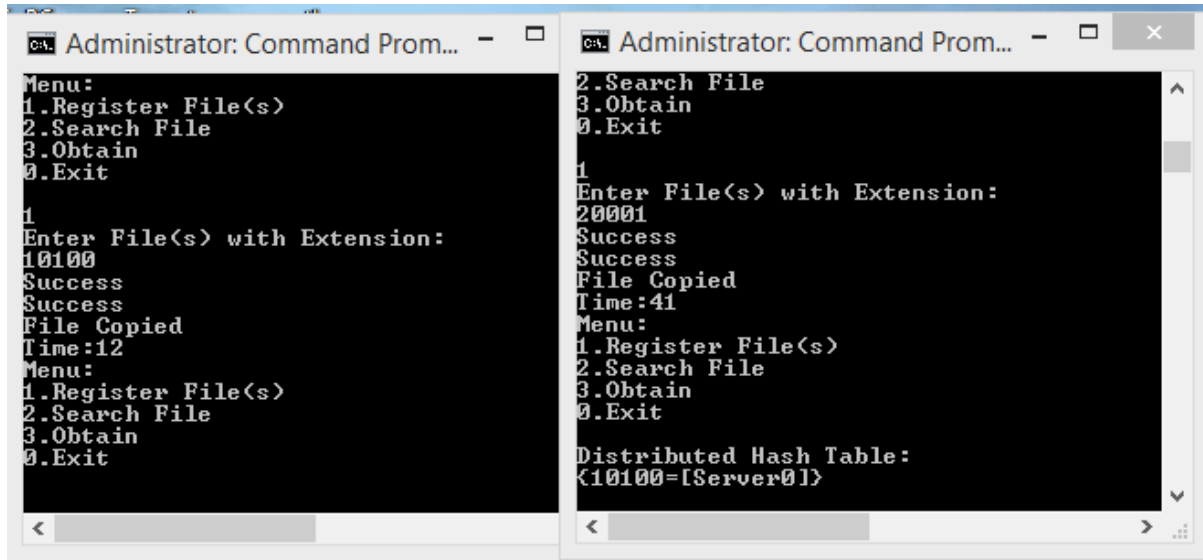


OUTPUT FILE

Register Operations:



The image shows two side-by-side screenshots of a Windows Command Prompt window titled "Administrator: Command Prom...".

The left screenshot shows the initial menu and the first registration operation:

```
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit

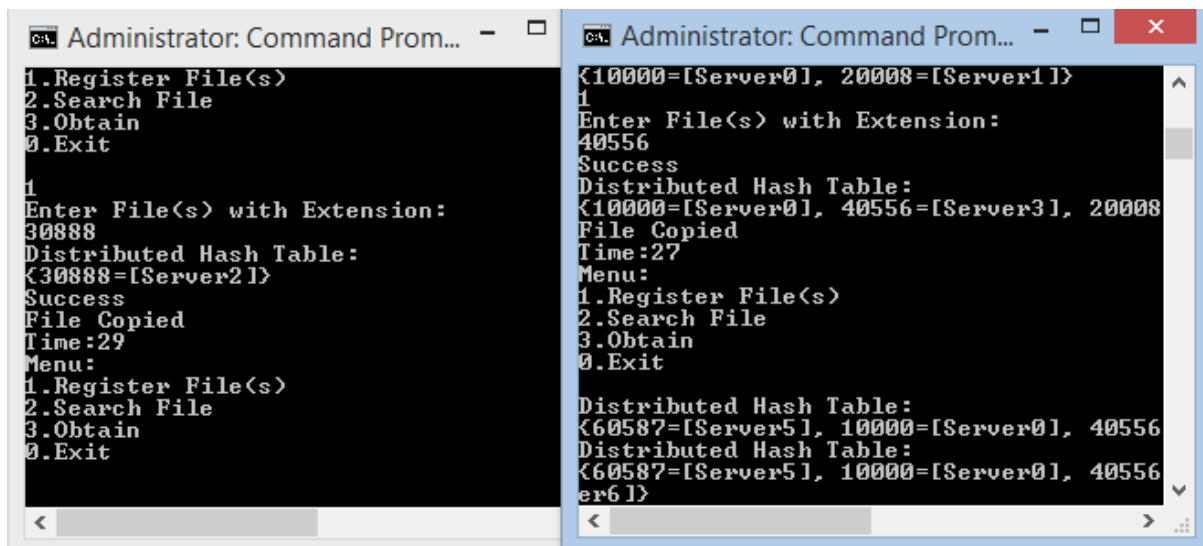
1
Enter File(s) with Extension:
10100
Success
Success
File Copied
Time:12
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
```

