT P2P SYSTEM !!
*****
Enter the Server's IP you want to connect.
█
```

The same sequence of events is repeated for clients C2 through C8, with the only variation being the terminal window title and the local hostname (e.g., C2: ttys008, C3: ttys009, C4: ttys010, C5: ttys011, C6: ttys012, C7: ttys013, C8: ttys014).

- Now Clients enters the Server's IP Address and their Port numbers to connect them. And then a menu is displayed to them with 5 sets of operations that they could perform.

```

Terminal Shell Edit View Window Help
C1 — java -jar Cli
C2 — java -jar Client
C3 — java -jar Client
C4 — java -jar Client.jar — 80x24
(Samis-MacBook-Pro:P2PClusters SamAK$ cd c1; Samis-MacBook-Pro:desktop SamAK$ cd P2PClusters
(Samis-MacBook-Pro:C1 SamAK$ java -jar Client.jar
(Samis-MacBook-Pro:C2 SamAK$ java -jar Client.jar
(Samis-MacBook-Pro:C3 SamAK$ java -jar Client.jar
(Samis-MacBook-Pro:C4 SamAK$ java -jar Client.jar
!! WELCOME TO DECENTRALIZED DHT P2P SYSTEM !!
*****
Enter the Server's IP you want to connect.
localhost
Enter the Server Port you want to connect (Between 9111 - 9118)
9111
Enter a selection
-----
If new to the Network, First Press 1 to register yourself on the network.
1. UPDATE YOURSELF ON THE SERVER
2. DOWNLOAD A FILE
3. REPLICATE FILES
4. DELETE A FILE
5. EXIT THE SYSTEM
C5 — java -jar Client
C6 — java -jar Client
C7 — java -jar Client
C8 — java -jar Client.jar — 80x24
(Samis-MacBook-Pro:P2PClusters SamAK$ cd c1; Samis-MacBook-Pro:desktop SamAK$ cd P2PClusters
(Samis-MacBook-Pro:C5 SamAK$ java -jar Client.jar
(Samis-MacBook-Pro:C6 SamAK$ java -jar Client.jar
(Samis-MacBook-Pro:C7 SamAK$ java -jar Client.jar
(Samis-MacBook-Pro:C8 SamAK$ java -jar Client.jar
!! WELCOME TO DECENTRALIZED DHT P2P SYSTEM !!
*****
Enter the Server's IP you want to connect.
localhost
Enter the Server Port you want to connect (Between 9111 - 9118)
9115
Enter a selection
-----
If new to the Network, First Press 1 to register yourself on the network.
1. UPDATE YOURSELF ON THE SERVER
2. DOWNLOAD A FILE
3. REPLICATE FILES
4. DELETE A FILE
5. EXIT THE SYSTEM

```

- User selects UPDATE with 10,000 files and the following output is displayed:

```

*****
!! WELCOME TO DECENTRALIZED DHT P2P SYSTEM !!
*****
Enter the Server's IP you want to connect.
localhost
Enter the Server Port you want to connect (Between 9111 - 9118)
9112
-----
Enter a selection
-----
If new to the Network, First Press 1 to register yourself on the network.
1. UPDATE YOURSELF ON THE SERVER
2. DOWNLOAD A FILE
3. REPLICATE FILES
4. DELETE A FILE
5. EXIT THE SYSTEM
1
Wait while UPDATING is under process.. !!
Elapsed time for UPDATING: 5438milli-seconds
UPDATE SUCCESSFULL .. !!

```

All the 10,000 files are updated and a **UPDATE SUCCESSFUL** message is displayed.

5. Then user selects the DOWNLOAD operation and following outputs are displayed

SEARCH SUCCESSFUL , followed by Downloading the File and displaying **DOWNLOAD SUCCESSFUL** in the end

```
-----
                        Enter a selection
-----
If new to the Network. First Press 1 to register yourself on the network.

1. UPDATE YOURSELF ON THE SERVER
2. DOWNLOAD A FILE
3. REPLICATE FILES
4. DELETE A FILE
5. EXIT THE SYSTEM
2
Enter the name of File you want to Download
16666.txt

Wait for few minutes while SEARCHING is under process.. !!

SEARCH SUCCESSFULL...!!

FILE AVAILABLE AT THE FOLLOWING PEER:-
-----

SNO.   IP ADDRESS      PORT NO.
-----
1      127.0.0.1          49590
Elapsed time for SEARCHING: 1milli-seconds

Are you sure to Download? (Y/N)
y

Enter the Peer No, you want to Download the file from
1
Connecting to peer at IP/127.0.0.1 at Port 49591
Accepted connection : Socket[addr=/127.0.0.1,port=49591,localport=49672]

Download Successful !!
Elapsed time for DOWNLOADING: 24milli-seconds
```

6. Now Select REPLICATE FILES option and following shows up:

```
-----
                        Enter a selection
-----
If new to the Network. First Press 1 to register yourself on the network.

1. UPDATE YOURSELF ON THE SERVER
2. DOWNLOAD A FILE
3. REPLICATE FILES
4. DELETE A FILE
5. EXIT THE SYSTEM
3
Enter the filename with its extension, that you want to replicate
16666.txt

How many Replication instances do you want?
1
Wait while REPLICATING is under process.. !!
RECIEVE: 127.0.0.1,49828;127.0.0.1,49837;
127.0.0.1,49828
Sending 16666.txt(1024 bytes)
127.0.0.1,49837
Sending 16666.txt(1024 bytes)
REPLICATION SUCCESSFULL..!!

Elapsed time for DOWNLOADING: 16milli-seconds
```

REPLICATION SUCCESSFUL

7. Now select DELETE A FILE option and following is displayed:

```
-----
                        Enter a selection
-----
If new to the Network. First Press 1 to register yourself on the network.

1. UPDATE YOURSELF ON THE SERVER
2. DOWNLOAD A FILE
3. REPLICATE FILES
4. DELETE A FILE
5. EXIT THE SYSTEM
4
Enter the name of File you want to Delete
15555.txt

Wait while DELETE is under process.. !!

FILENAME DELETED FROM THE NETWORK SUCCESSFULLY !!

< You can search again the same file name to Test for the deleted file
>
```

FILENAME DELETED SUCCESSFULLY