Programming Project – 4

CS5352 Advanced Operating Systems Design

Gnutella File Sharing System with push based approach

Output Screenshots

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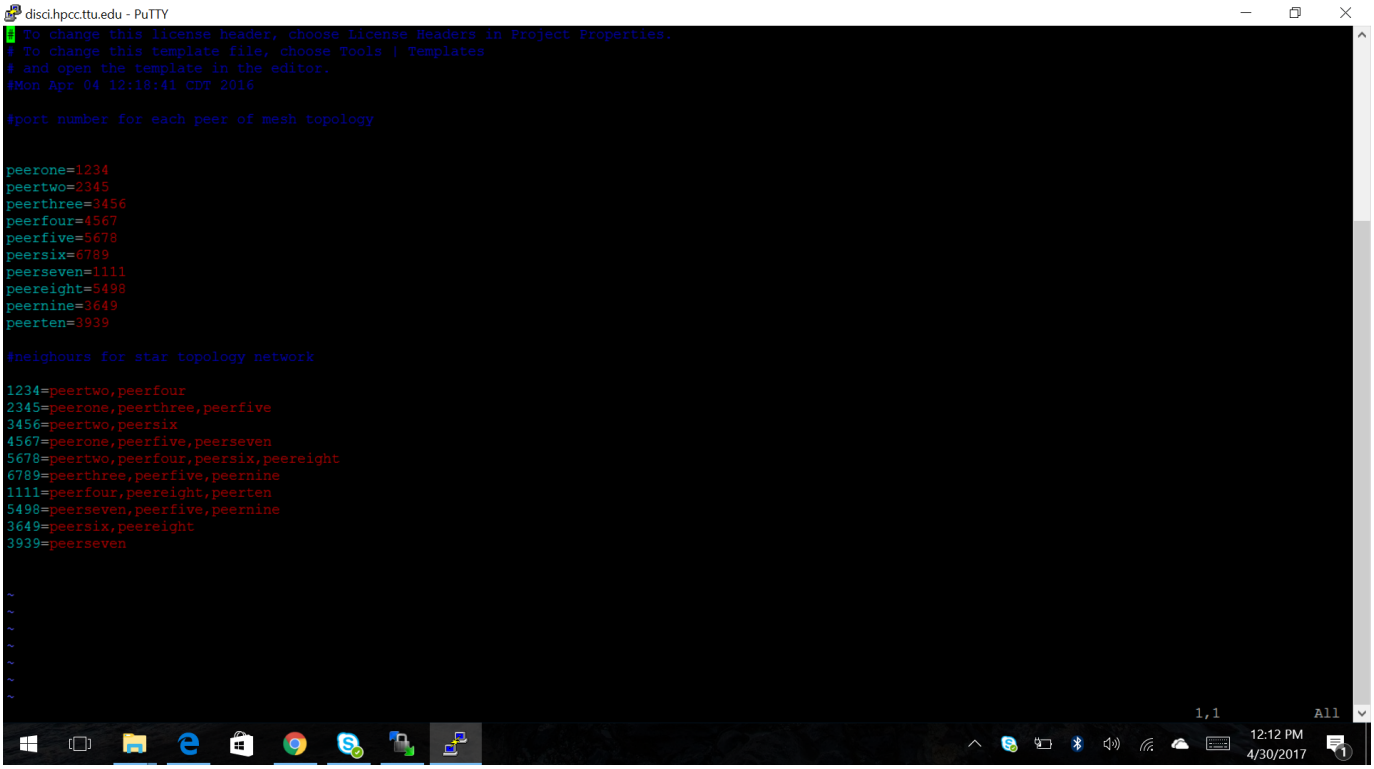
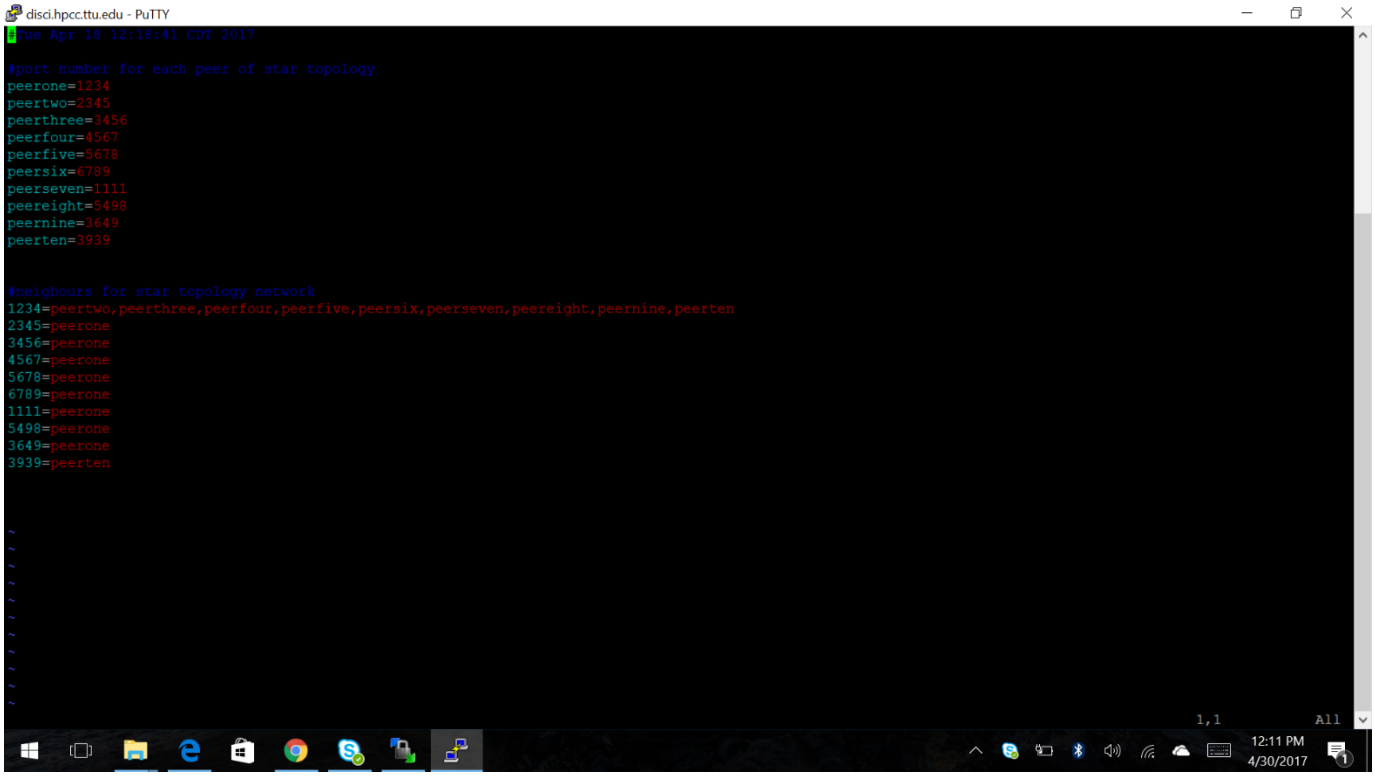
Mesh Topology(mesh.properties):

Command: vi mesh.properties



Star Topology(star.properties):
Command: vi star.properties

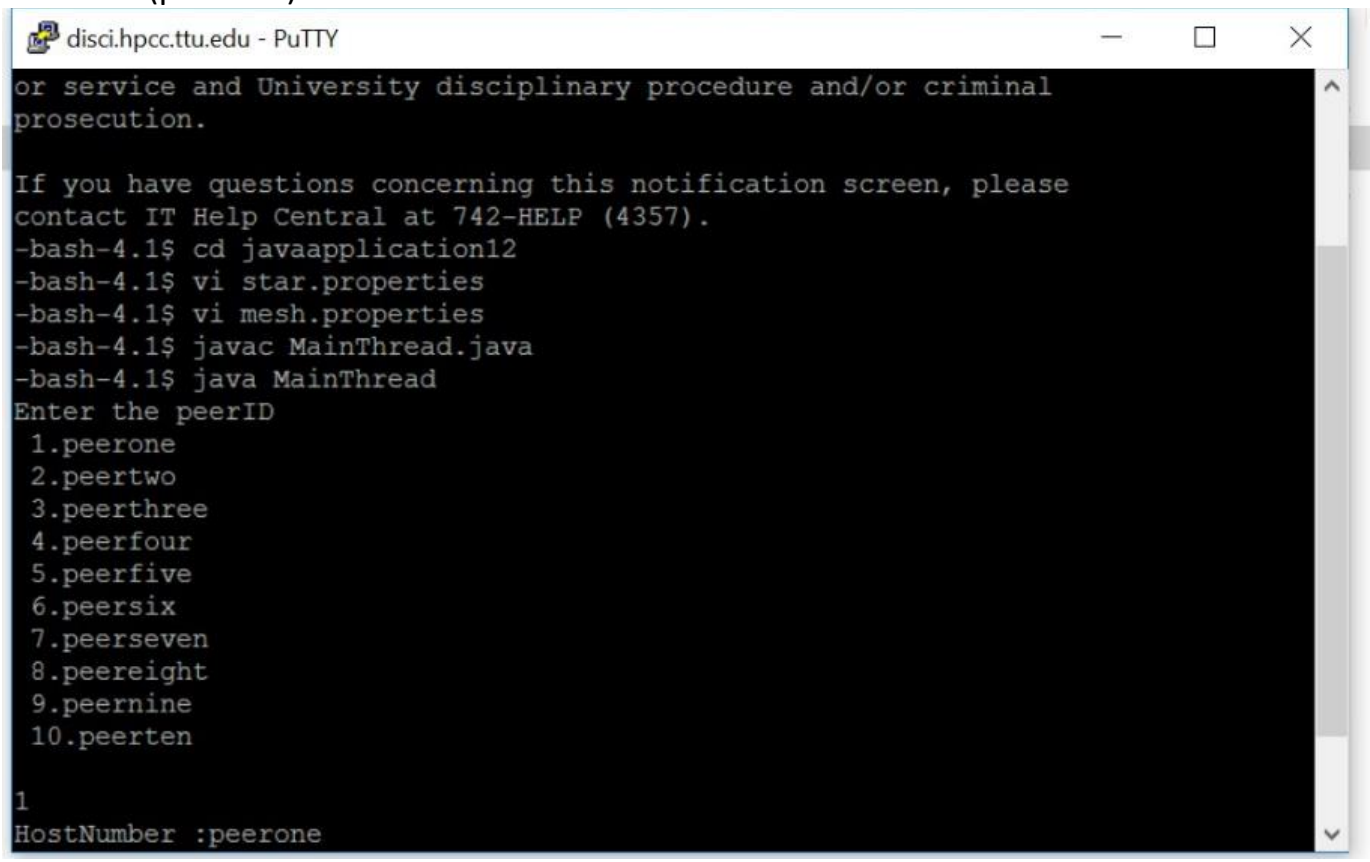


Program execution:

