Football Match Result Prediction User Manuel

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211805018 Köksal Kerem Tanıl

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211805053 Muhammet Erkam Poyraz

1. Introduction:

The purpose of this project is to lay the groundwork for a future project that aims to predict match results. In this project, we aim to create a user-friendly website that includes various types of data such as match scores, home team, away team, stadium, referee, number of spectators, the league and season the match belongs to, match week, the date and time of the match day, and detailed match information for all players from both teams.

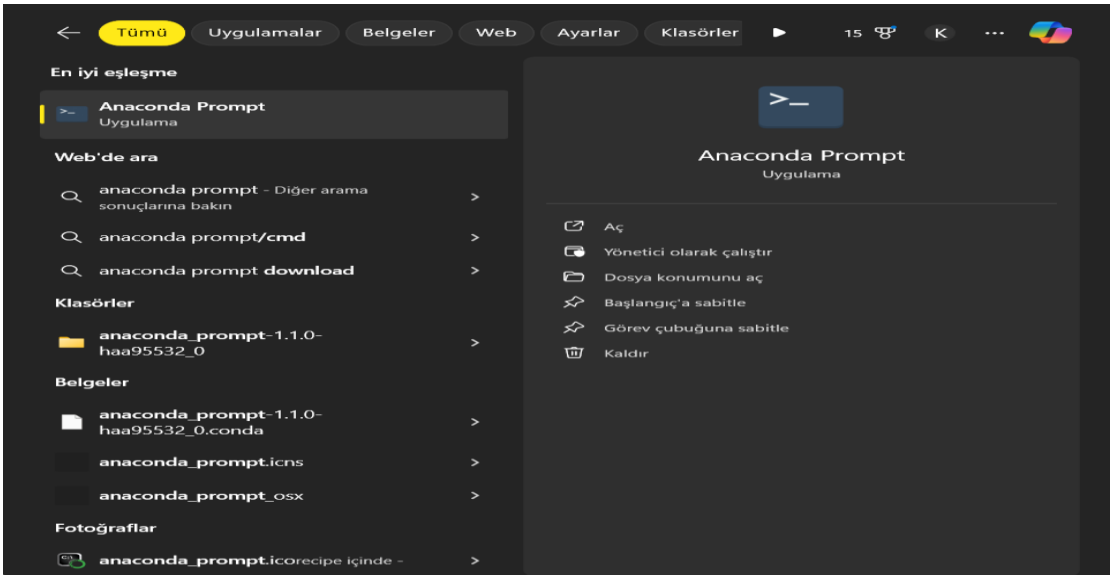
2. System Requirements:

- Operating System: Windows 10/11, macOS
- Processor - i5 or higher
- Python Version: 3.8 or higher
- RAM: At least 8 GB
- Django Version: Latest stable release
- Selenium Version: Latest stable release
- Dependencies:
    - Selenium
    - Django
    - Web browser (google chrome)
    - Chrome Driver

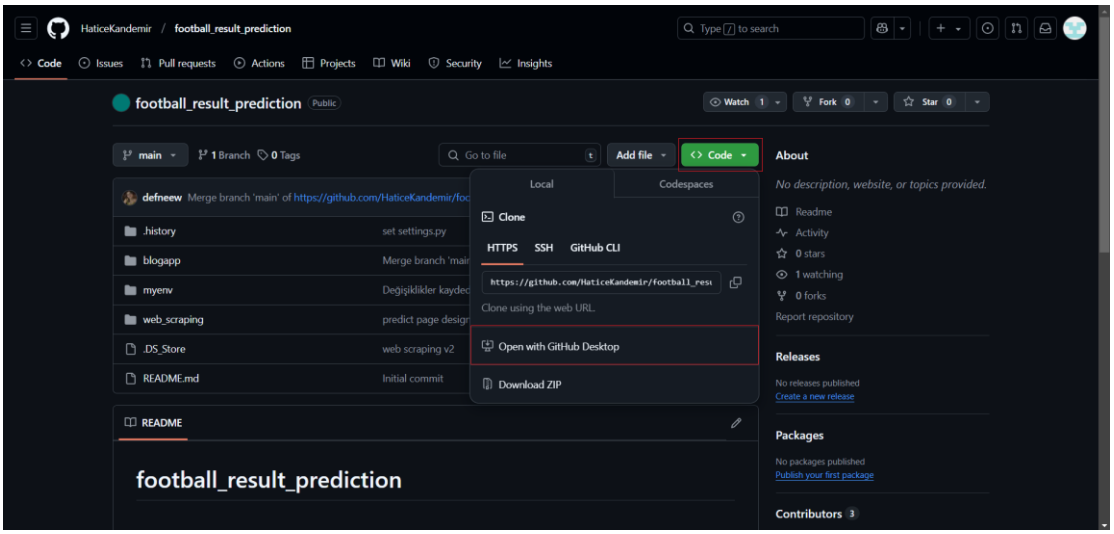
3. Installation Guide:

1. Download and install Anaconda. This video will help you download anaconda: https://www.youtube.com/watch?v=F73u3jBuA1M
2. Download and install Google Chrome. This video will help you download Google Chrome: https://www.youtube.com/watch?v=IElRCiki7iE
3. Download and install Chrome Driver. This video will help you download Chrome Driver: https://www.youtube.com/watch?v=Bpd04FH9ycs

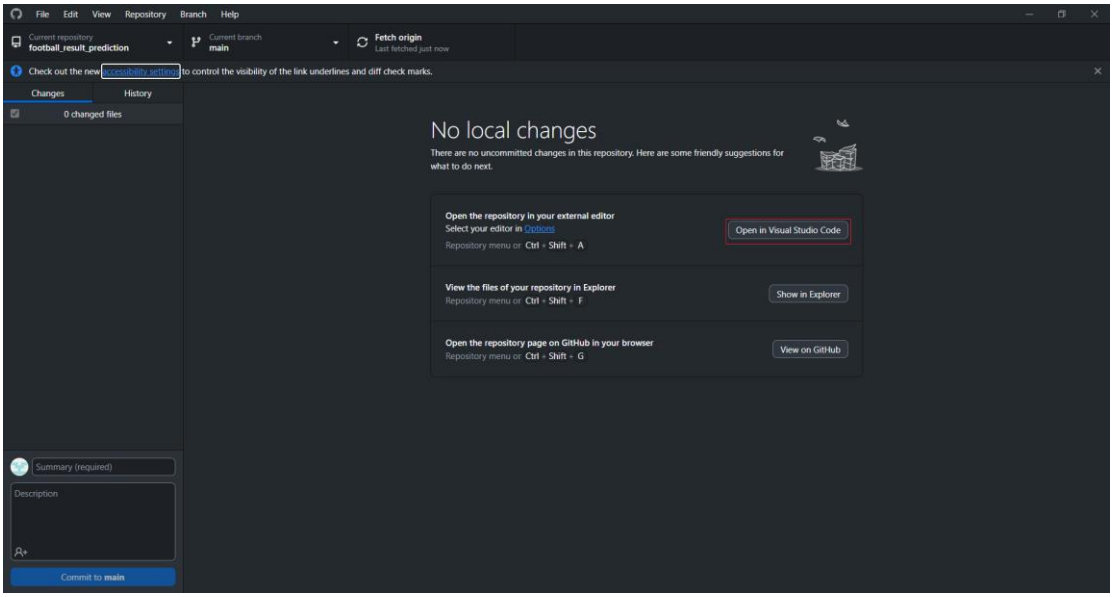
4. Then open the Anaconda Prompt.

