LA-LIGA MASHUP

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CONTENTS

1. INTRODUCTION

La Liga mashup is a node-based software, part of the assessment one from CAB432 of Semester 1 in 2020. Throughout this software, a user clicks in the picture of a club from the Spanish soccer league to view who the team's current players are. Furthermore, the user may click in a link to view how the last season table looked after the matches played, possible by API's manipulation from the server-side and bootstrap, Html and CSS from the client-side.

Sports DB API

Home URL: thesportsdb.com/

Sports DB API is an open crowd-sourced database of sports artwork and metadata with free APIs generates by user contribution, which allows users to query teams, players in teams, player details, player contract details, and just about any player or team data from a broad range of sports such as soccer/football and handball (TheSportsDB, 2020).

2. MASHUP USE CASES AND SERVICES

2.1 USER CASE 1

“As a user, I want to see a list of the clubs that made part of the season 2019-2020 from the Spanish soccer (called La Liga) to select the club I would like to have more information”.

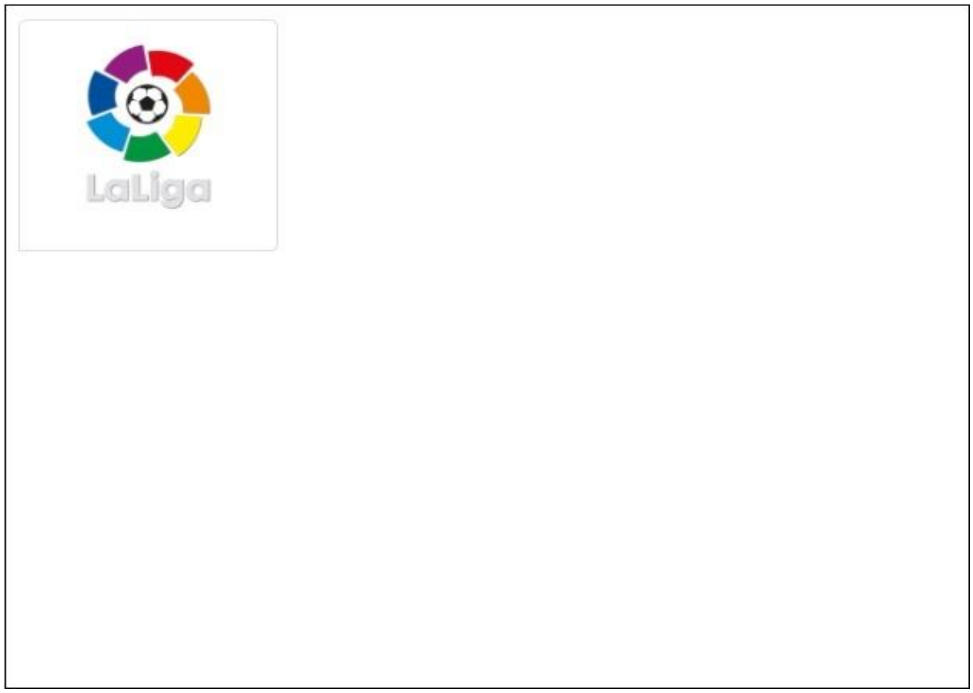


Figure 1 - Homepage website.

