puppeteer

1.7.0 • Public • Published 7 days ago

Readme

8 Dependencies

940 Dependents

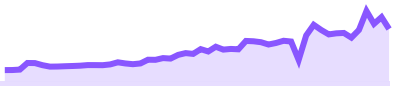
342 Versions

install

```
npm i puppeteer
```

weekly downloads

344,686



version

1.7.0

license

Apache-2.0

open issues

258

pull requests

14

homepage

github.com

repository

github

last publish

7 days ago

collaborators



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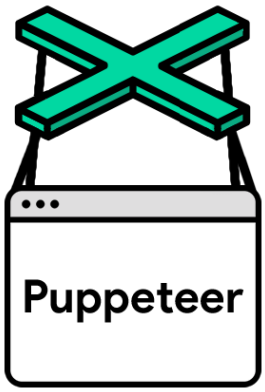

> Puppeteer is a Node library which provides a high-level API to control Chrome or Chromium over the DevTools Protocol. Puppeteer runs headless by default, but can be configured to run full (non-headless) Chrome or Chromium.

What can I do?

Most things that you can do manually in the browser can be done using Puppeteer! Here are a few examples to get you started:

- Generate screenshots and PDFs of pages.
- Crawl a SPA and generate pre-rendered content (i.e. "SSR").
- Automate form submission, UI testing, keyboard input, etc.
- Create an up-to-date, automated testing environment. Run your tests directly in the latest version of Chrome using the latest JavaScript and browser features.
- Capture a timeline trace of your site to help diagnose performance issues.
- Test Chrome Extensions.

Give it a spin: https://try-puppeteer.appspot.com/

Getting Started

Installation

To use Puppeteer in your project, run:

```
npm i puppeteer
# or "yarn add puppeteer"
```

Note: When you install Puppeteer, it downloads a recent version of Chromium (~170Mb Mac, ~282Mb Linux, ~280Mb Win) that is guaranteed to work with the API. To skip the download, see Environment variables.

Usage

Note: Puppeteer requires at least Node v6.4.0, but the examples below use async/await which is only supported in Node v7.6.0 or greater.

Puppeteer will be familiar to people using other browser testing frameworks. You create an instance of `Browser`, open pages, and then manipulate them with Puppeteer's API.

Example - navigating to https://example.com and saving a screenshot as *example.png*:

Save file as **example.js**

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

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

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

Execute script on the command line

```
node example.js
```

Puppeteer sets an initial page size to 800px x 600px, which defines the screenshot size. The page size can be customized with `Page.setViewport()`.

Example - create a PDF.

Save file as **hn.js**

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

(async () => {
  const browser = await puppeteer.launch();
  const page = await browser.newPage();
  await page.goto('https://news.ycombinator.com', {waitUntil: 'networ
  await page.pdf({path: 'hn.pdf', format: 'A4'});
```

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

Execute script on the command line

```
node hn.js
```

See `Page.pdf()` for more information about creating pdfs.

Example - evaluate script in the context of the page

Save file as **get-dimensions.js**

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

(async () => {
  const browser = await puppeteer.launch();
  const page = await browser.newPage();
  await page.goto('https://example.com');

  // Get the "viewport" of the page, as reported by the page.
  const dimensions = await page.evaluate(() => {
    return {
      width: document.documentElement.clientWidth,
      height: document.documentElement.clientHeight,
      deviceScaleFactor: window.devicePixelRatio
    };
  });

  console.log('Dimensions:', dimensions);

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

Execute script on the command line

```
node get-dimensions.js
```

See `Page.evaluate()` for more information on `evaluate` and related methods like

`evaluateOnNewDocument` and `exposeFunction`.

Default runtime settings

1. Uses Headless mode

Puppeteer launches Chromium in headless mode. To launch a full version of Chromium, set the 'headless' option when launching a browser:

```
const browser = await puppeteer.launch({headless: false}); // default
```

2. Runs a bundled version of Chromium

By default, Puppeteer downloads and uses a specific version of Chromium so its API is guaranteed to work out of the box. To use Puppeteer with a different version of Chrome or Chromium, pass in the executable's path when creating a `Browser` instance:

```
const browser = await puppeteer.launch({executablePath: '/path/to/Chr
```

See `Puppeteer.launch()` for more information.

See `this article` for a description of the differences between Chromium and Chrome. `This article` describes some differences for Linux users.

3. Creates a fresh user profile

Puppeteer creates its own Chromium user profile which it **cleans up on every run**.

API Documentation

Explore the API documentation and examples to learn more.

Debugging tips

1. Turn off headless mode - sometimes it's useful to see what the browser is displaying. Instead of launching in headless mode, launch a full version of the browser using `headless: false`:

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

2. Slow it down - the `slowMo` option slows down Puppeteer operations by the specified amount

of milliseconds. It's another way to help see what's going on.

```
const browser = await puppeteer.launch({
  headless: false,
  slowMo: 250 // slow down by 250ms
});
```

3. Capture console output - You can listen for the `console` event. This is also handy when debugging code in `page.evaluate()`:

```
page.on('console', msg => console.log('PAGE LOG:', msg.text()));

await page.evaluate(() => console.log(`url is ${location.href}`));
```

4. Stop test execution and use a debugger in browser

- Use `{devtools: true}` when launching Puppeteer:

```
const browser = await puppeteer.launch({devtools: true});
```

- Change default test timeout:

  jest: `jest.setTimeout(100000);`

  jasmine: `jasmine.DEFAULT_TIMEOUT_INTERVAL = 100000;`

  mocha: `this.timeout(100000);` (don't forget to change test to use function and not '=>')

- Add an evaluate statement with `debugger` inside / add `debugger` to an existing evaluate statement:

```
await page.evaluate(() => {debugger;});
```

  The test will now stop executing in the above evaluate statement, and chromium will stop in debug mode.

1. Enable verbose logging - All public API calls and internal protocol traffic will be logged via the `debug` module under the `puppeteer` namespace.

```
# Basic verbose logging
env DEBUG="puppeteer:*" node script.js
```

```
# Debug output can be enabled/disabled by namespace
env DEBUG="puppeteer:*,-puppeteer:protocol" node script.js # everything B
env DEBUG="puppeteer:session" node script.js # protocol session messages
env DEBUG="puppeteer:mouse,puppeteer:keyboard" node script.js # only Mous