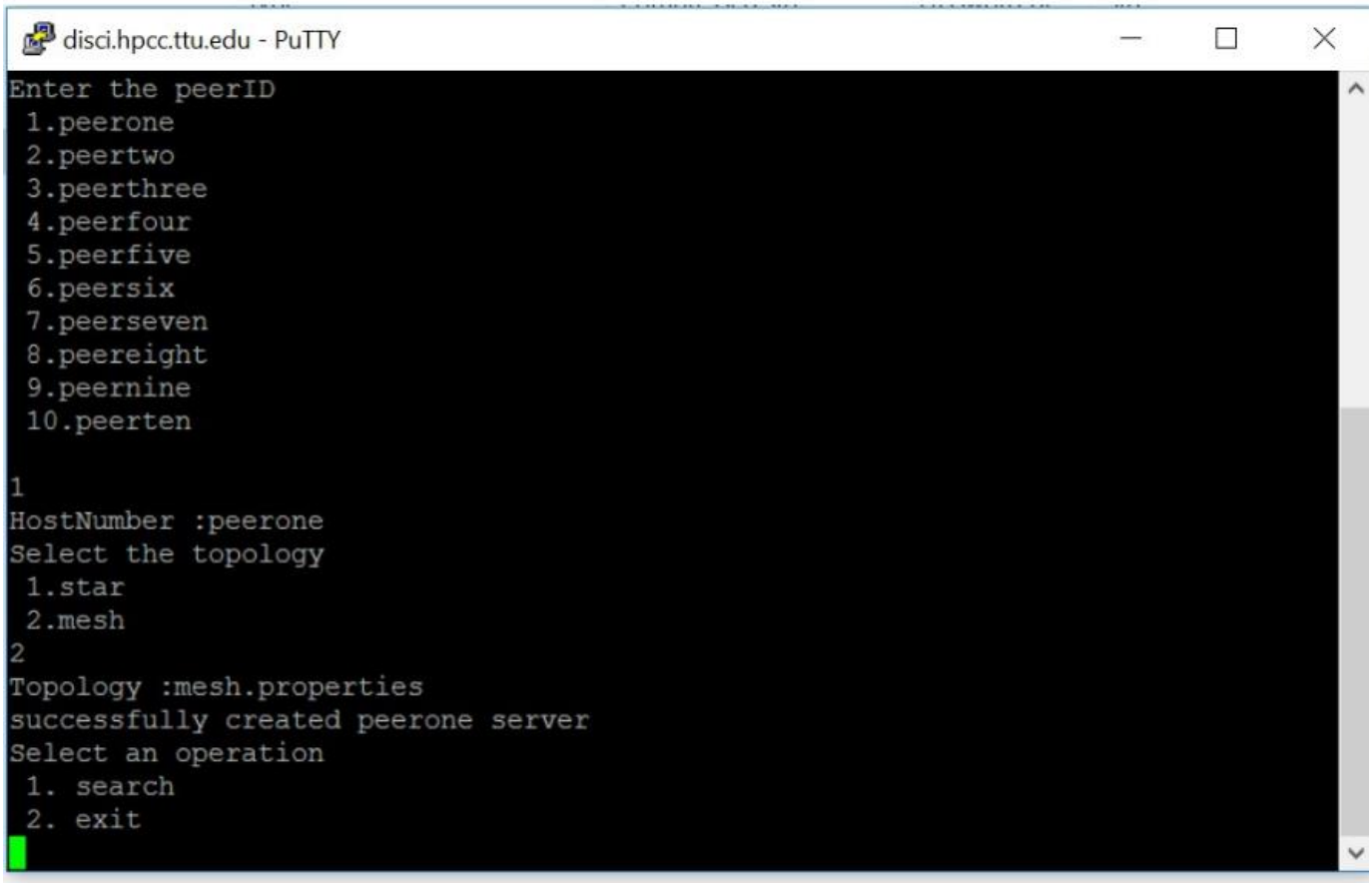
Start peerone server:

Command:

- Compiling – javac MainThread.java
- Execution – java MainThread
- Select – 1(peerone)



- Select – 1(star.properties) or 2(mesh.properties)

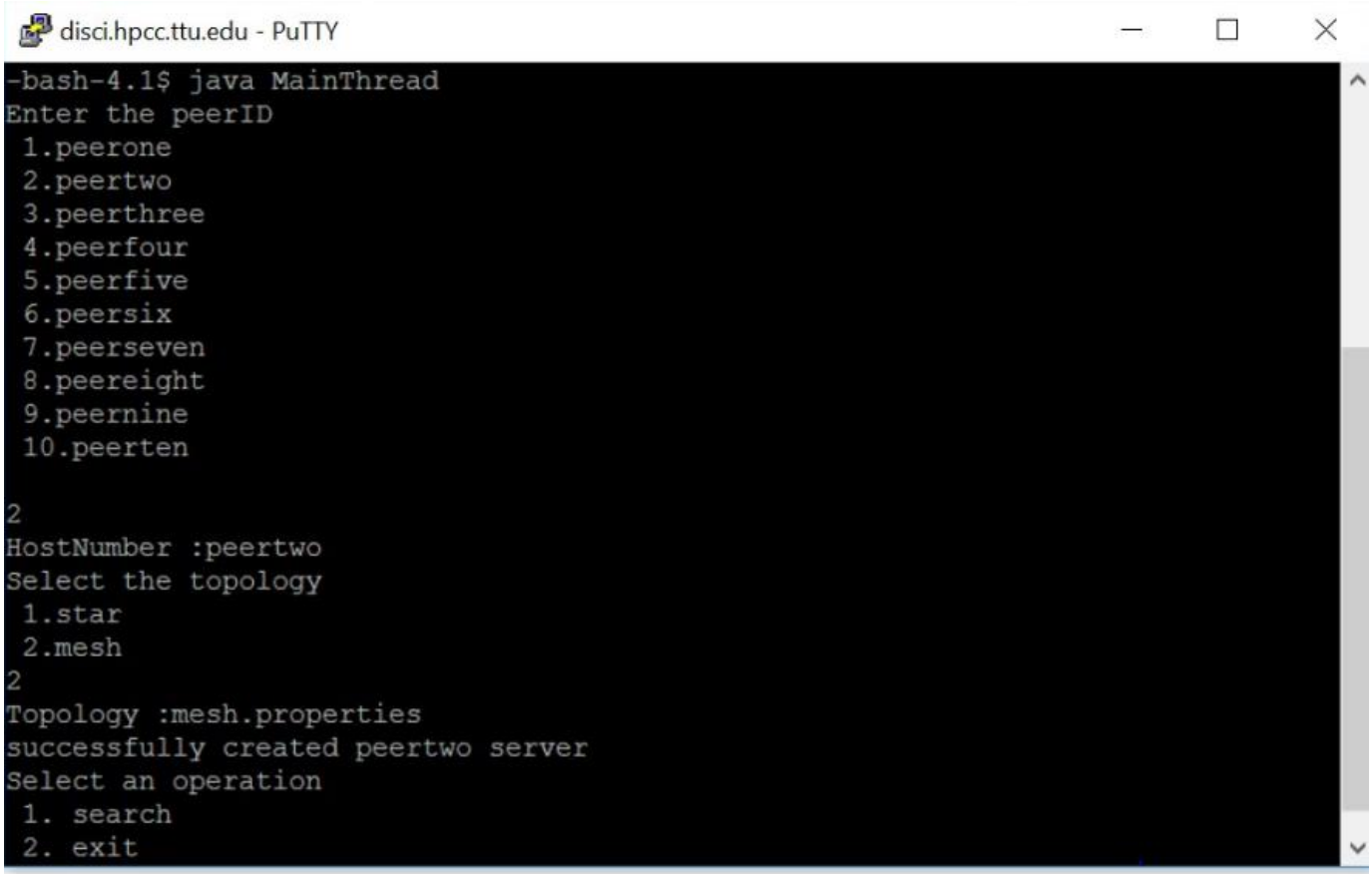


Note: Run all the peers concurrently in different terminals

Start peertwo server:

Command:

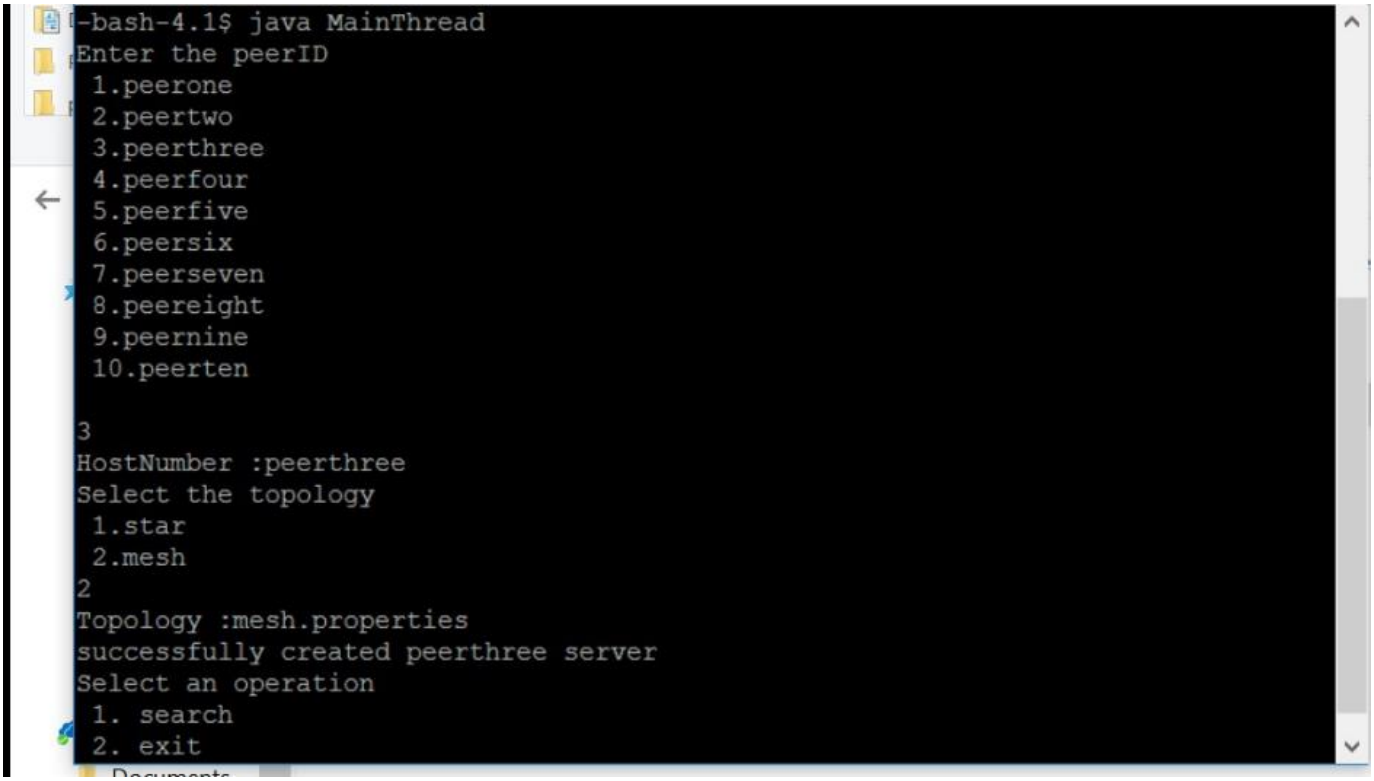
- Execution – java MainThread
- Select – 2(peertwo)
- Select – 1(star.properties) or 2(mesh.properties)