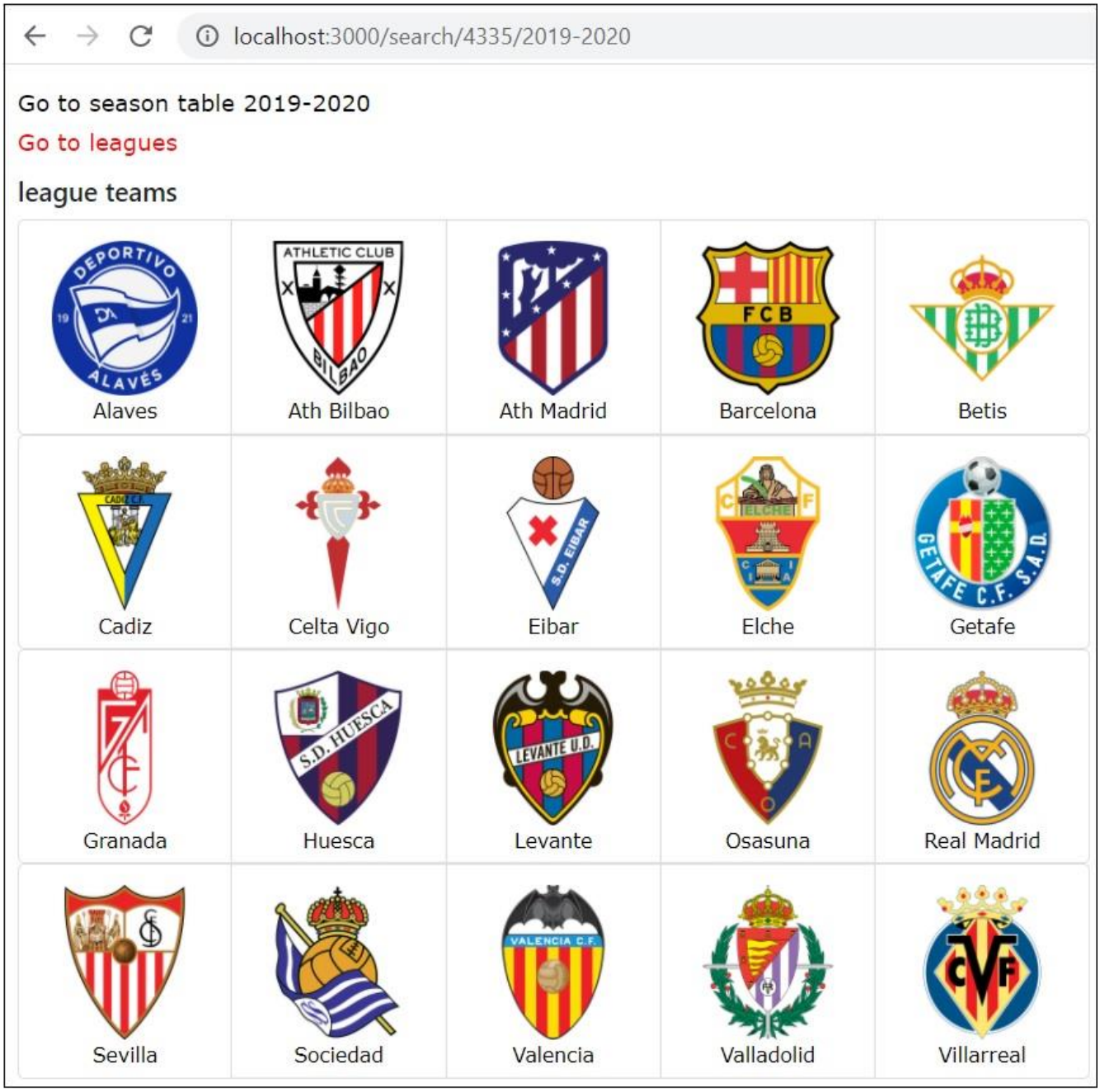


Figure 2 - Clubs from La liga, season 2019-2020.

Figure 1 relies on the homepage from the website. This page allows the user to click in the La Liga logo, which will direct to the page of Figure 2, which illustrates the club's list that played La Liga in the season 2019-2020.

In this use case, the id of La Liga and also the season are passed as parameters to List All teams details in a league by Id API endpoint (https://www.thesportsdb.com/api/v1/json/API_KEY/lookup_all_teams.php?id=?). What will return a JSON object with the club's list that played La Liga in the season 2019-2020.

2.2 USER CASE 2

“As a user, I want to see a list of players from a specific club of La Liga.”

The page illustrated in Figure 2 is a list of all clubs from La Liga season 2019-2020, in which their Logo and name illustrate the clubs. This page allows a user to click on a club, redirecting another page that shows a list with the name, picture, and number of all players from the club chosen. For instance, a list shows in figure 3 will be shown whether the user clicks on the Real Madrid logo.

In this use case, the club's id is passed as a parameter to *List All players in a team by Team Id* API endpoint (https://www.thesportsdb.com/api/v1/json/API_KEY/lookup_all_players.php?id=?). What returns a JSON object with the players from the chosen club.

