UE21CS352B - Object Oriented Analysis & Design using Java

Mini Project Report

"Secure file sharing system"

Submitted by:

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INTRODUCTION

A safe file sharing system is an essential tool in today's communication and collaboration. It enables individuals and organisations to securely exchange files and information over the internet while safeguarding sensitive data from unauthorised access, modification, or theft.

The primary goal of a secure file sharing system is to ensure the shared data's confidentiality, integrity, and availability. The protection of data from unauthorised access is referred to as confidentiality. The term "integrity" refers to the fact that the data remains unchanged during transmission or storage. The availability of data means that authorised users can access it when they need it.

A secure file sharing system achieves these goals by combining encryption, access controls, authentication, and other security mechanisms. Encryption ensures that the data is unreadable and unusable to anyone who does not have the correct key. Access controls limit authorised users' access and prevent unauthorised access. The authentication process ensures that only authorised users have access to the data.

Project Description

The aim of the project is to build an end-to-end secure file sharing system which mimics the P2P architecture. Files are shared via a room which is created by the client. The invite link of the sharing platform which in this case is a room is created for the peers who want to access and download files. The link has to be submitted by each peer to join the network to send or receive the files. The files being sent are encrypted with AES (Advanced Encryption Standard) encryption algorithm. On the sender side the file is encrypted using the secret key before sending the file.

The encrypted files are decrypted on the receiving end using the secret key available in the room to validate the file. After the decryption the file is downloaded on the receiving end. In order to account for the file not being corrupted, the concept of checksum is used to verify the integrity of the file. The encrypted file here is being sent to the peers in the room using different sockets in the local system presently. All the files being sent/transmitted in the room are stored in the mongodb database for future reference of the ongoing session. Each user is assigned a database to keep track of his files used in the session.

Actors: -

Client:

- The client is the user or entity that initiates the file sharing process.
- They create a room (sharing platform) where files can be exchanged.
- The client generates an invite link for the room, which peers can use to join and participate in the file sharing network.
- As the creator of the room, the client has certain privileges, such as managing access permissions and controlling the encryption keys.
- In summary, the client sets up the environment for secure file sharing and coordinates the overall process.

Peer:

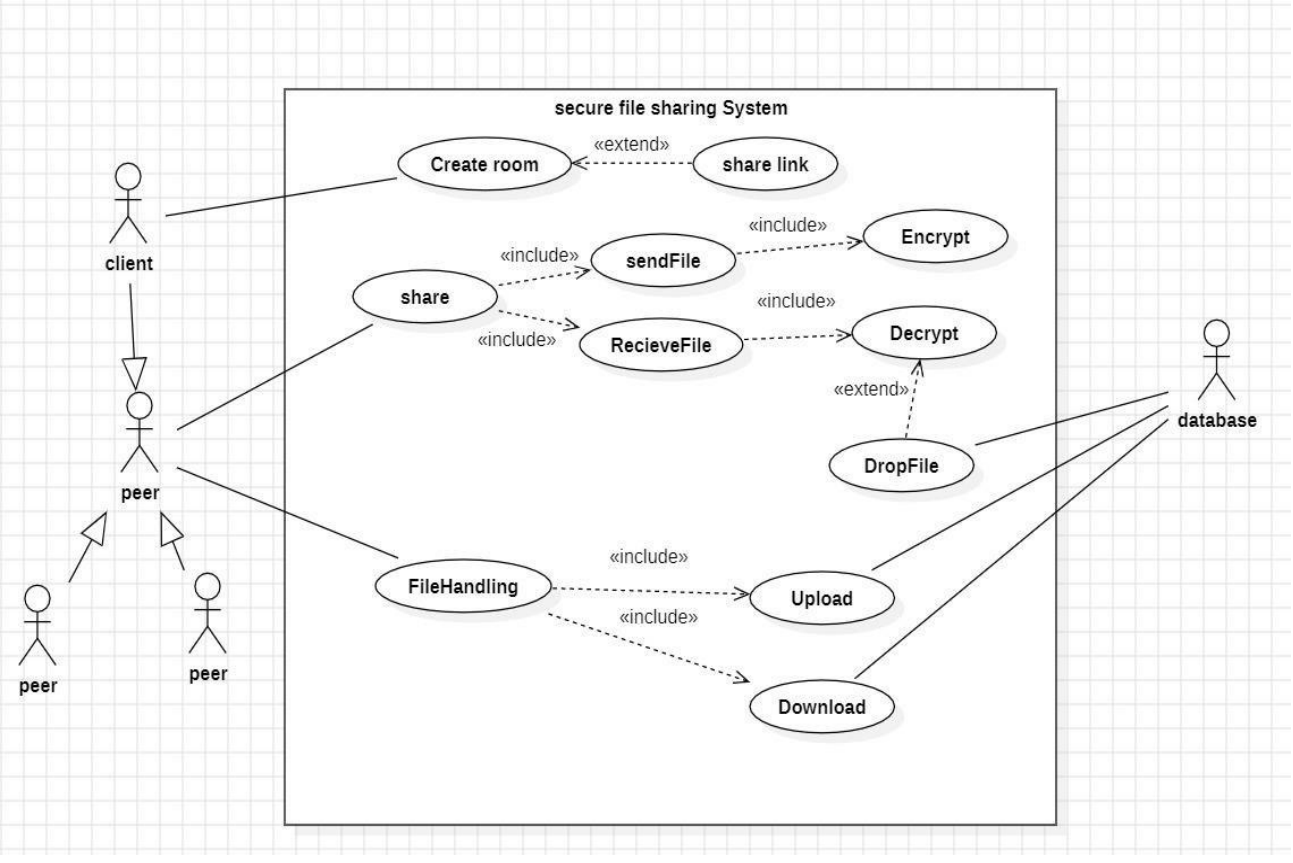
- Peers are participants in the file sharing network.
- They join the room using the invite link provided by the client.
- Peers can send and receive files within the room.
- When sending a file, they encrypt it using the secret key associated with the room.
- Upon receiving an encrypted file, peers decrypt it using the same secret key to validate its integrity.
- Peers play an active role in the P2P architecture by exchanging files securely with other peers in the same room.

Database:

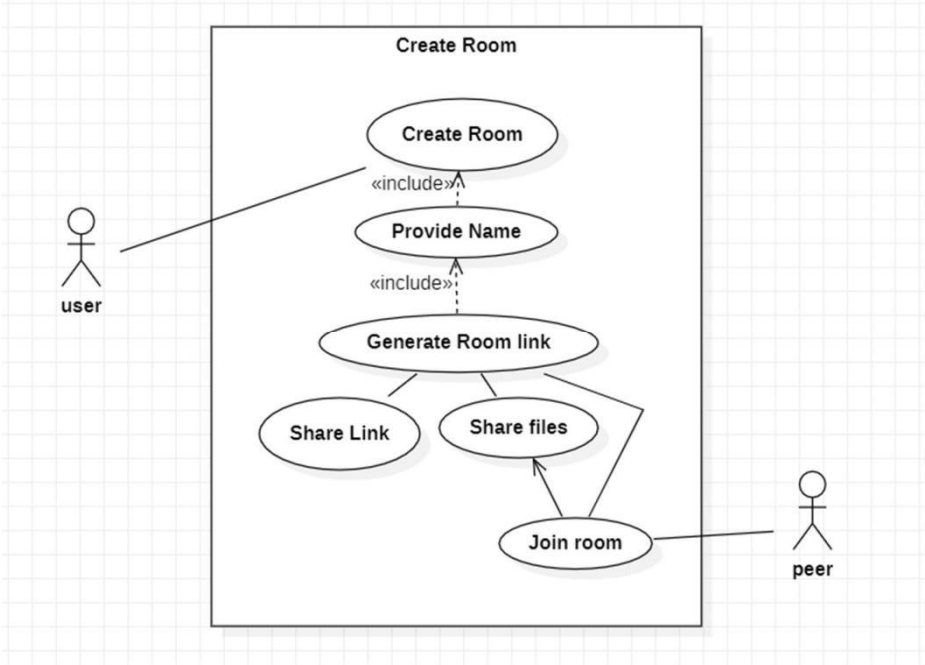
- The database is a crucial component of the system.
- It stores information related to the ongoing file sharing sessions.
- Each user is assigned a database to keep track of their files used in the session.
- The database stores metadata about files (e.g., file names, sizes, timestamps) and possibly the encrypted files themselves.
- MongoDB is used for this purpose, allowing efficient storage and retrieval of data.
- In summary, the database ensures persistence and retrieval of shared files during the session.

Analysis and Design Models

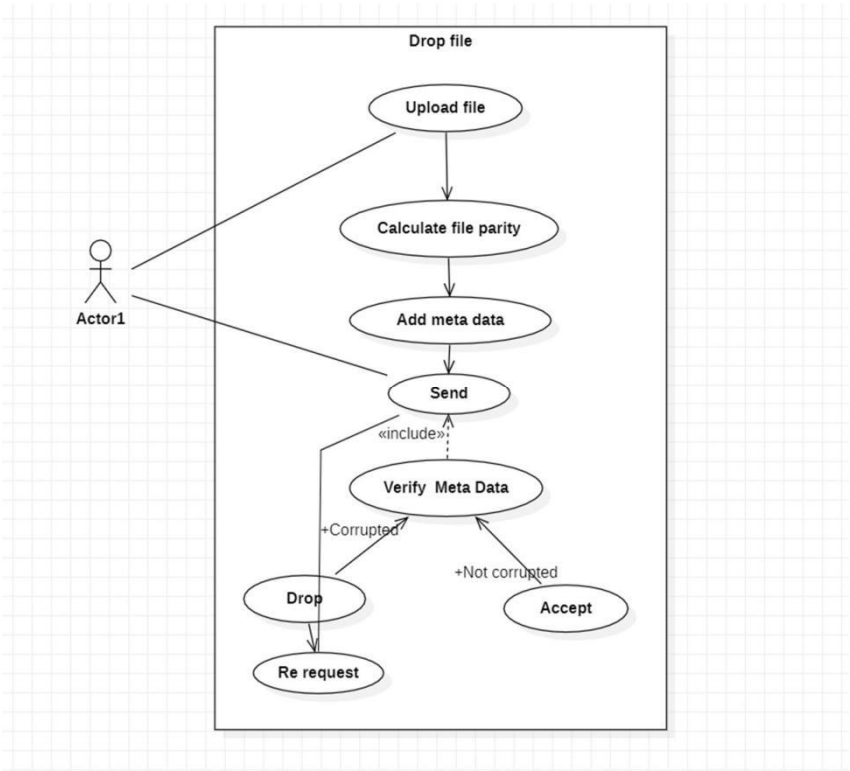
1. Use Case Diagram:



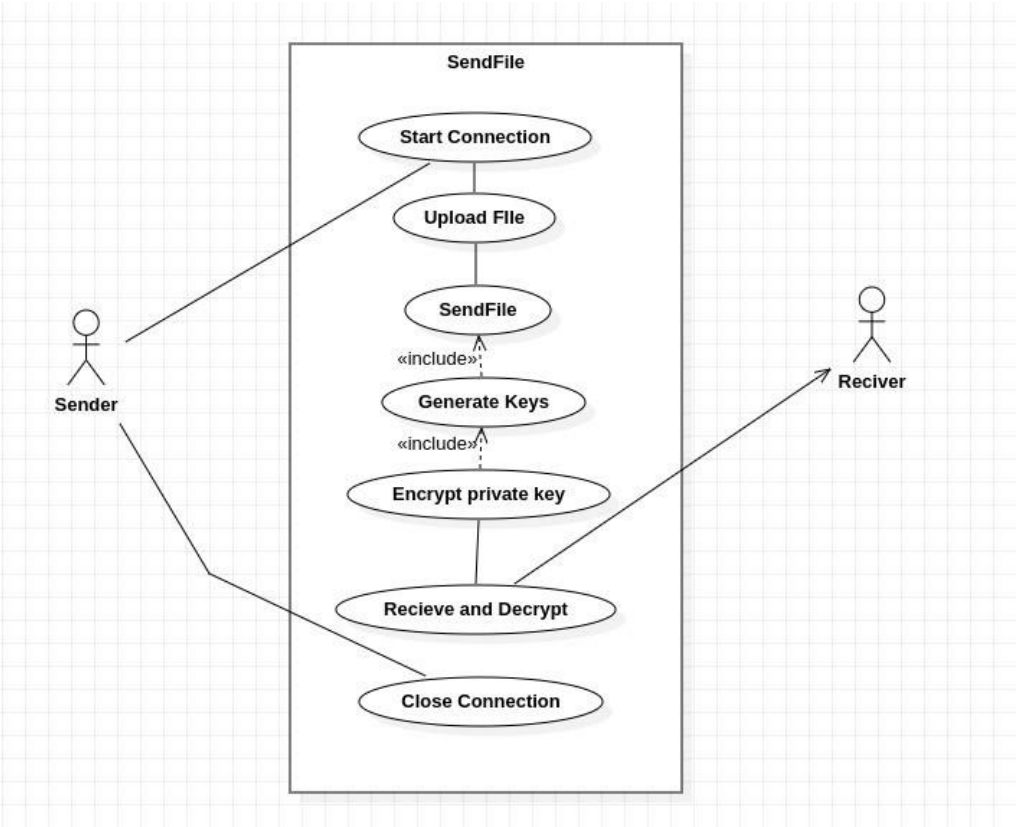
2. Create Room Use Case:



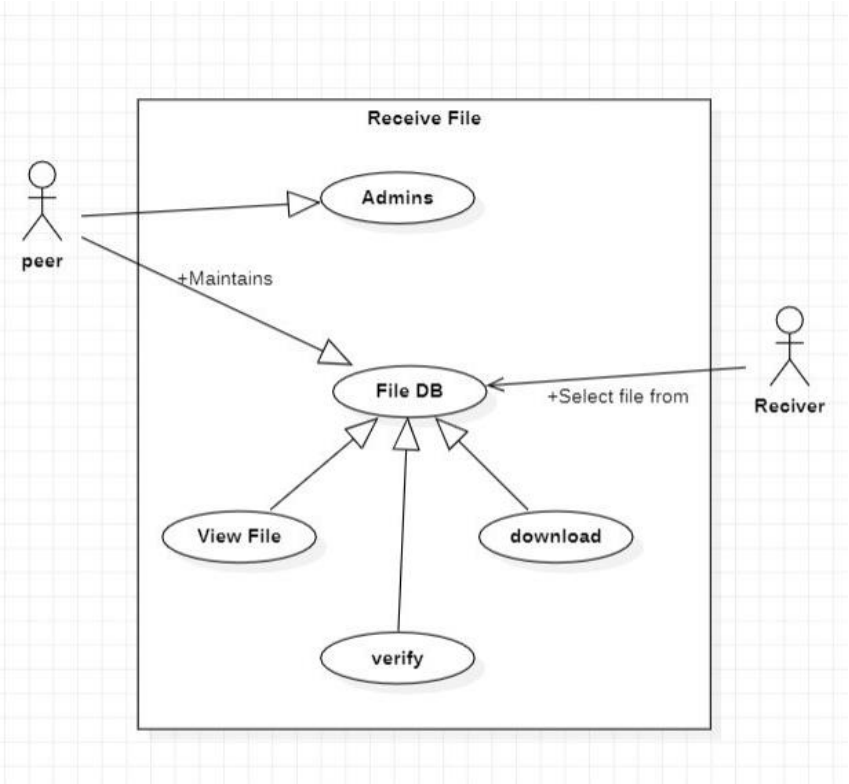
3. Drop File Use Case:



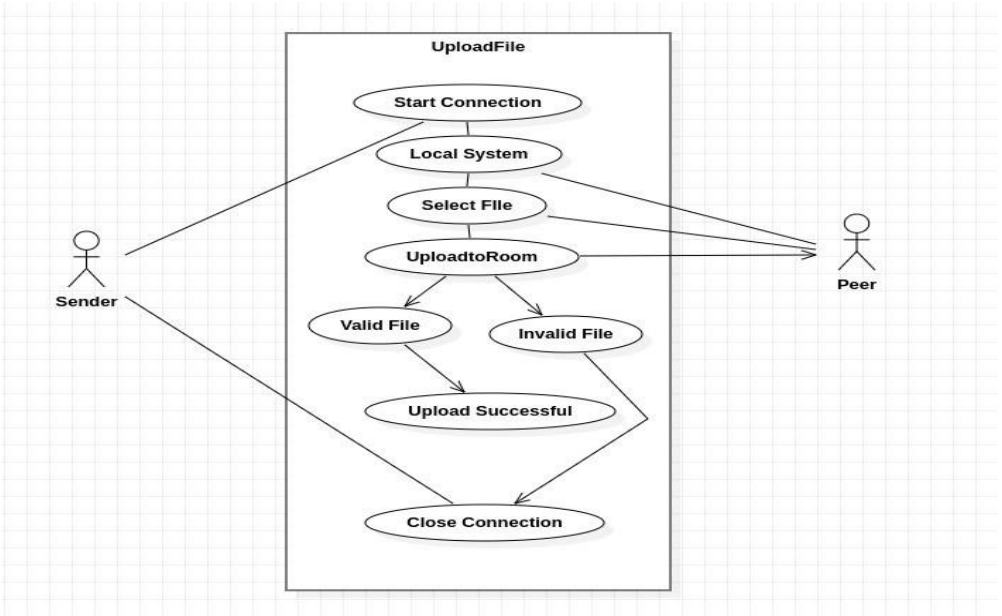
4. Send File Use Case:



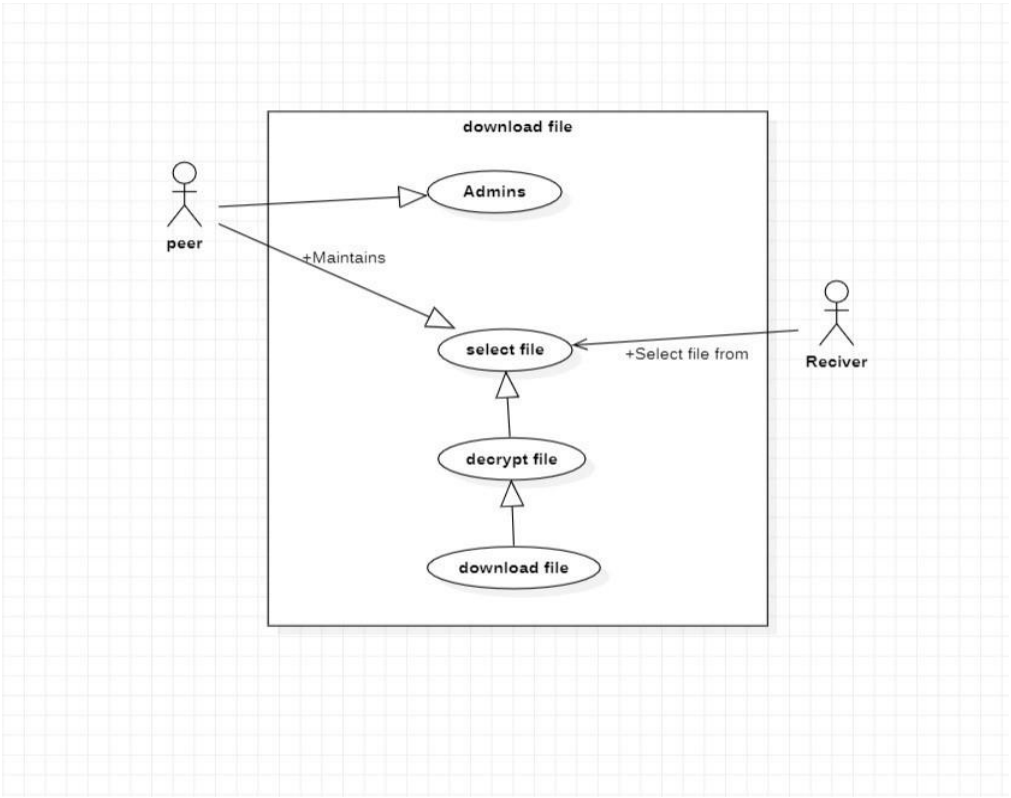
5. Receive File Use Case:



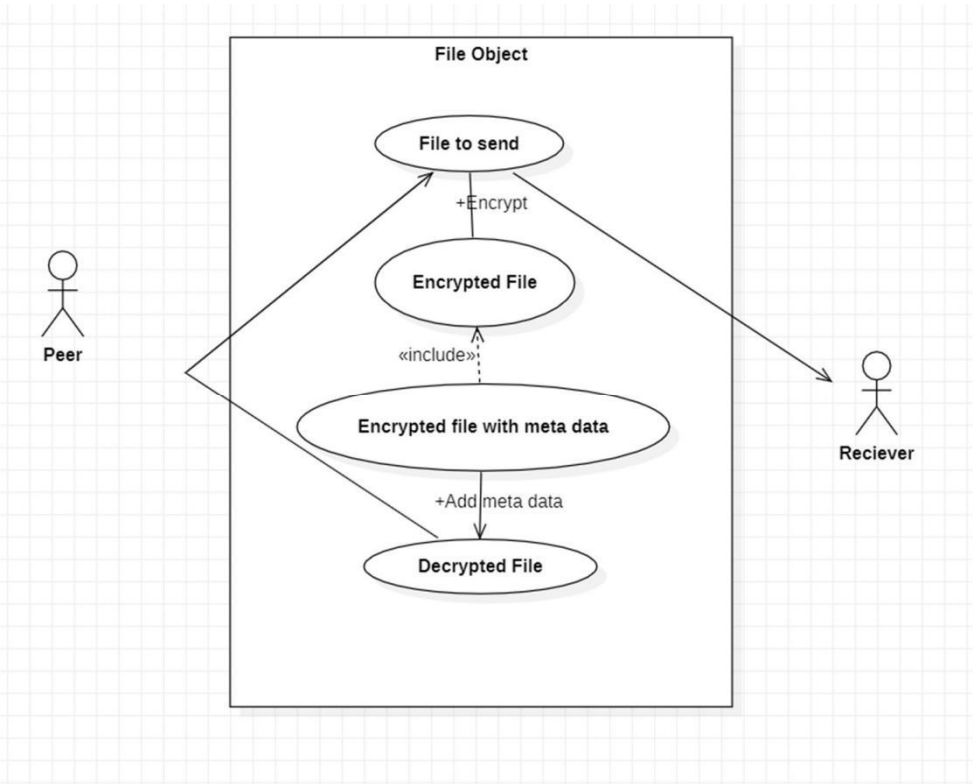
6. Upload File Use Case:



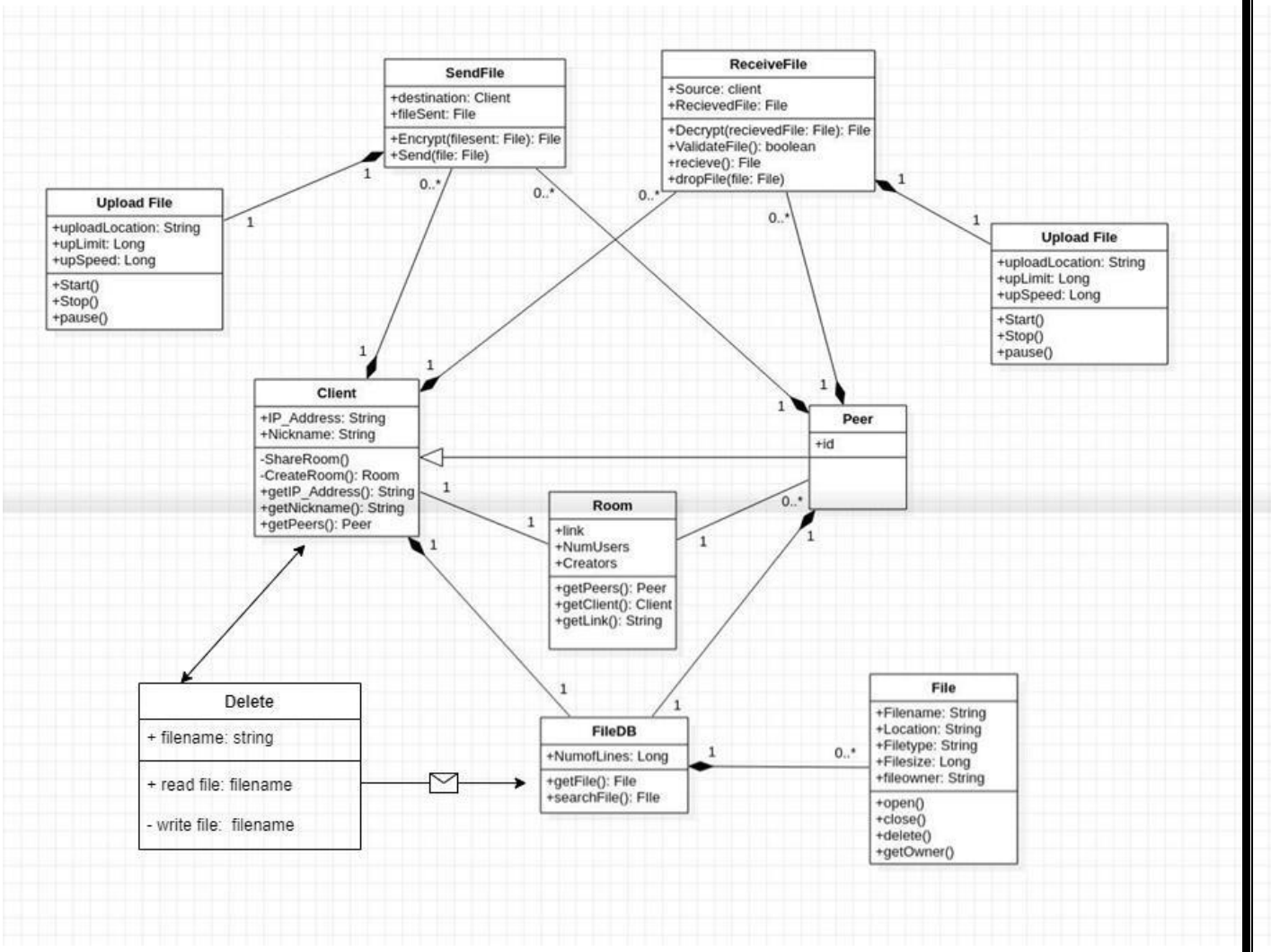
7. Download File Use Case:



8. File Object

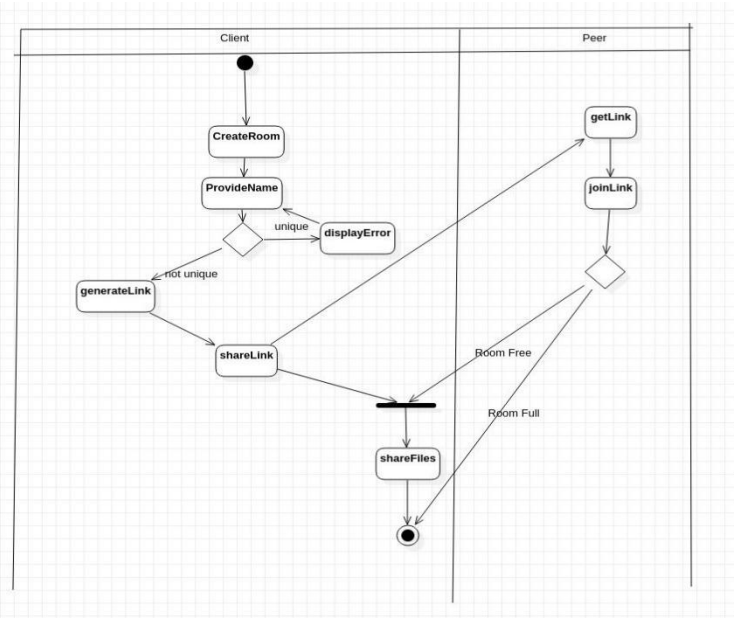


2. Class Modelling diagram:



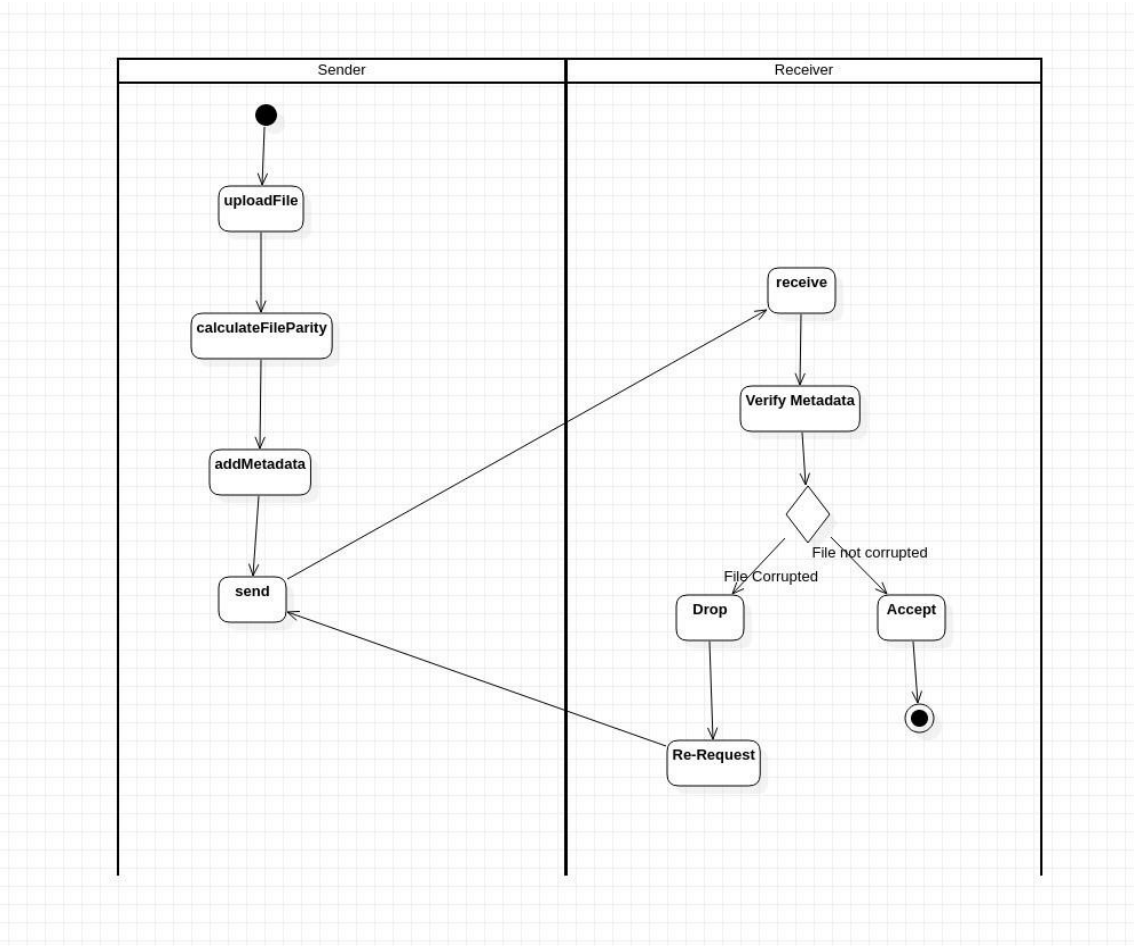
3.Activity diagram for the use-cases implemented

1. **Create Room Use Case:**



1. **Name:** CreateRoom
2. **Summary:** Create a room where peers can share files
3. **Actor:** Client/Peer
4. **Preconditions:** The Client has entered the platform
5. **Description:**
   i. Click on “create room”
   ii. Click on “generate room link”
   iii. Click on “share link” and share it with other peers and the peers can join the room if the room limit has not been exceeded
6. **Exceptions:** The room limit exceeds
7. **Post-condition:** Peers can join and share files

2. Drop File Use Case



1. **Name**: DropFile
2. **Summary:** On receiving the file, drop the file if it was corrupted during transfer.
3. **Actor:** Receiver/Peer
4. **Preconditions:** File is uploaded and is ready to be sent over the network 5. Description:

    - Calculate the file parity at the sender side, which upon received at the receiver side is used to verify the integrity of the file

    - It is added as metadata of the file

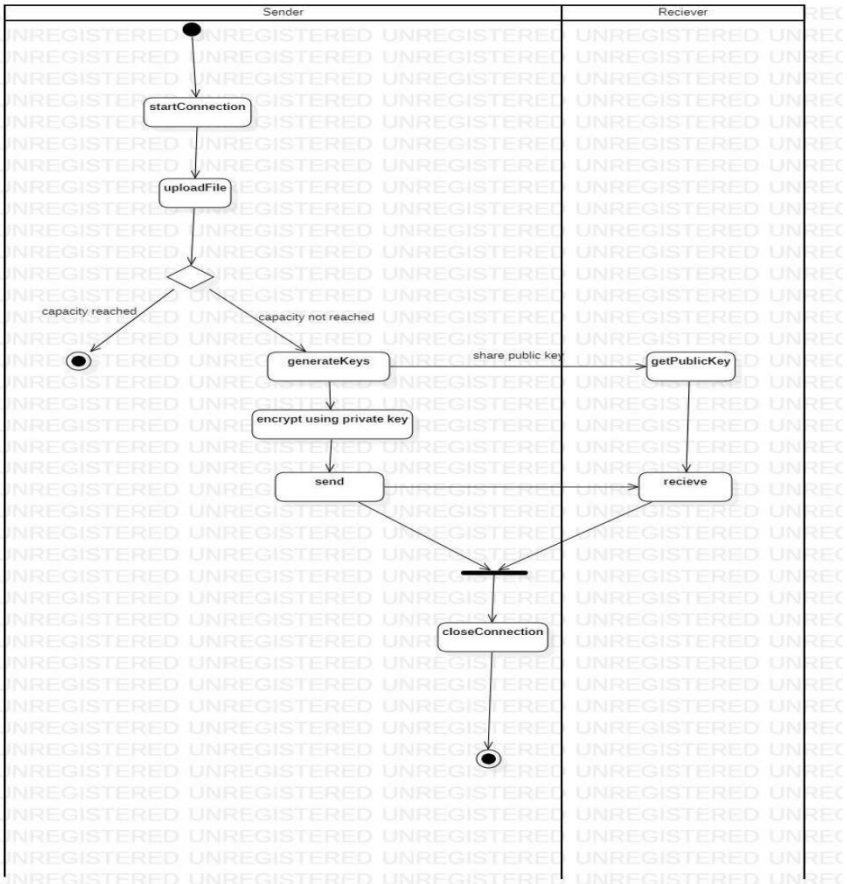
    - It is encrypted, sent over the network and received on the other side, and decrypted.

    - The metadata appended to the file is used to check the integrity of the file

    - If the file is found to be tampered, it is dropped immediately and a new request to resend the file goes to the sender, else accept the file.

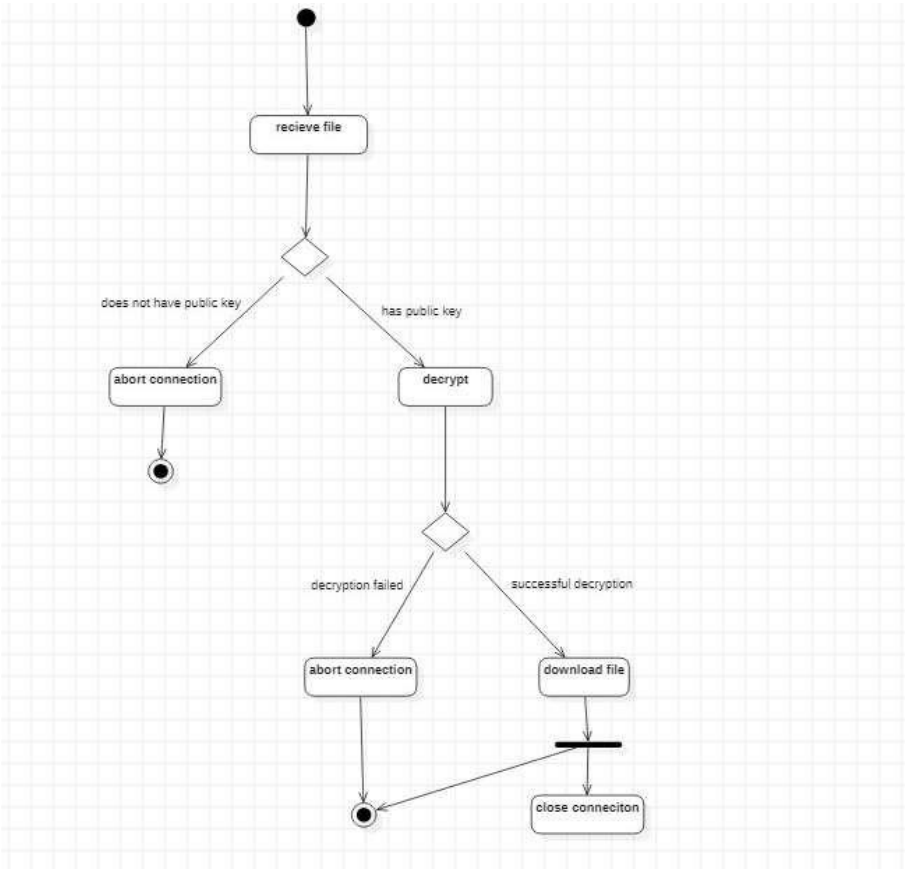
6. **Exceptions:** The file doesn't reach the receiver side
7. **Post-condition:** Receiver can download the files

3. **Send File Use Case:**



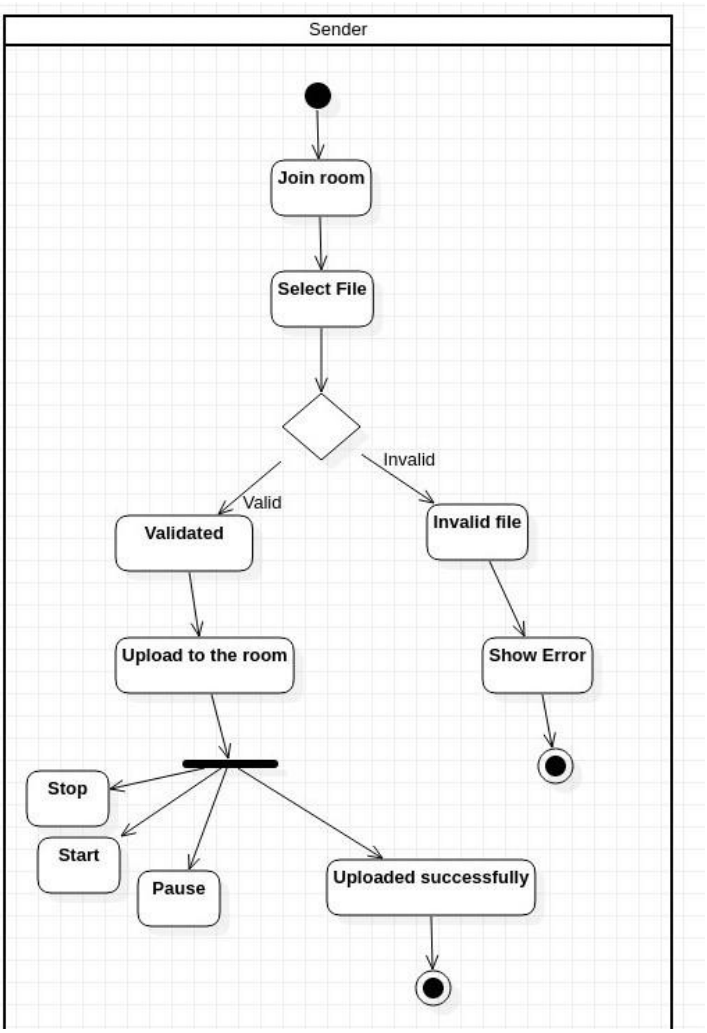
1. Name: SendFile
2. Summary: Prepare the file to be sent over the network
3. Actor: Sender/Peer
4. Preconditions: The file is uploaded onto the platform
5. Description:
    - On starting the connection, keys generated for secure transmission i.e encryption
    - Share the public key to the receiver
    - Encrypt the file with the key already generated
    - Send the file to the receiver - Receive at the receiver side
    - Close connection
6. Exceptions: File doesn't exist in the DB
7. Post-condition: Receiver can receive the sent file

4. **Receive File Use Case:**



1. Name: Receive File
2. Summary: Receive the file sent over the network.
3. Actor:Peer/Receiver
4. Preconditions: The Sender has pushed a file to the fileDB
5. Description:
    - Click on “receive” file
    - Click on “verify” to verify the contents of the file by decrypting the file using the public key of the sender.
    - Click on “download” to download the file after successful verification.
6. Exceptions: Verification fails.
7. Post-condition: The file can now be downloaded by the receiver.

5. Upload file use case:



1. **Name:** Upload File use case
2. **Summary:** Select the file and upload the file in the FileDB
3. **Actor:** Client/Peer
4. **Pre-conditions**: The Client has entered the platform
5. **Description:**

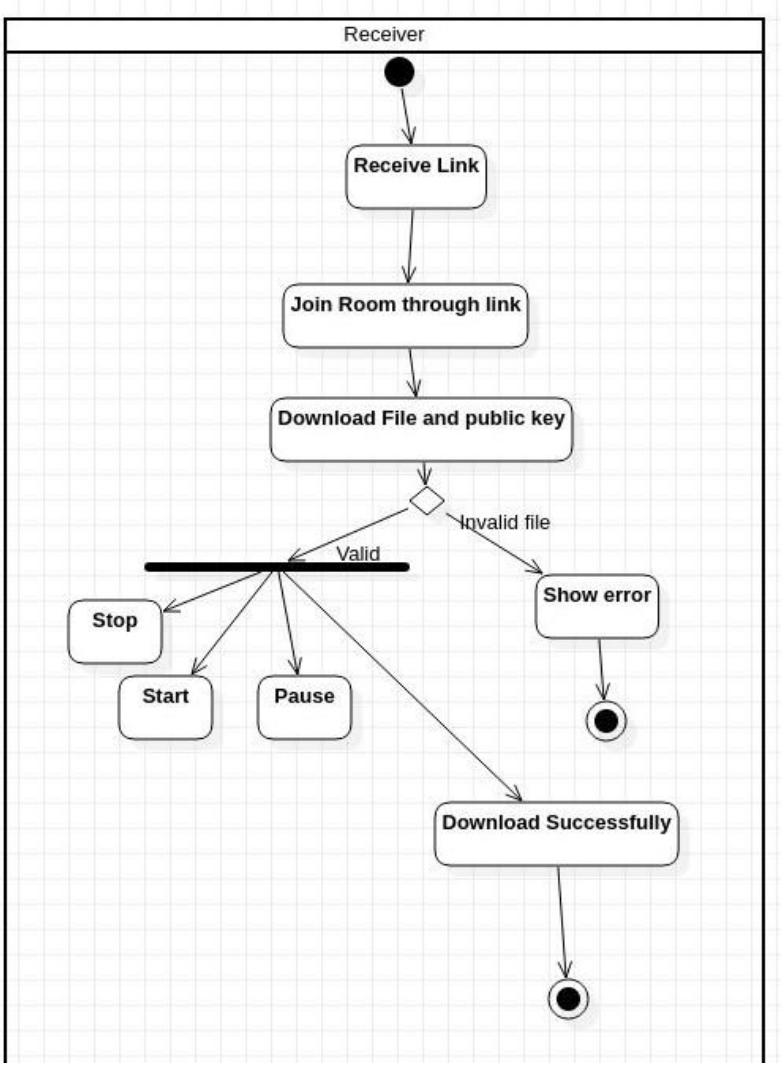
   - Click on “upload” to upload the file -Select the file from the peer local system.