Start peerthree server:

Command:

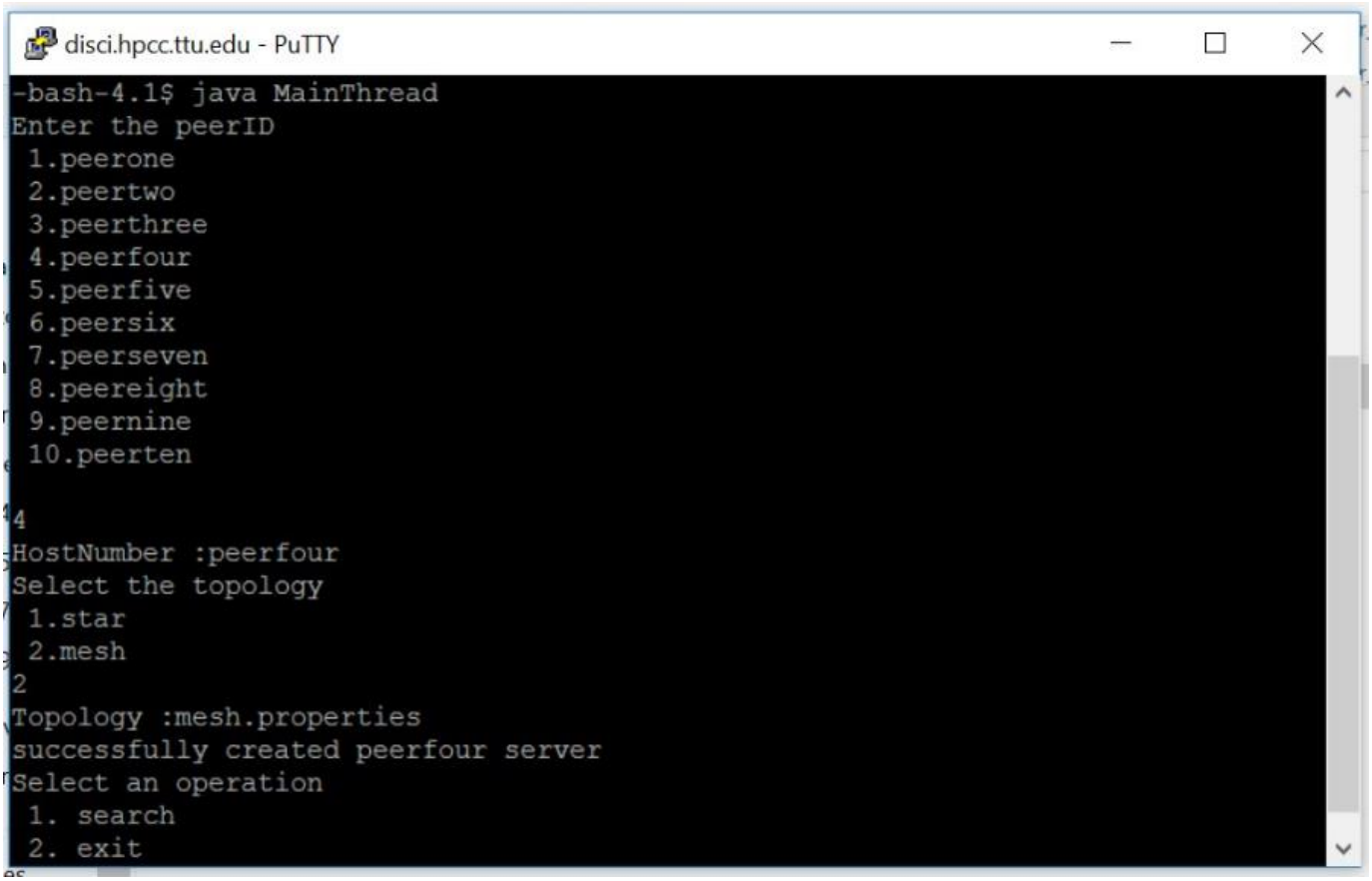
- Execution – java MainThread
- Select – 3(peerthree)
- Select – 1(star.properties) or 2(mesh.properties)



Start peerfour server:

Command:

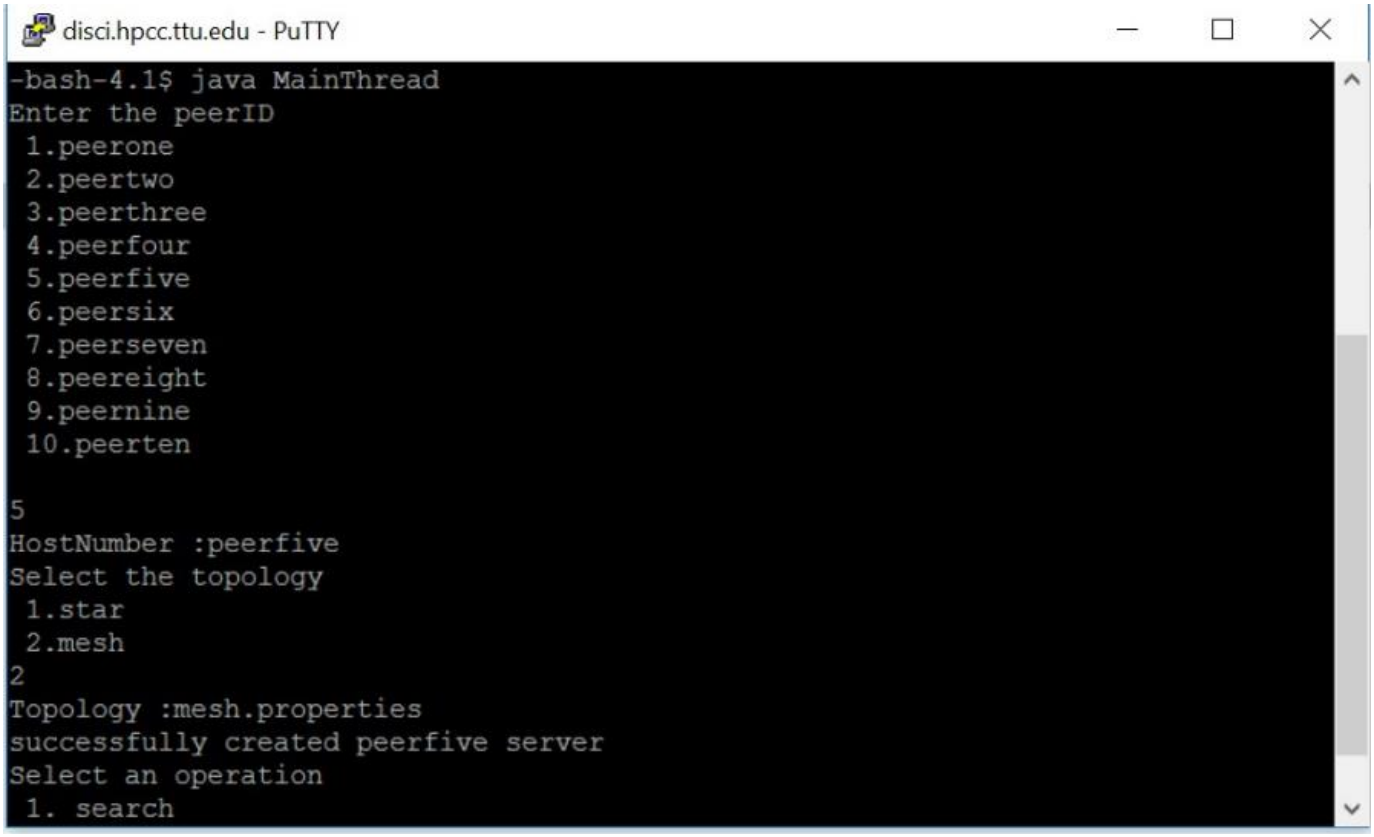
- Execution – java MainThread
- Select – 4(peerfour)
- Select – 1(star.properties) or 2(mesh.properties)



Start peerfive server:

Command:

