

End to end testing with Playwright



About me

- Petar Basic
- Bachelor with honours in Electrical and Computer Engineering, Faculty of Technical Sciences, Novi Sad (Serbia)
- DevOps and Drupal engineer at

drunomics



drunomics GmbH

1060 Vienna, Austria

- Wide range of creative and flexible Drupal-based publishing solutions
- Drupal & Nuxt.js <3
- ***lupus digital*** - out-of-the-box solution
 - decoupled frontend
 - contentpool function
 - flexible page building for editors via core's Layout-builder
 - and more...
- ***lupus decoupled drupal***

End To End Testing

- Automated tests are a vital part of the Quality Assurance process
- Integral part of our CI pipelines
- Save time and energy, avoid repetitive manual testing

Previously used - **Behat**

Problems, downsides

- Open-source, but maintainance and support are limited
- **Flaky** tests
- Poor debugging experience
- Writing test experience nice to the naked eye, but sometimes not dev-friendly

Upsides

- Extendable
- Existing extensions with pre-defined steps for use with Drupal
- Interacts directly with Drupal API
- PHP framework
- Encourages Behavior Driven Development (BDD)

What prompted us to change

Expecting reliable, thrusworthy tests

What we got:

- **Flaky tests**
 - Uncertainty
 - Time loss
- **Poor debugging experience**
 - Limited options (code debugging, headed tests, manual checks)
 - In a CI environment
 - Time consuming



What we use now - **Playwright**

“Playwright is a framework for Web Testing and Automation. It allows testing Chromium, Firefox and WebKit with a single API. Playwright is built to enable cross-browser web automation that is ever-green, capable, reliable and fast.”

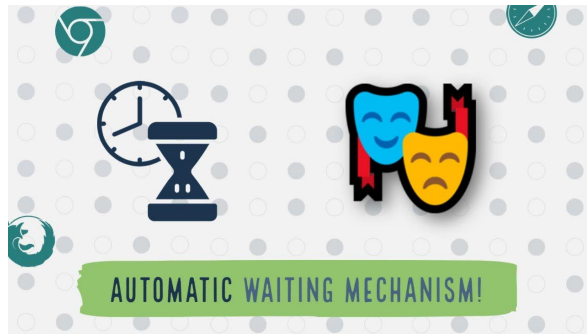
Why playwright?

[Related post](#)



Capabilities - upsides

- **Auto-wait**
- **Auto-retry**
- Cross-browser - Chromium, Firefox, WebKit, Google Chrome & Microsoft Edge
- Cross-platform (Linux, Windows, macOS)
- Full isolation
- **Tracing**
- **Powerful tooling** - Codegen, Inspector, Trace Viewer
- Cross language (TypeScript, JavaScript, Python, .NET, Java)
- VRT testing
- Parallel execution
- and more...



Challenges

- **Communication with Drupal API**
 - from dockerized Playwright to dockerized Drupal

Other (minor):

- Environment setup
 - no dotenv integrated with php autoloader
- Writing testing steps from the ground up
 - no existing analog for drupal specific behat extensions
- CI setup
 - presenting and sharing test results and reports

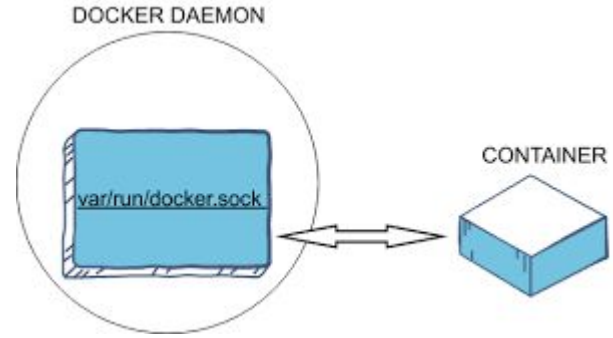
Communication with Drupal API

- Drush!

```
require('child_process').execSync(`drush  
  <command>`);
```

- From container to container?
 - Docker socket + docker-cli

```
require('child_process').execSync(`  
  docker exec <container_name> bash -c  
  'drush <command>'`);
```



