

## Output Screenshots

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### Test Case-1: Setting config files

### Mesh Topology(mesh.properties):

```

disc:hpc@cs.tu.edu - PUTTY
# To change this license header, choose License Headers in Project Properties.
# To change this template file, choose Tools | Templates
# and open the template in the editor.
#Mon Apr 04 12:18:41 CDT 2016

#port number for each peer of mesh topology

peerone=1234
peertwo=2345
peerthree=3456
peerfour=4567
peerfive=5678
peersix=6789
peerseven=1111
peereight=3498
peernine=3649
peerten=3939

#neighbours for star topology network

1234=peertwo,peerfour
2345=peerone,peerthree,peerfive
3456=peertwo,peersix
4567=peerone,peerfive,peerseven
5678=peertwo,peerfour,peersix,peereight
6789=peerthree,peerfive,peernine
1111=peerfour,peereight,peerten
3498=peerseven,peerfive,peernine
3649=peersix,peereight
3939=peerseven

```

### Star Topology(star.properties):

```
disci.hpc.ctu.edu - PuTTY
Tue Apr 18 12:18:41 CDT 2017

#port number for each peer of star topology
peerone=1234
peertwo=2345
peerthree=3456
peerfour=4567
peerfive=5678
peersix=6789
peerseven=1111
peereight=5498
peernine=3649
peerten=3939

#neighbours for star topology network
1234=peertwo,peerthree,peerfour,peerfive,peersix,peerseven,peereight,peernine,peerten
2345=peerone
3456=peerone
4567=peerone
5678=peerone
6789=peerone
1111=peerone
5498=peerone
3649=peerone
3939=peerten
```

Result: pass

### Test Case-2: Search operation:

A peer searches for files by issuing a query. The query is sent to all neighbors. Each neighbor looks up the specified file using a local index and responds with a hit query message in the event of a hit. The hit query message is propagated back to the original sender by following the reverse path of the query.

```
disci.hpc.ttu.edu - PuTTY
successfully created peerthree server
Select an operation
  1. search
  2. exit
1
enter the file to search
file1.txt

Neighbouring peers : peertwo peersix
check in the port peertwo
File not found in peertwo

check in the port peersix
File not found in peersix

Neighbouring peers : peerone peerthree peerfive
check in the port peerone
File hit in peerone
node already visited

check in the port peerfive
Timer expired!node unreachable
(messageID ,[list of visited peers])
( 98,[peerthree, peertwo, peersix, peerone] )
```

Test result: pass

### Test Case-3: Searching in the first level of neighbours

```
disci.hpc.ttu.edu - PuTTY
2. exit
1
enter the file to search
file1.txt

Neighbouring peers : peertwo peersix
check in the port peertwo
File not found in peertwo

check in the port peersix
File not found in peersix

Neighbouring peers : peerone peerthree peerfive
check in the port peerone
File hit in peerone
node already visited

check in the port peerfive
Timer expired!node unreachable
(messageID ,[list of visited peers])
( 98,[peerthree, peertwo, peersix, peerone] )

List of peers in which file is found ( peerone ) peers
Enter the peer you want to get the file from :
```

```
disci.hpc.ttu.edu - PuTTY
2. exit
1
enter the file to search
file1.txt

Neighbouring peers : peertwo peersix
check in the port peertwo
File not found in peertwo

check in the port peersix
File not found in peersix

Neighbouring peers : peerone peerthree peerfive
check in the port peerone
File hit in peerone
node already visited

check in the port peerfive
Timer expired!node unreachable
(messageID ,[list of visited peers])
( 98,[peerthree, peertwo, peersix, peerone] )

List of peers in which file is found ( peerone ) peers
Enter the peer you want to get the file from :
```

```
disci.hpc.ttu.edu - PuTTY
2. exit
1
enter the file to search
file1.txt

Neighbouring peers : peertwo peersix
check in the port peertwo
File not found in peertwo

check in the port peersix
File not found in peersix

Neighbouring peers : peerone peerthree peerfive
check in the port peerone
File hit in peerone
node already visited

check in the port peerfive
Timer expired!node unreachable
(messageID ,[list of visited peers])
( 98,[peerthree, peertwo, peersix, peerone] )

List of peers in which file is found ( peerone ) peers
Enter the peer you want to get the file from :
```

