Setting Up a Development Environment for the Technica Online Platform

Andrew Mao
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Introduction

This tutorial will guide you through setting up a development environment for the Technica online platform, with Git version control. At the end you will make an official pull request for the code repository.

What is version control?

Version control is a system that records changes to a codebase, so that you can retrieve a specific set of files later. This allows us, for example, to revert to a previous version of the codebase, track changes, or to enable multiple people to work on different versions of the codebase.
Git is currently the most popular version control system. Git is a distributed version control system, so every person has a copy of the main code base on their local machine.

Warnings

These instructions involve installing software from third-party sources. Be aware there is always the risk that they carry potential security vulnerabilities. Using terminal also entails that some commands (removing) are permanent, so be aware of them.

Technical Background

This tutorial requires knowledge of your computer's terminal (Linux, MacOS, Windows) and basic commands (cd, ls, mkdir). We also recommend reading up on the tools used (Git, Github) if you aren't already familiar, as this isn't an in-depth explanation of how they work.

Instructions

1. Ensure the following tools are installed. If not, follow the instructions at the link.
    a. A code editor
    b. Git: https://git-scm.com/book/en/v2/Getting-Started-Installing-Git
    c. Node.js and npm: https://nodejs.org/en/download/

            i. Node is an environment that allows us to run Javascript outside a web browser. npm, short for "Node package manager", handles dependencies and allows us to run programs in Node.
    d. Vue.js: https://vuejs.org/v2/guide/installation.html
            i. Vue is a Javascript framework for building user interfaces.

2. Download the code and create a branch
    a. Open up your terminal, **clone** the GitHub repository for the platform (make a local copy of the codebase) at https://github.com/gotechnica/platform-2020

```
git clone https://github.com/gotechnica/platform-2020
```

    b. Navigate to the project directory, then use Git to **checkout a new branch**. This represents a new version of the codebase, which enables you to happily work on without worrying about messing up the main version, also known as the **master branch**.

```
cd platform-2020
git checkout -b my-new-branch
```

    c. Read the README file to get a gist of the setup instructions.

3. Run the frontend
    a. navigate to the frontend directory, then start the app using npm.

```
cd frontend
npm run serve
```

    b. npm will automatically install some packages before serving the app (it starts a local server).
    c. Visit http://localhost:8080 on your web browser. You should see this login page come up (Figure 1).

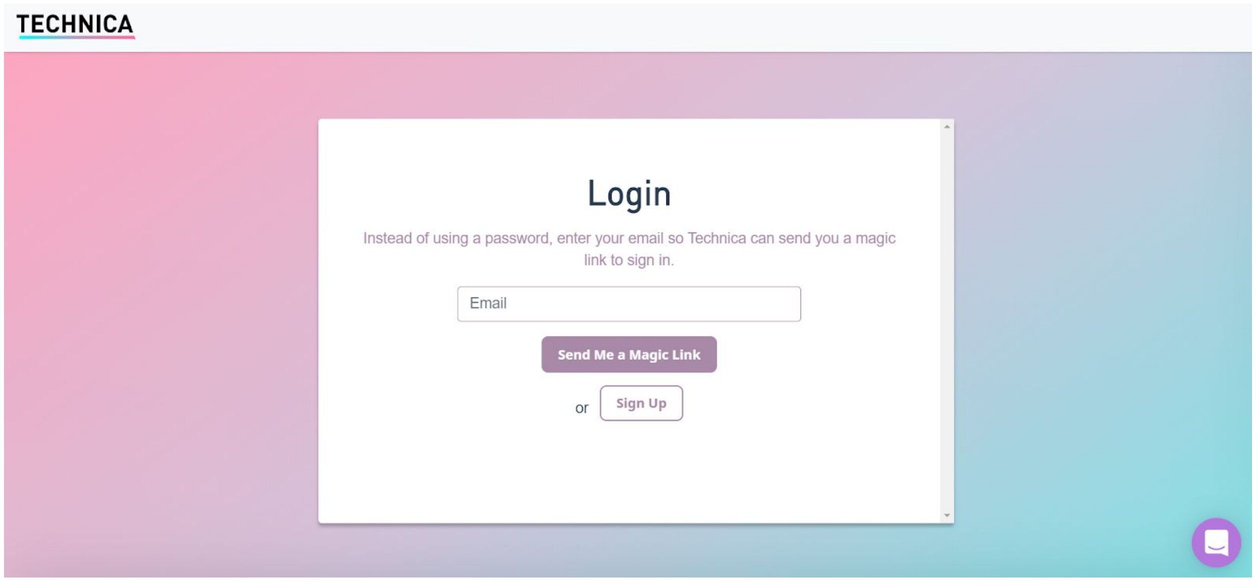
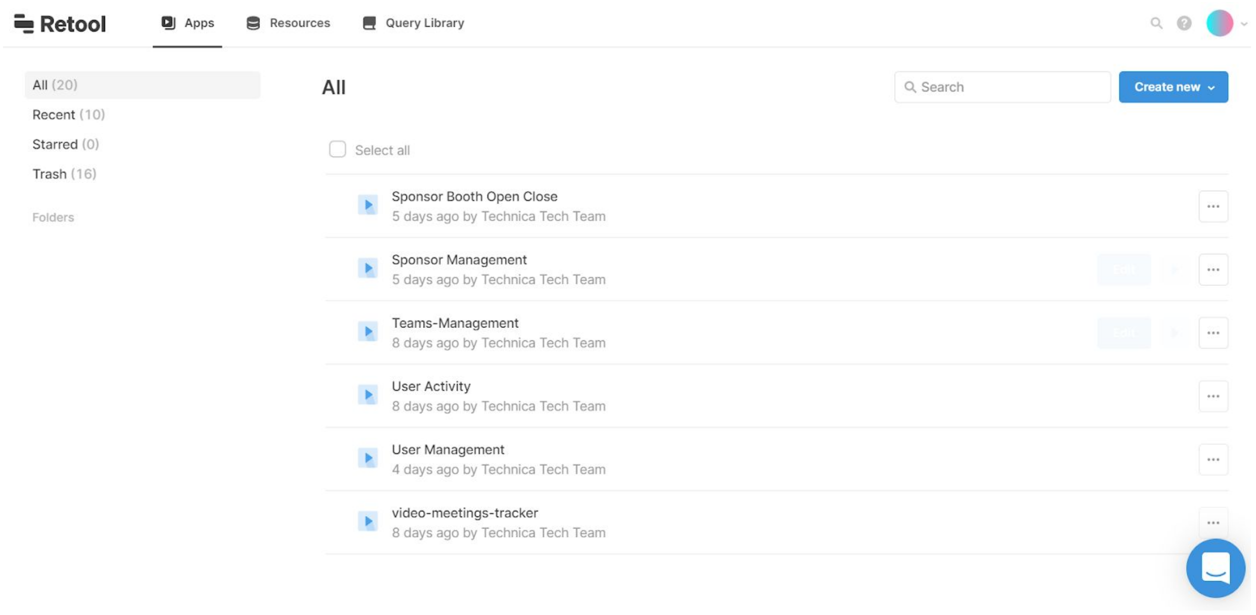

