

# Modifying a repo structure

INTRODUCTION TO GITHUB CONCEPTS



George Boorman

Curriculum Manager, DataCamp

# Creating a new file

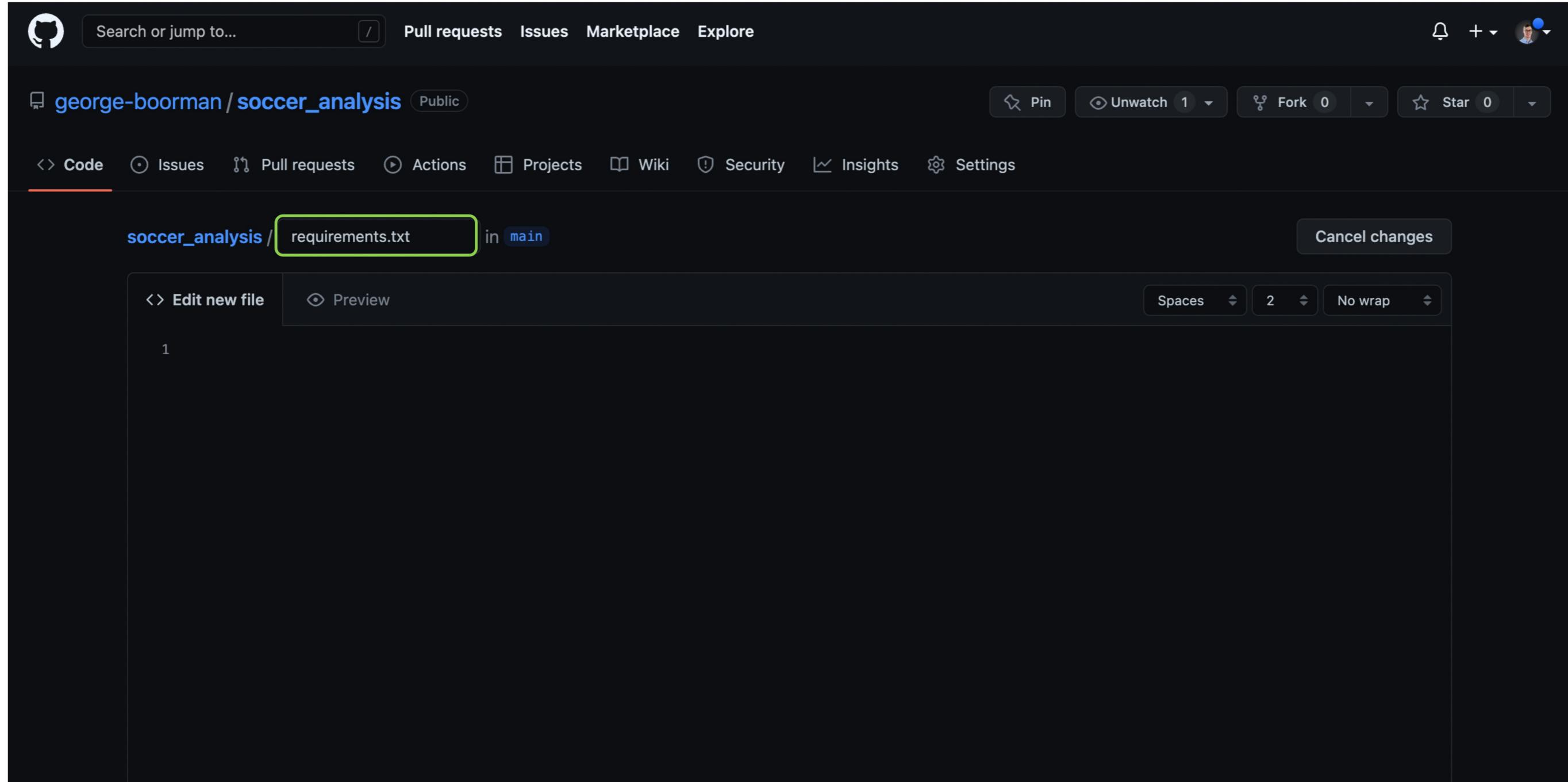
The screenshot shows a GitHub repository page for 'george-boorman / soccer\_analysis'. The 'Code' tab is selected. In the top right, there's a 'Code' dropdown menu with 'Add file ▾' highlighted by a yellow box. A tooltip from this menu shows options: 'Create new file' and 'Upload files'. To the right of the dropdown, there's an 'About' section with the message 'No description, website, or topics provided.' Below the dropdown, there's a list of recent commits:

- george-boorman Update README.md
- .gitignore Create .gitignore 4 days ago
- README.md Update README.md 4 days ago

On the left, there's a preview of the 'README.md' file content:

```
soccer_analysis
```

# Naming the file



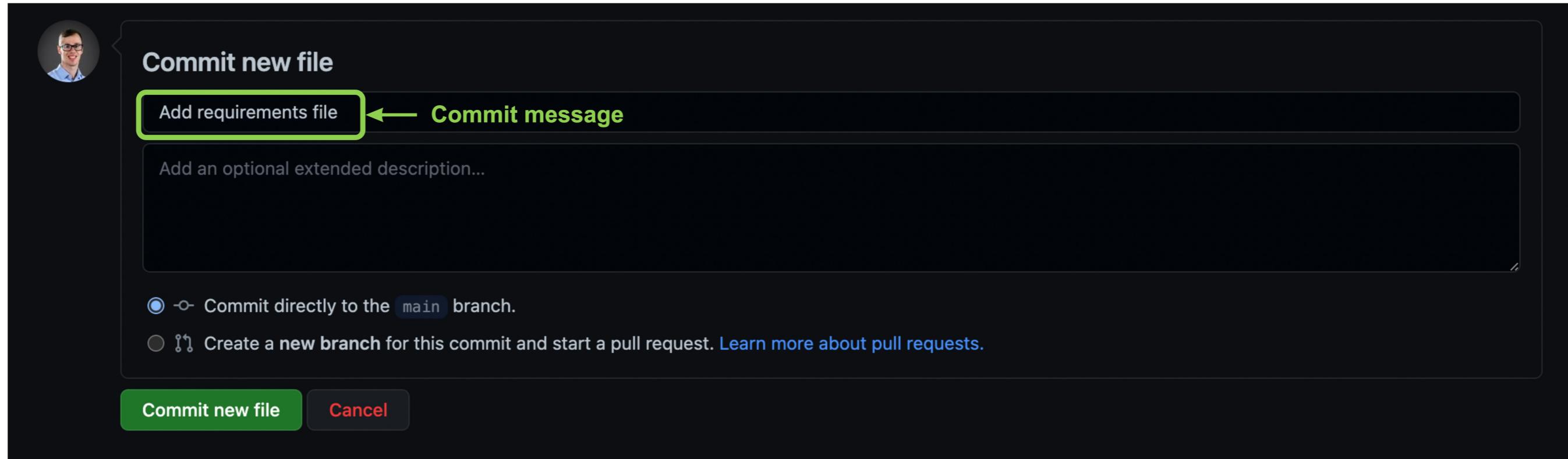
# Editing the new file

The screenshot shows a GitHub repository page for 'george-boorman / soccer\_analysis'. The 'Code' tab is selected. A modal window is open for editing the file 'requirements.txt' in the 'main' branch. The modal has a green border around the 'Edit new file' tab. Inside, there are tabs for 'Edit new file' (selected), 'Preview', and 'Cancel changes'. The code editor contains the following text:

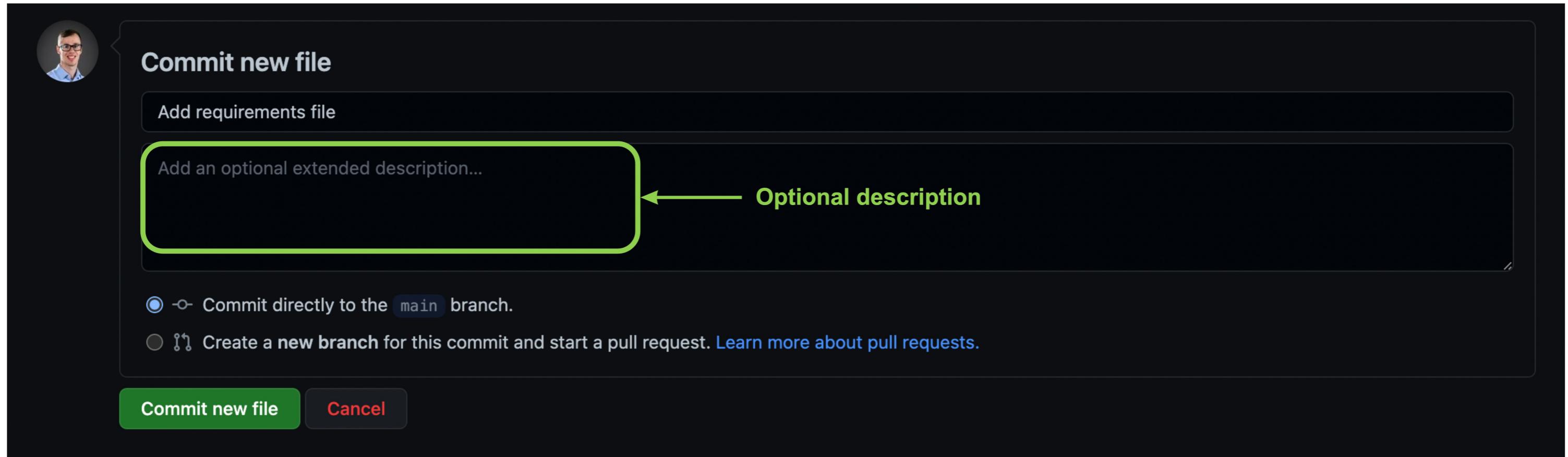
```
1 numpy==1.19.5
2 pandas==1.4.0
3 matplotlib==3.5.0
```

At the top of the GitHub page, there is a navigation bar with links for 'Pull requests', 'Issues', 'Marketplace', and 'Explore'. On the right side, there are buttons for 'Pin', 'Unwatch', 'Fork', and 'Star'. Below the navigation bar, there are links for 'Issues', 'Pull requests', 'Actions', 'Projects', 'Wiki', 'Security', 'Insights', and 'Settings'.

