Files Transfer from server to client using Open source technologies

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Chapter 1

Introduction

What is Open Source Software?

Open source software is computer software that is made available to the public with its source code, or the underlying programming instructions, freely available for anyone to view, use, modify, and distribute. This is in contrast to proprietary software, which is typically distributed in binary form and the source code is kept secret and controlled by the software's owner.

Why is File Transfer Protocol?

FTP (File Transfer Protocol) is a standard network protocol used to transfer files from one computer to another over a network, such as the Internet. FTP is commonly used to transfer large files, such as software programs, multimedia files, and large data sets, between servers or between a server and a client computer.

FTP works by establishing a connection between the client and the server using the FTP protocol. The client can then browse the file system on the server and transfer files to and from the server by using a command-line interface or a graphical user interface. FTP uses two channels for communication: a control channel for sending commands between the client and server and a data channel for transferring files..

1.1 Objective of the project

The objective of the project to transfer files from a server to a client using open-source software is to provide a reliable and secure way of sharing data between computers. This project aims to provide a cost-effective and flexible solution that can be used by individuals, businesses, and organizations of all sizes.

By using open-source software, this project also promotes transparency and collaboration in software development, allowing anyone to access and modify the software to fit their specific needs.

1.2 Description of the project

The project aims to develop a file transfer system that allows users to transfer files from a server to a client using open-source software. The system will provide a user-friendly interface for users to connect to the server, navigate through the server's file system, select the files they want to transfer, and download them to their client machine.

The system will be designed to support various file transfer protocols, including FTP, SFTP, and SCP. These protocols will provide users with secure, reliable, and efficient ways of transferring files between the server and client machines. The system will also support a wide range of file types and sizes, allowing users to transfer any type of data they need.

1.3 Scope of the project

The scope of the project is to develop a file transfer system that allows users to transfer files from a server to a client using open-source software. The system will be designed to support various file transfer protocols, including FTP, SFTP, and SCP. The system will also be capable of transferring a wide range of file types and sizes.

The project scope includes the following:

User interface: The system will provide a user-friendly interface for users to connect to the server, navigate through the server's file system, select the files they want to transfer, and download them to their client machine.

Security: The system will be designed to ensure the security and confidentiality of the data being transferred. The system will use secure file transfer protocols like SFTP and SCP to protect the data during transfer.

Efficiency: The system will be optimized for efficient file transfers, minimizing downtime and delays. The system will be designed to maximize the speed of data transfer while also minimizing network overhead.

Compatibility: The system will be designed to support a wide range of file types and sizes, allowing users to transfer any type of data they need. The system will be capable of handling large files, such as multimedia files, without any performance issues.

Chapter 2

System Description

1.4 Target system description

The target system for the file transfer project is a client-server architecture. The server will be a computer that hosts the files to be transferred, and the client will be a computer that downloads files from the server.

The server-side system will require a computer with adequate processing power, memory, and storage space to host the files to be transferred. The server will also require a reliable and fast internet connection to allow for efficient file transfer.

On the client-side, the system will require a computer with internet connectivity to access the server and download files. The client computer will also need enough storage space to save the files being downloaded.

The system will be designed to support multiple operating systems, including Windows, Linux, and macOS. This will allow users to transfer files between different types of computers using the same software.

The target system will also be scalable, allowing for the addition of multiple clients and servers. The system will be designed to support multiple concurrent file transfers between clients and servers, allowing for efficient sharing of data.

Overall, the target system will be a reliable and efficient way to transfer files between computers using open-source software. It will be designed to support a wide range of file types and sizes and will prioritize security and confidentiality during the file transfer process.

1.5 Assumptions and Dependencies (If applicable)

Assumptions:

The server hosting the files to be transferred will be always available and accessible to clients.

The server and client computers will have a reliable and fast internet connection.

Users have basic computer skills and know how to operate the file transfer system.

Users have the necessary permissions to access the files on the server.

The file transfer protocols used, such as FTP, SFTP, and SCP, will be compatible with the client and server operating systems.

Dependencies:

The project depends on the availability and compatibility of open-source software to develop the file transfer system.

The project depends on the reliable and efficient functioning of the internet connection between the client and server computers.

