

Poker WebSocket Server User Manual

Introduction

Welcome to the Poker WebSocket Server user manual. This application allows multiple users to play popular poker variants in real time over a network. The supported games are **Five Card Draw**, **Seven Card Stud**, and **Texas Hold'em**. Players connect to the poker server using a WebSocket client (for example, a web browser application or a dedicated desktop/mobile client) and can join virtual poker tables to play with others or observe games as a spectator.

This guide will walk you through connecting to the server, creating or joining a game, understanding the flow of each poker variant, using the in-game commands, and troubleshooting common issues. Whether you're a player looking to enjoy a poker night with friends online or just testing the server, this manual will help you get started.

Connecting to the Server

To play on the Poker WebSocket Server, you need a WebSocket-compatible client:

Simply just cargo run then:

<http://localhost:1112>

Replace `<server-address>` with the server's hostname or IP (use `localhost` if you are running the server on your own machine). The default port is **1112** unless changed in the server configuration.

On a successful connection, you are connected to the server's lobby system. The first step is to **identify yourself with a username**. If you are a new user, you should register a username; if you have connected before, you can simply log in with the same name:

- **Registering a new player:** Send a register command with your desired username.

This requests the server to create a new account named "Alice". The server will respond confirming registration or an error if that name is taken.

- **Logging in:** If your username already exists (from a previous session), send a login request instead:

The server will authenticate and reconnect you to your account (no password is required in the current implementation, user names are unique identifiers).

Once you have registered or logged in, you'll enter the **main lobby** (sometimes called "Server Lobby"). In this lobby, you can create or join or see available game rooms.

Creating or Joining a Game

After connecting, you can either **create a new game lobby** or **join an existing one**:

- **View Available Games:** To see a list of open game lobbies, look under the Available Game Lobbies if you see a message “No active lobbies at the moment” then nobody has created a lobby yet.
- **Creating a Game Lobby:** To start a new game, use the create lobby button. You need to provide a lobby name and choose a game variant. For example, to create a Five Card Draw game:
Input “Name” under lobby name then select the game type in the drop down bar.
- **Joining a Game Lobby:** To join an existing game, simply click on a available game that you see.

This will attempt to sit you in "Alice's Game" as a player. If you join the room as a spectator you will join as a **spectator**, meaning you can watch the game but not participate in betting or playing. The server will include you in all updates but will not deal you cards or require bets from you.

- **Leaving a Lobby:** If you wish to leave the current lobby (either to return to the main lobby or quit), you can use the Leave Lobby Button. This will remove you from the game you are in.

When you join a game lobby as a player, you might need to wait for enough players to join before starting. The server does not automatically start games; it requires the players to signal readiness and then start the game manually:

- **Ready Up:** Once you're in a lobby and prepared to play, use the `Ready` button to mark yourself as ready. All players should do this when they are prepared to begin. The people in the lobby can check those in the lobby by looking under players in lobby.
- **Starting the Game:** When all participating players are ready (and the minimum number of players required for that poker variant is met – typically at least 2 players), the lobby will start the game for the players.

After `StartGame`, the server will handle dealing cards and moving through the phases of the poker game automatically. As a player, you will receive messages from the server about your cards and game updates, and you'll be expected to respond with actions (like betting or discarding) on your turn.

Gameplay Flow by Variant

Each poker variant has a specific turn structure and set of rules. Below is an overview of how the gameplay flows for each supported game type:

Five Card Draw

1. **Ante and Deal:** At the start of a Five Card Draw round, typically each player places an ante (a small initial bet). The server then deals **5 cards** face-down to each player.
2. **First Betting Round:** The first betting round begins. Players, starting from a designated player (often the one next to the dealer), may bet, call, raise, or fold. All bets go into the pot.
3. **Draw Phase:** After the first betting round, players enter the draw phase. Each player can choose to **discard** some of their cards and **draw** new ones from the deck to replace them. (Commonly, a player may discard 0 to 3 cards. The server will handle the card exchange when you signal which cards to drop – the client interface should provide a way to select cards to discard.)
4. **Second Betting Round:** Another round of betting occurs, starting again from the player next to the dealer. Players bet based on the strength of their new 5-card hand after the draw.
5. **Showdown:** If more than one player remains after the second betting round, it's time for a showdown. All remaining players reveal their five-card hands. The server compares hand rankings to determine the **winner**, who takes the pot. Hand rankings follow standard poker rules (from high card up to royal flush).