File is not found in the first level of neighbours

Test Result: pass

**Testcase -4: Searching in next level of neighbours**

**Does not check again in already checked neighbours**

```
disci.hpc.ttu.edu - PuTTY
2. exit
1
enter the file to search
file1.txt

Neighbouring peers : peertwo peersix
check in the port peertwo
File not found in peertwo

check in the port peersix
File not found in peersix

Neighbouring peers : peerone peerthree peerfive
check in the port peerone
File hit in peerone
node already visited

check in the port peerfive
Timer expired!node unreachable
(messageID ,[list of visited peers])
( 98,[peerthree, peertwo, peersix, peerone] )

List of peers in which file is found ( peerone ) peers
Enter the peer you want to get the file from :
```

Searching in the next level of neighbours

File hit in peer one

Test result: Pass

### TestCase-5: Time to live value(TTL)

```
disci.hpc.ttu.edu - PuTTY
2. exit
1
enter the file to search
file1.txt

Neighbouring peers : peertwo peersix
check in the port peertwo
File not found in peertwo

check in the port peersix
File not found in peersix

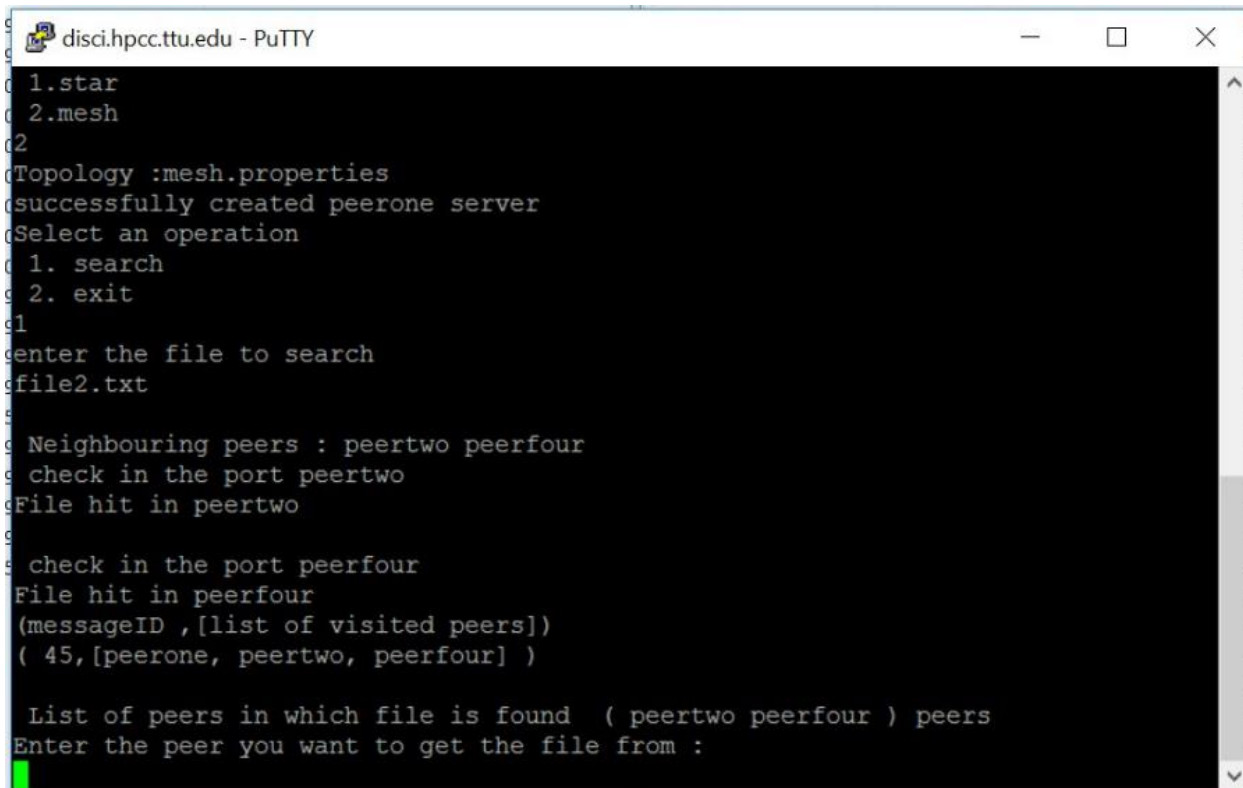
Neighbouring peers : peerone peerthree peerfive
check in the port peerone
File hit in peerone
node already visited

check in the port peerfive
Timer expired!node unreachable
(messageID ,[list of visited peers])
( 98,[peerthree, peertwo, peersix, peerone] )

List of peers in which file is found ( peerone ) peers
Enter the peer you want to get the file from :
```