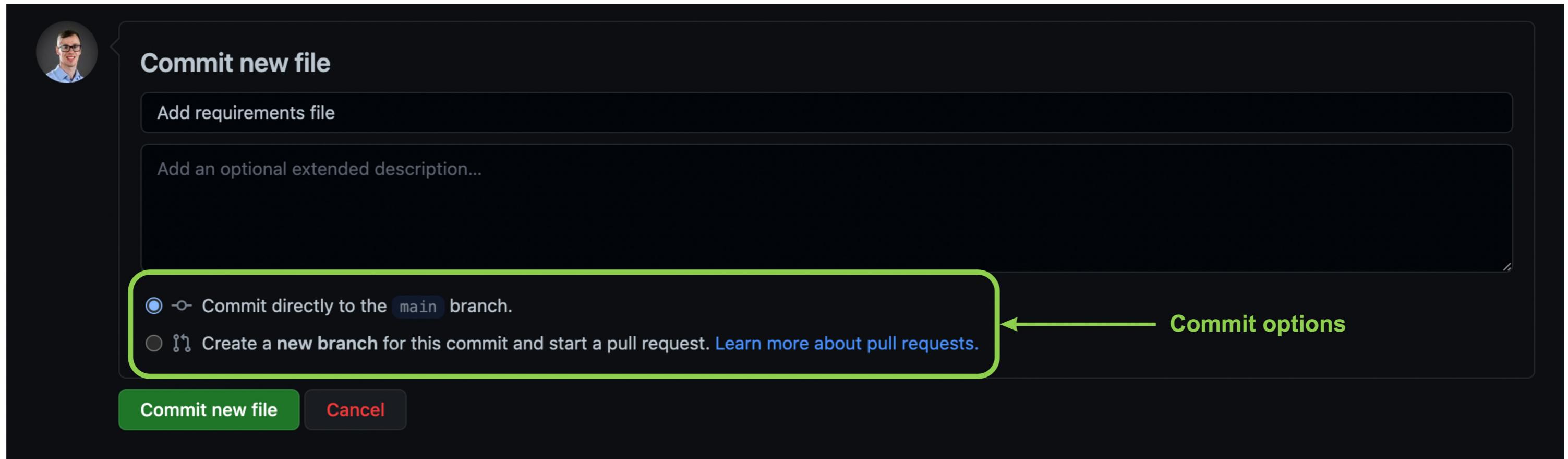
# Committing the new file



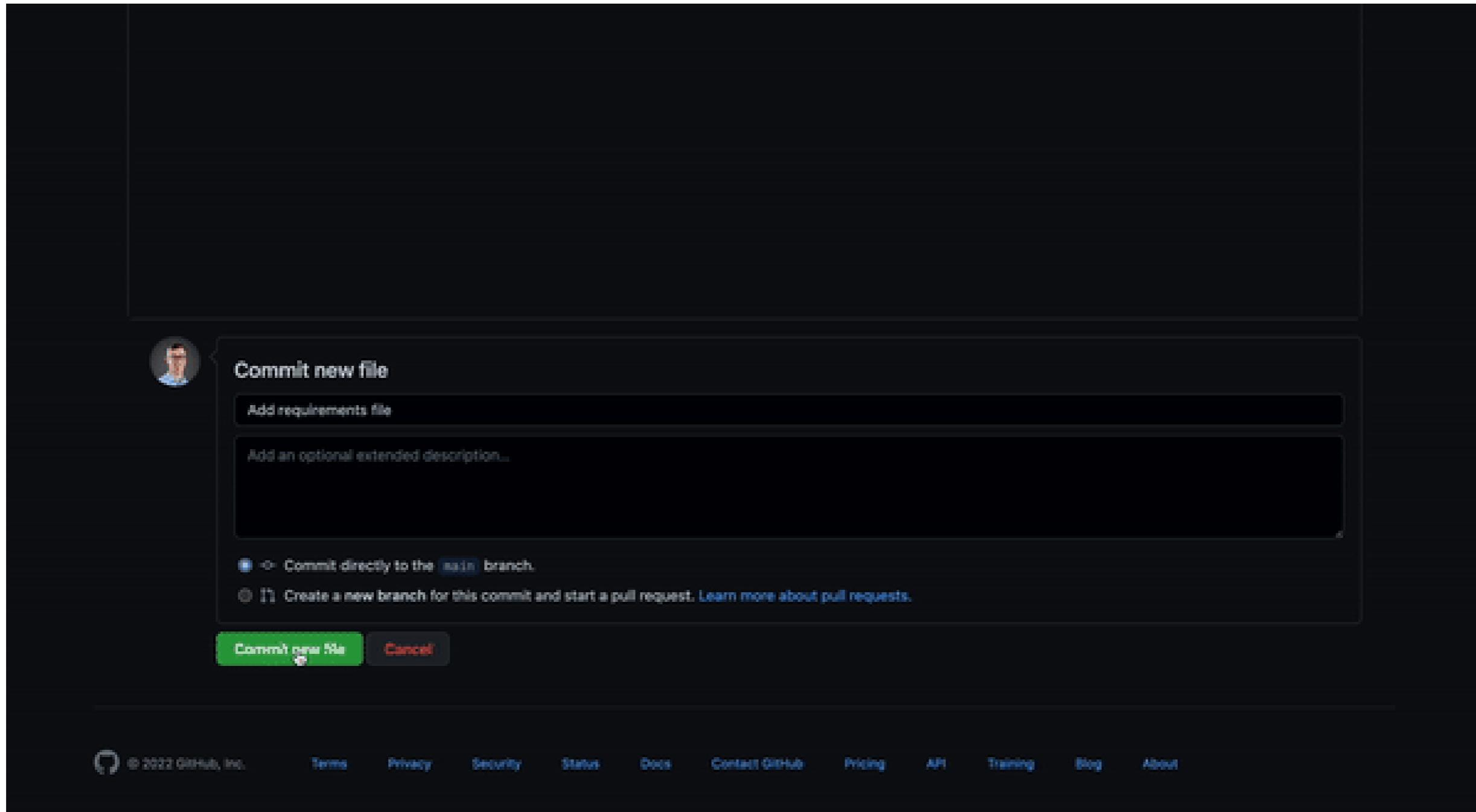
# Committing the new file



# Committing the new file



# Committing the new file



# Uploading a file

The screenshot shows a GitHub repository page for `george-boorman / soccer_analysis`. The repository is public and has 1 branch and 0 tags. The `Code` tab is selected. A context menu is open over the repository header, with the `Upload files` option highlighted and surrounded by a green oval.

**Code** tab selected.

Repository stats: 1 branch, 0 tags.

Recent activity:

- george-boorman Add requirements file (4 days ago)
- Create .gitignore (4 days ago)
- Update README.md (4 days ago)
- Add requirements file (8 minutes ago)

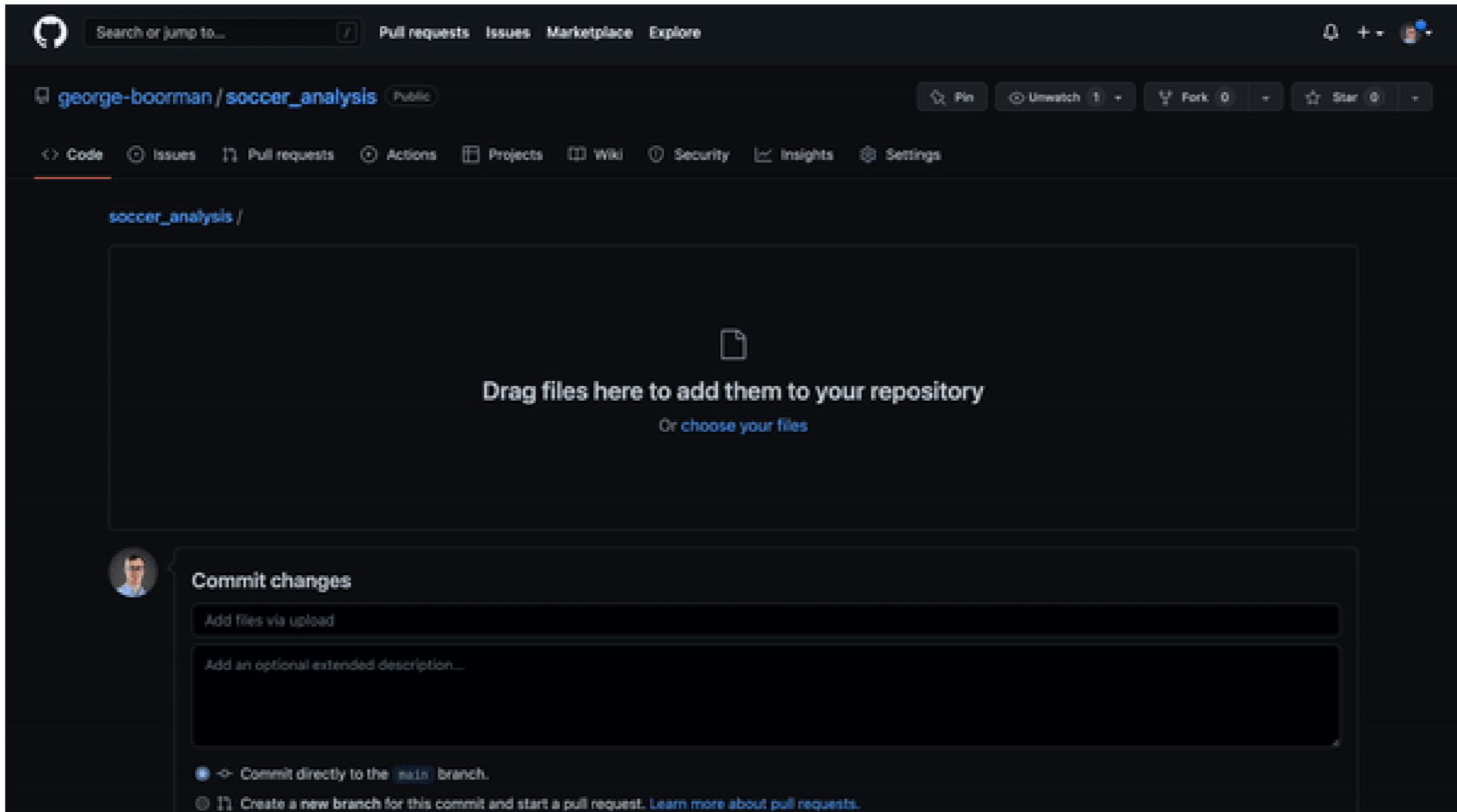
**About**: No description, website, or topics provided.

**Readme**: README.md

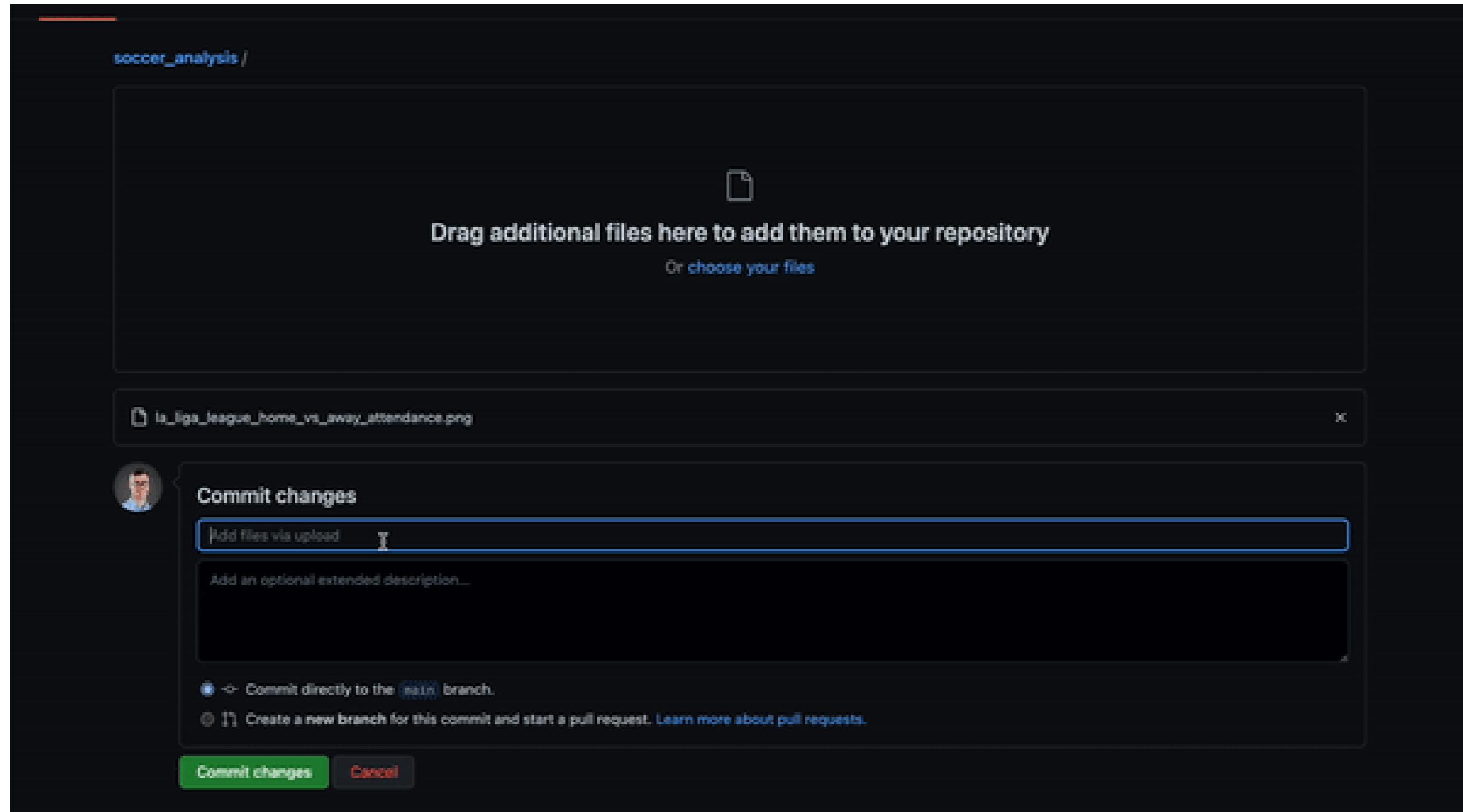
**Releases**: No releases published. Create a new release.