The project depends on the security features of the file transfer protocols being used to ensure the security and confidentiality of the data being transferred.

The project may depend on third-party libraries or software components to support certain functionalities, such as user authentication or encryption.

Chapter 3
Analysis Report

Steps to set up FileZilla Server and FileZilla Client for file transfer:

Setting up FileZilla Server:

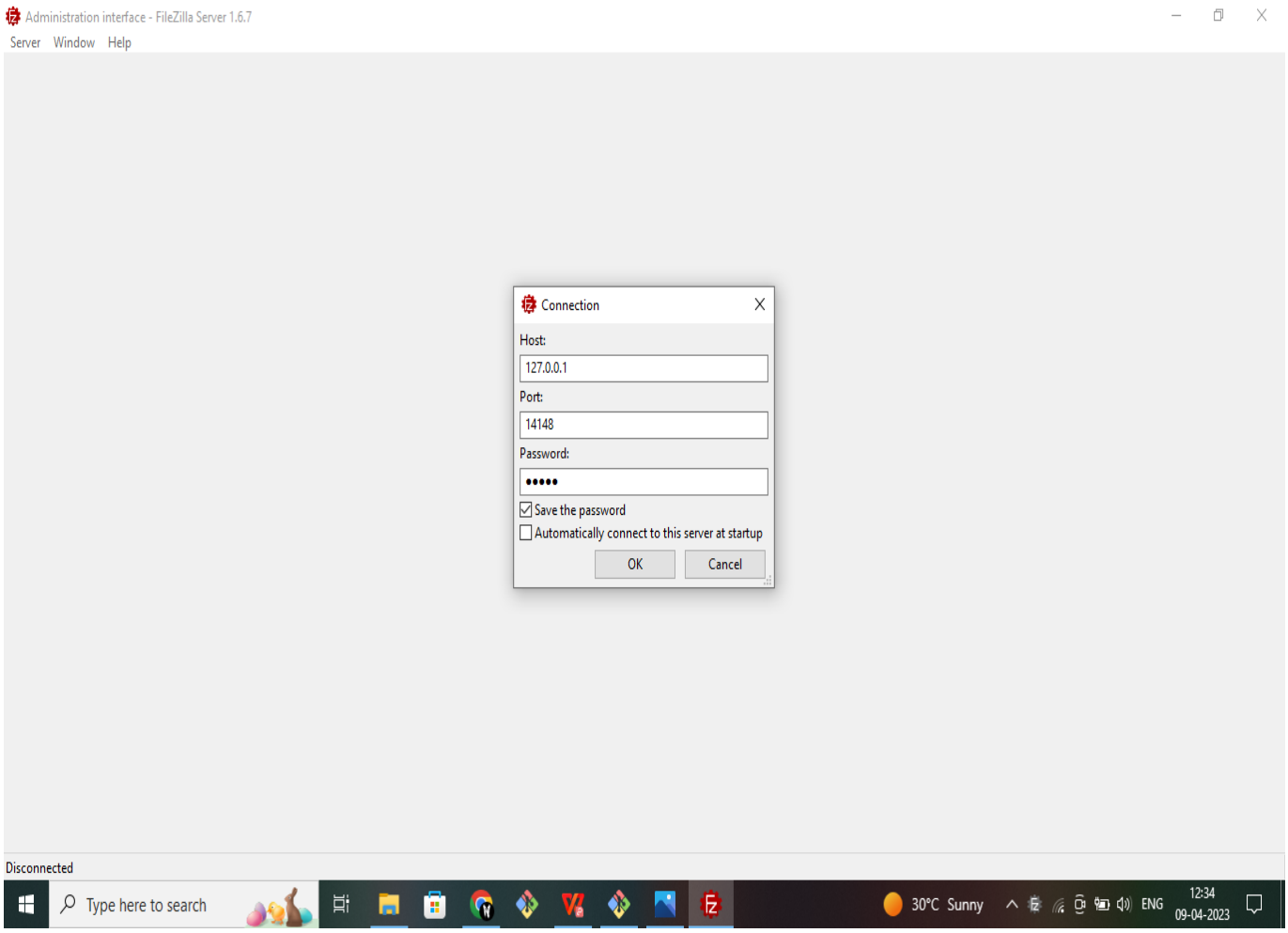
Download and install FileZilla Server on your server computer.
Launch FileZilla Server and configure the server settings, such as the IP address, port, and user accounts.
Create a shared folder or select an existing folder that you want to use for file transfer.
Set the appropriate permissions for the shared folder to allow users to upload and download files.
Configure the server firewall to allow incoming connections on the server's port.

