

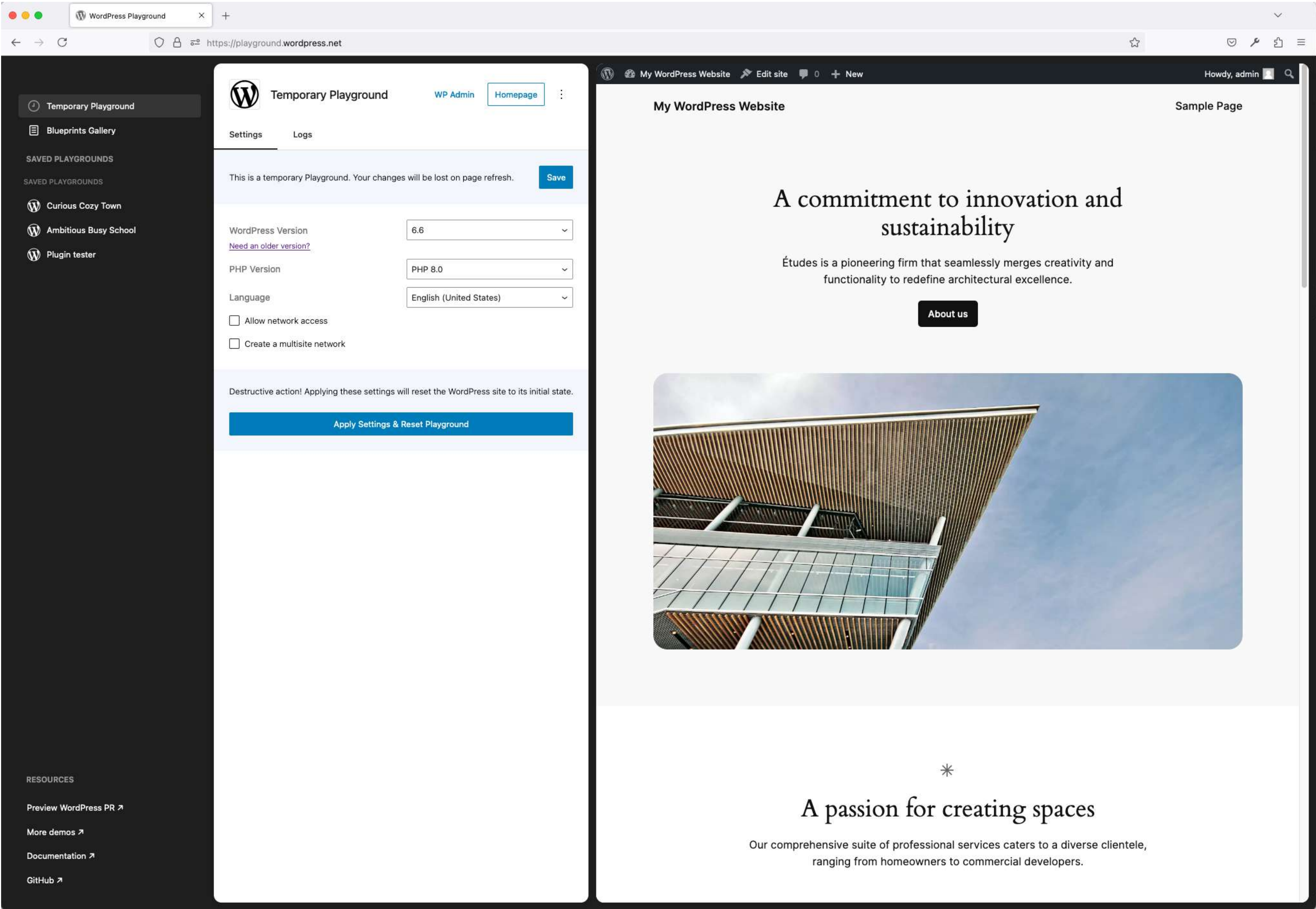
Let's build a LAMP stack in the browser and run WordPress without a server