**Packages**: No packages published. Publish your first package.

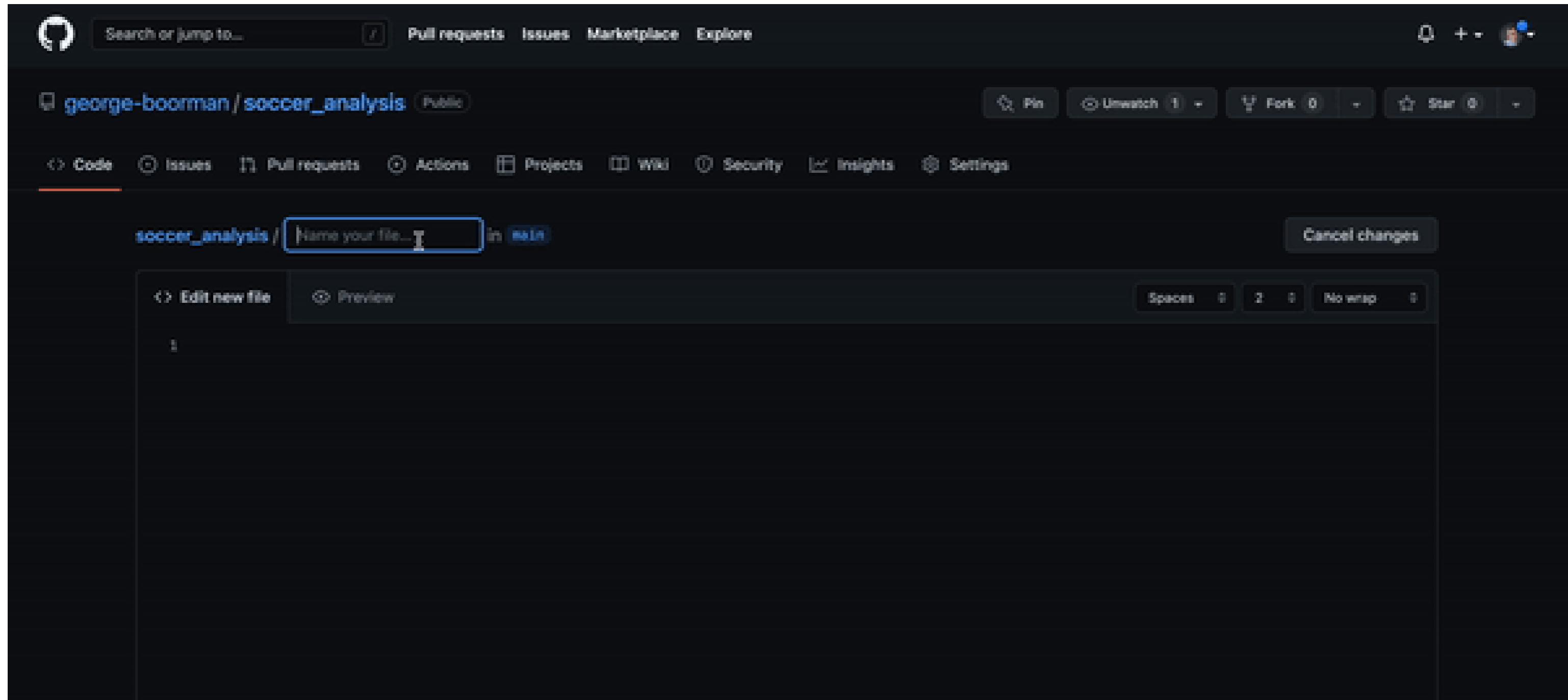
# Uploading a file



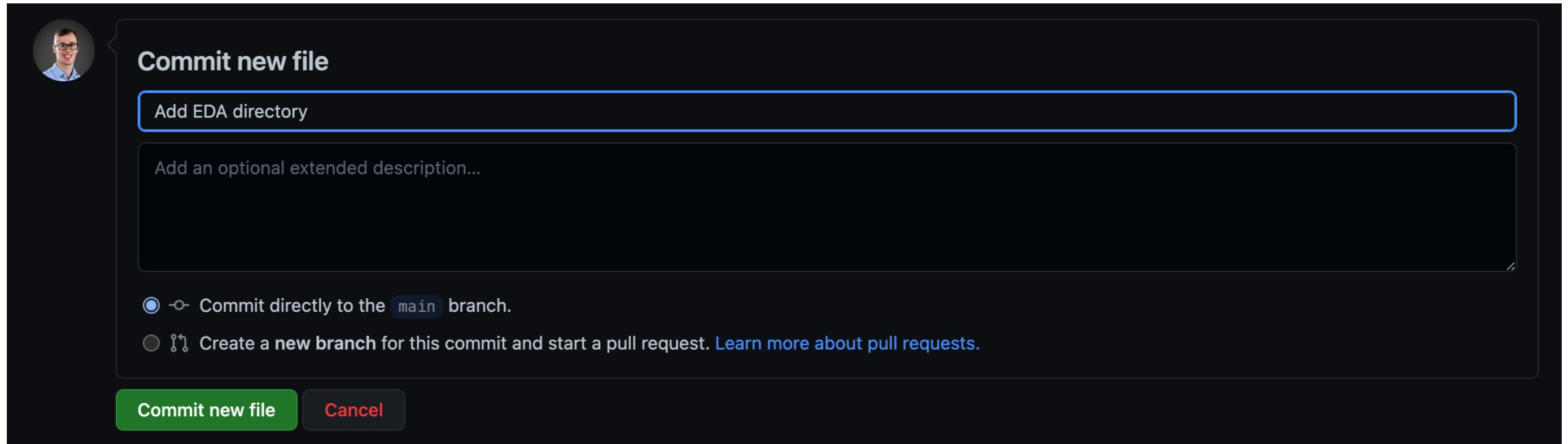
# Uploading a file



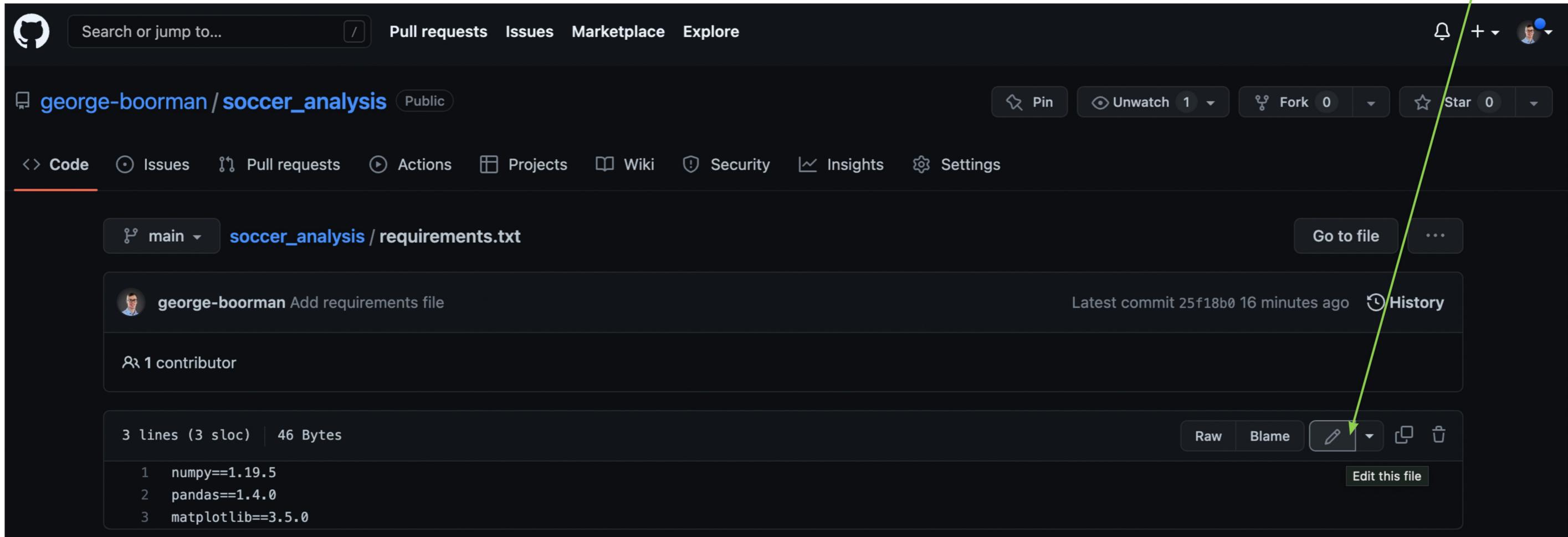
# Creating a new directory



# Creating a new directory



# Modifying a file



A screenshot of a GitHub repository page for `george-boorman / soccer_analysis`. The repository is public. The main navigation bar includes links for Pull requests, Issues, Marketplace, Explore, Pin, Unwatch (1), Fork (0), and Star (0). Below the navigation bar, there are links for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. The 'Code' link is underlined, indicating it is the active tab. In the center, the file `soccer_analysis / requirements.txt` is displayed. The file was last committed by `george-boorman` 16 minutes ago. It has 1 contributor. The file content shows three lines of code: `numpy==1.19.5`, `pandas==1.4.0`, and `matplotlib==3.5.0`. At the bottom right of the file preview, there are buttons for Raw, Blame, Edit (with a green arrow pointing to it), Copy, and Delete. There is also a 'Go to file' button and a 'History' link.

# Modifying a file

The screenshot shows a GitHub repository page for 'george-boorman / soccer\_analysis'. The 'Code' tab is selected. A modal window is open over the code editor, showing the 'requirements.txt' file content:

```
1 numpy==1.19.5
2 pandas==1.4.0
3 matplotlib==3.5.0
4 seaborn==0.11.2
```

The modal includes buttons for 'Edit file' (selected), 'Preview changes', and 'Cancel changes'. It also has settings for 'Spaces' (set to 2) and 'Soft wrap'.

# Deleting a file

The screenshot shows a GitHub repository page for `george-boorman / soccer_analysis`. The repository is public and has 1 branch and 0 tags. The `Code` tab is selected. A commit by `george-boorman` titled "Add EDA directory" is visible, which includes adding an `EDA` directory, creating a `.gitignore`, updating `README.md`, adding a plot for La Liga attendance, and adding `seaborn` to `requirements.txt`. The commit was made 1 minute ago with 9 commits. On the right side, there is an "About" section with the message "No description, website, or topics provided." It also shows statistics: 0 stars, 1 watching, and 0 forks. Below that is a "Releases" section indicating no releases have been published, with a link to "Create a new release". At the bottom, there is a "Packages" section indicating no packages have been published, with a link to "Publish your first package".

george-boorman / soccer\_analysis Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

main 1 branch 0 tags Go to file Add file Code About

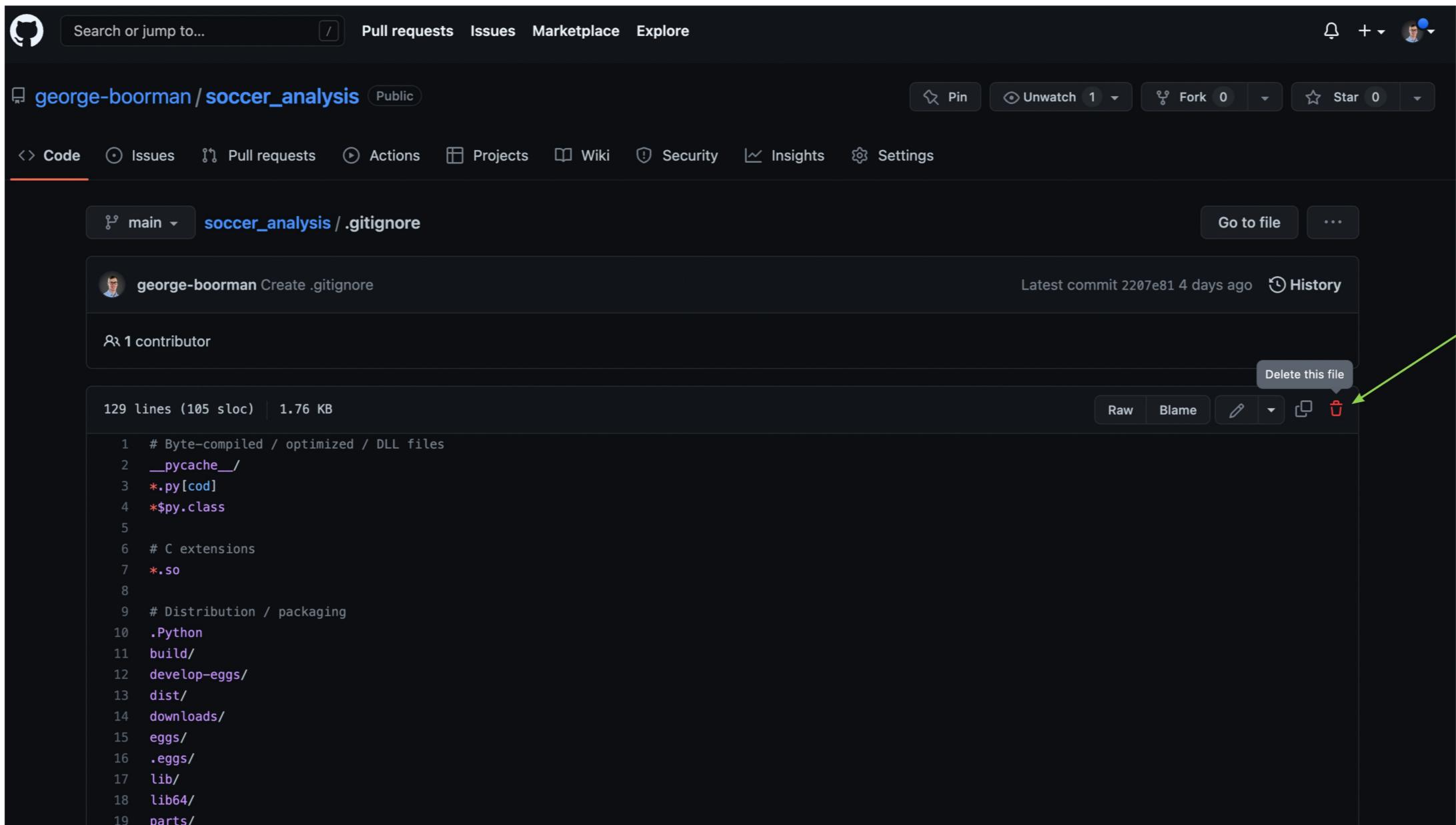
No description, website, or topics provided.

