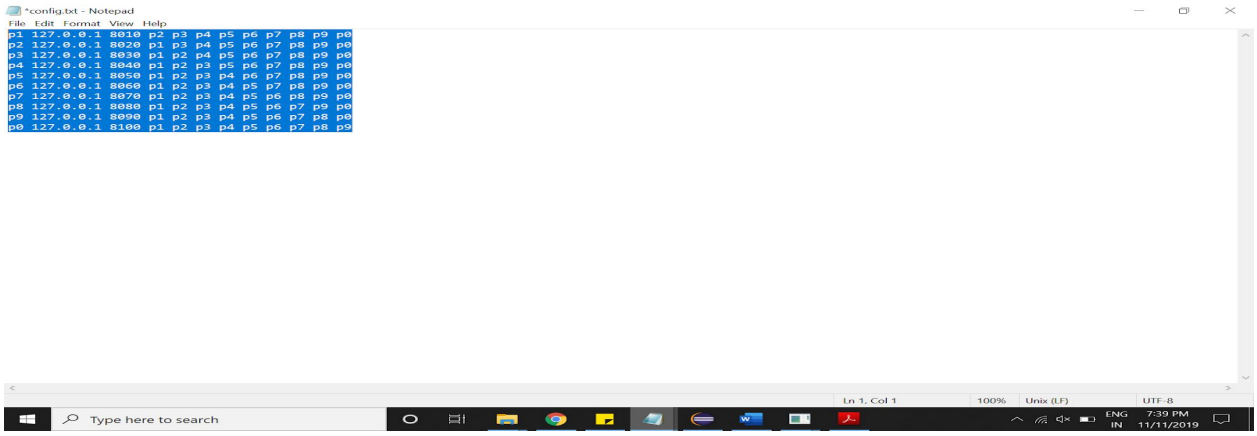
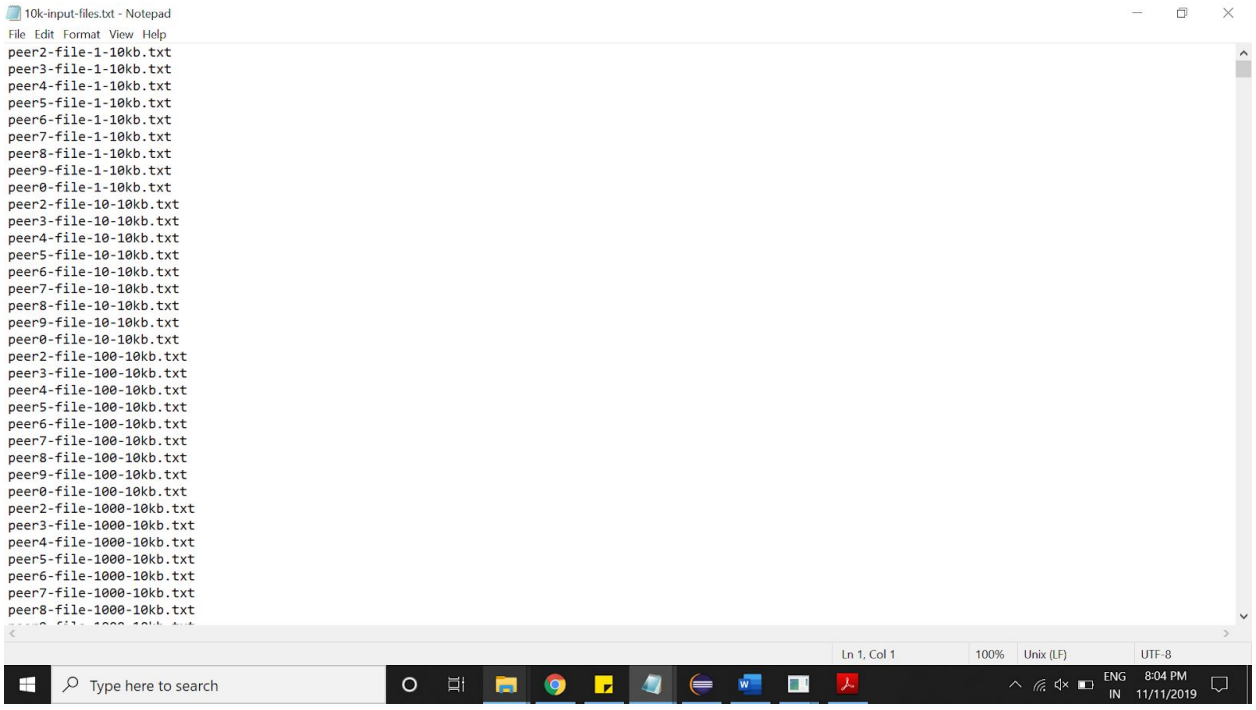
1. A centralized system (from PA1), 9 peers connected, and 1 centralized index; 9 clients to issue requests (all 10 VMs would be used)

