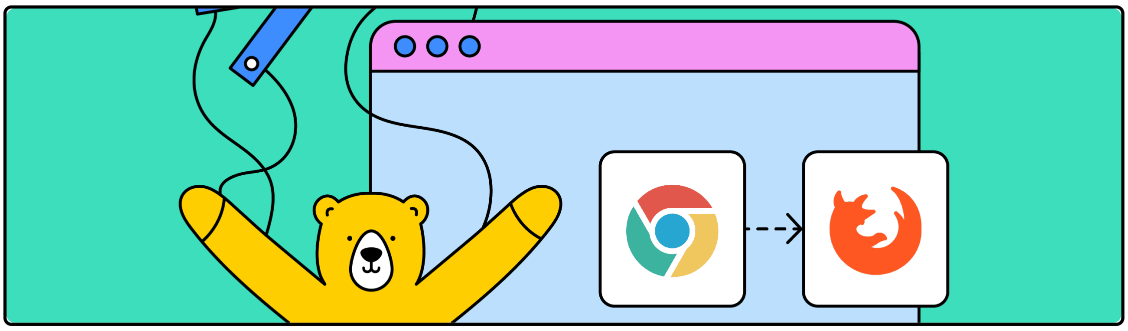
Bannerbear

How to Run Puppeteer with Firefox Instead of Chrome

In this article, we will show you how to run Puppeteer with Firefox and some project ideas you can do with Puppeteer.

by Josephine Loo · July 2022



Contents

When developing an application, it is important to perform cross browser testing to make sure that the application runs as intended on different browsers like Google Chrome, Firefox, Safari, etc. Although all browser vendors follow the Web Standards, each browser renders the code differently.

You can use automation tool like Puppeteer to carry out automated testing on these browsers.

What is Puppeteer

Puppeteer is a Node library that is open source and maintained by Google. It is developed to provide a high-level API to control Chrome or Chromium over Chrome DevTools Protocol.

Although Puppeteer is developed to run on Chrome, Puppeteer supports Firefox from Puppeteer v2.1.0 onwards. It is an ongoing collaboration between Puppeteer and Mozilla to support cross-browser testing coverage for developers.

Puppeteer can do most things we do manually on the browser. It is commonly used by developers to automate the browser to run website tests. Besides that, Puppeteer can also be used for other things like generating screenshots and PDFs of pages, crawling web pages, automating form submission, etc.

Pre-requisites

To run Puppeteer with Firefox, you will need to have these installed:

- Node.js
- npm

For reference, these are the versions used in this tutorial:

- Node.js - 14.17.3
- npm - 6.14.13

Although we will be running Puppeteer with Firefox, you don't need to install Firefox manually. The most recent version of Firefox Nightly will be downloaded automatically when you install the Puppeteer package via npm.

Creating a New Node.js Project

Create a new `puppeteer-firefox` folder and go to the directory.

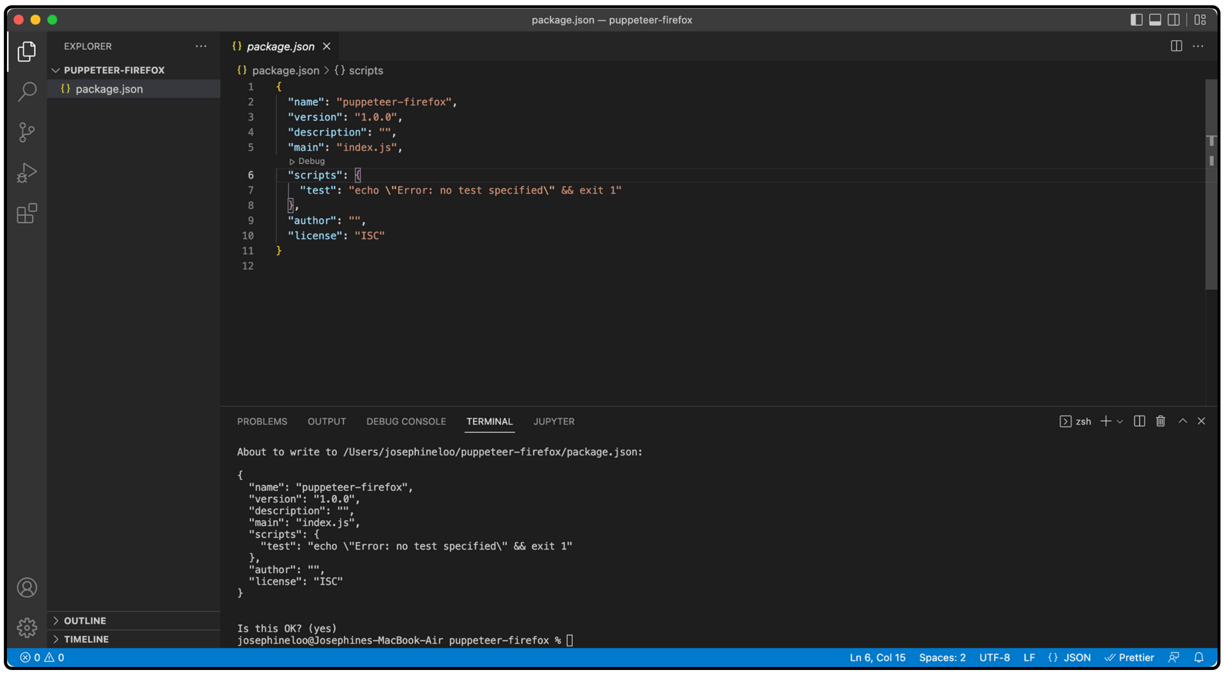
```
mkdir puppeteer-firefox
cd puppeteer-firefox
```