Setting up FileZilla Client:

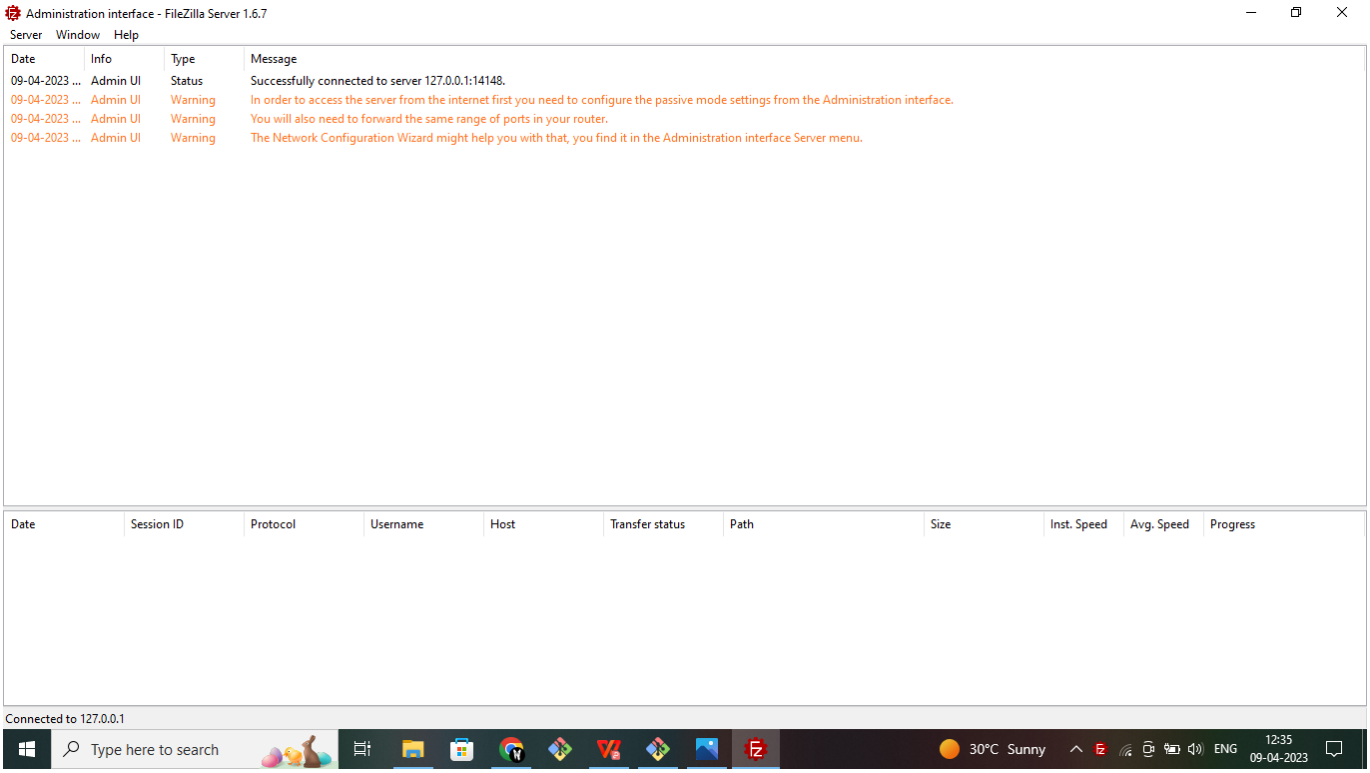
Download and install FileZilla Client on your client computer.
Launch FileZilla Client and enter the server's IP address, port, and login credentials.
Connect to the server and browse to the shared folder that you want to transfer files to or from.
Drag and drop the files that you want to transfer from the local computer to the remote server or vice versa.
Monitor the transfer progress and ensure that the files are transferred successfully.