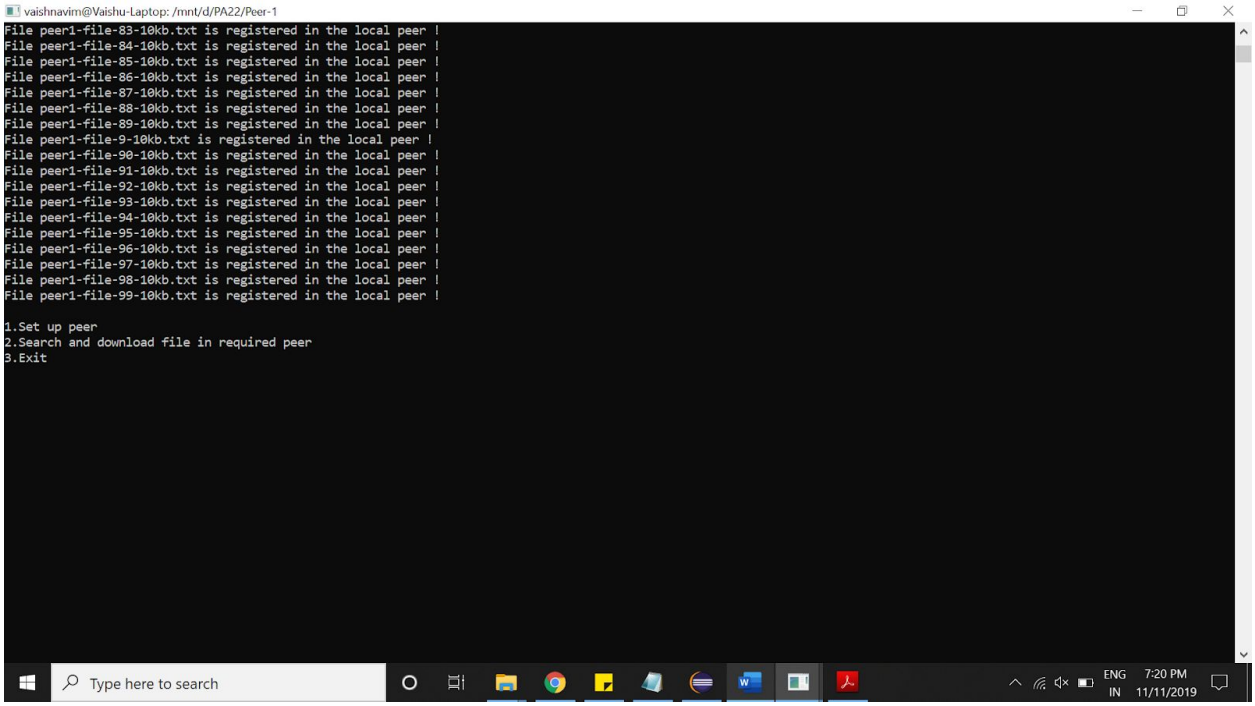
Configuration File for above topology

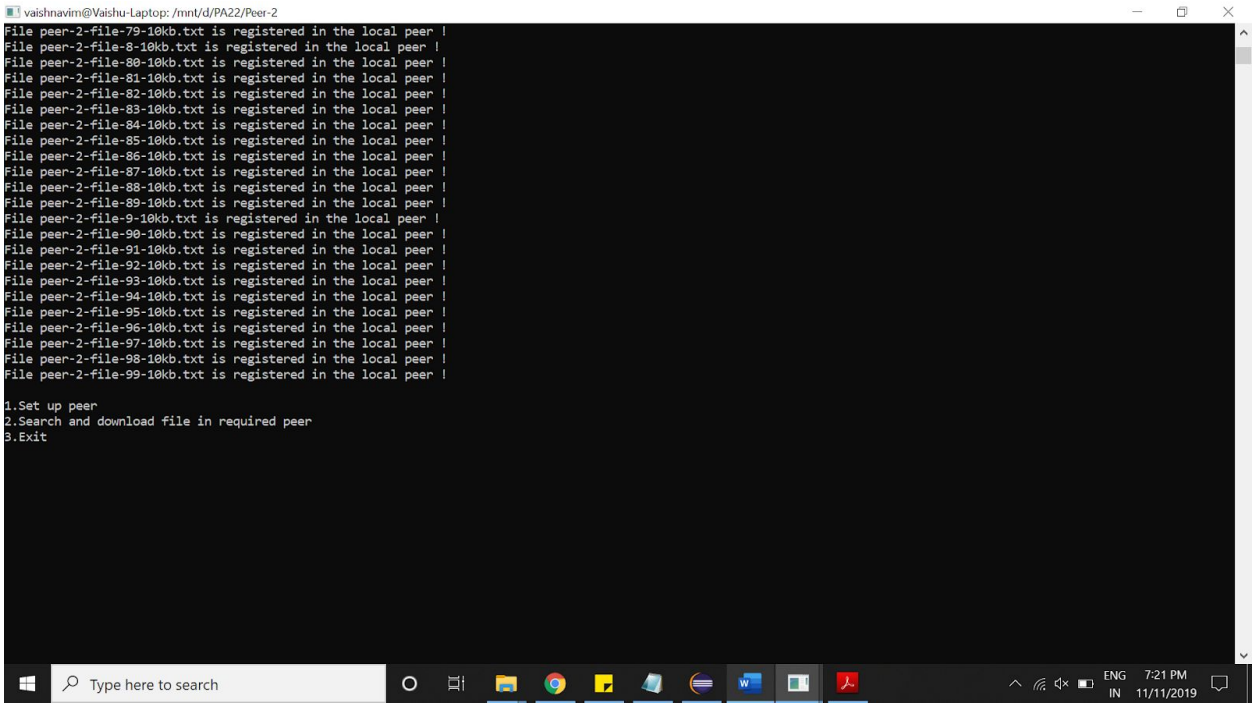


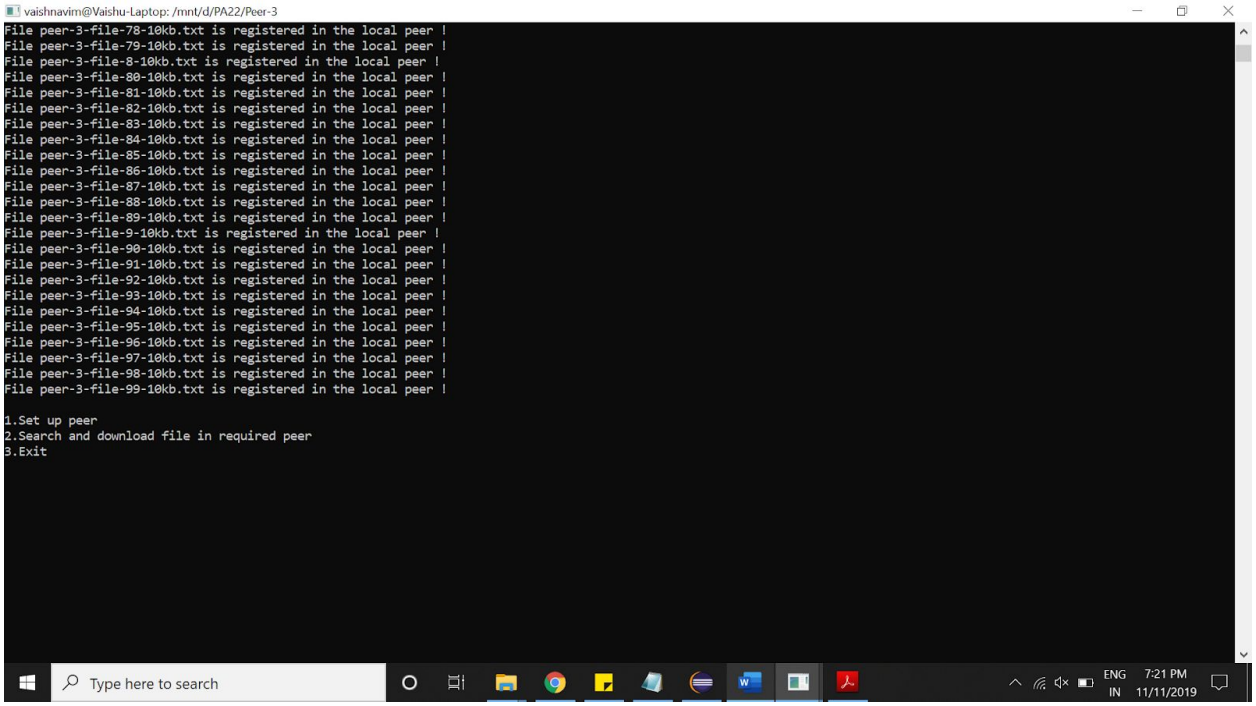

a. Query latency: 1 client issues 10K query requests for random files from Small dataset