Init a new Node.js project in the folder.

```
npm init
```

It will prompt you for input for a few aspects of the project, just press enter if you want to use the default values.

Once you run through the `npm init` steps above, a `package.json` file will be generated and placed in the current directory.



```
{
  "name": "puppeteer-firefox",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "author": "",
  "license": "ISC"
}
```

```
About to write to /Users/josephineloo/puppeteer-firefox/package.json:

{
  "name": "puppeteer-firefox",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "author": "",
  "license": "ISC"
}


Is this OK? (yes)
josephineloo@Josephines-MacBook-Air puppeteer-firefox %
```

Installing Puppeteer

By default, the command for installing Puppeteer, `npm i puppeteer` will download the latest version of Chromium which is guaranteed to work with the Puppeteer API automatically.

```
Downloading Chromium r1002410 - 118.3 Mb [====================] 100% 0.0s
```

To download Firefox instead, we need to set the `PUPPETEER_PRODUCT` environment variable to `firefox` before installing the Puppeteer package.

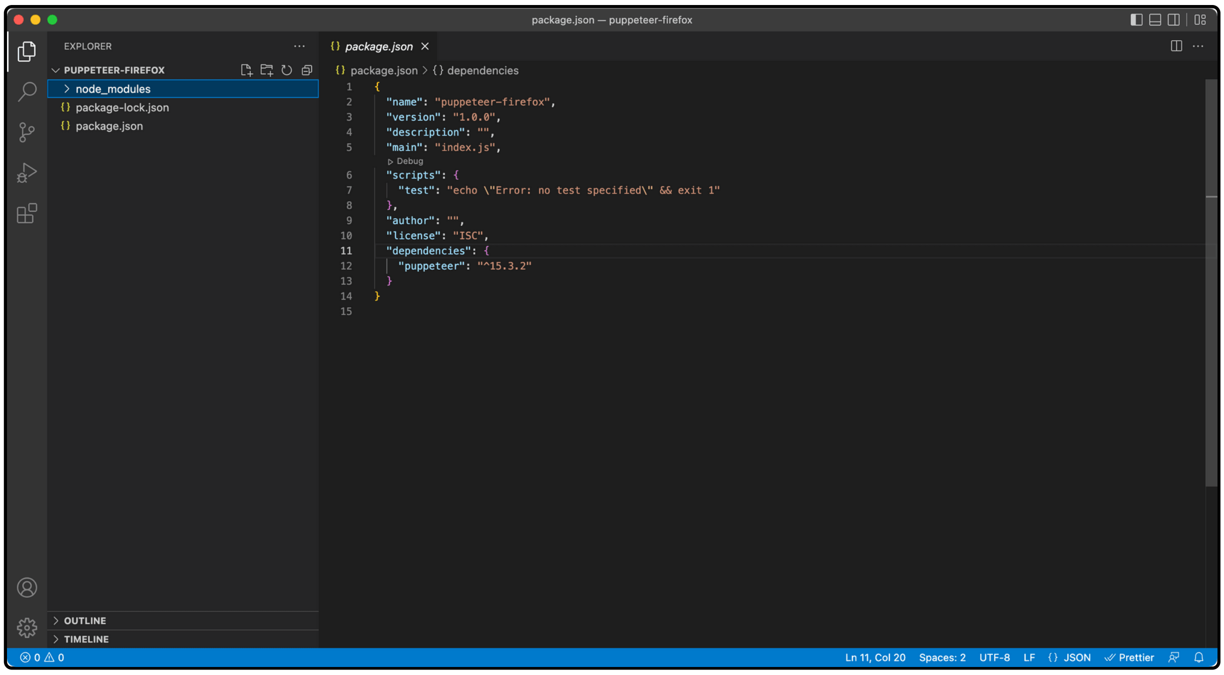
Run the command below instead of `npm i puppeteer` :

```
PUPPETEER_PRODUCT=firefox npm i puppeteer
```

