

## Manual

### System requirement:

Java JDK 1.7. or higher, make sure java environment configuration is done on your system.

Link to how to set up java environment

<https://www.geeksforgeeks.org/setting-environment-java/>

### Build executable:

Open command line, go to the source code directory, type the follow commands to produce class file:

**javac Server.java**













**javac ServerImpl.java**

**javac Util.java**

**javac Client.java**

**javac ClientMain.java**

```
C:\Users\steve\Desktop\P2PfileSystem\client1>javac Server. java
C:\Users\steve\Desktop\P2PfileSystem\client1>javac ServerImpl. java
C:\Users\steve\Desktop\P2PfileSystem\client1>javac Util. java
C:\Users\steve\Desktop\P2PfileSystem\client1>javac Client. java
C:\Users\steve\Desktop\P2PfileSystem\client1>javac ClientMain. java
```

 Client.class	2/23/2020 1:45 PM
 ClientMain.class	2/23/2020 1:45 PM
 RegistryThread.class	2/23/2020 1:45 PM
 RetrieveFile.class	2/23/2020 1:45 PM
 SearchThread.class	2/23/2020 1:45 PM
 Seeder.class	2/23/2020 1:45 PM
 SendFile.class	2/23/2020 1:45 PM
 Server.class	2/23/2020 1:45 PM
 ServerImpl.class	2/23/2020 1:45 PM
 ServerImpl_Stub.class	2/23/2020 1:45 PM
 UpdateFile.class	2/23/2020 1:45 PM
 Util.class	2/23/2020 1:45 PM

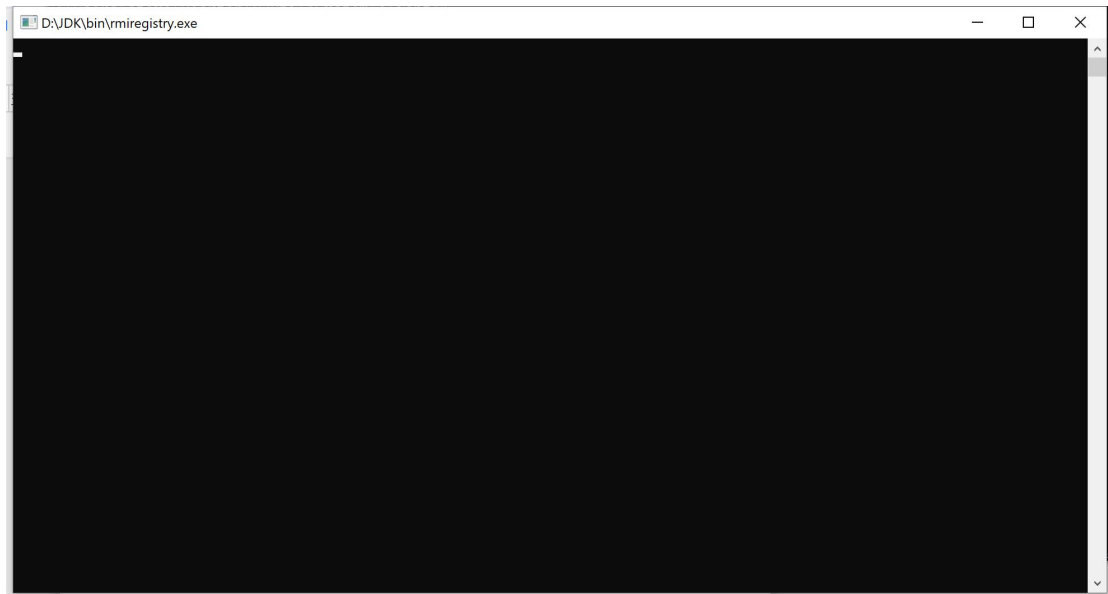
After that, use rmic command compile remote object:

**rmic ServerImpl**

```
C:\Users\steve\Desktop\P2PfileSystem\client1>rmic ServerImpl
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been superseded by dynamically generated stubs.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.
```

Run rmi registry and a program would pop out:

**start rmiregistry**



**Run executable:**

Open server:

Go to execution files (.class files) are located. At the command window(terminal), input the following command:

**java ServerImpl**

```
C:\Users\steve\Desktop\P2PfileSystem\client1>java ServerImpl
_
```

Then server get started and waiting for service invoked until you hit “ctrl+c” to terminate it.

Open client:

Go to the directory where execution files (.class file) are located. At the command window(terminal), input the following command:

**java ClientMain**

```
C:\Users\steve\Desktop\P2PfileSystem\client1>java ClientMain
=====P2P File System=====
1 Registry
2 Search
3 Download
4 Quit
=====
```

Then you get into the user interface.