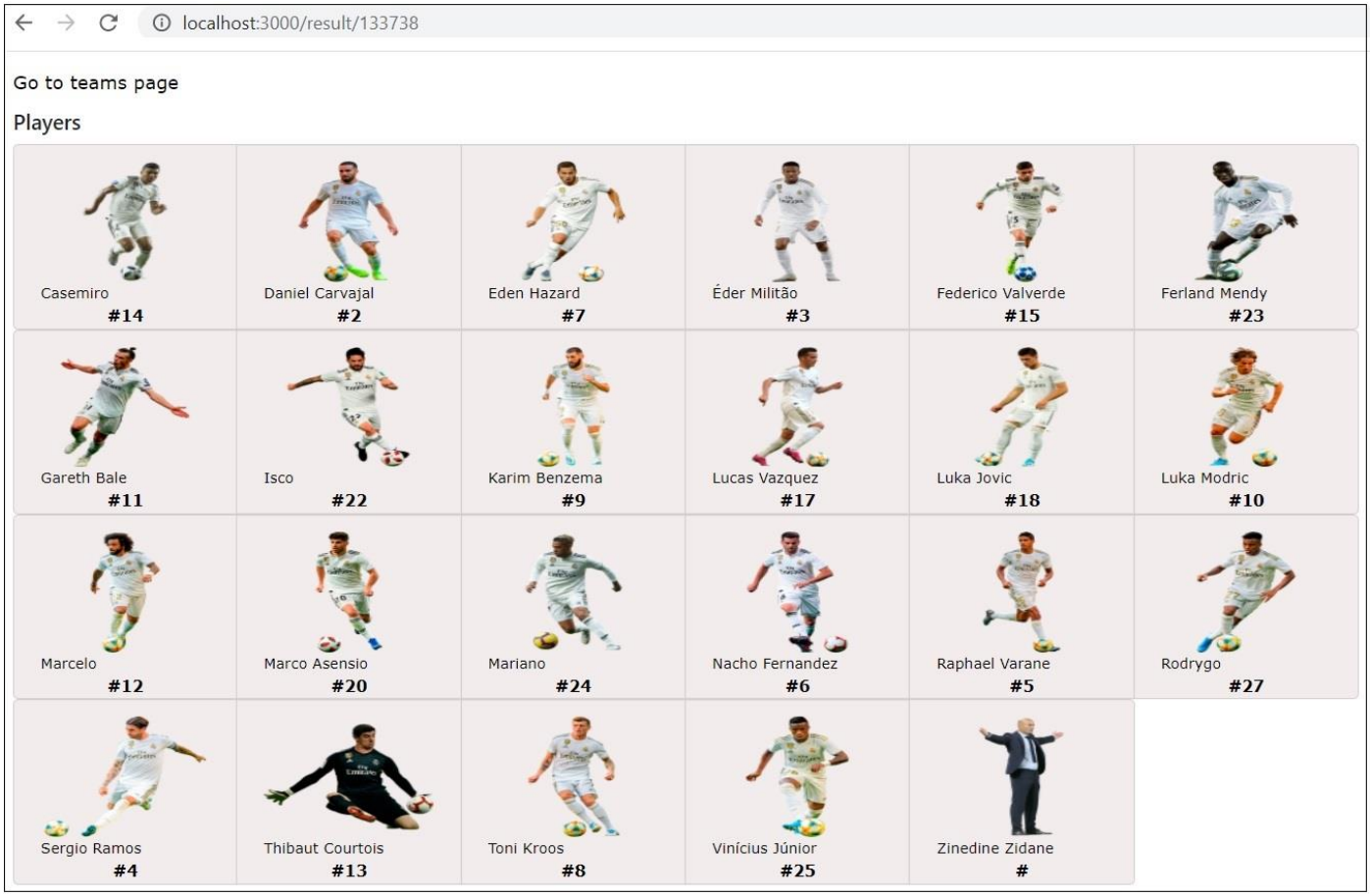


Figure 3 – Players from real Madrid.

2.3 USER CASE 3

“As a user, I want to see the last season's table after all the matches played.”

The screen illustrated in Figure 2 also permits the user to click in the link GO to season table 2019-2020, resulting in a page illustrated in Figure 4, which is a table with all clubs' total points after all the matches played in the last season, besides their quantity of win, draw, and loss.

In this use case, the league's id and season are passed as parameters to *Lookup Table by League ID and Season* API endpoint (https://www.thesportsdb.com/api/v1/json/API_KEY/lookuptable.php?l=?&s=?). What will return a JSON object with the club's description in the league's last season.

TEAM	WIN	DRAW	LOSS	TOTAL
Real Madrid	26	9	3	87
Barcelona	25	7	6	82
Ath Madrid	18	16	4	70
Sevilla	19	13	6	70
Villarreal	18	6	14	60
Granada	16	8	14	56
Sociedad	16	8	14	56
Getafe	14	12	12	54
Valencia	14	11	13	53
Osasuna	13	13	12	52
Ath Bilbao	13	12	13	51
Levante	14	7	17	49
Eibar	11	9	18	42
Valladolid	9	15	14	42
Betis	10	11	17	41
Alaves	10	9	19	39
Celta Vigo	7	16	15	37
Leganes	8	12	18	36
Mallorca	9	6	23	33
Espanol	5	10	23	25

Figure 4 – Table of La Liga 2019-2020.

3. TECHNICAL DESCRIPTION OF THE APPLICATION

The overall implementation of this service is built by JavaScript and CSS3 stylesheets in the Client-side and Node.js server to build the services in Docker containers. Their technique description is better explained bellow.

3.1 PROJECT DATA FLOW

A basic overall representation of the data flow is shows by the image bellow.