TECHNICA
Login
Instead of using a password, enter your email so Technica can send you a magic link to sign in.
Email
Send Me a Magic Link
or
Sign Up

Figure 1. Login page for the online platform

   d. The login page checks the database if there is a user with a matching email, then sends a magic link. The most robust way to authenticate ourselves is to create a user account for ourselves via the backend.

4. Make a platform account using Retool
   a. What is Retool? Retool enables developers to build internal tools. Technica uses it to interact with its AWS databases easily. We will be using Retool to create a platform account.
   b. Sign in to https://technica.retool.com/ using credentials provided by your director. You should see a list of apps (Retool's unit of functionality). Select the "User Management" app. This should take you to an interactive table of users (Figure 3).

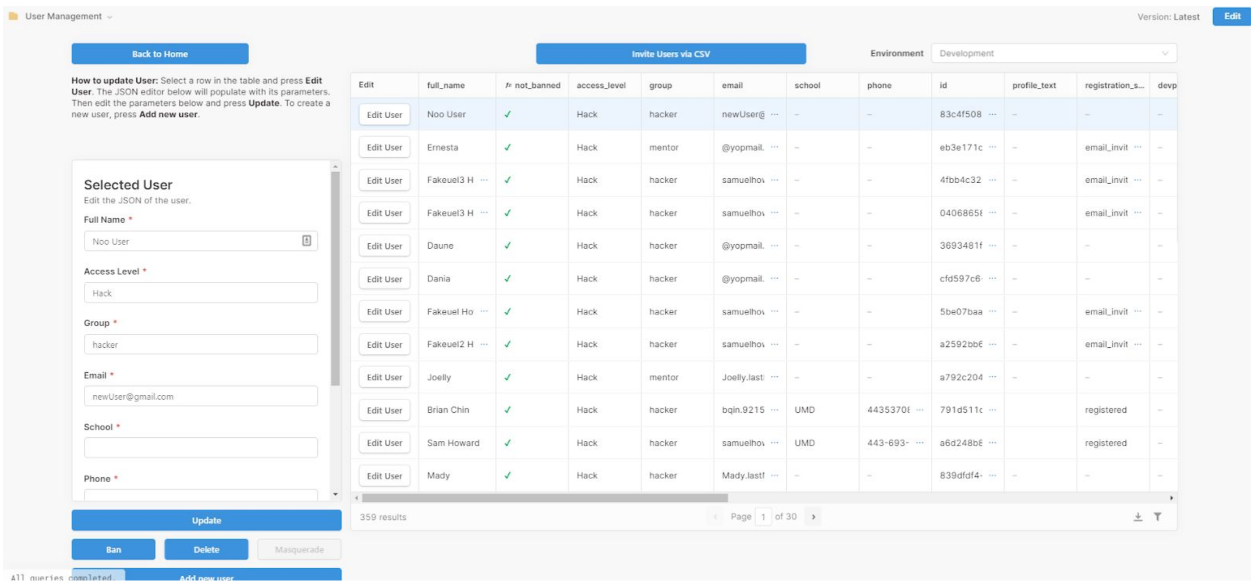


All

Sponsor Booth Open Close	5 days ago by Technica Tech Team
Sponsor Management	5 days ago by Technica Tech Team
Teams-Management	8 days ago by Technica Tech Team
User Activity	8 days ago by Technica Tech Team
User Management	4 days ago by Technica Tech Team
video-meetings-tracker	8 days ago by Technica Tech Team

Figure 2. Retool's home page, an app list

c. Ensure you are viewing the data for the Development environment. You can select your environment from the dropdown in the top right.



How to update User: Select a row in the table and press **Edit User**. The JSON editor below will populate with its parameters. Then edit the parameters below and press **Update**. To create a new user, press **Add new user**.

Selected User
Edit the JSON of the user.
Full Name *: Noo User
Access Level *: Hack
Group *: hacker
Email *: newUser@gmail.com
School *:
Phone *:

Environment: Development

Edit	full_name	not_banned	access_level	group	email	school	phone	id	profile_text	registration_s...	devp
Edit User	Noo User	✓	Hack	hacker	newUser@ ···	–	–	83c4f508 ···	–	–	–
Edit User	Ernesta	✓	Hack	mentor	@yopmail. ···	–	–	eb3e171c ···	–	email_invit ···	–
Edit User	Fakeuel3 H ···	✓	Hack	hacker	samuelhov ···	–	–	4fbb4c32 ···	–	email_invit ···	–
Edit User	Fakeuel3 H ···	✓	Hack	hacker	samuelhov ···	–	–	0406865ε ···	–	email_invit ···	–
Edit User	Daune	✓	Hack	hacker	@yopmail. ···	–	–	3693481f ···	–	–	–
Edit User	Dania	✓	Hack	hacker	@yopmail. ···	–	–	cfd597c6 ···	–	–	–
Edit User	Fakeuel Ho ···	✓	Hack	hacker	samuelhov ···	–	–	5be07baa ···	–	email_invit ···	–
Edit User	Fakeuel2 H ···	✓	Hack	hacker	samuelhov ···	–	–	a2592bb6 ···	–	email_invit ···	–
Edit User	Joelly	✓	Hack	mentor	Joelly.last ···	–	–	a792c204 ···	–	–	–
Edit User	Brian Chin	✓	Hack	hacker	bqin.9215 ···	UMD	44353708 ···	791d511c ···		registered	–
Edit User	Sam Howard	✓	Hack	hacker	samuelhov ···	UMD	443-693- ···	a6d248b8 ···		registered	–
Edit User	Mady	✓	Hack	hacker	Mady.last ···	–	–	839dfdf4 ···	–	–	–

