User Manual

Computer Science Department

Computer Network

Submitted by

Asfand Yar |

Instructor

Session Fall – 2022

12 July, 2024

Contents

Contents

1. Introduction

The Remote Desktop Application is a powerful tool designed to enable users to control a computer remotely over a network connection. This application provides real-time screen sharing, mouse and keyboard control, and secure file transfer between two computers. With its user-friendly interface, it offers a seamless and efficient experience for remote access, making it ideal for both personal and professional use.

a) Purpose

- ➢ **Remote Control:** Allows users to view and manage a remote computer as if they were physically present, making it perfect for remote support and administration tasks.
- ➢ **File Transfer:** Facilitates secure and efficient file transfer between connected devices, enabling easy sharing of documents and resources.
- ➢ **Technical Support:** Empowers IT professionals to troubleshoot and resolve issues on remote systems without needing physical access, reducing downtime and improving efficiency.
- ➢ **Collaboration:** Enhances teamwork by allowing geographically dispersed users to access shared resources and work together on projects in real-time.

b) Benefits:

- ➢ **Convenience:** Access and manage remote computers from anywhere with an internet connection, reducing the need for physical presence.
- ➢ **Efficiency:** Streamlines troubleshooting and support processes, minimizing downtime and enhancing productivity.
- ➢ **Flexibility:** Supports collaboration among geographically dispersed teams by providing remote access to shared files and applications.
- ➢ **Security:** Ensures secure data transfer through encryption protocols, maintaining confidentiality and integrity during remote sessions and file transfers.

2. System Requirements

To ensure the smooth operation of the Remote Desktop Application, both the client and server machines must meet the following system requirements:

a) Minimum Requirements:

- **Operating System:** Windows 10 or higher / macOS 10.14 or higher / Linux
- **CPU:** Dual-core processor
- **RAM:** 4 GB
- **Storage:** 200 MB free space
- **Network:** Broadband internet connection

3. Installing IntelliJ IDEA and JDK

Downloading IntelliJ IDEA: IntelliJ IDEA is an integrated development environment (IDE) used for developing Java applications. To download IntelliJ IDEA:

- ➢ Visit the IntelliJ IDEA website and choose the Community Edition, which is free and suitable for most development needs.

a) Installing IntelliJ IDEA

After downloading the installer:

➢ Run the installer.
➢ Follow the on-screen instructions to complete the installation process, including choosing the installation path and selecting additional components if needed.

b) Downloading JDK

The Java Development Kit (JDK) is necessary for developing Java applications. To download the JDK:

➢ Visit the [Oracle JDK website](#).
➢ Select the appropriate version for your operating system and download it.

c) Installing JDK

After downloading the JDK installer:

➢ Run the installer.
➢ Follow the on-screen instructions to complete the installation.

d) Configuring IntelliJ IDEA with JDK

Once both IntelliJ IDEA and JDK are installed:

➢ Open IntelliJ IDEA.
➢ Go to File -> Project Structure -> Project Settings -> Project.
➢ Set the Project SDK to the installed JDK version.