Time to live value decrements for each and every search operation and expires when it reaches 0. The search operation stops when it is expired. Hence it avoids searching infinitely.

#### TestCase-6: Searching in all its neighbors irrespective of hit or miss



```
disci.hpc.ttu.edu - PuTTY
1.star
2.mesh
Topology :mesh.properties
successfully created peerone server
Select an operation
1. search
2. exit
1
enter the file to search
file2.txt

Neighbouring peers : peertwo peerfour
check in the port peertwo
File hit in peertwo

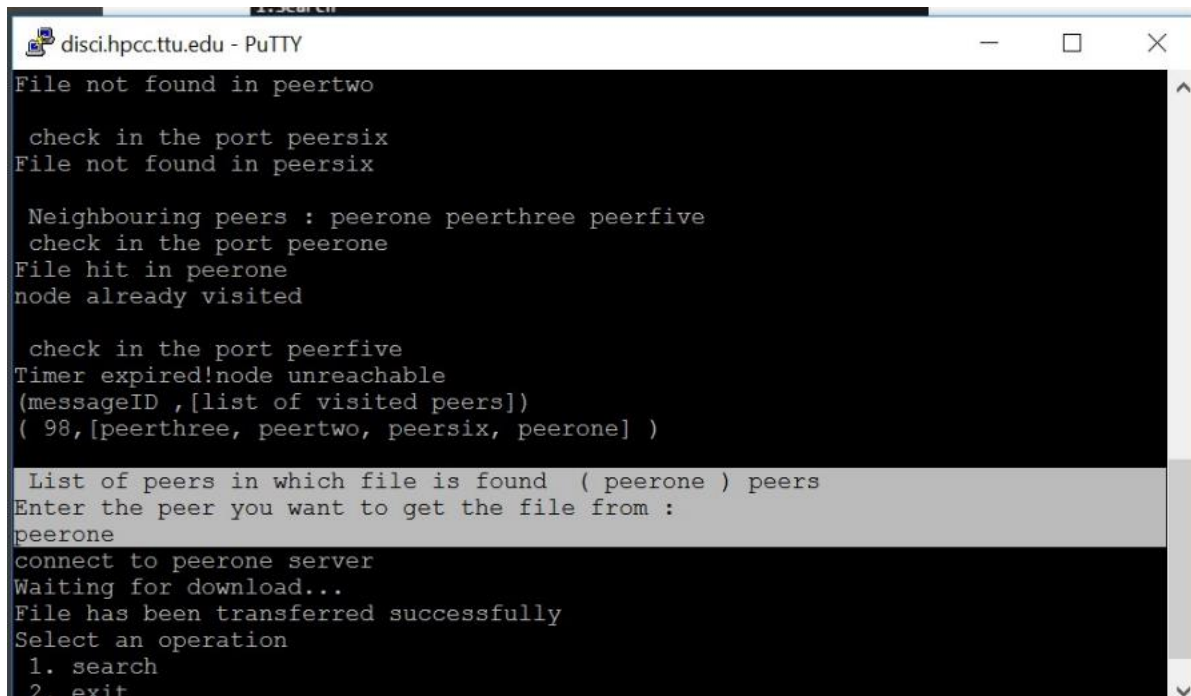
check in the port peerfour
File hit in peerfour
(messageID ,[list of visited peers])
( 45,[peerone, peertwo, peerfour] )

List of peers in which file is found ( peertwo peerfour ) peers
Enter the peer you want to get the file from :
```

