

A Simple Peer-to-Peer File Sharing System

Output File

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Step 1: Start Index Server

IndexServer RMI is created in folder src1.

>rmiregistry <port#> &

```
Allens-MacBook-Pro:src1 allenvannoppenjr$ rmiregistry 1099 &
[1] 29070
Allens-MacBook-Pro:src1 allenvannoppenjr$
```

>rmic IndexServer

Used to create the server stub (disregard warning)

```
Allens-MacBook-Pro:src1 allenvannoppenjr$ rmiregistry 1099 &
[1] 29070
Allens-MacBook-Pro:src1 allenvannoppenjr$ rmic IndexServer
Warning: generation and use of skeletons and static stubs for JRMP
is deprecated. Skeletons are unnecessary, and static stubs have
been superseded by dynamically generated stubs. Users are
encouraged to migrate away from using rmic to generate skeletons and static
stubs. See the documentation for java.rmi.server.UnicastRemoteObject.
Allens-MacBook-Pro:src1 allenvannoppenjr$
```

>java StartIndexServer <port#>

runs the IndexServer program. Returns the message "Index Server is Ready! Peers may register"

```
Allens-MacBook-Pro:src1 allenvannoppenjr$ rmiregistry 1099 &
[1] 29070
Allens-MacBook-Pro:src1 allenvannoppenjr$ rmic IndexServer
Warning: generation and use of skeletons and static stubs for JRMP
is deprecated. Skeletons are unnecessary, and static stubs have
been superseded by dynamically generated stubs. Users are
encouraged to migrate away from using rmic to generate skeletons and static
stubs. See the documentation for java.rmi.server.UnicastRemoteObject.
Allens-MacBook-Pro:src1 allenvannoppenjr$ java StartIndexServer 1099
Index Server is Ready! Peers may register.
```

Step 2: Connect Peers to Index Server:

>rmiregistry <port #> &

Note: peer port number needs to be different from indexserver.

```
Allens-MacBook-Pro:Peer1 allenvannoppenjr$ rmiregistry 5001 &  
[1] 29165  
Allens-MacBook-Pro:Peer1 allenvannoppenjr$
```

>rmic PeerClient

Generates the PeerClient Stub

```
Allens-MacBook-Pro:Peer1 allenvannoppenjr$ rmiregistry 5001 &  
[1] 29165  
Allens-MacBook-Pro:Peer1 allenvannoppenjr$ rmic PeerClient  
Warning: generation and use of skeletons and static stubs for JRMP  
is deprecated. Skeletons are unnecessary, and static stubs have  
been superseded by dynamically generated stubs. Users are  
encouraged to migrate away from using rmic to generate skeletons and static  
stubs. See the documentation for java.rmi.server.UnicastRemoteObject.  
Allens-MacBook-Pro:Peer1 allenvannoppenjr$
```

>java StartPeerClient <server port #> <peer port #> <Peer directory name>

The line below the command “null:” should display the Peer name but I have had trouble getting that simple function to work. Following the name comes the list of files in the Peers directory. The prompt at the bottom asks the user to search for a file name.

```
Allens-MacBook-Pro:Peer1 allenvannoppenjr$ rmiregistry 5001 &
[1] 29165
Allens-MacBook-Pro:Peer1 allenvannoppenjr$ rmic PeerClient
Warning: generation and use of skeletons and static stubs for JRMP
is deprecated. Skeletons are unnecessary, and static stubs have
been superseded by dynamically generated stubs. Users are
encouraged to migrate away from using rmic to generate skeletons and static
stubs. See the documentation for java.rmi.server.UnicastRemoteObject.
Allens-MacBook-Pro:Peer1 allenvannoppenjr$ java StartPeerClient 1099 5001 Peer1
null:
file3.txt
PeerFunction.class
StartIndexServer.class
.DS_Store
file5.txt
PeerClient.class
PeerClient_Stub.class
StartPeerClient$peerfunction.class
PeerFunctionInterface.class
IndexServer.class
IndexWatch.class
PeerClientInterface.class
IndexServerInterface.class
StartPeerClient.class
file8.txt
F250 INSURANCE CARD.pdf
IndexServer_Stub.class = added
Successfully connected!!
File name: 
```

