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Test Peer to Peer File Sharing

1. The first step is to **unzip** the folder and **extract** all the files.
2. Then perform the following step to run the application step by step.

Server

- Open the **command prompt** and go to the folder where the source code of server is.
- Type ***mvn install --file server.xml*** and press enter.

operable program or batch file.

```
C:\Users\abdul\IdeaProjects\fileSharing>mvn install --file server.xml
[INFO] Scanning for projects...
[INFO]
[INFO] -----< server:server >-----
[INFO] Building server 1
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ server ---
```

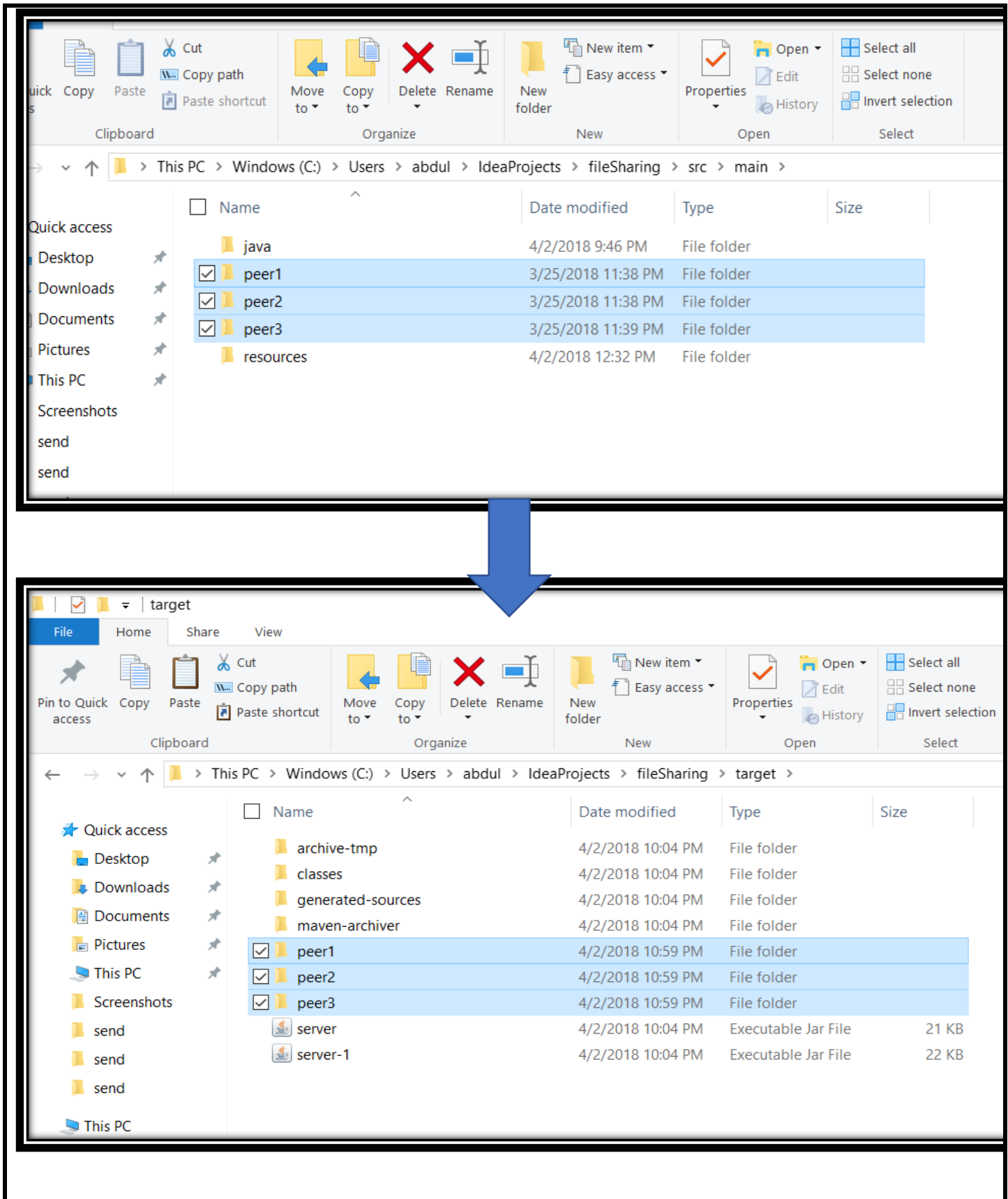
- This will create a **target folder** in the directory and a **server.jar** file in the folder.
- Go to the target folder by typing ***cd target***.
- Type the command ***java -jar server.jar*** in the **cmd** and press **enter**.

```
Microsoft Windows [Version 10.0.16299.309]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\abdul\IdeaProjects\fileSharing\target>java -jar server.jar
Server waiting to connect to the peer
```

- Server should start running.