Puppeteer will now install a recent version of Firefox Nightly instead of Chromium.

```
Requesting latest Firefox Nightly version from https://product-details.mozilla.org/1.0/firefox_versions.json
Downloading Firefox Nightly r104.0a1 - 137.3 Mb [====================] 100% 0.0s
```

A folder named `node_modules` and a file named `package-lock.json` will also be added to your project after running the command.


package.json — puppeteer-firefox
EXPLORER
PUPPETEER-FIREFOX
node_modules
package-lock.json
package.json
OUTLINE
TIMELINE
package.json
package.json > {} dependencies
Ln 11, Col 20 Spaces: 2 UTF-8 LF {} JSON ✓ Prettier

```json
{
  "name": "puppeteer-firefox",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "author": "",
  "license": "ISC",
  "dependencies": {
    "puppeteer": "^15.3.2"
  }
}
```

Next, let’s write some code to run Puppeteer with Firefox!

Testing Puppeteer

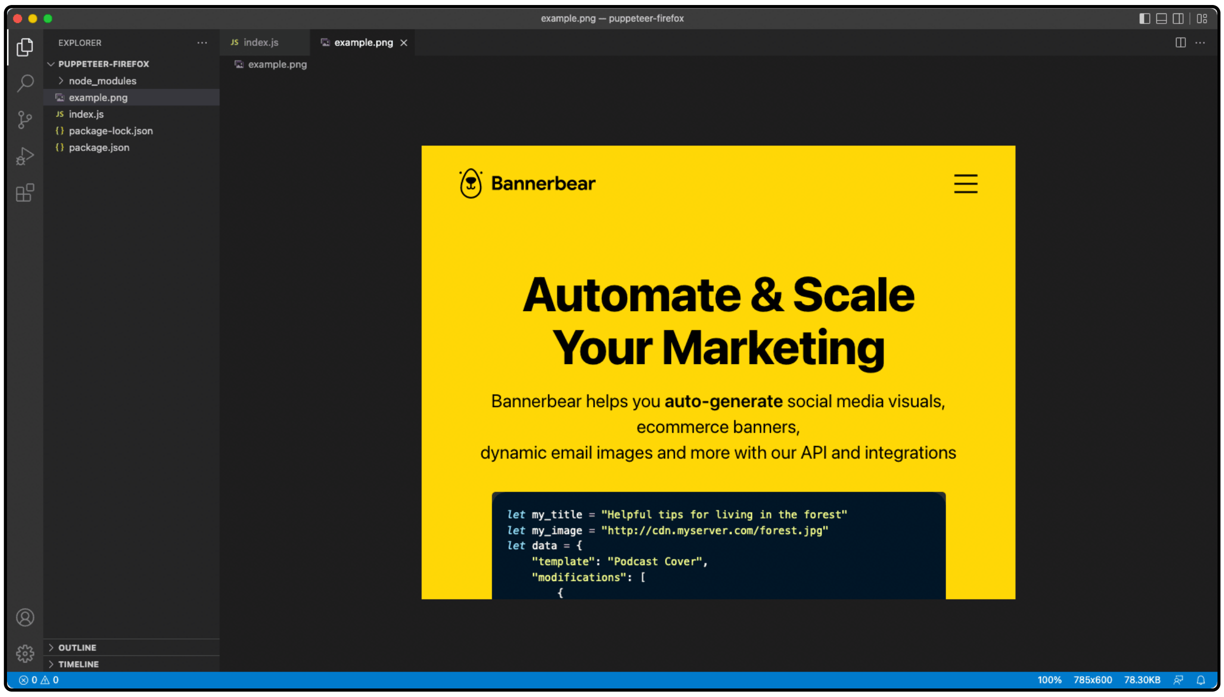
Create a new `index.js` file and write the following code:

```
const puppeteer = require('puppeteer');

(async () => {
  const browser = await puppeteer.launch({
 product: 'firefox'
  });
  const page = await browser.newPage();
  await page.goto('https://www.bannerbear.com');
  await page.screenshot({ path: 'example.png' });

  await browser.close();
})()
```