Berislav Grgičak

**Who wants to be a WordPress
developer?**

WordPress Playground

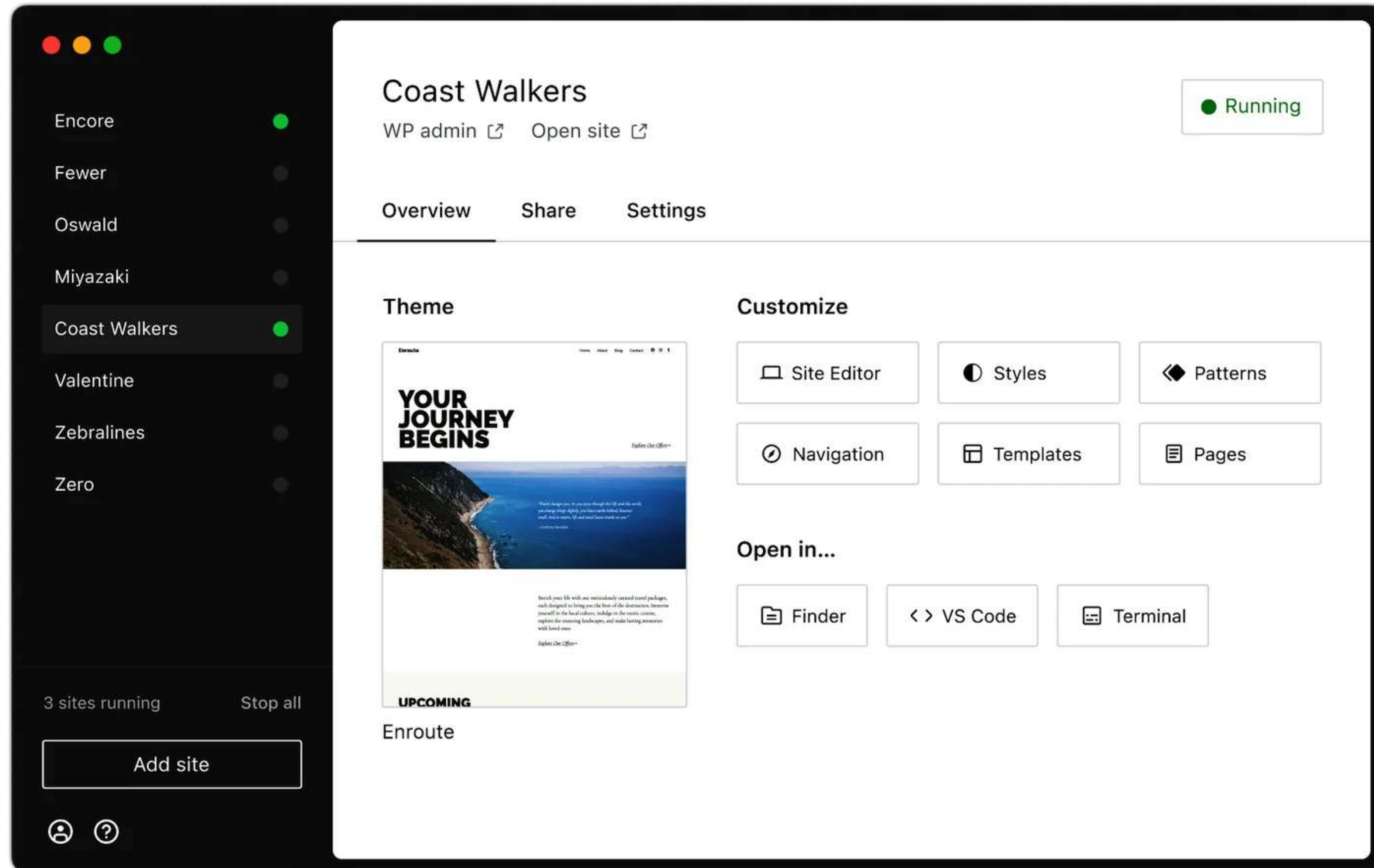
Web apps





Mobile apps

Desktop apps



```
mux ls && read tmux_session && tmux attach -t ${tmux_session:-default} || tmux

→ ~ playground server
Starting a PHP server...
Setting up WordPress latest
Running the Blueprint...
Running the Blueprint – 100%

Finished running the blueprint
WordPress is running on http://127.0.0.1:9400
█
[default] <zsh 5:zsh 6:zsh 7:bun*"Mac.local" 22:02 23-Oct-24
```

CLI tools



Playground.WordPress.net

Dashboard

Home

Updates

Posts

Media

Pages

Comments

Appearance

Plugins

Users

Tools

Settings

Collapse menu

Dashboard

Screen Options

Help

×

Dismiss

Welcome to WordPress!

[Learn more about the 6.6.2 version.](#)



Author rich content with blocks and patterns

Block patterns are pre-configured block layouts. Use them to get inspired or create new pages in a flash.

[Add a new page](#)



Customize your entire site with block themes

Design everything on your site — from the header down to the footer, all using blocks and patterns.

[Open site editor](#)



Switch up your site's look & feel with Styles

Tweak your site, or give it a whole new look! Get creative — how about a new color palette or font?

[Edit styles](#)

Site Health Status

No information yet...

Site health checks will automatically run periodically to gather information about your site. You can also [visit the Site Health screen](#) to gather information about your site now.

At a Glance

 1 Post

 1 Page

 1 Comment

WordPress 6.6.2 running [Twenty Twenty-Four](#) theme.

Activity

Recently Published

Today, 12:34 pm

Hello world!

Recent Comments



From [A WordPress Commenter](#) on [Hello world!](#)

Hi, this is a comment. To get started with moderating, editing, and deleting comments, please visit the

Quick Draft

Title

Content

What's on your mind?

Save Draft

WordPress Events and News

Enter your closest city to find nearby events. [Select location](#)

City: Cincinnati

Submit

Cancel

RSS Error: WP HTTP Error: Missing header/body separator

RSS Error: WP HTTP Error: A valid URL was not provided.

[Meetups](#)

[WordCamps](#)

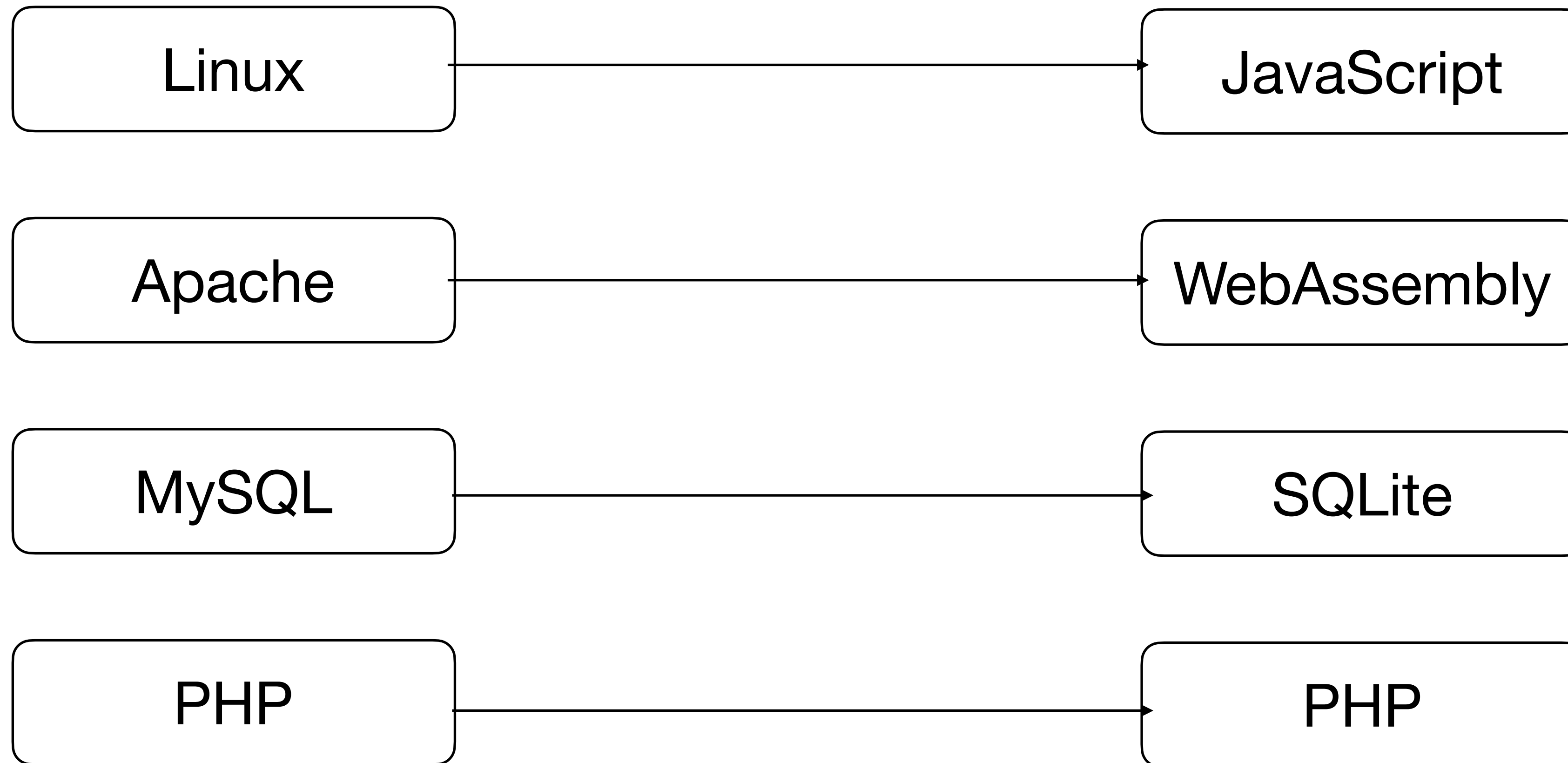
[News](#)

Drag boxes here

Drag boxes here

How does Playground work?