It checks in peerfour though it is a hit in peertwo

TestResult: pass

### TestCase-7: Connecting to a peer from the list of peers found.



```
disci.hpcc.ttu.edu - PuTTY
File not found in peertwo

  check in the port peersix
File not found in peersix

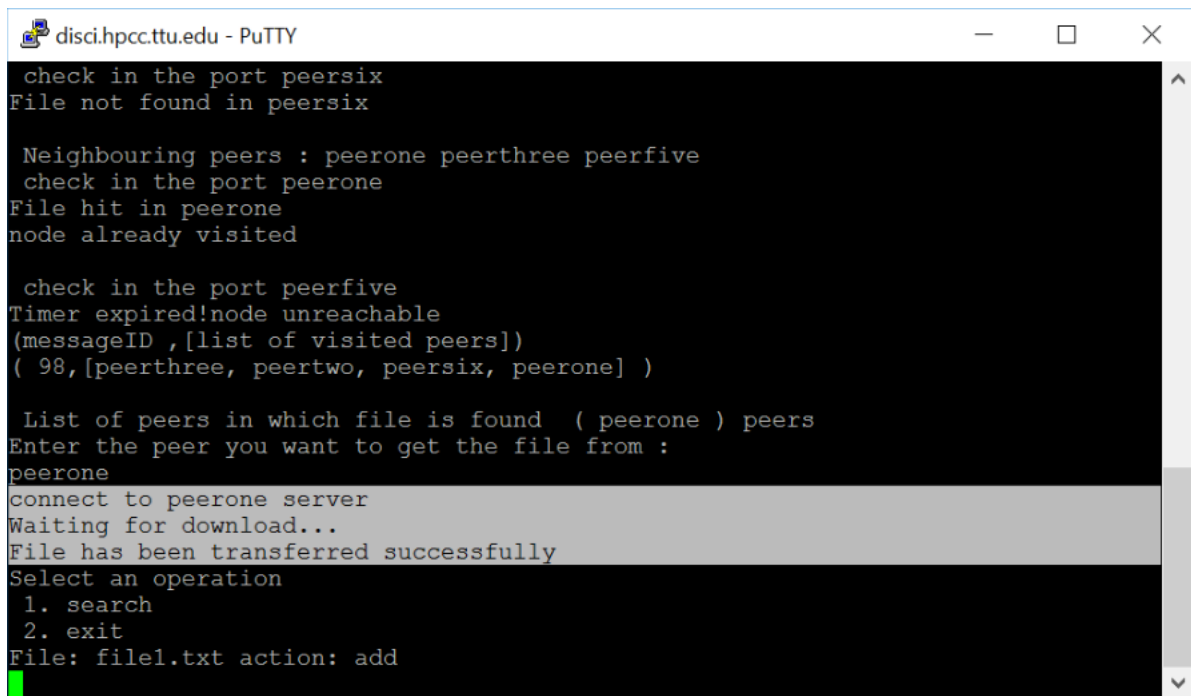
  Neighbouring peers : peerone peerthree peerfive
  check in the port peerone
File hit in peerone
node already visited

  check in the port peerfive
Timer expired!node unreachable
(messageID ,[list of visited peers])
( 98,[peerthree, peertwo, peersix, peerone] )

  List of peers in which file is found ( peerone ) peers
Enter the peer you want to get the file from :
peerone
connect to peerone server
Waiting for download...
File has been transferred successfully
Select an operation
  1. search
  2. exit
```