The right screenshot shows the search operation and the resulting distributed hash table:

```
2.Search File
3.Obtain
0.Exit

1
Enter File(s) with Extension:
20001
Success
Success
File Copied
Time:41
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit

Distributed Hash Table:
<10100=[Server0]>
```



The image shows two side-by-side screenshots of a Windows Command Prompt window titled "Administrator: Command Prom...".

The left screenshot shows the menu and the registration of a new file:

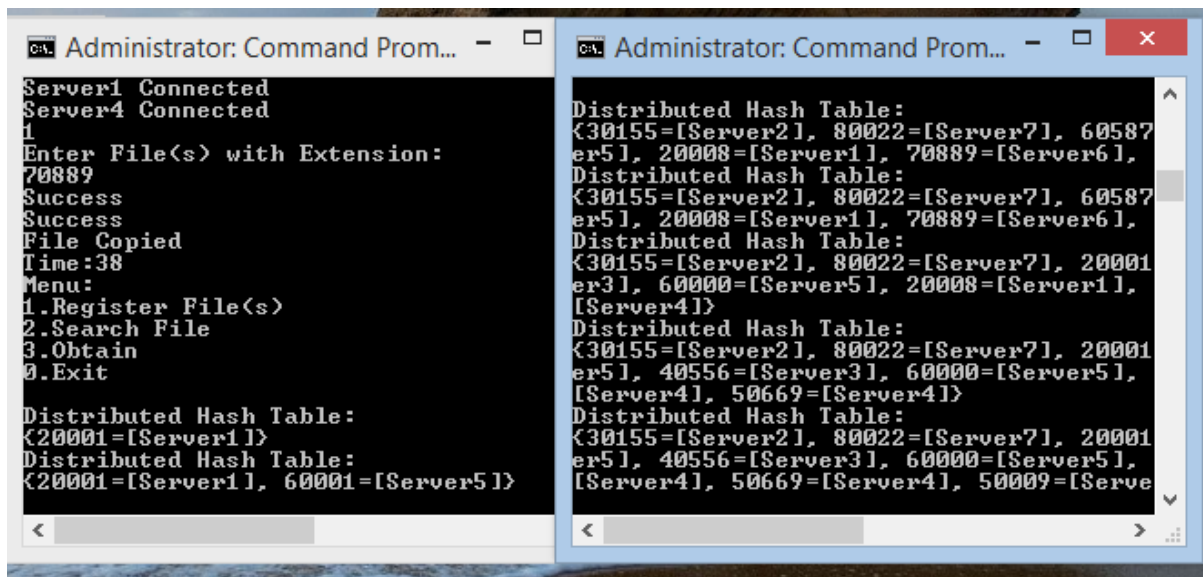
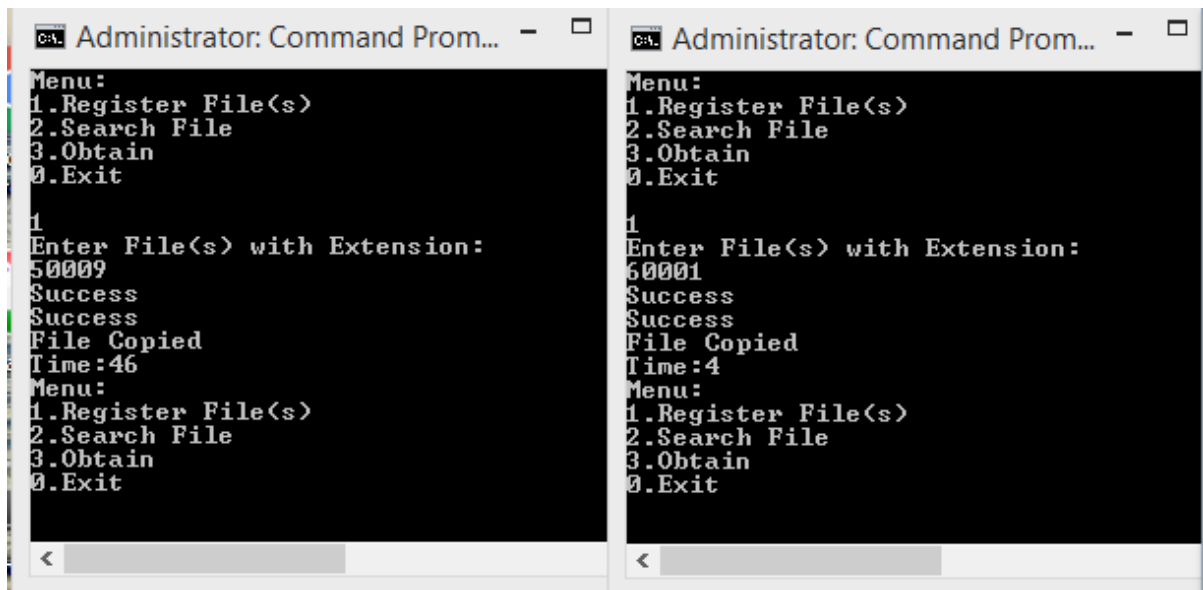
```
1.Register File(s)
2.Search File
3.Obtain
0.Exit

1
Enter File(s) with Extension:
30888
Distributed Hash Table:
<30888=[Server2]>
Success
File Copied
Time:29
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
```