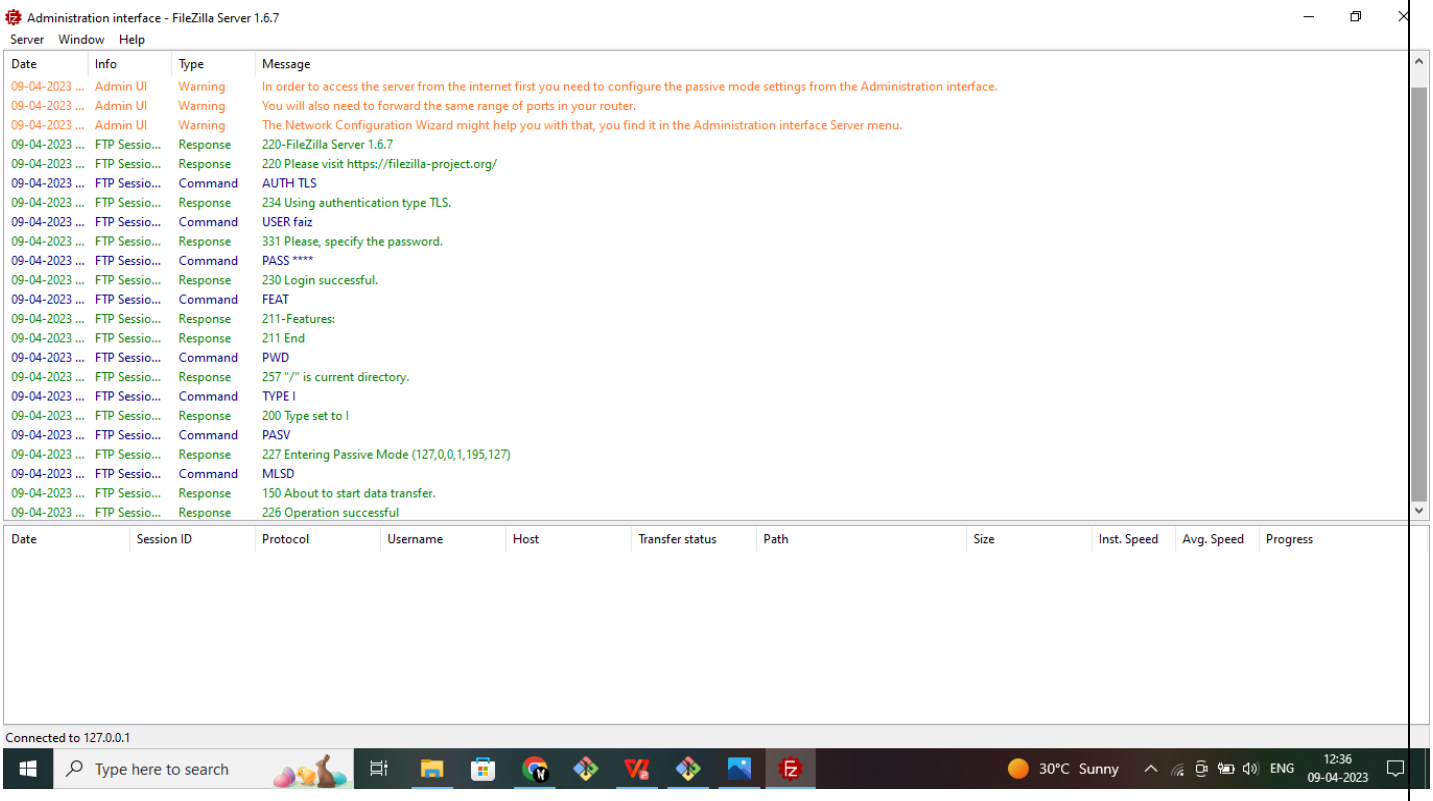
System snapshots :

Fillzilla server :



Launch FileZilla Server and configure the server settings, such as the IP address, port, and user accounts.