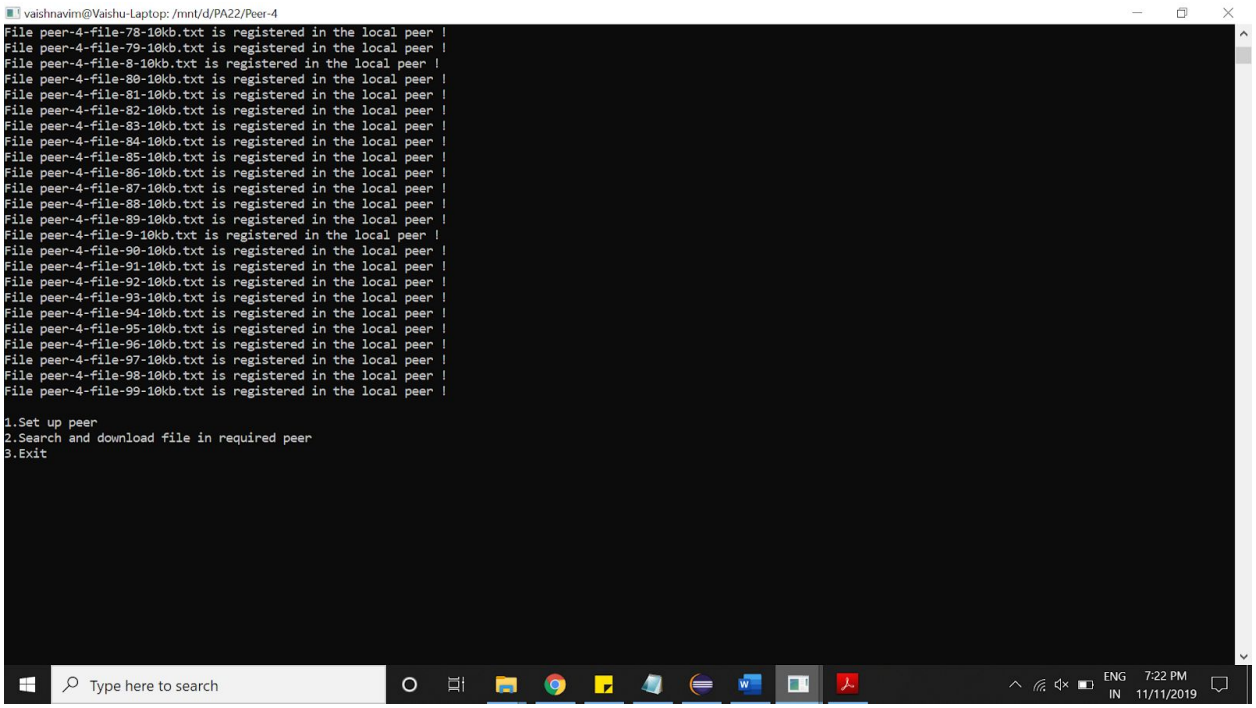


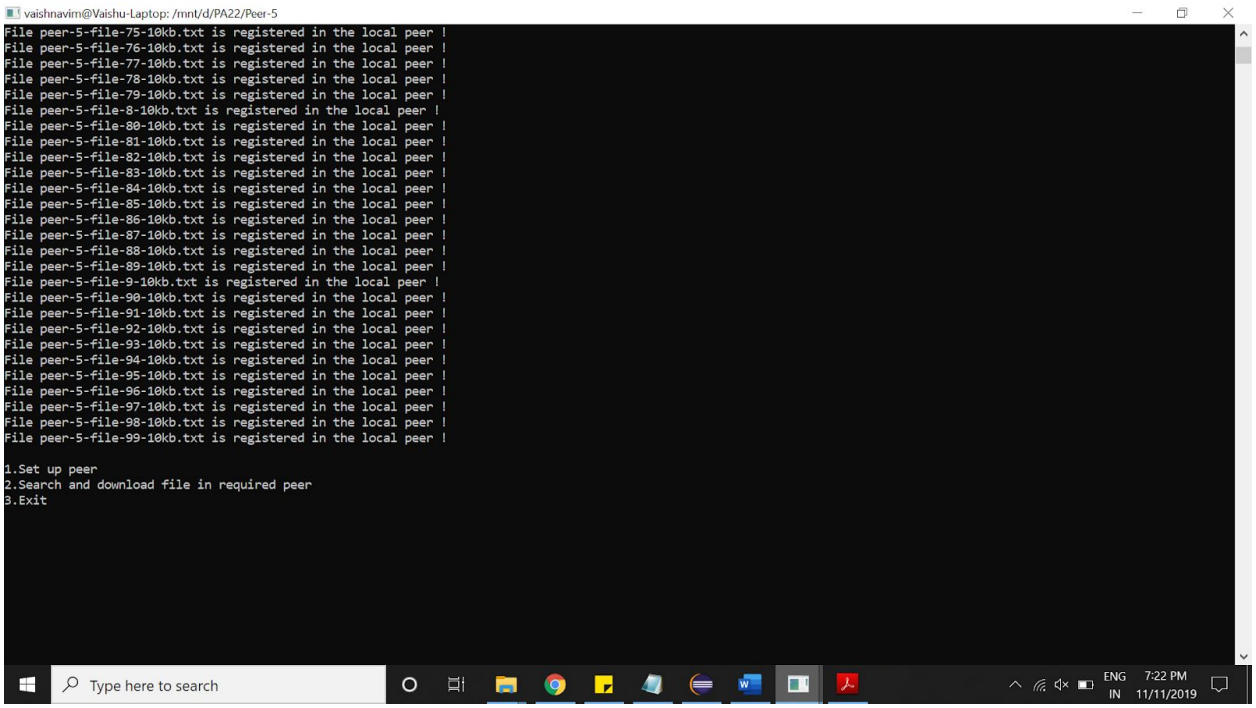
Ten VMs have started with providing Peer name as p1, p2, p3, ..., p9, p0 and registering all files present in the folder