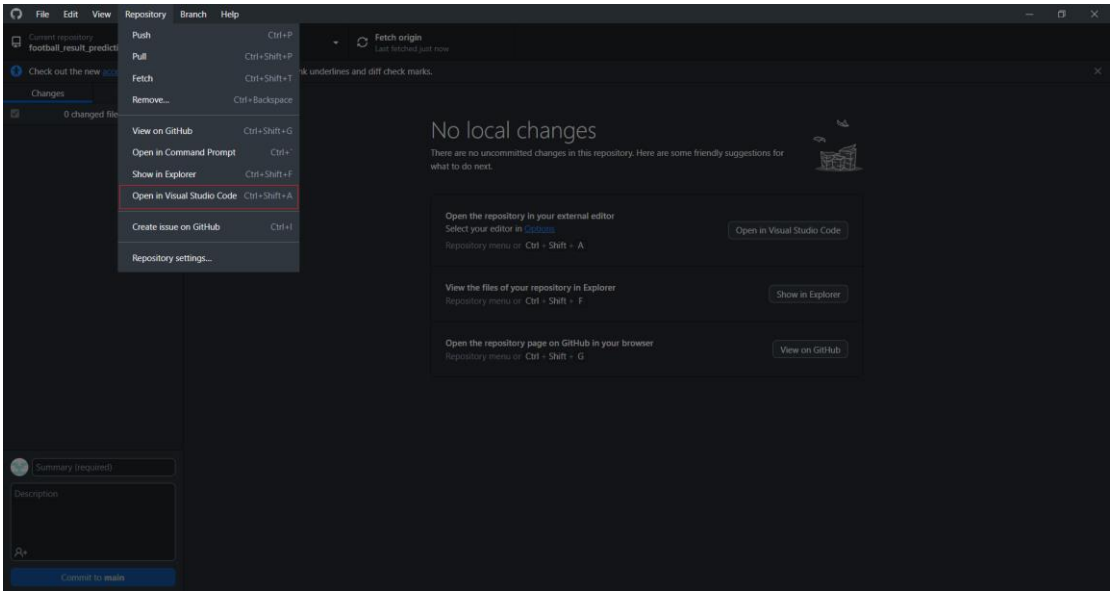


5. Let’s create an environment: **conda create –n test_env python=3.10.16**
6. Let’s activate the environment: **conda activate test_env**
7. Let’s install selenium: **pip install selenium**
8. Let’s install django: **pip install django**
9. Then: **pip install django-import-export**
10. To make sure that django has been successfully installed, you can run the following command: **django-admin –version**
11. Let's go to our GitHub link later: https://github.com/HaticeKandemir/football_result_prediction
12. If you don't have the GitHub desktop application on your computer, download it: https://www.youtube.com/watch?v=G4SIIp14Xx4
13. Then, let's open the files in the GitHub desktop application by following the steps in the photo.



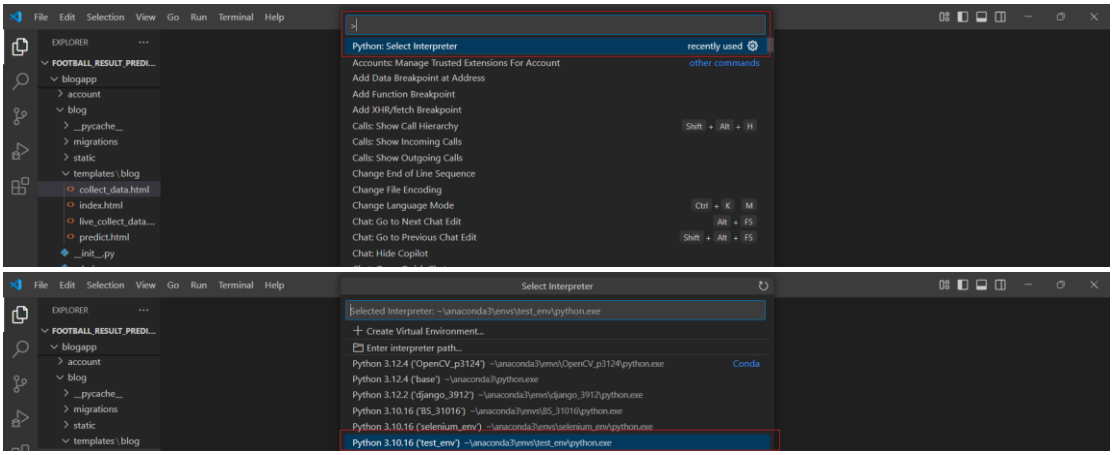
14. Then let's open our project with VS Code as in the photos.



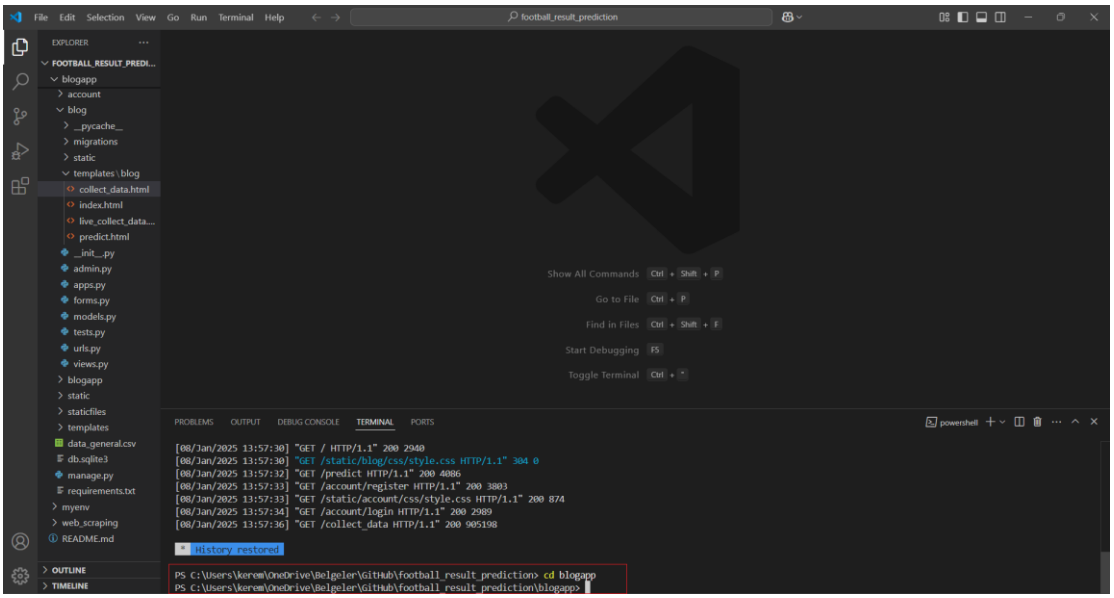


15. After opening our project with VS Code, let's select our environment named **test_env**, which we created earlier via anaconda prompt, by pressing **ctrl+shift+p**