   - Click on “OK” to start uploading.

   - The uploading actions have start, pause and stop options.

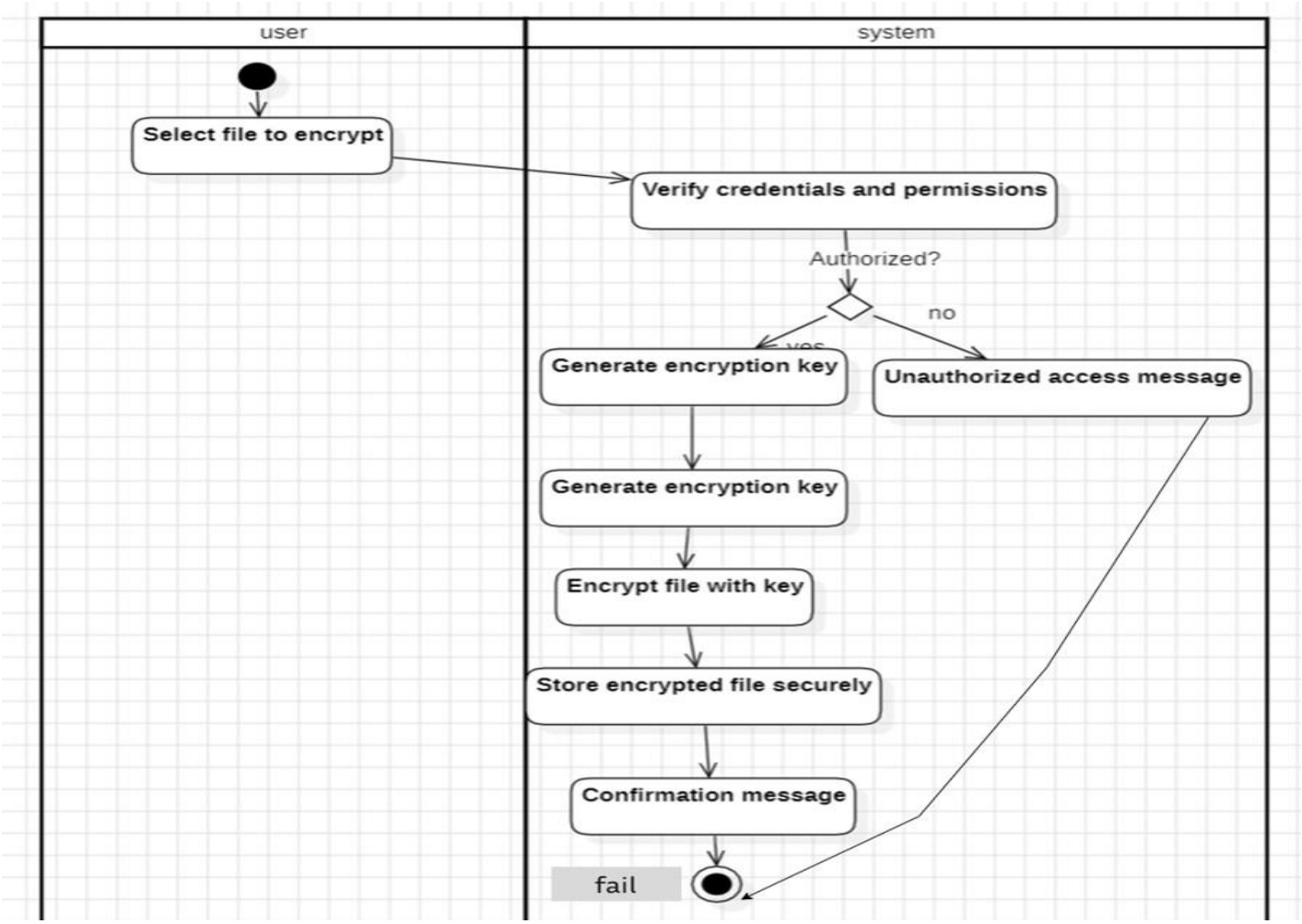
6. **Exception** - File is invalid or corrupted.
7. **\Post-condition** - Send the file for encryption.

6. Download File use Case:



1. **Name:** Download File use case
2. **Summary:** Download the shared file in the room
3. **Actor:** Receiver/Peer
4. **Pre-conditions:** The file had been received and verified by decryption.
5. **Description:**
   - Click on “download” to download the file.
   - Select the destination to download in the peer’s local system.
   - Click on “OK” to start downloading.
   - The downloading actions have start, pause and stop options.
6. **Exception -** File is invalid or corrupted (verification failed).
7. **Post-condition -** The peer can continue being in the room to share and receive files.

7. Encryption use case:



1. **Name**: Encrypt File

2. **Summary:** Prepare the file to be securely encrypted

3. **Actor:** User

4. Preconditions:

1. The user has selected a file to be encrypted.
2. The system is operational.

5. Description

1. The user selects a file to be encrypted.
2. The system verifies the user's credentials and permissions.

3. If authorized, the system generates an encryption key.
4. The system encrypts the selected file using the generated encryption key.
5. The encrypted file is securely stored by the system.
6. The system sends a confirmation message to the user.

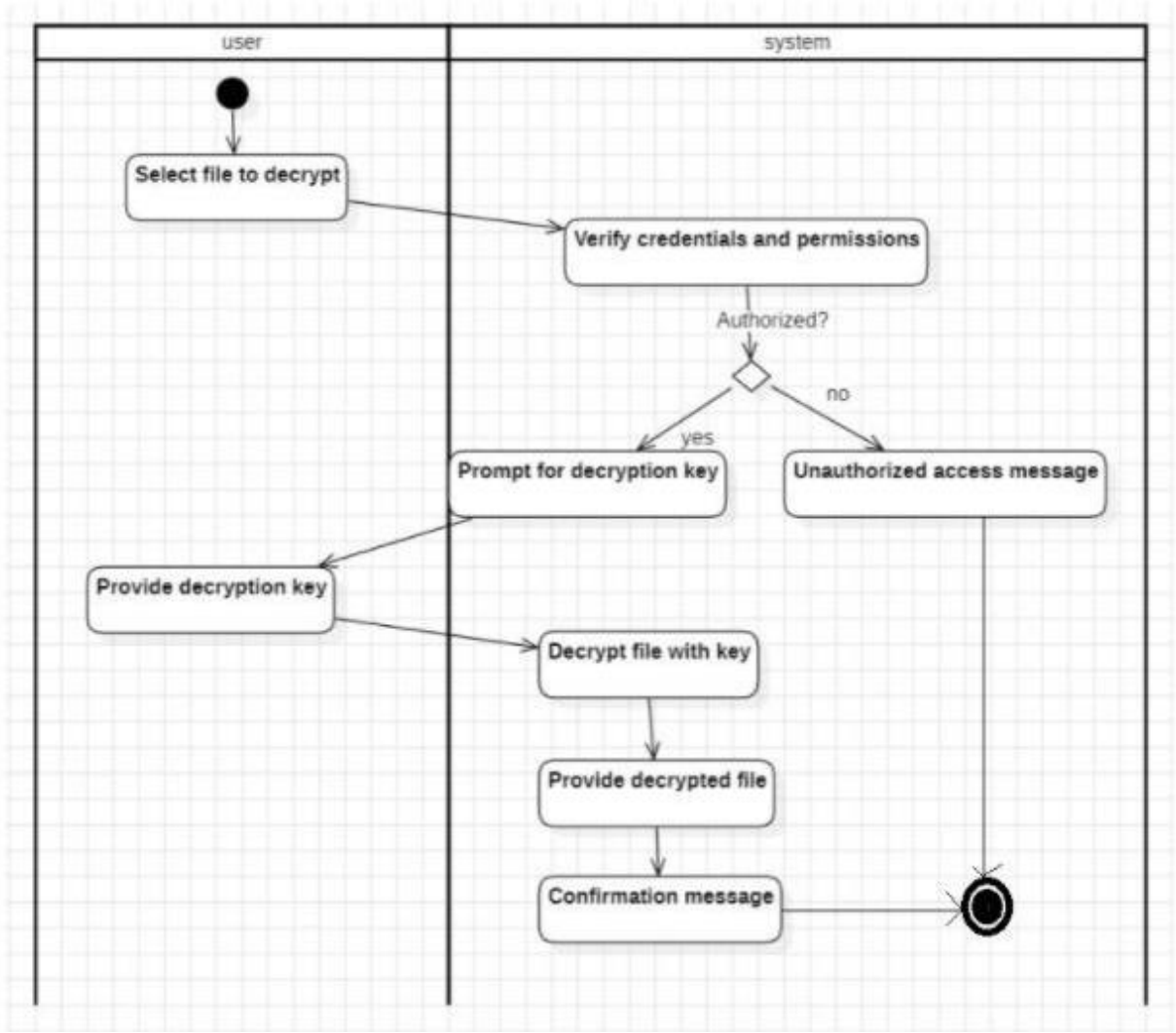
6. Exceptions:

1. If the user is not authorized, an unauthorized access message is sent.
2. If there are errors during the encryption process, appropriate error messages are sent.

7.Post Conditions:

1. The selected file is securely encrypted and stored by the system.
2. The user receives a confirmation message indicating successful encryption.

8.Decryption use case



Name: Decrypt File

1. **Summary:** Decrypt the selected file securely

2. **Actor:** User

3. reconditions:

1. The user has selected a file to be decrypted.
2. The system is operational.

4.Description:

1. The user selects a file to be decrypted.
2. The system verifies the user's credentials and permissions.
3. If authorized, the system prompts the user to provide the decryption key.
4. The user provides the decryption key.
5. The system decrypts the selected file using the provided decryption key.
6. The decrypted file is provided by the system.
7. The system sends a confirmation message to the user.

5.Exceptions:

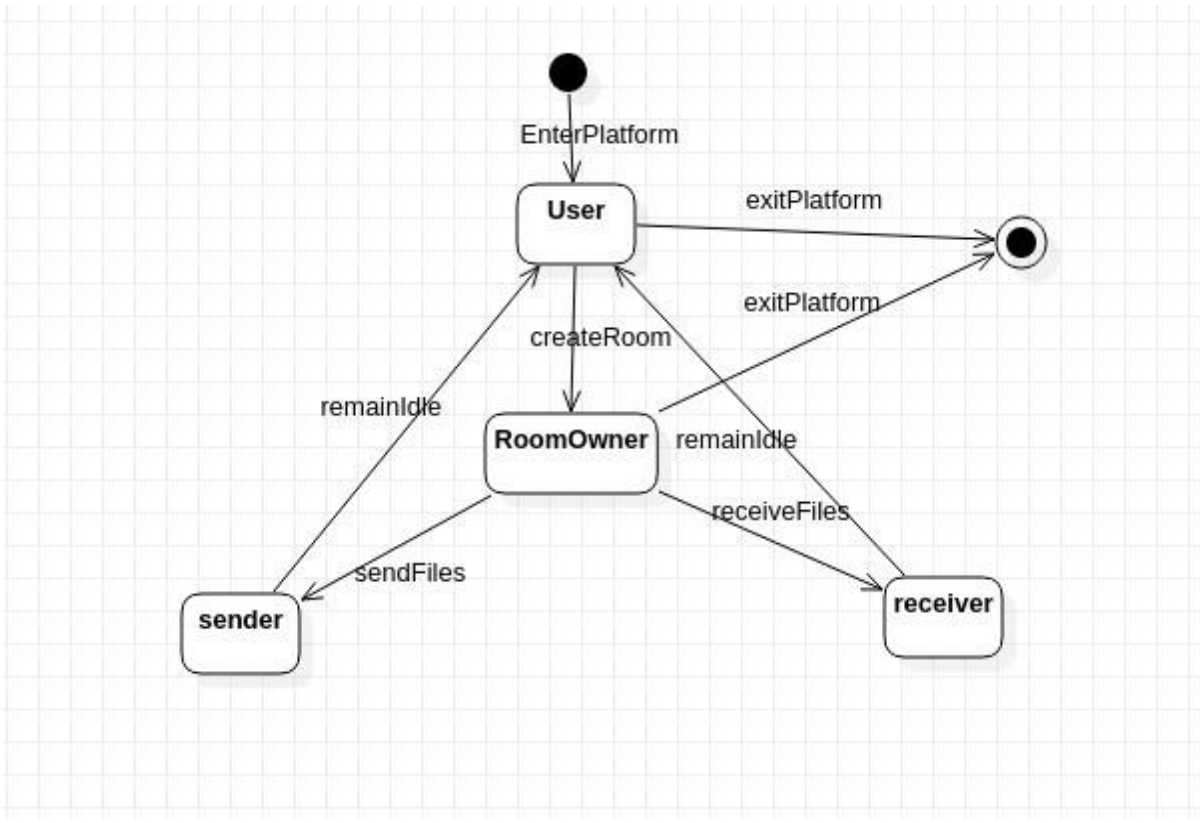
1. If the user is not authorized, an unauthorized access message is sent.
2. If the provided decryption key is incorrect, an error message is sent.
3. If there are errors during the decryption process, appropriate error messages are sent.

6.Post Conditions:

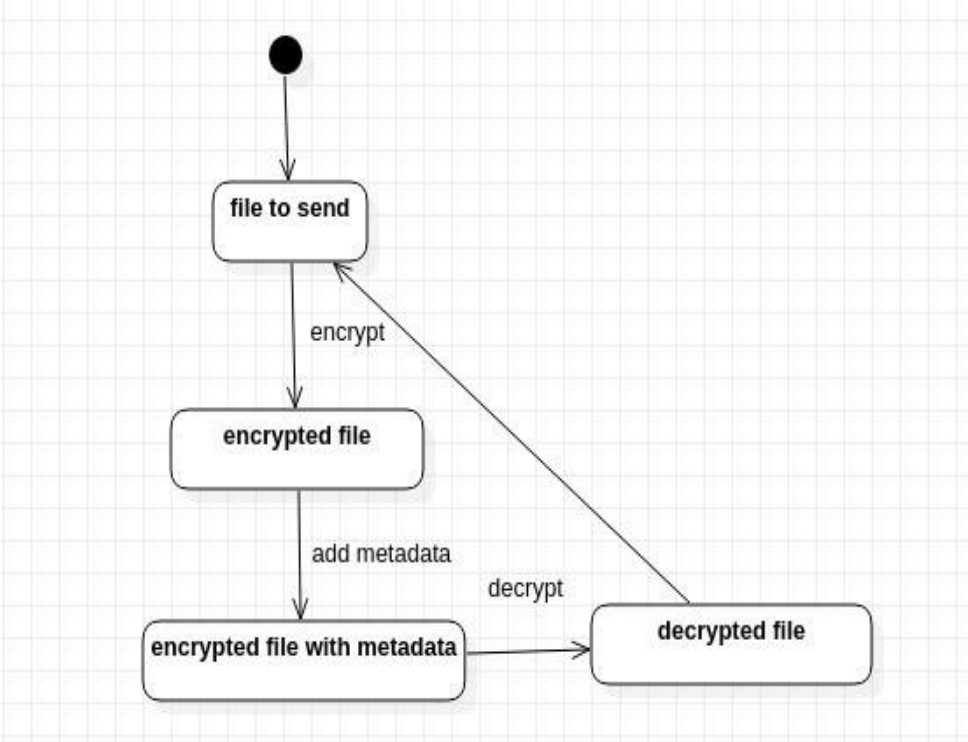
1. The selected file is decrypted and provided to the user by the system.
2. The user receives a confirmation message indicating successful decryption.