The below output is the result of the registration of a new peer. Again the name shouldn't be null. Indexed Files are displayed.

```
Index Server is Ready! Peers may register.  
Peer Registered with Index.  
Name: null  
Files:  
  
file3.txt  
  
PeerFunction.class  
StartIndexServer.class  
  
.DS_Store  
file5.txt  
  
PeerClient.class  
PeerClient_Stub.class  
StartPeerClient$peerfunction.class  
PeerFunctionInterface.class  
IndexServer.class  
IndexWatch.class  
PeerClientInterface.class  
IndexServerInterface.class  
StartPeerClient.class  
  
file8.txt  
  
F250 INSURANCE CARD.pdf  
IndexServer_Stub.class
```

The other two Peers follow the same registration process as above.

Peer 2:

>rmiregistry <port #> &

Note: peer port number needs to be different from index server and other peers.

```
Allens-MacBook-Pro:~$ allenvannoppenjr$ cd Documents/javaprac/actual/Peer2
Allens-MacBook-Pro:Peer2 allenvannoppenjr$ rmiregistry 5002 &
[1] 29295
Allens-MacBook-Pro:Peer2 allenvannoppenjr$
```

>rmic PeerClient

Generates the PeerClient Stub

```
Allens-MacBook-Pro:Peer2 allenvannoppenjr$ rmiregistry 5002 &
[1] 29295
Allens-MacBook-Pro:Peer2 allenvannoppenjr$ rmic PeerClient
Warning: generation and use of skeletons and static stubs for JRMP
is deprecated. Skeletons are unnecessary, and static stubs have
been superseded by dynamically generated stubs. Users are
encouraged to migrate away from using rmic to generate skeletons and static
stubs. See the documentation for java.rmi.server.UnicastRemoteObject.
Allens-MacBook-Pro:Peer2 allenvannoppenjr$
```

>java StartPeerClient <server port #> <peer port #> <Peer directory name>

The line below the command “null:” should display the Peer name but I have had trouble getting that simple function to work. Following the name comes the list of files in the Peers directory. The prompt at the bottom asks the user to search for a file name.

```
Allens-MacBook-Pro:Peer2 allenvannoppenjr$ rmiregistry 5002 &
[1] 29295
Allens-MacBook-Pro:Peer2 allenvannoppenjr$ rmic PeerClient
Warning: generation and use of skeletons and static stubs for JRMP
is deprecated. Skeletons are unnecessary, and static stubs have
been superseded by dynamically generated stubs. Users are
encouraged to migrate away from using rmic to generate skeletons and static
stubs. See the documentation for java.rmi.server.UnicastRemoteObject.
Allens-MacBook-Pro:Peer2 allenvannoppenjr$ java StartPeerClient 1099 5002 Peer2
null:
file2.txt
file3.txt
PeerFunction.class
StartIndexServer.class
file4.txt
.DS_Store
file5.txt
PeerClient.class
PeerClient_Stub.class
StartPeerClient$peerfunction.class
PeerFunctionInterface.class
IndexServer.class
IndexWatch.class
PeerClientInterface.class
IndexServerInterface.class
StartPeerClient.class
IndexServer_Stub.class = added
Successfully connected!!
File name: █
```

Peer 3:

>rmiregistry <port #> &

Note: peer port number needs to be different from index server and other peers.

```
Allens-MacBook-Pro:Peer3 allenvannoppenjr$ rmiregistry 5005 &  
[1] 29455  
Allens-MacBook-Pro:Peer3 allenvannoppenjr$
```

>rmic PeerClient

Generates the PeerClient Stub

```
Allens-MacBook-Pro:Peer3 allenvannoppenjr$ rmiregistry 5005 &  
[1] 29455  
Allens-MacBook-Pro:Peer3 allenvannoppenjr$ rmic PeerClient  
Warning: generation and use of skeletons and static stubs for JRMP  
is deprecated. Skeletons are unnecessary, and static stubs have  
been superseded by dynamically generated stubs. Users are  
encouraged to migrate away from using rmic to generate skeletons and static  
stubs. See the documentation for java.rmi.server.UnicastRemoteObject.  
Allens-MacBook-Pro:Peer3 allenvannoppenjr$
```