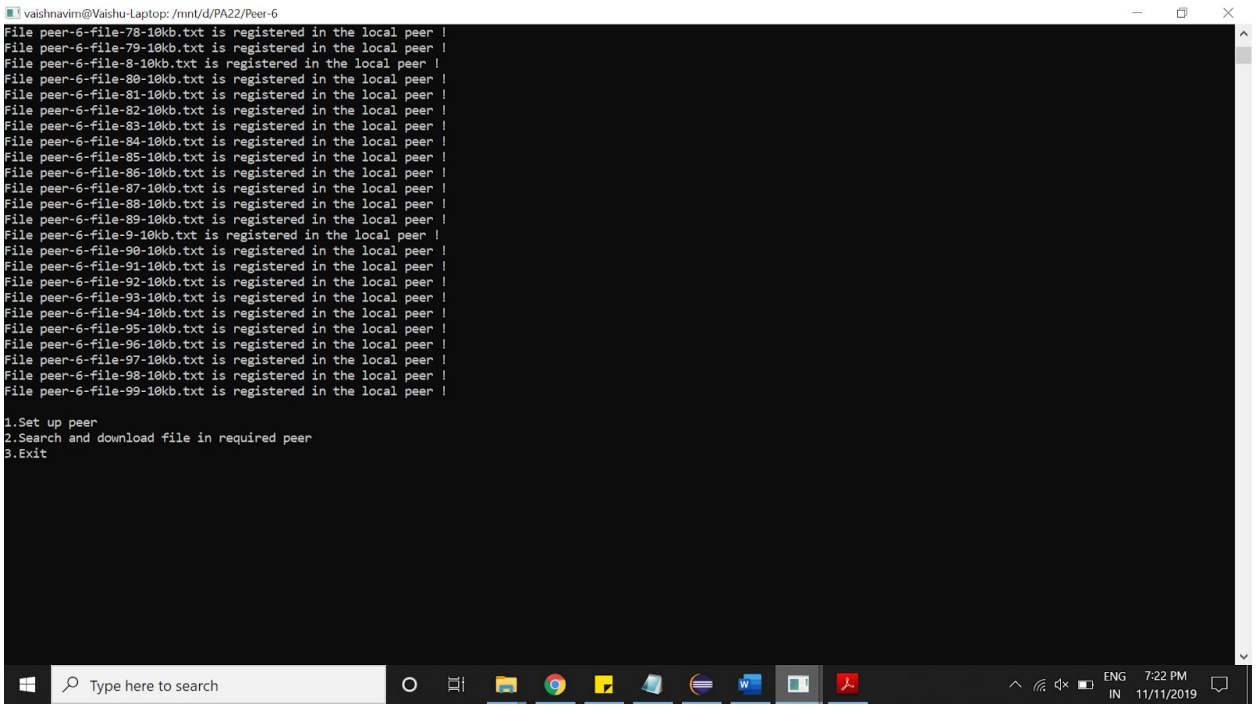


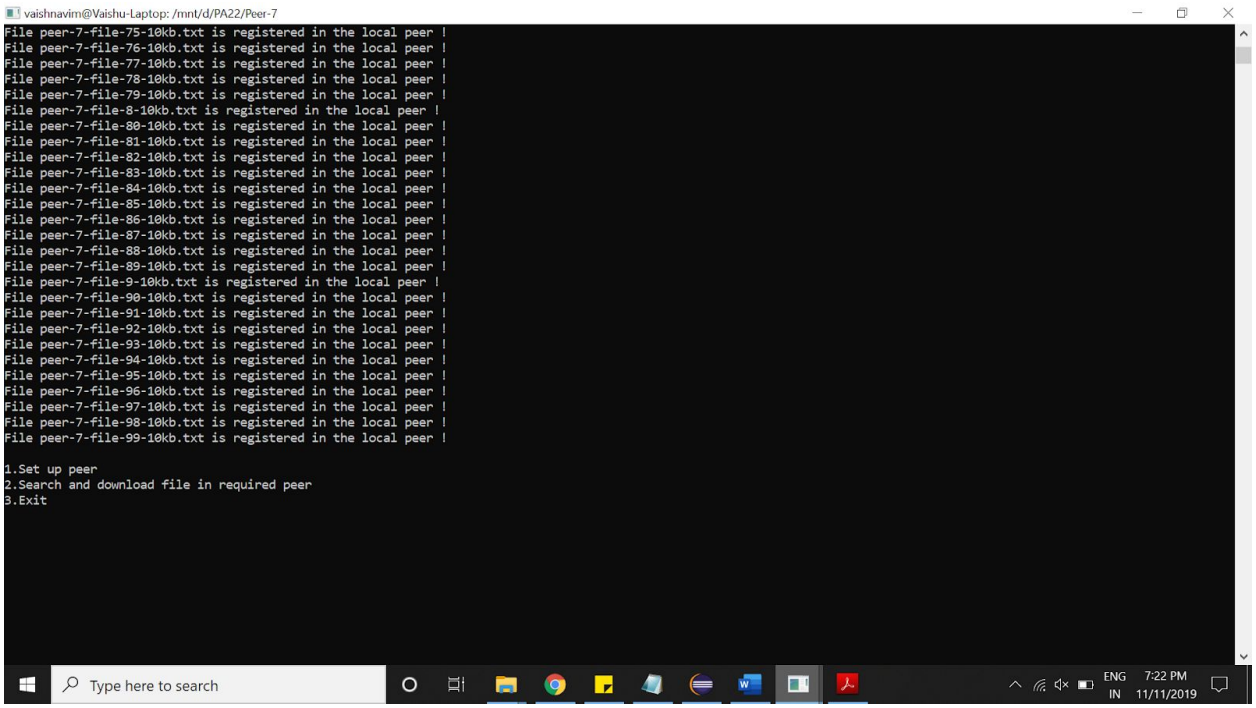



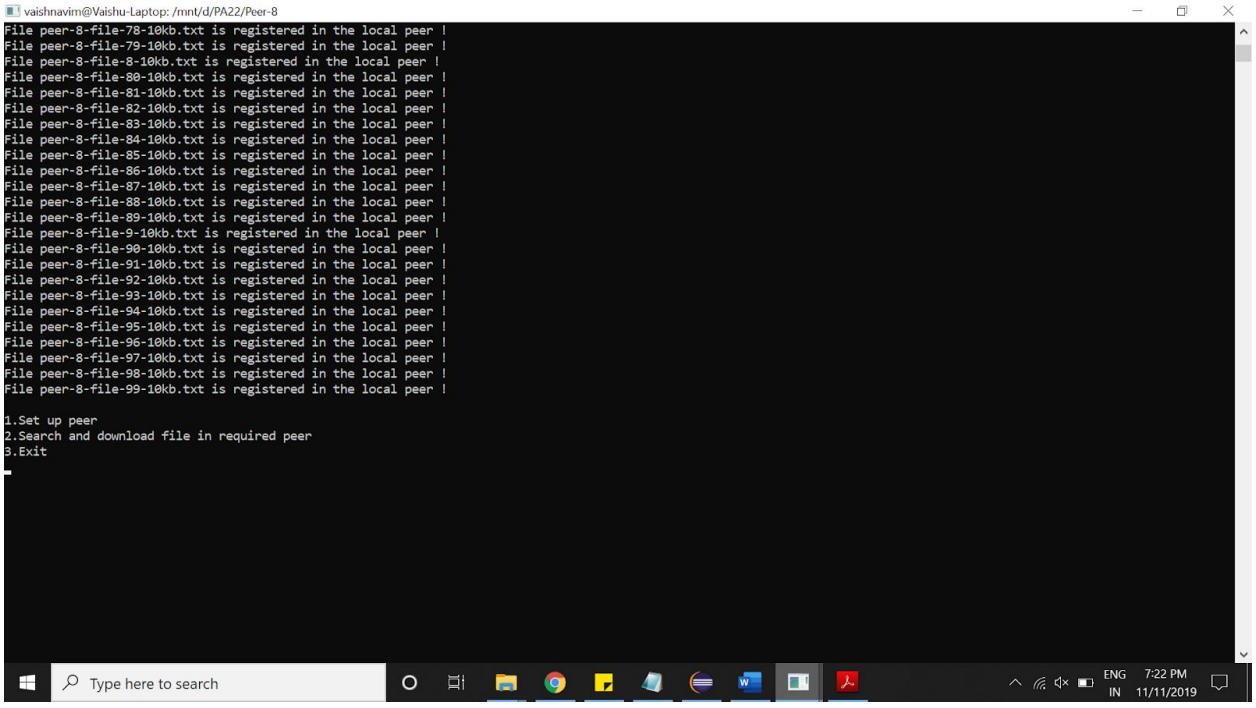

vaishnavim@Vaishu-Laptop: /mnt/d/PA22/Peer-3
File peer-3-file-78-10kb.txt is registered in the local peer !
File peer-3-file-79-10kb.txt is registered in the local peer !
File peer-3-file-8-10kb.txt is registered in the local peer !
File peer-3-file-80-10kb.txt is registered in the local peer !
File peer-3-file-81-10kb.txt is registered in the local peer !
File peer-3-file-82-10kb.txt is registered in the local peer !
File peer-3-file-83-10kb.txt is registered in the local peer !
File peer-3-file-84-10kb.txt is registered in the local peer !
File peer-3-file-85-10kb.txt is registered in the local peer !
File peer-3-file-86-10kb.txt is registered in the local peer !
File peer-3-file-87-10kb.txt is registered in the local peer !
File peer-3-file-88-10kb.txt is registered in the local peer !
File peer-3-file-89-10kb.txt is registered in the local peer !
File peer-3-file-9-10kb.txt is registered in the local peer !
File peer-3-file-90-10kb.txt is registered in the local peer !
File peer-3-file-91-10kb.txt is registered in the local peer !
File peer-3-file-92-10kb.txt is registered in the local peer !
File peer-3-file-93-10kb.txt is registered in the local peer !
File peer-3-file-94-10kb.txt is registered in the local peer !
File peer-3-file-95-10kb.txt is registered in the local peer !
File peer-3-file-96-10kb.txt is registered in the local peer !
File peer-3-file-97-10kb.txt is registered in the local peer !
File peer-3-file-98-10kb.txt is registered in the local peer !
File peer-3-file-99-10kb.txt is registered in the local peer !
1.Set up peer
2.Search and download file in required peer
3.Exit
Type here to search
ENG
IN
7:21 PM
11/11/2019

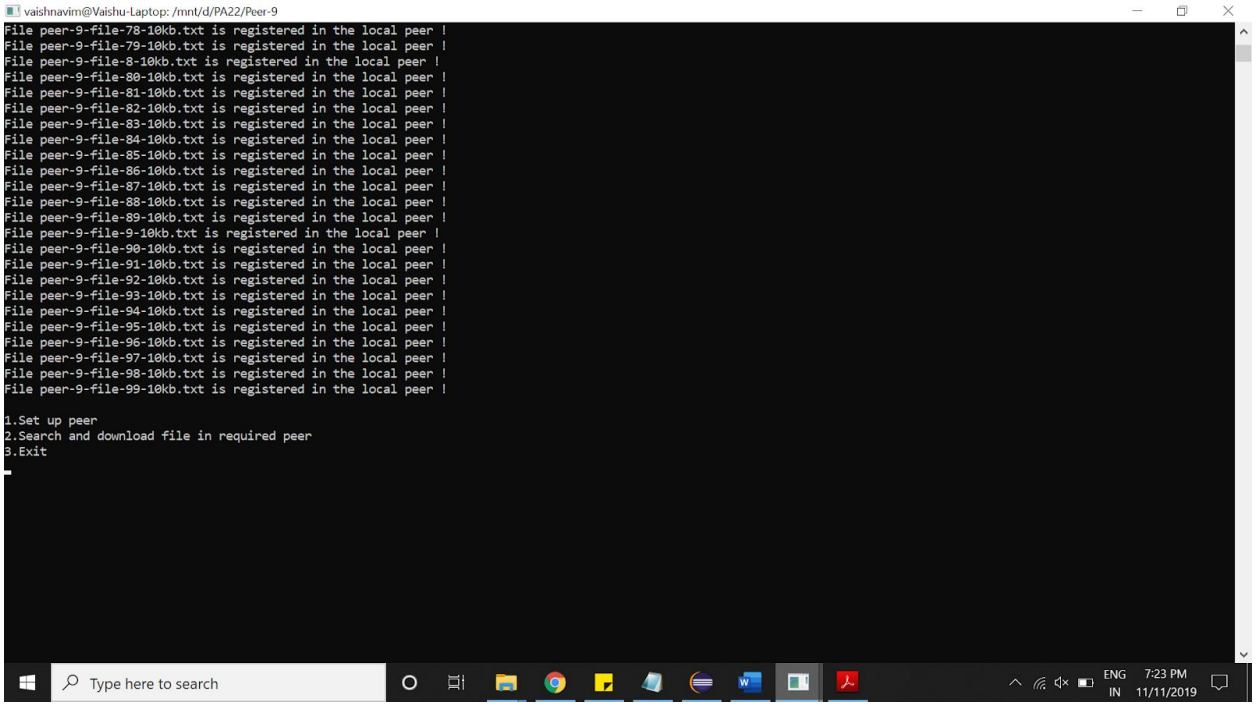

vaishnavim@Vaishu-Laptop: /mnt/d/PA22/Peer-4
File peer-4-file-78-10kb.txt is registered in the local peer !
File peer-4-file-79-10kb.txt is registered in the local peer !
File peer-4-file-8-10kb.txt is registered in the local peer !
File peer-4-file-80-10kb.txt is registered in the local peer !
File peer-4-file-81-10kb.txt is registered in the local peer !
File peer-4-file-82-10kb.txt is registered in the local peer !
File peer-4-file-83-10kb.txt is registered in the local peer !
File peer-4-file-84-10kb.txt is registered in the local peer !
File peer-4-file-85-10kb.txt is registered in the local peer !
File peer-4-file-86-10kb.txt is registered in the local peer !
File peer-4-file-87-10kb.txt is registered in the local peer !
File peer-4-file-88-10kb.txt is registered in the local peer !
File peer-4-file-89-10kb.txt is registered in the local peer !
File peer-4-file-9-10kb.txt is registered in the local peer !
File peer-4-file-90-10kb.txt is registered in the local peer !
File peer-4-file-91-10kb.txt is registered in the local peer !
File peer-4-file-92-10kb.txt is registered in the local peer !
File peer-4-file-93-10kb.txt is registered in the local peer !
File peer-4-file-94-10kb.txt is registered in the local peer !
File peer-4-file-95-10kb.txt is registered in the local peer !
File peer-4-file-96-10kb.txt is registered in the local peer !
File peer-4-file-97-10kb.txt is registered in the local peer !
File peer-4-file-98-10kb.txt is registered in the local peer !
File peer-4-file-99-10kb.txt is registered in the local peer !
1.Set up peer
2.Search and download file in required peer
3.Exit
Type here to search
ENG
IN
7:22 PM
11/11/2019