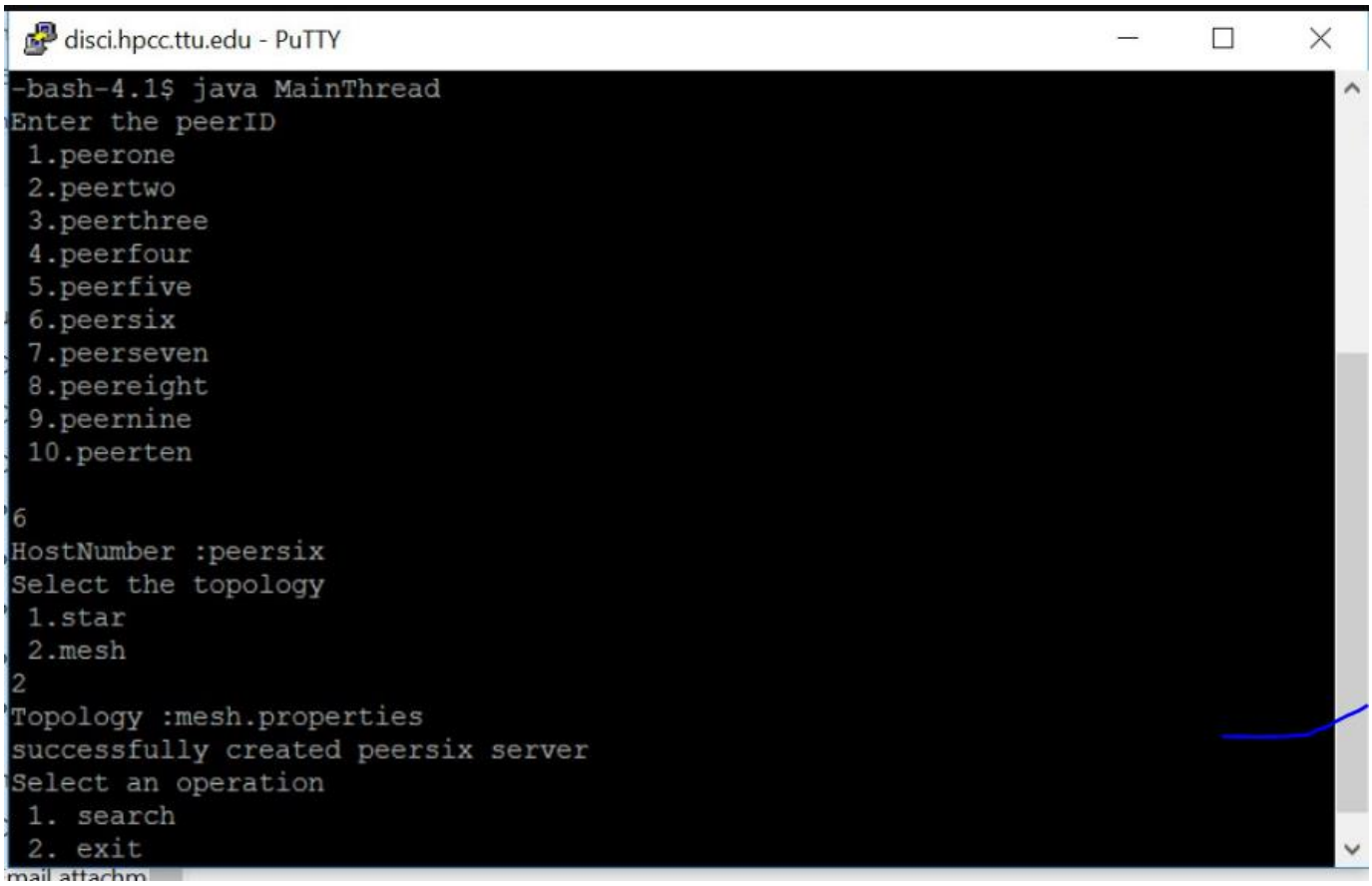
- Execution – java MainThread
- Select – 5(peerfive)
- Select – 1(star.properties) or 2(mesh.properties)



Start peersix server:

Command:

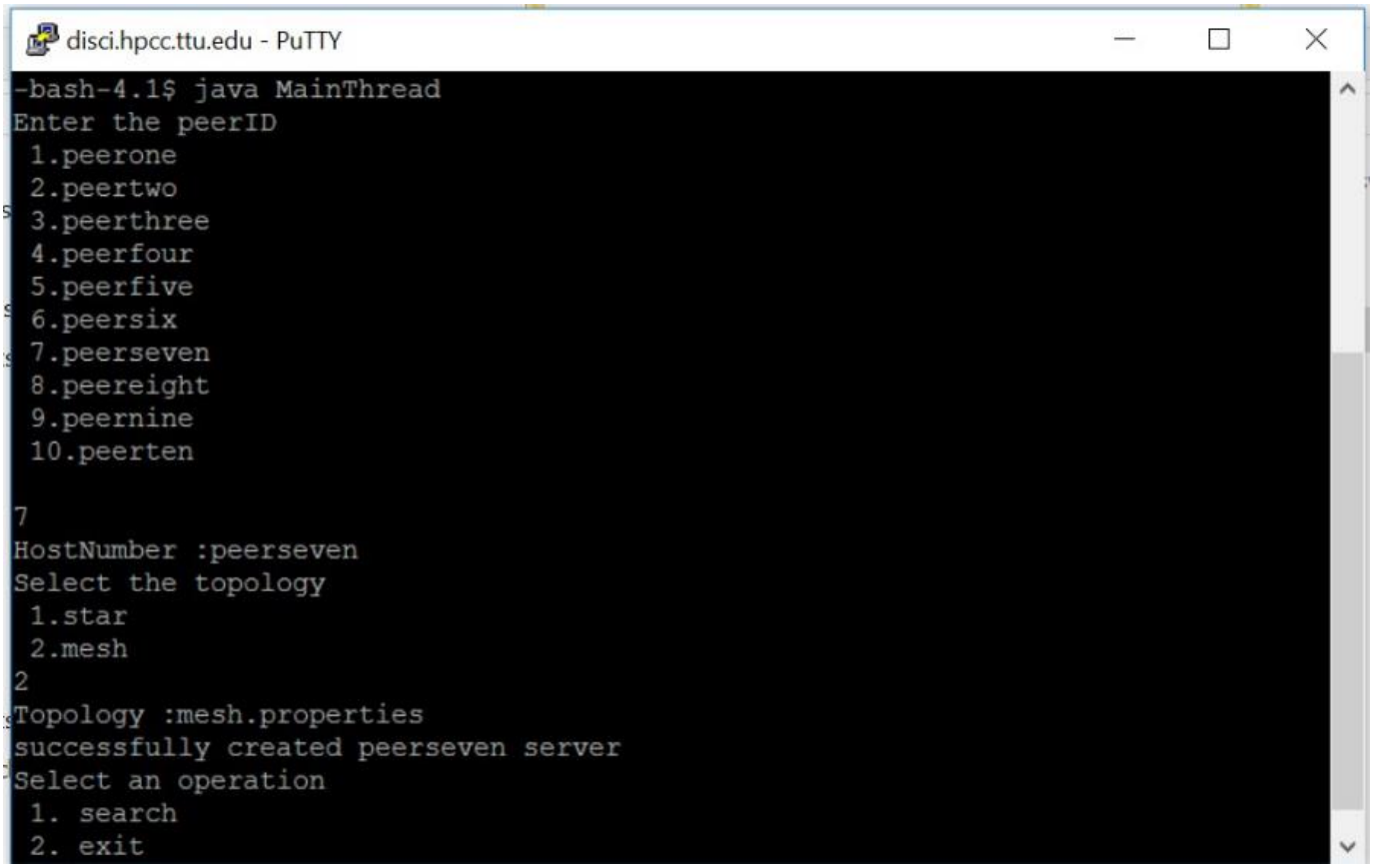
- Execution – java MainThread
- Select – 6(peersix)
- Select – 1(star.properties) or 2(mesh.properties)



Start peerseven server:

Command:

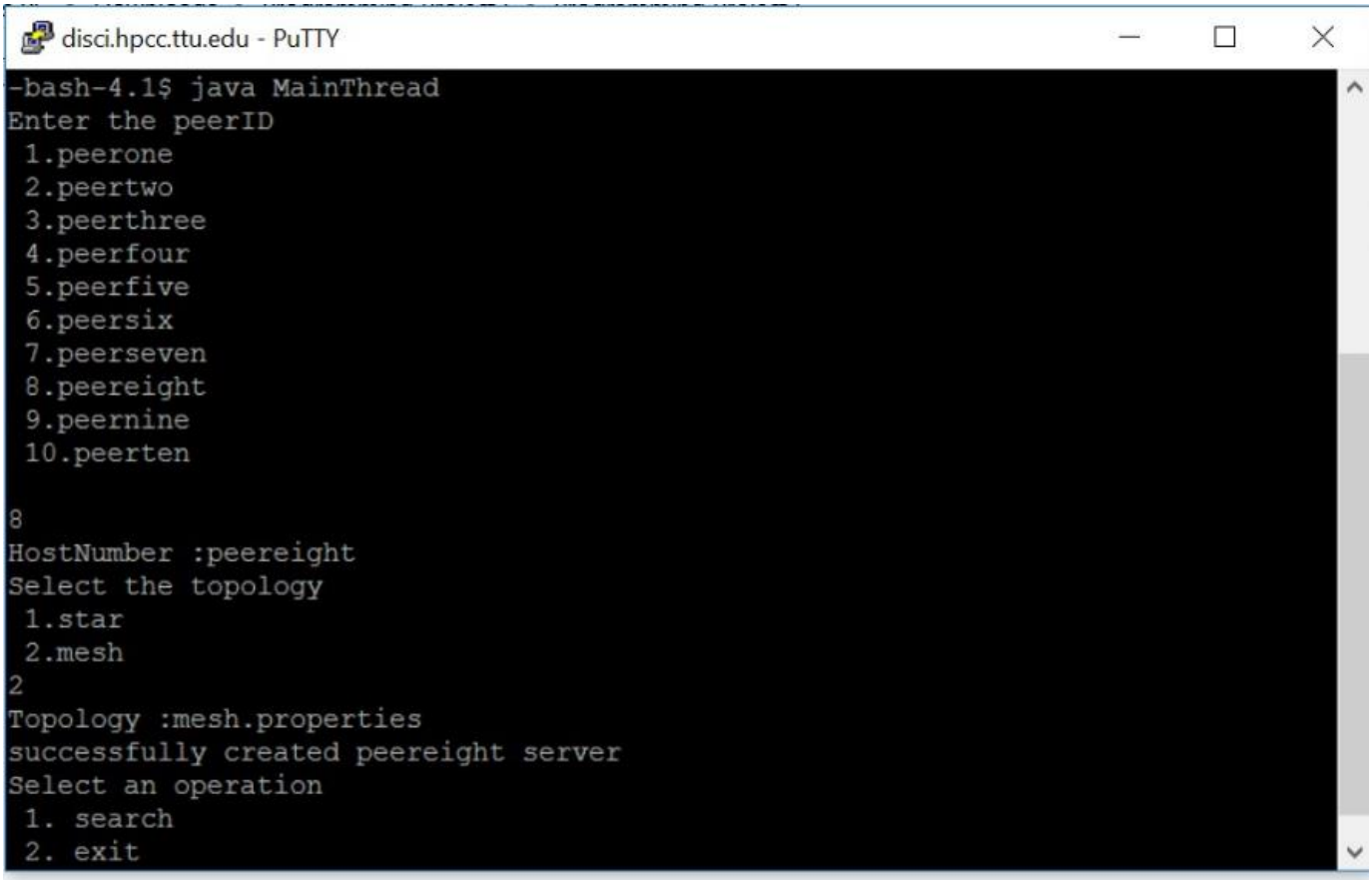
- Execution – java MainThread
- Select – 7(peerseven)
- Select – 1(star.properties) or 2(mesh.properties)



Start peereight server:

Command:

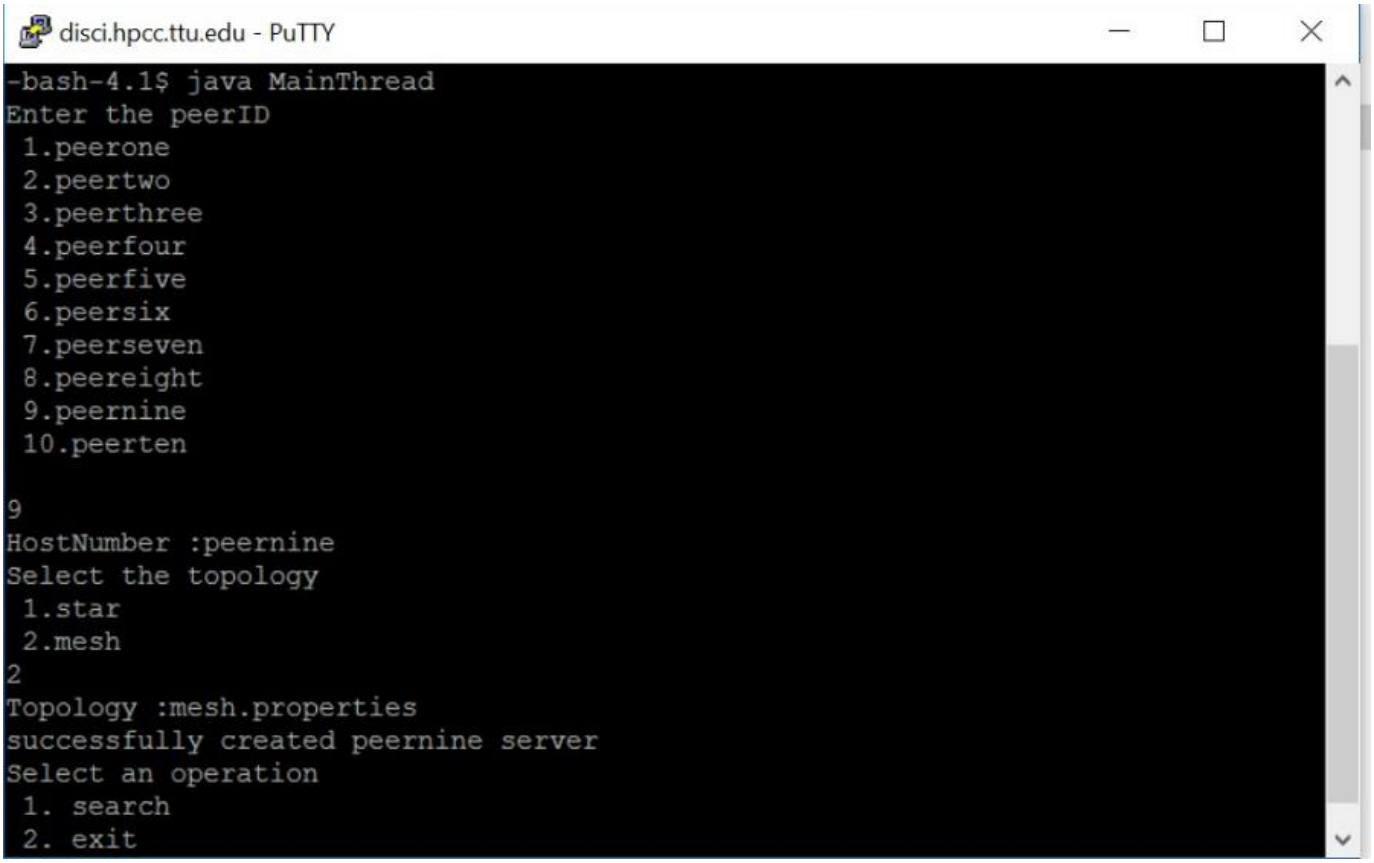
- Execution – java MainThread
- Select – 8(peereight)
- Select – 1(star.properties) or 2(mesh.properties)



Start peernine server:

Command:

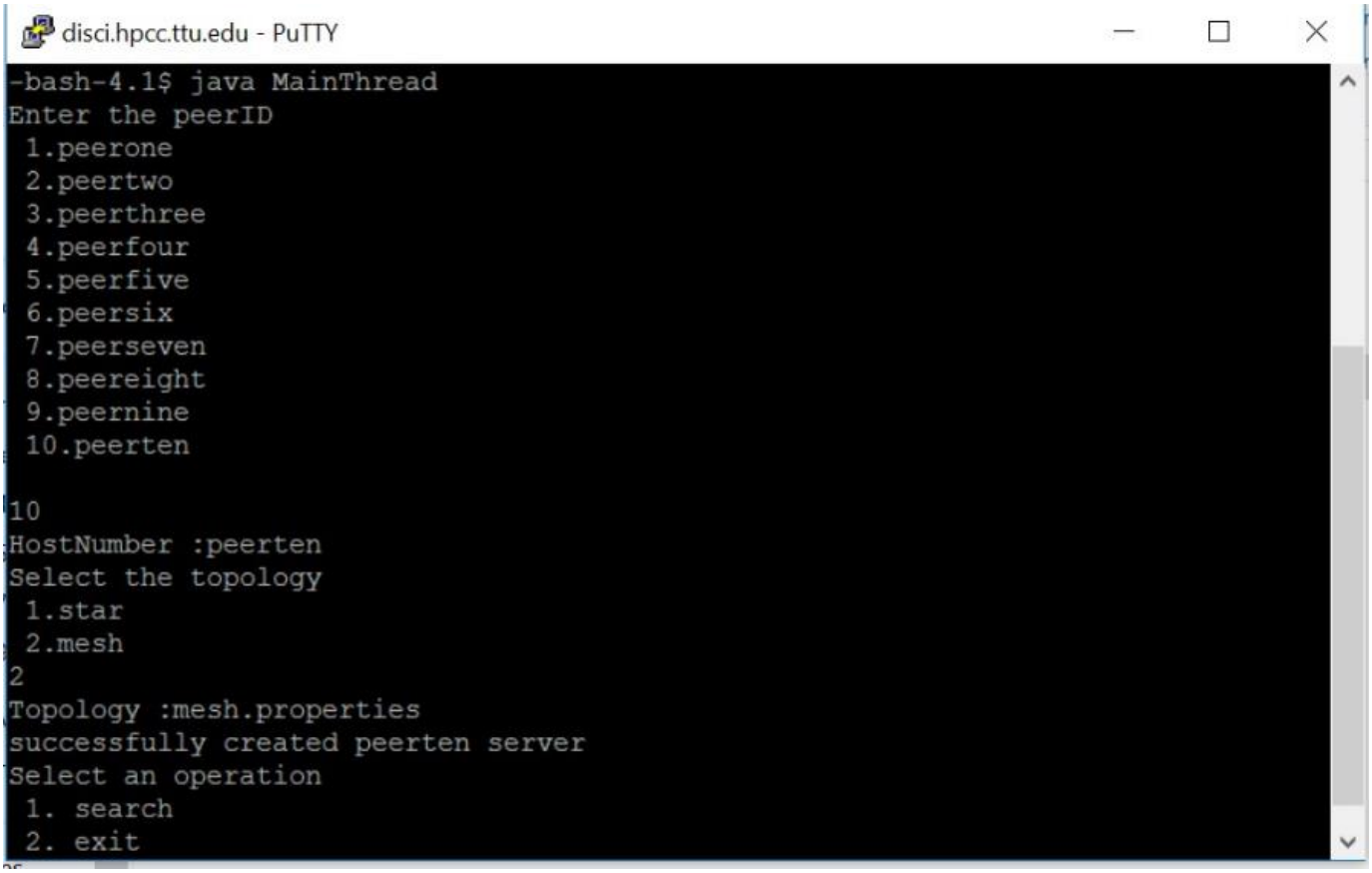
- Execution – java MainThread
- Select – 9(peernine)
- Select – 1(star.properties) or 2(mesh.properties)



Start peerten server:

Command:

- Execution – java MainThread
- Select – 10(peerten)
- Select – 1(star.properties) or 2(mesh.properties)