State diagram for the classes with temporal behaviour Client Object

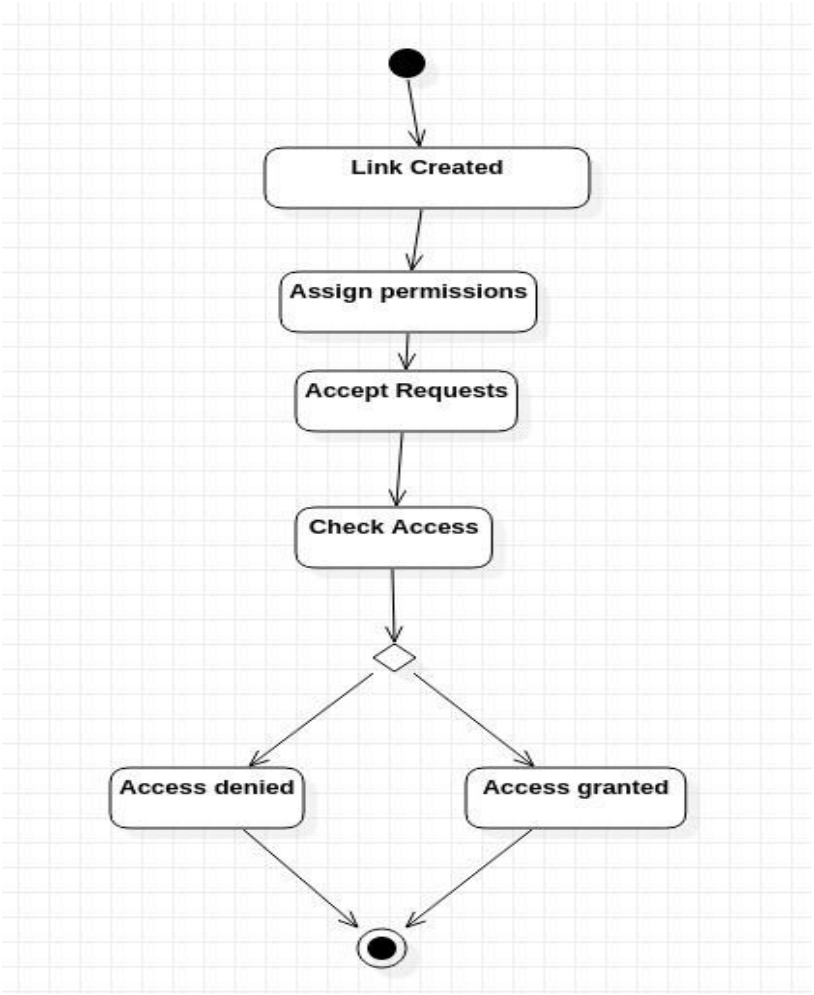
1. **CREATE ROOM**



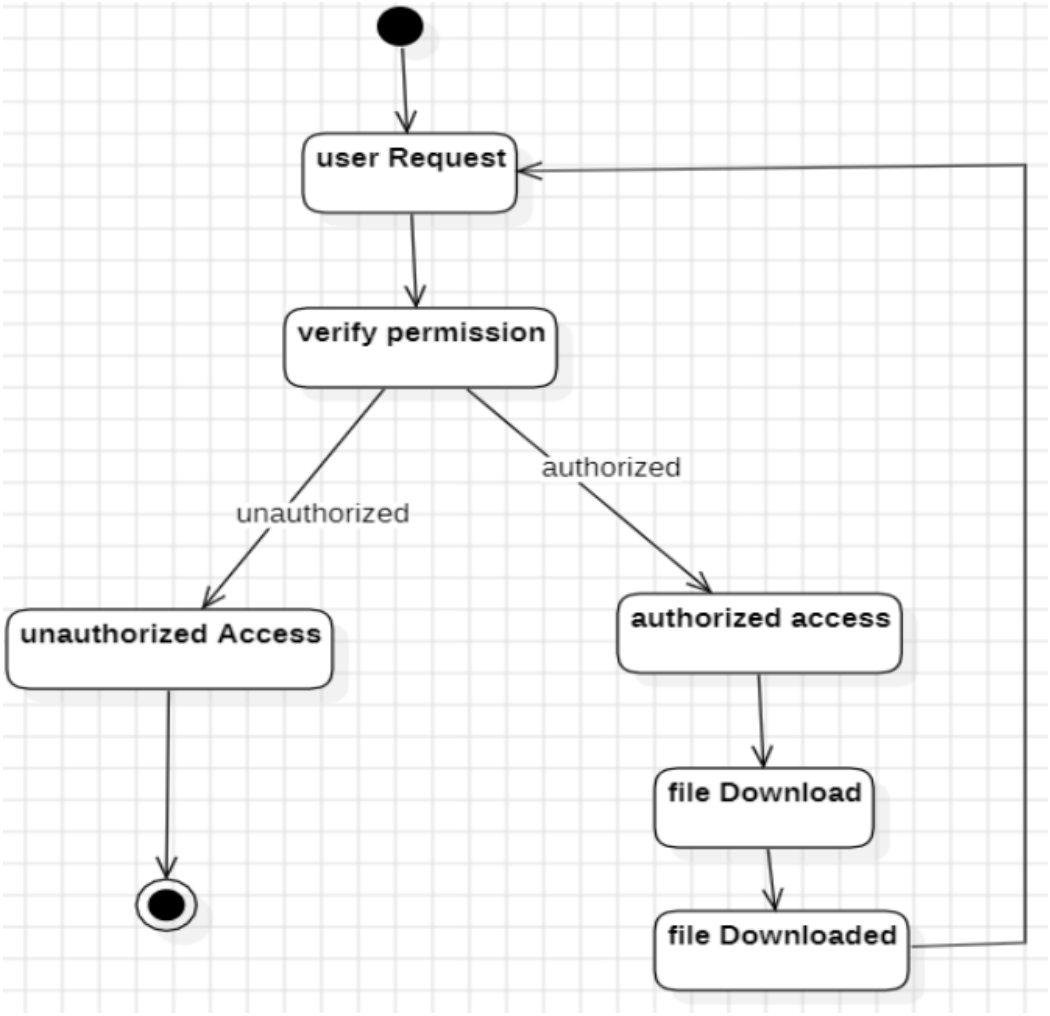
2. **File Object**



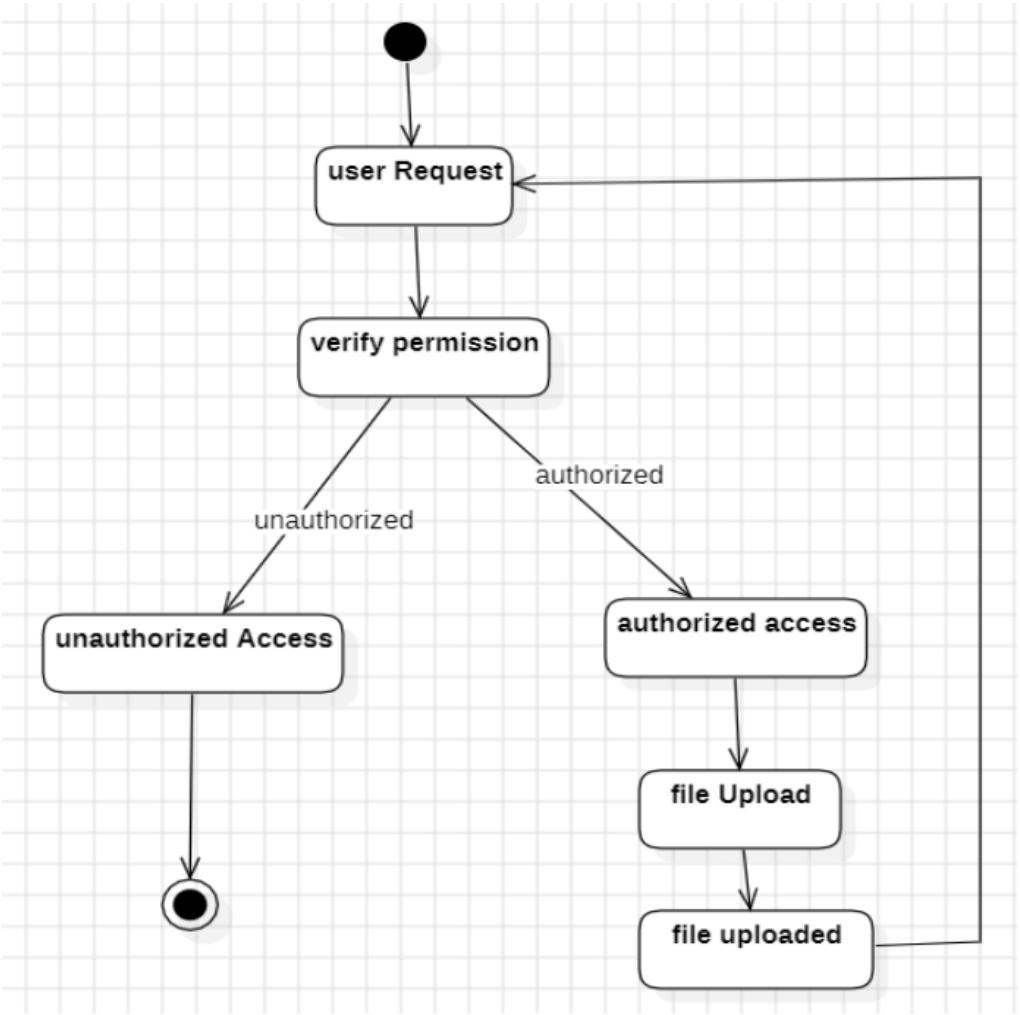
3. Link accessibility



4. File Download state diagram



5. File Upload State Diagram



Tools and Frameworks Used:

1. MVC: model-view-controller

The Model-View-Controller (MVC) framework separates an application into three main logical components Model, View, and Controller.

Three important MVC components are:

- Model - It includes all the data and its related logic
- View - Present data to the user or handles user interaction
- Controller - An interface between Model and View components Using: Spring MVC Framework -

Model - Classes:

- - Client
- - Crypto
- - ReceiveFile
- - SendFile
- - Peer
- - Room

Controller - Classes

- - FileController

Views - HTML files with minimal vanilla javascript.

2. Maven

- Maven is used to handle the dependencies in the java project using POM (project object model).
- It helps in downloading the dependencies, which refers to the libraries or JAR files specific to the versions required in the project.

3. Database - MongoDB

- MongoDB is a NoSQL database that uses JSON-like documents with optional schemas.

- As a document database, MongoDB makes it easy for developers to store structured or unstructured data.
- In this project it is used to store the files. Each peer has a database that stores the file sent to him.

Design Principles and Design Patterns Applied:

1. Design principles: The following SOLID principles were kept in mind while coding the project:

- **S - Single Responsibility Principle (SRP)**
  - All files in the model have only one logical responsibility. Eg: Classes like send File and receive File only take the responsibility of sending and receiving files respectively. Hence encrypting and decrypting is delegated to another class called Crypto.
- **O - Open-Closed Principle (OCP)**
  - Class peer inherits the properties of client class by extending its properties.
  - Class Custom Multipart File implements Multipart File with additional functionalities.
- **L - The Liskov Substitution Principle (LSP)**
  - A client object can be replaced with a peer object without any flaws.
- **I - Interface Segregation Principle (ISP)**
  - There are no interfaces or classes with functionality which overburden them or ones which are not used by the client.
- **D - Dependency Inversion Principle (DIP)**
  - There is no high-level class that directly depends on classes at lower levels

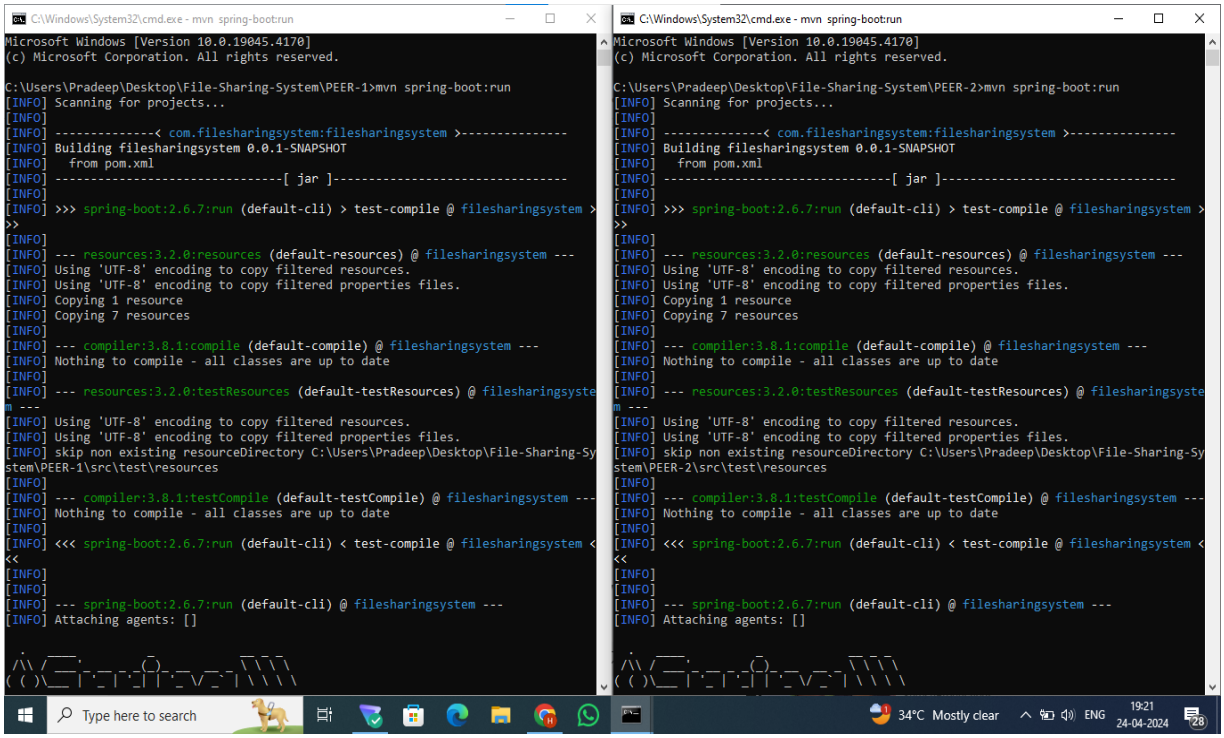
Design Patterns:

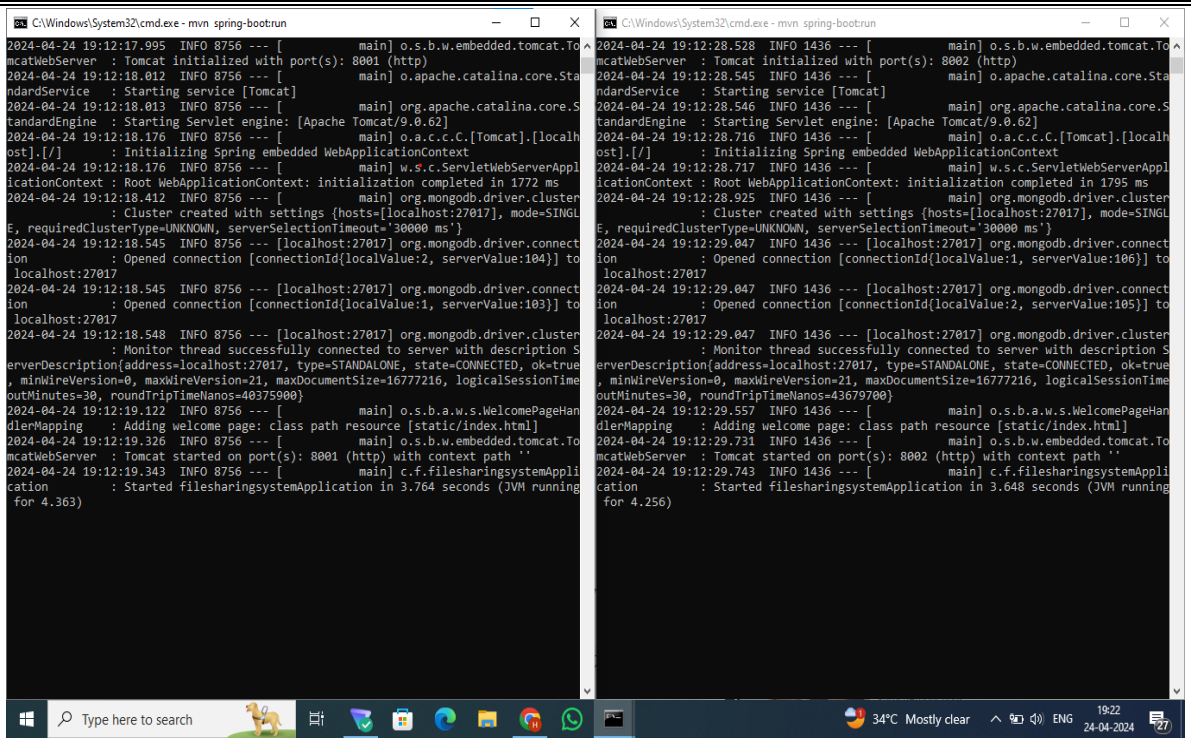
- **Singleton** - classes that use singleton:
    a. SendFile
    b. ReceiveFile
- **Factory** -
    a. UserFactory that creates:
    b. Peer
    c. Client

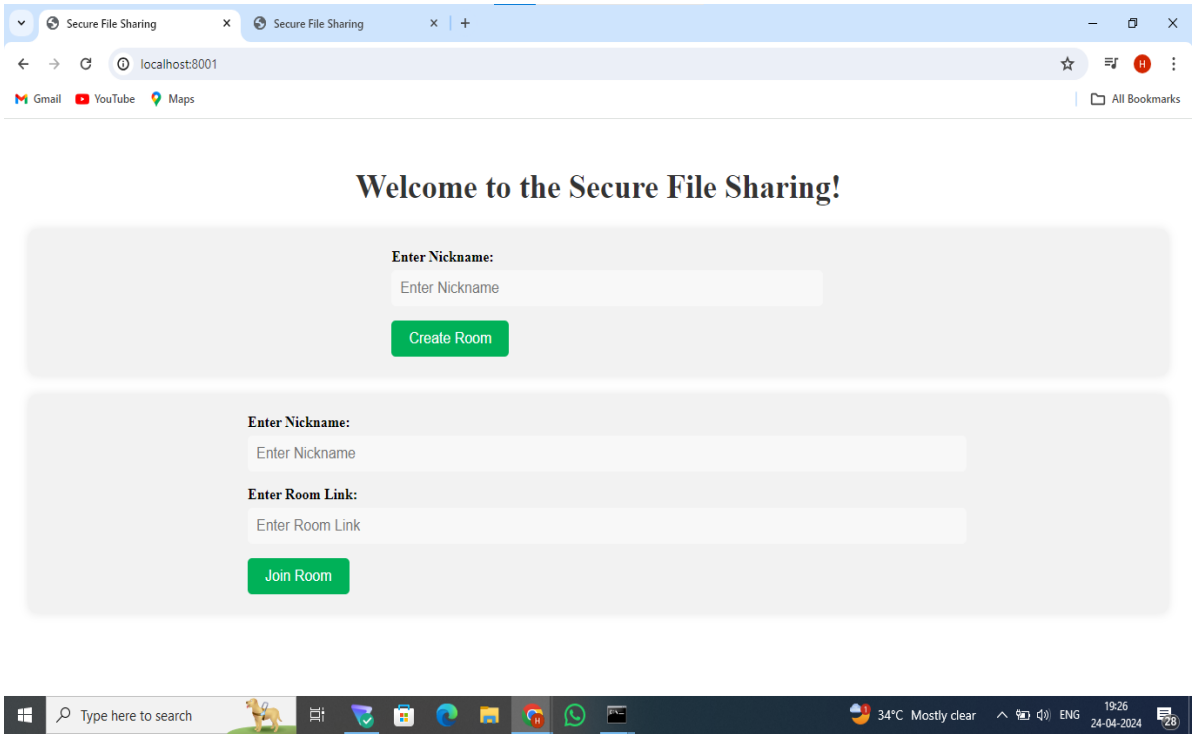
Implementation:

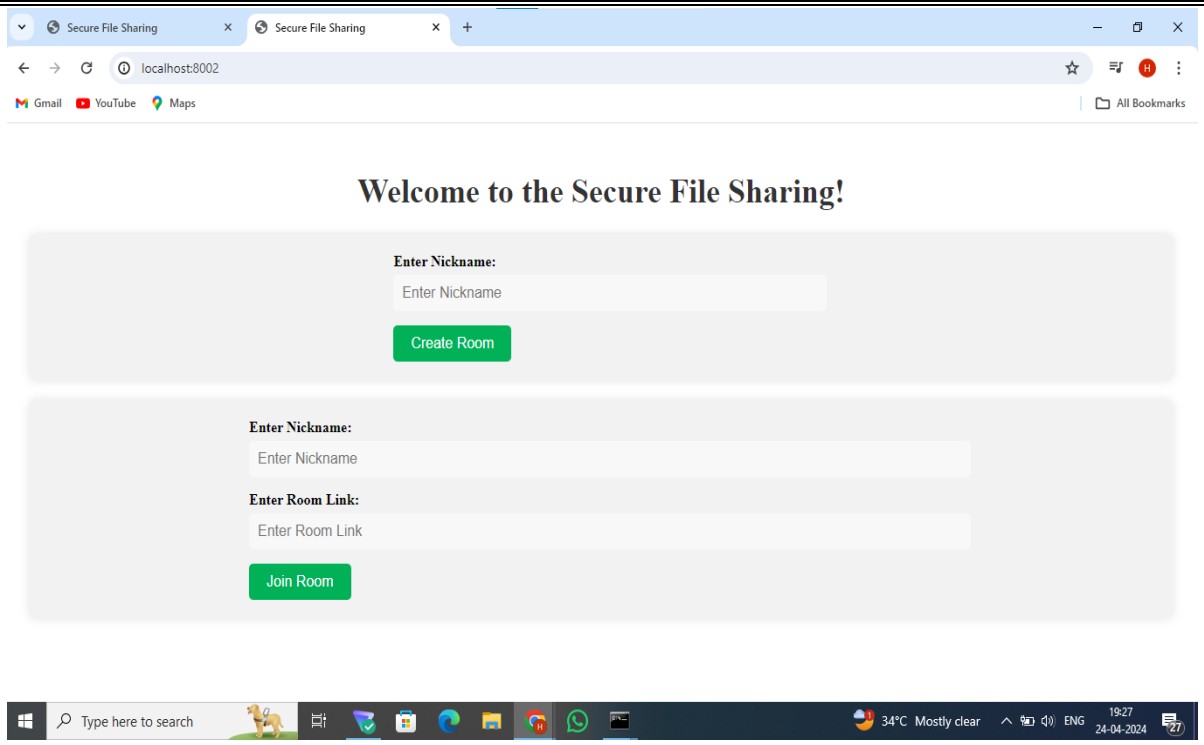
https://github.com/Harshith-reddy-c/Secure-File-Sharing-System

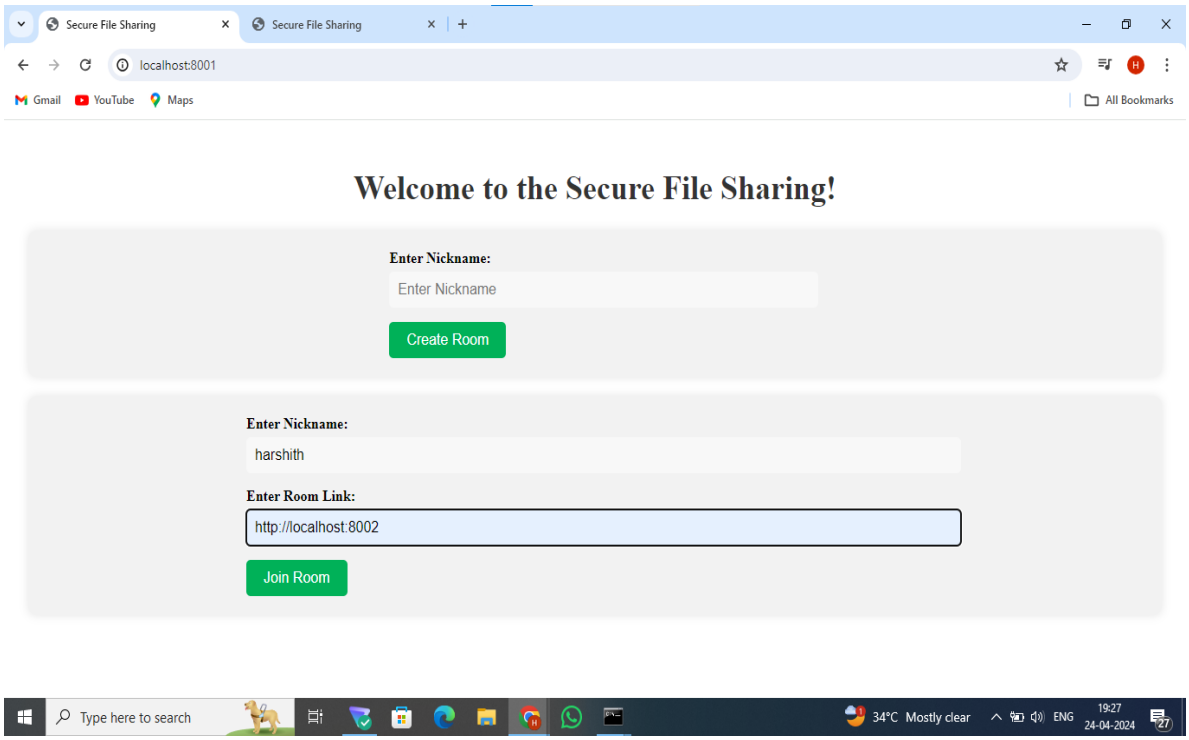
RESULTS SCREENSHOTS:

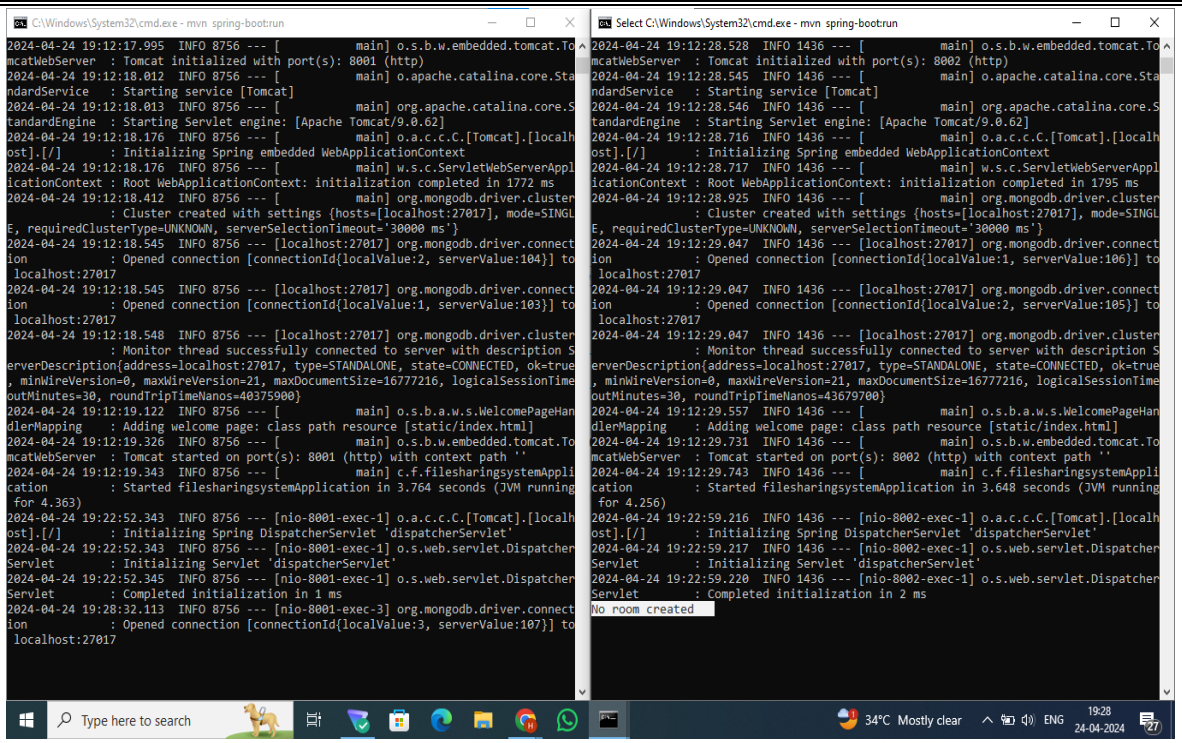


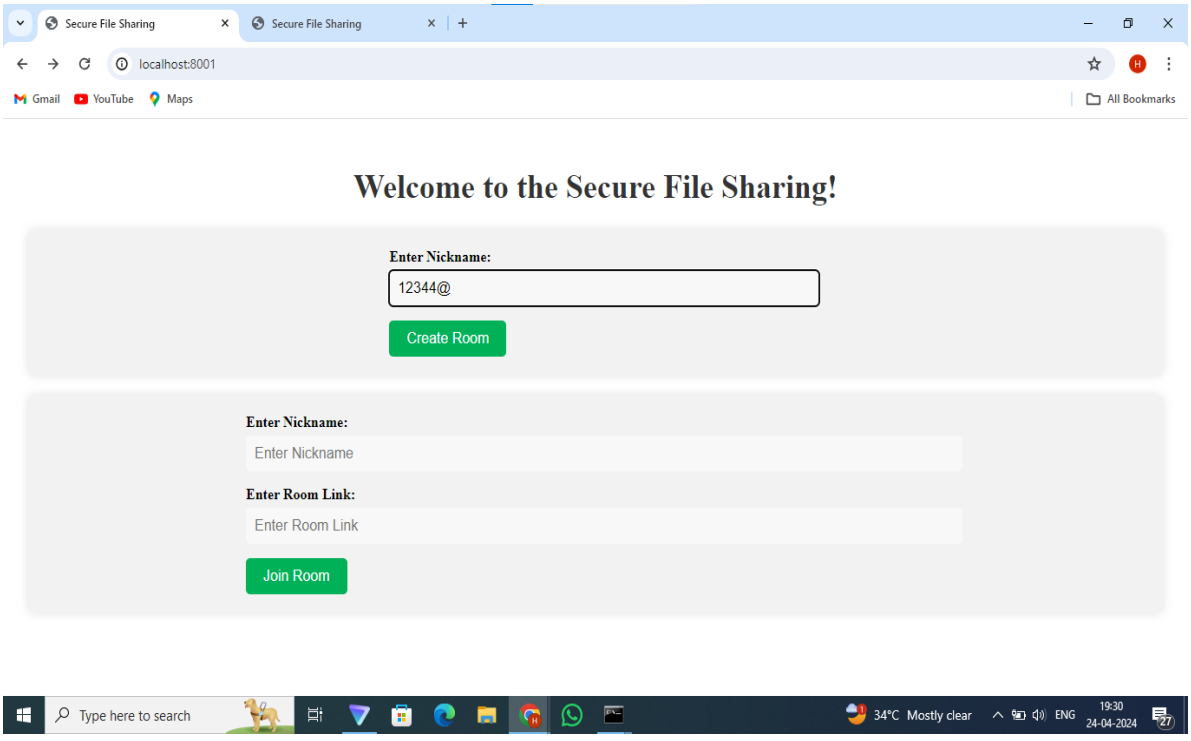

C:\Windows\System32\cmd.exe - mvn spring-boot:run
2024-04-24 19:12:17.995 INFO 8756 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8001 (http)
2024-04-24 19:12:18.012 INFO 8756 --- [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2024-04-24 19:12:18.013 INFO 8756 --- [main] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.62]
2024-04-24 19:12:18.176 INFO 8756 --- [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2024-04-24 19:12:18.176 INFO 8756 --- [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1772 ms
2024-04-24 19:12:18.412 INFO 8756 --- [main] org.mongodb.driver.cluster : Cluster created with settings {hosts=[localhost:27017], mode=SINGLE, requiredClusterType=UNKNOWN, serverSelectionTimeout='30000 ms'}
2024-04-24 19:12:18.545 INFO 8756 --- [localhost:27017] org.mongodb.driver.connection : Opened connection [connectionId{localValue:2, serverValue:104}] to localhost:27017
2024-04-24 19:12:18.545 INFO 8756 --- [localhost:27017] org.mongodb.driver.connection : Opened connection [connectionId{localValue:1, serverValue:103}] to localhost:27017
2024-04-24 19:12:18.548 INFO 8756 --- [localhost:27017] org.mongodb.driver.cluster : Monitor thread successfully connected to server with description ServerDescription{address=localhost:27017, type=STANDALONE, state=CONNECTED, ok=true, minWireVersion=0, maxWireVersion=21, maxDocumentSize=16777216, logicalSessionTimeoutMinutes=30, roundTripTimeNanos=40375900}
2024-04-24 19:12:19.122 INFO 8756 --- [main] o.s.b.a.w.s.WelcomePageHandlerMapping : Adding welcome page: class path resource [static/index.html]
2024-04-24 19:12:19.326 INFO 8756 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8001 (http) with context path ''
2024-04-24 19:12:19.343 INFO 8756 --- [main] c.f.filesharingsystemApplication : Started filesharingsystemApplication in 3.764 seconds (JVM running for 4.363)
C:\Windows\System32\cmd.exe - mvn spring-boot:run
2024-04-24 19:12:28.528 INFO 1436 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8002 (http)
2024-04-24 19:12:28.545 INFO 1436 --- [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2024-04-24 19:12:28.546 INFO 1436 --- [main] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.62]
2024-04-24 19:12:28.716 INFO 1436 --- [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2024-04-24 19:12:28.717 INFO 1436 --- [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1795 ms
2024-04-24 19:12:28.925 INFO 1436 --- [main] org.mongodb.driver.cluster : Cluster created with settings {hosts=[localhost:27017], mode=SINGLE, requiredClusterType=UNKNOWN, serverSelectionTimeout='30000 ms'}
2024-04-24 19:12:29.047 INFO 1436 --- [localhost:27017] org.mongodb.driver.connection : Opened connection [connectionId{localValue:1, serverValue:106}] to localhost:27017
2024-04-24 19:12:29.047 INFO 1436 --- [localhost:27017] org.mongodb.driver.connection : Opened connection [connectionId{localValue:2, serverValue:105}] to localhost:27017
2024-04-24 19:12:29.047 INFO 1436 --- [localhost:27017] org.mongodb.driver.cluster : Monitor thread successfully connected to server with description ServerDescription{address=localhost:27017, type=STANDALONE, state=CONNECTED, ok=true, minWireVersion=0, maxWireVersion=21, maxDocumentSize=16777216, logicalSessionTimeoutMinutes=30, roundTripTimeNanos=43679700}
2024-04-24 19:12:29.557 INFO 1436 --- [main] o.s.b.a.w.s.WelcomePageHandlerMapping : Adding welcome page: class path resource [static/index.html]
2024-04-24 19:12:29.731 INFO 1436 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8002 (http) with context path ''
2024-04-24 19:12:29.743 INFO 1436 --- [main] c.f.filesharingsystemApplication : Started filesharingsystemApplication in 3.648 seconds (JVM running for 4.256)
Type here to search
34°C Mostly clear
ENG
19:22
24-04-2024

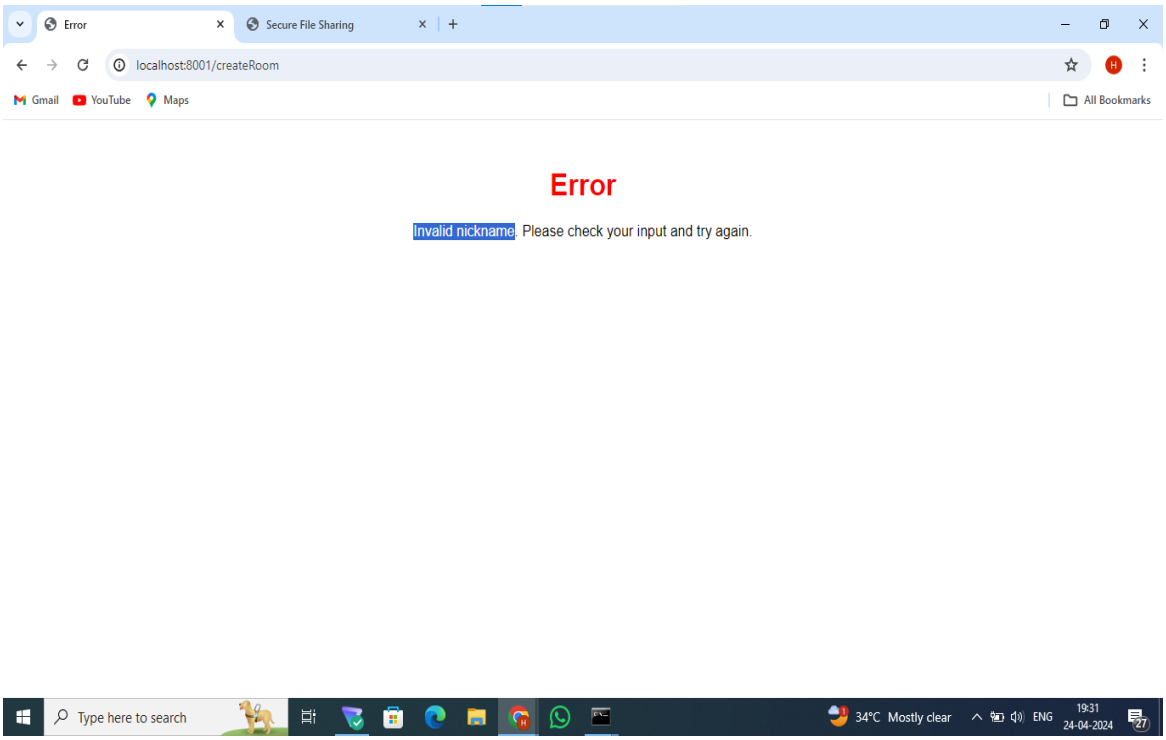

Secure File Sharing
Secure File Sharing
localhost:8001
Gmail
YouTube
Maps
All Bookmarks
Welcome to the Secure File Sharing!
Enter Nickname:
Enter Nickname
Create Room
Enter Nickname:
Enter Nickname
Enter Room Link:
Enter Room Link
Join Room
Type here to search
34°C Mostly clear
ENG
19:26
24-04-2024

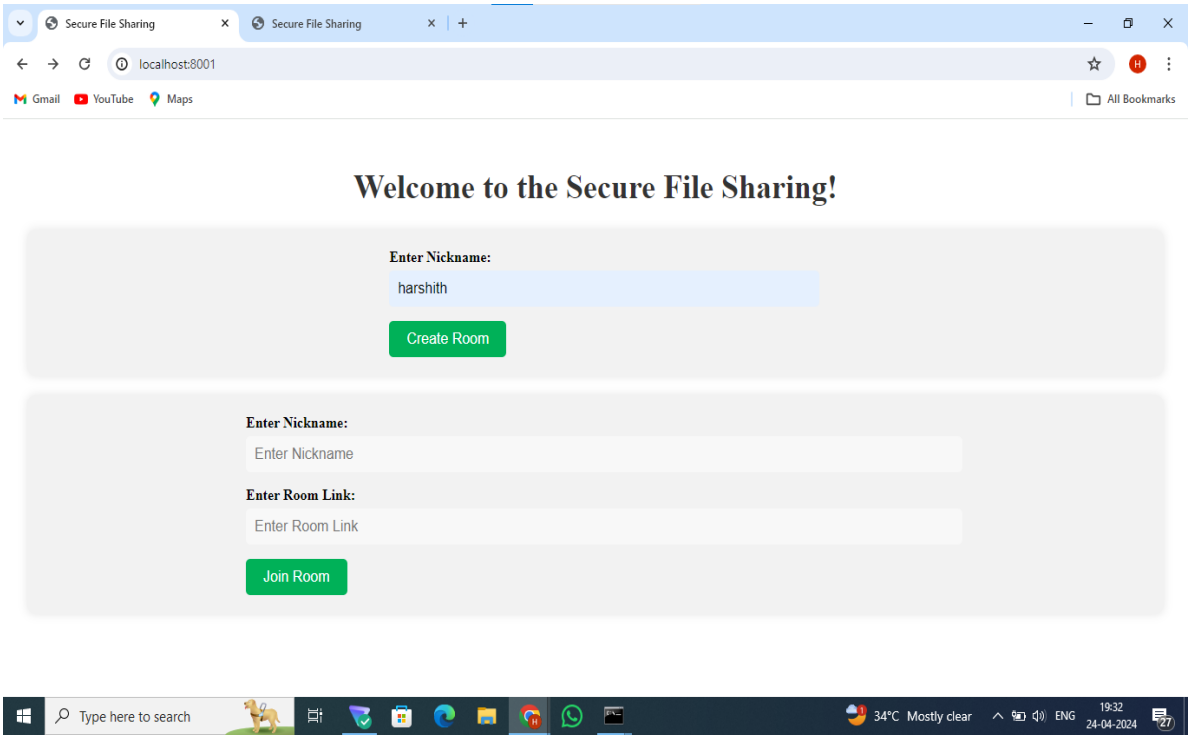

Secure File Sharing
Secure File Sharing
localhost:8002
Gmail
YouTube
Maps
All Bookmarks
Welcome to the Secure File Sharing!
Enter Nickname:
Enter Nickname
Create Room
Enter Nickname:
Enter Nickname
Enter Room Link:
Enter Room Link
Join Room
Type here to search
34°C Mostly clear
ENG
19:27
24-04-2024

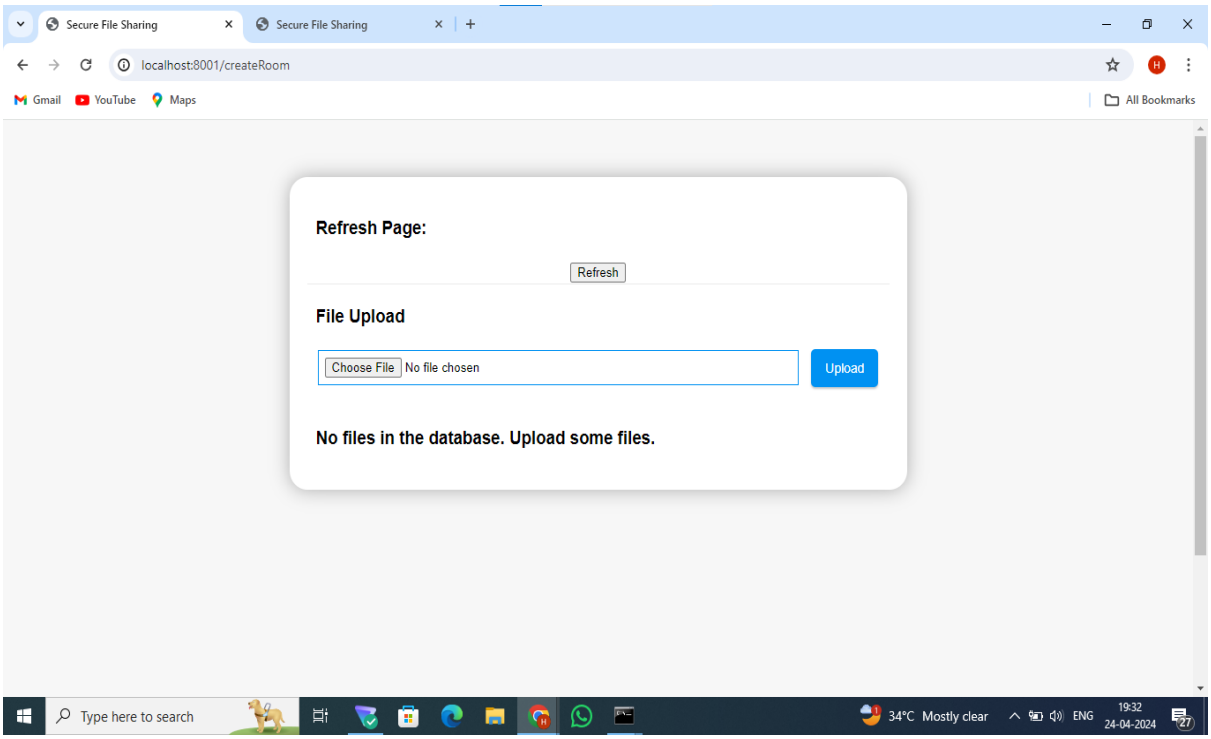

Secure File Sharing
Secure File Sharing
localhost:8001
Gmail
YouTube
Maps
All Bookmarks
Welcome to the Secure File Sharing!
Enter Nickname:
Enter Nickname
Create Room
Enter Nickname:
harshith
Enter Room Link:
http://localhost:8002
Join Room
Type here to search
34°C Mostly clear
ENG
19:27
24-04-2024