LAMP vs Playground



```
<iframe src="https://playground.wordpress.net/"></iframe>
```

```
<iframe id="wp"></iframe>
<script type="module">
  import {
    startPlaygroundWeb
  } from 'https://playground.wordpress.net/client/index.js';
  const client = await startPlaygroundWeb({
    iframe: document.getElementById('wp'),
    remoteUrl: `https://playground.wordpress.net/remote.html`,
  });
</script>
```

Playground boot

Service Worker

- Register Service Worker
 - Intercept fetch events
 - Cache assets
 - Serve cache while offline

Playground boot

Web Worker

- Start Web Worker
 - Executes heavy tasks
 - Starts a PHP runtime
 - Loads a request handler
 - Boots WordPress

Playground boot

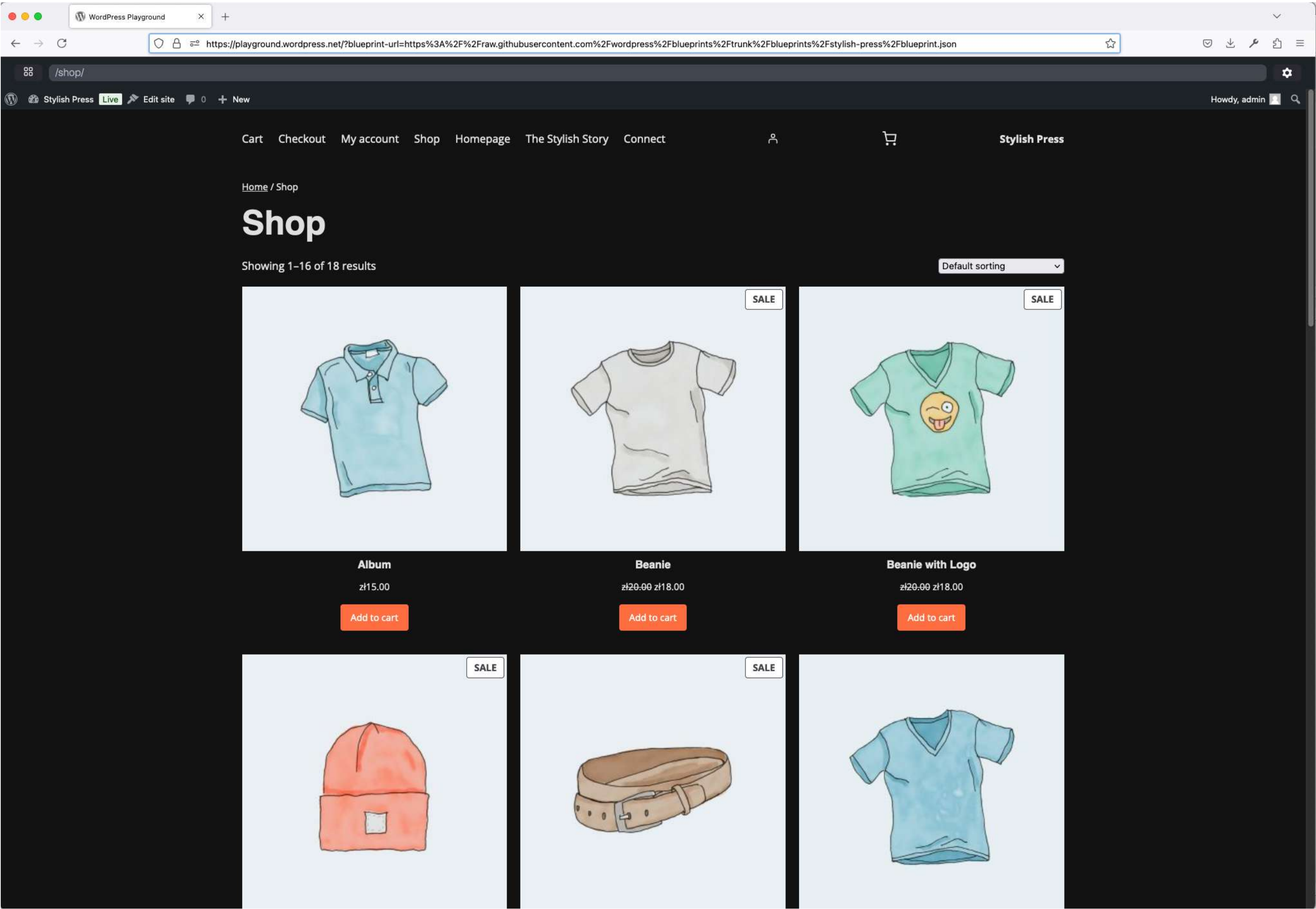
Boot WordPress

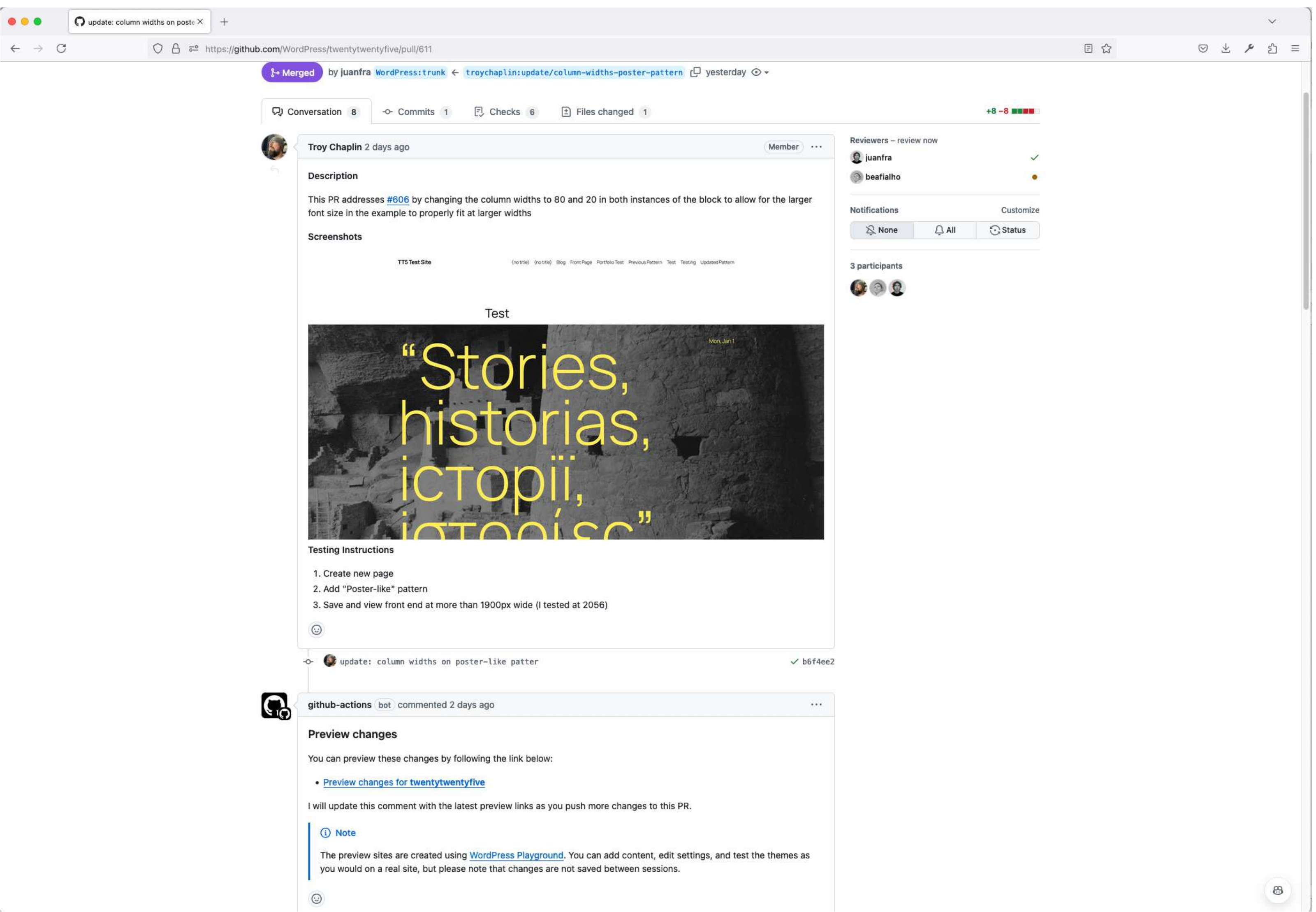
- Download WordPress
- Setup environment
- Install WordPress
- Run Blueprint