The code above creates a page in a new browser instance, navigates to Bannerbear homepage, and then saves a screenshot.



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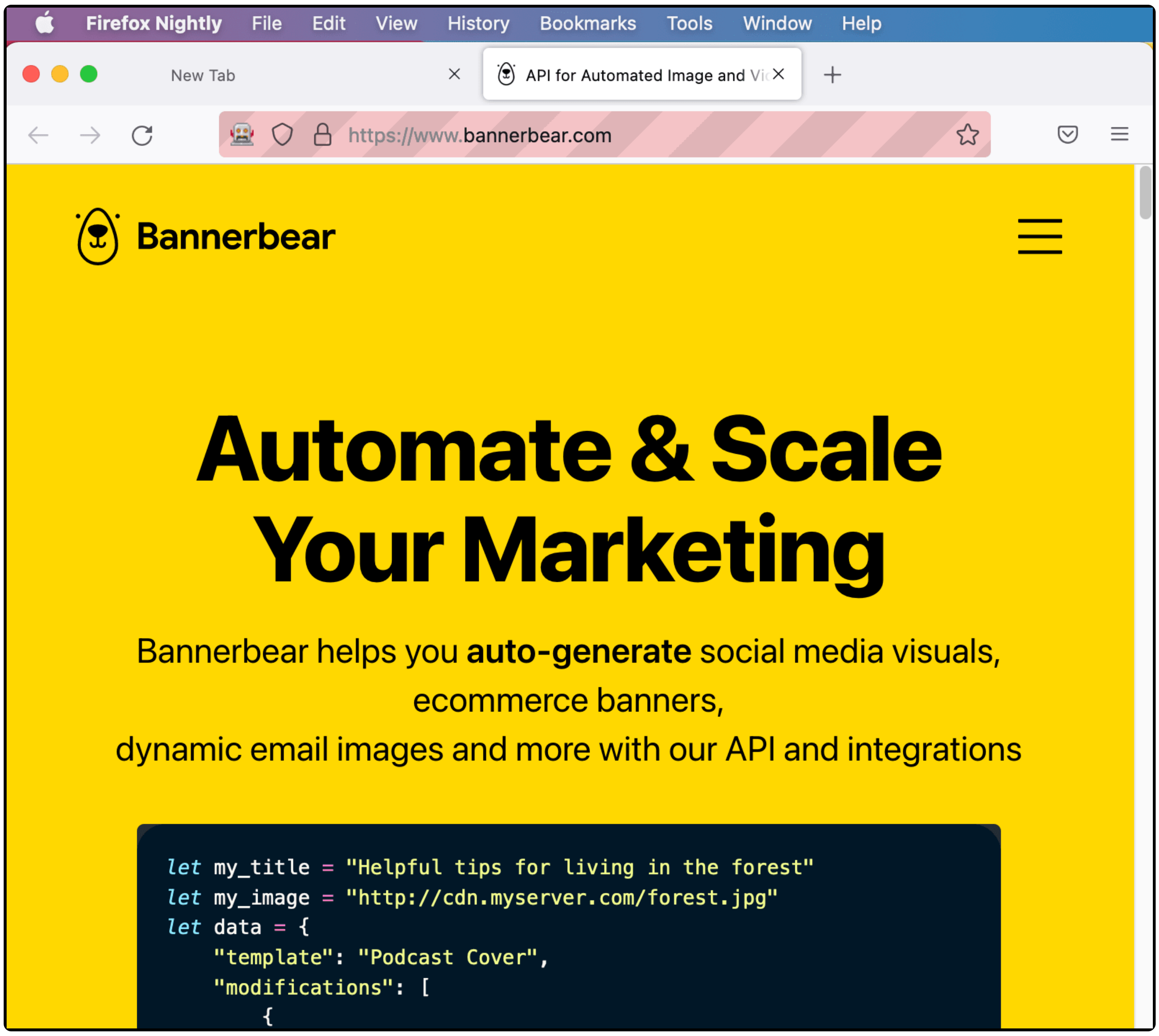
Bannerbear helps you **auto-generate** social media visuals, ecommerce banners, dynamic email images and more with our API and integrations

```
let my_title = "Helpful tips for living in the forest"
let my_image = "http://cdn.myserver.com/forest.jpg"
let data = {
    "template": "Podcast Cover",
    "modifications": [
        {
```