>java StartPeerClient <server port #> <peer port #> <Peer directory name>

The line below the command “null:” should display the Peer name but I have had trouble getting that simple function to work. Following the name comes the list of files in the Peers directory. The prompt at the bottom asks the user to search for a file name.

```
Allens-MacBook-Pro:Peer3 allenvannoppenjr$ rmiregistry 5005 &
[1] 29455
Allens-MacBook-Pro:Peer3 allenvannoppenjr$ rmic PeerClient
Warning: generation and use of skeletons and static stubs for JRMP
is deprecated. Skeletons are unnecessary, and static stubs have
been superseded by dynamically generated stubs. Users are
encouraged to migrate away from using rmic to generate skeletons and static
stubs. See the documentation for java.rmi.server.UnicastRemoteObject.
Allens-MacBook-Pro:Peer3 allenvannoppenjr$ java StartPeerClient 1099 5005 Peer3
null:
PeerFunction.class
StartIndexServer.class
.DS_Store
file7.txt
PeerClient.class
PeerClient_stub.class
StartPeerClient$peerfunction.class
PeerFunctionInterface.class
IndexServer.class
IndexWatch.class
PeerClientInterface.class
IndexServerInterface.class
StartPeerClient.class
file8.txt
file9.txt
IndexServer_stub.class = added
Successfully connected!!
File name: 
```

Step 3: Request/Download File

In peer 1, a search was performed for file8.txt. Two matches are found. Again, the names should have returned but there is a bug in the code.

```
Allens-MacBook-Pro:Peer1 allenvannoppenjr$ rmiregistry 5001 &
[1] 29165
Allens-MacBook-Pro:Peer1 allenvannoppenjr$ rmic PeerClient
Warning: generation and use of skeletons and static stubs for JRMP
is deprecated. Skeletons are unnecessary, and static stubs have
been superseded by dynamically generated stubs. Users are
encouraged to migrate away from using rmic to generate skeletons and static
stubs. See the documentation for java.rmi.server.UnicastRemoteObject.
Allens-MacBook-Pro:Peer1 allenvannoppenjr$ java StartPeerClient 1099 5001 Peer1
null:
file3.txt
PeerFunction.class
StartIndexServer.class
.DS_Store
file5.txt
PeerClient.class
PeerClient_Stub.class
StartPeerClient$peerfunction.class
PeerFunctionInterface.class
IndexServer.class
IndexWatch.class
PeerClientInterface.class
IndexServerInterface.class
StartPeerClient.class
file8.txt
F250 INSURANCE CARD.pdf
IndexServer_Stub.class = added
Successfully connected!!
File name: file8.txt
Match/Matches found:
1. null
2. null
Pick peer
```

User selects peer 1 and the file is downloaded and in Peer1 directory.

```
Allens-MacBook-Pro:Peer1 allenvannoppenjr$ rmiregistry 5001 &
[1] 29165
Allens-MacBook-Pro:Peer1 allenvannoppenjr$ rmic PeerClient
Warning: generation and use of skeletons and static stubs for JRMP
is deprecated. Skeletons are unnecessary, and static stubs have
been superseded by dynamically generated stubs. Users are
encouraged to migrate away from using rmic to generate skeletons and static
stubs. See the documentation for java.rmi.server.UnicastRemoteObject.
Allens-MacBook-Pro:Peer1 allenvannoppenjr$ java StartPeerClient 1099 5001 Peer1
null:
file3.txt
PeerFunction.class
StartIndexServer.class
.DS_Store
file5.txt
PeerClient.class
PeerClient_Stub.class
StartPeerClient$peerfunction.class
PeerFunctionInterface.class
IndexServer.class
IndexWatch.class
PeerClientInterface.class
IndexServerInterface.class
StartPeerClient.class
file8.txt
F250 INSURANCE CARD.pdf
IndexServer_Stub.class = added
Successfully connected!!
File name: file8.txt
Match/Matches found:
1. null
2. null
Pick peer
1
File Downloading
Done writing data...
File Sent!
```