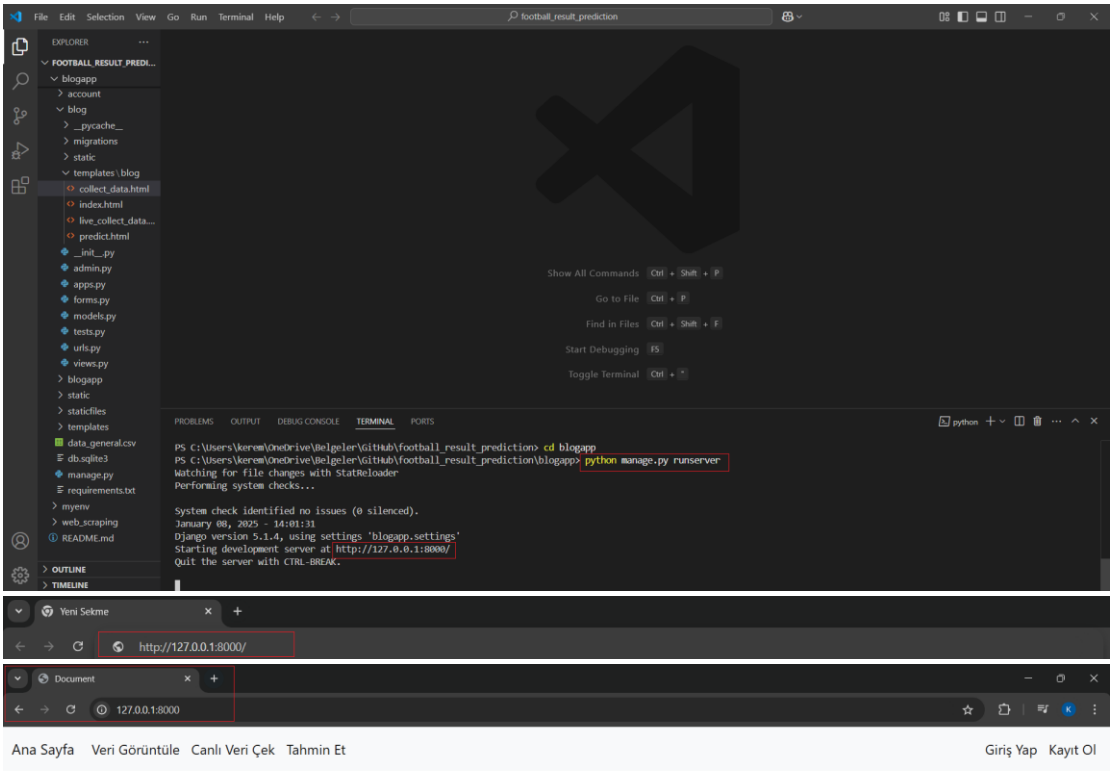
together (Firstly ctrl+shift+p, secondly select test_env).

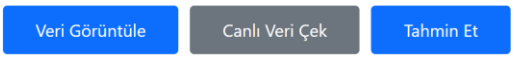


16. Now we can move on to running our project. Let's type the following command into the VS Code terminal: **cd blogapp**

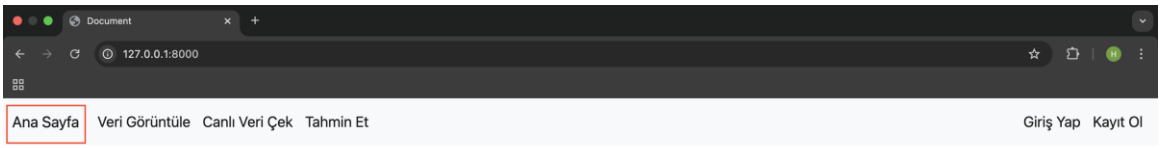


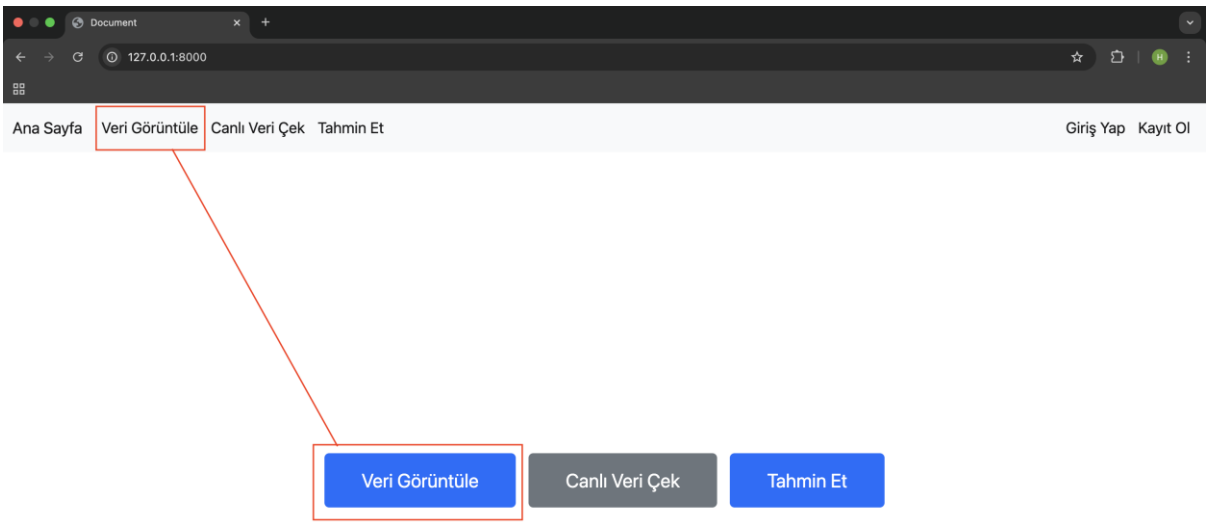
17. In the second step, let's write our code and run our server. Let's copy the url that appears on our terminal and paste it into google chrome.
    Code: **python manage.py runserver**
    URL: **copy the second red box**


File Edit Selection View Go Run Terminal Help
football_result_prediction
EXPLORER
FOOTBALL_RESULT_PREDI...
blogapp
account
blog
__pycache__
migrations
static
templates \ blog
collect_data.html
index.html
live_collect_data....
predict.html
__init__.py
admin.py
apps.py
forms.py
models.py
tests.py
urls.py
views.py
blogapp
static
staticfiles
templates
data_general.csv
db.sqlite3
manage.py
requirements.txt
myenv
web_scraping
README.md
OUTLINE
TIMELINE
Show All Commands Ctrl + Shift + P
Go to File Ctrl + P
Find in Files Ctrl + Shift + F
Start Debugging F5
Toggle Terminal Ctrl + `
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
python
PS C:\Users\kerem\OneDrive\Belgeler\GitHub\football_result_prediction> cd blogapp
PS C:\Users\kerem\OneDrive\Belgeler\GitHub\football_result_prediction\blogapp> python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...
System check identified no issues (0 silenced).
January 08, 2025 - 14:01:31
Django version 5.1.4, using settings 'blogapp.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
Yeni Sekme
http://127.0.0.1:8000/
Document
127.0.0.1:8000
Ana Sayfa
Veri Görüntüle
Canlı Veri Çek
Tahmin Et
Giriş Yap
Kayıt Ol

