

## Performance Test

### 1. Test environment:

- Processor : Intel Core i5
- RAM : 6GB
- Server and clients running on the same system using different ports

### 2. Test 1: 1000 Register file requests

With every request a new connection was made with the server

The total time taken to register 1000 files (each file in a separate request) is **3488ms**

### 3. Test 2: 1000 Search file requests

1000 search requests are sent to the server

The total time taken to search 1000 files (each file in a separate request) is **639ms**

### 4. Test 3: File download request to file server

Time taken to download a 62.9MB file is **260ms**.

This time is dependent on the LAN speed.

### 5. TestCase Implementation

#### Test 1:

```
private void testRegisterFiles() throws IOException, IllegalAccessException, IllegalArgumentException,
InvocationTargetException, NoSuchMethodException, SecurityException {
    long startTime = System.currentTimeMillis();
    String fileName;
    RegisterDTO regDTO;
    ClientFileSystem clientFileSystem;

    System.out.println("\nSending 1000 register requests");
    System.out.println("Test started at : " + startTime);
    System.out.println("Wait for the requests to execute...");
    for (int i = 0; i < noOfReq; i++){
        regDTO = new RegisterDTO();
        fileName = "File"+i;
        //System.out.println("FileName sent : "+ fileName);
        regDTO.setNoOfFiles(1);
        regDTO.setPeerId(InetAddress.getLocalHost().getHostAddress());
        regDTO.getFileList().add(fileName);

        clientFileSystem = new ClientFileSystem();
        clientFileSystem.registerFile("192.168.1.114", 9999, regDTO);
    }
    long endTime = System.currentTimeMillis();
    System.out.println("Test Ended at : " + endTime);
    System.out.println("Total time taken to register 1000 files : " + (endTime - startTime) + "ms");
    System.out.println("Test Done!!");
    System.out.println("-----");
}
```

## Test 2:

```
private void testSearchFile() {  
  
    long startTime = System.currentTimeMillis();  
    String fileName;  
    RegisterDTO regDTO;  
    ClientFileSystem clientFileSystem;  
    System.out.println("\nSending 1000 search requests");  
    System.out.println("Test started at : " + startTime);  
    System.out.println("Wait for the requests to execute....");  
    for (int i = 0; i < noOfReq; i++){  
        fileName = "File"+i;  
        //System.out.println("FileName sent to search: " + fileName);  
        clientFileSystem = new ClientFileSystem();  
        ArrayList<String> peerList = clientFileSystem.searchFile("192.168.1.114", 9999, fileName);  
    }  
    long endTime = System.currentTimeMillis();  
    System.out.println("Test Ended at : " + endTime);  
    System.out.println("Total time taken to search 1000 files : " + (endTime - startTime) + "ms");  
    System.out.println("Test Done!!");  
    System.out.println("-----");  
}
```

## Test 3:

```
private void testFileDownload(){  
  
    long startTime = System.currentTimeMillis();  
    System.out.println("\nSending request to download a 69.2MB file");  
    System.out.println("Test started at : " + startTime);  
    System.out.println("Wait for the file to download....");  
    FileReceiver fileReceiver = new FileReceiver();  
    fileReceiver.receiveFile("192.168.1.114|9990", "vd.avi", "C:\\Users\\Nikhil\\Desktop\\peer1\\downloads\\");  
    long endTime = System.currentTimeMillis();  
    System.out.println("Test Ended at : " + endTime);  
    System.out.println("Total time taken to donload a 69.2MB file: " + (endTime - startTime) + "ms");  
    System.out.println("Test Done!!");  
    System.out.println("-----");  
}
```

## 6. Test Output

```
abhijeet@abhijeet-Inspiron-5547:~/Nikhil/ClientSourceCode/src$ java com.assign.perftest.PerfTest  
  
Sending 1000 register requests  
Test started at : 1442885979227  
Wait for the requests to execute....  
Test Ended at : 1442885982715  
Total time taken to register 1000 files : 3488ms  
Test Done!!  
-----  
  
Sending 1000 search requests  
Test started at : 1442885982715  
Wait for the requests to execute....  
Test Ended at : 1442885983354  
Total time taken to search 1000 files : 639ms  
Test Done!!  
-----  
  
Sending request to download a 69.2MB file  
Test started at : 1442885983354  
Wait for the file to download....  
Connected with the file peer at IP:192.168.1.114, peerPort:9990  
  
Downloading file. Please wait....  
  
File Downloaded Successfully !!  
  
Test Ended at : 1442885983614  
Total time taken to donload a 69.2MB file: 260ms  
Test Done!!  
-----  
abhijeet@abhijeet-Inspiron-5547:~/Nikhil/ClientSourceCode/src$
```