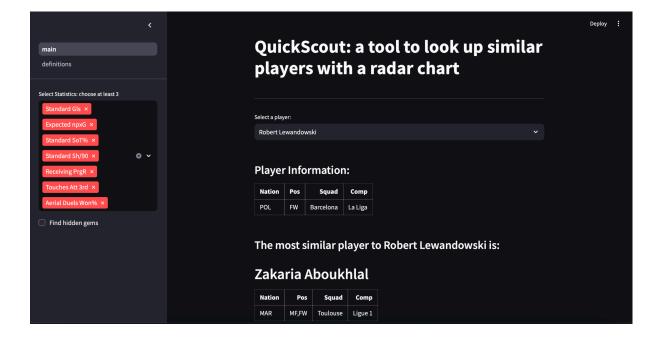# QuickScout: Documentation

QuickScout is a lightweight Streamlit app that allows you to find close matches in terms of playing style to your favorite players. To run it, you need to download the entire QuickScout folder to your machine, and also have [Streamlit installed](link) (can be done by typing `pip install streamlit` in your terminal).

The app needs data from fbref.com to run, which is stored locally as a .csv file. By default, the folder contains the file `fbref_final.csv` that contains player data from January 2025. If you wish to refresh the data, start by running the `downloader.py` file. It will download the most recent fbref data and save it by overwriting the current file.
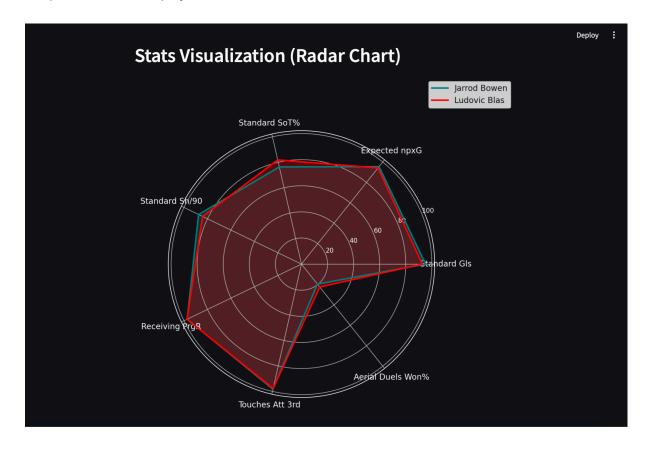
In order to run the actual app, type the following command in your terminal: `streamlit run *path_to_file*/main.py`. The app will then open in your browser.

You can select the player that you want to find the closest match to from a dropdown menu. The list will contain all the players from the current season. For players that have switched teams mid-season, the data will contain the performance for the team, with whom they spent the most time.
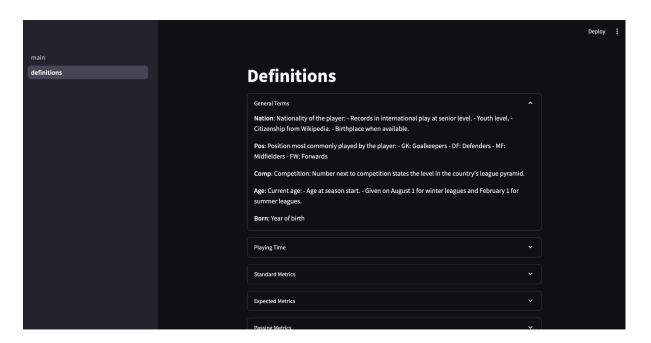

The algorithm for finding the closest player first finds the players' percentile rank for each selected stat, and then looks for the player, for whom the *sum of squared differences in percentile ranks* is the lowest. The value (and thus, the match) will be recalculated every time you change the statistics, by which you want to evaluate the players. For every major position (FW, MF, DF), there is a different set of default statistics, but you can choose whatever set you want.
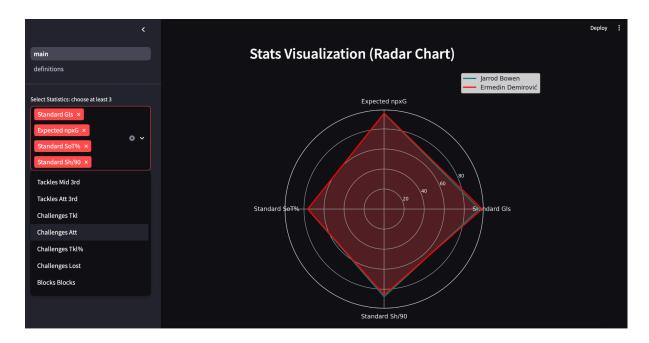
The performance in selected stats will also be displayed on a radar chart, that is used to compare the selected player and the closest match.

On the left-hand side of the screen, you can also open the tab with definitions, as provided by fbref.

The radar chart will change dynamically, based on the set of statistics you choose. The app has built-in safeguards that will automatically select certain metrics if you go below three selected stats.

Finally, you can select the "Find hidden gems" option to look for less-obvious matches. Ticking this box will mean the search is performed only on players that have played fewer minutes this season than the 50th percentile of players, an also use a slightly different algorithm for evaluating closet matches.