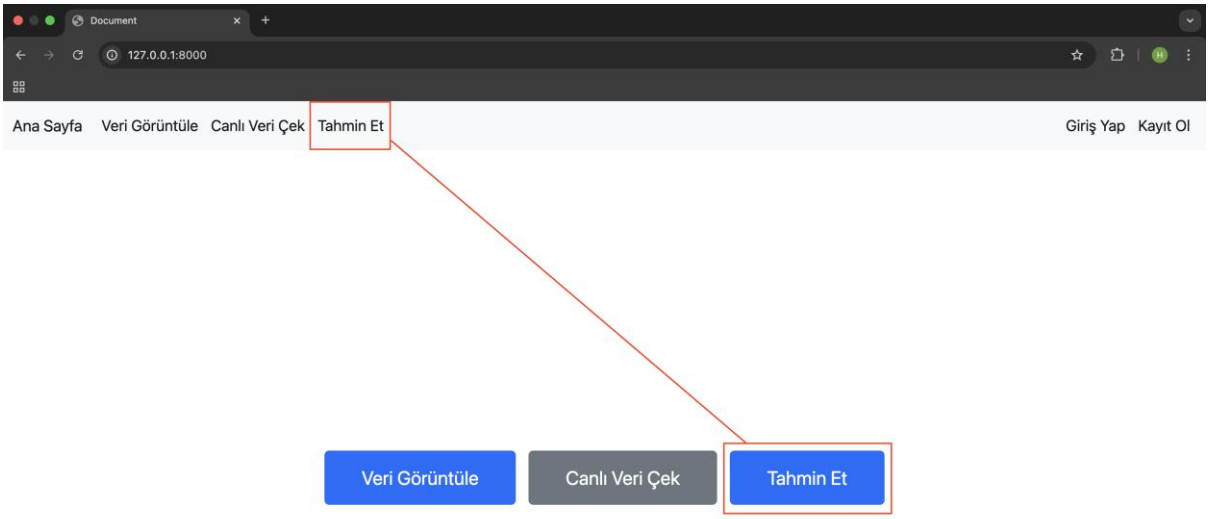

Veri Görüntüle
Canlı Veri Çek
Tahmin Et

4. **User Interface Overview and Usage Instructions:**

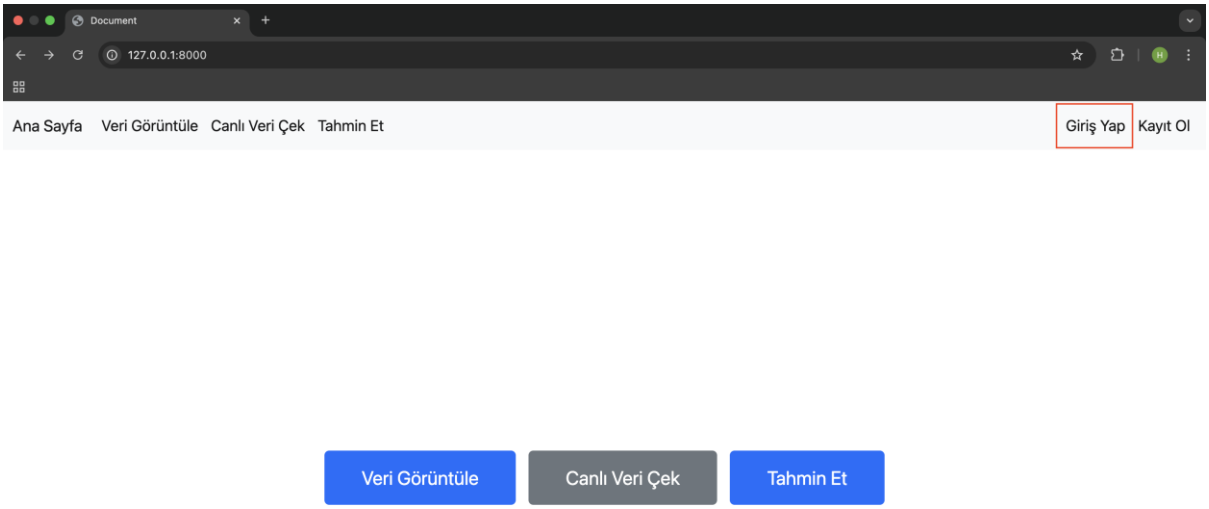




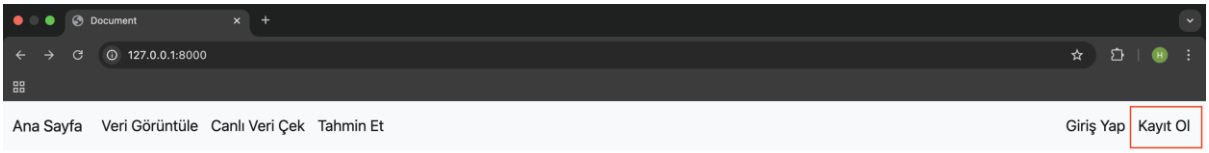
Click the ”Veri Görüntüle” button



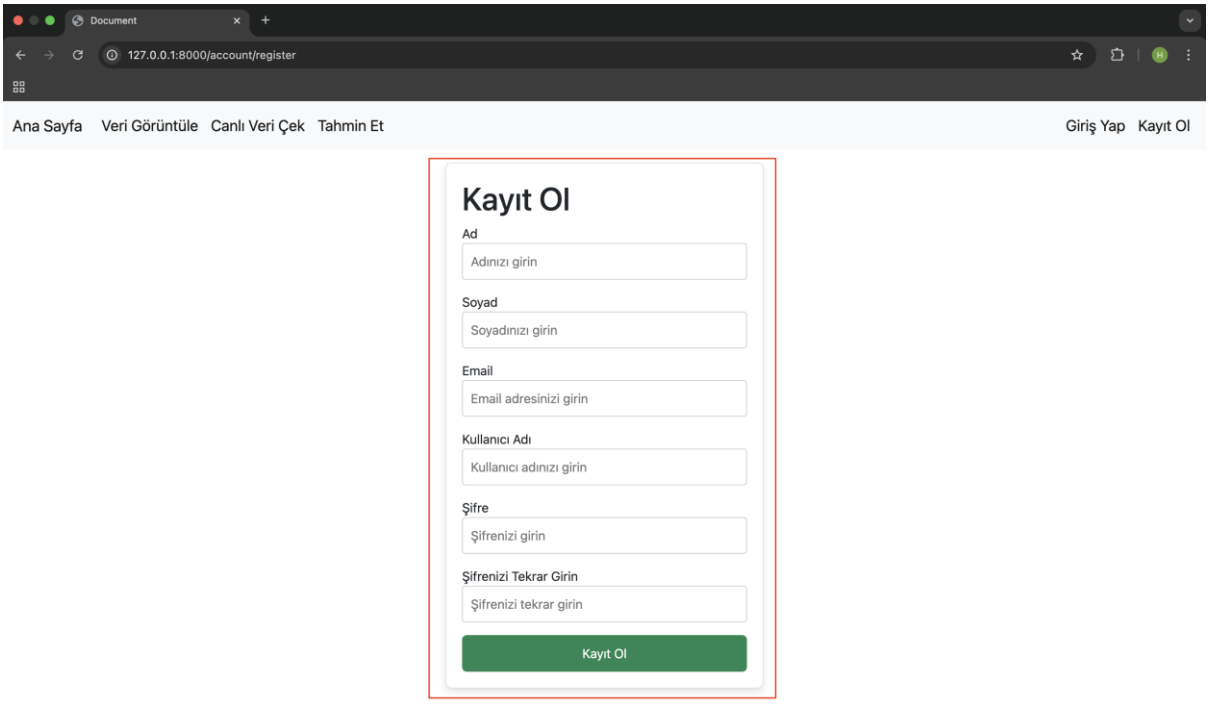
Click the ”Tahmin Et” button



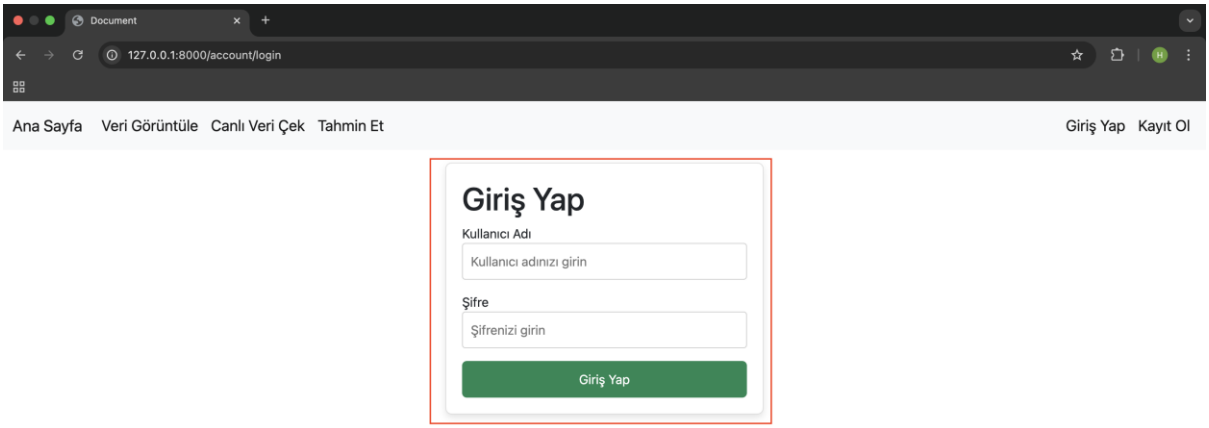
Click the ”Giriş Yap” button



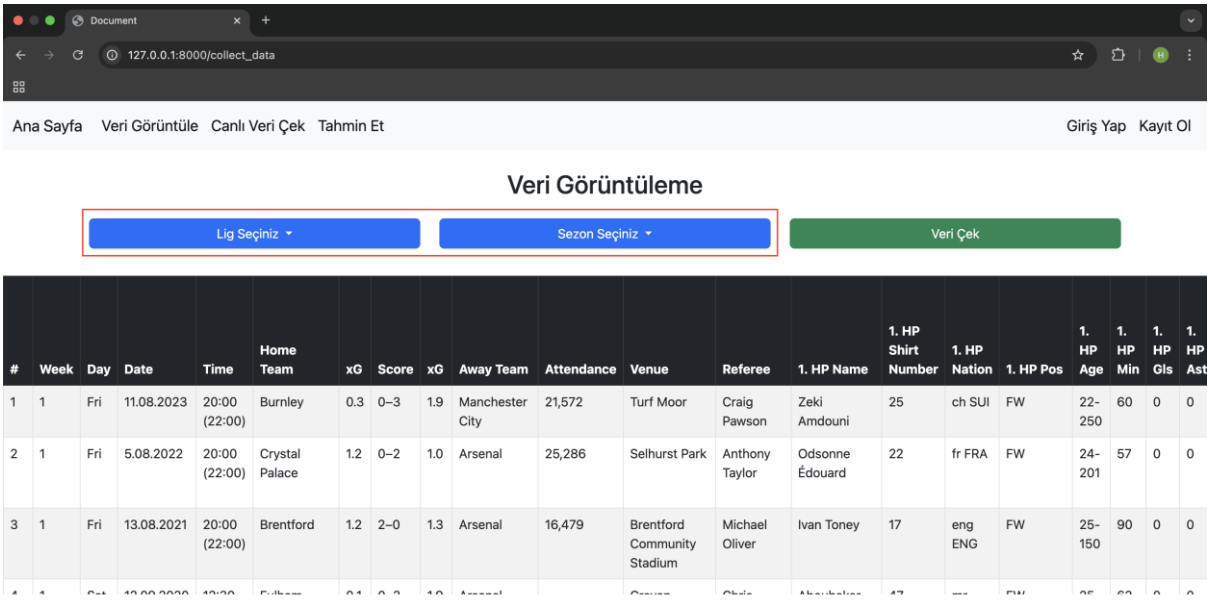
Click the ”Kayıt Ol” button



You can register by filling out the registration form.

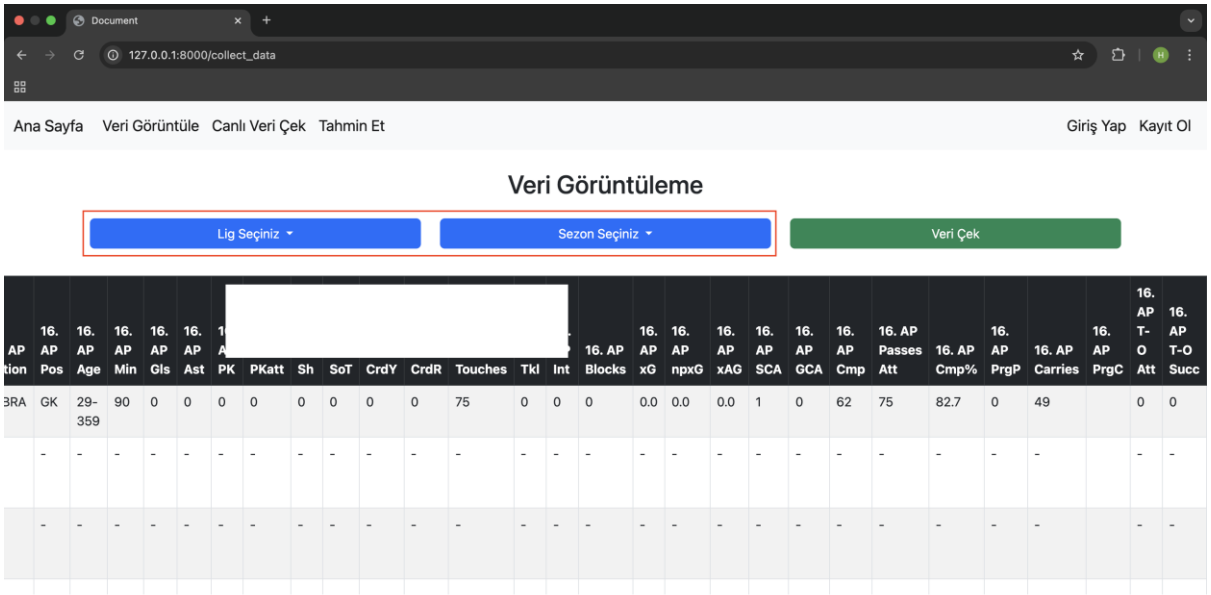


You can log in with your registered information.