359 results Page 1 of 30

```
All queries completed.
```

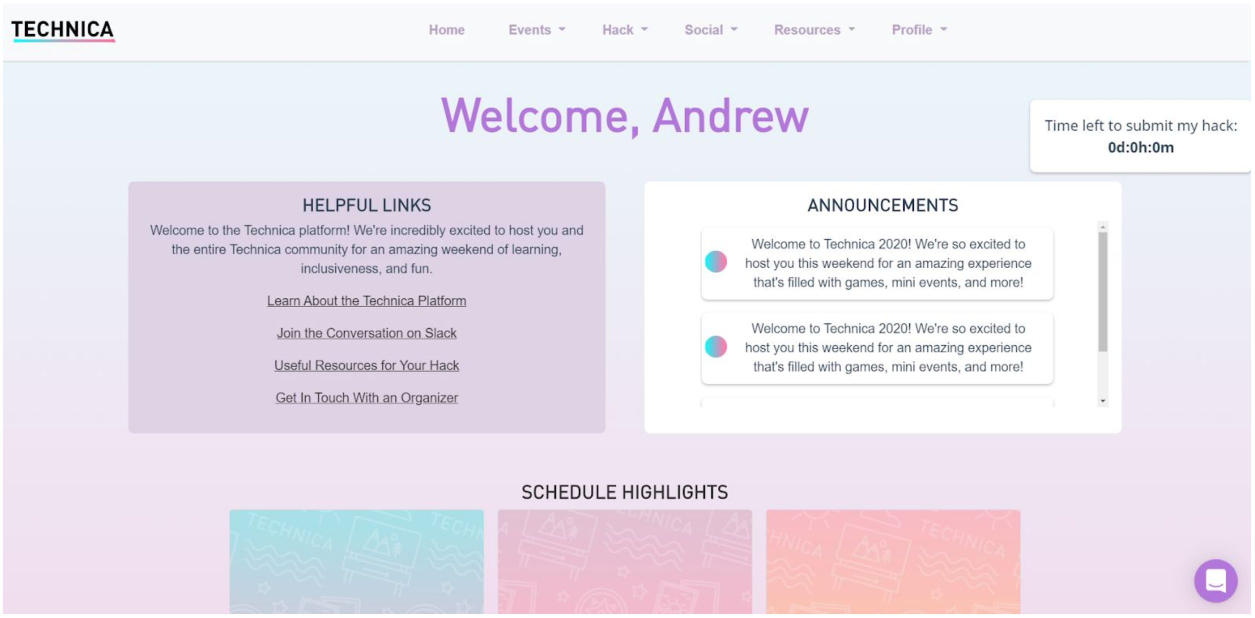
Figure 3. Retool's app view

d. Add yourself as a new user to the table, using the form on the left. Click the "Add new user" button at the bottom when you are done.

5. Authenticate yourself into the platform

a. Return to the login page, then enter the email you used for your Retool user.

Use the magic link that is sent to your email to access the home page.



Welcome, Andrew

Time left to submit my hack:
0d:0h:0m

HELPFUL LINKS

Welcome to the Technica platform! We're incredibly excited to host you and the entire Technica community for an amazing weekend of learning, inclusiveness, and fun.

Learn About the Technica Platform

Join the Conversation on Slack

Useful Resources for Your Hack

Get In Touch With an Organizer

ANNOUNCEMENTS

Welcome to Technica 2020! We're so excited to host you this weekend for an amazing experience that's filled with games, mini events, and more!

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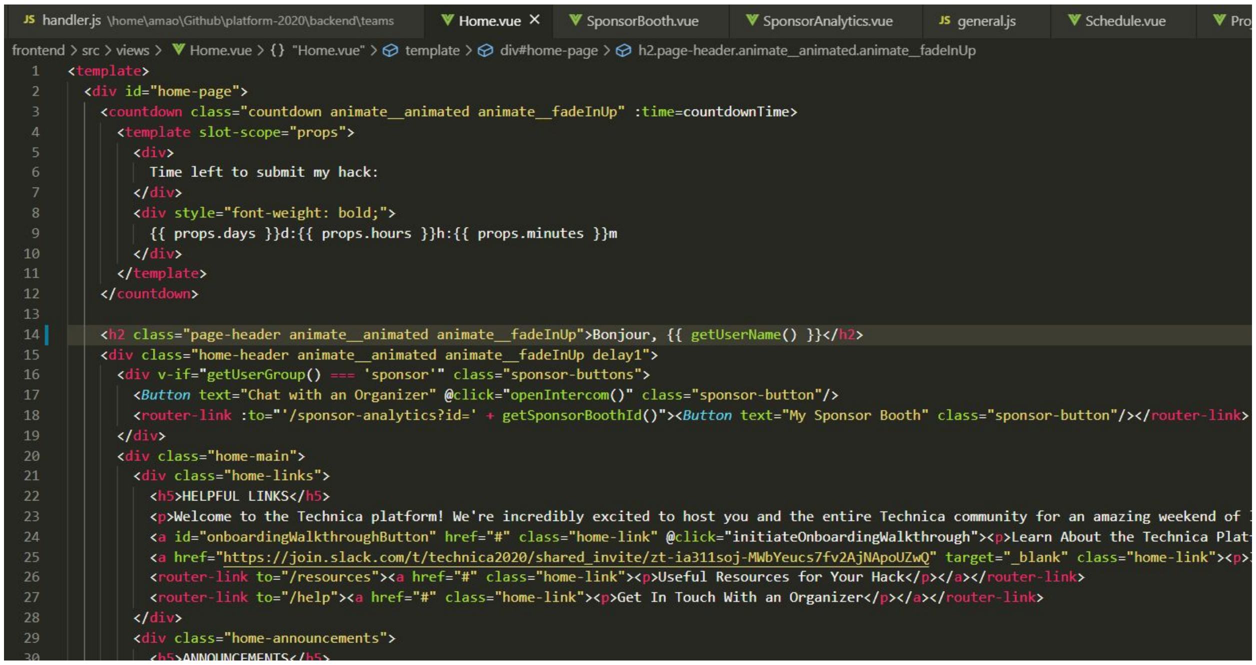
SCHEDULE HIGHLIGHTS