Readme 0 stars 1 watching 0 forks

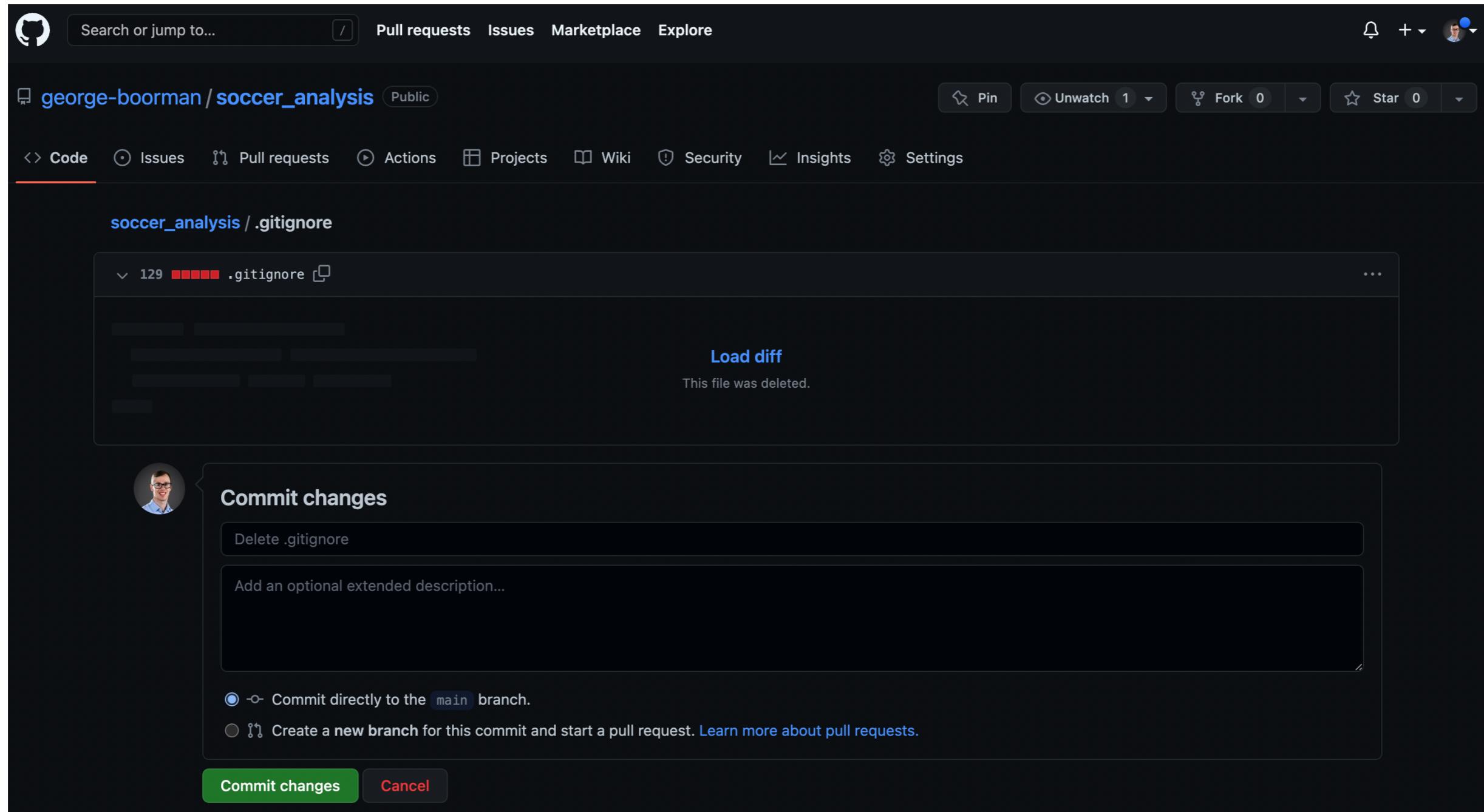
Releases

Packages

# Deleting a file



# Deleting a file



# Let's practice!

INTRODUCTION TO GITHUB CONCEPTS

# Working with branches

INTRODUCTION TO GITHUB CONCEPTS

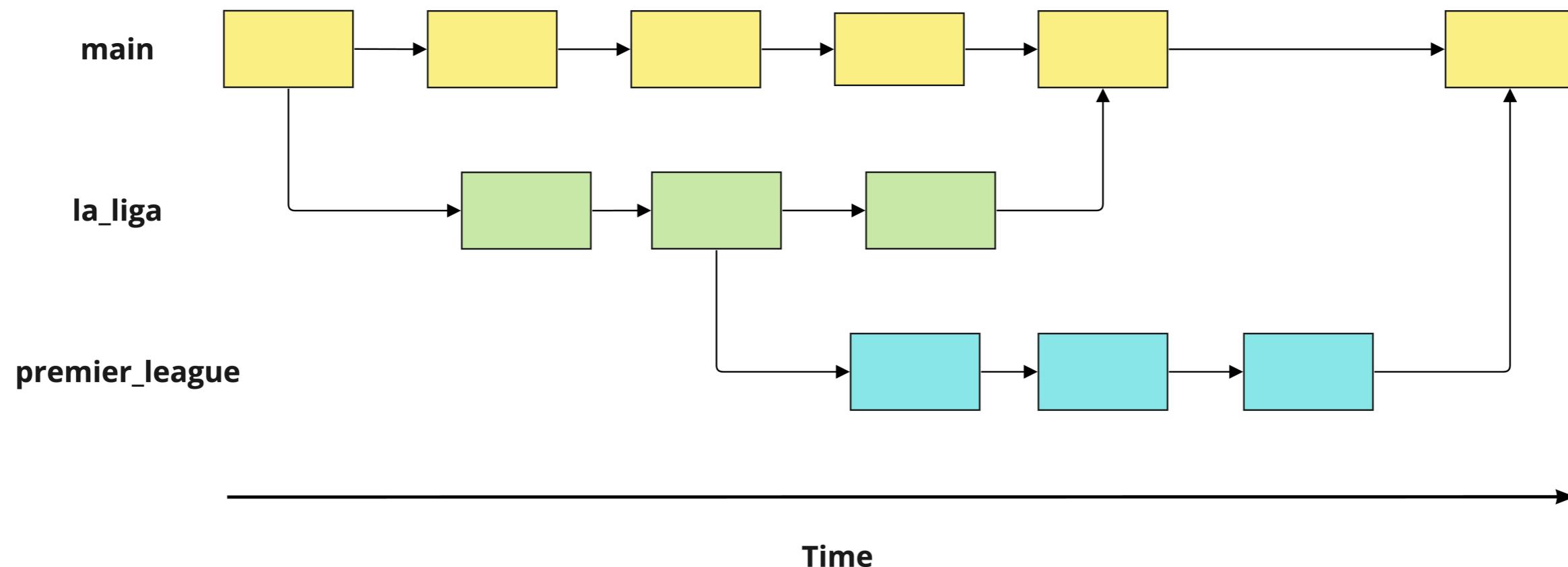


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# Branches

- Enable concurrent work on different parts of a project
- Help reduce the risk of conflicting file versions



# Main branch

The screenshot shows a GitHub repository page for the user 'george-boorman' with the repository name 'soccer\_analysis'. The repository is public. The main navigation bar includes links for Pull requests, Issues, Marketplace, and Explore. On the right side, there are buttons for Pin, Unwatch (1), Fork (0), and Star (0). Below the navigation, there are tabs for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. The 'Code' tab is selected and highlighted in green. A dropdown menu for the 'main' branch is open, showing options like 'main' (selected), 'Create branch', 'Create tag', and 'Delete branch/tag'. The repository has 1 branch and 0 tags. The commit history shows the following commits:

Author	Commit Message	Date	Commits
george-boorman	Delete .gitignore	b45ce89 1 hour ago	10 commits
	EDA	Add EDA directory	1 hour ago
	README.md	Update README.md	4 days ago
	la_liga_league_home_vs_away_att...	Add la liga attendance plot	1 hour ago
	requirements.txt	Add seaborn to requirements.txt	1 hour ago

On the right side of the commit list, there are buttons for Go to file, Add file, and Code. To the right of the commit list, there is an 'About' section with the following information: No description, website, or topics provided. It also shows statistics: 0 stars, 1 watching, and 0 forks.

**Releases**  
No releases published  
[Create a new release](#)

**Packages**  
No packages published  
[Publish your first package](#)

# How many branches?

The screenshot shows a GitHub repository page for `george-boorman / soccer_analysis`. The main branch is highlighted with a green box. The repository has 1 branch and 0 tags. The last commit was made by `george-boorman` 1 hour ago, with 10 commits. The commit message is `Delete .gitignore`. The repository has 0 stars, 1 watching, and 0 forks. It also has 0 releases and 0 packages published.

george-boorman / soccer\_analysis Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

main ▾ 1 branch 0 tags

george-boorman Delete .gitignore b45ce89 1 hour ago 10 commits

EDA Add EDA directory 1 hour ago

README.md Update README.md 4 days ago

la\_liga\_league\_home\_vs\_away\_att... Add la liga attendance plot 1 hour ago

requirements.txt Add seaborn to requirements.txt 1 hour ago

README.md

soccer\_analysis

About

No description, website, or topics provided.

Readme 0 stars 1 watching 0 forks

Releases

No releases published Create a new release

Packages

No packages published Publish your first package

# Creating a new branch

The screenshot shows a GitHub repository page for 'george-boorman / soccer\_analysis'. The 'Code' tab is selected. At the top, there are links for 'Pull requests', 'Issues', 'Marketplace', and 'Explore'. On the right, there are buttons for 'Pin', 'Unwatch 1', 'Fork 0', and 'Star 0'. Below the navigation, the repository name 'george-boorman / soccer\_analysis' is shown as 'Public'. The main area displays a list of commits:

- george-boorman Delete .gitignore (b45ce89, 1 hour ago, 10 commits)
- EDA (Add EDA directory, 1 hour ago)
- README.md (Update README.md, 4 days ago)
- la\_liga\_league\_home\_vs\_away\_att... (Add la liga attendance plot, 1 hour ago)
- requirements.txt (Add seaborn to requirements.txt, 1 hour ago)

On the left, there's a sidebar with 'Code' selected. It shows a dropdown for 'main' and a button for '1 branch'. The '1 branch' button is highlighted with a green box. Below it, there's a preview of the 'README.md' file content:

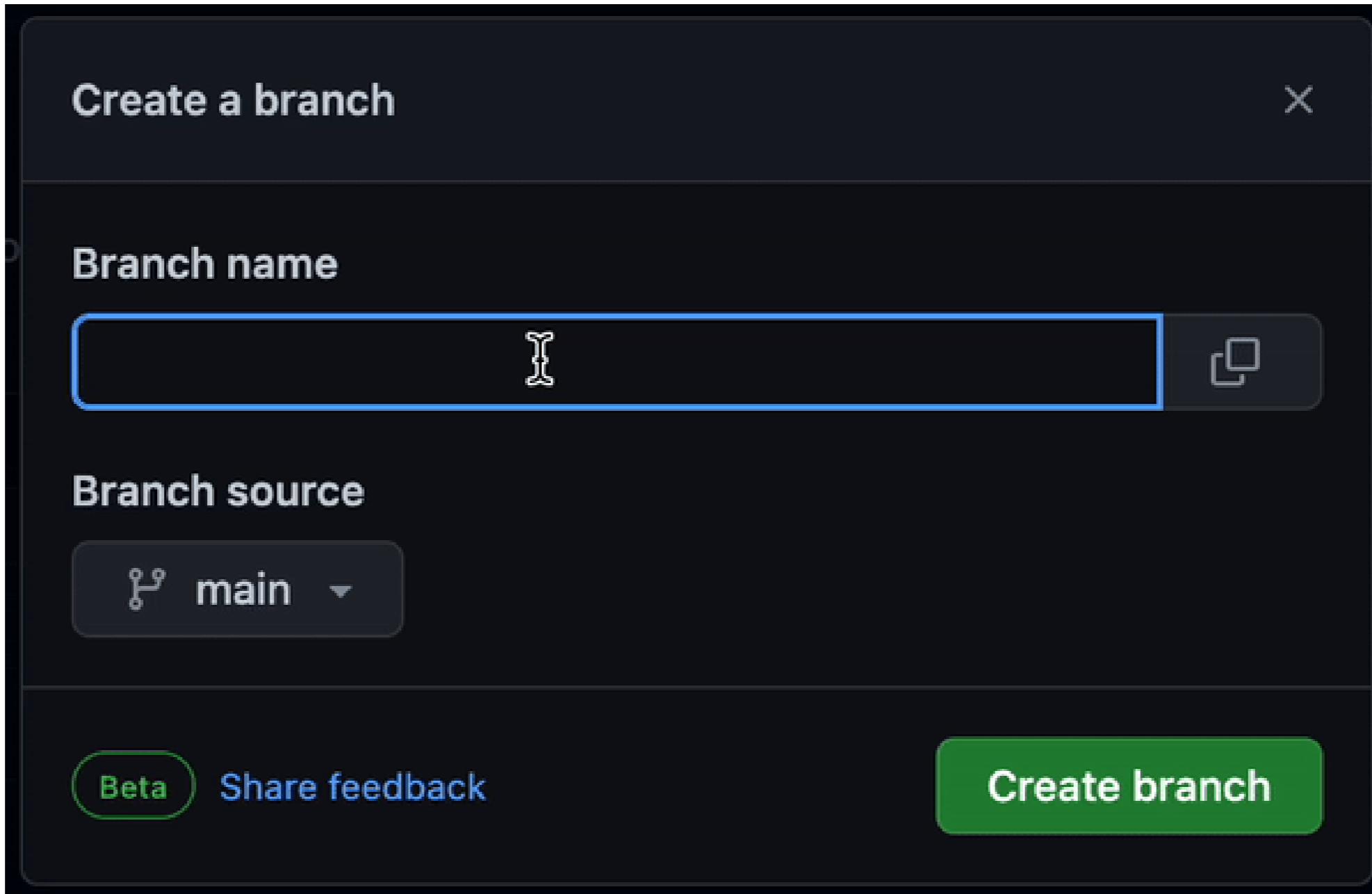
```
soccer_analysis
```

On the right, there are sections for 'About', 'Releases', and 'Packages'. The 'About' section notes 'No description, website, or topics provided.' The 'Releases' section says 'No releases published' and 'Create a new release'. The 'Packages' section says 'No packages published' and 'Publish your first package'.