Other challenges

Environment setup

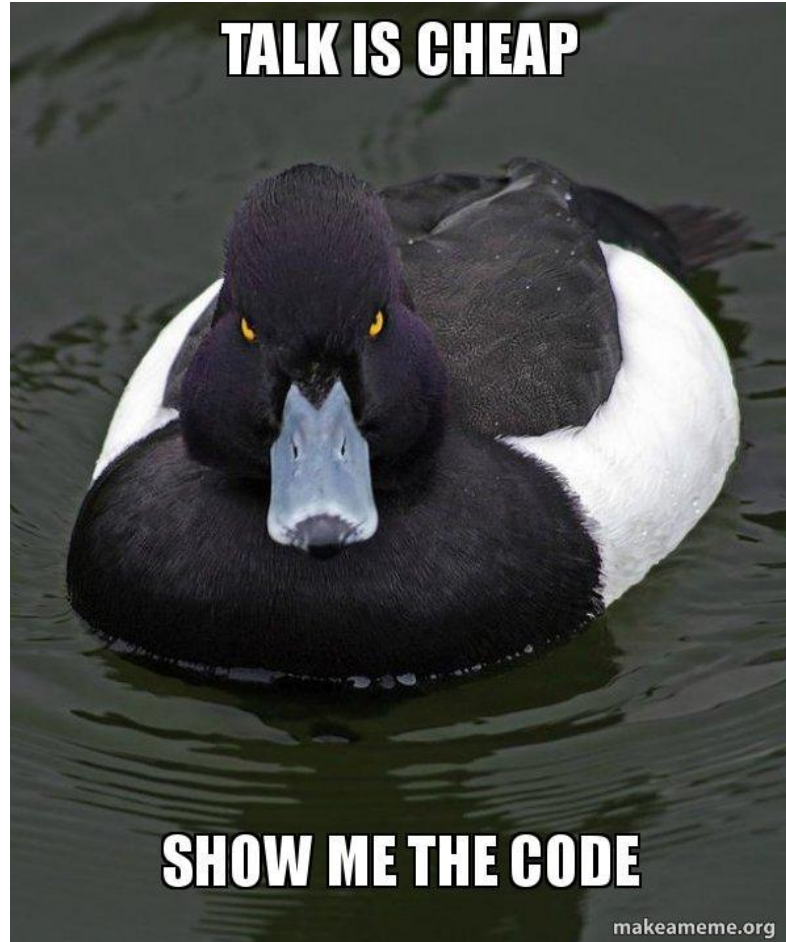
- dotenv!
 - prepoulate .env with needed variables
 - process.env.<VARIABLE>

Writing steps from the ground up

- Manual labor
- Transfer knowledge from behat
- Read the docs!

CI setup

- Publish tests html report on cloudflare
- junit reporter available



Demo

- Typical test (headless, headed)
- Playwright inspector
- Trace viewer

Our experience so far

- Performance comparable with behat
 - Additional container build time with dockerized playwright
- Don't forget await !
- Use Playwright Assertions when possible
- Tag tests - easily filter tests when running
- Use hook functions to prepare environment and cleanup after testing
- So far no flaky tests!
 - Seems pretty reliable and stable
- Developer experience positive
- Debugging experience excellent



drunomics



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<https://drunomics.com>

<https://github.com/drunomics/playwright-drupal-starter>

Resources

- <https://github.com/drunomics/playwright-drupal-starter>
- <https://playwright.dev>
- <https://docs.behat.org/>
- <https://medium.com/uk-hydrographic-office/why-we-chose-playwright-over-cypress-db4770cf5204>

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First Time Contributor Workshop

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Room D9
21 September: 10:30 - 11:15
Room D9
23 September: 09:00 - 12:30
Room C2

General Contribution

20 - 22 September: 9:00 -
18:00
Room C3
23 September: 9:00 - 18:00
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#DrupalContributions

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