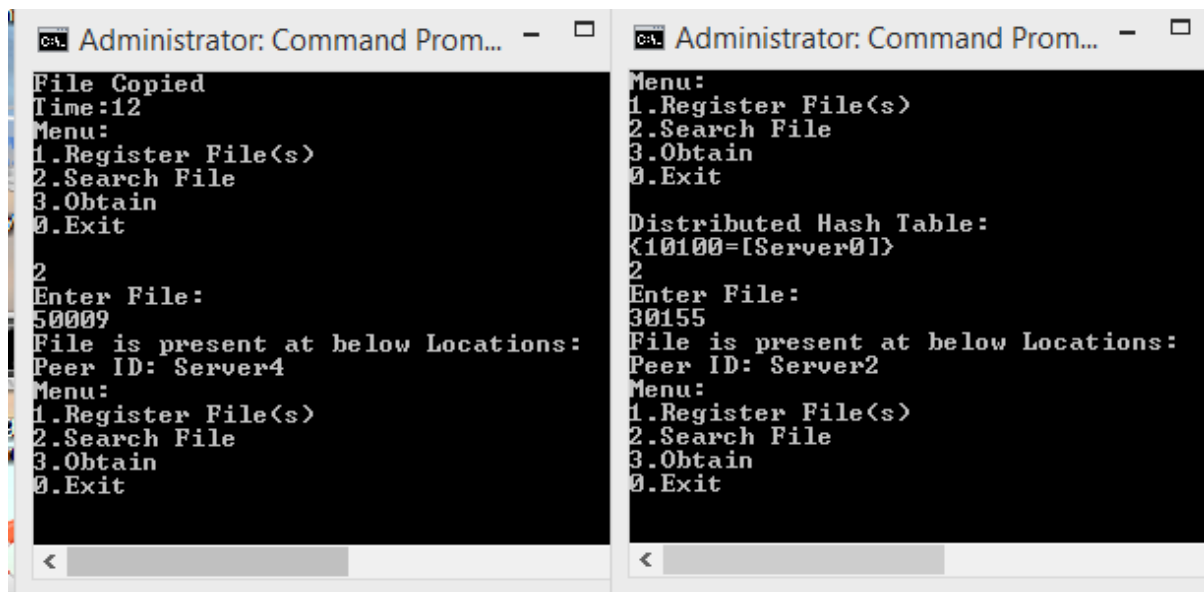
The right screenshot shows the search operation and the updated distributed hash table:

```
<10000=[Server0], 20008=[Server1]>
1
Enter File(s) with Extension:
40556
Success
Distributed Hash Table:
<10000=[Server0], 40556=[Server3], 20008=[Server1]>
File Copied
Time:27
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit

Distributed Hash Table:
<60587=[Server5], 10000=[Server0], 40556=[Server3], 20008=[Server1]>
Distributed Hash Table:
<60587=[Server5], 10000=[Server0], 40556=[Server3], 20008=[Server1]>
```