Puppeteer runs headless by default. You will not see the Firefox browser being launched. If you want to watch Puppeteer running with Firefox, you can set the `headless` option to `false` in `puppeteer.launch()` .

```
const browser = await puppeteer.launch({
    product: 'firefox',
    headless: false
});
```

You can see that a Firefox Nightly window is launched and the URL in the code is visited.



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let data = {
    "template": "Podcast Cover",
    "modifications": [
        {
```

Using Firefox with an Existing Puppeteer Project

If you have an existing project which uses the default Chromium to run Puppeteer, you can change it to run with Firefox without creating a new project.

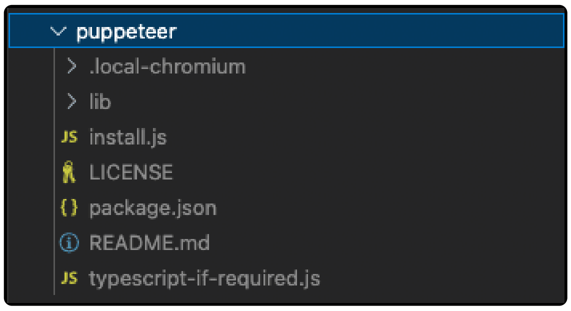
Here are some Puppeteer tutorials which run Puppeteer with the default Chromium browser:

- How to Take Screenshots with Puppeteer
- How to Convert HTML into PDF with Node.js and Puppeteer
- How to Download Images from a Website Using Puppeteer

Let’s try using the example from How to Take Screenshots with Puppeteer with Firefox. If you are following the steps from the tutorial, you need some extra steps to run it with Firefox:

Step 1. Delete the /puppeteer Folder

First, you need to delete the `/puppeteer` folder from your `/node_modules` folder.


```
puppeteer
  > .local-chromium
  > lib
  install.js
  LICENSE
  package.json
  README.md
  typescript-if-required.js
```

The Chromium browser is downloaded in the `/node_modules/puppeteer` folder when you install the Puppeteer package. Firefox Nightly might not be downloaded if there is an existing `/puppeteer` folder with Chromium downloaded.

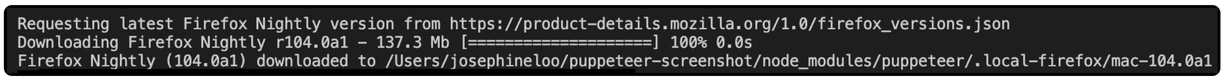
Step 2. Install Puppeteer (Firefox Nightly)

Next, run the command below to set the `PUPPETEER_PRODUCT` environment variable to `firefox` and install Puppeteer:

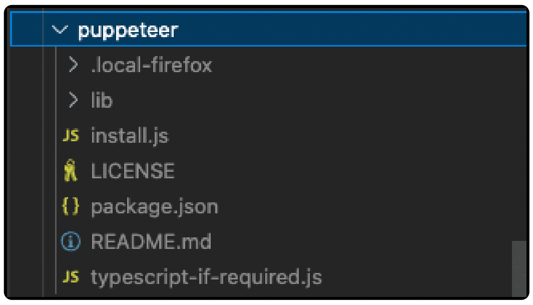
```
PUPPETEER_PRODUCT=firefox npm i
```

As `puppeteer` is already added to `package.json`, we can run `npm i`.

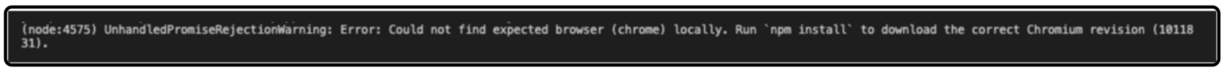
The latest version of Firefox Nightly should be downloaded during the installation.