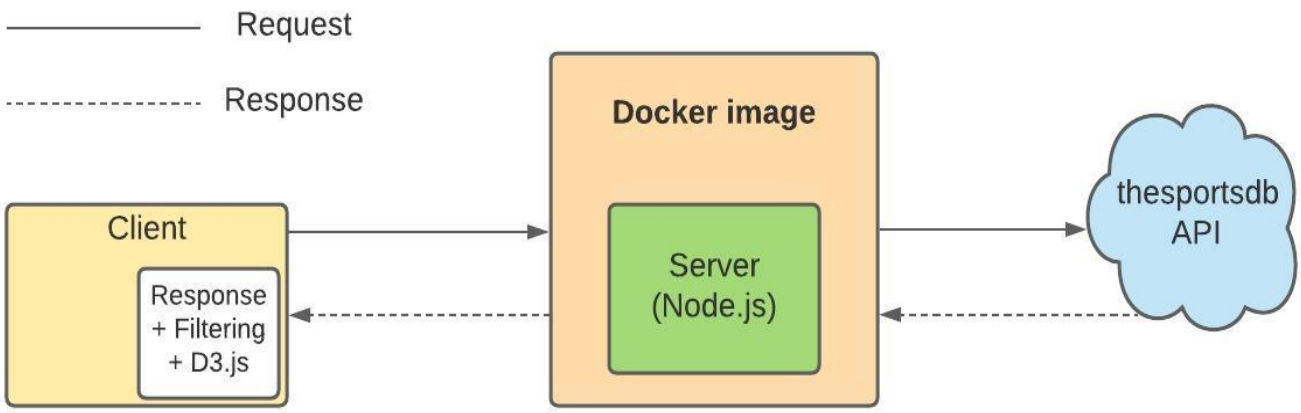


Figure 5 - La Liga mashup data flow.

3.2 PROJECT STRUCTURE

The project structure is a general Express Node.js web application that separates the different parts of the app and makes the code easier to maintain. A brief explanation of this structure is shown below.

APPFILES/
- /public - Contain the CSS File.
  - /Styles.css
- /routes – Contain the app routes.
  - /players.js
  - /table.js
  - /teams.js
- App.js - Initialize the app and glue everything together.
- Package.json – Description of all packages that the app depends and their versions.

3.3 CLIENT

The client-side is responsible for sending requests to the server, getting the responses, and handles the pages and API's using HTML5, CSS3, and JavaScript.

Initially, the La Liga id is passed as a parameter to *League Details by Id* API endpoint, which returns a JSON object with the league information to be used from the Client to build the index page, displaying the La Liga's logo in the Home screen.

Clicking in the league's logo sends a request to "/search" (server-side) with the league id and season as parameters that handle that request, giving the Client a list of La Liga clubs' logo and names that are displayed in the screen. From that on, clicking in a club's logo sends a request to the server-side with the club id, returning the Client a list of the players from the chosen club that are processed and displayed by the Client. Whereas, clicking in the link *Go to season table* displays how the league's table looked after all the matches played.

3.4 SERVER

Given a client's request, the server-side deals with the extended requests to external APIs and respond to the client with the relevant information. This server-side runs on Express JS web framework sited on two layers that are Node JS and Docker Container. This service uses several node packages such as express (Web framework which the service is built), Morgan (HTTP request logger middleware), and Axios (Promise based HTTP client for the browser and node.js).

4. DISCUSSION OF THE USE OF DOCKER

The Docker configuration for this application is relatively straightforward. Firstly, Docker is used to binding the whole application into a container under an image, including the server, Node Modules, package.json files, and a folder containing CSS styles. Second, YARN is used as it automatically fixes the packages if any issues arise. Third, the port in which the node server runs are exposed (3000), and finally the CMD app.js is used to start the application.

5. TESTING AND LIMITATIONS

Error Handling

The try-catch method is used to predict the content labels by the API response errors. Additionally, the errors in formatting the requests are caught by analyzing the status response and redirecting the home page with an appropriate error message.

Purpose	Expected Outcome	Result
Access port 3000 of local network.	Application loads the home page.	PASS
Click on La Liga logo lied in the home page.	Application loads the "/search/{idLeague}/{Season}", displaying a list of the La Liga clubs.	PASS
Click on a specific club logo lied in the search page.	Application loads the "/result{idClub}", displaying the players from the chosen club.	PASS
Click on the link "Go to teams page" in Players page.	Application loads the "/search/{idLeague}/{Season}", displaying a list of the La Liga clubs.	PASS
Click on the link "Go to season table 2019-2020".	Application loads the "/table/{idLeague}/{Season}", showing the table of La Liga season 2019-2020.	PASS
Click on the link "Go to teams page" in Table page.	Application loads the "/search/{idLeague}/{Season}", displaying a list of the La Liga clubs.	PASS
Click on the link "Go to leagues" in Clubs page.	Application loads the home page.	PASS

6. POSSIBLE EXTENSIONS

6.1 SEARCH OPTION IN CLUB'S PAGE.

The first possible extension to be considered would be in the Club's page. A text field could be inserted in this page, and it would help the user to enter with a club name and it would change the club's list showing the clubs according to the search.

6.2 MORE LEAGUES.

The application also should not limit to la Liga clubs. In the Home page it could offer more leagues, such Brazilian and Italian ones.

6.3 PAGES TO BASIC

The should not limit to just show the name of the players, it should show information such as the clubs where the players played before, their born country and trophies earned. Besides it could should offer an option to choose the season to have more information and not just the 2019-2020 season.