# Creating a new branch

The screenshot shows a GitHub repository page for 'george-boorman / soccer\_analysis'. The page includes a navigation bar with links for Pull requests, Issues, Marketplace, and Explore. Below the navigation is a search bar and a header for the repository. The main content area features a navigation bar with Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. A search bar for branches is present. Below this, a list of branches is shown, starting with the 'Default branch' (main). A green box highlights the 'New branch' button in the top right corner of the branch list area. At the bottom of the page, there is a footer with links for GitHub, Inc., Terms, Privacy, Security, Status, Docs, Contact GitHub, Pricing, API, Training, Blog, and About.

# Creating a new branch



# Creating a new branch

The screenshot shows a GitHub repository page for 'george-boorman / soccer\_analysis'. The repository is public. At the top, there is a search bar and navigation links for 'Pull requests', 'Issues', 'Marketplace', and 'Explore'. A notification bell icon shows 1 unread notification. On the right, there are buttons for 'Pin', 'Unwatch', 'Fork', and 'Star'. Below the header, a message says 'Branch la\_liga will be created shortly.' A red box highlights the 'New branch' button in the 'Overview' tab section. The main content area shows three sections: 'Default branch' (main), 'Your branches' (la\_liga), and 'Active branches' (la\_liga). Each section includes a 'New pull request' button and edit/delete icons.

Branch la\_liga will be created shortly. ×

george-boorman / soccer\_analysis Public

Pin  Unwatch 1  Fork 0  Star 0

Code  Issues  Pull requests  Actions  Projects  Wiki  Security  Insights  Settings

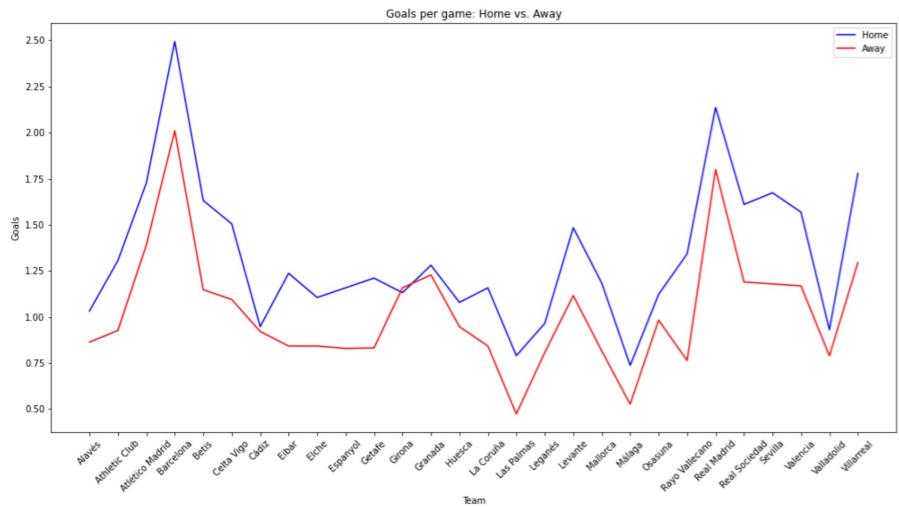
Search branches... Overview Yours Active Stale All branches New branch

**Default branch** ⤵  
main  Updated 1 hour ago by george-boorman Default ⤵

**Your branches**  
la\_liga  Updated 1 hour ago by george-boorman 0 | 0 New pull request ⤵ ⤵

**Active branches**  
la\_liga  Updated 1 hour ago by george-boorman 0 | 0 New pull request ⤵ ⤵

# Adding a file



Search or jump to... Pull requests Issues Marketplace Explore

george-boorman / soccer\_analysis Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

la\_liga had recent pushes less than a minute ago Compare & pull request

la\_liga 2 branches 0 tags Go to file Add file Code

This branch is 1 commit ahead of main. Contribute

george-boorman Add la liga home vs away goals plot f2d9072 now 11 commits

EDA Add EDA directory 16 hours ago

README.md Update README.md 5 days ago

la\_liga\_league\_home\_vs\_away\_att... Add la liga attendance plot 16 hours ago

la\_liga\_league\_home\_vs\_away\_goa... Add la liga home vs away goals plot now

requirements.txt Add seaborn to requirements.txt 16 hours ago

README.md

soccer\_analysis

About

No description, website, or topics provided.

Readme

0 stars

1 watching

0 forks

Releases

No releases published Create a new release

Packages

No packages published Publish your first package

# Listing branches

The screenshot shows a GitHub repository page for `george-boorman/soccer_analysis`. The page has a dark theme. At the top, there's a navigation bar with links for Pull requests, Issues, Marketplace, and Explore. Below the navigation is a header with the repository name, a 'Public' badge, and buttons for Pin, Unwatch, Fork, and Star. The main content area has tabs for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. The Code tab is selected. A banner at the top of the code area says "la\_liga had recent pushes less than a minute ago" and includes a "Compare & pull request" button. Below this, there are buttons for "la\_liga" and "2 branches". The "2 branches" button is highlighted with a green border. It also shows 0 tags. To the right are buttons for Go to file, Add file, and Code. A message below the buttons says "This branch is 1 commit ahead of main." with a "Contribute" button. The main content area lists commits from user `george-boorman`. The commits are:

- Add la liga home vs away goals plot (f2d9072, 1 minute ago, 11 commits)
- Add EDA directory (16 hours ago)
- Update README.md (5 days ago)
- Add la liga attendance plot (16 hours ago)
- Add la liga home vs away goals plot (1 minute ago)
- Add seaborn to requirements.txt (16 hours ago)

Below the commit list is a file viewer for `README.md`. The title of the repository is `soccer_analysis`.

**About**  
No description, website, or topics provided.

**Readme**

**Contributors**

**Releases**  
No releases published  
Create a new release

**Packages**  
No packages published  
Publish your first package

# Switching branches

The screenshot shows a GitHub repository page for `george-boorman / soccer_analysis`. The repository is public and contains 2 branches and 0 tags. The 'Code' tab is selected. A dropdown menu titled 'Switch branches/tags' is open, showing the 'la\_liga' branch is currently selected. Other branches listed include 'main' and 'la\_liga'. The repository has 11 commits in the last hour, 0 stars, 1 watcher, and 0 forks. The README.md file contains the text 'soccer\_analysis'.

george-boorman / soccer\_analysis Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

la\_liga ▾ 2 branches 0 tags

Switch branches/tags Find or create a branch...

Branches Tags

main default

✓ la\_liga

View all branches

away goals plot f2d9072 1 hour ago 11 commits

Add EDA directory 17 hours ago

Update README.md 5 days ago

la\_liga\_league\_home\_vs\_away\_att... Add la liga attendance plot 18 hours ago

la\_liga\_league\_home\_vs\_away\_goa... Add la liga home vs away goals plot 1 hour ago

requirements.txt Add seaborn to requirements.txt 18 hours ago

README.md

soccer\_analysis

About

No description, website, or topics provided.

Readme 0 stars 1 watching 0 forks

Releases

No releases published Create a new release

Packages

No packages published Publish your first package

# Switching branches

The screenshot shows a GitHub repository page for `george-boorman / soccer_analysis`. The repository is public and contains 2 branches and 0 tags. The 'Code' tab is selected. A dropdown menu titled 'Switch branches/tags' is open, showing the 'main' branch as the current default. Other branches listed are `la_liga` (selected) and `default`. The repository has 11 commits in the last hour, 17 hours ago, 5 days ago, 18 hours ago, 1 hour ago, and 18 hours ago. The README.md file contains the text 'soccer\_analysis'.

george-boorman / soccer\_analysis Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

la\_liga 2 branches 0 tags

Switch branches/tags

Find or create a branch...

Branches Tags

main default

la\_liga

View all branches

away goals plot f2d9072 1 hour ago 11 commits

Add EDA directory 17 hours ago

Update README.md 5 days ago

la\_liga\_league\_home\_vs\_away\_att... Add la liga attendance plot 18 hours ago

la\_liga\_league\_home\_vs\_away\_goa... Add la liga home vs away goals plot 1 hour ago

requirements.txt Add seaborn to requirements.txt 18 hours ago

README.md

soccer\_analysis

Pin Unwatch 1 Fork 0 Star 0

About

No description, website, or topics provided.

Readme 0 stars 1 watching 0 forks

Releases

No releases published Create a new release

Packages

No packages published Publish your first package

# Comparing branches

The screenshot shows a GitHub repository page for `george-boorman/soccer_analysis`. The page has a dark theme. At the top, there's a search bar, navigation links for Pull requests, Issues, Marketplace, and Explore, and a user profile icon. Below the header, the repository name is displayed with a 'Public' badge, and there are buttons for Pin, Unwatch, Fork, and Star.

The main content area has tabs for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. The Code tab is selected, indicated by an orange underline. On the left, there's a sidebar with a message about recent pushes to the `la_liga` branch and a green 'Compare & pull request' button. The main area shows the `main` branch with 2 branches and 0 tags. A list of commits is shown:

- `george-boorman Delete .gitignore` b45ce89 16 hours ago 10 commits
- `EDA` Add EDA directory 16 hours ago
- `README.md` Update README.md 5 days ago
- `la_liga_league_home_vs_away_att...` Add la liga attendance plot 16 hours ago (this commit is highlighted with a yellow border)
- `requirements.txt` Add seaborn to requirements.txt 16 hours ago

Below the commits, there's a preview of the `README.md` file, which contains the text `soccer_analysis`.

On the right side, there are sections for About (no description, 0 stars, 1 watching, 0 forks), Releases (no releases published, Create a new release), and Packages (no packages published, Publish your first package).

# Working with branches



# Branch protection rules

- Rules for specific branches
  - Require a pull request before merging
  - Require that pull requests are approved before merging
  - Restrict who can delete a protected branch



<sup>1</sup> Image credit: <https://unsplash.com/@bluzninja>

# Branch protection rules

The screenshot shows a GitHub repository page for `george-boorman / soccer_analysis`. The `Settings` tab is highlighted with a green border. The main content area displays recent activity, including a push from `la_liga` 6 minutes ago and several commits from `george-boorman`. The repository has 2 branches and 0 tags. On the right side, there are sections for `About`, `Releases`, and `Packages`.

**About**

No description, website, or topics provided.

**Code**

main ▾ 2 branches 0 tags

**Recent activity**

Author	Commit Message	Date
george-boorman	Delete .gitignore	b45ce89 16 hours ago
	Add EDA directory	16 hours ago
	Update README.md	5 days ago
	Add la_liga_league_home_vs_away_att...	16 hours ago
	Add seaborn to requirements.txt	16 hours ago

**README.md**

**soccer\_analysis**

**About**

No description, website, or topics provided.