```
Requesting latest Firefox Nightly version from https://product-details.mozilla.org/1.0/firefox_versions.json
Downloading Firefox Nightly r104.0a1 - 137.3 Mb [====================] 100% 0.0s
Firefox Nightly (104.0a1) downloaded to /Users/josephineloo/puppeteer-screenshot/node_modules/puppeteer/.local-firefox/mac-104.0a1
```

You can check it in the `/node_modules/puppeteer` folder.


```
puppeteer
  > .local-firefox
  > lib
  install.js
  LICENSE
  package.json
  README.md
  typescript-if-required.js
```

Although Firefox Nightly is installed, Puppeteer still runs Chromium by default. If you execute the code by running `node index.js` , you will run into an error that states that the expected browser (chrome) could not be found:



```
(node:4575) UnhandledPromiseRejectionWarning: Error: Could not find expected browser (chrome) locally. Run `npm install` to download the correct Chromium revision (10118
31).
```

To run Puppeteer with Firefox Nightly, we needed to modify the code.

Step 3. Modify the Original Code

This is the original code for taking a simple screenshot with Puppeteer:

```
const puppeteer = require('puppeteer');

(async () => {
  // Create a browser instance
  const browser = await puppeteer.launch();

  // Create a new page
  const page = await browser.newPage();

  // Set viewport width and height
  await page.setViewport({ width: 1280, height: 720 });

  const website_url = 'https://www.bannerbear.com/blog/how-to-convert-html-into-p

  // Open URL in current page
  await page.goto(website_url, { waitUntil: 'networkidle0' });

  // Capture screenshot
  await page.screenshot({
    path: 'screenshot.jpg',
  });

  // Close the browser instance
  await browser.close();
})();
```

First, we need to add `{product: ‘firefox’}` in `puppeteer.launch()` when creating a browser instance. This will set Puppeteer to run with Firefox.

```
const browser = await puppeteer.launch({
  product: 'firefox'
});
```

Then, we need to change the value for `waitUntil`. The original value is set to `networkidle0` to ensure that there are no more than 0 network connections for at least 500ms before the navigation is considered to be finished.

As `networkidle0` is not supported in Firefox currently, we need to change it to other values such as `‘load’` or `‘domcontentloaded’`.