7. REFERENCES

TheSportsDB. (2020). Welcome to TheSportsDB. <https://thesportsdb.com/api.php>.

8. APPENDIX

8.1 USER GUIDE

8.1.1 The software developed works in a very straightforward way. After the user access the IP link given by EC2 (as in Figure 6) the Application will be directed to a page containing La Liga logo (as in Figure 7).

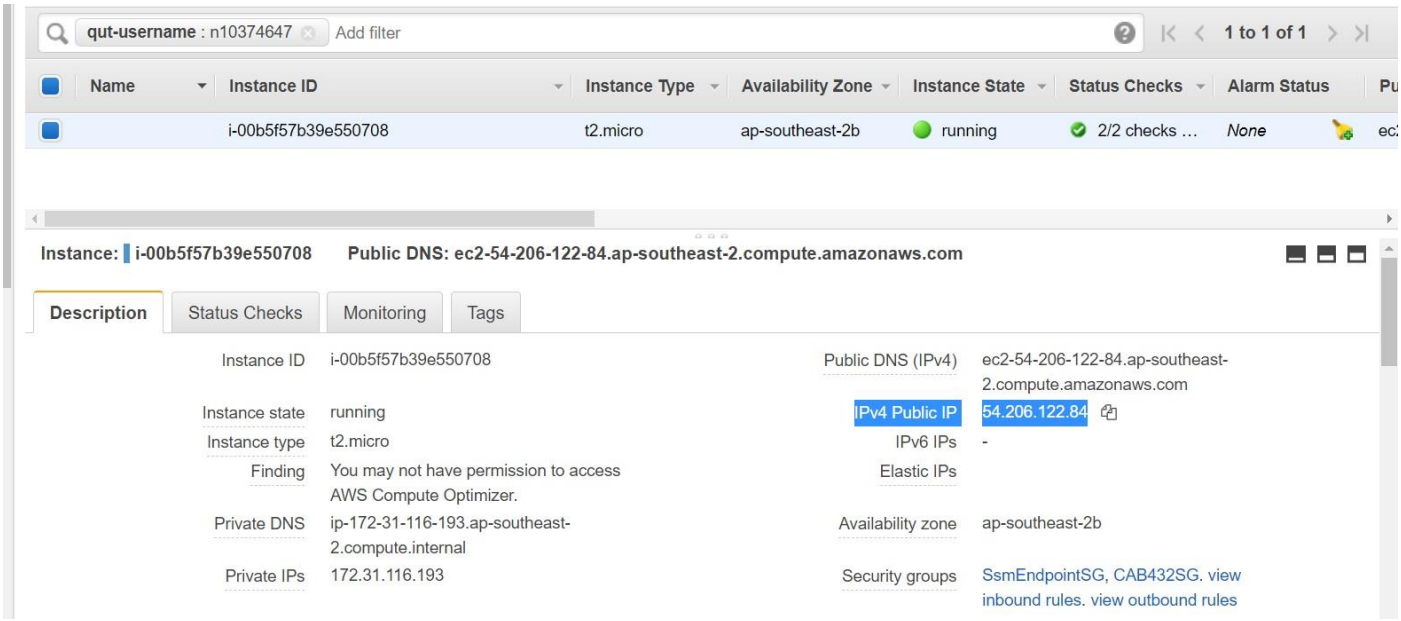


Figure 6 – Page showing the IPV to access the application.

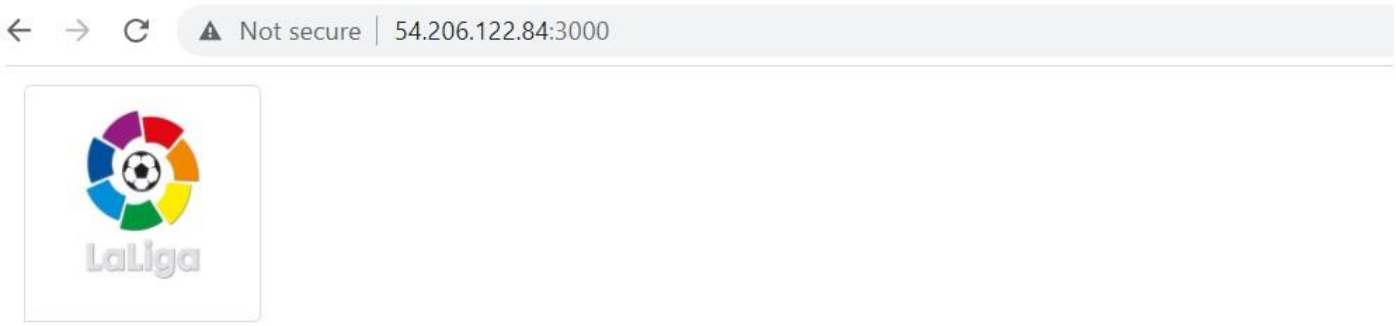


Figure 7 – Application home page.