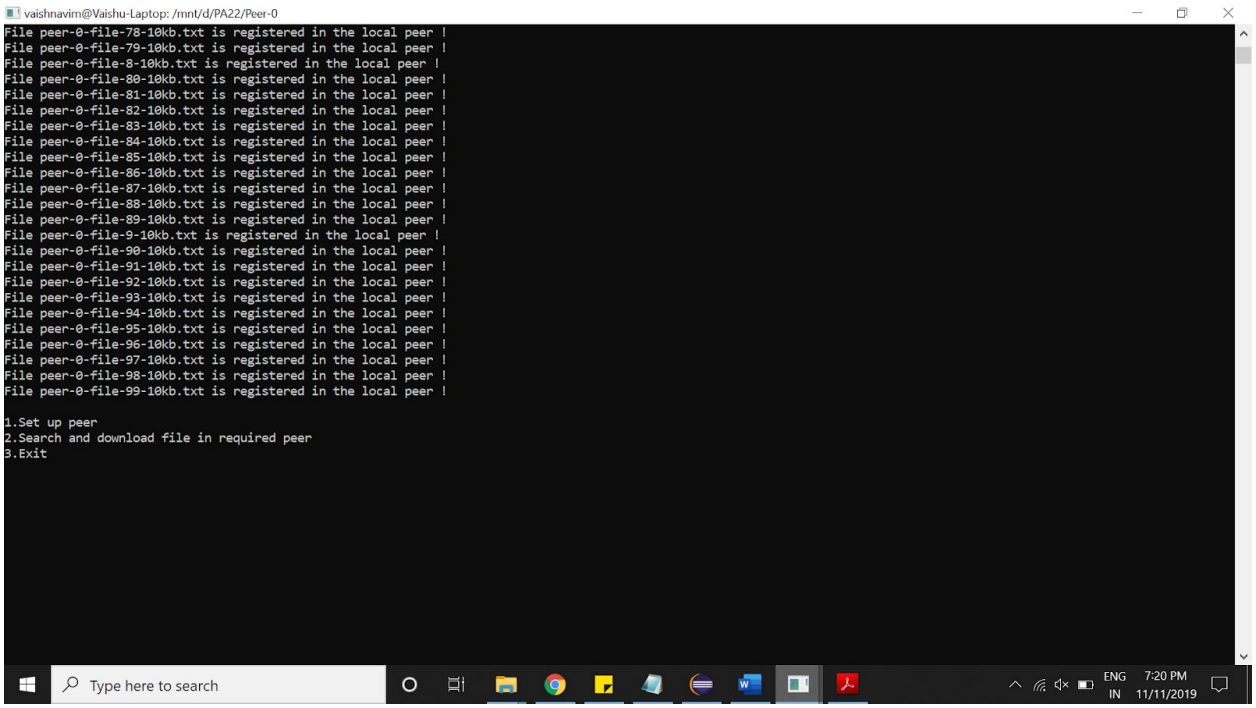

vaishnavim@Vaishu-Laptop: /mnt/d/PA22/Peer-5
File peer-5-file-75-10kb.txt is registered in the local peer !
File peer-5-file-76-10kb.txt is registered in the local peer !
File peer-5-file-77-10kb.txt is registered in the local peer !
File peer-5-file-78-10kb.txt is registered in the local peer !
File peer-5-file-79-10kb.txt is registered in the local peer !
File peer-5-file-8-10kb.txt is registered in the local peer !
File peer-5-file-80-10kb.txt is registered in the local peer !
File peer-5-file-81-10kb.txt is registered in the local peer !
File peer-5-file-82-10kb.txt is registered in the local peer !
File peer-5-file-83-10kb.txt is registered in the local peer !
File peer-5-file-84-10kb.txt is registered in the local peer !
File peer-5-file-85-10kb.txt is registered in the local peer !
File peer-5-file-86-10kb.txt is registered in the local peer !
File peer-5-file-87-10kb.txt is registered in the local peer !
File peer-5-file-88-10kb.txt is registered in the local peer !
File peer-5-file-89-10kb.txt is registered in the local peer !
File peer-5-file-9-10kb.txt is registered in the local peer !
File peer-5-file-90-10kb.txt is registered in the local peer !
File peer-5-file-91-10kb.txt is registered in the local peer !
File peer-5-file-92-10kb.txt is registered in the local peer !
File peer-5-file-93-10kb.txt is registered in the local peer !
File peer-5-file-94-10kb.txt is registered in the local peer !
File peer-5-file-95-10kb.txt is registered in the local peer !
File peer-5-file-96-10kb.txt is registered in the local peer !
File peer-5-file-97-10kb.txt is registered in the local peer !
File peer-5-file-98-10kb.txt is registered in the local peer !
File peer-5-file-99-10kb.txt is registered in the local peer !
1.Set up peer
2.Search and download file in required peer
3.Exit
Type here to search
ENG
IN
7:22 PM
11/11/2019


vaishnavim@Vaishu-Laptop: /mnt/d/PA22/Peer-6
File peer-6-file-78-10kb.txt is registered in the local peer !
File peer-6-file-79-10kb.txt is registered in the local peer !
File peer-6-file-8-10kb.txt is registered in the local peer !
File peer-6-file-80-10kb.txt is registered in the local peer !
File peer-6-file-81-10kb.txt is registered in the local peer !
File peer-6-file-82-10kb.txt is registered in the local peer !
File peer-6-file-83-10kb.txt is registered in the local peer !
File peer-6-file-84-10kb.txt is registered in the local peer !
File peer-6-file-85-10kb.txt is registered in the local peer !
File peer-6-file-86-10kb.txt is registered in the local peer !
File peer-6-file-87-10kb.txt is registered in the local peer !
File peer-6-file-88-10kb.txt is registered in the local peer !
File peer-6-file-89-10kb.txt is registered in the local peer !
File peer-6-file-9-10kb.txt is registered in the local peer !
File peer-6-file-90-10kb.txt is registered in the local peer !
File peer-6-file-91-10kb.txt is registered in the local peer !
File peer-6-file-92-10kb.txt is registered in the local peer !
File peer-6-file-93-10kb.txt is registered in the local peer !
File peer-6-file-94-10kb.txt is registered in the local peer !
File peer-6-file-95-10kb.txt is registered in the local peer !
File peer-6-file-96-10kb.txt is registered in the local peer !
File peer-6-file-97-10kb.txt is registered in the local peer !
File peer-6-file-98-10kb.txt is registered in the local peer !
File peer-6-file-99-10kb.txt is registered in the local peer !
1.Set up peer
2.Search and download file in required peer
3.Exit
Type here to search
ENG
IN
7:22 PM
11/11/2019