Copy the folders named **peer1**, **peer2** and **peer3** from the location “\fileSharing\src\main” to **Target Folder**.



Peer 1

- Open the [command prompt](#) and go to the folder where the source code of [peer1](#) is.
- Type `mvn install --file peer1.xml` and press [enter](#).

```
C:\Users\abdul\IdeaProjects\fileSharing>mvn install --file peer1.xml
[INFO] Scanning for projects...
[INFO]
[INFO] -----< peer1:peer1 >-----
[INFO] Building peer1 1
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ peer1 ---
[WARNING] Using platform encoding (6495964) to copy filtered resources, i.e. the
```

- This will create a [target folder](#) in the directory and a [peer1.jar](#) file in the folder.
- Go to the target folder in [command prompt](#) by typing `cd target`
- Type the command `java -jar peer1.jar` in the [cmd](#) and press enter.

```
C:\Users\abdul\IdeaProjects\fileSharing\target>java -jar peer1.jar
Enter Server host name (For eg localhost DESKTOP-L4M7MEE
localhost
```

- It will start running and ask for the [hostname](#).
- Type `localhost` and press [enter](#).

```
C:\Users\abdul\IdeaProjects\fileSharing\target>java -jar peer1.jar
Enter Server host name (For eg localhost DESKTOP-L4M7MEE
localhost
~~~~~
Select a number to perform an action
1
Enter 1 to REGISTER peer 1
Enter 2 to SEARCH for a file
Enter 3 for 1000 sequential request
Enter 4 to exit
~~~~~
```

Peer 2

- Open the command prompt and go to the folder where the source code of `peer2` is.
- Type `mvn install --file peer2.xml` and press `enter`.
- This will create a `target` folder in the directory and a `peer2.jar` file in the folder.
- Go to the target folder in `command prompt` by typing `cd target`
- Type the command `java -jar peer2.jar` in the `cmd` and press enter.
- It will start running and ask for the `hostname`.
- Type `localhost` and press `enter`.

Peer 3

- Open the command prompt and go to the folder where the source code of `peer3` is.
- Type `mvn install --file peer3.xml` and press `enter`.
- This will create a `target` folder in the directory and a `peer3.jar` file in the folder.
- Go to the target folder in `command prompt` by typing `cd target`
- Type the command `java -jar peer3.jar` in the `cmd` and press enter.
- It will start running and ask for the `hostname`.
- Type `localhost` and press `enter`.

Some Processes

1. Registration of a Peer:

```


Select a number to perform an action

Enter 1 to REGISTER peer 1
Enter 2 to SEARCH for a file
Enter 3 for 1000 sequential request
Enter 4 to exit

PEER 2 started at port 6666
1
Server is registering PEER 2

-----
Server successfully registered PEER 2 at DESKTOP-L4M7MEE -- 6666
-----
```

2. Searching for a file:

 C:\Windows\System32\cmd.exe - java -jar peer2.jar

```

2

Enter the file name to be searched
2_p1.txt

Peer 2 need a file named 2_p1.txt and wants to download it.
The file 2_p1.txt has been found at the following PEERS

-----
Peer ID: DESKTOP-L4M7MEE -- 5555

-----
Peer started downloading 2_p1.txt file from DESKTOP-L4M7MEE -- 5555

-----
2_p1.txt file downloaded successfully
-----
```

3. Performance for 1000 requests

```
~~~~~  
4_p1.txt file downloaded successfully  
~~~~~  
The total time taken to process 1000 sequential requests is 25179 milliseconds  
~~~~~
```

4. Table for some of the results for 1000 requests

Size of File	Request	Number of Request	Time (in Milliseconds)
4 KB	Sequential	1000	25179
4KB	Concurrent	1000	31246
9KB	Sequential	1000	40591
9KB	Concurrent	1000	47882

*I provided the folders with the files in it which is in the location "[fileSharing/src/main](#)". Kindly paste the folders in the target folder before execution. There are some files that are common in two peers which are:

1. common_12.txt (common between peer 1 and peer 2)
2. common_13.txt (common between peer 1 and peer 3)
3. common_23.txt (common between peer 2 and peer 3)