**Code**

Readme

0 stars

1 watching

0 forks

**Releases**

No releases published

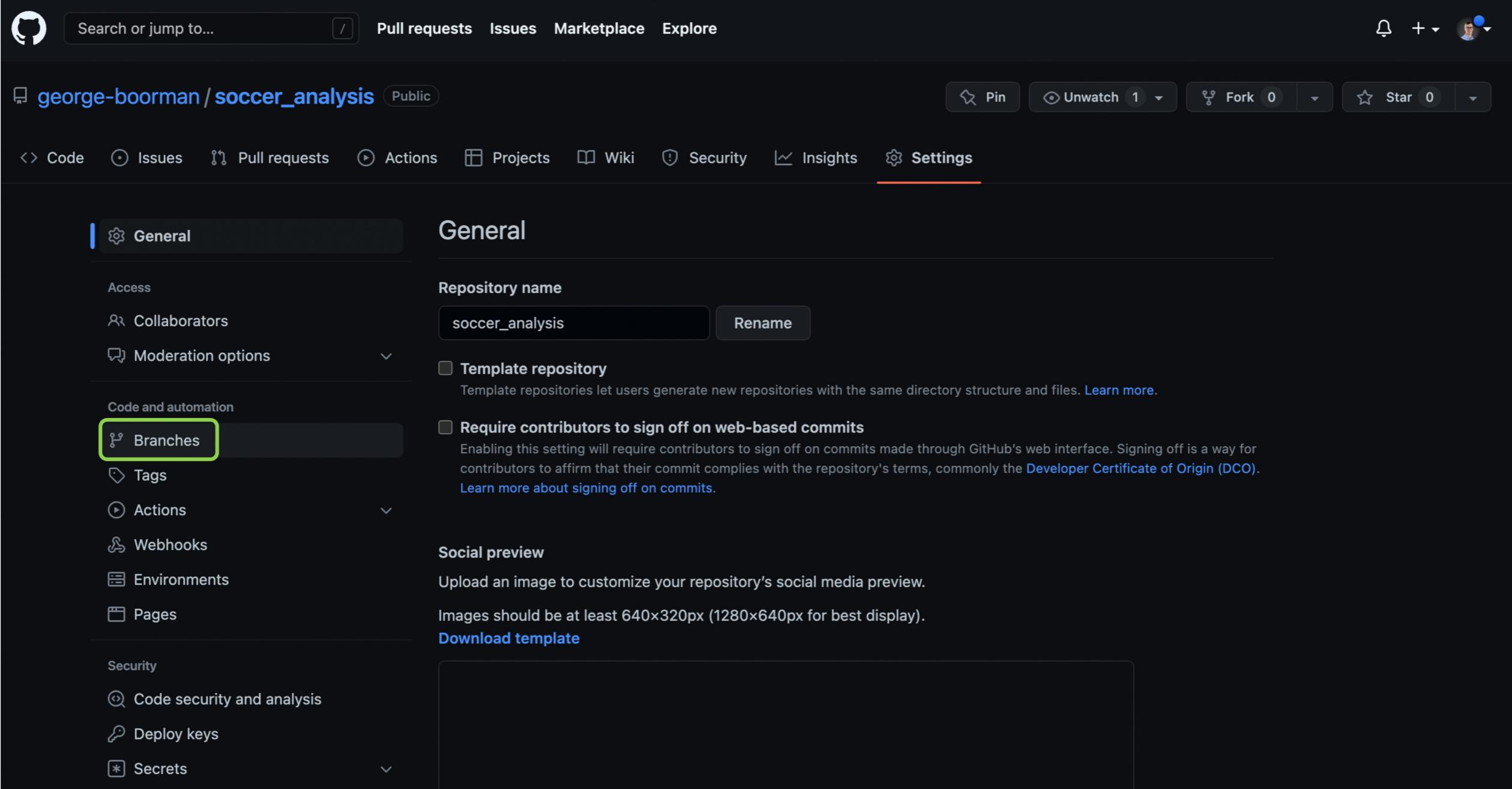
Create a new release

**Packages**

No packages published

Publish your first package

# Branch protection rules



The screenshot shows the GitHub repository settings for 'george-boorman / soccer\_analysis'. The 'General' tab is selected. On the left, there's a sidebar with sections like 'Access', 'Collaborators', 'Moderation options', 'Code and automation' (with 'Branches' highlighted), 'Actions', 'Webhooks', 'Environments', 'Pages', 'Security', 'Code security and analysis', 'Deploy keys', and 'Secrets'. The main area has a 'Repository name' field set to 'soccer\_analysis' with a 'Rename' button. Under 'General', there are two sections: 'Template repository' (unchecked) and 'Require contributors to sign off on web-based commits' (unchecked). The 'Social preview' section allows for uploading a template image.

# Branch protection rules

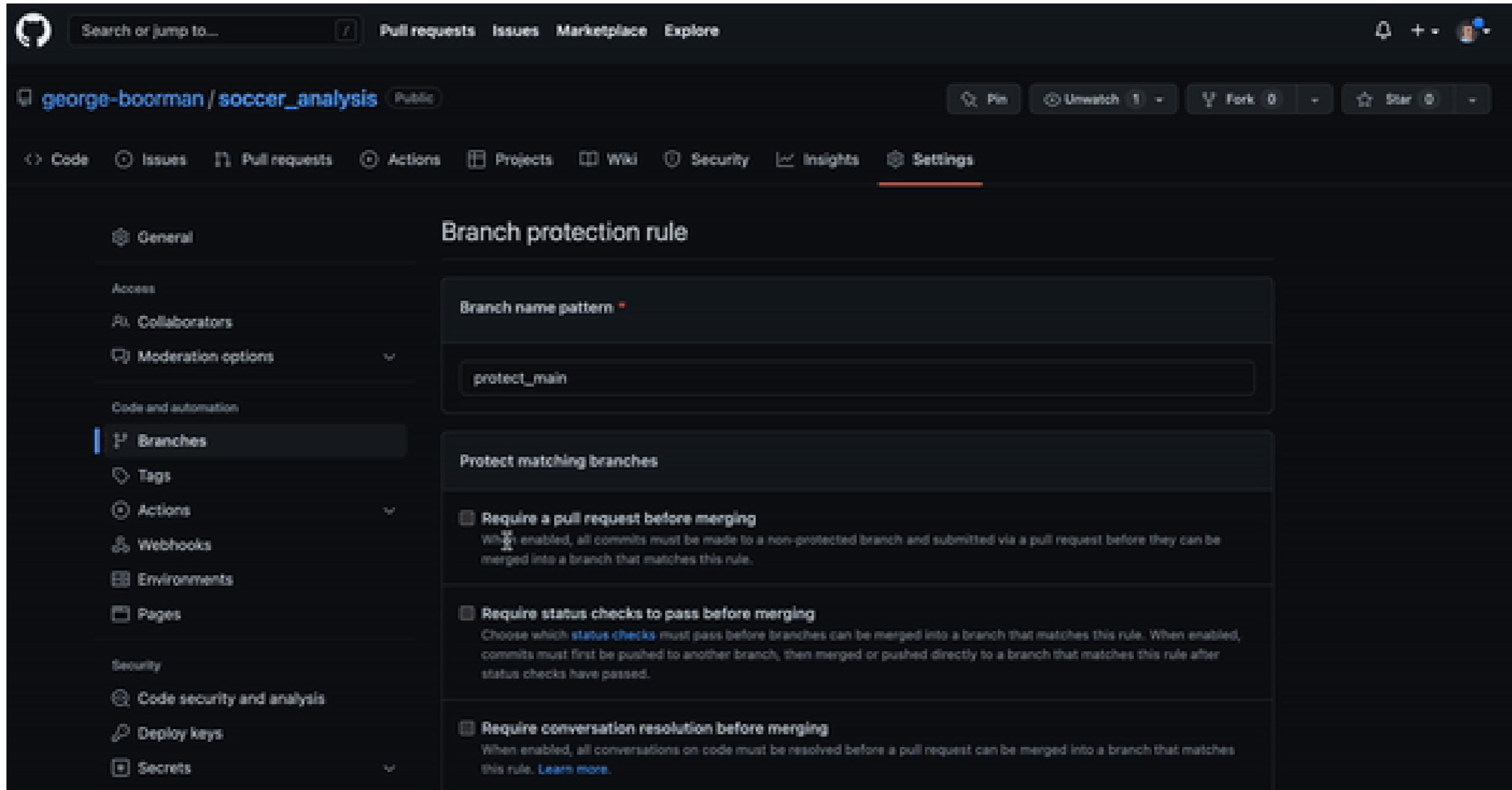
The screenshot shows the GitHub repository settings page for the repository `george-boorman / soccer_analysis`. The `Settings` tab is selected. On the left, a sidebar menu is open under the `Code and automation` heading, with the `Branches` option highlighted. The main content area is titled `Default branch`, explaining that it is the "base" branch. A dropdown menu shows the current default branch as `main`. Below this, the `Branch protection rules` section is shown, with a green box highlighting the `Add rule` button. The text in this section states: "Define branch protection rules to disable force pushing, prevent branches from being deleted, and optionally require status checks before merging. New to branch protection rules? [Learn more](#)". At the bottom of this section, it says "No branch protection rules defined yet."

# Adding rules

The screenshot shows the GitHub settings page for the repository `george-boorman / soccer_analysis`. The `Settings` tab is selected. On the left, a sidebar lists various settings categories like General, Access, Collaborators, and Branches. The `Branches` section is currently active and highlighted with a blue bar. In the main content area, the heading **Branch protection rule** is displayed. A field labeled **Branch name pattern \*** contains the value `protect_main`, which is highlighted with a green rounded rectangle. Below this, there's a section titled **Protect matching branches** containing three checkboxes:

- Require a pull request before merging**: When enabled, all commits must be made to a non-protected branch and submitted via a pull request before they can be merged into a branch that matches this rule.
- Require status checks to pass before merging**: Choose which **status checks** must pass before branches can be merged into a branch that matches this rule. When enabled, commits must first be pushed to another branch, then merged or pushed directly to a branch that matches this rule after status checks have passed.
- Require conversation resolution before merging**: When enabled, all conversations on code must be resolved before a pull request can be merged into a branch that matches this rule. [Learn more](#).

# Require a pull request



The screenshot shows the GitHub settings page for the repository `george-boorman/soccer_analysis`. The `Settings` tab is selected. On the left, the `Branches` section is highlighted in the sidebar. The main content area is titled `Branch protection rule`. It shows a branch name pattern `protect_main` and three protection rules:

- Protect matching branches**
  - Require a pull request before merging**: When enabled, all commits must be made to a non-protected branch and submitted via a pull request before they can be merged into a branch that matches this rule.
  - Require status checks to pass before merging**: Choose which **status checks** must pass before branches can be merged into a branch that matches this rule. When enabled, commits must first be pushed to another branch, then merged or pushed directly to a branch that matches this rule after status checks have passed.
  - Require conversation resolution before merging**: When enabled, all conversations on code must be resolved before a pull request can be merged into a branch that matches this rule. [Learn more](#).

# Saving the rule

Rules applied to everyone including administrators

**Allow force pushes**

Permit force pushes for all users with push access.

**Allow deletions**

Allow users with push access to delete matching branches.

Create

# Let's practice!

INTRODUCTION TO GITHUB CONCEPTS

# Repo access

INTRODUCTION TO GITHUB CONCEPTS

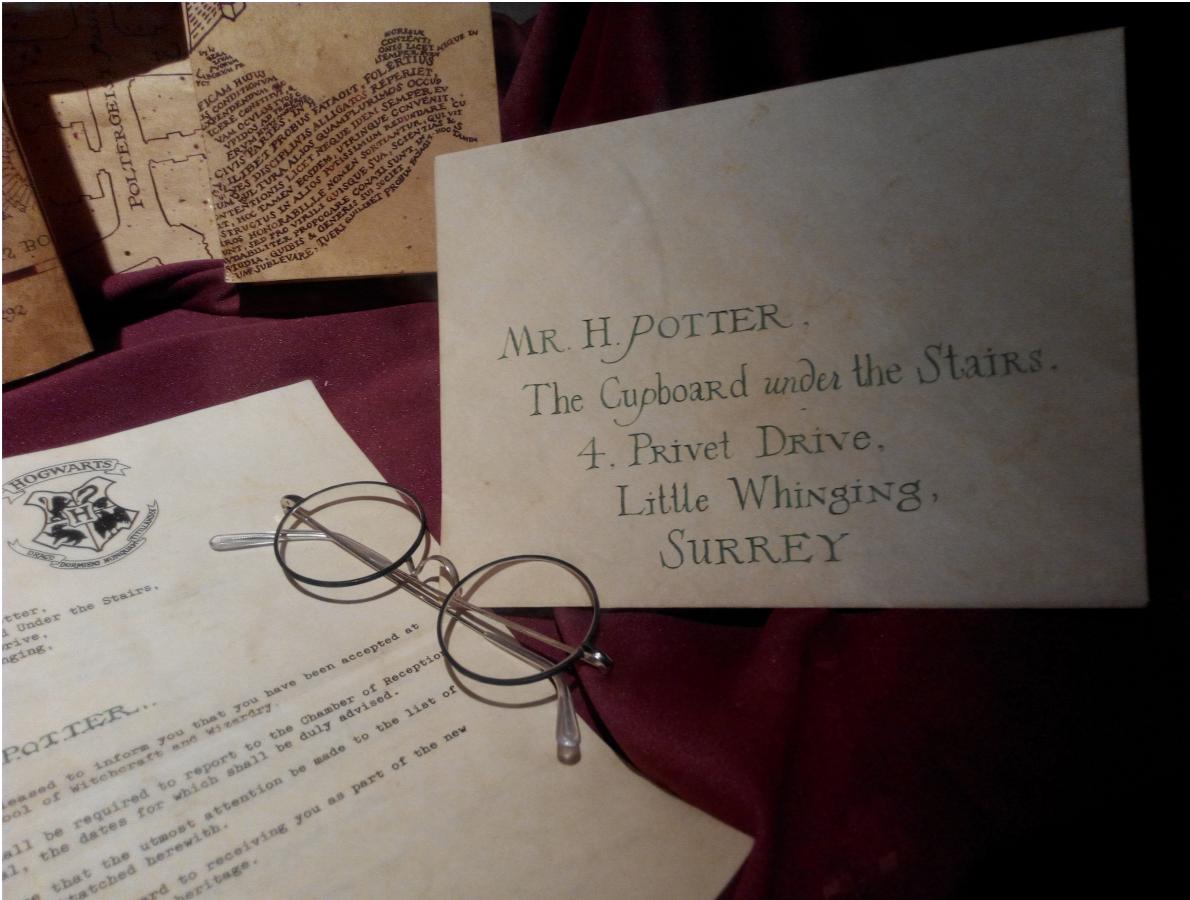


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# Why restrict access?