Figure 4. The home page of the platform

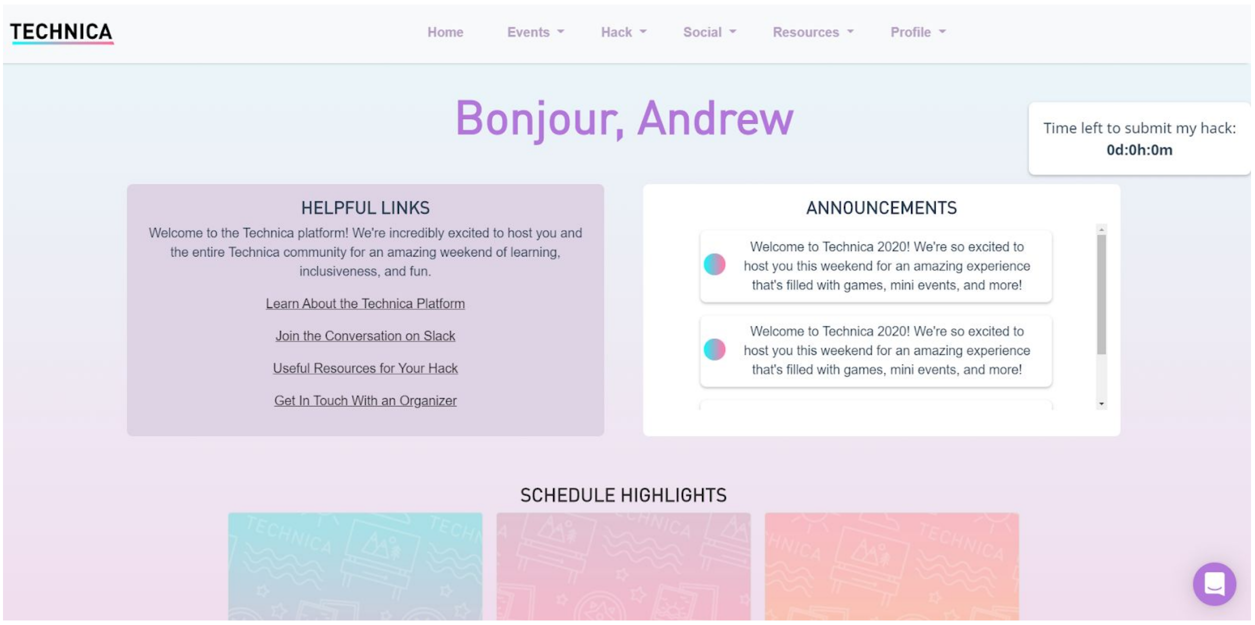
6. Make changes to the codebase
    a. In your favorite code editor, open "frontend/src/views/Home.vue". This is the file that corresponds to the home page you are seeing. Vue is the Javascript framework used to build these user interfaces, along with standard HTML and CSS.


handler.js \home\amao\Github\platform-2020\backend\teams
Home.vue
SponsorBooth.vue
SponsorAnalytics.vue
general.js
Schedule.vue
Pro
frontend > src > views > Home.vue > {} "Home.vue" > template > div#home-page > h2.page-header.animate__animated.animate__fadeInUp

```
1  <template>
2    <div id="home-page">
3      <countdown class="countdown animate__animated animate__fadeInUp" :time=countdownTime>
4        <template slot-scope="props">
5          <div>
6            Time left to submit my hack:
7          </div>
8          <div style="font-weight: bold;">
9            {{ props.days }}d:{{ props.hours }}h:{{ props.minutes }}m
10         </div>
11       </template>
12     </countdown>
13
14     <h2 class="page-header animate__animated animate__fadeInUp">Bonjour, {{ getUserName() }}</h2>
15     <div class="home-header animate__animated animate__fadeInUp delay1">
16       <div v-if="getUserGroup() === 'sponsor'" class="sponsor-buttons">
17         <Button text="Chat with an Organizer" @click="openIntercom()" class="sponsor-button"/>
18         <router-link :to="'/sponsor-analytics?id=' + getSponsorBoothId()"><Button text="My Sponsor Booth" class="sponsor-button"/></router-link>
19       </div>
20       <div class="home-main">
21         <div class="home-links">
22           <h5>HELPFUL LINKS</h5>
23           <p>Welcome to the Technica platform! We're incredibly excited to host you and the entire Technica community for an amazing weekend of
24           <a id="onboardingWalkthroughButton" href="#" class="home-link" @click="initiateOnboardingWalkthrough"><p>Learn About the Technica Plat
25           <a href="https://join.slack.com/t/technica2020/shared_invite/zt-ia311soj-MWbYeucs7fv2AjNApoUZwQ" target="_blank" class="home-link"><p>
26           <router-link to="/resources"><a href="#" class="home-link"><p>Useful Resources for Your Hack</p></a></router-link>
27           <router-link to="/help"><a href="#" class="home-link"><p>Get In Touch With an Organizer</p></a></router-link>
28         </div>
29         <div class="home-announcements">
30           <h5>ANNOUNCEMENTS</h5>
```

Figure 5. The source code of the home page component, with line 14 highlighted

    b. On line 14, edit the message from "Welcome" to something else. Then save your changes. Your changes should automatically show up on the frontend! (Figure 6) This nifty feature of Vue is called *hot reloading*.