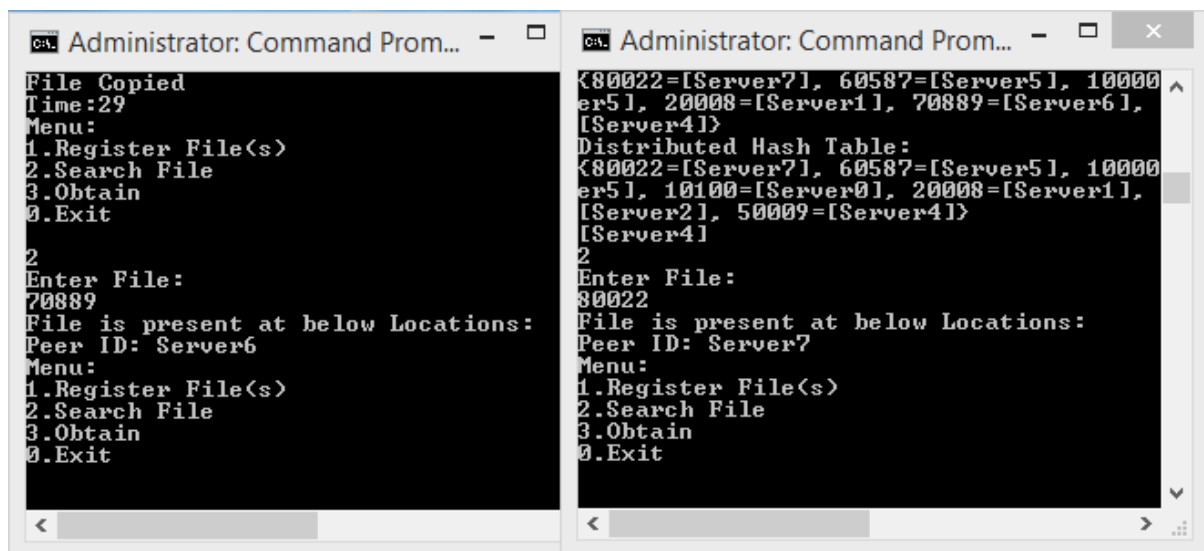


Search Operations:



```
Administrator: Command Prom...
File Copied
Time:12
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
2
Enter File:
50009
File is present at below Locations:
Peer ID: Server4
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit

Administrator: Command Prom...
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
Distributed Hash Table:
{10100=[Server0]}
2
Enter File:
30155
File is present at below Locations:
Peer ID: Server2
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
```



```
Administrator: Command Prom...
File Copied
Time:29
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
2
Enter File:
70889
File is present at below Locations:
Peer ID: Server6
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit

Administrator: Command Prom...
{80022=[Server7], 60587=[Server5], 10000=[Server5], 20008=[Server1], 70889=[Server6], [Server4]}
Distributed Hash Table:
{80022=[Server7], 60587=[Server5], 10000=[Server5], 10100=[Server0], 20008=[Server1], [Server2], 50009=[Server4]}
2
Enter File:
80022
File is present at below Locations:
Peer ID: Server7
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
```

```
Administrator: Command Prom...
Success
File Copied
Time:46
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit

2
Enter File:
66882
File not Registered
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit

Administrator: Command Prom...
Time:4
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit

[Server2]
2
Enter File:
84220
File is present at below Locations:
[]
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
```