```
await page.goto(website_url, { waitUntil: 'domcontentloaded' });
```

Run `node index.js` again to execute the code. It should run without error now.

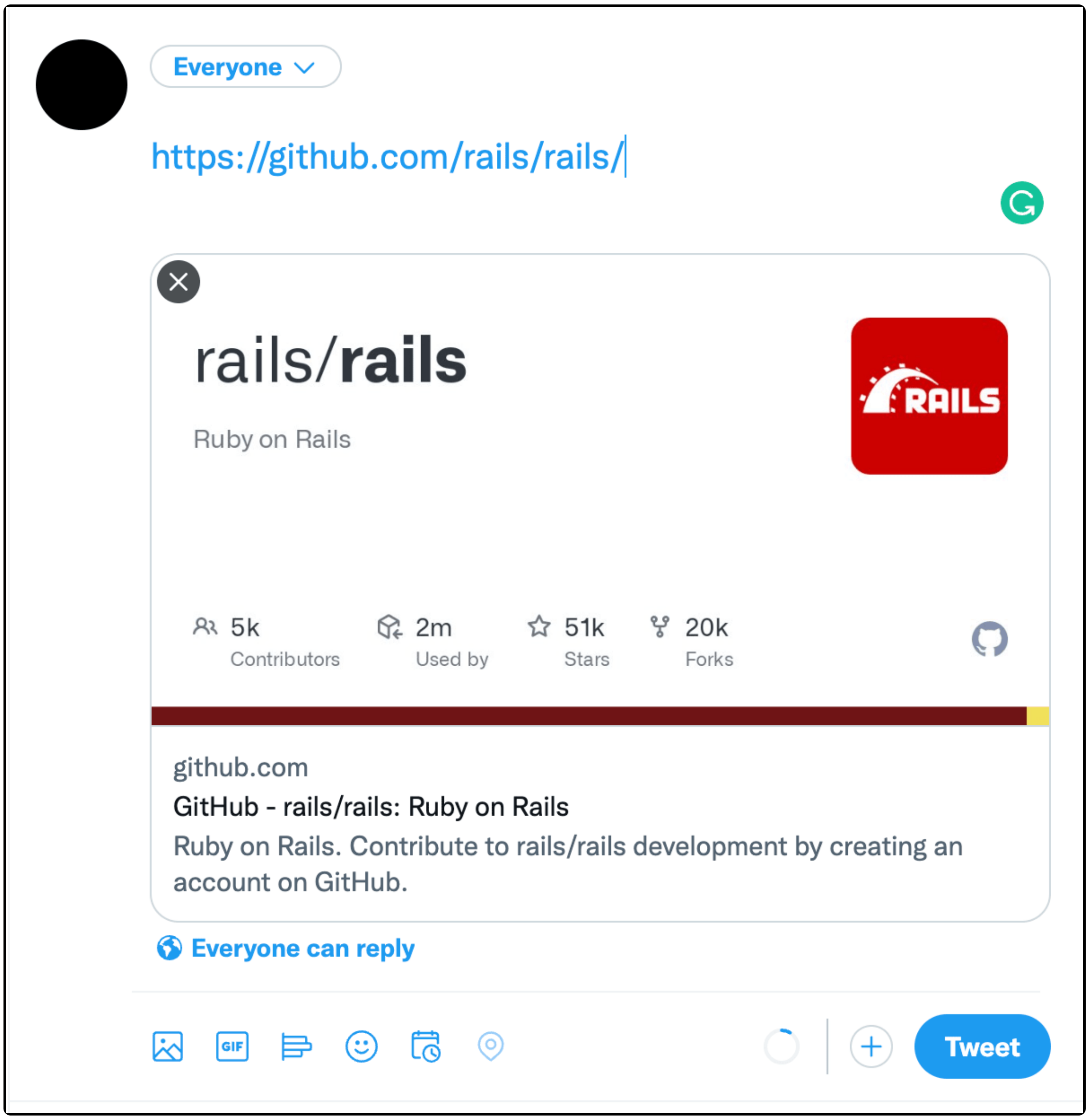
As Firefox’s support for Puppeteer is limited, you might run into unexpected errors when running Puppeteer with Firefox. Some of the errors only occur in Firefox.

You can check Puppeteer’s official Github Issues to check whether there is a solution for your error.

Puppeteer Project Idea

Now that you can take screenshots using Puppeteer, you can use Puppeteer to generate a custom Open Graph image automatically.

For example, this is a custom Open Graph image of Ruby on Rail's Github repo which is generated automatically using Puppeteer:


Everyone

https://github.com/rails/rails/

rails/**rails**

Ruby on Rails

5k Contributors · 2m Used by · 51k Stars · 20k Forks

github.com

GitHub - rails/rails: Ruby on Rails

Ruby on Rails. Contribute to rails/rails development by creating an account on GitHub.

Everyone can reply

Tweet

Rather than displaying a simple image, the Open Graph image above has the Github repo's name and statistics on it.

Github has explained how their Open Graph image generator works in detail on their blog. First, the image is generated using the repo data and some HTML templates. Then, Puppeteer is used to take a screenshot of the HTML.

It is a great idea to generate a custom Open Graph image when sharing a URL on social medias. The information on the image is capable of grabbing users' attention and providing more context about the content of the URL.

However, more effort might be needed to create a design in HTML if the design or layout is complex. The code will also need to be updated everytime when there's a change in the design.

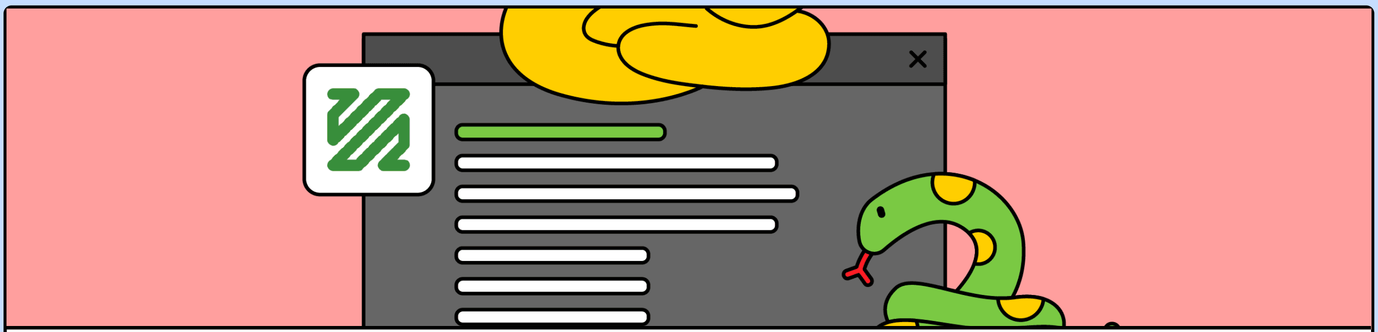