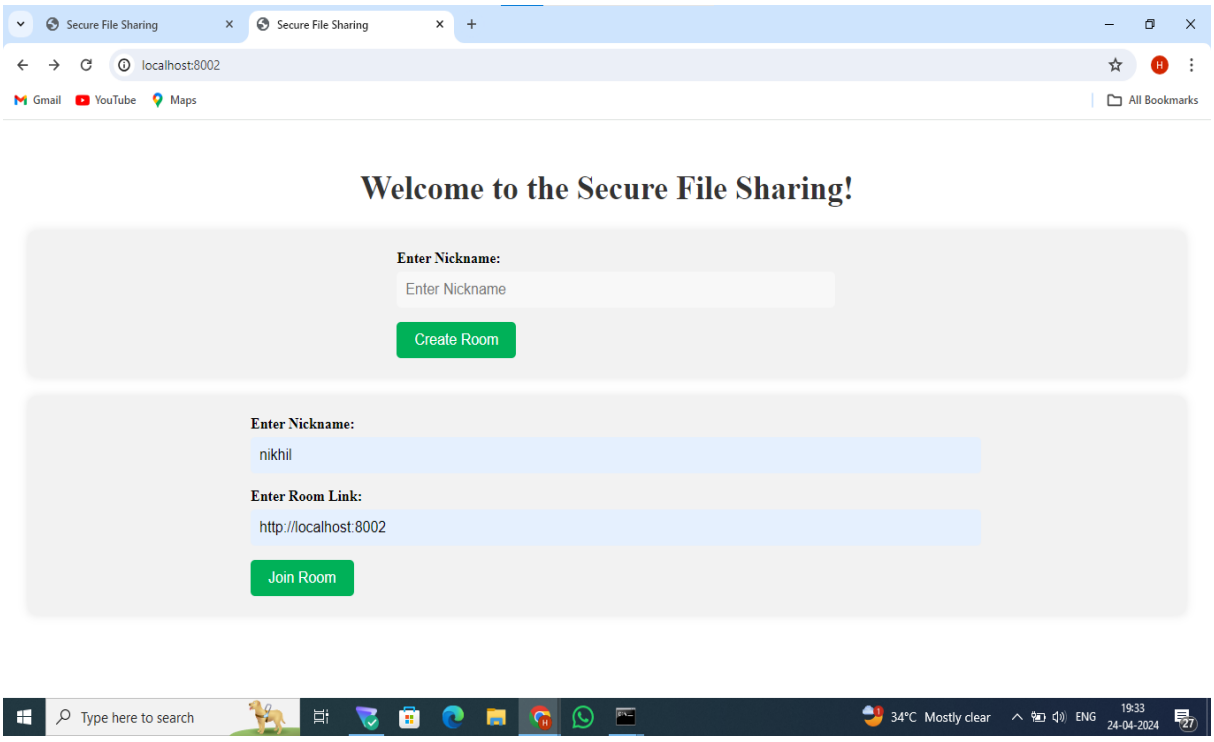

C:\Windows\System32\cmd.exe - mvn spring-boot:run
2024-04-24 19:12:17.995 INFO 8756 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8001 (http)
2024-04-24 19:12:18.012 INFO 8756 --- [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2024-04-24 19:12:18.013 INFO 8756 --- [main] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.62]
2024-04-24 19:12:18.176 INFO 8756 --- [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2024-04-24 19:12:18.176 INFO 8756 --- [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1772 ms
2024-04-24 19:12:18.412 INFO 8756 --- [main] org.mongodb.driver.cluster : Cluster created with settings {hosts=[localhost:27017], mode=SINGLE, requiredClusterType=UNKNOWN, serverSelectionTimeout='30000 ms'}
2024-04-24 19:12:18.545 INFO 8756 --- [localhost:27017] org.mongodb.driver.connection : Opened connection [connectionId{localValue:2, serverValue:104}] to localhost:27017
2024-04-24 19:12:18.545 INFO 8756 --- [localhost:27017] org.mongodb.driver.connection : Opened connection [connectionId{localValue:1, serverValue:103}] to localhost:27017
2024-04-24 19:12:18.548 INFO 8756 --- [localhost:27017] org.mongodb.driver.cluster : Monitor thread successfully connected to server with description ServerDescription{address=localhost:27017, type=STANDALONE, state=CONNECTED, ok=true, minWireVersion=0, maxWireVersion=21, maxDocumentSize=16777216, logicalSessionTimeoutMinutes=30, roundTripTimeNanos=40375900}
2024-04-24 19:12:19.122 INFO 8756 --- [main] o.s.b.a.w.s.WelcomePageHandlerMapping : Adding welcome page: class path resource [static/index.html]
2024-04-24 19:12:19.326 INFO 8756 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8001 (http) with context path ''
2024-04-24 19:12:19.343 INFO 8756 --- [main] c.f.filesharingsystemApplication : Started filesharingsystemApplication in 3.764 seconds (JVM running for 4.363)
2024-04-24 19:22:52.343 INFO 8756 --- [nio-8001-exec-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring DispatcherServlet 'dispatcherServlet'
2024-04-24 19:22:52.343 INFO 8756 --- [nio-8001-exec-1] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'
2024-04-24 19:22:52.345 INFO 8756 --- [nio-8001-exec-1] o.s.web.servlet.DispatcherServlet : Completed initialization in 1 ms
2024-04-24 19:28:32.113 INFO 8756 --- [nio-8001-exec-3] org.mongodb.driver.connection : Opened connection [connectionId{localValue:3, serverValue:107}] to localhost:27017
Select C:\Windows\System32\cmd.exe - mvn spring-boot:run
2024-04-24 19:12:28.528 INFO 1436 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8002 (http)
2024-04-24 19:12:28.545 INFO 1436 --- [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2024-04-24 19:12:28.546 INFO 1436 --- [main] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.62]
2024-04-24 19:12:28.716 INFO 1436 --- [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2024-04-24 19:12:28.717 INFO 1436 --- [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1795 ms
2024-04-24 19:12:28.925 INFO 1436 --- [main] org.mongodb.driver.cluster : Cluster created with settings {hosts=[localhost:27017], mode=SINGLE, requiredClusterType=UNKNOWN, serverSelectionTimeout='30000 ms'}
2024-04-24 19:12:29.047 INFO 1436 --- [localhost:27017] org.mongodb.driver.connection : Opened connection [connectionId{localValue:1, serverValue:106}] to localhost:27017
2024-04-24 19:12:29.047 INFO 1436 --- [localhost:27017] org.mongodb.driver.connection : Opened connection [connectionId{localValue:2, serverValue:105}] to localhost:27017
2024-04-24 19:12:29.047 INFO 1436 --- [localhost:27017] org.mongodb.driver.cluster : Monitor thread successfully connected to server with description ServerDescription{address=localhost:27017, type=STANDALONE, state=CONNECTED, ok=true, minWireVersion=0, maxWireVersion=21, maxDocumentSize=16777216, logicalSessionTimeoutMinutes=30, roundTripTimeNanos=43679700}
2024-04-24 19:12:29.557 INFO 1436 --- [main] o.s.b.a.w.s.WelcomePageHandlerMapping : Adding welcome page: class path resource [static/index.html]
2024-04-24 19:12:29.731 INFO 1436 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8002 (http) with context path ''
2024-04-24 19:12:29.743 INFO 1436 --- [main] c.f.filesharingsystemApplication : Started filesharingsystemApplication in 3.648 seconds (JVM running for 4.256)
2024-04-24 19:22:59.216 INFO 1436 --- [nio-8002-exec-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring DispatcherServlet 'dispatcherServlet'
2024-04-24 19:22:59.217 INFO 1436 --- [nio-8002-exec-1] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'
2024-04-24 19:22:59.220 INFO 1436 --- [nio-8002-exec-1] o.s.web.servlet.DispatcherServlet : Completed initialization in 2 ms
No room created
Type here to search
34°C Mostly clear
ENG
19:28
24-04-2024

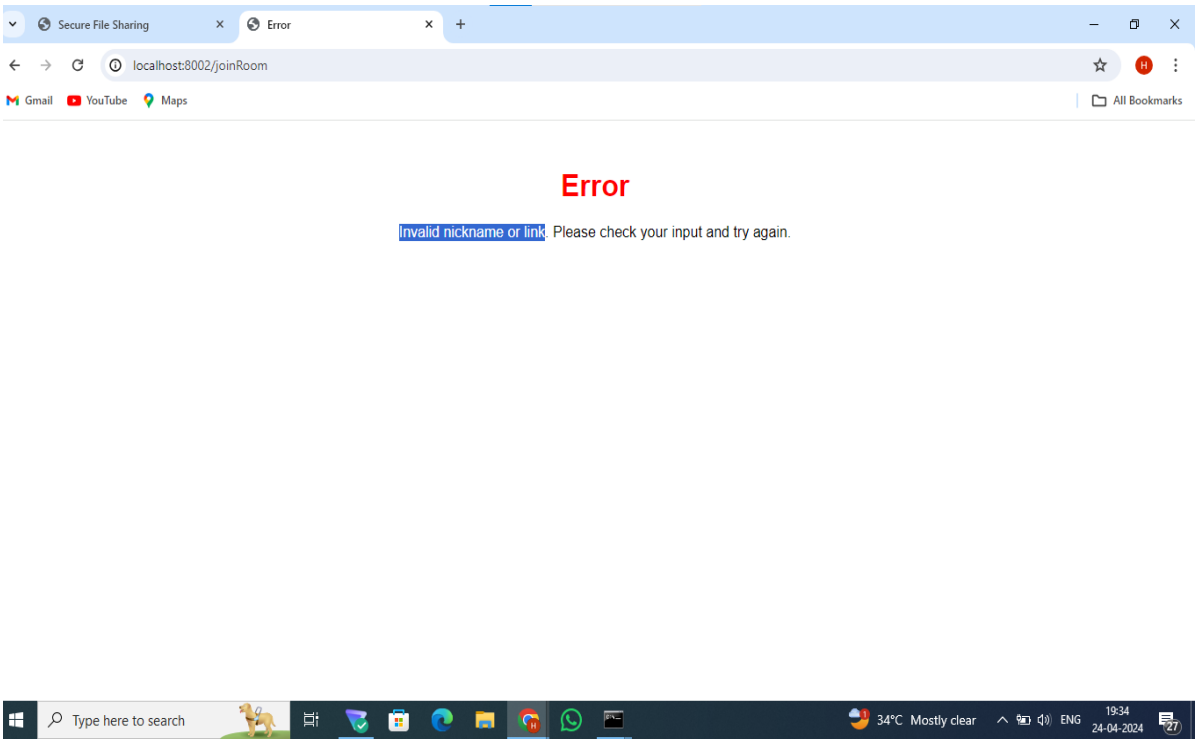

Secure File Sharing
Secure File Sharing
localhost:8001
Gmail
YouTube
Maps
All Bookmarks
Welcome to the Secure File Sharing!
Enter Nickname:
12344@
Create Room
Enter Nickname:
Enter Nickname
Enter Room Link:
Enter Room Link
Join Room
Type here to search
34°C Mostly clear
ENG
19:30
24-04-2024

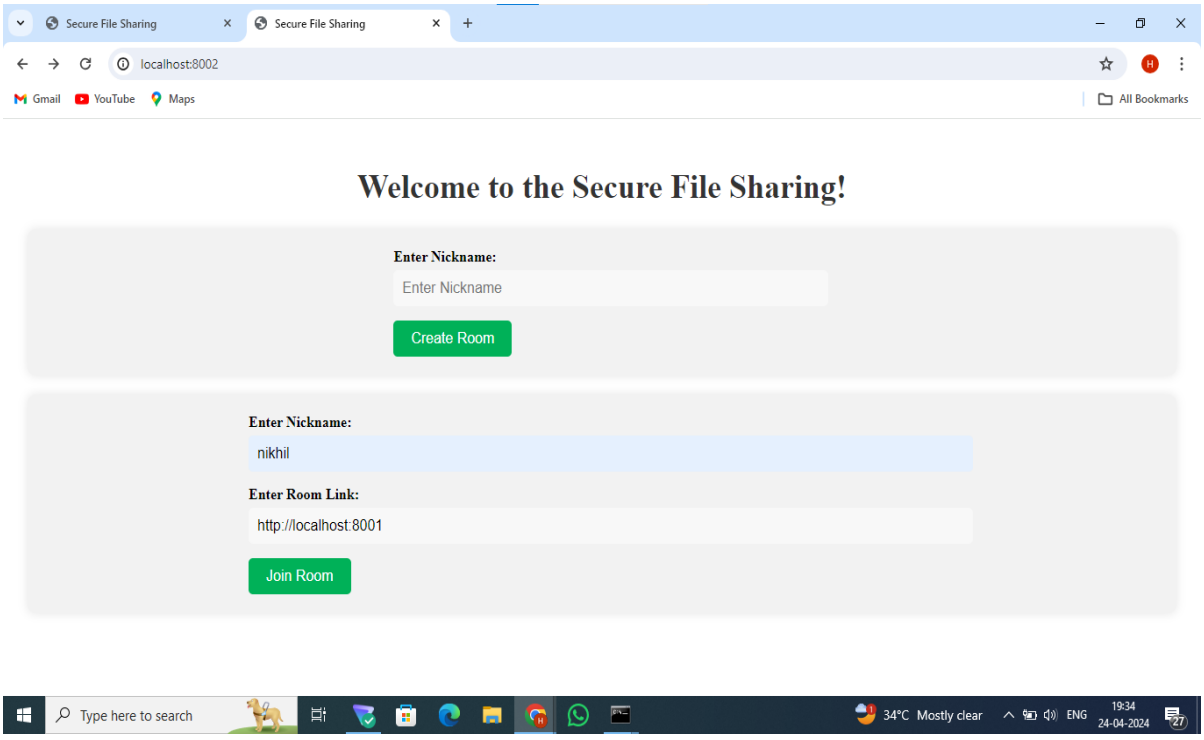

Error
Secure File Sharing
localhost:8001/createRoom
Gmail
YouTube
Maps
All Bookmarks
Error
Invalid nickname. Please check your input and try again.
Type here to search
34°C Mostly clear
ENG
19:31
24-04-2024

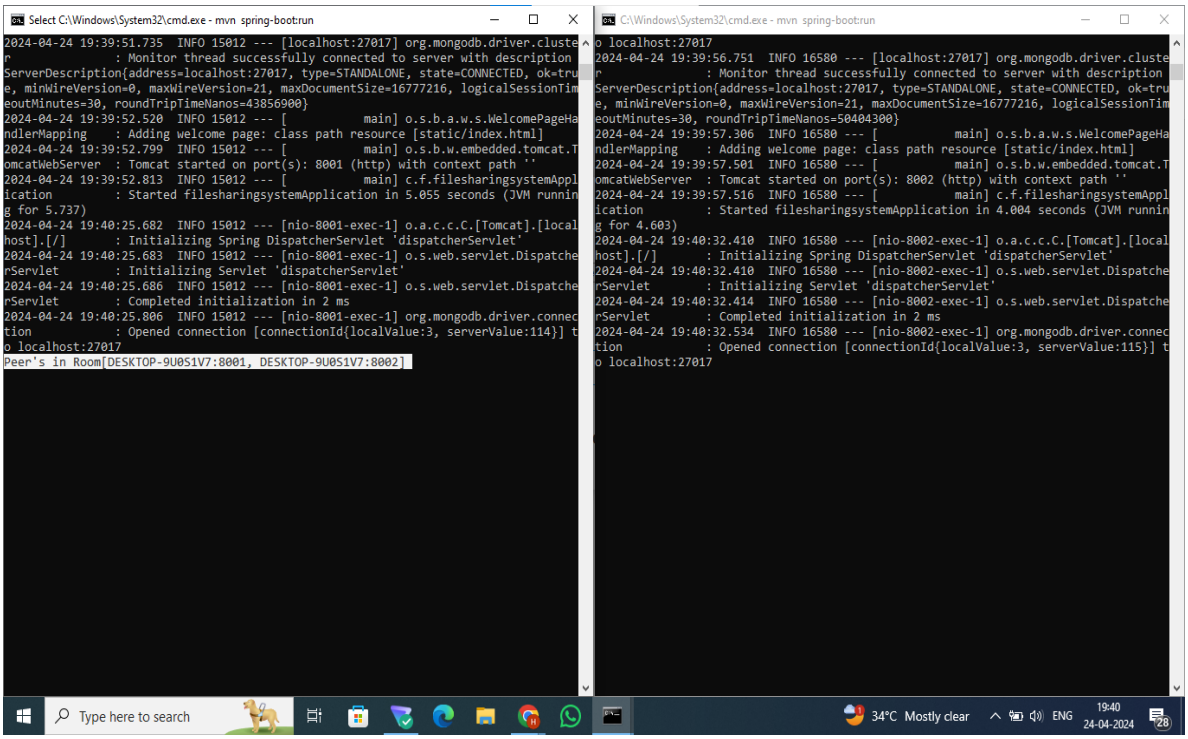

Secure File Sharing
Secure File Sharing
localhost:8001
Gmail
YouTube
Maps
All Bookmarks
Welcome to the Secure File Sharing!
Enter Nickname:
harshith
Create Room
Enter Nickname:
Enter Nickname
Enter Room Link:
Enter Room Link
Join Room
Type here to search
34°C Mostly clear
ENG
19:32
24-04-2024

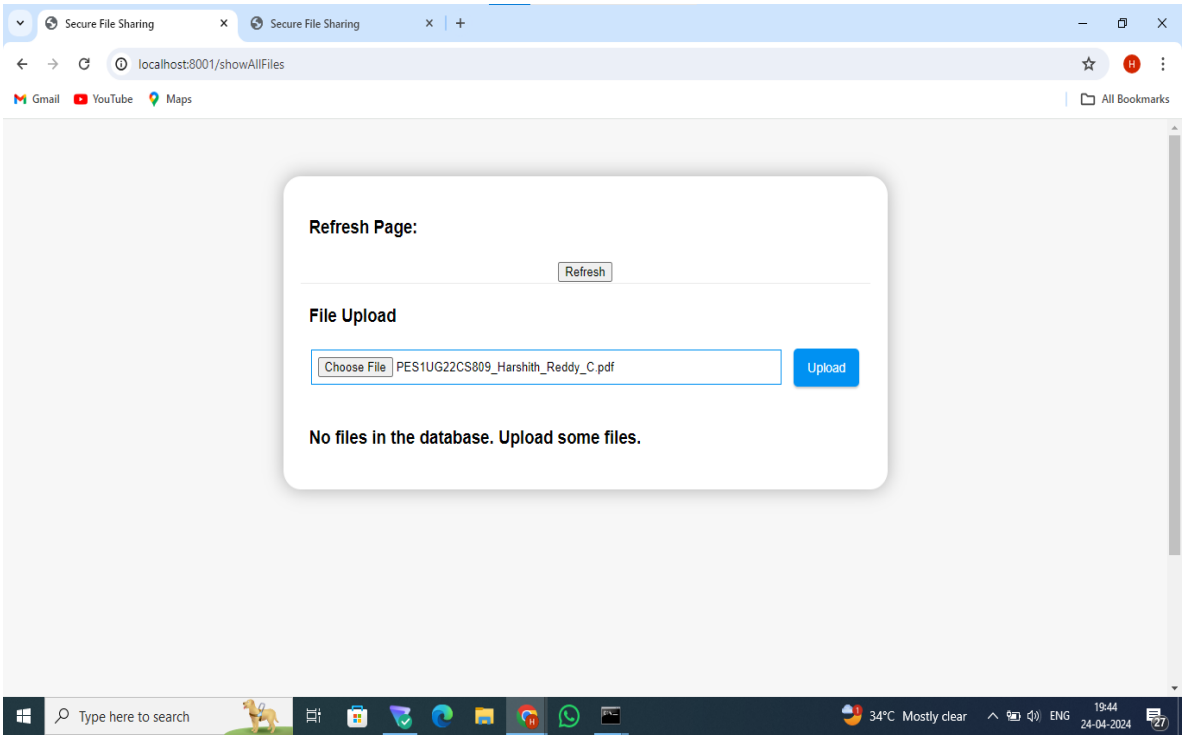

Secure File Sharing
Secure File Sharing
localhost:8001/createRoom
Gmail
YouTube
Maps
All Bookmarks
Refresh Page:
Refresh
File Upload
Choose File
No file chosen
Upload
No files in the database. Upload some files.
Type here to search
34°C Mostly clear
ENG
19:32
24-04-2024

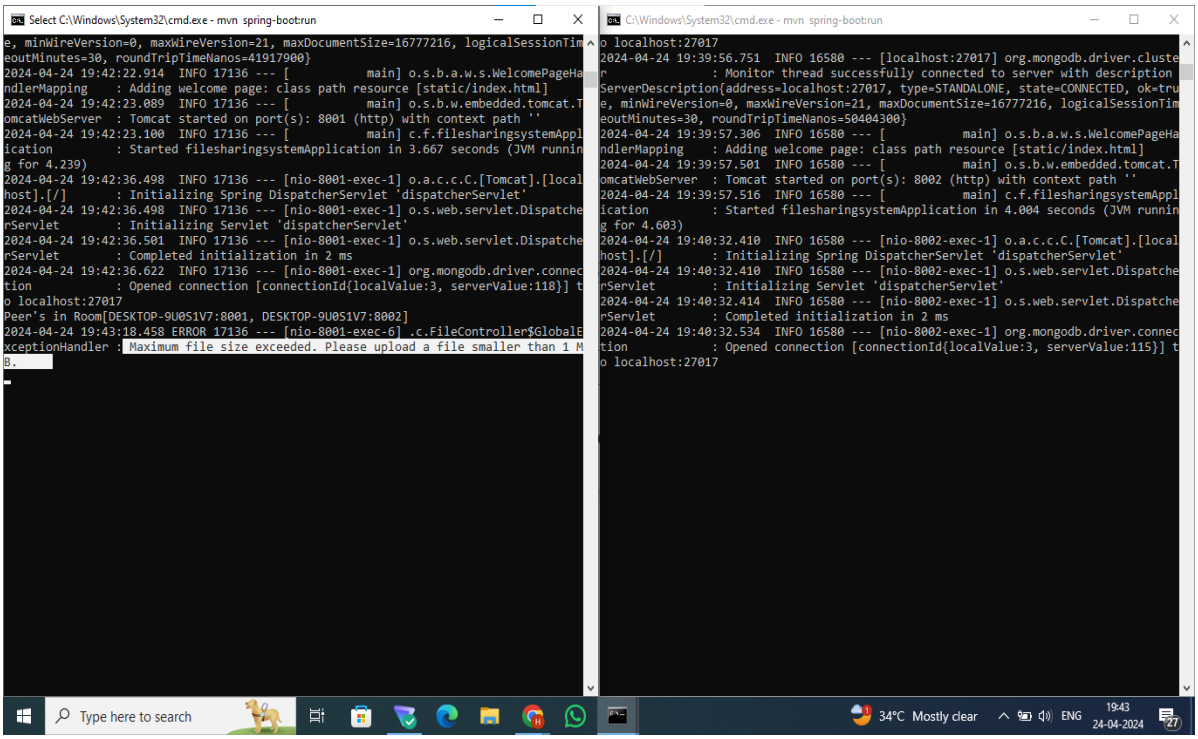

Secure File Sharing
Secure File Sharing
localhost:8002
Gmail
YouTube
Maps
All Bookmarks
Welcome to the Secure File Sharing!
Enter Nickname:
Enter Nickname
Create Room
Enter Nickname:
nikhil
Enter Room Link:
http://localhost:8002
Join Room
Type here to search
34°C Mostly clear
ENG
19:33
24-04-2024