Blueprints

```
{
  "$schema": "https://playground.wordpress.net/blueprint-schema.json",
  "login": true,
  "siteOptions": {
    "blogname": "My first Blueprint"
  },
  "steps": [
    {
      "step": "installTheme",
      "themeData": {
        "resource": "wordpress.org/themes",
        "slug": "adventurer"
      }
    },
    {
      "step": "installPlugin",
      "pluginData": {
        "resource": "wordpress.org/plugins",
        "slug": "hello-dolly"
      }
    },
    {
      "step": "mkdir",
      "path": "/wordpress/wp-content/plugins/hello-from-the-dashboard"
    },
    {
      "step": "writeFile",
      "path": "/wordpress/wp-content/plugins/hello-from-the-dashboard/plugin.php",
      "data": "<?php\n/*\nPlugin Name: \"Hello\" on the Dashboard\nDescription: A custom plugin"
    },
    {
      "step": "activatePlugin",
      "pluginPath": "hello-from-the-dashboard/plugin.php"
    }
  ]
}
```

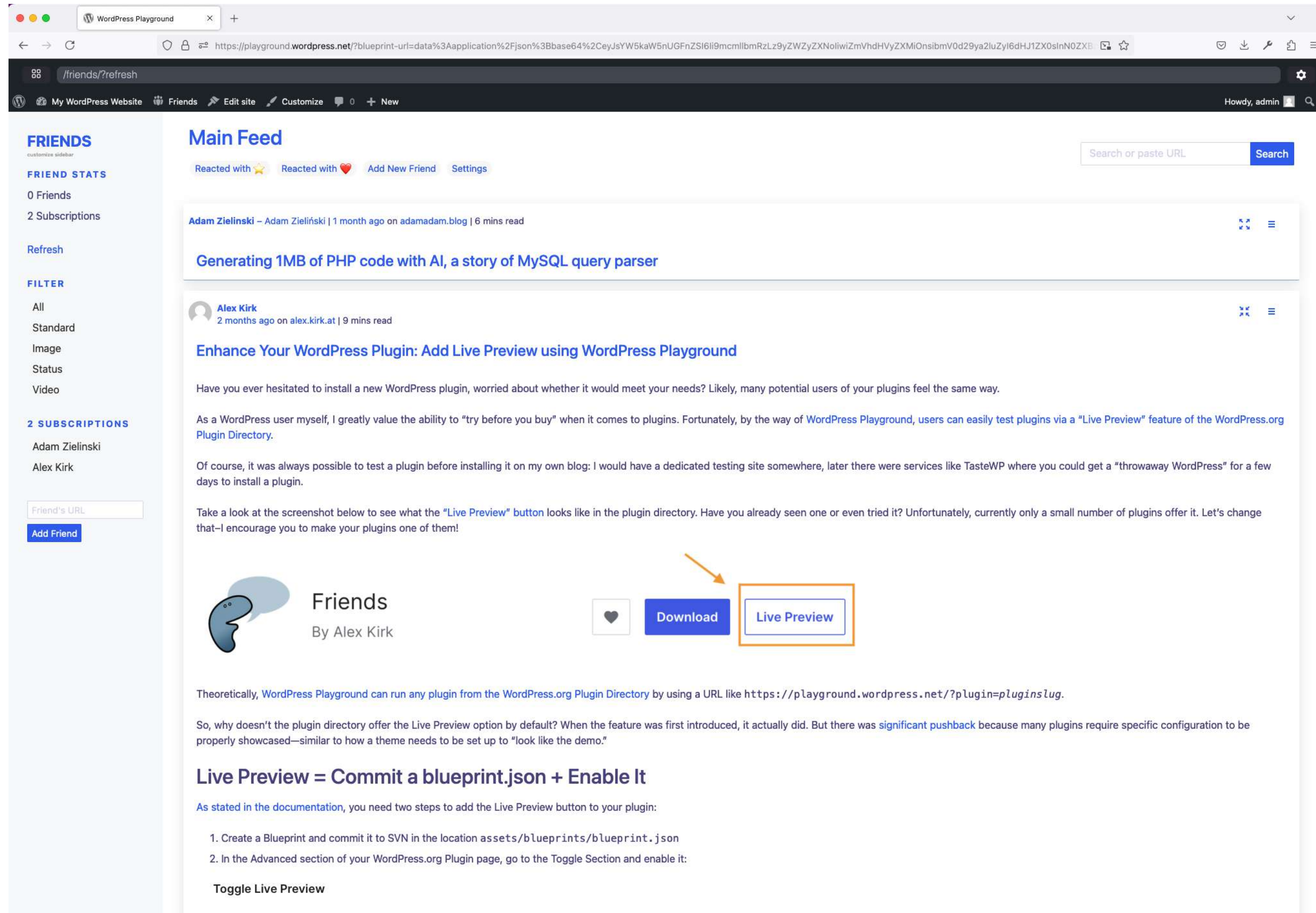
Demos

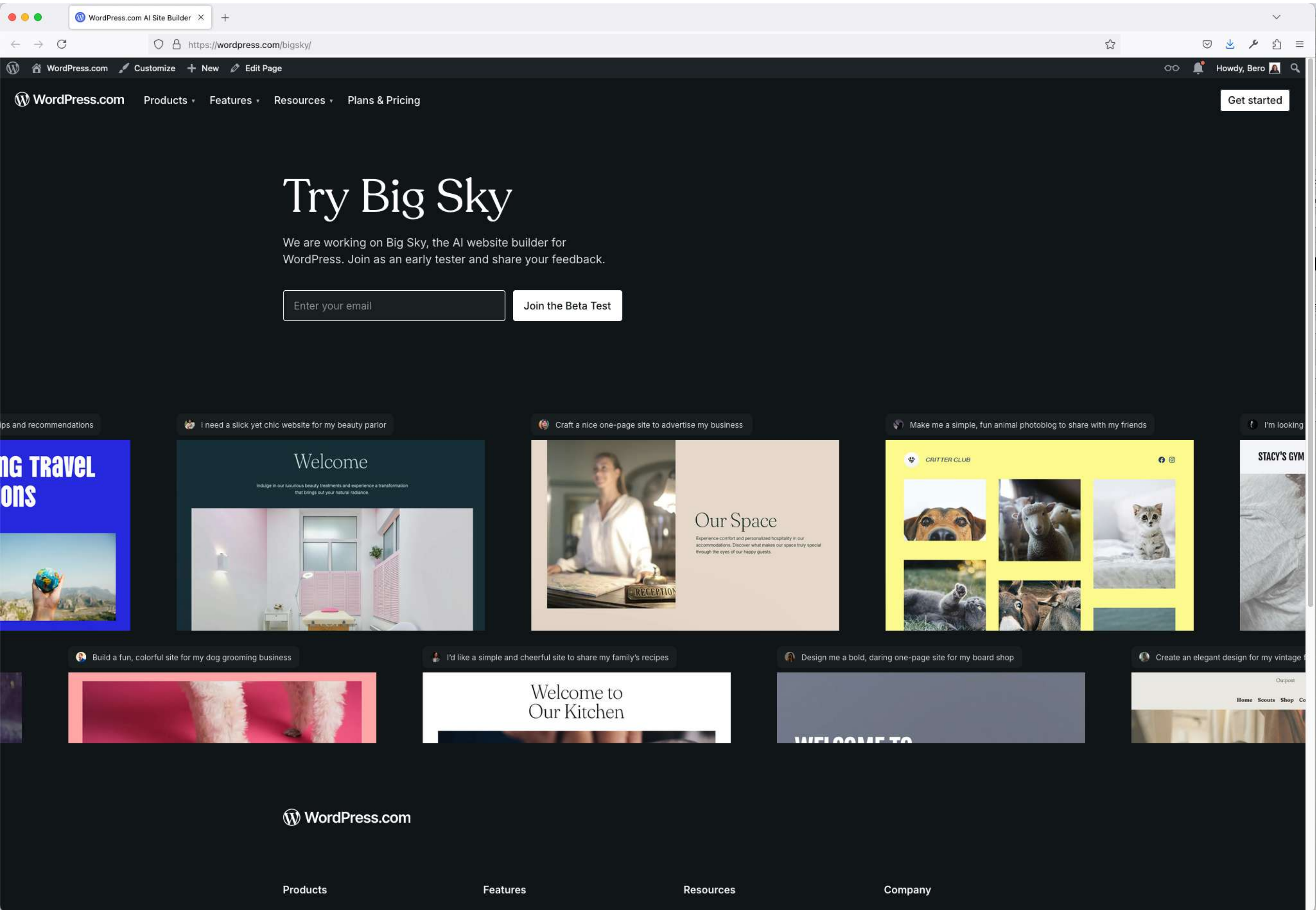




PR Previews

Social media feeds





AI

A WordPress page load

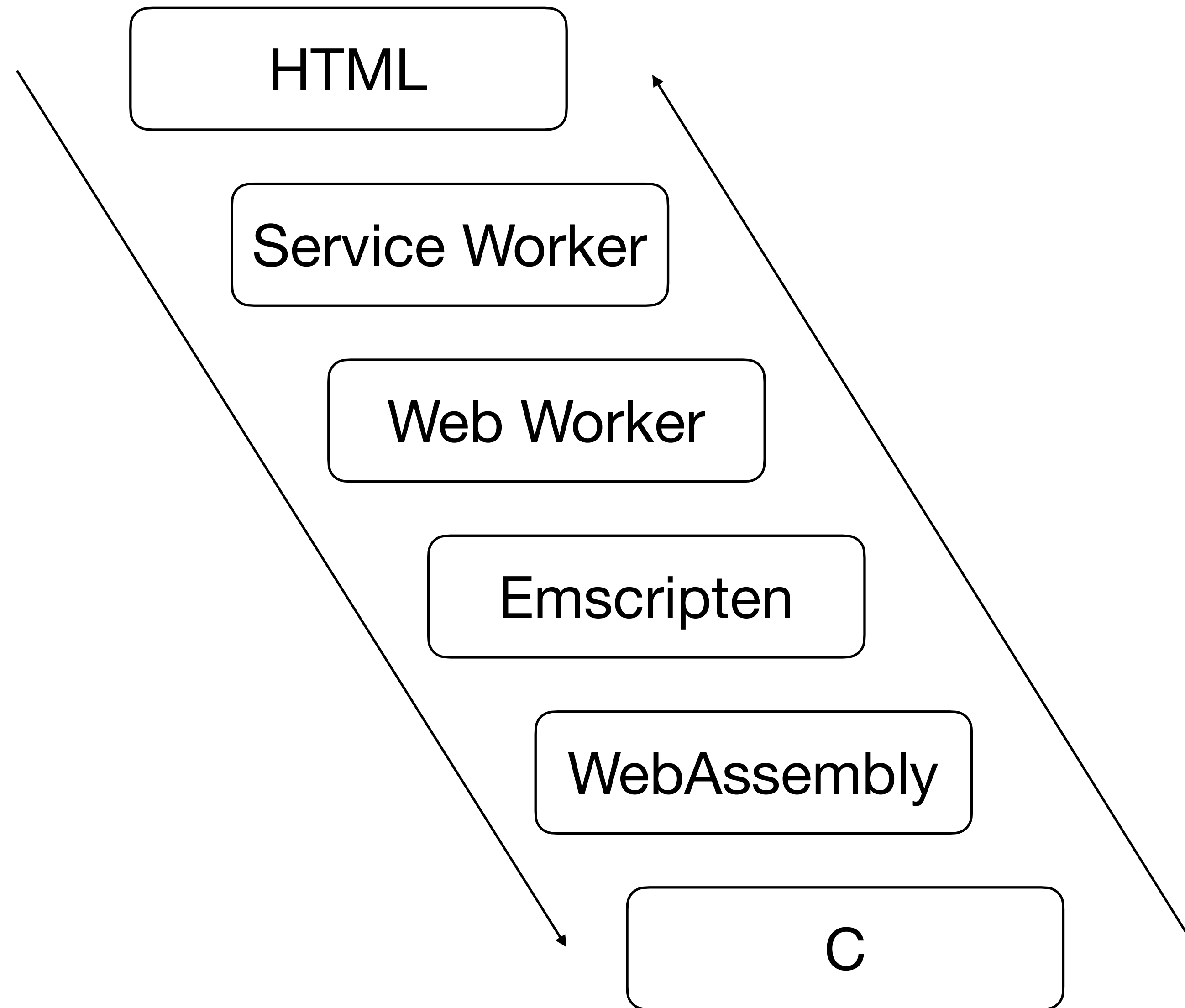
JavaScript

- `<iframe>` URL changes in the browser
 - **Service Worker** intercepts the request
 - **Web worker** processes the PHP request
 - The request is sent to **WebAssembly** by **Emscripten**