4. Configuring the Application

The Remote Desktop Application offers various configuration options to optimize functionality and ensure seamless remote access and file sharing capabilities. The users can tailor their experience to meet specific requirements for remote desktop management
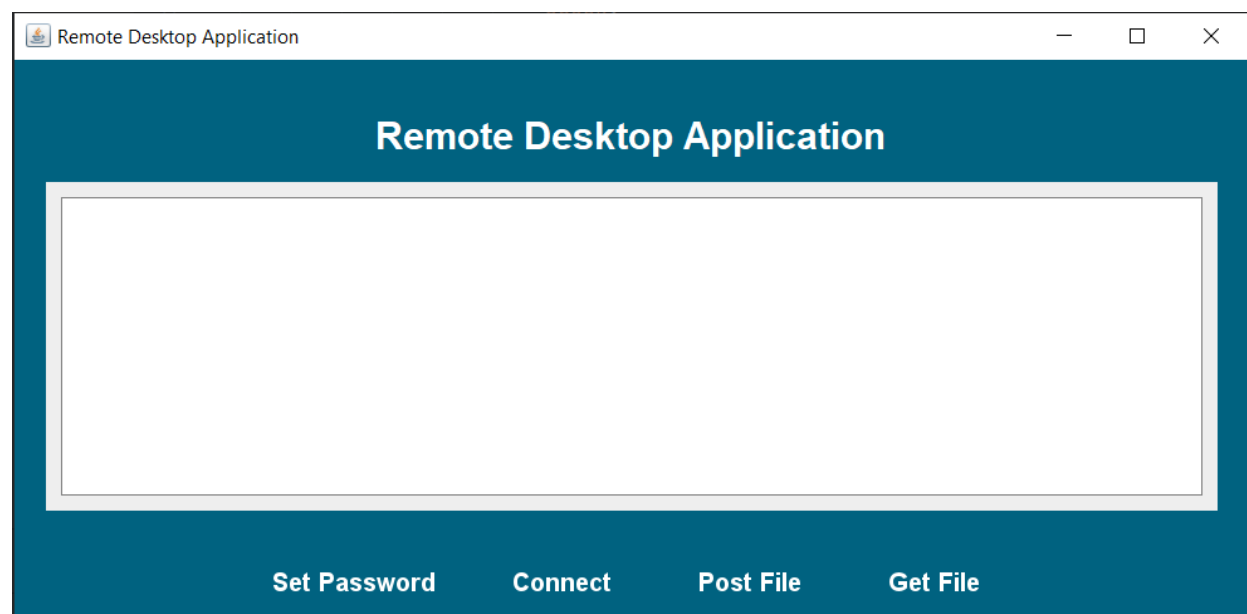
a) Set a Server Password
- ➢ Define a strong password policy for accessing the Remote Desktop Application server.
- ➢ Implement password complexity requirements (e.g., minimum length, combination of characters) to enhance security.
- ➢ Store passwords securely and avoid sharing them openly to prevent unauthorized access.
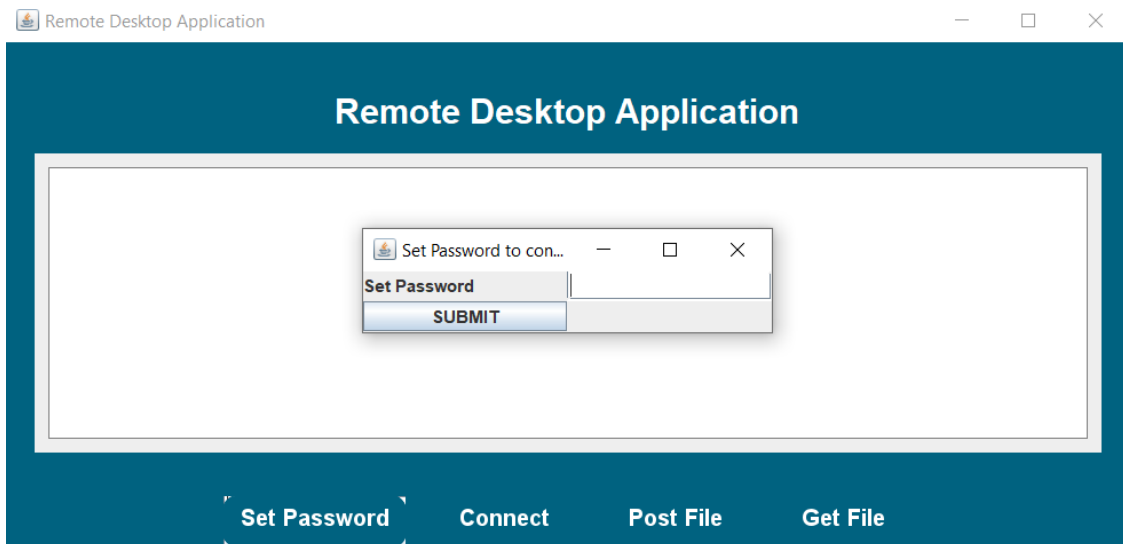

5. **Running the Application**

a) Starting the Server

- ➢ Open IntelliJ IDEA, navigate to the server component of your project, and run the server application.
- ➢ The server will start listening for incoming connections on the configured port.