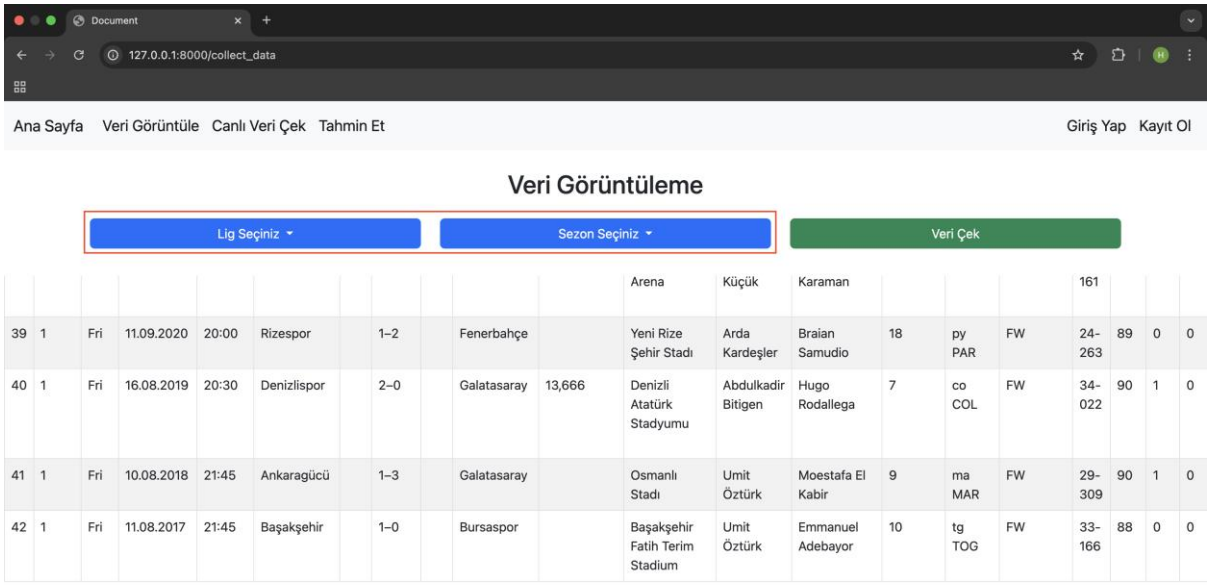


#	Week	Day	Date	Time	Home Team	xG	Score	xG	Away Team	Attendance	Venue	Referee	1. HP Name	1. HP Shirt Number	1. HP Nation	1. HP Pos	1. HP Age	1. HP Min	1. HP Gls	1. HP Ast
1	1	Fri	11.08.2023	20:00 (22:00)	Burnley	0.3	0–3	1.9	Manchester City	21,572	Turf Moor	Craig Pawson	Zeki Amdouni	25	ch SUI	FW	22-250	60	0	0
2	1	Fri	5.08.2022	20:00 (22:00)	Crystal Palace	1.2	0–2	1.0	Arsenal	25,286	Selhurst Park	Anthony Taylor	Odsonne Édouard	22	fr FRA	FW	24-201	57	0	0
3	1	Fri	13.08.2021	20:00 (22:00)	Brentford	1.2	2–0	1.3	Arsenal	16,479	Brentford Community Stadium	Michael Oliver	Ivan Toney	17	eng ENG	FW	25-150	90	0	0