A WordPress page load

JavaScript > WASM

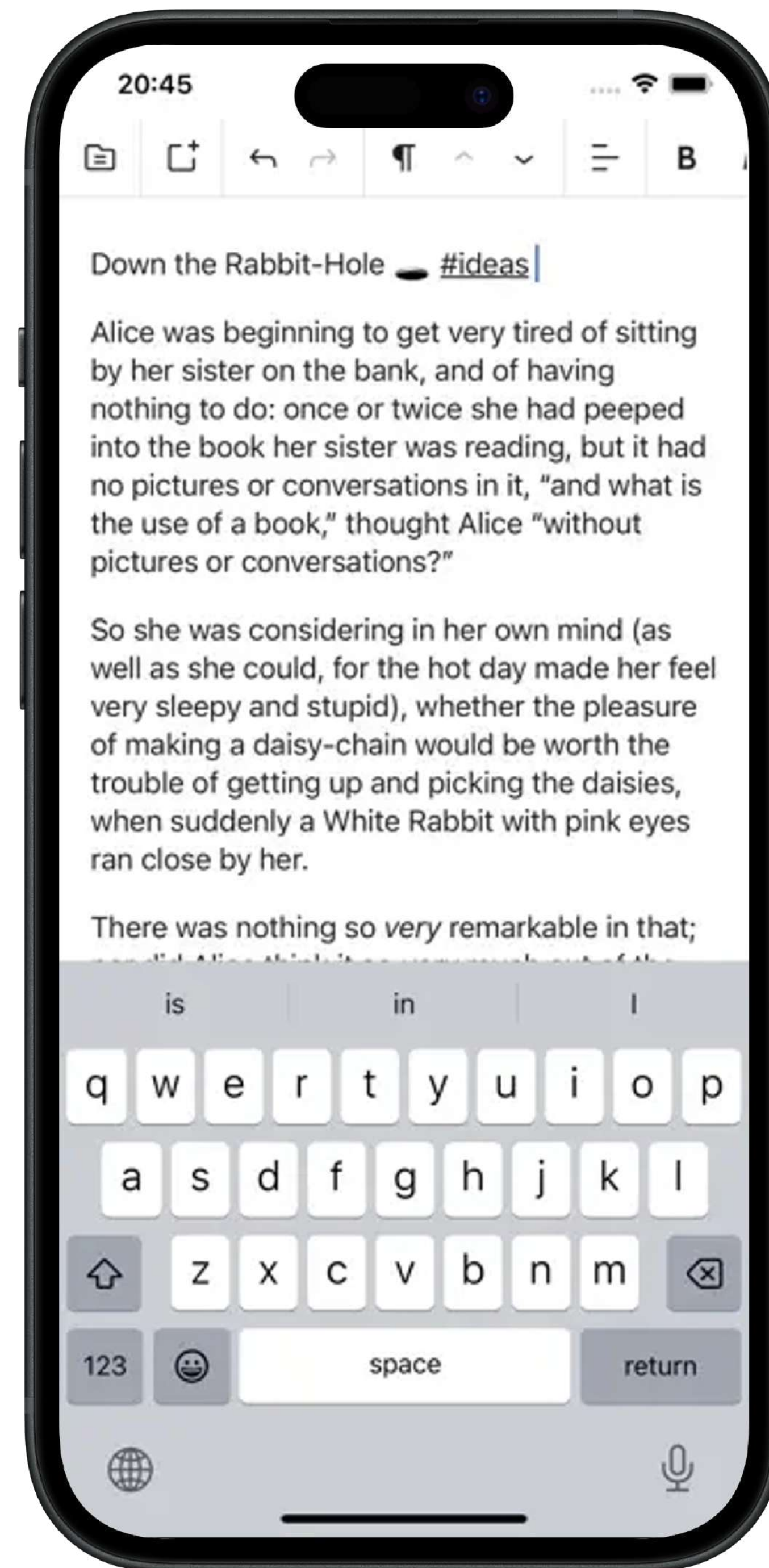
- **PHP.WASM** accepts the request
 - **Server API** is prepared
 - **PHP** script is is executed using **C**
 - SQL requests run on **SQLite**
 - **HTTP** requests are processed by **browser** using **fetch**
 - **Asyncify** and **JSPI** enable async function calls