- Datasets containing personally identifiable information
- Developing or using commercial products



<sup>1</sup> Image credits: [https://unsplash.com/@rae\\_1991](https://unsplash.com/@rae_1991)

# Bank marketing campaign

Column name	Description
name	Full name
address	Home address
age	Age in years
job	Job type
marital	Marital status
education	Level of education
balance	Bank balance (\$)
housing	Has a mortgage
deposit	Made a deposit as a result of the campaign

# Creating a private repo

The screenshot shows the GitHub interface for creating a new repository. At the top, there's a navigation bar with icons for search, pull requests, issues, marketplace, and explore. Below that, a header says "Create a new repository" with a sub-instruction: "A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository](#)".

The main form fields include "Owner \*" set to "george-boorman" and "Repository name \*" set to "bank\_marketing". Below these, a note says "Great repository names are short and memorable. Need inspiration? How about [cautious-octo-winner](#)?"

The "Description (optional)" field is empty. Under "Visibility", the "Public" option is unselected, and the "Private" option is selected, highlighted with a green border. A note next to it says "You choose who can see and commit to this repository".

At the bottom, there's a section for initializing the repository: "Initialize this repository with:" followed by "Skip this step if you're importing an existing repository." A checked checkbox for "Add a README file" is present, with a note below it saying "This is where you can write a long description for your project. [Learn more](#)".

# Is it private?

The screenshot shows a GitHub repository page for the user 'george-boorman' with the repository name 'bank\_marketing'. The repository is marked as 'Private'. The main navigation bar includes links for Pull requests, Issues, Marketplace, and Explore. On the right side, there are buttons for Unwatch (1), Fork (0), and Star (0). Below the navigation, there are tabs for Code, Issues, Pull requests, Actions, Projects, Security, Insights, and Settings, with 'Code' being the active tab. A dropdown menu for the 'main' branch shows '1 branch' and '0 tags'. The repository contains one commit from 'george-boorman' labeled 'Initial commit' at 'a675666' (16 days ago). The README.md file is present and displays the text 'bank\_marketing'. The 'About' section indicates 'No description, website, or topics provided.' It also shows 0 stars, 1 watching, and 0 forks. The 'Releases' section shows 'No releases published' and a link to 'Create a new release'. The 'Packages' section shows 'No packages published' and a link to 'Publish your first package'.

george-boorman / bank\_marketing Private

Code Issues Pull requests Actions Projects Security Insights Settings

main ▾ 1 branch 0 tags

george-boorman Initial commit a675666 16 days ago 1 commit

README.md Initial commit 16 days ago

README.md

bank\_marketing

About

No description, website, or topics provided.

Readme 0 stars 1 watching 0 forks

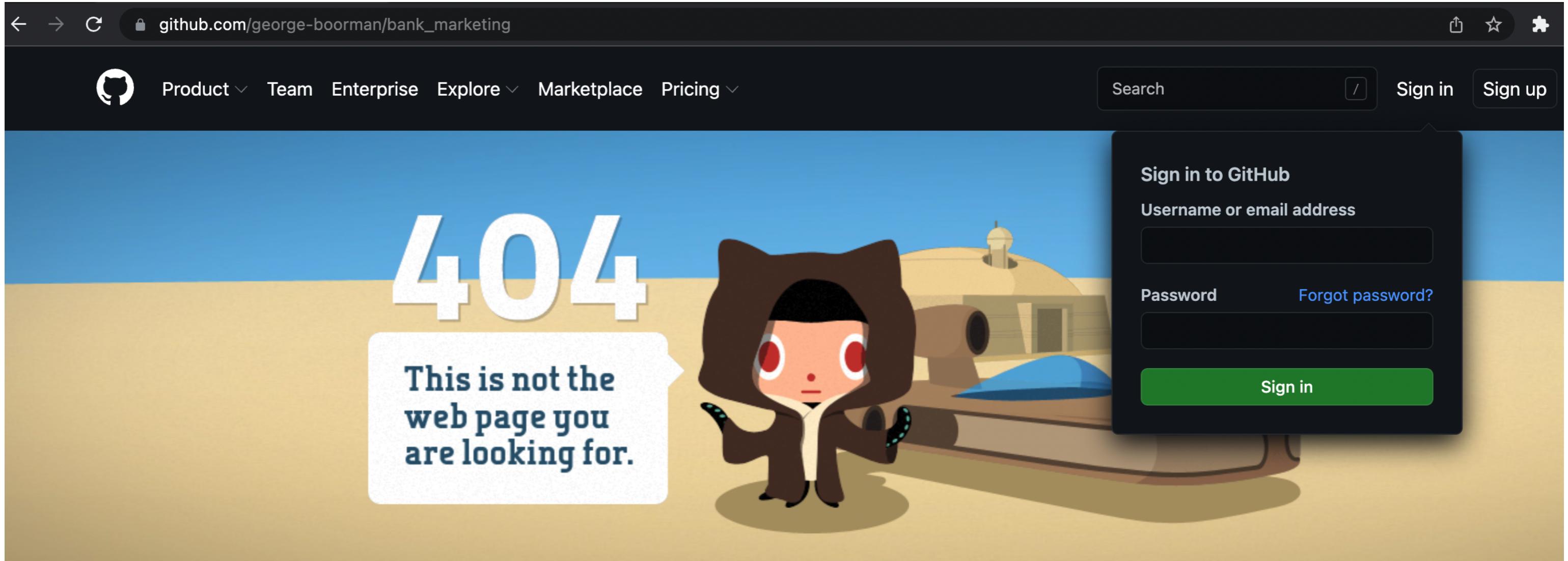
Releases

No releases published Create a new release

Packages

No packages published Publish your first package

# Is it private?



# Collaboration in a private repo

The screenshot shows a GitHub repository page for `george-boorman/bank_marketing`. The repository is marked as `Private`. The top navigation bar includes links for `Pull requests`, `Issues`, `Marketplace`, and `Explore`. On the right side, there are buttons for `Unwatch` (1), `Fork` (0), and `Star` (0). Below the navigation, a secondary navigation bar offers links for `Code`, `Issues`, `Pull requests`, `Actions`, `Projects`, `Security`, `Insights`, and `Settings`. The `Settings` link is highlighted with a green border. The main content area is titled `General`. It displays the `Repository name` as `bank_marketing` with a `Rename` button. There are two configuration sections: `Template repository` (unchecked) and `Require contributors to sign off on web-based commits` (unchecked). A `Social preview` section is also present.

# Collaborators

The screenshot shows the GitHub repository settings page for the repository `george-boorman/bank_marketing`. The repository is private, as indicated by the lock icon and the word "Private". The top navigation bar includes links for Pull requests, Issues, Marketplace, and Explore. On the far right, there are icons for Unwatch (1), Fork (0), and Star (0). The main navigation bar below the repository name has tabs for Code, Issues, Pull requests, Actions, Projects, Security, Insights, and Settings, with Settings being the active tab.

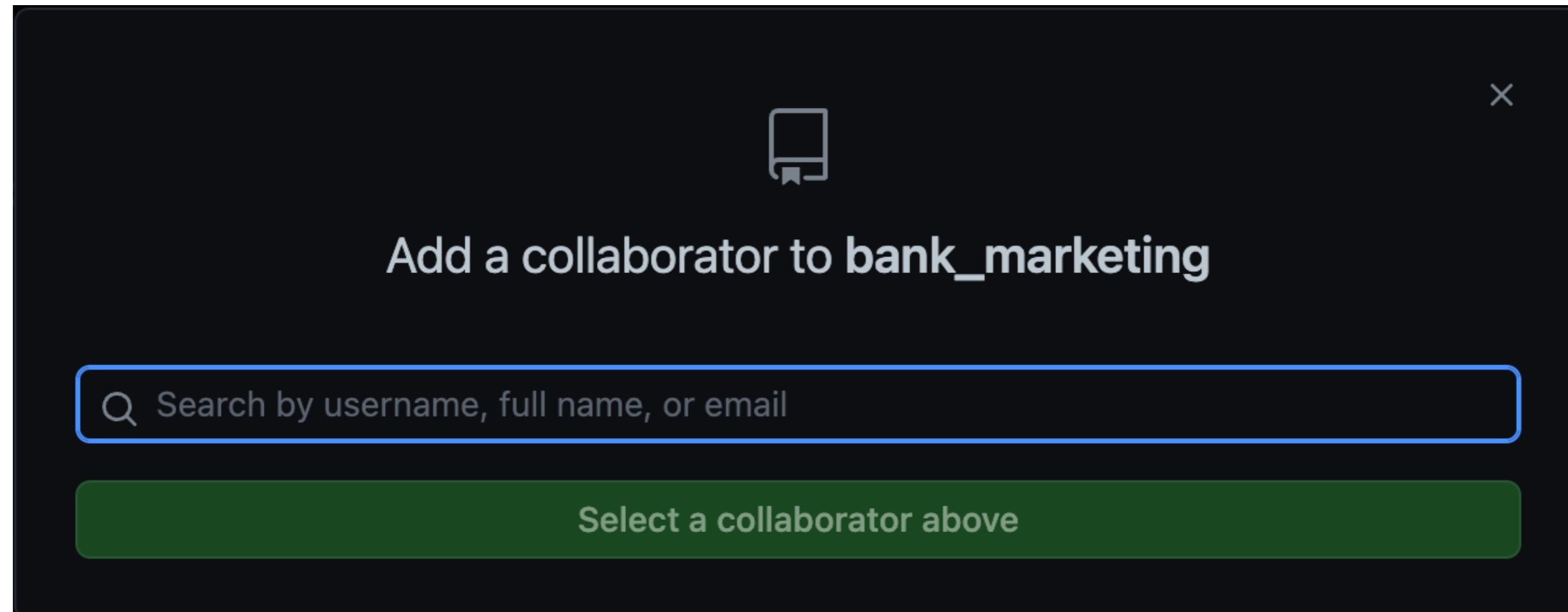
The left sidebar contains sections for General, Access (with Collaborators selected and highlighted with a green border), Code and automation, Branches, Tags, Actions, Webhooks, Pages, Security, Code security and analysis, Deploy keys, Secrets, Integrations, GitHub apps, and Email notifications.

The central area is titled "Who has access" and displays two sections: "PRIVATE REPOSITORY" and "DIRECT ACCESS". The PRIVATE REPOSITORY section states: "Only those with access to this repository can view it." and includes a "Manage" link. The DIRECT ACCESS section states: "0 collaborators have access to this repository. Only you can contribute to this repository." Below this is a "Manage access" section with a large button labeled "Add people".

# Collaborators

The screenshot shows the GitHub repository settings for 'george-boorman/bank\_marketing'. The 'Settings' tab is selected. On the left, a sidebar lists 'General', 'Access' (selected), 'Code and automation', 'Branches', 'Tags', 'Actions', 'Webhooks', 'Pages', 'Security', 'Code security and analysis', 'Deploy keys', 'Secrets', 'Integrations', 'GitHub apps', and 'Email notifications'. Under 'Access', 'Collaborators' is selected. The main area is titled 'Who has access' and shows two sections: 'PRIVATE REPOSITORY' (Only those with access to this repository can view it) and 'DIRECT ACCESS' (0 collaborators have access to this repository. Only you can contribute to this repository). A large button labeled 'Manage access' is centered. Below it, a message says 'You haven't invited any collaborators yet' with a 'Add people' button.

# Adding a collaborator



# Adding a collaborator

The screenshot shows a GitHub repository settings page with a modal window open for adding a collaborator. The repository name is 'bank\_marketing'. The modal has a search bar and a green button that says 'Select a collaborator above'. Below the modal, the 'Manage access' section shows a placeholder message: 'You haven't invited any collaborators yet' with a 'Add people' button.

