

WebSocket

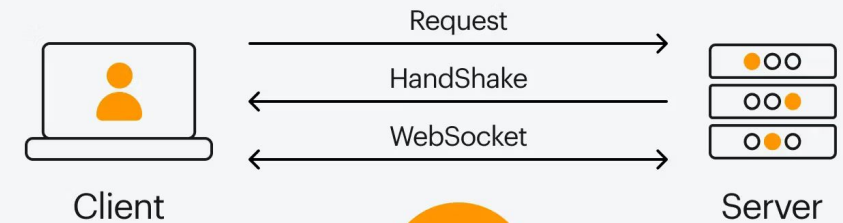
By: Puskar Adhikari

Introduction

WebSocket is a communication protocol that provides a full-duplex, persistent connection between a client and a server over a single TCP connection.

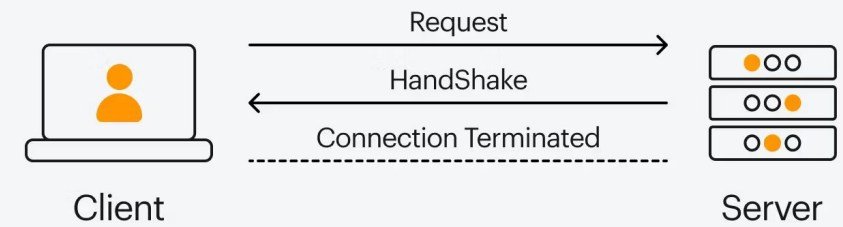
- Full-Duplex: Simultaneously
- Persistent: Once opened, remains open until terminated by client/server.

WebSocket Connection



VS

Other Communication Protocols



Why?

- **Real-time communication**
- **Reduced latency**
- **Lower overhead:** WebSockets require less data transfer because they don't need to send repetitive HTTP headers for every message.
- **Bidirectional data flow**
- **Scalability**

Applications

- **Chat applications:** Instantly sending and receiving messages between users.
- **Live data feeds:** Displaying live stock prices, sports scores, or news updates.
- **Multiplayer gaming:** Synchronizing player actions and game states in real time.
- **Collaborative tools:** Enabling real-time editing in applications like Google Docs.

Gitlab Repo

<https://gitlab.com/ait-fsad-2025/labreference/fullstackapplication>

Branch: **web-socket**

- **git pull**
- **git switch web-socket**

FYI

<https://www.geeksforgeeks.org/web-tech/what-is-web-socket-and-how-it-is-different-from-the-http/>