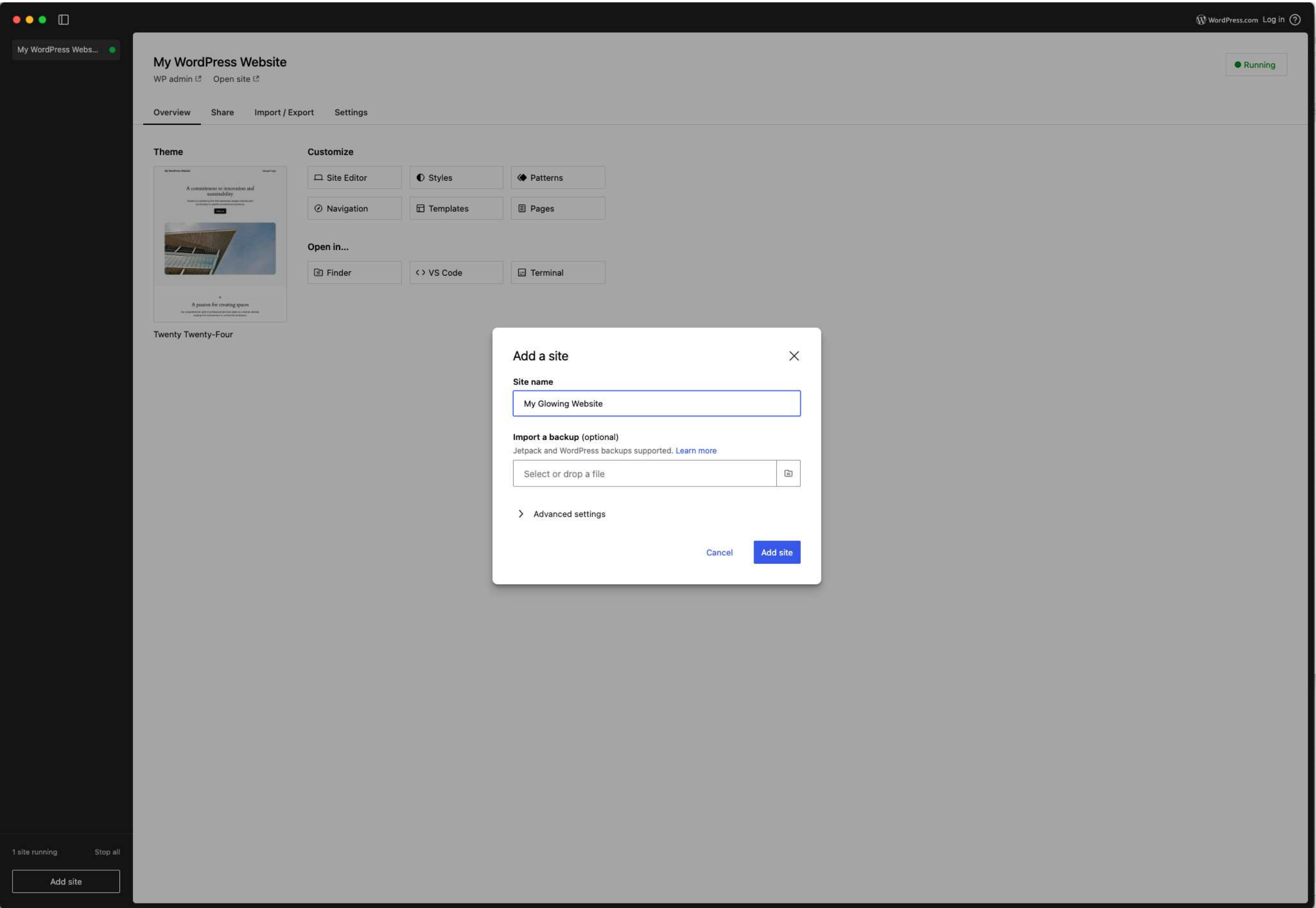


Playground is going to change everything

Matt Mullenweg

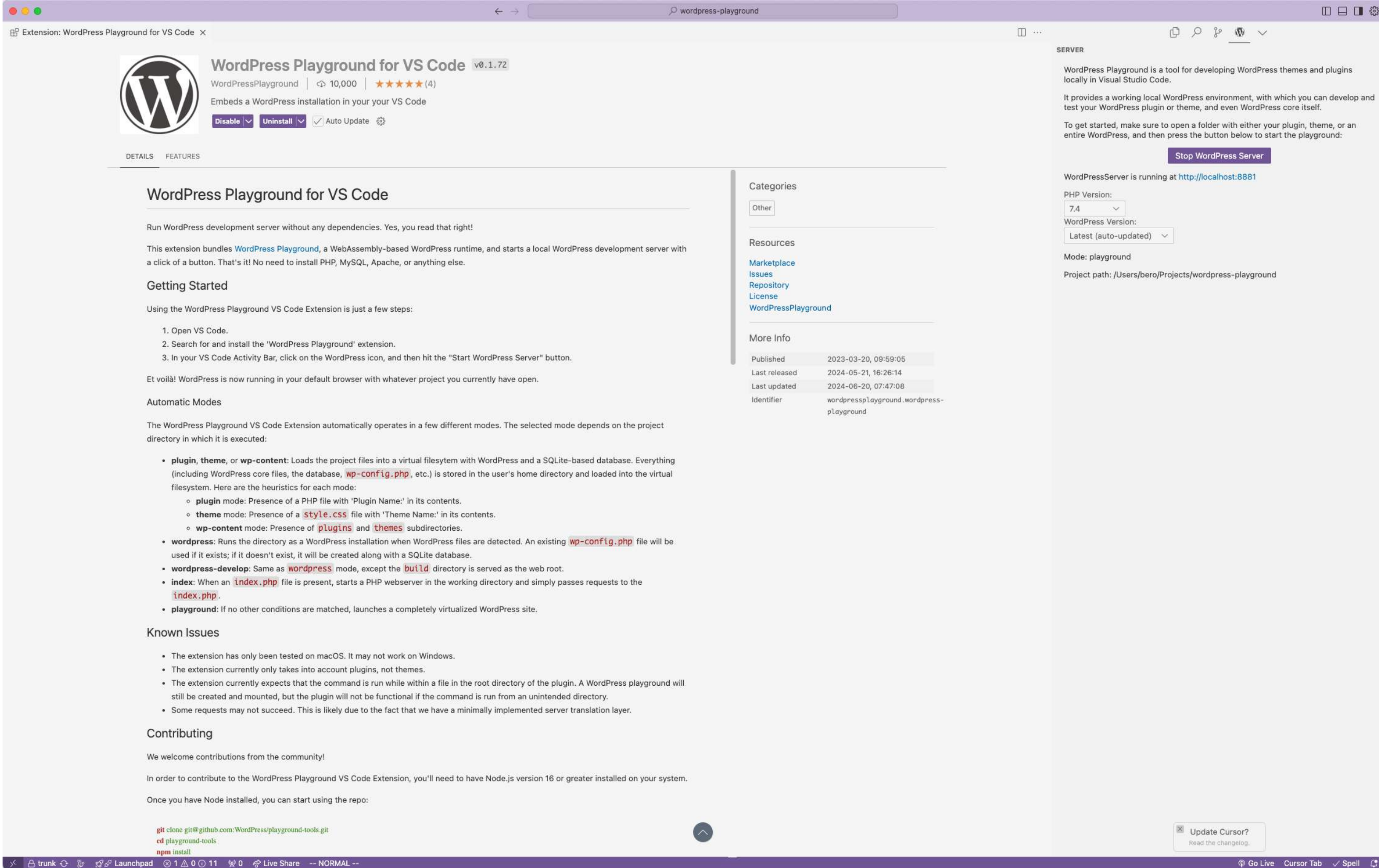
Blocknotes

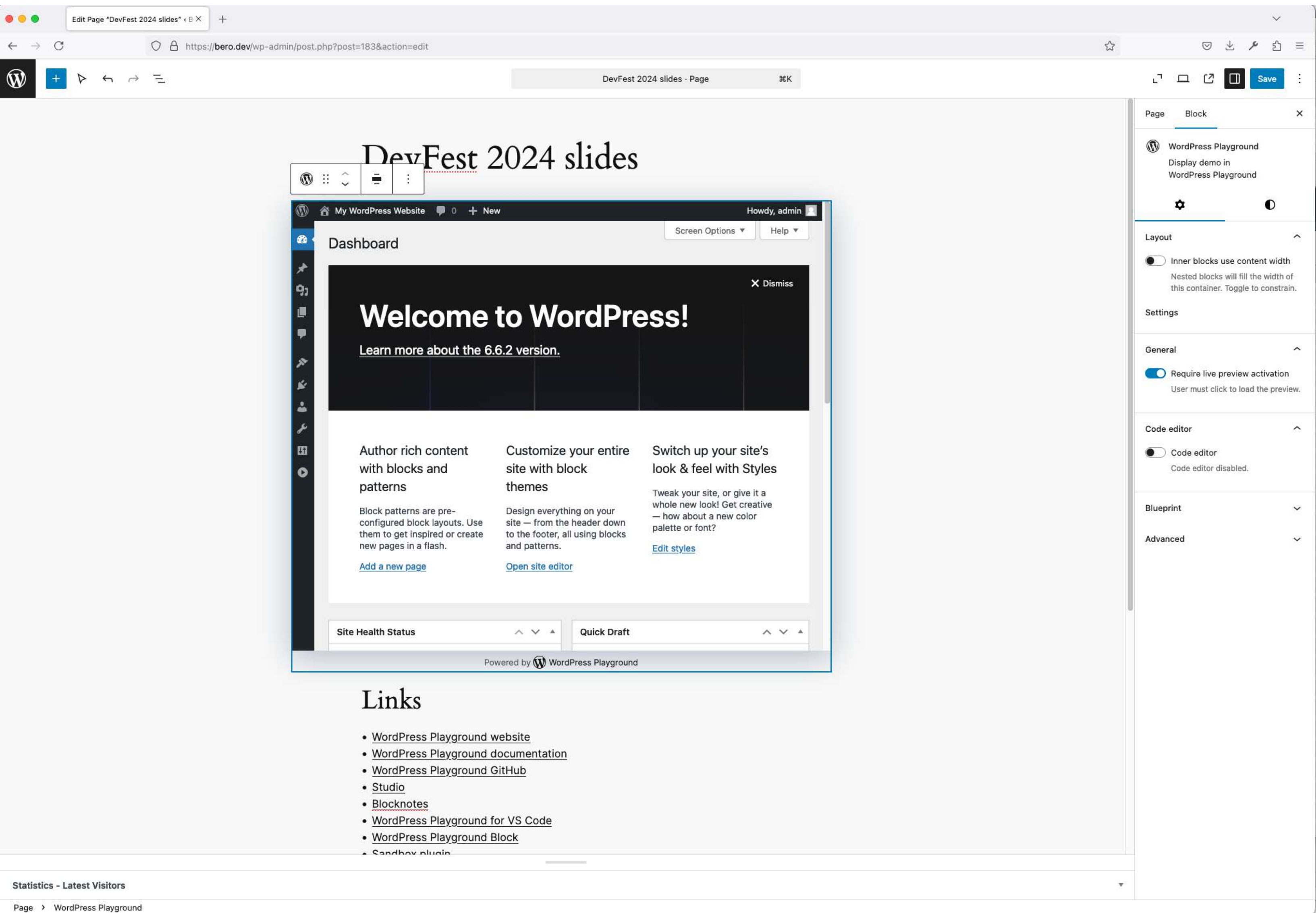




Studio

VSCode extension





Playground block

Testing

Workflow runs · bgrgicak/playground-tester/actions?page=3

bgrgicak / playground-tester

Code

Issues

Pull requests

Actions

Projects

Settings

Actions

New workflow

All workflows

Generate reports

pages-build-deployment

Run Tests on Pull Request

Test plugins

Test themes

Update error stats data

Update available themes and plu... Disabled

Management

Caches

Attestations

Runners

Usage metrics

Performance metrics

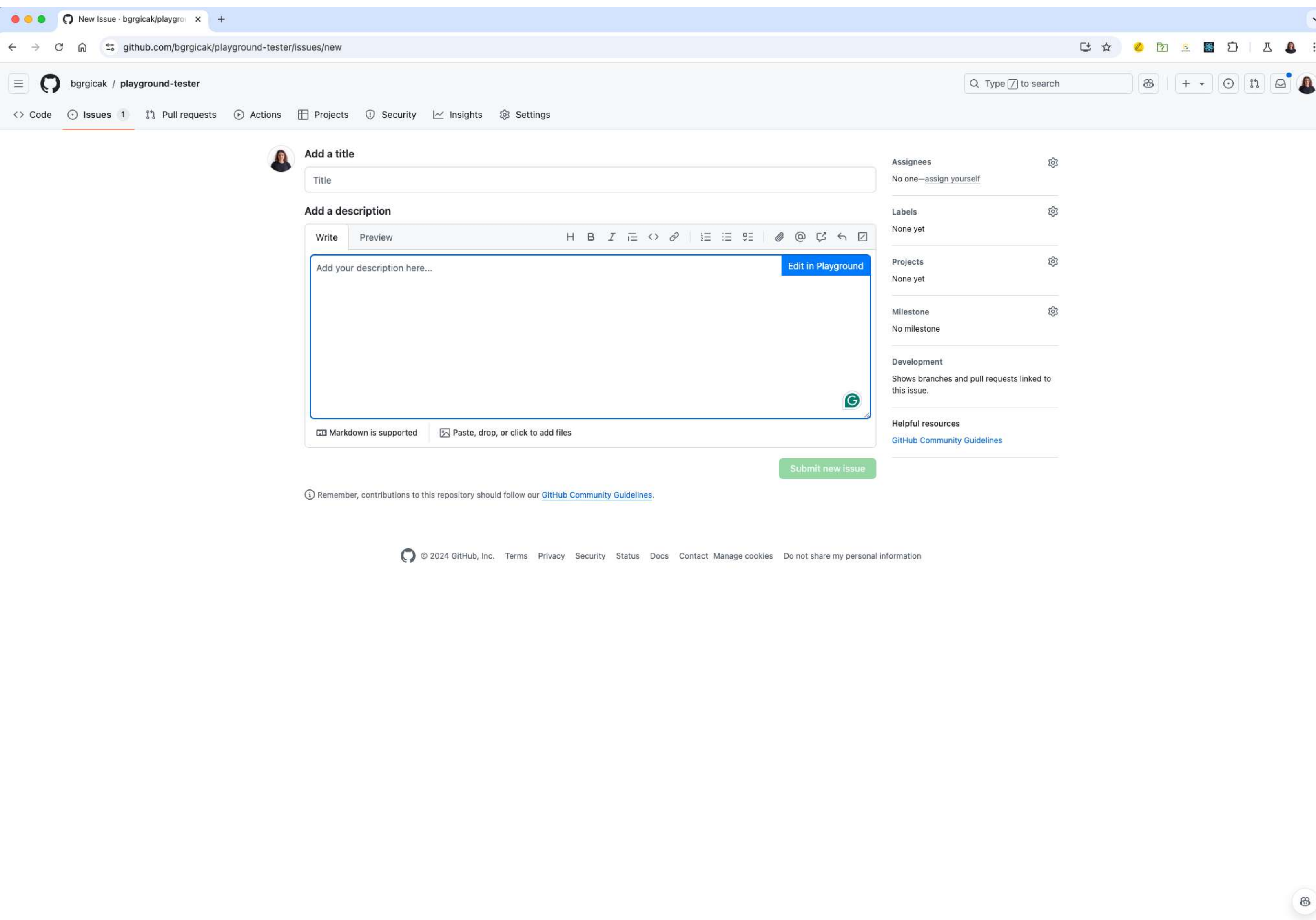
All workflows

Showing runs from all workflows

Filter workflow runs

21,963 workflow runs

	Event	Status	Branch	Actor
✓ Update error stats data	Update error stats data #3354: Scheduled	main	8 hours ago 6m 2s	...
✓ Test plugins	Test plugins #8102: Scheduled	main	8 hours ago 23m 36s	...
✓ Test themes	Test themes #8031: Scheduled	main	10 hours ago 9m 29s	...
✓ Test plugins	Test plugins #8101: Scheduled	main	10 hours ago 20m 22s	...
✓ Test themes	Test themes #8030: Scheduled	main	11 hours ago 10m 27s	...