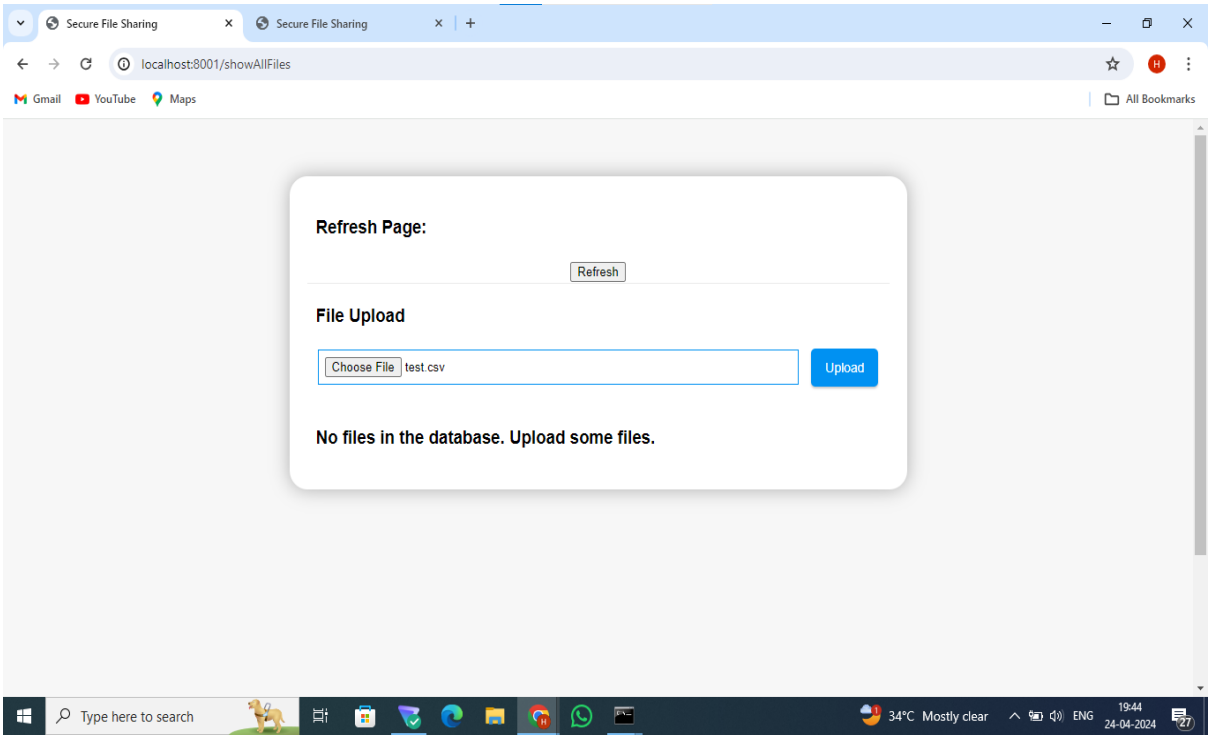

Secure File Sharing
Error
localhost:8002/joinRoom
Gmail
YouTube
Maps
All Bookmarks
Error
Invalid nickname or link. Please check your input and try again.
Type here to search
34°C Mostly clear
ENG
19:34
24-04-2024

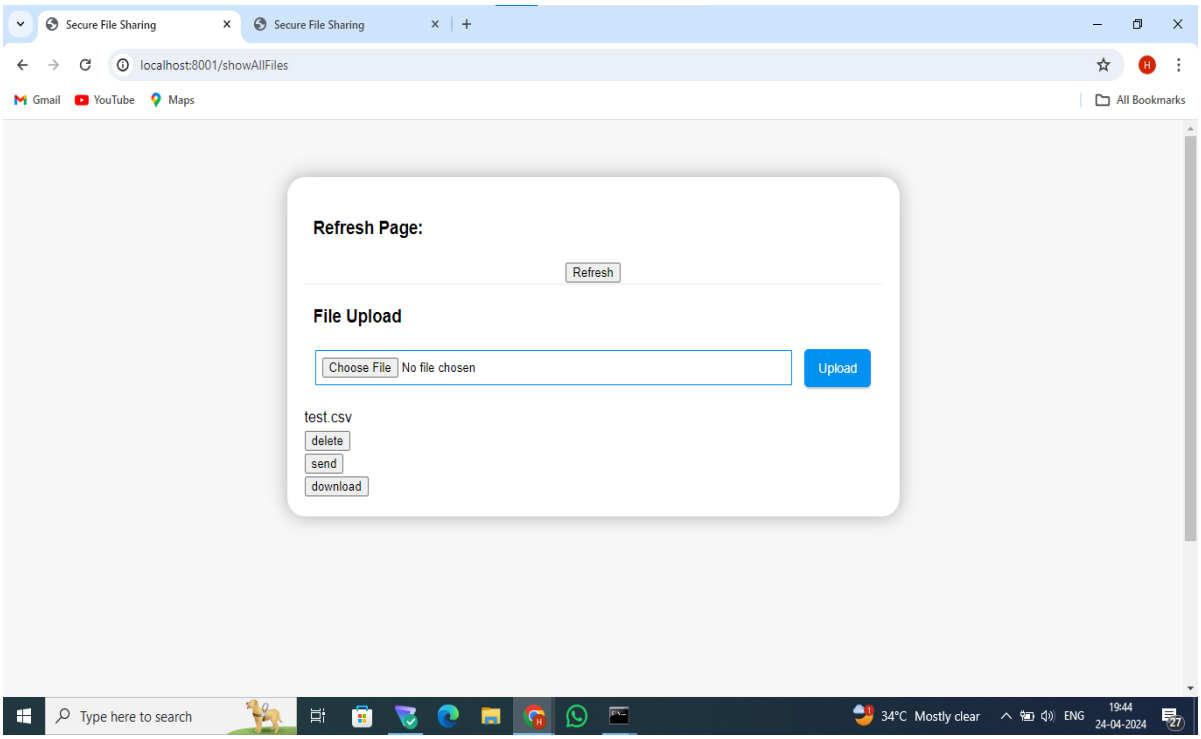

Secure File Sharing
Secure File Sharing
localhost:8002
Gmail
YouTube
Maps
All Bookmarks
Welcome to the Secure File Sharing!
Enter Nickname:
Enter Nickname
Create Room
Enter Nickname:
nikhil
Enter Room Link:
http://localhost:8001
Join Room
Type here to search
34°C Mostly clear
ENG
19:34
24-04-2024

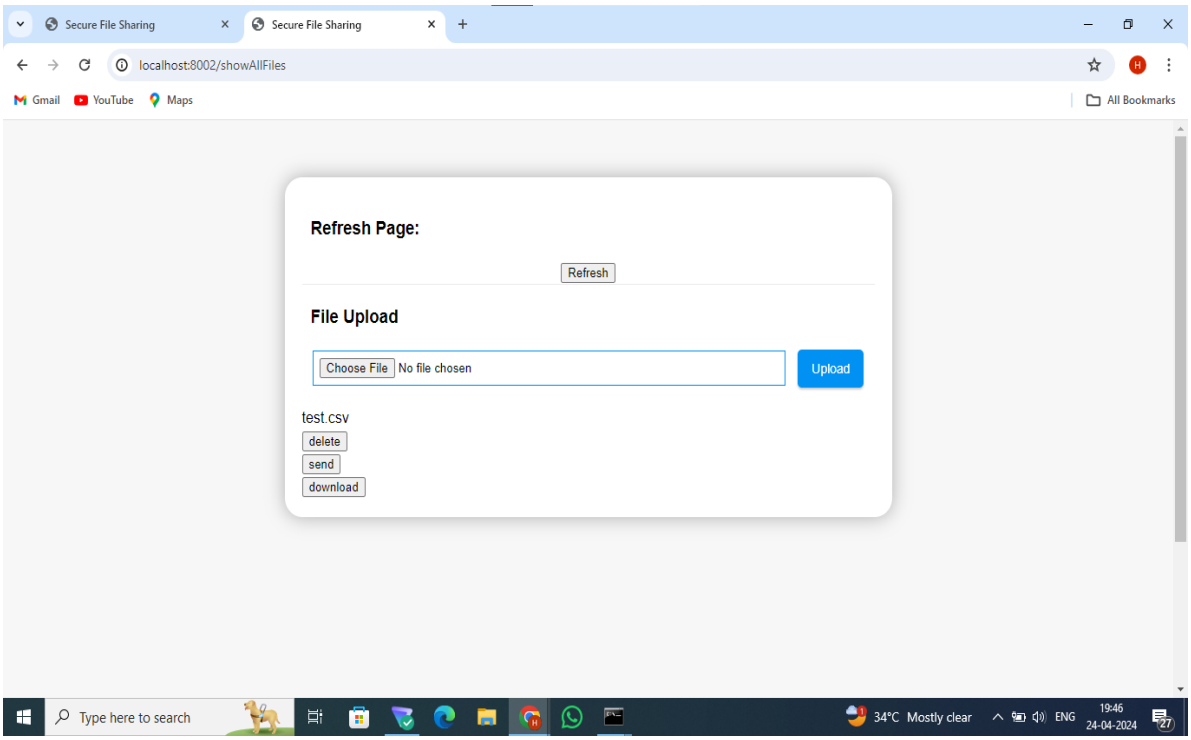

Select C:\Windows\System32\cmd.exe - mvn spring-boot:run
2024-04-24 19:39:51.735 INFO 15012 --- [localhost:27017] org.mongodb.driver.cluste
r : Monitor thread successfully connected to server with description
ServerDescription{address=localhost:27017, type=STANDALONE, state=CONNECTED, ok=tru
e, minWireVersion=0, maxWireVersion=21, maxDocumentSize=16777216, logicalSessionTim
eoutMinutes=30, roundTripTimeNanos=43856900}
2024-04-24 19:39:52.520 INFO 15012 --- [main] o.s.b.a.w.s.WelcomePageHa
ndlerMapping : Adding welcome page: class path resource [static/index.html]
2024-04-24 19:39:52.799 INFO 15012 --- [main] o.s.b.w.embedded.tomcat.T
omcatWebServer : Tomcat started on port(s): 8001 (http) with context path ''
2024-04-24 19:39:52.813 INFO 15012 --- [main] c.f.filesharingsystemAppl
ication : Started filesharingsystemApplication in 5.055 seconds (JVM runnin
g for 5.737)
2024-04-24 19:40:25.682 INFO 15012 --- [nio-8001-exec-1] o.a.c.c.C.[Tomcat].[local
host].[/] : Initializing Spring DispatcherServlet 'dispatcherServlet'
2024-04-24 19:40:25.683 INFO 15012 --- [nio-8001-exec-1] o.s.web.servlet.Dispatche
rServlet : Initializing Servlet 'dispatcherServlet'
2024-04-24 19:40:25.686 INFO 15012 --- [nio-8001-exec-1] o.s.web.servlet.Dispatche
rServlet : Completed initialization in 2 ms
2024-04-24 19:40:25.806 INFO 15012 --- [nio-8001-exec-1] org.mongodb.driver.connec
tion : Opened connection [connectionId{localValue:3, serverValue:114}] t
o localhost:27017
Peer's in Room[DESKTOP-9U0S1V7:8001, DESKTOP-9U0S1V7:8002]
C:\Windows\System32\cmd.exe - mvn spring-boot:run
o localhost:27017
2024-04-24 19:39:56.751 INFO 16580 --- [localhost:27017] org.mongodb.driver.cluste
r : Monitor thread successfully connected to server with description
ServerDescription{address=localhost:27017, type=STANDALONE, state=CONNECTED, ok=tru
e, minWireVersion=0, maxWireVersion=21, maxDocumentSize=16777216, logicalSessionTim
eoutMinutes=30, roundTripTimeNanos=50404300}
2024-04-24 19:39:57.306 INFO 16580 --- [main] o.s.b.a.w.s.WelcomePageHa
ndlerMapping : Adding welcome page: class path resource [static/index.html]
2024-04-24 19:39:57.501 INFO 16580 --- [main] o.s.b.w.embedded.tomcat.T
omcatWebServer : Tomcat started on port(s): 8002 (http) with context path ''
2024-04-24 19:39:57.516 INFO 16580 --- [main] c.f.filesharingsystemAppl
ication : Started filesharingsystemApplication in 4.004 seconds (JVM runnin
g for 4.603)
2024-04-24 19:40:32.410 INFO 16580 --- [nio-8002-exec-1] o.a.c.c.C.[Tomcat].[local
host].[/] : Initializing Spring DispatcherServlet 'dispatcherServlet'
2024-04-24 19:40:32.410 INFO 16580 --- [nio-8002-exec-1] o.s.web.servlet.Dispatche
rServlet : Initializing Servlet 'dispatcherServlet'
2024-04-24 19:40:32.414 INFO 16580 --- [nio-8002-exec-1] o.s.web.servlet.Dispatche
rServlet : Completed initialization in 2 ms
2024-04-24 19:40:32.534 INFO 16580 --- [nio-8002-exec-1] org.mongodb.driver.connec
tion : Opened connection [connectionId{localValue:3, serverValue:115}] t
o localhost:27017
Type here to search
34°C Mostly clear
ENG
19:40
24-04-2024

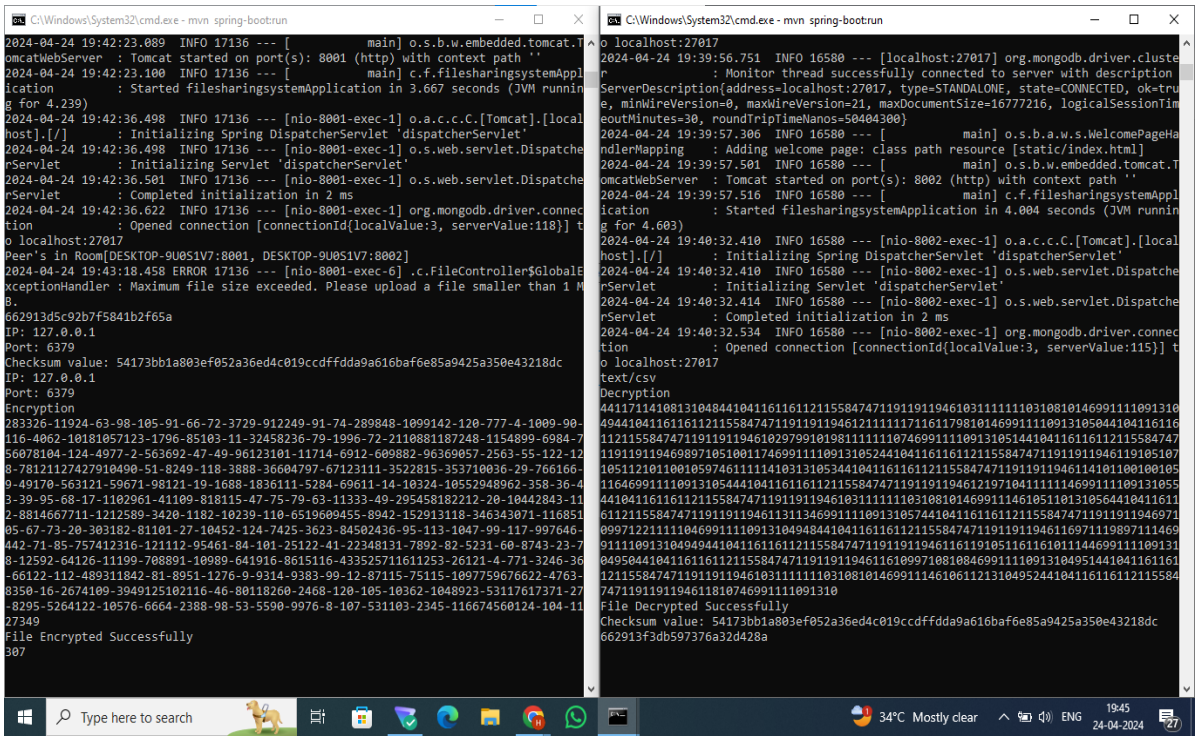

Secure File Sharing
Secure File Sharing
localhost:8001/showAllFiles
Gmail
YouTube
Maps
All Bookmarks
Refresh Page:
Refresh
File Upload
Choose File
PES1UG22CS809_Harshith_Reddy_C.pdf
Upload
No files in the database. Upload some files.
Type here to search
34°C Mostly clear
ENG
19:44
24-04-2024

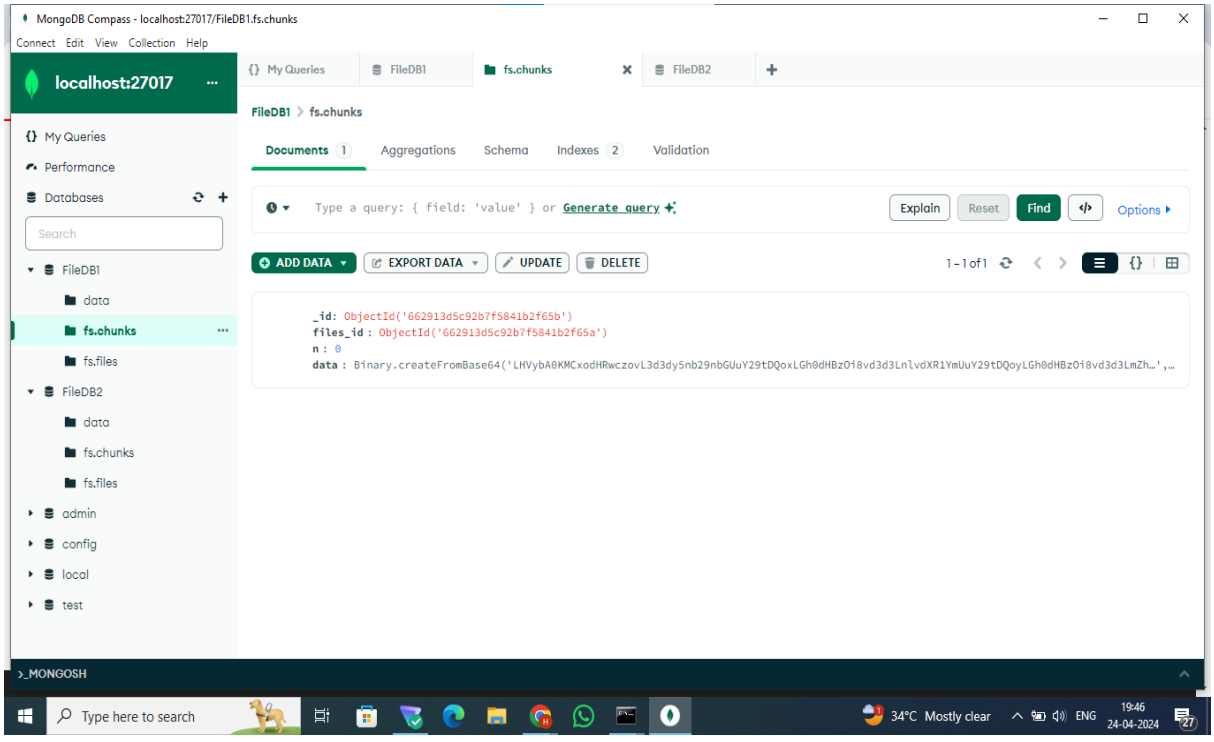

Select C:\Windows\System32\cmd.exe - mvn spring-boot:run
e, minWireVersion=0, maxWireVersion=21, maxDocumentSize=16777216, logicalSessionTim
eoutMinutes=30, roundTripTimeNanos=41917900}
2024-04-24 19:42:22.914 INFO 17136 --- [main] o.s.b.a.w.s.WelcomePageHa
ndlerMapping : Adding welcome page: class path resource [static/index.html]
2024-04-24 19:42:23.089 INFO 17136 --- [main] o.s.b.w.embedded.tomcat.T
omcatWebServer : Tomcat started on port(s): 8001 (http) with context path ''
2024-04-24 19:42:23.100 INFO 17136 --- [main] c.f.filesharingsystemAppl
ication : Started filesharingsystemApplication in 3.667 seconds (JVM runnin
g for 4.239)
2024-04-24 19:42:36.498 INFO 17136 --- [nio-8001-exec-1] o.a.c.c.C.[Tomcat].[local
host].[/] : Initializing Spring DispatcherServlet 'dispatcherServlet'
2024-04-24 19:42:36.498 INFO 17136 --- [nio-8001-exec-1] o.s.web.servlet.Dispatche
rServlet : Initializing Servlet 'dispatcherServlet'
2024-04-24 19:42:36.501 INFO 17136 --- [nio-8001-exec-1] o.s.web.servlet.Dispatche
rServlet : Completed initialization in 2 ms
2024-04-24 19:42:36.622 INFO 17136 --- [nio-8001-exec-1] org.mongodb.driver.connec
tion : Opened connection [connectionId{localValue:3, serverValue:118}] t
o localhost:27017
Peer's in Room[DESKTOP-9U0S1V7:8001, DESKTOP-9U0S1V7:8002]
2024-04-24 19:43:18.458 ERROR 17136 --- [nio-8001-exec-6] .c.FileController$GlobalE
xceptionHandler : Maximum file size exceeded. Please upload a file smaller than 1 M
B.
C:\Windows\System32\cmd.exe - mvn spring-boot:run
o localhost:27017
2024-04-24 19:39:56.751 INFO 16580 --- [localhost:27017] org.mongodb.driver.cluste
r : Monitor thread successfully connected to server with description
ServerDescription{address=localhost:27017, type=STANDALONE, state=CONNECTED, ok=tru
e, minWireVersion=0, maxWireVersion=21, maxDocumentSize=16777216, logicalSessionTim
eoutMinutes=30, roundTripTimeNanos=50404300}
2024-04-24 19:39:57.306 INFO 16580 --- [main] o.s.b.a.w.s.WelcomePageHa
ndlerMapping : Adding welcome page: class path resource [static/index.html]
2024-04-24 19:39:57.501 INFO 16580 --- [main] o.s.b.w.embedded.tomcat.T
omcatWebServer : Tomcat started on port(s): 8002 (http) with context path ''
2024-04-24 19:39:57.516 INFO 16580 --- [main] c.f.filesharingsystemAppl
ication : Started filesharingsystemApplication in 4.004 seconds (JVM runnin
g for 4.603)
2024-04-24 19:40:32.410 INFO 16580 --- [nio-8002-exec-1] o.a.c.c.C.[Tomcat].[local
host].[/] : Initializing Spring DispatcherServlet 'dispatcherServlet'
2024-04-24 19:40:32.410 INFO 16580 --- [nio-8002-exec-1] o.s.web.servlet.Dispatche
rServlet : Initializing Servlet 'dispatcherServlet'
2024-04-24 19:40:32.414 INFO 16580 --- [nio-8002-exec-1] o.s.web.servlet.Dispatche
rServlet : Completed initialization in 2 ms
2024-04-24 19:40:32.534 INFO 16580 --- [nio-8002-exec-1] org.mongodb.driver.connec
tion : Opened connection [connectionId{localValue:3, serverValue:115}] t
o localhost:27017
Type here to search
34°C Mostly clear
ENG
19:43
24-04-2024