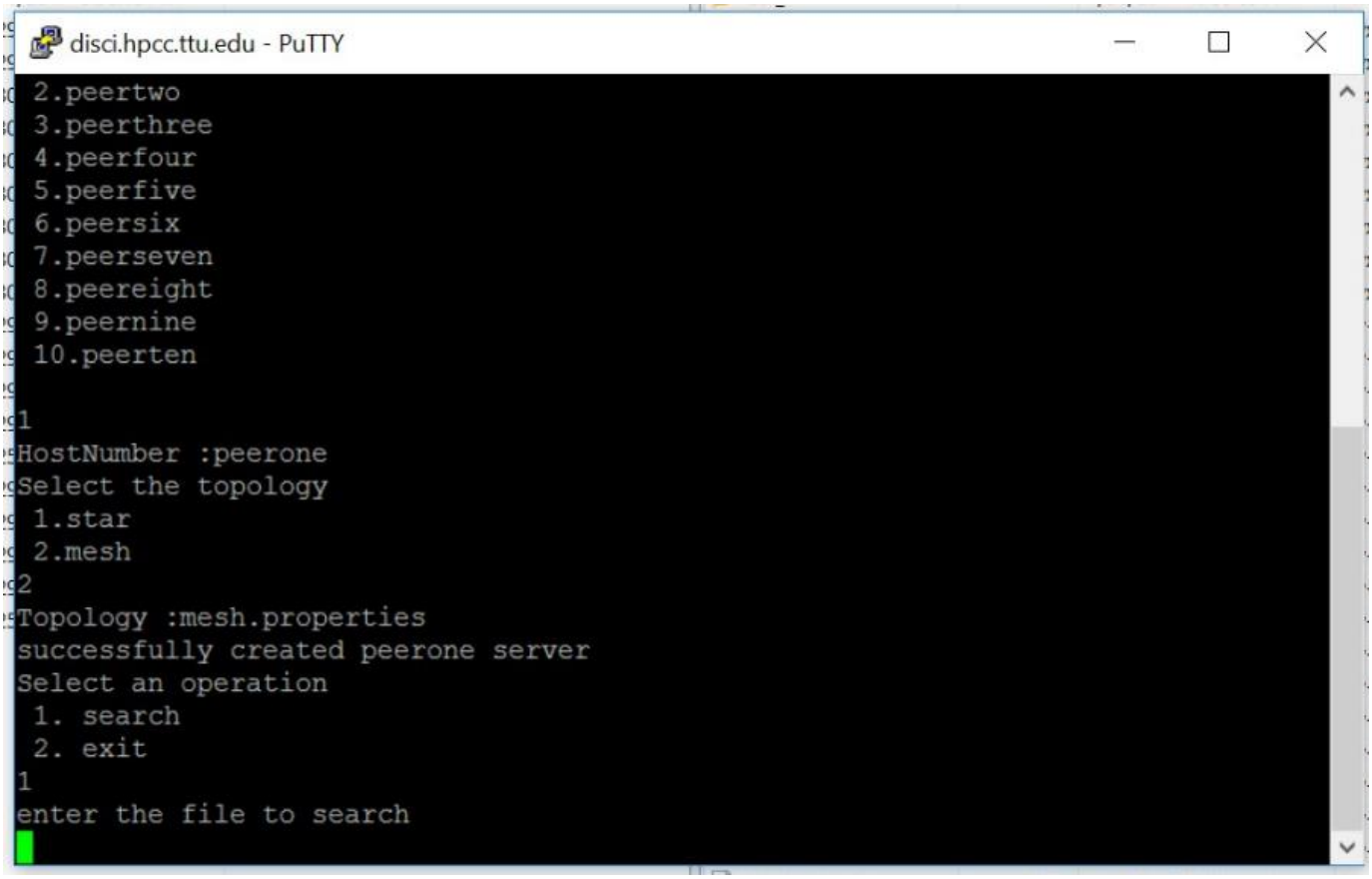
Searching file operation

Navigate to any of the peer client terminal

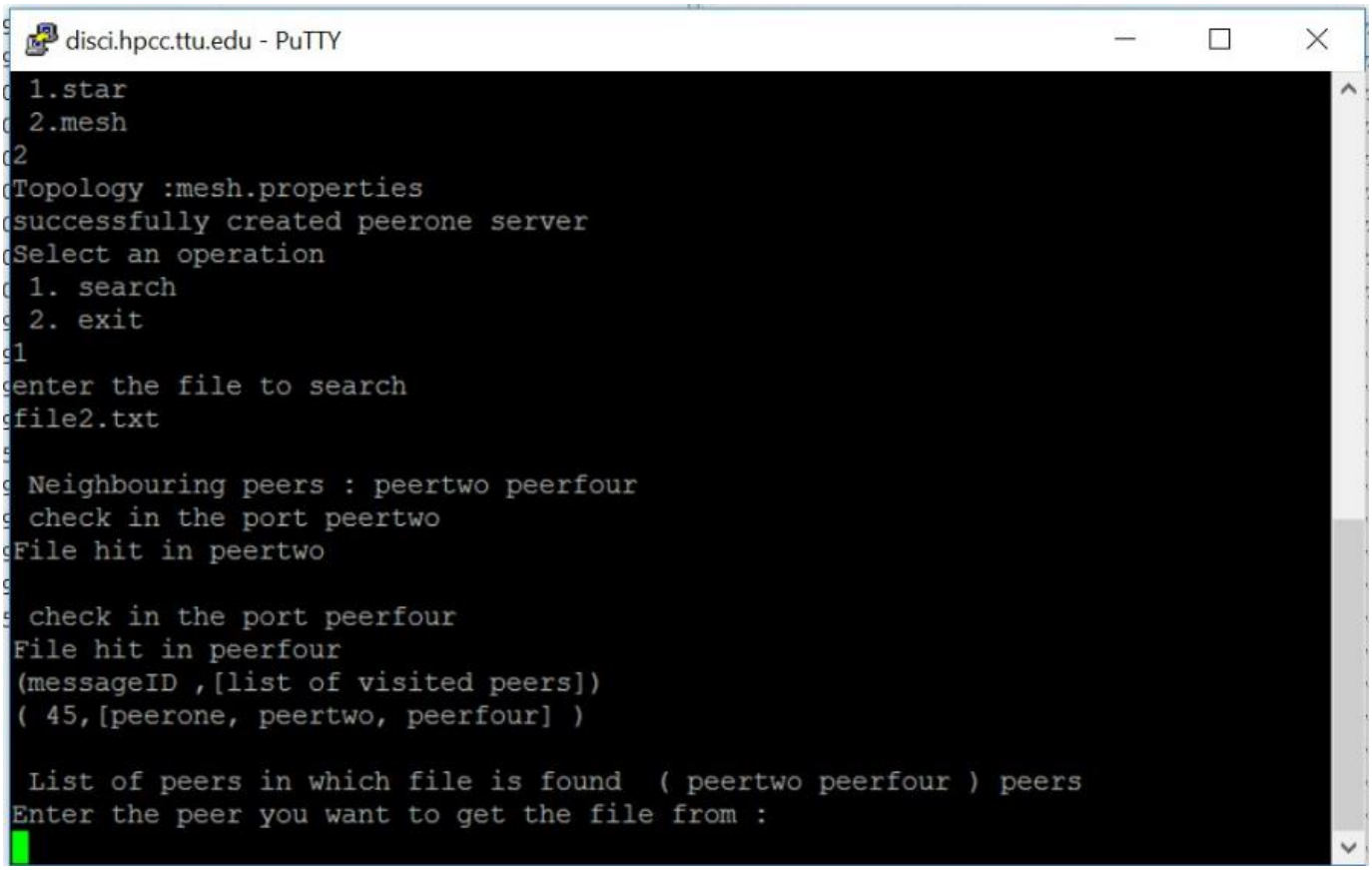
In this example I have navigated to **peerone** client to perform search operation

Command:

Select - 1(Search Operation)



Command : file2.txt(Any other file u wish to search):



So the given file is found in the immediate neighbors peertwo and peerfour

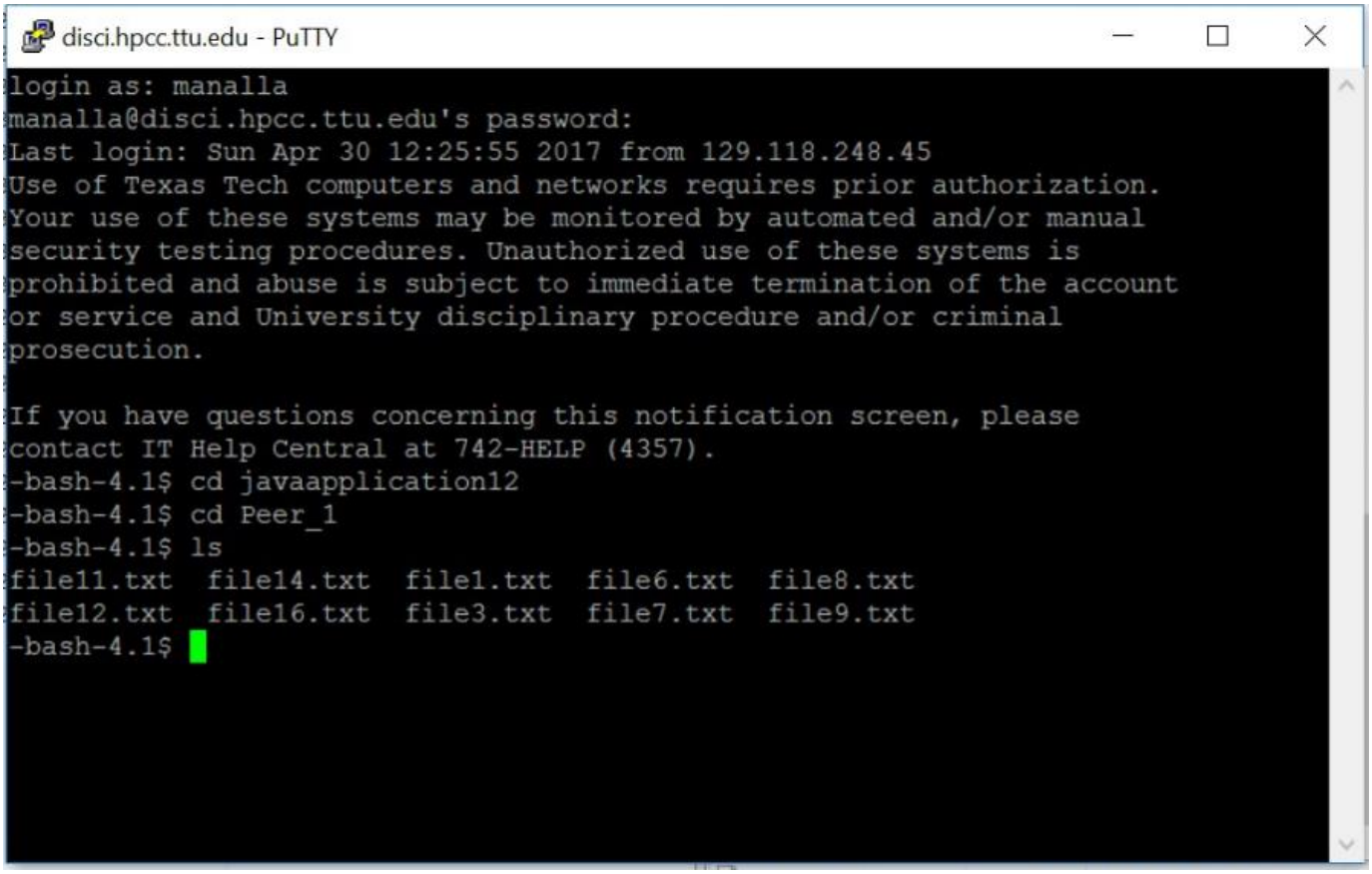
Alternate cases:

- file is not found in immediate levels so it searches in next levels
- Time to live value is expired before the file is found (overcome this by searching from other peers)

Check files in peer1 before transfer

Command:

- cd Peer_1
- ls

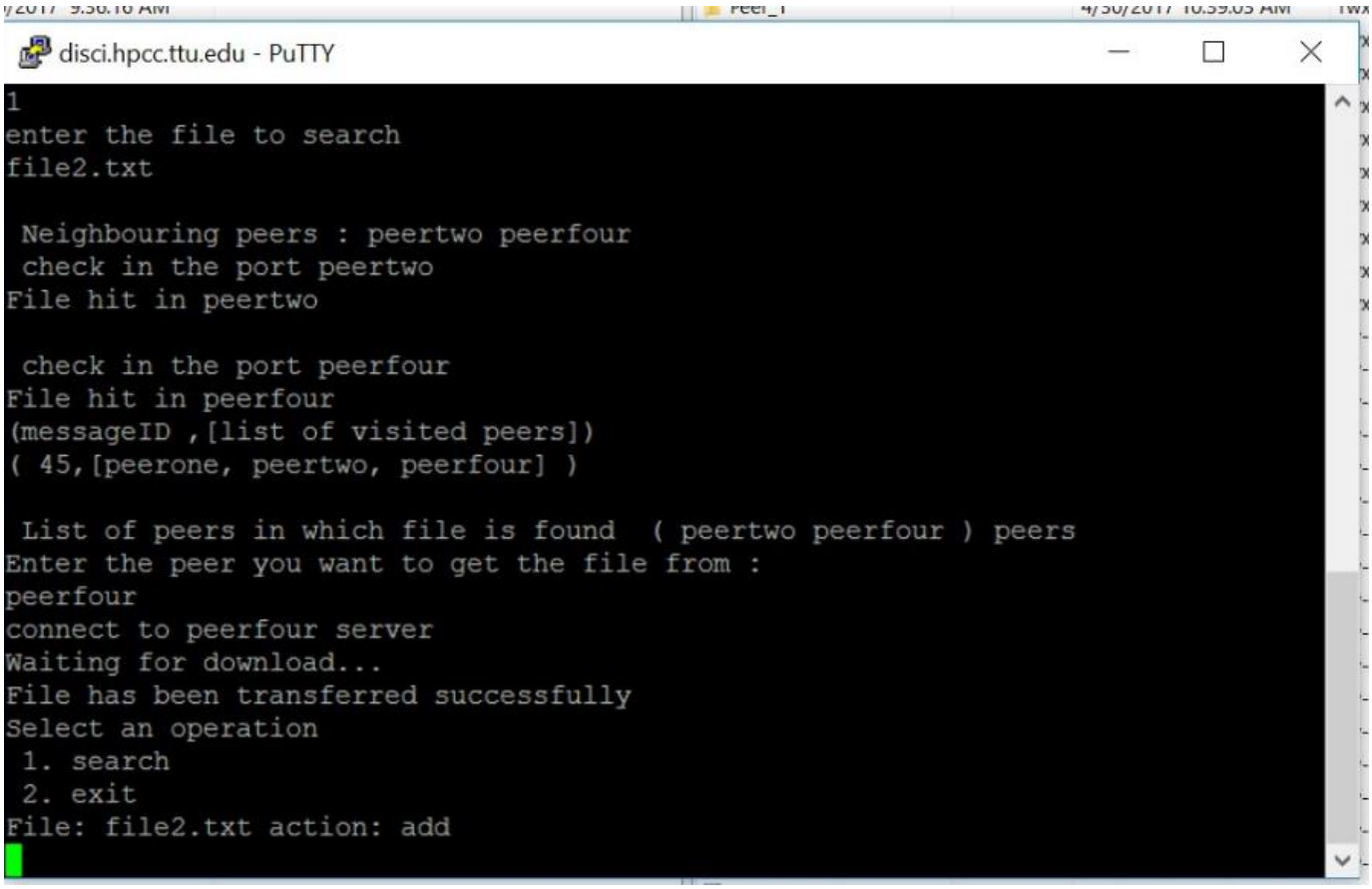


File2.txt is not found before transfer

Transferring file:

Command:

Select – peerfour(or peertwo)

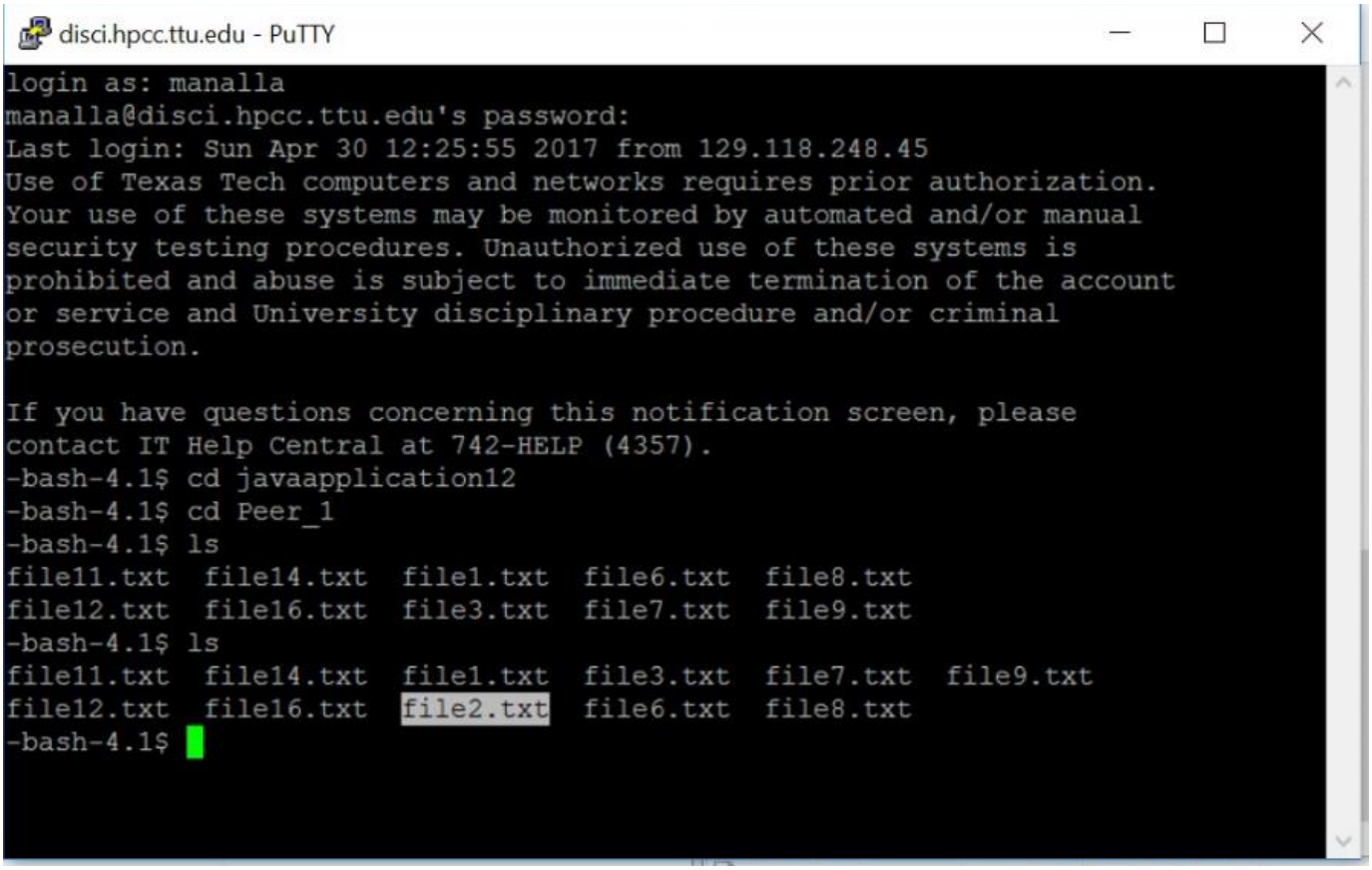


As it is a push based approach there will be a file monitoring thread which constantly checks for the changes happening in the peer server. Hence it returns action: add because a new file is added into the peerone server

Open peer_1 directory to check if file has been transferred

Command:

- cd peer_1
- ls



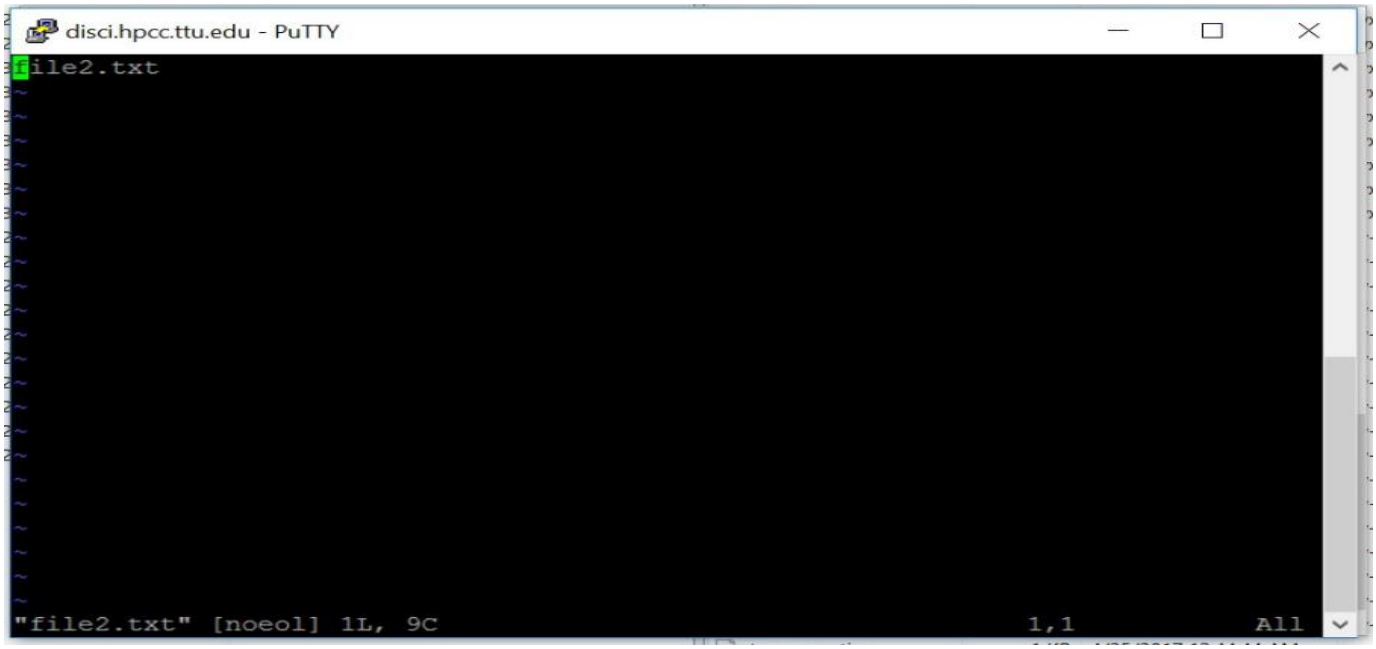
File2.txt has been transferred in peer_1 directory

Modifying the contents of file

Contents of file in both the peers before modification:

Peer_4:

Peer_1:



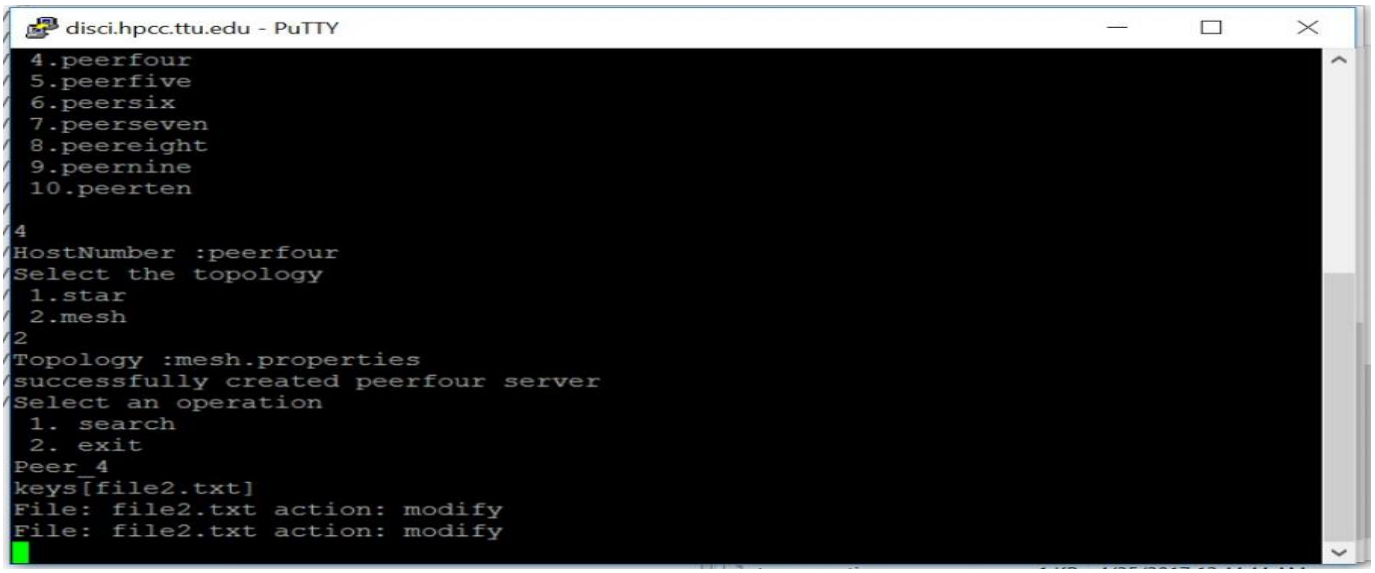
Modifying contents:

Commands:

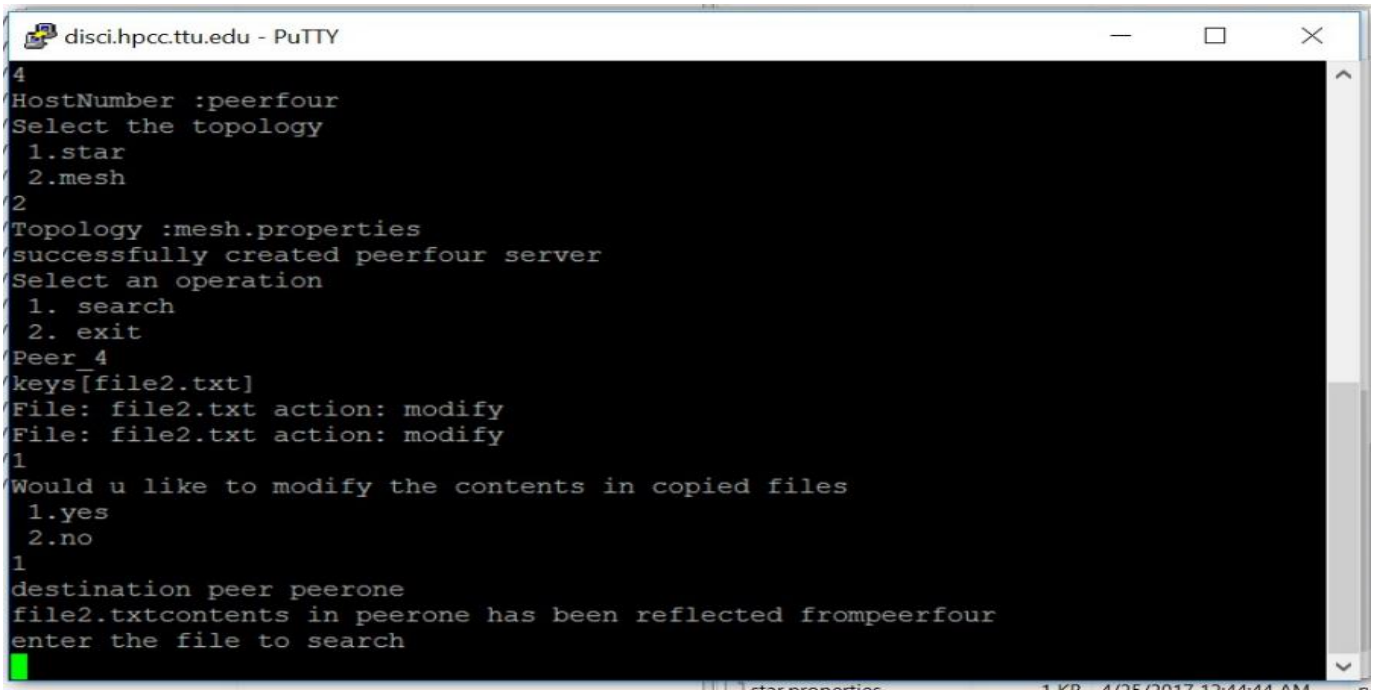
- Open file2.txt(Master file) in Peer_4 directory : cd Peer_4, vi file2.txt
  Change the contents of file and **save** (esc+:wq) the file

Open terminal of peerfour clients:

As it is a push based approach the thread for file monitoring detects the file changes and displays file has been modified on **peerfour terminal**

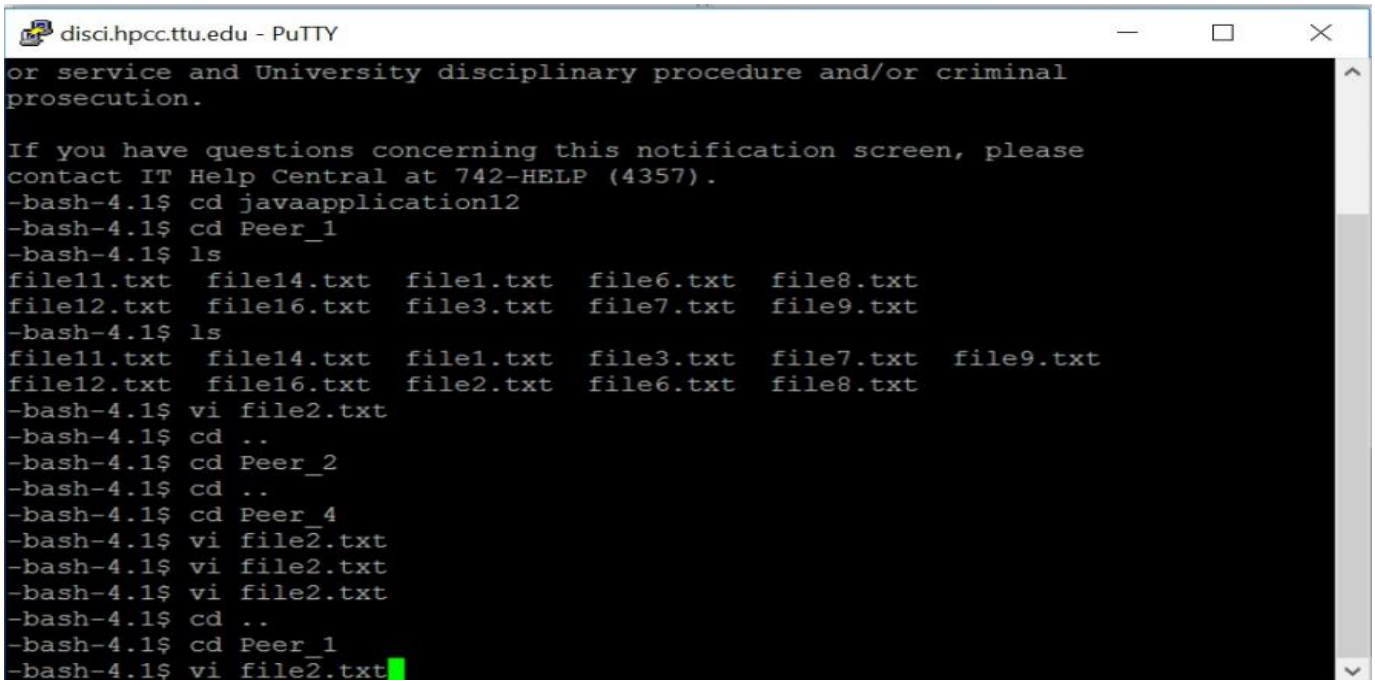


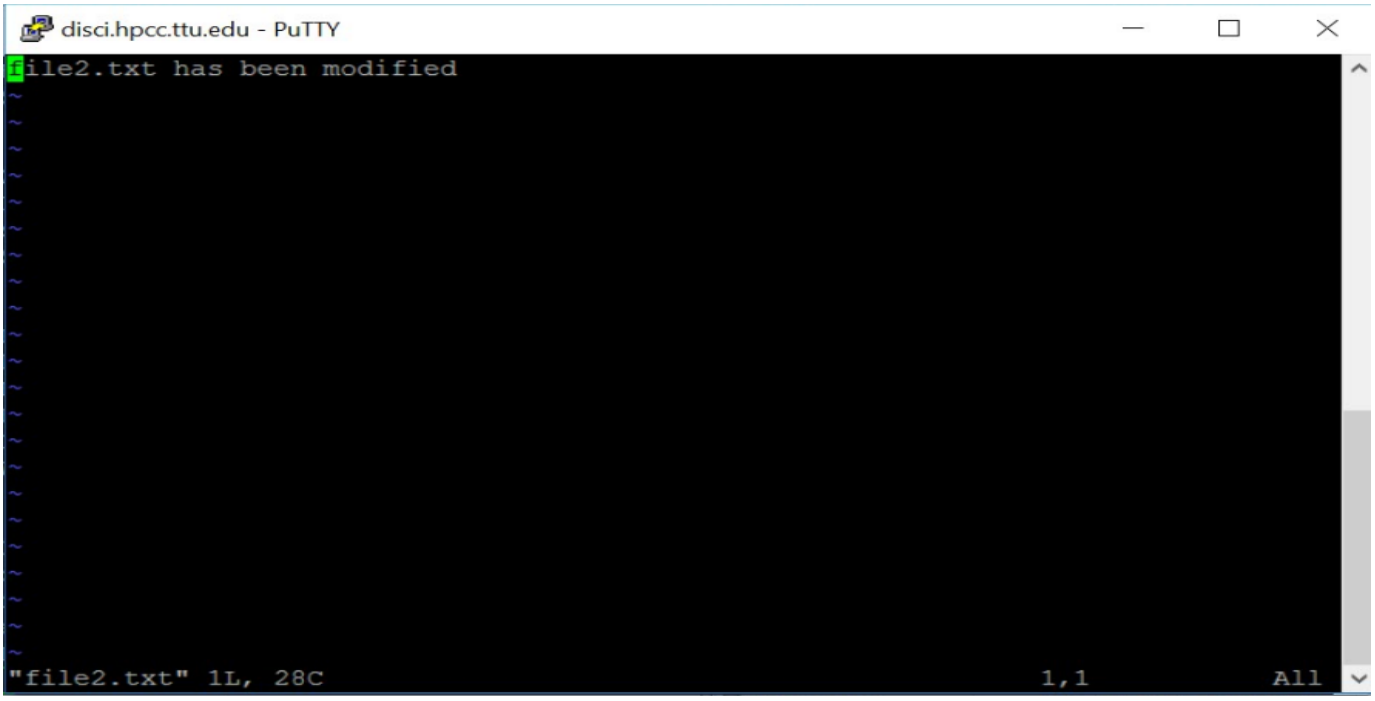
Now Continue executing peer4 client
Command : Select-1 (search operation)
Now it shows a prompt asking if you want to reflect the modified changes in cached file



Open file2.txt (Cached file) in Peer_1 directory to see if the changes are reflected
Commands :

- cd Peer_1
- vi file2.txt





Changes have been reflected in file2.txt of Peer_1 server