Seven Card Stud

1. **Ante and Third Street:** All players place an ante to seed the pot. The dealer then deals each player **three cards**: two cards face-down (hole cards) and one card face-up (the "door card"). This stage is often called "Third Street."
2. **First Betting Round:** In traditional Seven Card Stud rules, the player with the lowest-ranking upcard must post a small compulsory bet (bring-in) to start the betting, and then betting continues from there. (The server handles turn order automatically; players will be prompted when it's their turn to act.)
3. **Fourth Street:** Each remaining player is dealt a fourth card face-up. Now each player has two cards down and two up.
4. **Second Betting Round:** Another round of betting occurs. From this round onward, the highest hand showing begins the betting (the server will determine whose visible cards make the best hand and start with that player).
5. **Fifth Street:** Each player is dealt a fifth card face-up (now three cards up, two down for each player).
6. **Third Betting Round:** A betting round occurs, starting with the player showing the best hand.
7. **Sixth Street:** Each player is dealt a sixth card face-up (now four upcards and two hole cards each).
8. **Fourth Betting Round:** Another betting round occurs.
9. **Seventh Street (River):** Each player is dealt a seventh and final card, **face-down** (so now each player has 3 hole cards and 4 upcards in total).
10. **Fifth Betting Round:** A final betting round occurs.
11. **Showdown:** Remaining players reveal all their cards. Each player makes the best possible **5-card hand** out of their 7 cards. The server evaluates the hands and determines the winner of the pot. Standard high-hand poker rankings are used to determine the winner. If there is a tie for best hand, the pot may be split (if implemented).

Seven Card Stud does not use community cards; all cards are individual to each player. Throughout the deal, if at any point all but one player fold, the remaining player wins the pot immediately (the round ends without needing to deal further cards).

Texas Hold'em

1. **Blinds and Deal (Pre-Flop):** Texas Hold'em typically uses blinds instead of antes. Before dealing cards, the two players to the left of the dealer post the **small blind** and **big blind** bets to initiate the pot. Then the dealer gives **two private cards** (hole cards) to each player.
2. **First Betting Round (Pre-Flop):** Starting with the player to the left of the big blind, players take turns to bet, call (match the current bet), raise, or fold based on the strength of their two hole cards.
3. **Flop:** The dealer deals **three community cards** face-up in the middle of the table (known as the flop).
4. **Second Betting Round:** Another round of betting ensues, usually starting with the first active player to the left of the dealer. Players now consider the best five-card hand they can make using their two-hole cards plus the community cards revealed so far.
5. **Turn:** The dealer deals a fourth community card face-up (the turn).
6. **Third Betting Round:** Another betting round occurs, like the previous one.
7. **River:** The dealer deals the fifth and final community card face-up (the river). There are now five community cards on the table.
8. **Fourth Betting Round:** A final round of betting takes place. Players now know all seven cards available to form their best 5-card hand (2 in hand + 5 on table).
9. **Showdown:** If more than one player remains, all remaining players reveal their two hole cards. The server determines each player's best five-card poker hand by combining their hole cards with the community cards. The player with the highest-ranking hand wins the pot (according to standard Texas Hold'em hand rankings). If multiple players share the best hand, the pot is split accordingly.

Texas Hold'em is played in rounds, and typically the dealer position rotates each game, but on the server the role of dealer is assigned automatically by the game logic. Blinds are taken from the players' chip balances as needed and put into the pot. Folding, betting, and calling are all handled via the commands you send on your turn.