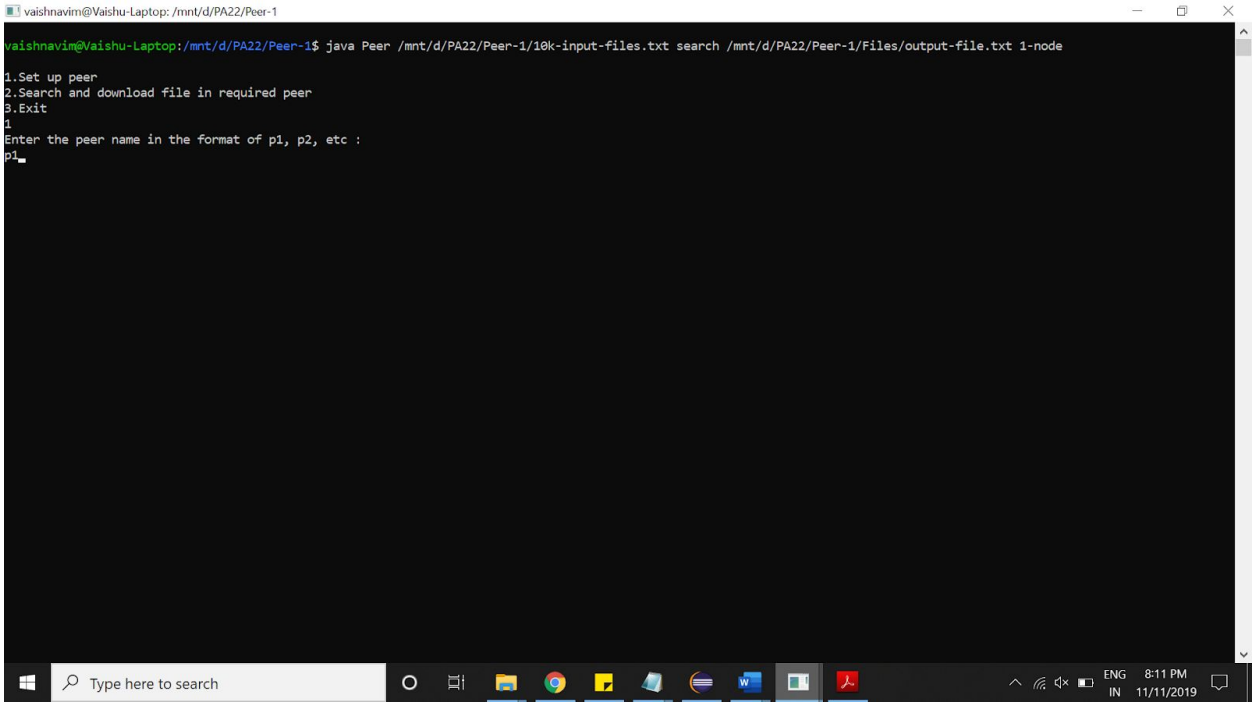

vaishnavim@Vaishu-Laptop: /mnt/d/PA22/Peer-7
File peer-7-file-75-10kb.txt is registered in the local peer !
File peer-7-file-76-10kb.txt is registered in the local peer !
File peer-7-file-77-10kb.txt is registered in the local peer !
File peer-7-file-78-10kb.txt is registered in the local peer !
File peer-7-file-79-10kb.txt is registered in the local peer !
File peer-7-file-8-10kb.txt is registered in the local peer !
File peer-7-file-80-10kb.txt is registered in the local peer !
File peer-7-file-81-10kb.txt is registered in the local peer !
File peer-7-file-82-10kb.txt is registered in the local peer !
File peer-7-file-83-10kb.txt is registered in the local peer !
File peer-7-file-84-10kb.txt is registered in the local peer !
File peer-7-file-85-10kb.txt is registered in the local peer !
File peer-7-file-86-10kb.txt is registered in the local peer !
File peer-7-file-87-10kb.txt is registered in the local peer !
File peer-7-file-88-10kb.txt is registered in the local peer !
File peer-7-file-89-10kb.txt is registered in the local peer !
File peer-7-file-9-10kb.txt is registered in the local peer !
File peer-7-file-90-10kb.txt is registered in the local peer !
File peer-7-file-91-10kb.txt is registered in the local peer !
File peer-7-file-92-10kb.txt is registered in the local peer !
File peer-7-file-93-10kb.txt is registered in the local peer !
File peer-7-file-94-10kb.txt is registered in the local peer !
File peer-7-file-95-10kb.txt is registered in the local peer !
File peer-7-file-96-10kb.txt is registered in the local peer !
File peer-7-file-97-10kb.txt is registered in the local peer !
File peer-7-file-98-10kb.txt is registered in the local peer !
File peer-7-file-99-10kb.txt is registered in the local peer !
1.Set up peer
2.Search and download file in required peer
3.Exit
Type here to search
ENG
IN
7:22 PM
11/11/2019


vaishnavim@Vaishu-Laptop: /mnt/d/PA22/Peer-8
File peer-8-file-78-10kb.txt is registered in the local peer !
File peer-8-file-79-10kb.txt is registered in the local peer !
File peer-8-file-8-10kb.txt is registered in the local peer !
File peer-8-file-80-10kb.txt is registered in the local peer !
File peer-8-file-81-10kb.txt is registered in the local peer !
File peer-8-file-82-10kb.txt is registered in the local peer !
File peer-8-file-83-10kb.txt is registered in the local peer !
File peer-8-file-84-10kb.txt is registered in the local peer !
File peer-8-file-85-10kb.txt is registered in the local peer !
File peer-8-file-86-10kb.txt is registered in the local peer !
File peer-8-file-87-10kb.txt is registered in the local peer !
File peer-8-file-88-10kb.txt is registered in the local peer !
File peer-8-file-89-10kb.txt is registered in the local peer !
File peer-8-file-9-10kb.txt is registered in the local peer !
File peer-8-file-90-10kb.txt is registered in the local peer !
File peer-8-file-91-10kb.txt is registered in the local peer !
File peer-8-file-92-10kb.txt is registered in the local peer !
File peer-8-file-93-10kb.txt is registered in the local peer !
File peer-8-file-94-10kb.txt is registered in the local peer !
File peer-8-file-95-10kb.txt is registered in the local peer !
File peer-8-file-96-10kb.txt is registered in the local peer !
File peer-8-file-97-10kb.txt is registered in the local peer !
File peer-8-file-98-10kb.txt is registered in the local peer !
File peer-8-file-99-10kb.txt is registered in the local peer !
1.Set up peer
2.Search and download file in required peer
3.Exit
Type here to search
ENG
IN
7:22 PM
11/11/2019

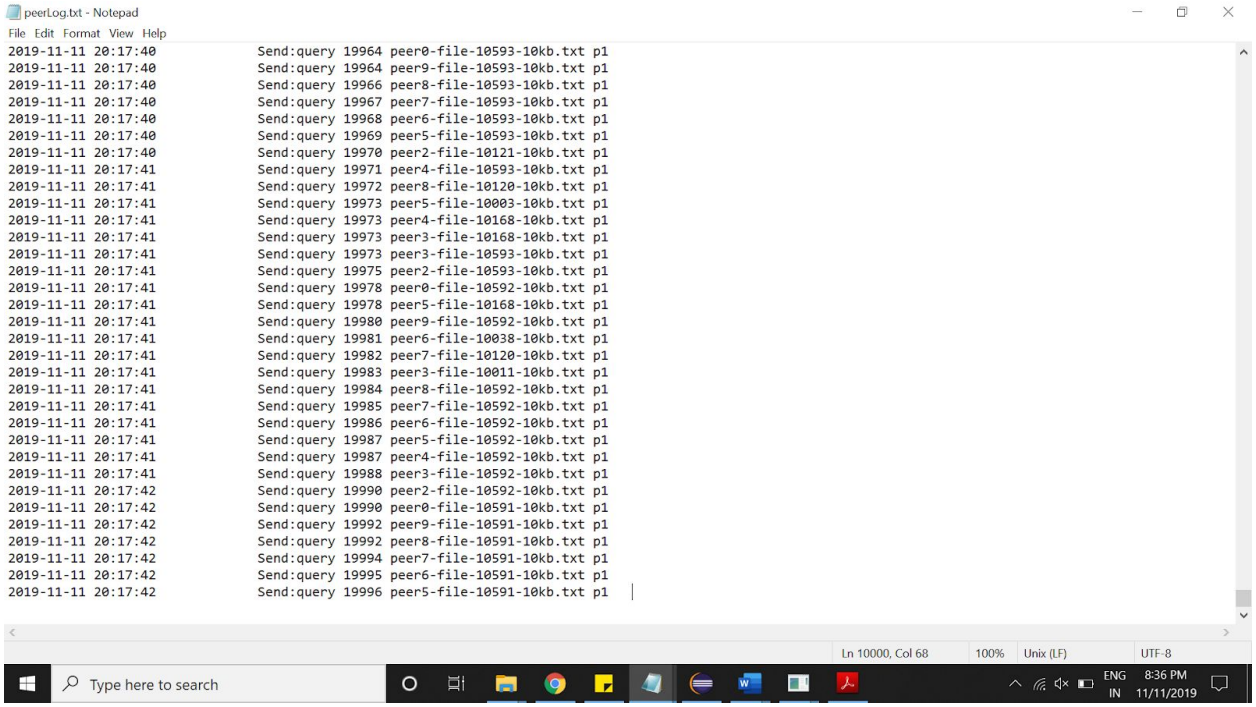

vaishnavim@Vaishu-Laptop: /mnt/d/PA22/Peer-9
File peer-9-file-78-10kb.txt is registered in the local peer !
File peer-9-file-79-10kb.txt is registered in the local peer !
File peer-9-file-8-10kb.txt is registered in the local peer !
File peer-9-file-80-10kb.txt is registered in the local peer !
File peer-9-file-81-10kb.txt is registered in the local peer !
File peer-9-file-82-10kb.txt is registered in the local peer !
File peer-9-file-83-10kb.txt is registered in the local peer !
File peer-9-file-84-10kb.txt is registered in the local peer !
File peer-9-file-85-10kb.txt is registered in the local peer !
File peer-9-file-86-10kb.txt is registered in the local peer !
File peer-9-file-87-10kb.txt is registered in the local peer !
File peer-9-file-88-10kb.txt is registered in the local peer !
File peer-9-file-89-10kb.txt is registered in the local peer !
File peer-9-file-9-10kb.txt is registered in the local peer !
File peer-9-file-90-10kb.txt is registered in the local peer !
File peer-9-file-91-10kb.txt is registered in the local peer !
File peer-9-file-92-10kb.txt is registered in the local peer !
File peer-9-file-93-10kb.txt is registered in the local peer !
File peer-9-file-94-10kb.txt is registered in the local peer !
File peer-9-file-95-10kb.txt is registered in the local peer !
File peer-9-file-96-10kb.txt is registered in the local peer !
File peer-9-file-97-10kb.txt is registered in the local peer !
File peer-9-file-98-10kb.txt is registered in the local peer !
File peer-9-file-99-10kb.txt is registered in the local peer !
1.Set up peer
2.Search and download file in required peer
3.Exit
Type here to search
ENG
IN
7:23 PM
11/11/2019