As the first time you get into this system, you need to register first, so hit '1':

```
C:\Users\steve\Desktop\P2PfileSystem\client1>java ClientMain
=====P2P File System=====
1 Registry
2 Search
3 Download
4 Quit
=====
1
```

After that if you want to search a file and retrieve it then hit '2', then type the filename :

```
=====P2P File System=====
1 Registry
2 Search
3 Download
4 Quit
=====
2
Please input the filename: 1.txt
```

Then all the peer nodes have that file would pop out on the screen, and you need to choose one node for downloading:

```
=====
2
Please input the filename: 1.txt
Available nodes are blow, which one you choose to download?
0. 8080
```

```
0
Searching successfully done, go and download it!!
=====P2P File System=====
1 Registry
2 Search
3 Download
4 Quit
=====
```

After that you can go to download option by hit '3' and retrieve the data to your own destination.

```

=====
Downloading data.....
contents are below:

The client from port63620 tries to retrieve 1.txt
GIZBPSDCDYQZIMYYsOTWCEZUDFXOZCJPZZOFFUBUYAYERJMQVAQPGMZBI
WRWLMKWKREKIHCCBRHNMHWNLAQSBDXWDYXUBZXMLMBXYWTMKWTADBBY
WFTDEHDQAPFNSJMASBFUZDINRTBFHYMQSDNCFRXHLXQCPOTXSOPSHEWI
DCIEYZSWWWVFJYMNGIBLOHLVARAVQPFVBVHPNVKOOBNPLLRJQXHOHNKCM
HCLQWNVBPWHXAEKEWNI XVKREFLUPBMXAFIDDKQYIZQCCMLRBVXNRCJMS
SBWCRBLDJLEVTPEYZDMOVYVQZHBREYWTQUESGPZCMBDYHEWJNXJGBUZJS
UEXIZWPXFKROBAIYPAPWQXARNXUIXHBLOXZWCJGPXDZBCYSFNGJWXPNYI
MUPEMHLVVBZXUEVHHYQXSXRKNTSPZZYUZXFCWVNTLHHHKVTZDJWDNPI
BZZLUWOCZVXXIEEXAIPTNNSUVSOKTCKHGKYFICOCATGXIPMCNATJUDXY
PZXSYGKJGASXLLANJFPazzZDTGDYNNIPASIBSBCZCYXRQBISQRIWRIS
DXFYIYBKEJESMDGQSUXILBNWCQWZSFBPXVUBXGBWGBUAPDWBVJFGPPXHS
RJBSTIJUQGOWDMDXLLDTWAGGSQIAJTPOMHGVSFISSDJELUQHRXSFXXKQ
EMSFYIOPHSRBDWOPFPNJBOVPIIPZJNQPPHVXRNMPUVYVZSTVJGKKGV
LICSLUJRIGYHBYJYOSFBWKZYJYDISMQPGUSFAPFQTEDOYIDKQPWOXPDDA
WLQIRLXVVUPOTCPCLDZLYMCAFAFLAWHBNEEULKBXGFFKJHCZEENJLXI
YPEKKRGKHDXTZVZZIVYSIBWWBBAULICKZJTCYCDYUTOYRLJJXVBVSIEA
DYCTWBGAEPPQOEKZJPHQXYTSWLGHFQSAAGNLWWWQTDROURXZDUWWIWO
ETKIFQJPRZBXJKOXVGBOXGQWHTLLGEYRQJLVJUSJQCXGGOIWOPAMBECE
DJSGOWPCFQBOKBHEMCRHEOEKAGXPTDXBLPKDFDKMDIBDZPOTZWRRFGKLV
XBBEDTULBOOAMUPOSWFIQBHNVKLTFPMISPYOINZMHKNDEBGSKABVMSIQH
TVFOGPHUYHMHUXHFTDLXOSNGDRFFOJWPVAMNIQEVXFYBXTBDHSLGXWHF
OSHEIYUIYCOYYEGARBTNQKFXXAOPBJAEXBNFUSRPNJVKPAGZYRYMPXRF
QAEDJTPBIRHSNHSCDFQKAPVWNBWZVENJMEBKVDLYLBJCLKZIMTEZNRX
ZEPATNURTELRLXRDMOBTGACIFXIXUZEPXZLDQZCCICZQBMAZNERWGAU
WPPDRCLTUXTPAFMJIIILRGLQPYCOAQPBCAZNBDMFYBNOHCNHYRBUXAAHJF
File has been received successfully.

```

Note: when you try to start second or more client after sever started just simply compile source code like this:

```
javac Server.java
```

```
javac ServerImpl.java
```

```
javac Util.java
```

```
javac Client.java
```

```
javac ClientMain.java
```

```
rmic ServerImpl
```

And run it by type:

```
java ClientMain
```