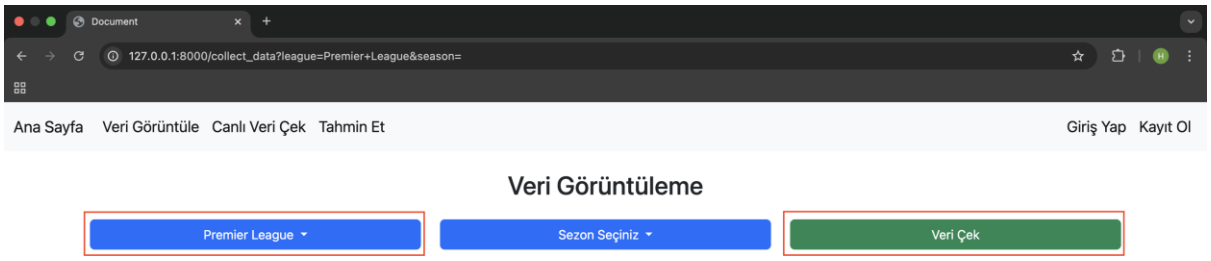
After selecting the relevant filters on the data view page, you can click the pull data button.



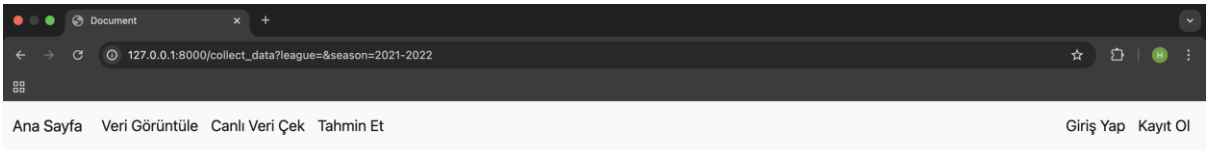
ation	16. AP Pos	16. AP Age	16. AP Min	16. AP Gls	16. AP Ast	PK	PKatt	Sh	SoT	CrdY	CrdR	Touches	Tkl	Int	16. AP Blocks	16. AP xG	16. AP npxG	16. AP xAG	16. AP SCA	16. AP GCA	16. AP Cmp	16. AP Passes Att	16. AP Cmp%	16. AP PrgP	16. AP Carries	16. AP PrgC	16. AP T-O Att	16. AP T-O Succ
BRA	GK	29-359	90	0	0	0	0	0	0	0	0	75	0	0	0	0.0	0.0	0.0	1	0	62	75	82.7	0	49		0	0
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-



											Arena	Küçük	Karaman				161			
39	1	Fri	11.09.2020	20:00	Rizespor		1–2		Fenerbahçe		Yeni Rize Şehir Stadı	Arda Kardeşler	Braian Samudio	18	py PAR	FW	24-263	89	0	0
40	1	Fri	16.08.2019	20:30	Denizlispor		2–0		Galatasaray	13,666	Denizli Atatürk Stadyumu	Abdulkadir Bitigen	Hugo Rodallega	7	co COL	FW	34-022	90	1	0
41	1	Fri	10.08.2018	21:45	Ankaragücü		1–3		Galatasaray		Osmanlı Stadı	Umit Öztürk	Moestafa El Kabir	9	ma MAR	FW	29-309	90	1	0
42	1	Fri	11.08.2017	21:45	Başakşehir		1–0		Bursaspor		Başakşehir Fatih Terim Stadium	Umit Öztürk	Emmanuel Adebayor	10	tg TOG	FW	33-166	88	0	0



#	Week	Day	Date	Time	Home Team	xG	Score	xG	Away Team	Attendance	Venue	Referee	1. HP Name	1. HP Shirt Number	1. HP Nation	1. HP Pos	1. HP Age	1. HP Min	1. HP Gls	1. HP Ast	1. HP PK
1	1	Fri	11.08.2023	20:00 (22:00)	Burnley	0.3	0–3	1.9	Manchester City	21,572	Turf Moor	Craig Pawson	Zeki Amdouni	25	ch SUI	FW	22-250	60	0	0	0
2	1	Fri	5.08.2022	20:00 (22:00)	Crystal Palace	1.2	0–2	1.0	Arsenal	25,286	Selhurst Park	Anthony Taylor	Odsonne Édouard	22	fr FRA	FW	24-201	57	0	0	0
3	1	Fri	13.08.2021	20:00 (22:00)	Brentford	1.2	2–0	1.3	Arsenal	16,479	Brentford Community Stadium	Michael Oliver	Ivan Toney	17	eng ENG	FW	25-150	90	0	0	0



Veri Görüntüleme

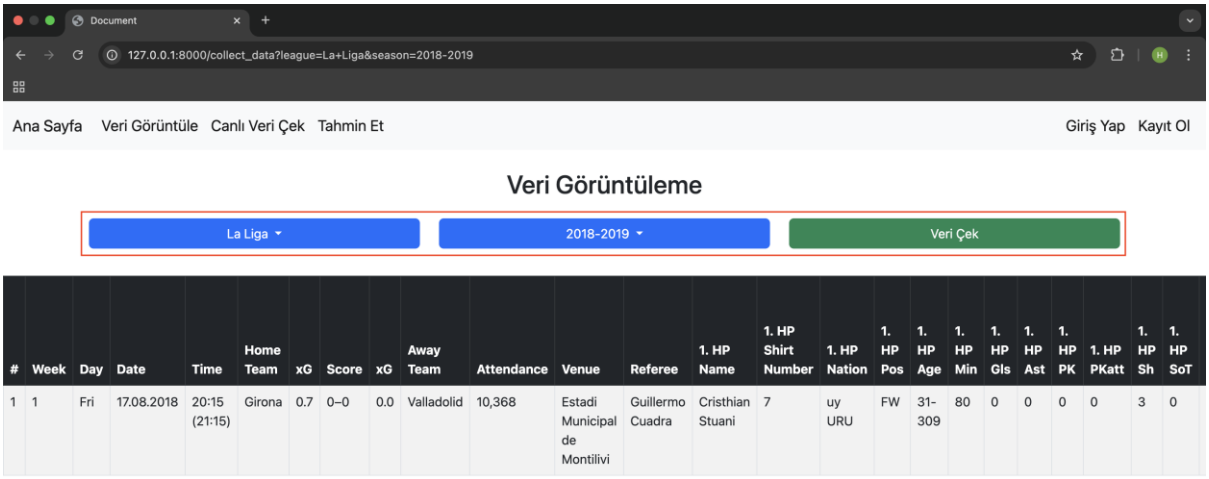
Lig Seçiniz ▾ | 2021-2022 ▾ | Veri Çek

#	Week	Day	Date	Time	Home Team	xG	Score	xG	Away Team	Attendance	Venue	Referee	1. HP Name	1. HP Shirt Number	1. HP Nation	1. HP Pos	1. HP Age	1. HP Min	1. HP Gls	1. HP Ast	1. HP PK	1. HP PKatt	1. HP Sh
1	1	Fri	13.08.2021	20:00 (22:00)	Brentford	1.2	2–0	1.3	Arsenal	16,479	Brentford Community Stadium	Michael Oliver	Ivan Toney	17	eng ENG	FW	25-150	90	0	0	0	0	0
2	1	Fri	13.08.2021	21:00 (22:00)	Valencia	1.5	1–0	1.4	Getafe	9,868	Estadio de Mestalla	Jesús Gil	Gonçalo Guedes	7	pt POR	RM,FW	24-257	85	0	0	0	0	0
3	1	Sat	21.08.2021	18:30 (19:30)	Inter	1.6	4–0	1.1	Genoa	27,402	Stadio Giuseppe Meazza	Valerio Marini	Edin Džeko	9	ba BIH	FW	35-157	90	1	1	0	0	4