vaishnavim@Vaishu-Laptop: /mnt/d/PA22/Peer-0
File peer-0-file-78-10kb.txt is registered in the local peer !
File peer-0-file-79-10kb.txt is registered in the local peer !
File peer-0-file-8-10kb.txt is registered in the local peer !
File peer-0-file-80-10kb.txt is registered in the local peer !
File peer-0-file-81-10kb.txt is registered in the local peer !
File peer-0-file-82-10kb.txt is registered in the local peer !
File peer-0-file-83-10kb.txt is registered in the local peer !
File peer-0-file-84-10kb.txt is registered in the local peer !
File peer-0-file-85-10kb.txt is registered in the local peer !
File peer-0-file-86-10kb.txt is registered in the local peer !
File peer-0-file-87-10kb.txt is registered in the local peer !
File peer-0-file-88-10kb.txt is registered in the local peer !
File peer-0-file-89-10kb.txt is registered in the local peer !
File peer-0-file-9-10kb.txt is registered in the local peer !
File peer-0-file-90-10kb.txt is registered in the local peer !
File peer-0-file-91-10kb.txt is registered in the local peer !
File peer-0-file-92-10kb.txt is registered in the local peer !
File peer-0-file-93-10kb.txt is registered in the local peer !
File peer-0-file-94-10kb.txt is registered in the local peer !
File peer-0-file-95-10kb.txt is registered in the local peer !
File peer-0-file-96-10kb.txt is registered in the local peer !
File peer-0-file-97-10kb.txt is registered in the local peer !
File peer-0-file-98-10kb.txt is registered in the local peer !
File peer-0-file-99-10kb.txt is registered in the local peer !
1.Set up peer
2.Search and download file in required peer
3.Exit
Type here to search
ENG
IN
7:20 PM
11/11/2019