8.1.2 By clicking in La Liga logo the application will be direct to a page with a list of clubs that made part of La liga during 2019-2020 season.

Figure 8 – Page containing the list of La Liga club 2019-2020.

8.1.3 From here the application allows three options. The first one consists in click in a club's logo, which the application will be direct to a page with a list containing the players part of its club squad (Figure 9). For instance, in the image bellow the chosen club was Real Madrid.

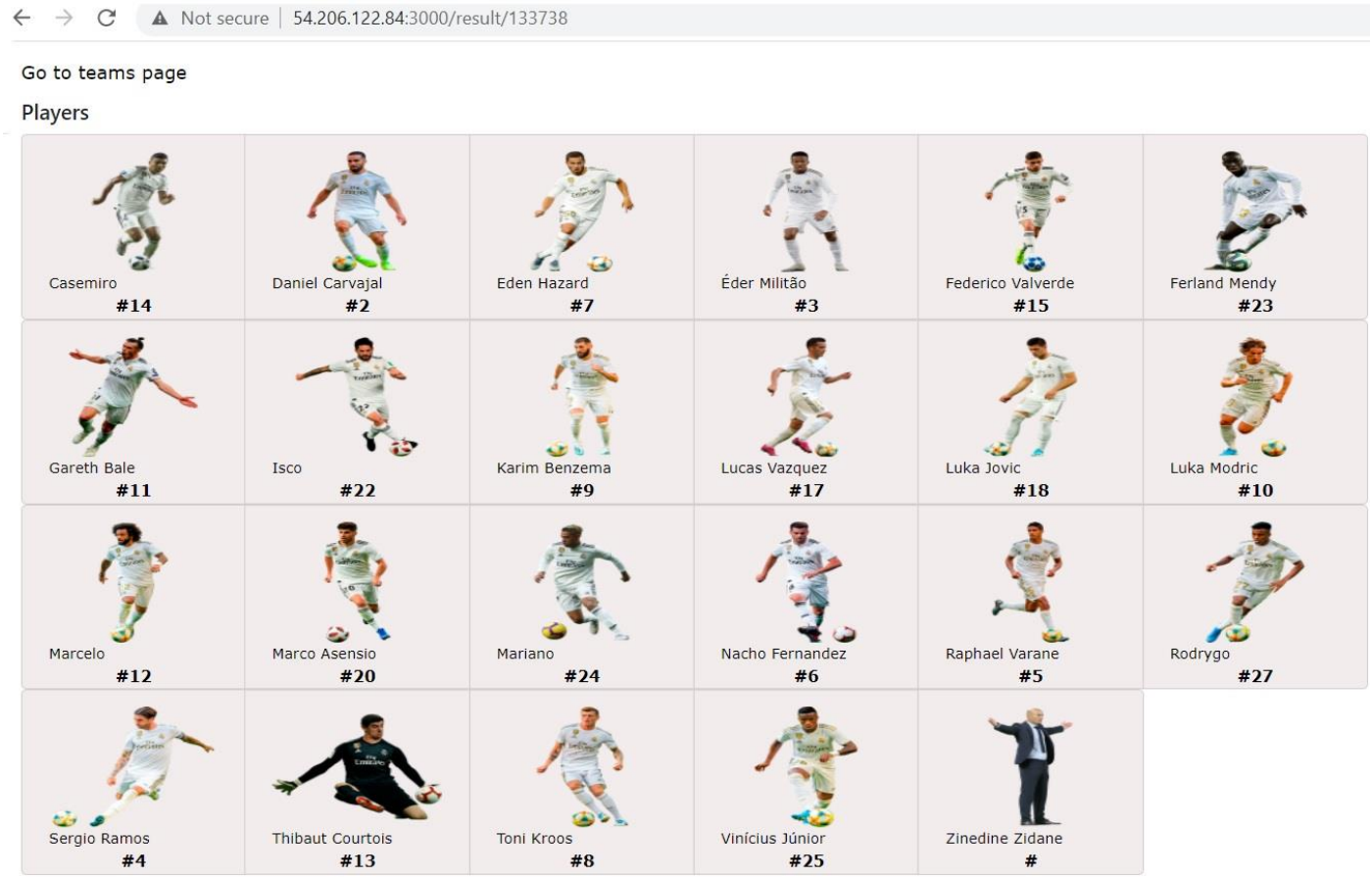
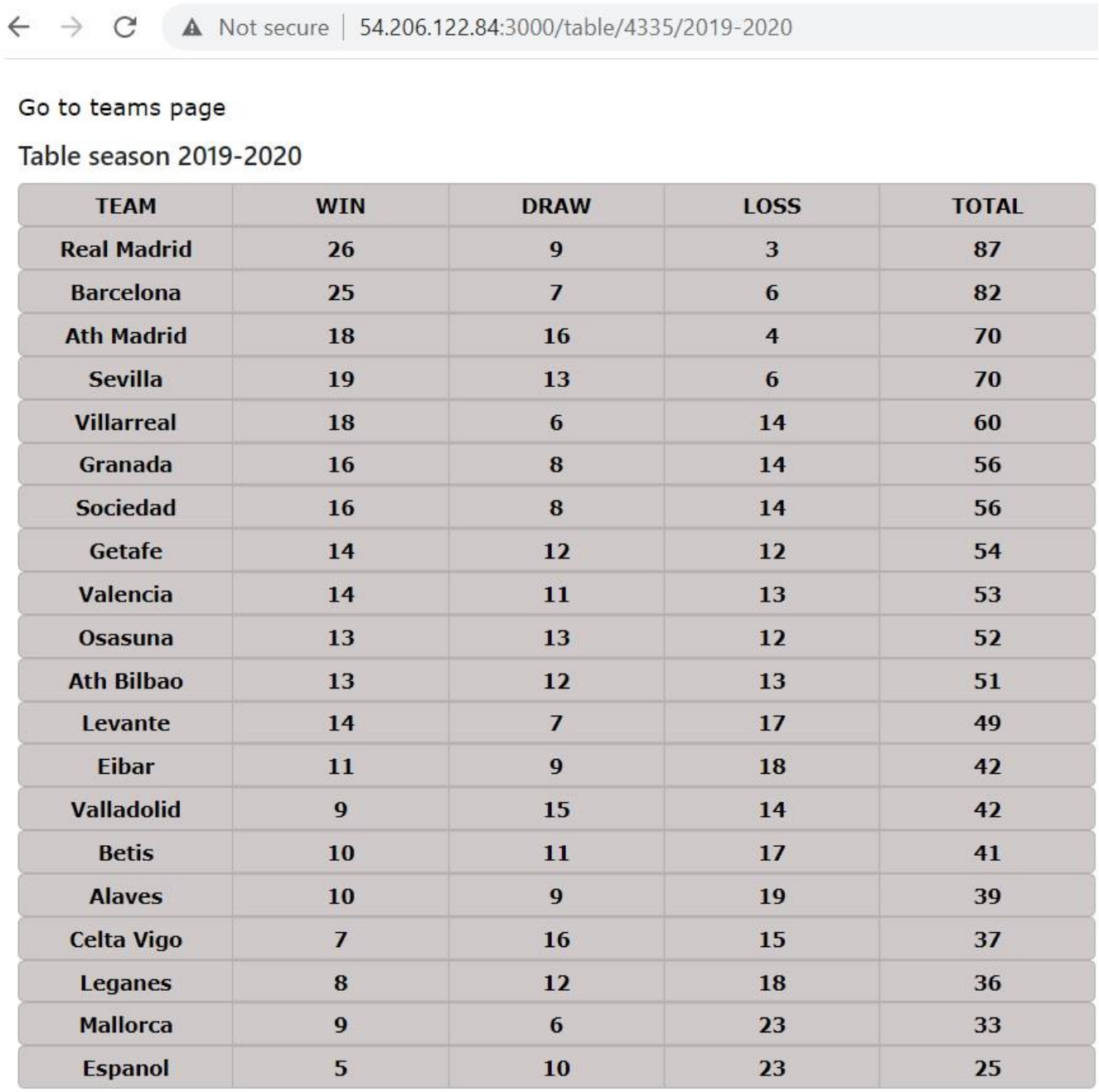