b) Connecting the Client
- ➢ On a different machine, open IntelliJ IDEA and navigate to the client component of your project.
- ➢ `Run the client application and enter the server's IP address and password to establish a connection.
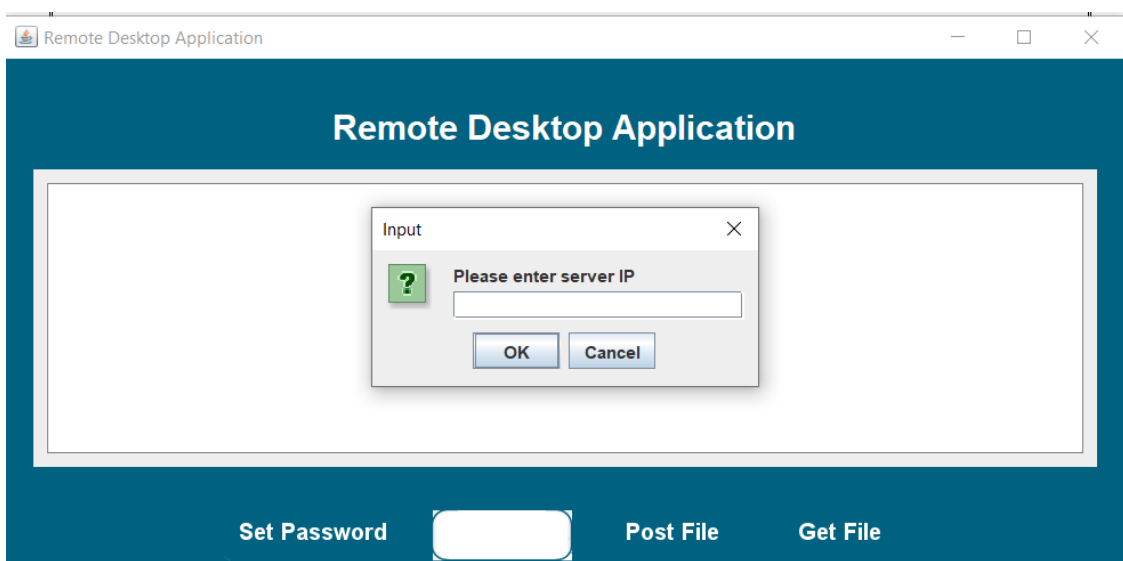
6. Using the Remote Desktop Application

a) Screen Sharing

To initiate screen sharing from the client:

➤ Once connected, the client's screen will display the server's desktop.
➤ The client can view and interact with the server's screen in real-time.

b) Mouse and Keyboard Control

The client can control the server's mouse and keyboard:

➤ Move the mouse and type on the keyboard to interact with the server.
➤ Actions performed on the client are mirrored on the server.
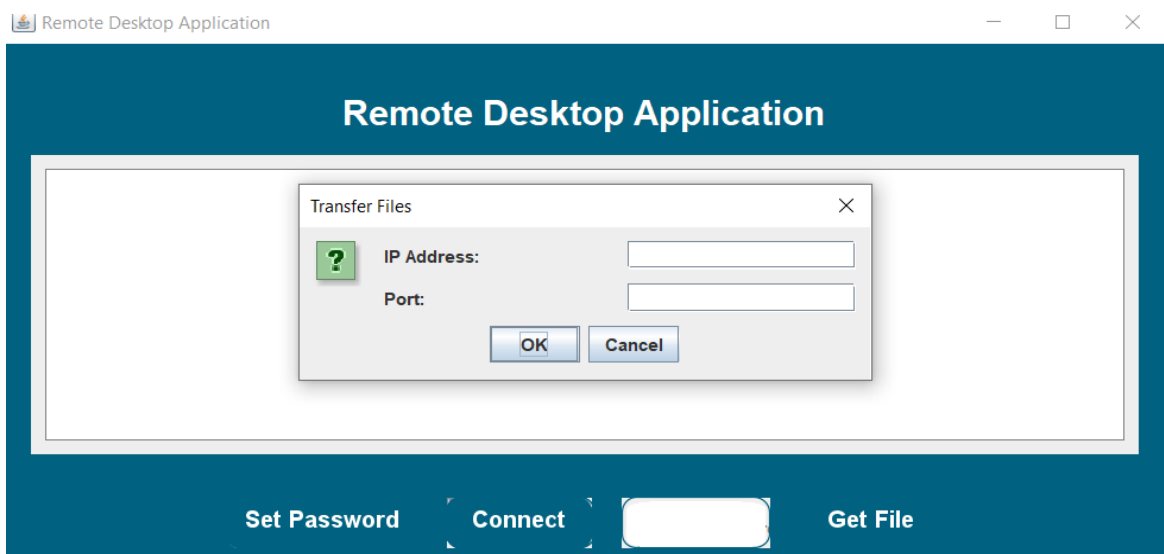
c) Secure File Transfer

