

# User Manual for **BYOS**: Build Your Own *Spotify*

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## 1 Introduction

This user manual describes how to use the BYOS (Build Your Own Spotify) music server and client system. The system allows administrators to manage users and songs, and allows users to play and rate music stored on a central server.

## 2 System Requirements

- OS: Linux
- Dependencies:
  - GCC compiler
  - MP3 playback utility (ffmpeg)
  - SQLite3 development libraries (libsqlite3-dev on Debian/Ubuntu)
- Network: TCP/IP support

## 3 Installation

1. Clone the repository:

```
git clone https://github.com/elizavetalapiga/Musicserver.git
```

2. Build the project:

```
cd Musicserver
make
```

3. Start the server:

```
./bin/simpleserver
```

4. Start a client:

```
./bin/serverclient
```

## 4 Client Commands Reference

Below is a list of all available commands for users and administrators.

## 4.1 General Commands (All Users)

- `login <user> <pass>` – Log in with username and password.
- `list` – List all songs on the server.
- `play <song_name>` – Download and play a song from the server.
- `logout` – Logout from the account.
- `info <song_name>` – Display metadata/tags for a song.
- `search <album/artist/year/genre> <value>` – Search songs by tag.
- `rate <song_name> <1-5>` – Submit a rating for a song.
- `avg <song_name>` – Show average rating for the song.
- `dlcount <song_name>` – Show number of downloads for a song.

## 4.2 Administrator Commands

- `add <song_name>` – Upload a song to the server.
- `delete <song_name>` – Delete a song from the server.
- `rename <song_name> <new_name>` – Rename a song.
- `createuser <name> <password> <role>` – Create a new user with given role (e.g., user or admin).
- `changetag <song_name> <album/artist/year/genre> <value>` – Modify a song's metadata.

## 5 Username and Password Constraints

Username and passwords in this system are stored in fixed-size buffers of **64 bits** (8 bytes). Due to the use of C-style strings, the last byte is reserved for the **null terminator** (`\0`), which marks the end of the string.

### Limitations

- Maximum of **7 characters** for both username and password.
- Only **ASCII characters** are supported (e.g., A–Z, a–z, 0–9, and symbols like ! @ # \$ %).
- Any attempt to input more than 7 characters will result the truncation of the input.

## 6 Default Administrator Credentials

Upon first setup, the system provides a default administrator account for initial access:

- **Username:** admin
- **Password:** admin