

**CS550 Advanced Operating Systems**  
**Programming Assignment 3**  
**Output doc**

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The output generated at every step of execution is explained below with screen shots

## 1. starting the Peer:

Initially , all peers in the network. The console displays the no. of servers and asks the user to continue after starting all the peers .As all the peers connect during start up.

```
vaniredd@VR:~$ cd Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/build/
vaniredd@VR:~/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/build$ ant -Darg=1 -Darg2=r runPA3
Buildfile: /home/vaniredd/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/build/build.xml

clean:

init:

buildPA3jar:
    [echo] Project: /home/vaniredd/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/build/build.xml
    [javac] /home/vaniredd/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/build/build.xml:33: warning: 'includeantruntime'
    [javac] Compiling 6 source files to /home/vaniredd/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/bin
    [jar] Building jar: /home/vaniredd/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/jars/PA3.jar

runPA3:
    [java] Total Servers : 3
    [java] start all the peers and press any key
    [java] server started at port:8100
```

And then a directory is created for each peer , if it doesn't exist. The directory name would be "peer\$i" where i is the unique number given to peer. just as peer1 for first peer and peer2 for second peer and so on..

## 2. Peer Operations:

```
[java] server started at port:8100

[java] Directory created at:/home/vaniredd/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/peer1
[java]
[java] File Operations
[java] 1. register
[java] 2. search
[java] 3. obtain
[java] 0. exit
[java]
[java] Select any operation
```

Client is given options to perform register ,search and obtain operations.

1. register - registers files at decentralized indexing server.
2. search - looks up for peer that contains file
3. obtain - sends download request and receives the file.

### 3. Register :

select '1' to register peer files.

```
[java] File Operations
[java] 1. register
[java] 2. search
[java] 3. obtain
[java] 0. exit
[java]
[java] Select any operation

[java] true
[java]
```

true is returned if registration is successful.

### 4. Search :

```
[java]
[java] File Operations
[java] 1. register
[java] 2. search
[java] 3. obtain
[java] 0. exit
[java]
[java] Select any operation
2
[java] Please provide the file name you wish to lookup
jay
[java] File not Found
```

select '2' to search a file.

If the file searched for is not registered at any server , "File not Found" is returned.

If the file searched is located at any of the peers. Peers list is returned .

```
[java]
[java] File Operations
[java] 1. register
[java] 2. search
[java] 3. obtain
[java] 0. exit
[java]
[java] Select any operation
2
[java] Please provide the file name you wish to lookup
database2
[java]
[java] PEERS LIST
[java] 0:0;8300;/home/vaniredd/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/peer3;127.0.0.1
[java] 1:1;8100;/home/vaniredd/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/peer1;127.0.0.1
[java] Select one of the peers
1
[java]
```

client is prompted to select from the list of peers .

### 3 . Download :

select '3' to download and file is downloaded.

```
[java]
[java] File Operations
[java] 1. register
[java] 2. search
[java] 3. obtain
[java] 0. exit
[java]
[java] Select any operation
3
[java] database2_cpyis received
[java]
```

### 4 . Replication :

If one of the nodes containing the file is down then the node containing replica can be selected.

Below the peer3 is shut down first .

```
[java]
[java] Select any operation
1
[java] true
[java]
[java] File Operations
[java] 1. register
[java] 2. search
[java] 3. obtain
[java] 0. exit
[java]
[java] Select any operation
^Cjay2106@jay2106-HP-ENVY-TS-15-Notebook-PC:~/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/build$
```

Now peer 2 searches for the file "database2" . and selects peer3 .

```
[java]
2
[java] Please provide the file name you wish to lookup
database2
[java]
[java] PEERS LIST
[java] 0:0;8300;/home/jay2106/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/peer3;127.0.0.1
[java] 1:1;8100;/home/jay2106/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/peer1;127.0.0.1
[java] Select one of the peers
0
```

since peer3 is down.. option to select neighbour node containing file is prompted and that "database2" file is downloaded.

```
[java] select the neighbour node in the peer list
[java]
[java] PEERS LIST
[java] 0:0;8300;/home/jay2106/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/peer3;127.0.0.1
[java] 1:1;8100;/home/jay2106/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/peer1;127.0.0.1
[java] Select one of the peers
1
[java] database2 received
BUILD SUCCESSFUL
Total time: 2 minutes 2 seconds
jay2106@jay2106-HP-ENVY-TS-15-Notebook-PC:~/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/build$
```

## 5 . Exit :

And client exits the by selecting '0' through the command prompt.

```
[java] File Operations
[java] 1. register
[java] 2. search
[java] 3. obtain
[java] 0. exit
[java]
0
[java] Select any operation
BUILD SUCCESSFUL
Total time: 28 seconds
vaniredd@VR:~/Desktop/PROG3_VANGARI_JAYANTH/CS550PA3/build$
```