After giving 10k requests

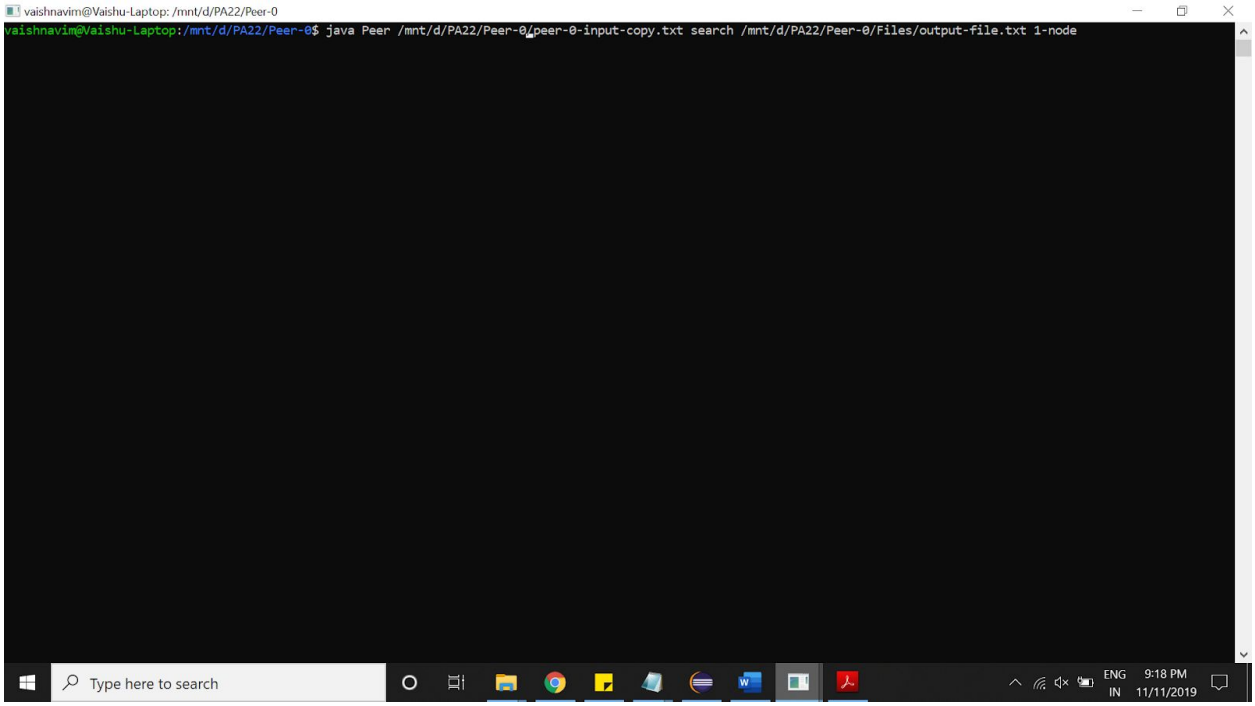



Files are searched and output log file is downloaded with all the requests

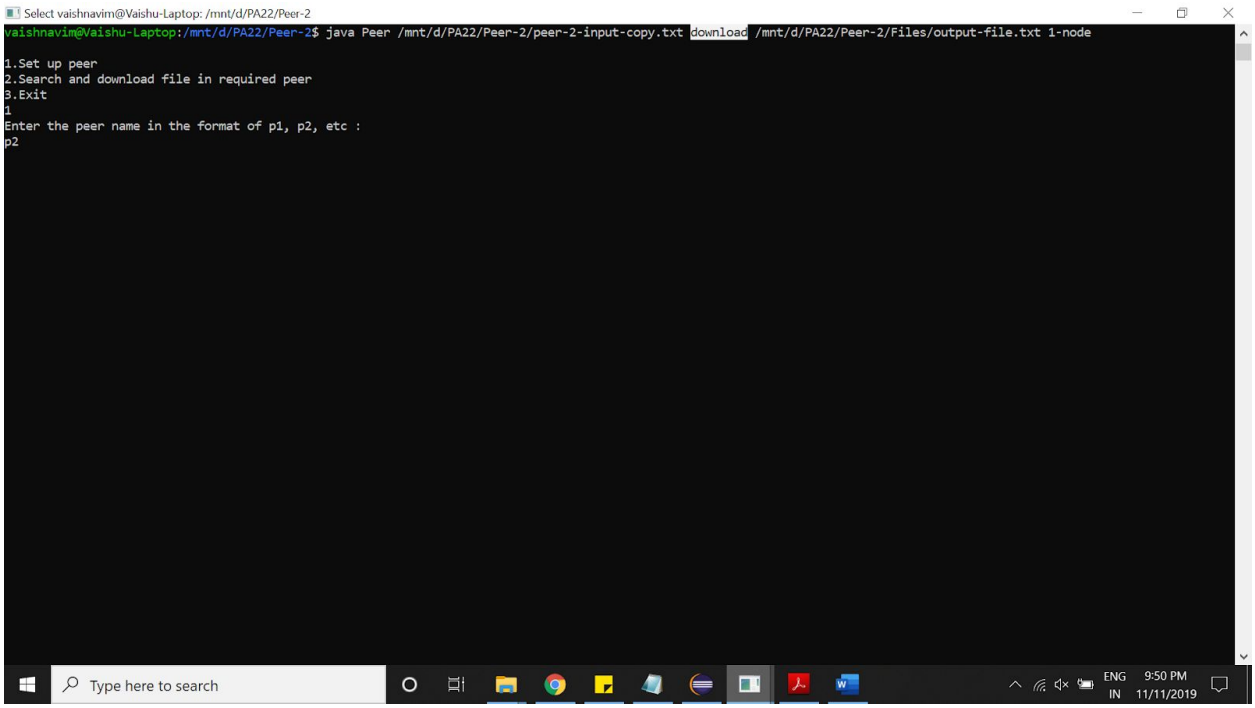


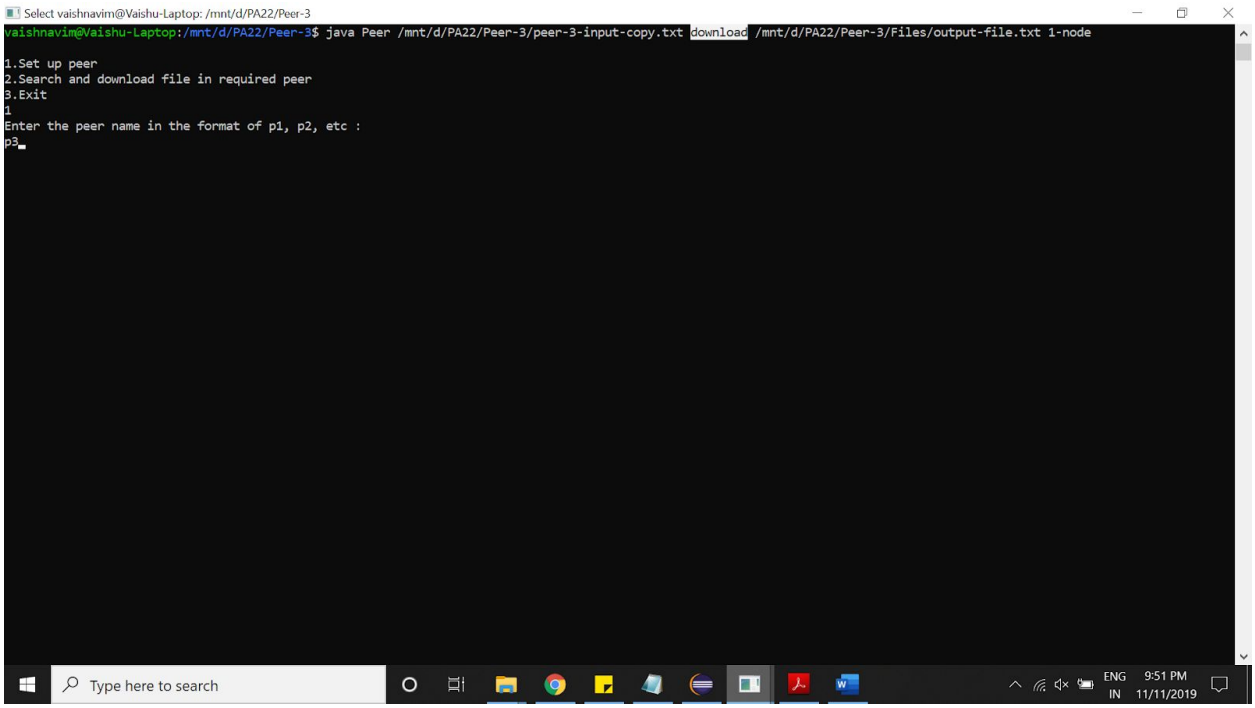
b. Query throughput: 9 clients concurrently issue 10K query requests each for random files from Small dataset

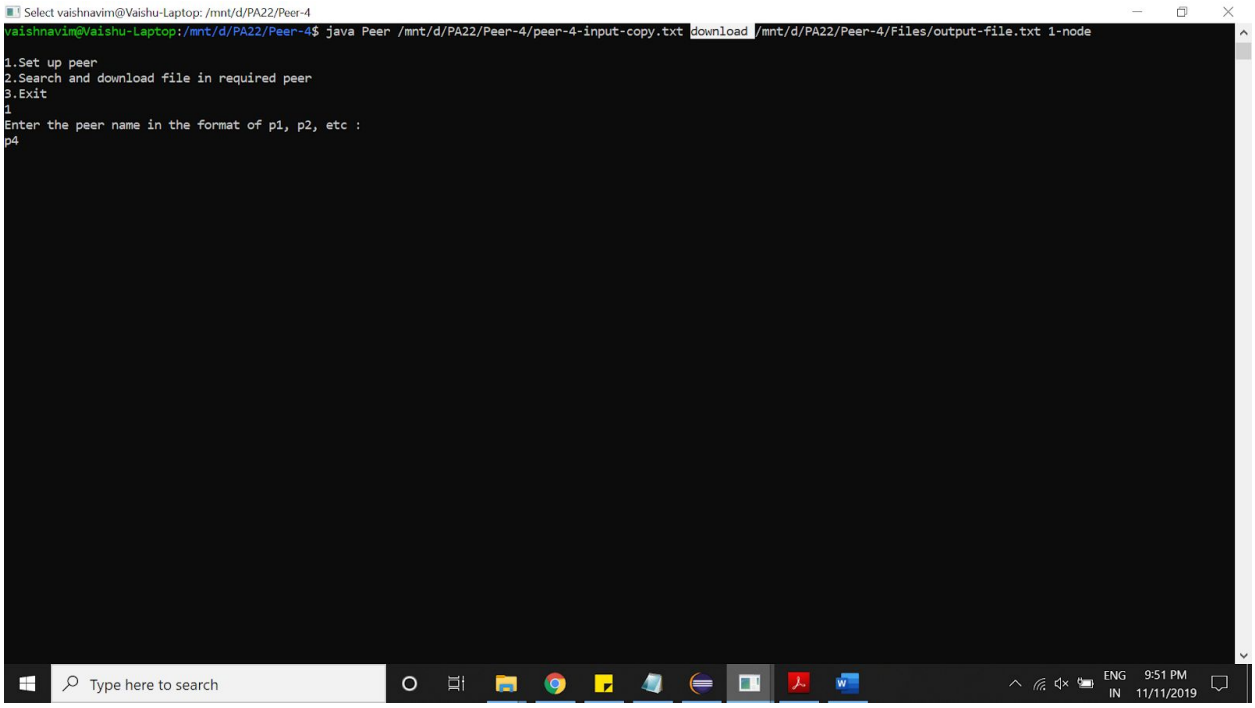
Like below requests are issued from all the 9 servers

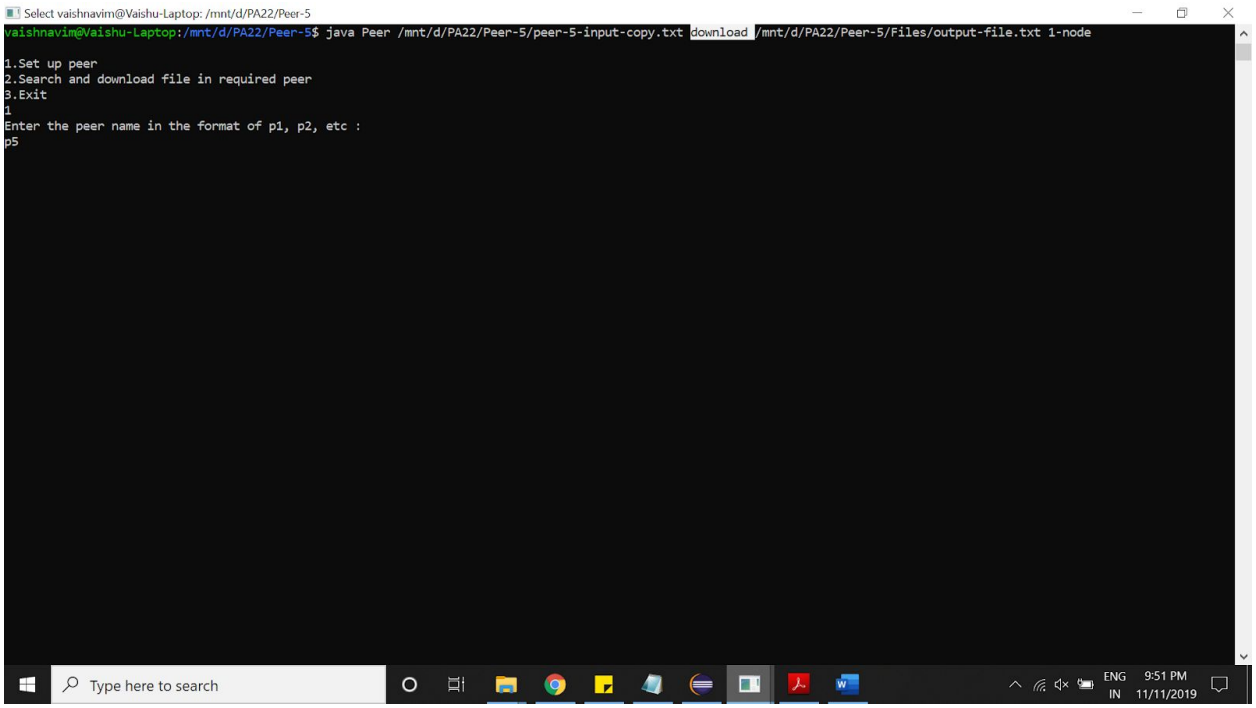



c. Transfer throughput Small: 9 clients concurrently issue 10K query + obtain requests each for random files from Small dataset (Request issuing from 4 clients)




Select vaishnavim@Vaishu-Laptop: /mnt/d/PA22/Peer-3
vaishnavim@Vaishu-Laptop:/mnt/d/PA22/Peer-3$ java Peer /mnt/d/PA22/Peer-3/peer-3-input-copy.txt download /mnt/d/PA22/Peer-3/Files/output-file.txt 1-node
1.Set up peer
2.Search and download file in required peer
3.Exit
1
Enter the peer name in the format of p1, p2, etc :
p3
Type here to search
ENG
IN
9:51 PM
11/11/2019


Select vaishnavim@Vaishu-Laptop: /mnt/d/PA22/Peer-4
vaishnavim@Vaishu-Laptop:/mnt/d/PA22/Peer-4$ java Peer /mnt/d/PA22/Peer-4/peer-4-input-copy.txt download /mnt/d/PA22/Peer-4/Files/output-file.txt 1-node
1.Set up peer
2.Search and download file in required peer
3.Exit
1
Enter the peer name in the format of p1, p2, etc :
p4
Type here to search
ENG
IN
9:51 PM
11/11/2019




After running the files are downloaded to respective Files folder