Administration interface - FileZilla Server 1.6.7
Server Window Help
Date Info Type Message
09-04-2023 ... Admin UI Status Successfully connected to server 127.0.0.1:14148.
09-04-2023 ... Admin UI Warning In order to access the server from the internet first you need to configure the passive mode settings from the Administration interface.
09-04-2023 ... Admin UI Warning You will also need to forward the same range of ports in your router.
09-04-2023 ... Admin UI Warning The Network Configuration Wizard might help you with that, you find it in the Administration interface Server menu.
Date Session ID Protocol Username Host Transfer status Path Size Inst. Speed Avg. Speed Progress
Connected to 127.0.0.1
Type here to search
30°C Sunny
ENG
12:35
09-04-2023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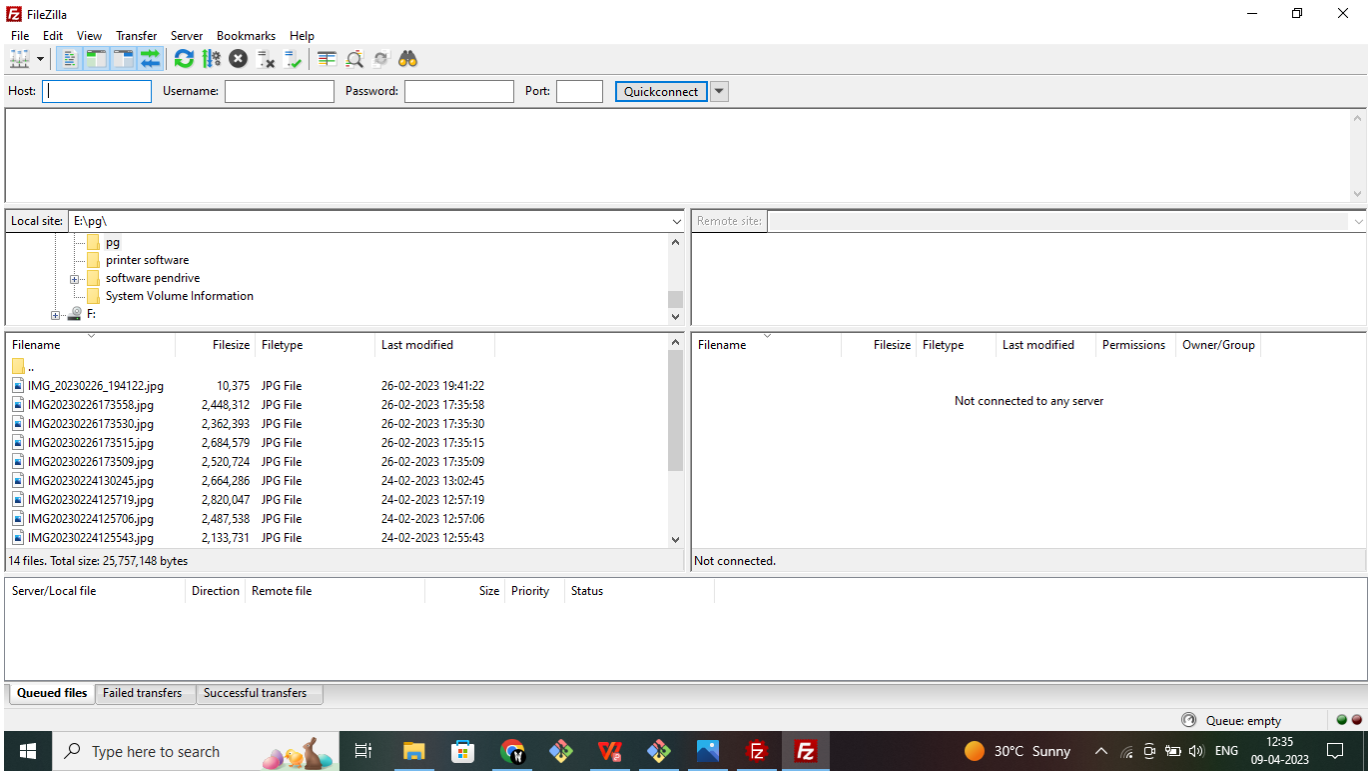