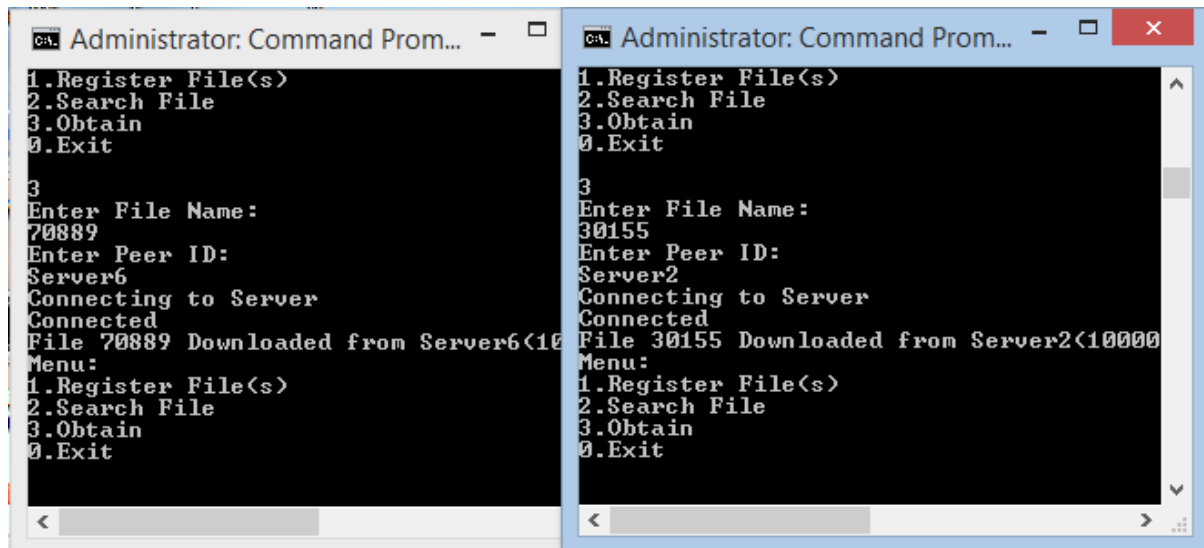
```
Administrator: Command Prom...
3.Obtain
0.Exit

Distributed Hash Table:
<20001=[Server1]>
Distributed Hash Table:
<20001=[Server1], 60001=[Server5]>
[Server5]
2
Enter File:
60587
File is present at below Locations:
Peer ID: Server5
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit

Administrator: Command Prom...
Distributed Hash Table:
<30155=[Server2], 80022=[Server7], 20001=[Server5], 40556=[Server3], 60000=[Server5], [Server4], 50669=[Server4], 50009=[Server6], [Server7]
[Server7]
2
Enter File:
60001
File is present at below Locations:
Peer ID: Server5
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit

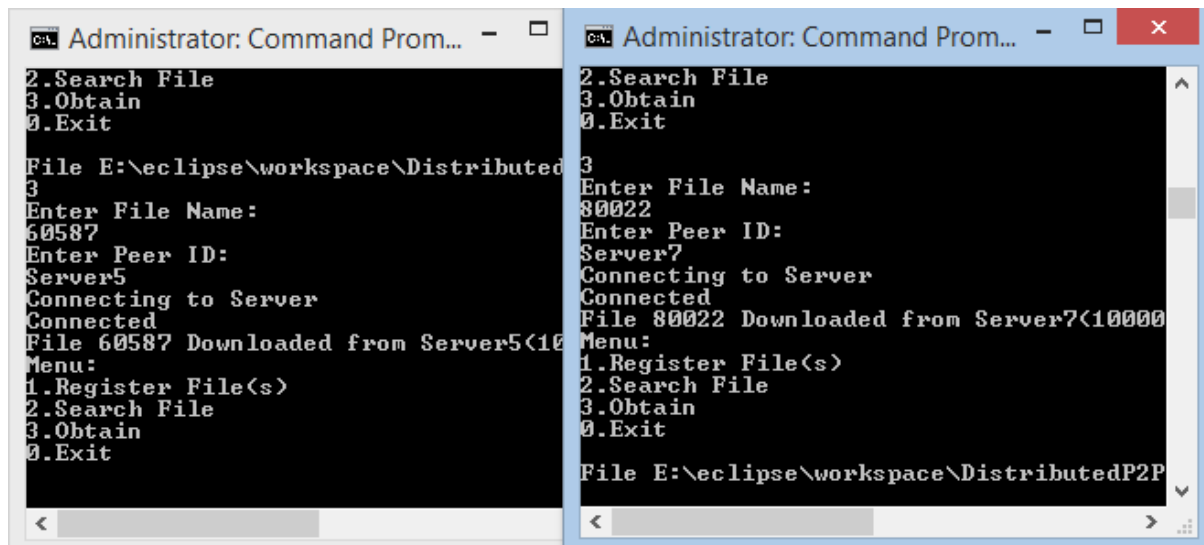
[Server5]
[]
```