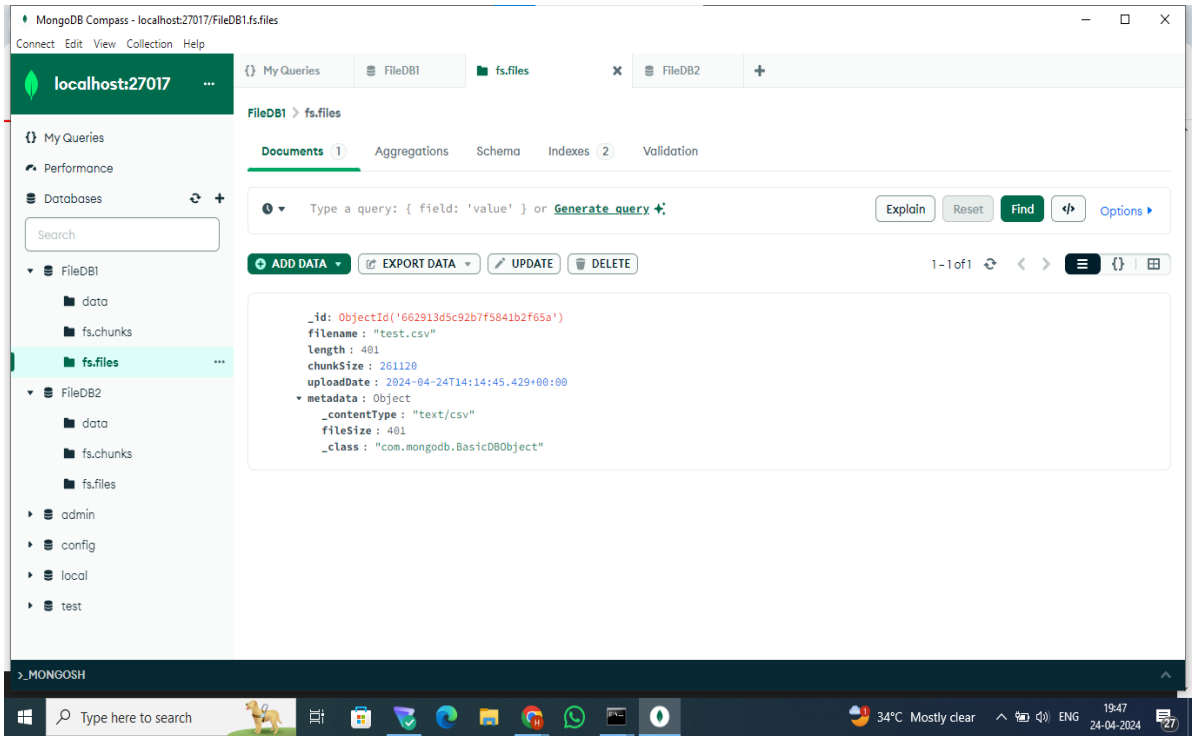

Secure File Sharing
Secure File Sharing
localhost:8001/showAllFiles
Gmail
YouTube
Maps
All Bookmarks
Refresh Page:
Refresh
File Upload
Choose File
test.csv
Upload
No files in the database. Upload some files.
Type here to search
34°C Mostly clear
ENG
19:44
24-04-2024

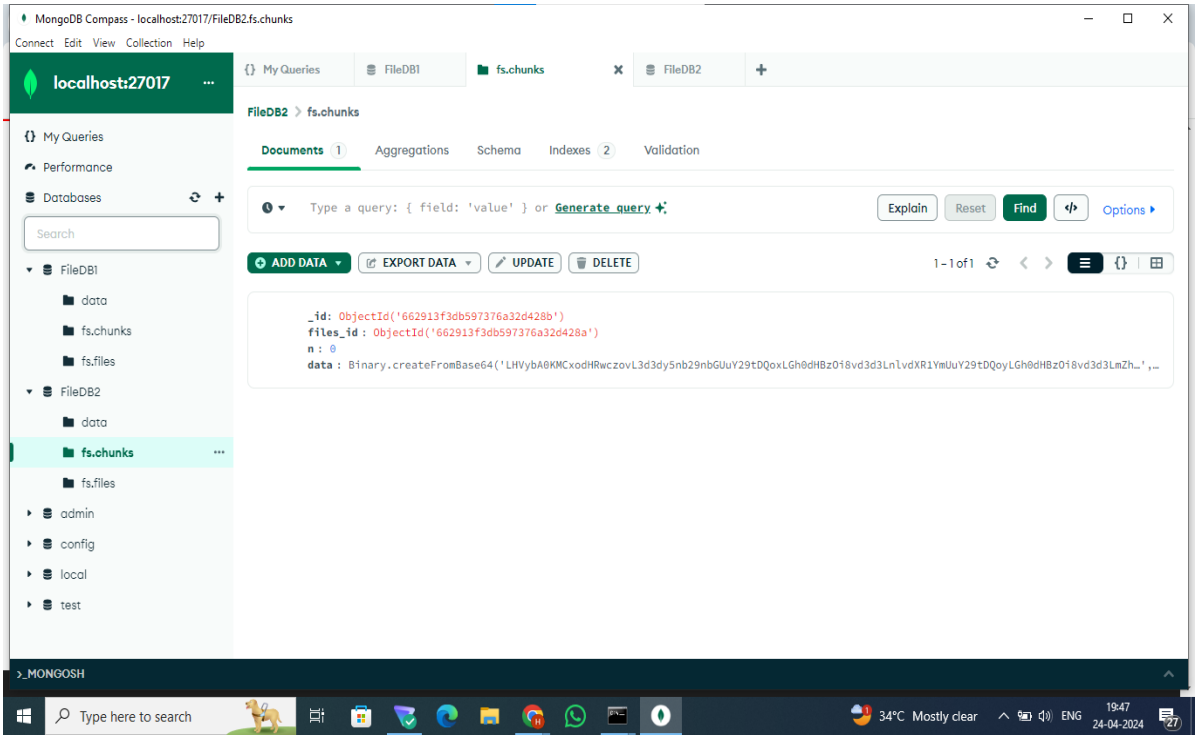

Secure File Sharing
Secure File Sharing
localhost:8001/showAllFiles
Gmail
YouTube
Maps
All Bookmarks
Refresh Page:
Refresh
File Upload
Choose File
No file chosen
Upload
test.csv
delete
send
download
Type here to search
34°C
Mostly clear
ENG
19:44
24-04-2024

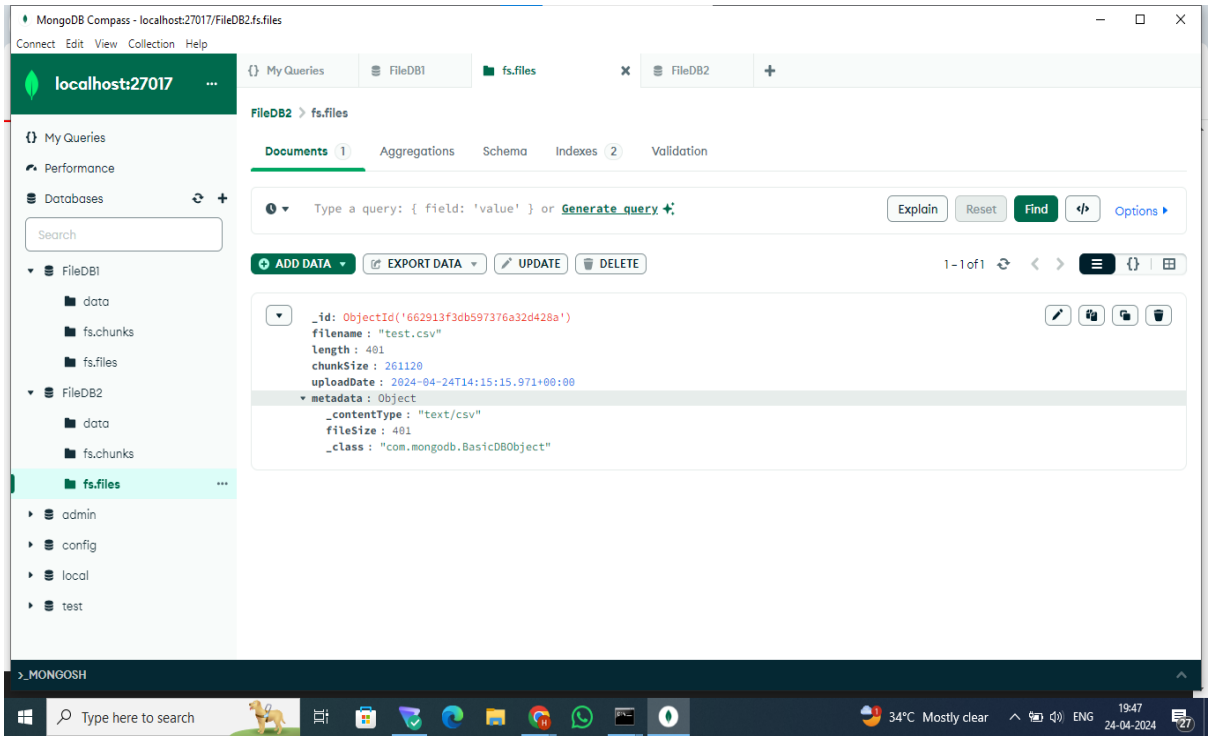

Secure File Sharing
Secure File Sharing
localhost:8002/showAllFiles
Gmail
YouTube
Maps
All Bookmarks
Refresh Page:
Refresh
File Upload
Choose File
No file chosen
Upload
test.csv
delete
send
download
Type here to search
34°C
Mostly clear
ENG
19:46
24-04-2024


C:\Windows\System32\cmd.exe - mvn spring-boot:run
2024-04-24 19:42:23.089 INFO 17136 --- [main] o.s.b.w.embedded.tomcat.T
omcatWebServer : Tomcat started on port(s): 8001 (http) with context path ''
2024-04-24 19:42:23.100 INFO 17136 --- [main] c.f.filesharingsystemAppl
ication : Started filesharingsystemApplication in 3.667 seconds (JVM runnin
g for 4.239)
2024-04-24 19:42:36.498 INFO 17136 --- [nio-8001-exec-1] o.a.c.c.C.[Tomcat].[local
host].[/] : Initializing Spring DispatcherServlet 'dispatcherServlet'
2024-04-24 19:42:36.498 INFO 17136 --- [nio-8001-exec-1] o.s.web.servlet.Dispatche
rServlet : Initializing Servlet 'dispatcherServlet'
2024-04-24 19:42:36.501 INFO 17136 --- [nio-8001-exec-1] o.s.web.servlet.Dispatche
rServlet : Completed initialization in 2 ms
2024-04-24 19:42:36.622 INFO 17136 --- [nio-8001-exec-1] org.mongodb.driver.connec
tion : Opened connection [connectionId{localValue:3, serverValue:118}] t
o localhost:27017
Peer's in Room[DESKTOP-9U0S1V7:8001, DESKTOP-9U0S1V7:8002]
2024-04-24 19:43:18.458 ERROR 17136 --- [nio-8001-exec-6] .c.FileController$GlobalE
xceptionHandler : Maximum file size exceeded. Please upload a file smaller than 1 M
B.
662913d5c92b7f5841b2f65a
IP: 127.0.0.1
Port: 6379
Checksum value: 54173bb1a803ef052a36ed4c019ccdffdda9a616baf6e85a9425a350e43218dc
IP: 127.0.0.1
Port: 6379
Encryption
283326-11924-63-98-105-91-66-72-3729-912249-91-74-289848-1099142-120-777-4-1009-90-
116-4062-10181057123-1796-85103-11-32458236-79-1996-72-2110881187248-1154899-6984-7
56078104-124-4977-2-563692-47-49-96123101-11714-6912-609882-96369057-2563-55-122-12
8-781211274279104 90-51-8249-118-3888-36604797-67123111-3522815-353710036-29-766166-
9-49170-563121-59671-98121-19-1688-1836111-5284-69611-14-10324-1055294896 2-358-36-4
3-39-95-68-17-1102961-41109-818115-47-75-79-63-11333-49-29545182212-20-10442843-11
2-8814667711-1212589-3420-1182-10239-110-6519609455-8942-152913118-346343071-116851
05-67-73-20-303182-81101-27-10452-124-7425-3623-84502436-95-113-1047-99-117-997646-
442-71-85-757412316-121112-95461-84-101-25122-41-22348131-7892-82-5231-60-8743-23-7
8-12592-64126-11199-708891-10989-641916-8615116-433525711611253-26121-4-771-3246-36
-66122-112-489311842-81-8951-1276-9-9314-9383-99-12-87115-75115-10977596766 22-4763-
8350-16-2674109-3949125102116-46-80118260-2468-120-105-10362-1048923-53117617371-27
-8295-5264122-10576-6664-2388-98-53-5590-9976-8-107-531103-2345-116674560124-104-11
27349
File Encrypted Successfully
307
C:\Windows\System32\cmd.exe - mvn spring-boot:run
o localhost:27017
2024-04-24 19:39:56.751 INFO 16580 --- [localhost:27017] org.mongodb.driver.cluste
r : Monitor thread successfully connected to server with description
ServerDescription{address=localhost:27017, type=STANDALONE, state=CONNECTED, ok=tru
e, minWireVersion=0, maxWireVersion=21, maxDocumentSize=16777216, logicalSessionTim
eoutMinutes=30, roundTripTimeNanos=50404300}
2024-04-24 19:39:57.306 INFO 16580 --- [main] o.s.b.a.w.s.WelcomePageHa
ndlerMapping : Adding welcome page: class path resource [static/index.html]
2024-04-24 19:39:57.501 INFO 16580 --- [main] o.s.b.w.embedded.tomcat.T
omcatWebServer : Tomcat started on port(s): 8002 (http) with context path ''
2024-04-24 19:39:57.516 INFO 16580 --- [main] c.f.filesharingsystemAppl
ication : Started filesharingsystemApplication in 4.004 seconds (JVM runnin
g for 4.603)
2024-04-24 19:40:32.410 INFO 16580 --- [nio-8002-exec-1] o.a.c.c.C.[Tomcat].[local
host].[/] : Initializing Spring DispatcherServlet 'dispatcherServlet'
2024-04-24 19:40:32.410 INFO 16580 --- [nio-8002-exec-1] o.s.web.servlet.Dispatche
rServlet : Initializing Servlet 'dispatcherServlet'
2024-04-24 19:40:32.414 INFO 16580 --- [nio-8002-exec-1] o.s.web.servlet.Dispatche
rServlet : Completed initialization in 2 ms
2024-04-24 19:40:32.534 INFO 16580 --- [nio-8002-exec-1] org.mongodb.driver.connec
tion : Opened connection [connectionId{localValue:3, serverValue:115}] t
o localhost:27017
text/csv
Decryption
File Decrypted Successfully
Checksum value: 54173bb1a803ef052a36ed4c019ccdffdda9a616baf6e85a9425a350e43218dc
662913f3db597376a32d428a
Type here to search
34°C Mostly clear
ENG
19:45
24-04-2024


MongoDB Compass - localhost:27017/FileDB1.fs.chunks
Connect Edit View Collection Help
localhost:27017
My Queries
Performance
Databases
Search
FileDB1
data
fs.chunks
fs.files
FileDB2
data
fs.chunks
fs.files
admin
config
local
test
My Queries
FileDB1
fs.chunks
FileDB2
FileDB1 > fs.chunks
Documents 1
Aggregations
Schema
Indexes 2
Validation
Type a query: { field: 'value' } or Generate query
Explain
Reset
Find
Options
ADD DATA
EXPORT DATA
UPDATE
DELETE
1 - 1 of 1
_id: ObjectId('662913d5c92b7f5841b2f65b')
files_id : ObjectId('662913d5c92b7f5841b2f65a')
n : 0
data : Binary.createFromBase64('LHVybA0KMCxodHRwczovL3d3dy5nb29nbGUuY29tDQoxLGh0dHBzOi8vd3d3LnlvdXR1YmUuY29tDQoyLGh0dHBzOi8vd3d3LmZh…',…
>_MONGOSH
Type here to search
34°C Mostly clear
ENG
19:46
24-04-2024


MongoDB Compass - localhost:27017/FileDB1.fs.files
Connect Edit View Collection Help
localhost:27017
My Queries
Performance
Databases
Search
FileDB1
data
fs.chunks
fs.files
FileDB2
data
fs.chunks
fs.files
admin
config
local
test
My Queries
FileDB1
fs.files
FileDB2
FileDB1 > fs.files
Documents 1
Aggregations
Schema
Indexes 2
Validation
Type a query: { field: 'value' } or Generate query
Explain
Reset
Find
Options
ADD DATA
EXPORT DATA
UPDATE
DELETE
1 - 1 of 1
_id: ObjectId('662913d5c92b7f5841b2f65a')
filename : "test.csv"
length : 401
chunkSize : 261120
uploadDate : 2024-04-24T14:14:45.429+00:00
metadata : Object
_contentType : "text/csv"
fileSize : 401
_class : "com.mongodb.BasicDBObject"
>_MONGOSH
Type here to search
34°C Mostly clear
ENG
19:47
24-04-2024


MongoDB Compass - localhost:27017/FileDB2.fs.chunks
Connect Edit View Collection Help
localhost:27017
My Queries
Performance
Databases
Search
FileDB1
data
fs.chunks
fs.files
FileDB2
data
fs.chunks
fs.files
admin
config
local
test
My Queries
FileDB1
fs.chunks
FileDB2
FileDB2 > fs.chunks
Documents 1
Aggregations
Schema
Indexes 2
Validation
Type a query: { field: 'value' } or Generate query
Explain
Reset
Find
Options
ADD DATA
EXPORT DATA
UPDATE
DELETE
1 - 1 of 1
_id: ObjectId('662913f3db597376a32d428b')
files_id : ObjectId('662913f3db597376a32d428a')
n : 0
data : Binary.createFromBase64('LHVybA0KMCxodHRwczovL3d3dy5nb29nbGUuY29tDQoxLGh0dHBzOi8vd3d3LnlvdXR1YmUuY29tDQoyLGh0dHBzOi8vd3d3LmZh…',…
>_MONGOSH
Type here to search
34°C Mostly clear
ENG
19:47
24-04-2024


MongoDB Compass - localhost:27017/FileDB2.fs.files
Connect Edit View Collection Help
localhost:27017
My Queries
Performance
Databases
Search
FileDB1
data
fs.chunks
fs.files
FileDB2
data
fs.chunks
fs.files
admin
config
local
test
My Queries
FileDB1
fs.files
FileDB2
FileDB2 > fs.files
Documents 1
Aggregations
Schema
Indexes 2
Validation
Type a query: { field: 'value' } or Generate query
Explain
Reset
Find
Options
ADD DATA
EXPORT DATA
UPDATE
DELETE
1 - 1 of 1
_id: ObjectId('662913f3db597376a32d428a')
filename : "test.csv"
length : 401
chunkSize : 261120
uploadDate : 2024-04-24T14:15:15.971+00:00
metadata : Object
_contentType : "text/csv"
fileSize : 401
_class : "com.mongodb.BasicDBObject"
>_MONGOSH
Type here to search
34°C Mostly clear
ENG
19:47
24-04-2024