TECHNICA
Home
Events
Hack
Social
Resources
Profile
Bonjour, Andrew
Time left to submit my hack:
0d:0h:0m
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SCHEDULE HIGHLIGHTS

Figure 6. The home page with "Welcome" replaced with "Bonjour"

7. Stage and commit our changes
    a. Git stores code changes in three main places (Figure 7): the working tree, the staging area, and the Git directory. Finally, the fourth location is the **remote repository**. "git add ." adds all changed files in your current directory to your staging area, which is temporary and reversible (doesn't affect the code history)
    b. When you **commit**, you essentially make a permanent change to the code's history. By default, you have to include a message for each commit describing what you did (hence the -m flag).

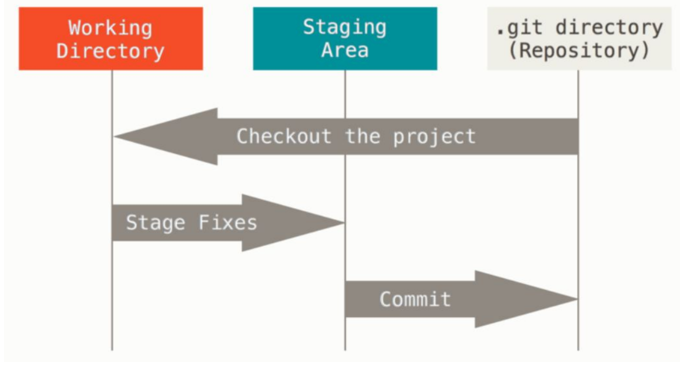


Figure 7. Git's three file states, and how files are moved

    c. Keeping track of what state you're in may be confusing. At any time, you can use "git status" to check the status of your repository, like what branch you're on, what files are modified, staged or committed.

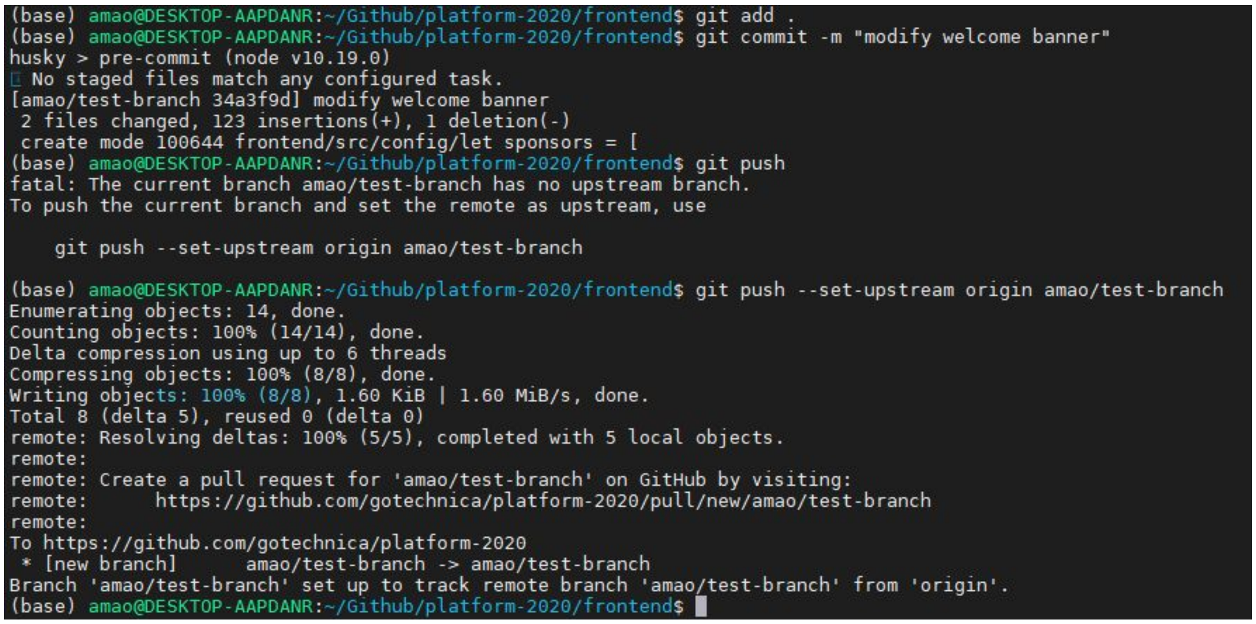
d. Stage and commit your changes

```
git add .
git commit -m “modify welcome banner”
```

8. Create a remote branch and push our changes
    a. Right now our feature branch only exists locally. We publish the branch to the remote repository, so other people can see our changes.

```
git push --set-upstream origin amao/test-branch
```

    b. This command does two things: it publishes the branch on remote, and it pushes our changes to it. We only need to publish it once, after which we only need to use “git push”.
    c. This three-step process is intended to make sure code changes are intentional and readable, which is incredibly important as software projects grow and become managed by multiple people.