✓ Update error stats data	Update error stats data #3353: Scheduled	main	11 hours ago 5m 54s	...
✓ Test plugins	Test plugins #8100: Scheduled	main	11 hours ago 22m 58s	...
✓ Test themes	Test themes #8029: Scheduled	main	11 hours ago 9m 56s	...
✓ Test plugins	Test plugins #8099: Scheduled	main	11 hours ago 19m 46s	...
✓ Generate reports	Generate reports #2230: Scheduled	main	11 hours ago 56m 1s	...
✓ Test themes	Test themes #8028: Scheduled	main	11 hours ago 10m 28s	...
✓ Update error stats data	Update error stats data #3352: Scheduled	main	11 hours ago 5m 22s	...
✓ Test plugins	Test plugins #8098: Scheduled	main	12 hours ago 19m 35s	...
✓ Test themes	Test themes #8027: Scheduled	main	12 hours ago 9m 19s	...
✓ Test plugins	Test plugins #8097: Scheduled	main	12 hours ago 22m 10s	...
✓ Test themes	Test themes #8026: Scheduled	main	13 hours ago 10m 44s	...
✓ Update error stats data	Update error stats data #3351: Scheduled	main	13 hours ago 5m 41s	...
✓ Test plugins	Test plugins #8096: Scheduled	main	13 hours ago 20m 2s	...
✗ Test themes	Test themes #8025: Scheduled	main	13 hours ago 12m 28s	...
✓ Test plugins	Test plugins #8095: Scheduled	main	13 hours ago 12m 28s	...



Markdown editor

Doom



Whats next?

Thank you!

**Who wants to be a WordPress
developer?**



GitHub @bgrgicak