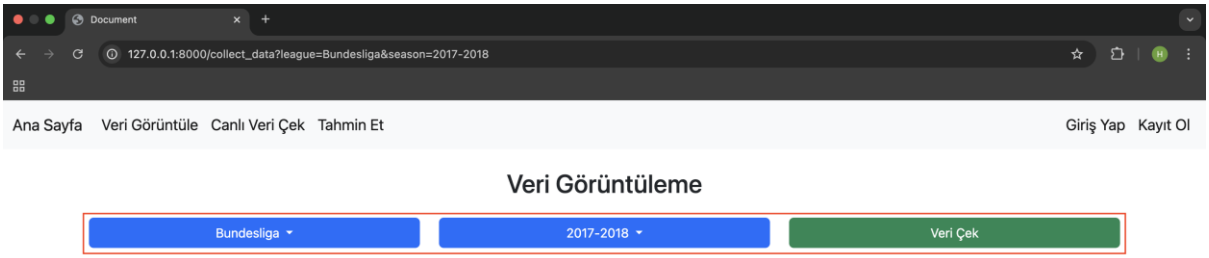
Veri Görüntüleme

Lig Seçiniz ▾ | 2021-2022 ▾ | Veri Çek

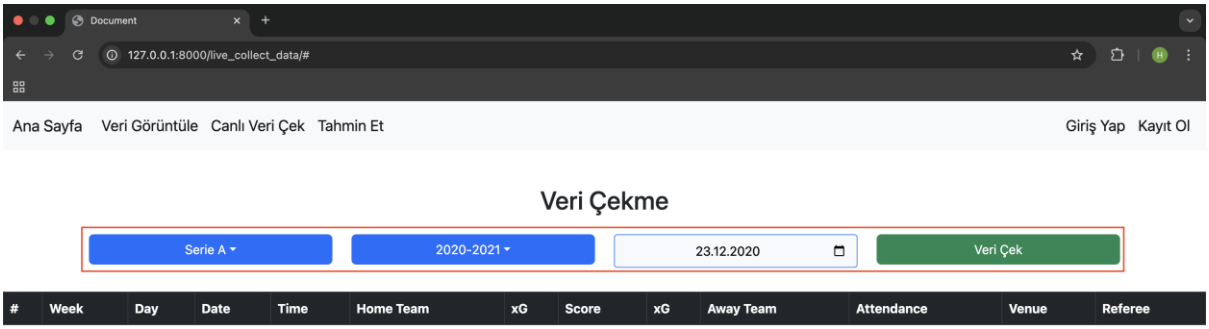
3	1	Sat	21.08.2021	18:30 (19:30)	Inter	1.6	4–0	1.1	Genoa	27,402	Stadio Giuseppe Meazza	Valerio Marini	Edin Džeko	9	ba BIH	FW	35-157	90	1	1	0	0	4
4	1	Fri	13.08.2021	20:30 (21:30)	Gladbach	2.3	1–1	2.5	Bayern Munich	22,925	Stadion im Borussia-Park	Marco Fritz	Alassane Pléa	14	fr FRA	FW	28-156	63	1	0	0	0	1
5	1	Fri	6.08.2021	21:00 (22:00)	Monaco	1.5	1–1	0.2	Nantes	7,500	Stade Louis II	Antony Gautier	Myron Boadu	9	nl NED	FW	20-204	58	0	0	0	0	1
6	1	Fri	13.08.2021	20:30	Beşiktaş		3–0		Rizespor		Vodafone Arena	Zorbay Küçük	Kenan Karaman	28	tr TUR	FW	27-161	78	0	1	0	0	3



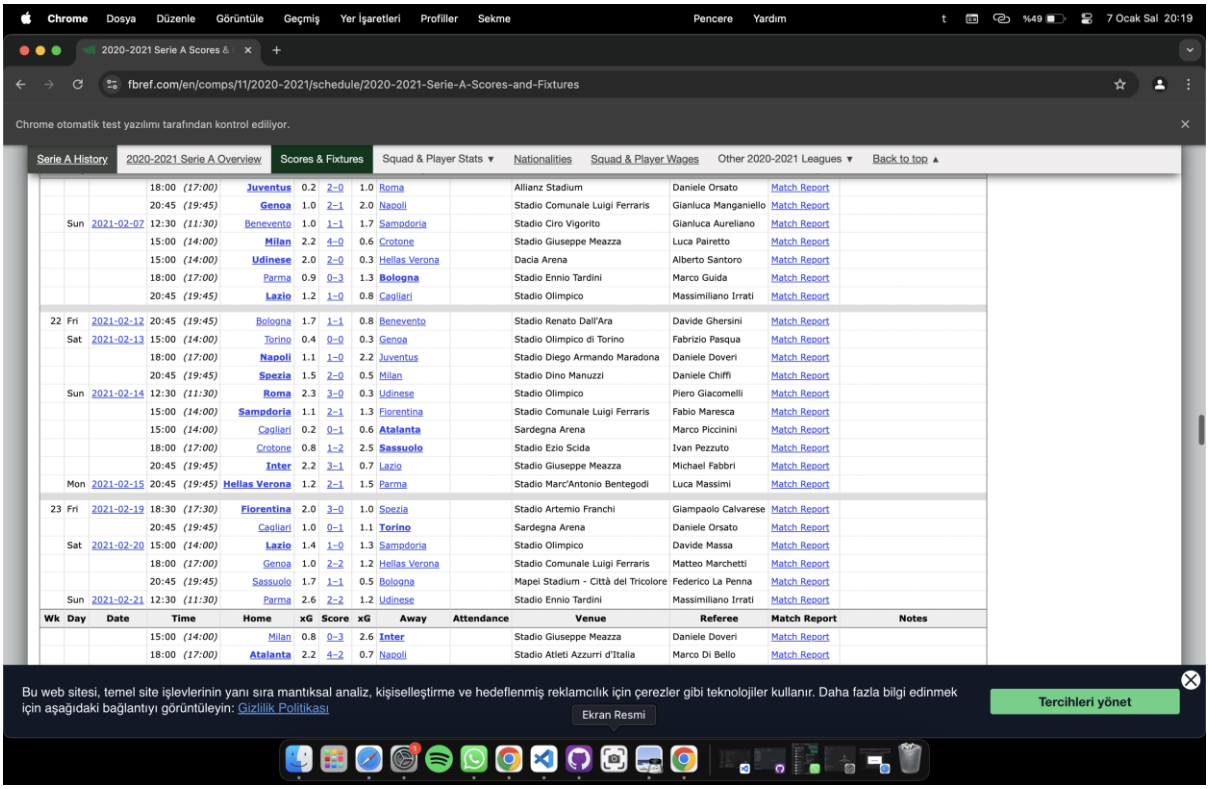
#	Week	Day	Date	Time	Home Team	xG	Score	xG	Away Team	Attendance	Venue	Referee	1. HP Name	1. HP Shirt Number	1. HP Nation	1. HP Pos	1. HP Age	1. HP Min	1. HP Gls	1. HP Ast	1. HP PK	1. HP PKatt	1. HP Sh	1. HP SoT
1	1	Fri	17.08.2018	20:15 (21:15)	Girona	0.7	0–0	0.0	Valladolid	10,368	Estadi Municipal de Montilivi	Guillermo Cuadra	Cristhian Stuani	7	uy URU	FW	31-309	80	0	0	0	0	3	0