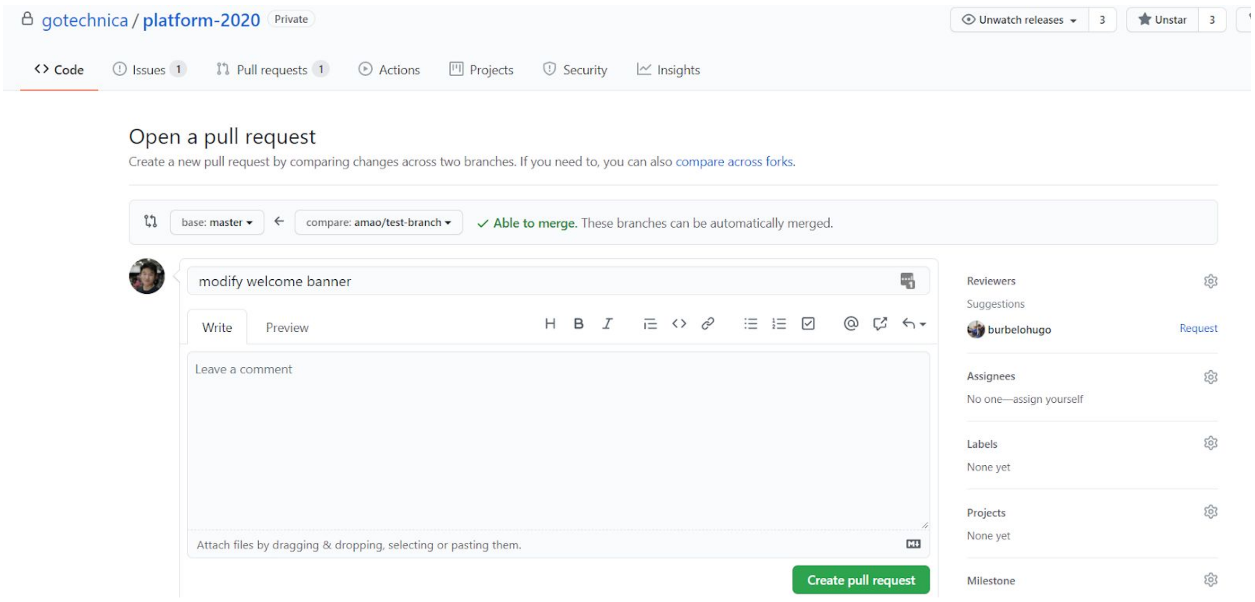
```
(base) amao@DESKTOP-AAPDANR:~/Github/platform-2020/frontend$ git add .
(base) amao@DESKTOP-AAPDANR:~/Github/platform-2020/frontend$ git commit -m "modify welcome banner"
husky > pre-commit (node v10.19.0)
  No staged files match any configured task.
[amao/test-branch 34a3f9d] modify welcome banner
 2 files changed, 123 insertions(+), 1 deletion(-)
 create mode 100644 frontend/src/config/let sponsors = [
(base) amao@DESKTOP-AAPDANR:~/Github/platform-2020/frontend$ git push
fatal: The current branch amao/test-branch has no upstream branch.
To push the current branch and set the remote as upstream, use

    git push --set-upstream origin amao/test-branch

(base) amao@DESKTOP-AAPDANR:~/Github/platform-2020/frontend$ git push --set-upstream origin amao/test-branch
Enumerating objects: 14, done.
Counting objects: 100% (14/14), done.
Delta compression using up to 6 threads
Compressing objects: 100% (8/8), done.
Writing objects: 100% (8/8), 1.60 KiB | 1.60 MiB/s, done.
Total 8 (delta 5), reused 0 (delta 0)
remote: Resolving deltas: 100% (5/5), completed with 5 local objects.
remote:
remote: Create a pull request for 'amao/test-branch' on GitHub by visiting:
remote:      https://github.com/gotechnica/platform-2020/pull/new/amao/test-branch
remote:
To https://github.com/gotechnica/platform-2020
 * [new branch]      amao/test-branch -> amao/test-branch
Branch 'amao/test-branch' set up to track remote branch 'amao/test-branch' from 'origin'.
(base) amao@DESKTOP-AAPDANR:~/Github/platform-2020/frontend$
```

Figure 8. Terminal output of staging, committing and pushing

9. Open a pull request
    a. A **pull request** (PR) is a proposal for your code changes to be integrated back into the master branch.
    b. When you first publish your branch, Git will create a link to it on Github that you can view. From there, you can create a pull request. You can also create a pull request via viewing your branch from the dropdown on the repository

front page.

c. Add details to your pull request, such as a description of what you did, images, etc. Finally, click “create pull request” to finish the job.



Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also compare across forks.

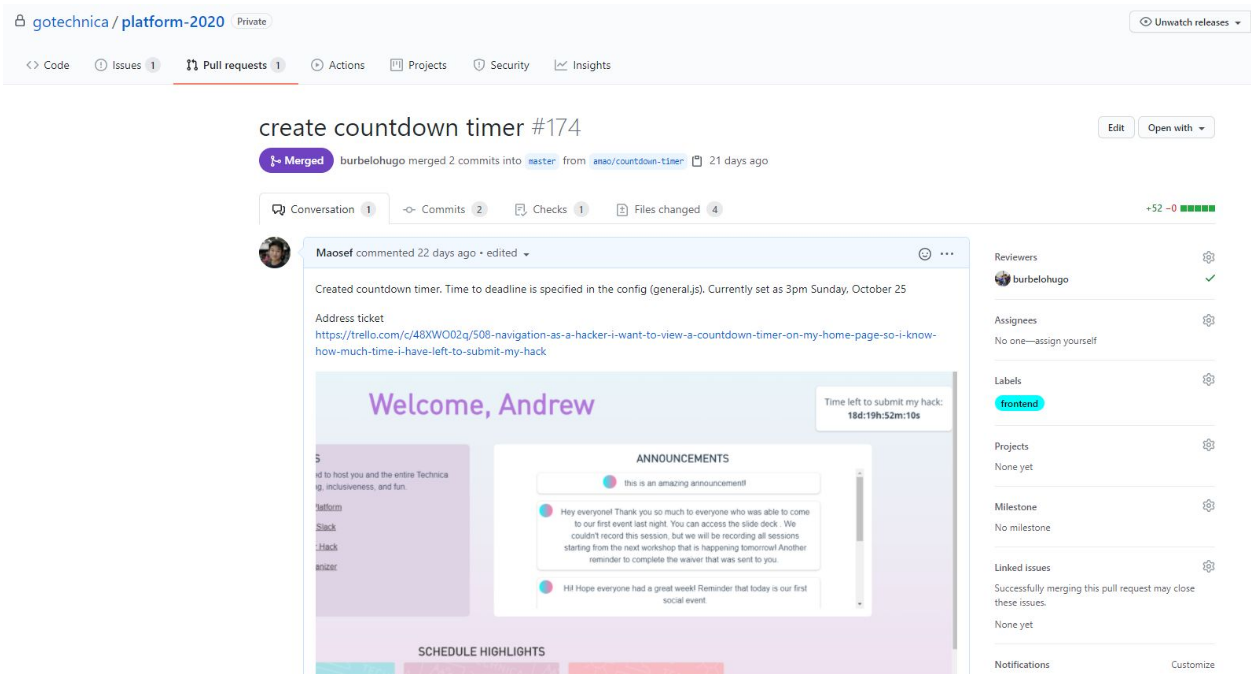
base: master ← compare: amao/test-branch ✓ Able to merge. These branches can be automatically merged.

modify welcome banner

Figure 9. A newly opened pull request

10. Merge your pull request

a. Congratulations, you have made your first pull request! The final step in the software development workflow is **code review,** when other people who manage the code repository review and propose changes to your pull request. If all is good, they will approve it and allow you to **merge** your branch with master.



gotechnica / platform-2020 Private

Unwatch releases

Code | Issues 1 | Pull requests 1 | Actions | Projects | Security | Insights

create countdown timer #174

Edit | Open with

Merged burbelohugo merged 2 commits into `master` from `amao/countdown-timer` 21 days ago

Conversation 1 | Commits 2 | Checks 1 | Files changed 4 +52 −0

Maosef commented 22 days ago • edited

Created countdown timer. Time to deadline is specified in the config (general.js). Currently set as 3pm Sunday, October 25

Address ticket
https://trello.com/c/48XWO02q/508-navigation-as-a-hacker-i-want-to-view-a-countdown-timer-on-my-home-page-so-i-know-how-much-time-i-have-left-to-submit-my-hack

Welcome, Andrew

Time left to submit my hack:
18d:19h:52m:10s

s
ed to host you and the entire Technica
g, inclusiveness, and fun.
Platform
Slack
Hack
anizer

ANNOUNCEMENTS

this is an amazing announcement!

Hey everyone! Thank you so much to everyone who was able to come to our first event last night. You can access the slide deck . We couldn't record this session, but we will be recording all sessions starting from the next workshop that is happening tomorrow! Another reminder to complete the waiver that was sent to you.

Hi! Hope everyone had a great week! Reminder that today is our first social event.

SCHEDULE HIGHLIGHTS

Reviewers
burbelohugo ✓

Assignees
No one—assign yourself

Labels
frontend

Projects
None yet

Milestone
No milestone

Linked issues
Successfully merging this pull request may close these issues.
None yet

Notifications Customize

Figure 10. A completed and merged pull request