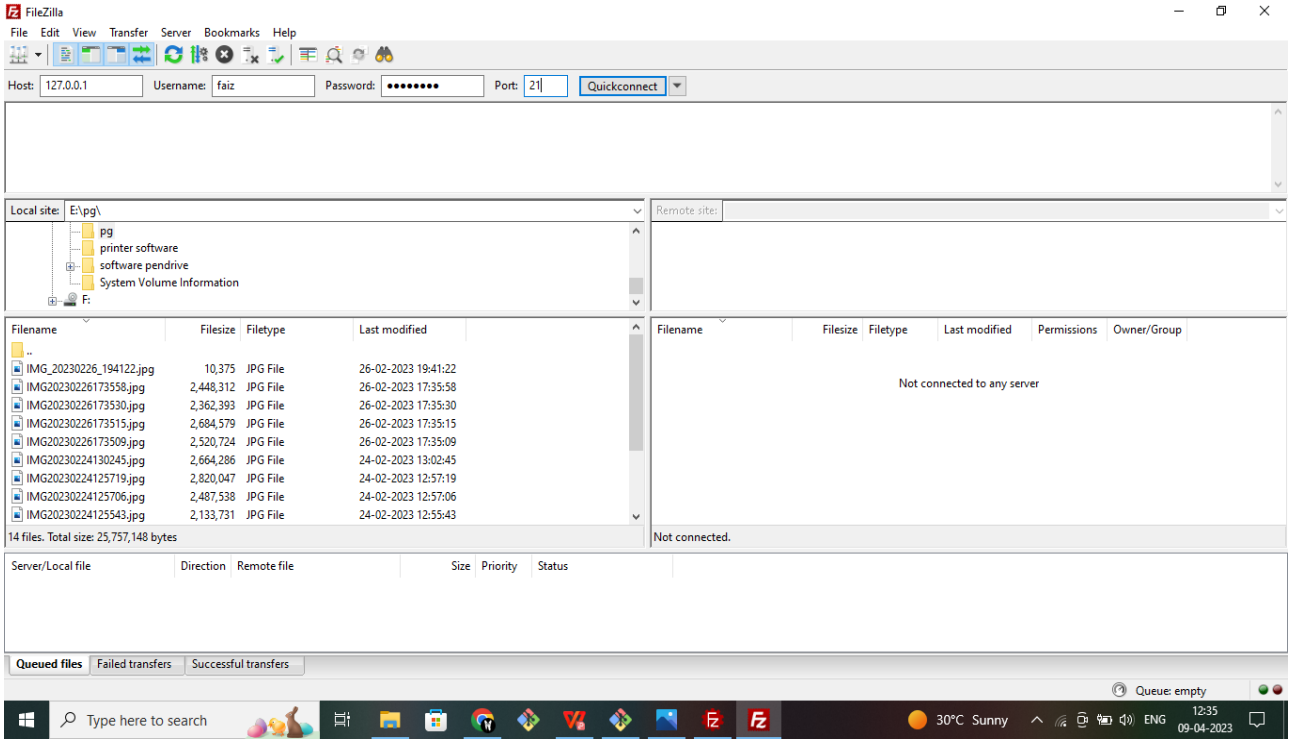
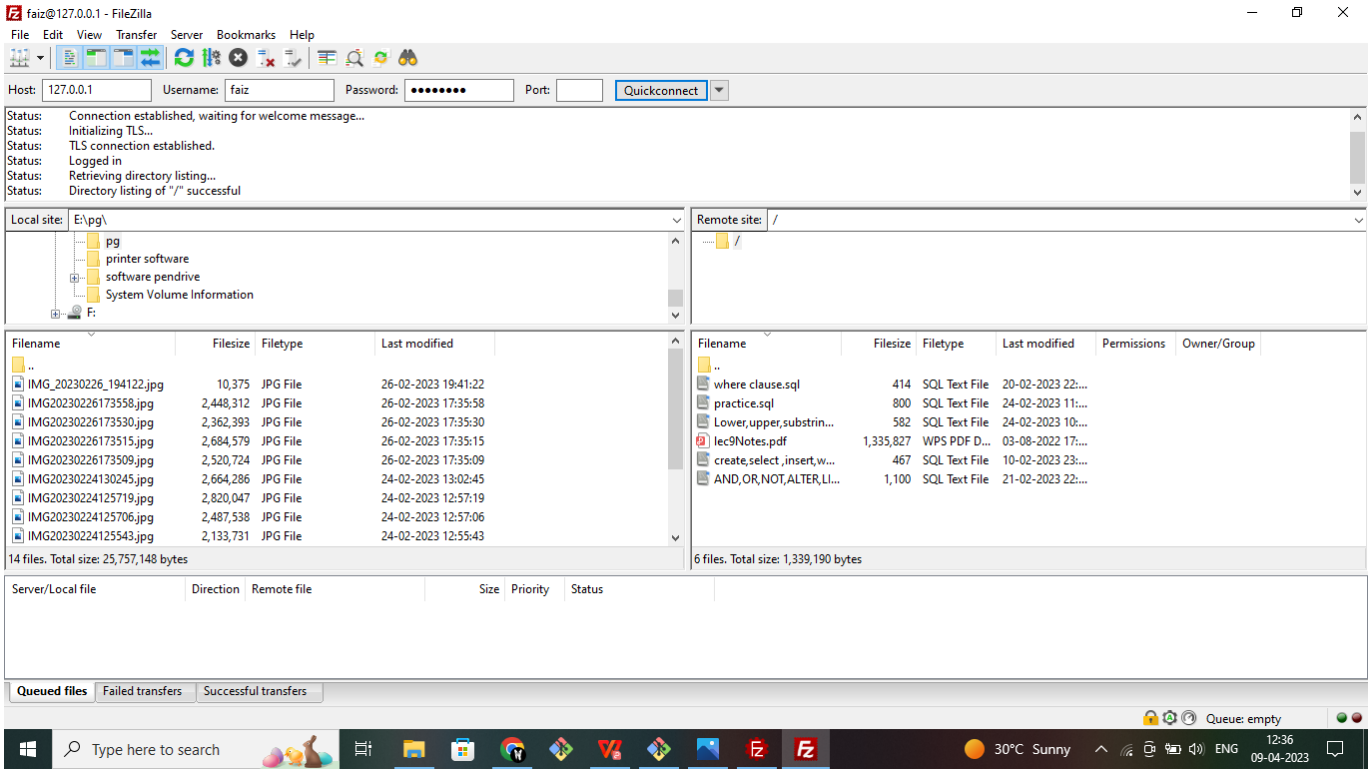
09-04-2023 ... Admin UI Warning The Network Configuration Wizard might help you with that, you find it in the Administration interface Server menu.
09-04-2023 ... FTP Sessio... Response 220-FileZilla Server 1.6.7
09-04-2023 ... FTP Sessio... Response 220 Please visit https://filezilla-project.org/
09-04-2023 ... FTP Sessio... Command AUTH TLS
09-04-2023 ... FTP Sessio... Response 234 Using authentication type TLS.
09-04-2023 ... FTP Sessio... Command USER faiz
09-04-2023 ... FTP Sessio... Response 331 Please, specify the password.
09-04-2023 ... FTP Sessio... Command PASS ****
09-04-2023 ... FTP Sessio... Response 230 Login successful.
09-04-2023 ... FTP Sessio... Command FEAT
09-04-2023 ... FTP Sessio... Response 211-Features:
09-04-2023 ... FTP Sessio... Response 211 End
09-04-2023 ... FTP Sessio... Command PWD
09-04-2023 ... FTP Sessio... Response 257 "/" is current directory.
09-04-2023 ... FTP Sessio... Command TYPE I
09-04-2023 ... FTP Sessio... Response 200 Type set to I
09-04-2023 ... FTP Sessio... Command PASV
09-04-2023 ... FTP Sessio... Response 227 Entering Passive Mode (127,0,0,1,195,127)
09-04-2023 ... FTP Sessio... Command MLSD
09-04-2023 ... FTP Sessio... Response 150 About to start data transfer.
09-04-2023 ... FTP Sessio... Response 226 Operation successful
Date Session ID Protocol Username Host Transfer status Path Size Inst. Speed Avg. Speed Progress
Connected to 127.0.0.1
Type here to search
30°C Sunny
ENG
12:36
09-04-2023

FileZilla Client side Screenshot:





3.1 This is the final result of transfer the files from server to client :



Github-link

https://github.com/Faizkhan36/Open-Source-Project.git