Figure 9 – Page with Real Madrid's squad players.

8.1.4 The second option is click on the link “Go to leagues”, which will direct the application to the Home page (Figure 7). And the third option consists in click on the link “Go to season 2019-2020” link, which the application will direct to a page with the table of La Liga 2019-2020 as in Figure 10.



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Osasuna	13	13	12	52
Ath Bilbao	13	12	13	51
Levante	14	7	17	49
Eibar	11	9	18	42
Valladolid	9	15	14	42
Betis	10	11	17	41
Alaves	10	9	19	39
Celta Vigo	7	16	15	37
Leganes	8	12	18	36
Mallorca	9	6	23	33
Espanol	5	10	23	25

Figure 10 – Page displaying La Liga 2019-2020 table.

8.2 DOCKERHUB REPOSITORY PAGE

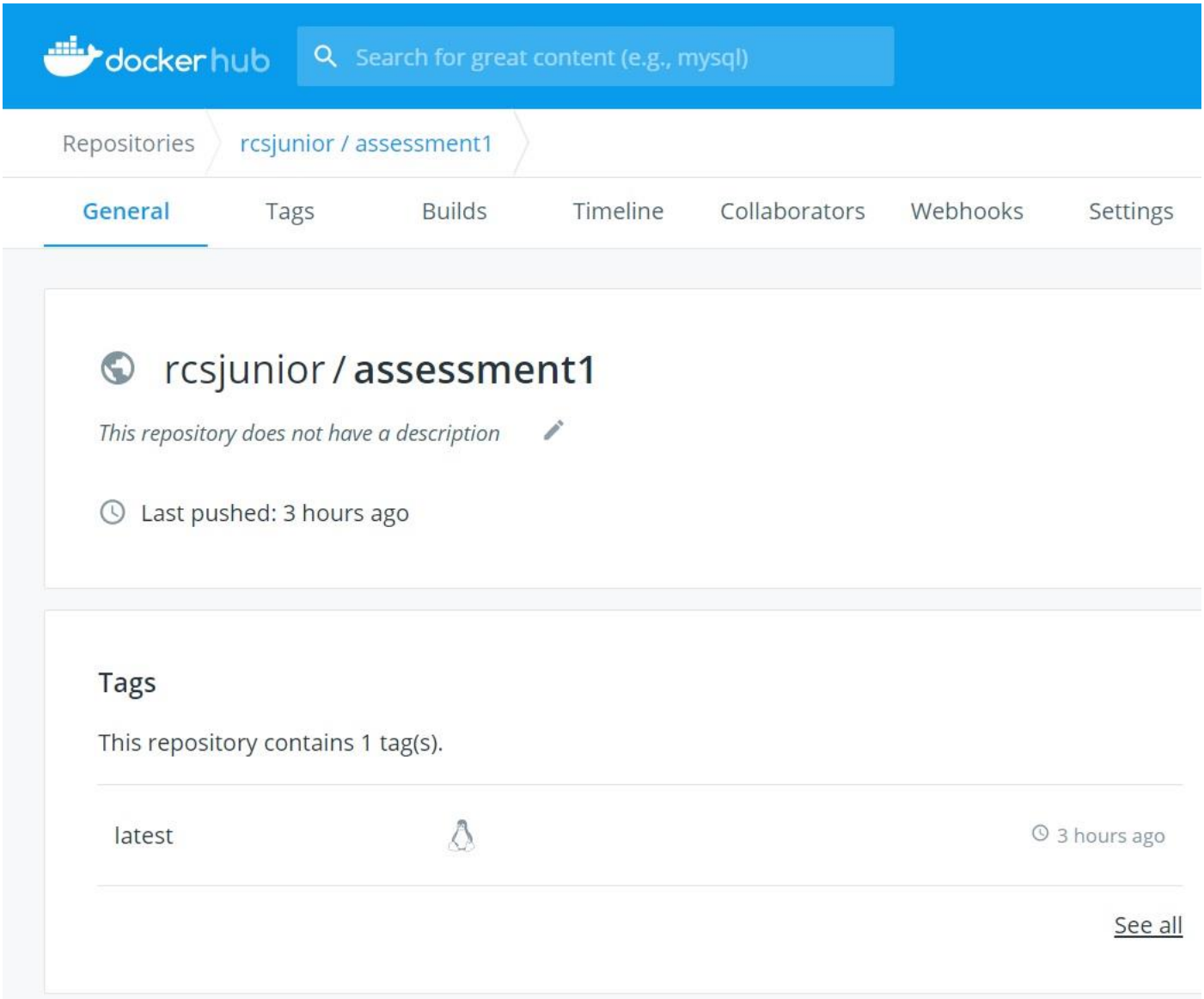

Figure 11 – Repository where the image was uploaded.

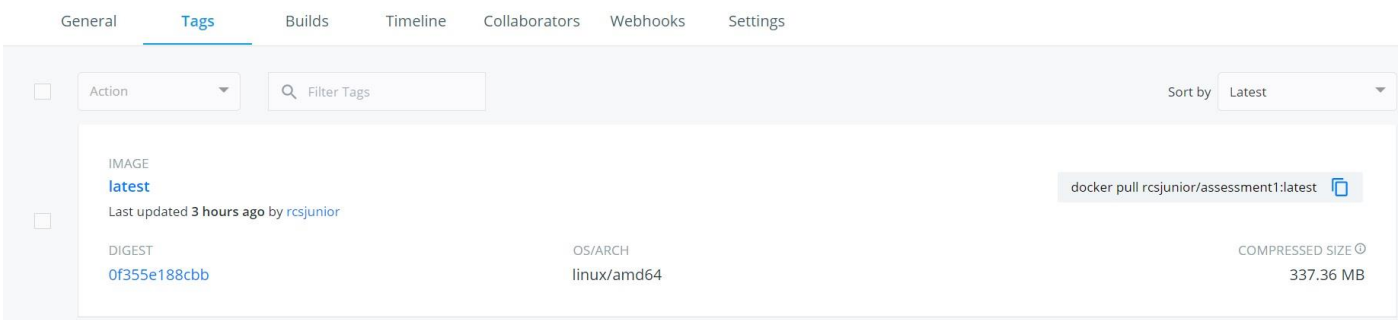

Figure 12 – Docker image of the application.