Test result: Pass

### TestCase-8: Downloading the file



```
disci.hpcc.ttu.edu - PuTTY
  check in the port peersix
File not found in peersix

  Neighbouring peers : peerone peerthree peerfive
  check in the port peerone
File hit in peerone
node already visited

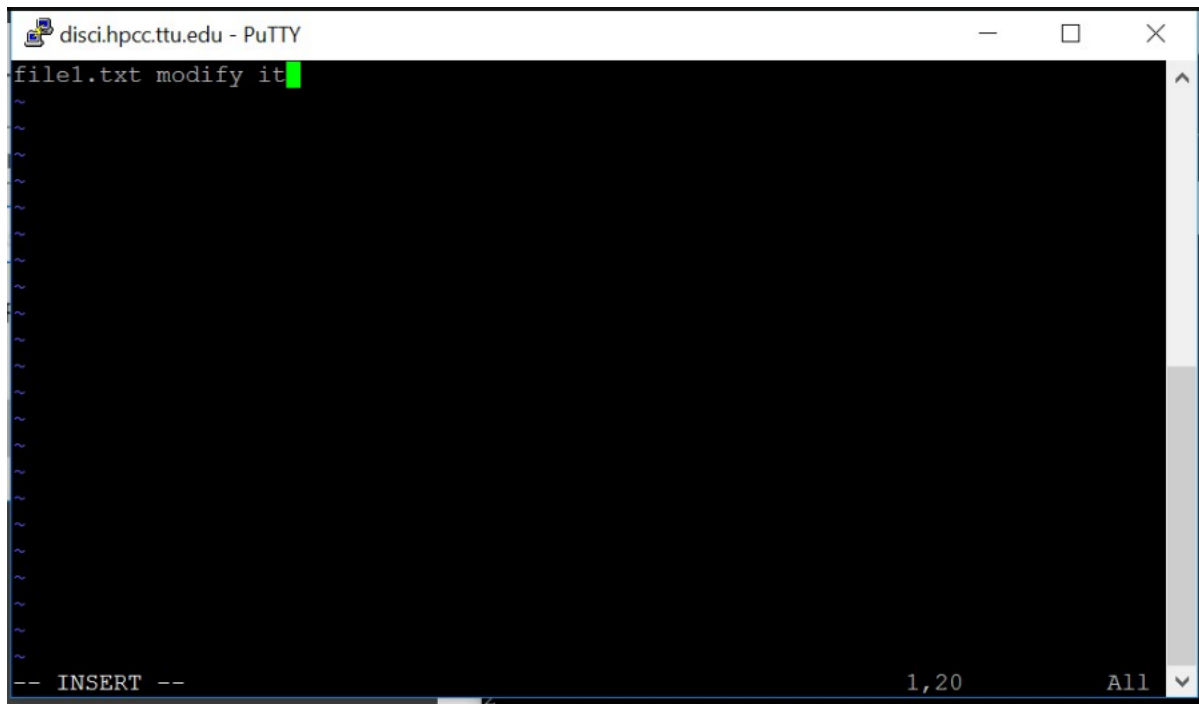
  check in the port peerfive
Timer expired!node unreachable
(messageID ,[list of visited peers])
( 98,[peerthree, peertwo, peersix, peerone] )

  List of peers in which file is found ( peerone ) peers
Enter the peer you want to get the file from :
peerone
connect to peerone server
Waiting for download...
File has been transferred successfully
Select an operation
  1. search
  2. exit
File: file1.txt action: add
```





Modified in master file of peer\_7



A screenshot of a PuTTY terminal window. The title bar at the top reads "disci.hpcc.ttu.edu - PuTTY". The terminal area is black with white text. The first line shows the command "file1.txt modify it" followed by a green cursor. The left side of the terminal has a vertical scrollbar with blue and white segments. At the bottom, there is a status bar with the text "-- INSERT --" on the left, "1,20" in the center, and "All" on the right with a dropdown arrow.

```
disci.hpcc.ttu.edu - PuTTY
file1.txt modify it
-- INSERT -- 1,20 All
```

Reflected in cached file of peer\_3

TestResult: pass