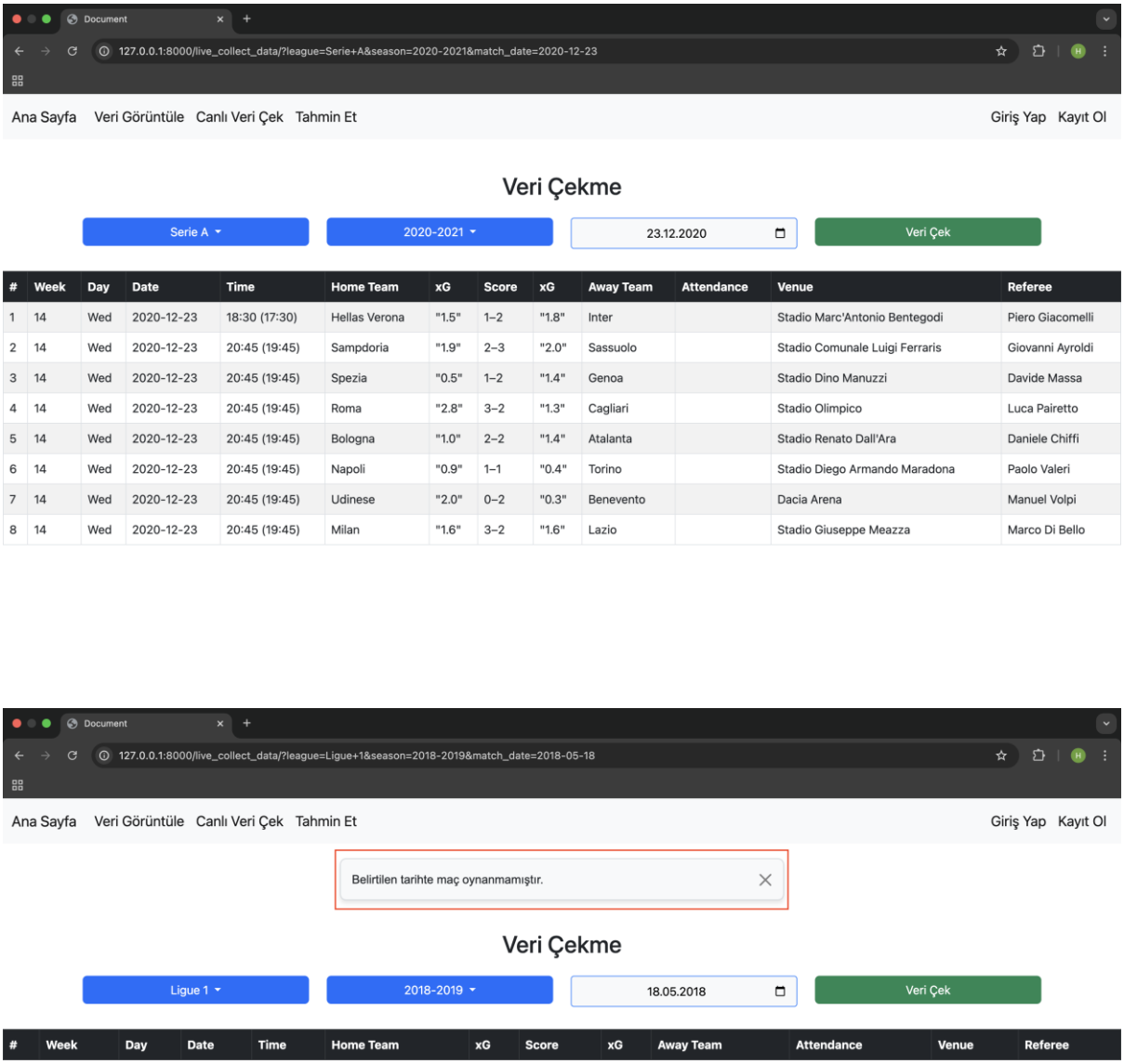


#	Week	Day	Date	Time	Home Team	xG	Score	xG	Away Team	Attendance	Venue	Referee	1. HP Name	1. HP Shirt Number	1. HP Nation	1. HP Pos	1. HP Age	1. HP Min	1. HP Gls	1. HP Ast	1. HP PK	1. HP PKatt	1. HP Sh	1. HP SoT
1	1	Fri	18.08.2017	20:30 (21:30)	Bayern Munich	2.6	3–1	1.6	Leverkusen	75,000	Allianz Arena	Tobias Stieler	Robert Lewandowski	9	pl POL	FW	28-362	90	1	0	1	1	2	0

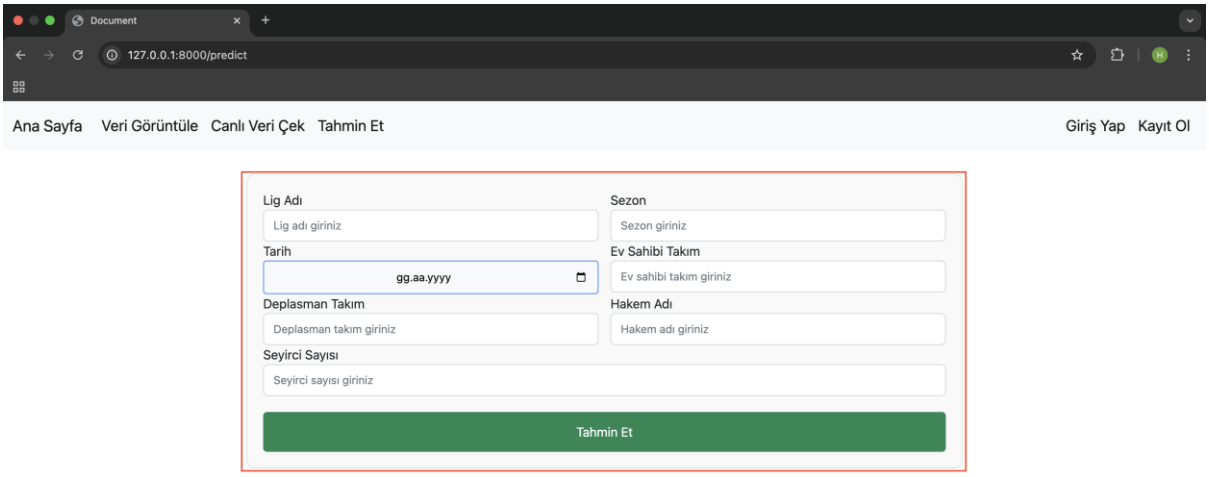


After filtering the data retrieval page by league, season and date, live data retrieval is performed instantly by pressing the retrieval button.





If there is no match on the date you selected, you will encounter such a warning.



You can enter inputs on the Predict page, but the button for predicting the match result is not functional for this period.

5. Features and Functionalities:

- **Data Management:** Store and manage detailed match and player data.
- **Search and Filter:** Easily search and filter matches, players, and statistics.
- **Visualization Tools:** Graphical representations of trends and insights.
- **Future Compatibility:** Designed to support integration with predictive algorithms.

6. Troubleshooting and Maintenance:

Troubleshooting:

- **Ensure Chrome and ChromeDriver Compatibility:** Verify that the versions of Google Chrome and ChromeDriver match to ensure smooth functionality.
- **Setting Up the Correct Anaconda Environment:** Create and activate the appropriate environment using Anaconda for dependency management.
- **Version Compatibility:** Ensure that Selenium, Django, and Python are compatible with each other. For example, verify their supported versions in the respective documentation.
- **GitHub Desktop Installation:** Properly install and configure GitHub Desktop to manage project repositories effectively.
- **Environment Selection in VS Code:** Make sure the correct Python environment is selected in Visual Studio Code to avoid runtime errors.
- **Running the Server with Correct Commands:** Use python manage.py runserver in the project directory to launch the Django server without issues.

Maintenance:

- Regularly update dependencies and Django to the latest versions.
- Backup your database frequently.
- Monitor server logs for errors.
- Test the application periodically to ensure all features are working as expected.

7. References:

- https://fbref.com/en/
- https://stackoverflow.com/
- https://www.djangoproject.com/start/
- https://docs.anaconda.com/anaconda/getting-started/
- https://www.selenium.dev/documentation/webdriver/getting_started/
- https://www.geeksforgeeks.org/python-web-scraping-tutorial/
- https://medium.com/