Obtain Operations



```
Administrator: Command Prom... - [ ]
1.Register File(s)
2.Search File
3.Obtain
0.Exit
3
Enter File Name:
70889
Enter Peer ID:
Server6
Connecting to Server
Connected
File 70889 Downloaded from Server6<10000
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit

Administrator: Command Prom... - [ ] [X]
1.Register File(s)
2.Search File
3.Obtain
0.Exit
3
Enter File Name:
30155
Enter Peer ID:
Server2
Connecting to Server
Connected
File 30155 Downloaded from Server2<10000
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
```



```
Administrator: Command Prom... - [ ]
2.Search File
3.Obtain
0.Exit
File E:\eclipse\workspace\Distributed
3
Enter File Name:
60587
Enter Peer ID:
Server5
Connecting to Server
Connected
File 60587 Downloaded from Server5<10000
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit

Administrator: Command Prom... - [ ] [X]
2.Search File
3.Obtain
0.Exit
3
Enter File Name:
80022
Enter Peer ID:
Server7
Connecting to Server
Connected
File 80022 Downloaded from Server7<10000
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
File E:\eclipse\workspace\DistributedP2P
```

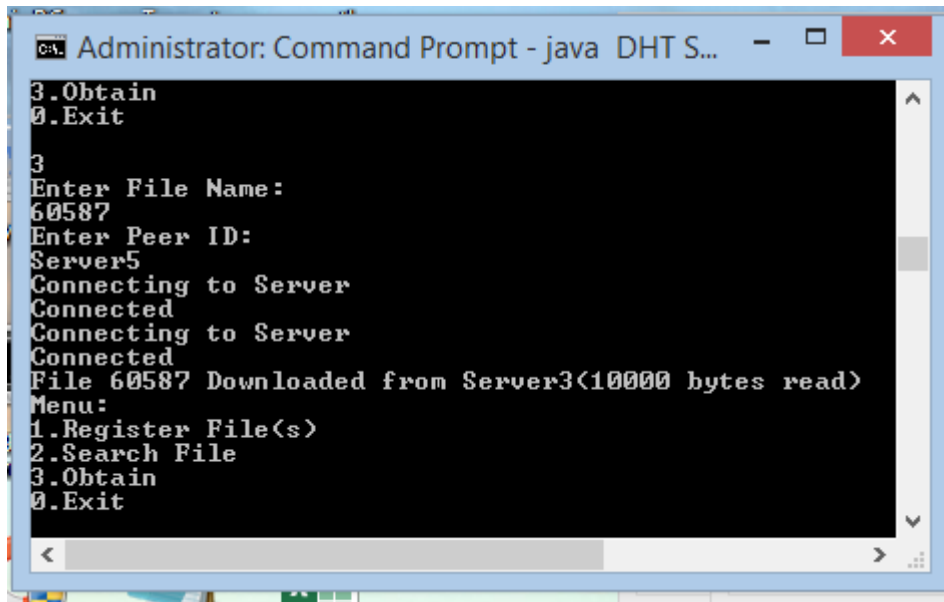
```
Administrator: Command Prom...
1.Register File(s)
2.Search File
3.Obtain
0.Exit
3
Enter File Name:
40556
Enter Peer ID:
Server3
Connecting to Server
Connected
File 40556 Downloaded from Server3(0
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit

Administrator: Command Prom...
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
2
[Server2]
Enter File:
84220
File is present at below Locations:
[]
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
File E:\eclipse\workspace\DistributedP2P
```

```
Administrator: Command Prom...
0.Exit
Distributed Hash Table:
{20001=[Server1]}
Distributed Hash Table:
{20001=[Server1], 60001=[Server5]}
[Server5]
2
Enter File:
60587
File is present at below Locations:
Peer ID: Server5
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
File E:\eclipse\workspace\Distributed

Administrator: Command Prom...
er5], 40556=[Server3], 60000=[Server5],
[Server4], 50669=[Server4], 50009=[Serve
[Server6]
[Server7]
2
Enter File:
60001
File is present at below Locations:
Peer ID: Server5
Menu:
1.Register File(s)
2.Search File
3.Obtain
0.Exit
[Server5]
[]
File E:\eclipse\workspace\DistributedP2P
[Server3]
```

After Server5 is down, it downloads the file from replicated Server3 without any knowledge to user.



```
C:\> Administrator: Command Prompt - java DHT S...  
3.Obtain  
0.Exit  
  
3  
Enter File Name:  
60587  
Enter Peer ID:  
Server5  
Connecting to Server  
Connected  
Connecting to Server  
Connected  
File 60587 Downloaded from Server3(10000 bytes read)  
Menu:  
1.Register File(s)  
2.Search File  
3.Obtain  
0.Exit
```