To transfer files securely between the client and server:

➤ Use the file transfer feature to select and send files.
➤ Ensure secure file transfer by following the application's prompts and confirmations.

## 7. Sending or Receiving Files

a) For Sending File

➤ To send a file to a client, enter their computer's IP address and port number in the designated fields. This ensures that the file is directed to the correct destination on the network.

➤ Inputting the IP address and port number establishes a secure connection between your computer and the client's, enabling encrypted file transfer to maintain data integrity and confidentiality.

b) Receiving Files

➢ The port number is typically provided by the person sending you the files. They will instruct you on which port to use when they initiate the file transfer.

➢ When prompted by the file transfer program, enter the provided port number in the designated field. In the image you sent, the field is labeled "Port:".
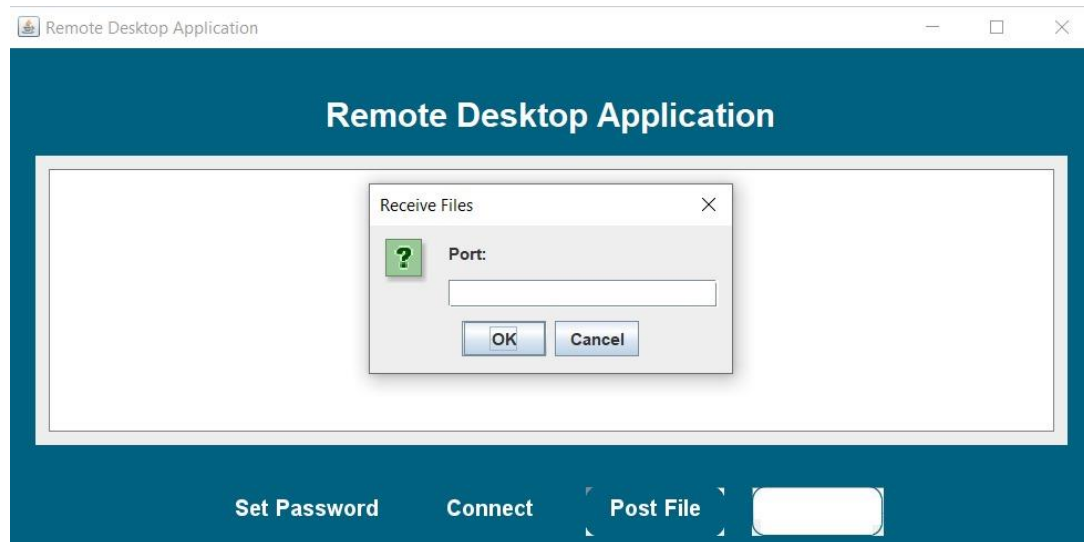
Conclusion

The Remote Desktop Application is a unified suite for remote access and file transfer that caters to both personal and professional needs: via an easy-to-use user interface, a robust underlying architecture empowers hassle-free connections to remote desktops, real-time screen sharing, and secure file transfers. With Java Swing for an efficient Graphical User Interface and standard Java libraries inbuilt for network communication, the reliability and performance of the application are guaranteed. This user manual should help you set up a server password for security in your remote desktop sessions, connect to a remote desktop and view its screen in real-time, as well as provide you with the ability to interact with the remote server like you are physically there. Also, it will show how to efficiently transfer files between the client and the server while ensuring data integrity and security.