If you're interested in other ways to generate an Open Graph image automatically, here are some articles that you can read:

- How to Auto-Generate Open Graph Images in WordPress
- How to Add Auto-Generated Open Graph Images to Webflow
- How to Auto-Generate Dynamic Open Graph Images in Hubspot with Simple URLs

About the author

Josephine Loo

Josephine is an automation enthusiast. She loves automating stuff and helping people to increase productivity with automation.



August 2023

How to Use FFMpeg in Python (with Examples)

Integrating FFmpeg's powerful media manipulation capabilities into your Python code becomes easy with the “ffmpeg-python” library. With a few lines of code, you can convert media formats, edit videos, extract audio, and more within your Python applications.

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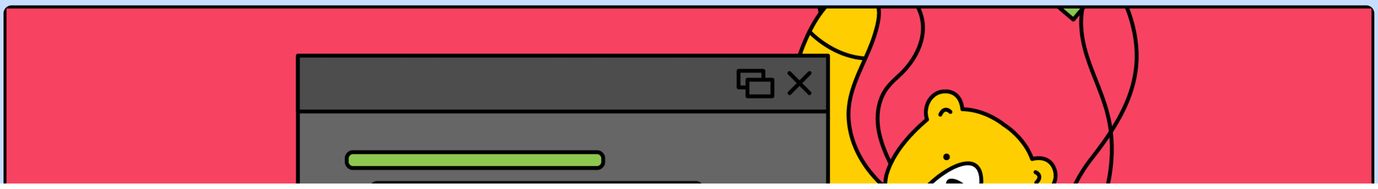

August 2023

How to Use Puppeteer in Node.js (with Examples)

Puppeteer is a powerful Node.js library that allows you to control the browser programmatically. In this article, we will explore how to use Puppeteer, along with some practical examples like taking website screenshots, saving HTML content to PDF, and downloading images from a website.

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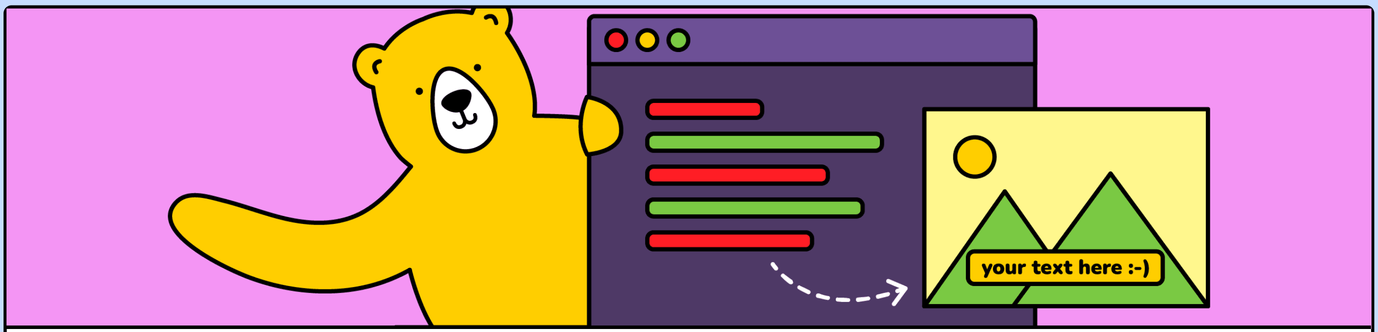

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How to Overlay Text on an Image in HTML and CSS

Learn how to overlay text on an image in HTML and CSS to create attention-grabbing images on your website.

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Online Certificate Maker
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API Quick Start
API Reference

Other
System Status
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↳ $10K to $20K MRR
↳ Journey to $1MM ARR
Affiliate Program
Facebook Preview Tool
Twitter Preview Tool
Changelog
Pricing