Code Issues Pull requests Actions Projects Security Insights Settings

General Access Collaborators

Code and automation Branches Tags Actions Webhooks Pages

Code security and analysis Deploy keys Secrets

Github apps Email notifications

Add a collaborator to bank\_marketing

Search by username, full name, or email

Select a collaborator above

Manage access

You haven't invited any collaborators yet

Add people

# Let's practice!

INTRODUCTION TO GITHUB CONCEPTS

# Personal Access Tokens (PAT)

INTRODUCTION TO GITHUB CONCEPTS



George Boorman

Curriculum Manager, DataCamp

# Authentication

- Can use Git in the terminal to interact with GitHub

```
git clone https://github.com/george-boorman/bank_marketing
```

Username for 'https://github.com': george-boorman

Password for 'https://george-boorman@github.com':

# Authentication failed

```
remote: Support for password authentication was removed on August 13, 2021.  
remote: Please see https://docs.github.com/en/get-started/getting-started-with-git/about-remote-repositories#cloning-with-https-urls for information on currently recommended modes of authentication.  
fatal: Authentication failed for 'https://github.com/george-boorman/bank_marketing/'
```

# GitHub Docs

The screenshot shows a dark-themed GitHub Docs page. On the left, there's a sidebar with navigation links: "Writing on GitHub", "Importing your projects", "Explore projects", "Getting started with Git" (which is expanded, showing "Set your username" and "Caching credentials"), and "Cloning with HTTPS URLs". The main content area has a breadcrumb navigation bar at the top with "Get started" / "Getting started with Git" / "About remote repositories". It also shows "Free, Pro, & Team" and "English" dropdown menus. The main title is "Cloning with HTTPS URLs". The text explains that HTTPS clone URLs are available on all repositories, regardless of visibility, and that they work even if you are behind a firewall or proxy. It then describes the process of using Git commands like `git clone`, `git fetch`, `git pull`, and `git push` over HTTPS, noting that it prompts for a password. It recommends using a personal access token (PAT) instead, mentioning the "Git Credential Manager" and providing a link to "Creating a personal access token".

Cloning with HTTPS URLs

The `https://` clone URLs are available on all repositories, regardless of visibility. `https://` clone URLs work even if you are behind a firewall or proxy.

When you `git clone`, `git fetch`, `git pull`, or `git push` to a remote repository using HTTPS URLs on the command line, Git will ask for your GitHub username and password. When Git prompts you for your password, enter your [personal access token \(PAT\)](#). Alternatively, you can use a credential helper like [Git Credential Manager](#). Password-based authentication for Git has been removed in favor of more secure authentication methods. For more information, see "[Creating a personal access token](#)".

<sup>1</sup> <https://docs.github.com/en/get-started/getting-started-with-git/about-remote-repositories#cloning-with-https-urls>

# What is a Personal Access Token?

- Personal Access Token (PAT)
  - An alternative to using passwords for authentication in the terminal
  - Required since August 2021 instead of passwords
  - More secure
- Not needed in GitHub
  - Only to access a remote repo using the terminal

<sup>1</sup> <https://docs.github.com/en/authentication/keeping-your-account-and-data-secure/creating-a-personal-access-token>

# Creating a PAT

The screenshot shows a GitHub profile page for a user named George Boorman (george-boorman). The profile picture is a circular portrait of a smiling man with glasses. Below the picture, the name "George Boorman" and the handle "george-boorman" are displayed. A blue button labeled "Edit profile" is visible. The top navigation bar includes links for Pull requests, Issues, Marketplace, Explore, Overview (which is underlined), Repositories (3), Projects, Packages, and Stars. To the right, a sidebar shows the user is signed in as "george-boorman". It includes options like Set status, Your profile, Your repositories, Your codespaces, Your organizations, Your projects, Your stars, Your gists, Upgrade, Feature preview (with a blue dot indicating it's active), Help, and Settings, which is highlighted with a green border. The main content area shows "Popular repositories" with a card for "soccer\_analysis" (Public). It also displays "1,040 contributions in the last year" with a heatmap calendar from September of the previous year to July. A link "Learn how we count contributions" is provided.

# Creating a PAT

The screenshot shows the GitHub Profile Settings page. On the left, there's a sidebar with sections like 'Code, planning, and automation', 'Security', 'Integrations', 'Archives', and 'Developer settings' (which is highlighted with a green border). The main area has fields for 'URL', 'Twitter username', 'Company' (with a note about linking to a GitHub organization), and 'Location'. A note at the bottom states that all fields are optional and can be deleted at any time, and that by filling them out, you're giving consent to share the data. There's also a 'Update profile' button. Below this, the 'Contributions & Activity' section includes a checkbox for 'Make profile private and hide activity' (Beta).

Code, planning, and automation

- Repositories
- Packages
- GitHub Copilot
- Pages
- Saved replies

Security

- Code security and analysis

Integrations

- Applications
- Scheduled reminders

Archives

- Security log
- Sponsorship log

<> Developer settings

URL

Twitter username

Company

You can @mention your company's GitHub organization to link it.

Location

All of the fields on this page are optional and can be deleted at any time, and by filling them out, you're giving us consent to share this data wherever your user profile appears. Please see our [privacy statement](#) to learn more about how we use this information.

Update profile

## Contributions & Activity

Make profile private and hide activity Beta

Enabling this will hide your contributions and activity from your GitHub profile and from social features like followers, stars, feeds, leaderboards and releases.

# Creating a PAT

The screenshot shows the GitHub developer settings interface. At the top, there is a navigation bar with the GitHub logo, a search bar, and links for Pull requests, Issues, Marketplace, and Explore. To the right of the search bar are icons for notifications, a new repository, and user profile. Below the navigation bar, the path 'Settings / Developer settings' is visible. On the left, a sidebar contains three options: 'GitHub Apps', 'OAuth Apps', and 'Personal access tokens', with 'Personal access tokens' being the active tab and highlighted with a green border. The main content area is titled 'GitHub Apps' and contains text encouraging users to build GitHub Apps, with a 'New GitHub App' button. A note at the bottom of this section provides links to documentation.

Search or jump to... / Pull requests Issues Marketplace Explore

Settings / Developer settings

GitHub Apps OAuth Apps Personal access tokens

New GitHub App

GitHub Apps

Want to build something that integrates with and extends GitHub? [Register a new GitHub App](#) to get started developing on the GitHub API. You can also read more about building GitHub Apps in our [developer documentation](#).

# Creating a PAT

The screenshot shows the GitHub developer settings interface. At the top, there is a navigation bar with the GitHub logo, a search bar, and links for Pull requests, Issues, Marketplace, and Explore. To the right of the search bar is a notification bell icon, a plus sign for creating new items, and a user profile icon. Below the navigation bar, the path 'Settings / Developer settings' is displayed. On the left, there is a sidebar with three options: GitHub Apps, OAuth Apps, and Personal access tokens, which is currently selected and highlighted with a blue border. The main content area is titled 'Personal access tokens' and contains the sub-instruction 'Tokens you have generated that can be used to access the GitHub API.' At the top right of this section are two buttons: 'Generate new token' (highlighted with a green box) and 'Revoke all'.

# Creating a PAT

The screenshot shows the GitHub developer settings interface. In the top navigation bar, there is a search bar, a pull requests button, an issues button, a marketplace button, an explore button, a notifications icon, a plus sign for creating new items, and a user profile icon. Below the navigation, the path 'Settings / Developer settings' is visible. On the left sidebar, there are links for GitHub Apps, OAuth Apps, and Personal access tokens. The main content area is titled 'New personal access token'. It contains a note explaining that personal access tokens function like ordinary OAuth access tokens and can be used for Git over HTTPS or API authentication. A note field contains the text 'bank\_marketing\_PAT'. Below it, a question 'What's this token for?' is followed by a dropdown menu set to '30 days'. A tooltip indicates that the token will expire on Fri, Oct 7 2022. Two green arrows point from the text 'Expiration' at the bottom left to the dropdown menu and from the text 'Note' at the bottom right to the note field.

Search or jump to... / Pull requests Issues Marketplace Explore

Settings / Developer settings

GitHub Apps OAuth Apps Personal access tokens

## New personal access token

Personal access tokens function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to [authenticate to the API](#) over Basic Authentication.

**Note**

bank\_marketing\_PAT

What's this token for?

**Expiration \***

30 days

The token will expire on Fri, Oct 7 2022

**Expiration**

**Note**

# Creating a PAT

The screenshot shows the GitHub developer settings interface for creating a new personal access token (PAT). The left sidebar includes links for GitHub Apps, OAuth Apps, and Personal access tokens. The main area is titled "New personal access token" and contains a note about PATs functioning like OAuth tokens. It features a "Note" input field containing "bank\_marketing\_PAT", a "Expiration" dropdown set to "30 days" (expiring Fri, Oct 7 2022), and a "Select scopes" section. The "repo" scope is selected and highlighted with a green border, while other scopes like "repo:status", "repo\_deployment", "public\_repo", "repo:invite", and "security\_events" are also listed.

Search or jump to... / Pull requests Issues Marketplace Explore

Settings / Developer settings

GitHub Apps OAuth Apps Personal access tokens

## New personal access token

Personal access tokens function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to [authenticate to the API over Basic Authentication](#).

**Note**

bank\_marketing\_PAT

What's this token for?

**Expiration \***

30 days The token will expire on Fri, Oct 7 2022

**Select scopes**

Scopes define the access for personal tokens. [Read more about OAuth scopes](#).

<input checked="" type="checkbox"/> <b>repo</b>	Full control of private repositories
<input checked="" type="checkbox"/> repo:status	Access commit status
<input checked="" type="checkbox"/> repo_deployment	Access deployment status
<input checked="" type="checkbox"/> public_repo	Access public repositories
<input checked="" type="checkbox"/> repo:invite	Access repository invitations
<input checked="" type="checkbox"/> security_events	Read and write security events

# Creating a PAT

<input type="checkbox"/> <b>write:discussion</b>	Read and write team discussions
<input type="checkbox"/> <b>read:discussion</b>	Read team discussions
<input type="checkbox"/> <b>admin:enterprise</b>	Full control of enterprises
<input type="checkbox"/> <b>manage_runners:enterprise</b>	Manage enterprise runners and runner groups
<input type="checkbox"/> <b>manage_billing:enterprise</b>	Read and write enterprise billing data
<input type="checkbox"/> <b>read:enterprise</b>	Read enterprise profile data
<input type="checkbox"/> <b>project</b>	Full control of projects
<input type="checkbox"/> <b>read:project</b>	Read access of projects
<input type="checkbox"/> <b>admin:gpg_key</b>	Full control of public user GPG keys
<input type="checkbox"/> <b>write:gpg_key</b>	Write public user GPG keys
<input type="checkbox"/> <b>read:gpg_key</b>	Read public user GPG keys
<input type="checkbox"/> <b>admin:ssh_signing_key</b>	Full control of public user SSH signing keys
<input type="checkbox"/> <b>write:ssh_signing_key</b>	Write public user SSH signing keys
<input type="checkbox"/> <b>read:ssh_signing_key</b>	Read public user SSH signing keys

[Generate token](#)   [Cancel](#)

# Using the PAT

The screenshot shows the GitHub developer settings page with the "Personal access tokens" tab selected. The page title is "Personal access tokens". There are two buttons at the top right: "Generate new token" and "Revoke all". A message box says "Tokens you have generated that can be used to access the GitHub API." Below it, a callout box says "Make sure to copy your personal access token now. You won't be able to see it again!". A token card is listed with the ID "ghp\_Pm2ESiF7wNZUDnIfeYtX5pTJFgC8Fh4NTlJX" and a "Delete" button.

Settings / Developer settings

GitHub Apps

OAuth Apps

Personal access tokens

Personal access tokens

Generate new token

Revoke all

Tokens you have generated that can be used to access the GitHub API.

Make sure to copy your personal access token now. You won't be able to see it again!

✓ ghp\_Pm2ESiF7wNZUDnIfeYtX5pTJFgC8Fh4NTlJX ⌂

Delete

# Using the PAT

A screenshot of the GitHub developer settings page, specifically the "Personal access tokens" section. The page has a dark theme. At the top, there's a navigation bar with links for "Pull requests", "Issues", "Marketplace", and "Explore". Below that, the "Settings / Developer settings" path is shown. On the left, there are three categories: "GitHub Apps", "OAuth Apps", and "Personal access tokens", with "Personal access tokens" being the active tab, indicated by a blue border and a green arrow pointing to it from the word "PAT" on the left. The main area is titled "Personal access tokens" and contains a sub-instruction: "Tokens you have generated that can be used to access the GitHub API." Below this is a message: "Make sure to copy your personal access token now. You won't be able to see it again!". A single token is listed: "ghp\_Pm2ESiF7wNZUDnIfeYtX5pTJFgC8Fh4NTlJX" with a copy icon next to it. There are also "Generate new token" and "Revoke all" buttons at the top right of this section.

- Don't share a PAT!

# Using the PAT

```
git clone https://github.com/george-boorman/bank_marketing  
Cloning into 'bank_marketing'...  
Username for 'https://github.com': george-boorman  
Password for 'https://george-boorman@github.com':
```

```
remote: Enumerating objects: 3, done.  
remote: Counting objects: 100% (3/3), done.  
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
```

```
ls
```

```
bank_marketing
```

# Let's practice!

INTRODUCTION TO GITHUB CONCEPTS