# Protocol traffic can be rather noisy. This example filters out all Netw
env DEBUG="puppeteer:*" env DEBUG_COLORS=true node script.js 2>&1 | grep
```

Contributing to Puppeteer

Check out contributing guide to get an overview of Puppeteer development.

FAQ

Q: Who maintains Puppeteer?

The Chrome DevTools team maintains the library, but we'd love your help and expertise on the project! See Contributing.

Q: What are Puppeteer's goals and principles?

The goals of the project are:

- Provide a slim, canonical library that highlights the capabilities of the DevTools Protocol.
- Provide a reference implementation for similar testing libraries. Eventually, these other frameworks could adopt Puppeteer as their foundational layer.
- Grow the adoption of headless/automated browser testing.
- Help dogfood new DevTools Protocol features...and catch bugs!
- Learn more about the pain points of automated browser testing and help fill those gaps.

We adapt Chromium principles to help us drive product decisions:

- **Speed**: Puppeteer has almost zero performance overhead over an automated page.
- **Security**: Puppeteer operates off-process with respect to Chromium, making it safe to automate potentially malicious pages.
- **Stability**: Puppeteer should not be flaky and should not leak memory.
- **Simplicity**: Puppeteer provides a high-level API that's easy to use, understand, and debug.

Q: Is Puppeteer replacing Selenium/WebDriver?

No. Both projects are valuable for very different reasons:

- Selenium/WebDriver focuses on cross-browser automation; its value proposition is a single standard API that works across all major browsers.
- Puppeteer focuses on Chromium; its value proposition is richer functionality and higher reliability.

That said, you **can** use Puppeteer to run tests against Chromium, e.g. using the community-driven jest-puppeteer. While this probably shouldn't be your only testing solution, it does have a few good points compared to WebDriver:

- Puppeteer requires zero setup and comes bundled with the Chromium version it works best with, making it very easy to start with. At the end of the day, it's better to have a few tests running chromium-only, than no tests at all.
- Puppeteer has event-driven architecture, which removes a lot of potential flakiness. There's no need for evil "sleep(1000)" calls in puppeteer scripts.
- Puppeteer runs headless by default, which makes it fast to run. Puppeteer v1.5.0 also exposes browser contexts, making it possible to efficiently parallelize test execution.
- Puppeteer shines when it comes to debugging: flip the "headless" bit to false, add "slowMo", and you'll see what the browser is doing. You can even open Chrome DevTools to inspect the test environment.

Q: Why doesn't Puppeteer v.XXX work with Chromium v.YYY?

We see Puppeteer as an **indivisible entity** with Chromium. Each version of Puppeteer bundles a specific version of Chromium – **the only** version it is guaranteed to work with.

This is not an artificial constraint: A lot of work on Puppeteer is actually taking place in the Chromium repository. Here's a typical story:

- A Puppeteer bug is reported: https://github.com/GoogleChrome/puppeteer/issues/2709
- It turned out this is an issue with the DevTools protocol, so we're fixing it in Chromium: https://chromium-review.googlesource.com/c/chromium/src/+/1102154
- Once the upstream fix is landed, we roll updated Chromium into Puppeteer: https://github.com/GoogleChrome/puppeteer/pull/2769

However, oftentimes it is desirable to use Puppeteer with the official Google Chrome rather than Chromium. For this to work, you should pick the version of Puppeteer that uses the Chromium version close enough to Chrome.

Q: Which Chromium version does Puppeteer use?

Look for `chromium_revision` in package.json.

Q: What's considered a "Navigation"?

From Puppeteer's standpoint, **"navigation" is anything that changes a page's URL**. Aside from

regular navigation where the browser hits the network to fetch a new document from the web server, this includes anchor navigations and History API usage.

With this definition of "navigation," **Puppeteer works seamlessly with single-page applications.**

Q: What's the difference between a "trusted" and "untrusted" input event?

In browsers, input events could be divided into two big groups: trusted vs. untrusted.

- **Trusted events**: events generated by users interacting with the page, e.g. using a mouse or keyboard.
- **Untrusted event**: events generated by Web APIs, e.g. `document.createEvent` or `element.click()` methods.

Websites can distinguish between these two groups:

- using an `Event.isTrusted` event flag
- sniffing for accompanying events. For example, every trusted `'click'` event is preceded by `'mousedown'` and `'mouseup'` events.

For automation purposes it's important to generate trusted events. **All input events generated with Puppeteer are trusted and fire proper accompanying events.** If, for some reason, one needs an untrusted event, it's always possible to hop into a page context with `page.evaluate` and generate a fake event:

```
await page.evaluate(() => {
  document.querySelector('button[type=submit]').click();
});
```

Q: What features does Puppeteer not support?

You may find that Puppeteer does not behave as expected when controlling pages that incorporate audio and video. (For example, video playback/screenshots is likely to fail.) There are two reasons for this:

- Puppeteer is bundled with Chromium--not Chrome--and so by default, it inherits all of Chromium's media-related limitations. This means that Puppeteer does not support licensed formats such as AAC or H.264. (However, it is possible to force Puppeteer to use a separately-installed version Chrome instead of Chromium via the `executablePath` option to `puppeteer.launch`. You should only use this configuration if you need an official release of Chrome that supports these media formats.)

- Since Puppeteer (in all configurations) controls a desktop version of Chromium/Chrome, features that are only supported by the mobile version of Chrome are not supported. This means that

that are only supported by the mobile version of Chrome are not supported. This means that Puppeteer does not support HTTP Live Streaming (HLS).

Q: I am having trouble installing / running Puppeteer in my test environment?

We have a troubleshooting guide for various operating systems that lists the required dependencies.

Q: How do I try/test a prerelease version of Puppeteer?

You can check out this repo or install the latest prerelease from npm:

```
npm i --save puppeteer@next
```

Please note that prerelease may be unstable and contain bugs.

Q: I have more questions! Where do I ask?

There are many ways to get help on Puppeteer:

- bugtracker
- stackoverflow
- slack channel

Make sure to search these channels before posting your question.

Keywords

none

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