



# E2E testing with Microsoft Playwright

# **Florian Schade**

Working at ownCloud since 2020

# **ownCloud**

Open source file, sync and share since 2010

# Contact

Get in touch: <https://talk.owncloud.com>

# Sources

<https://github.com/owncloud/web/tree/master/tests/e2e>

# Our Tech-Stack



Vue.js



Jest



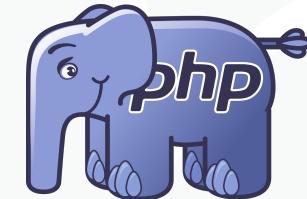
Golang



rollup.js



Nightwatch.js



TypeScript



Cucumber  
Supported by SMARTBEAR



DRONE™  
by harness



docker

# Our Workflow

✖ Merge pull request #6125 from cernbox/drawio Drawio improvements

Dev

Push

PR

Hope

# Most common problems

- Flaky tests
- Hard to understand and reproduce
- Long waiting times
- Financially and ecologically irresponsible
- Demotivating



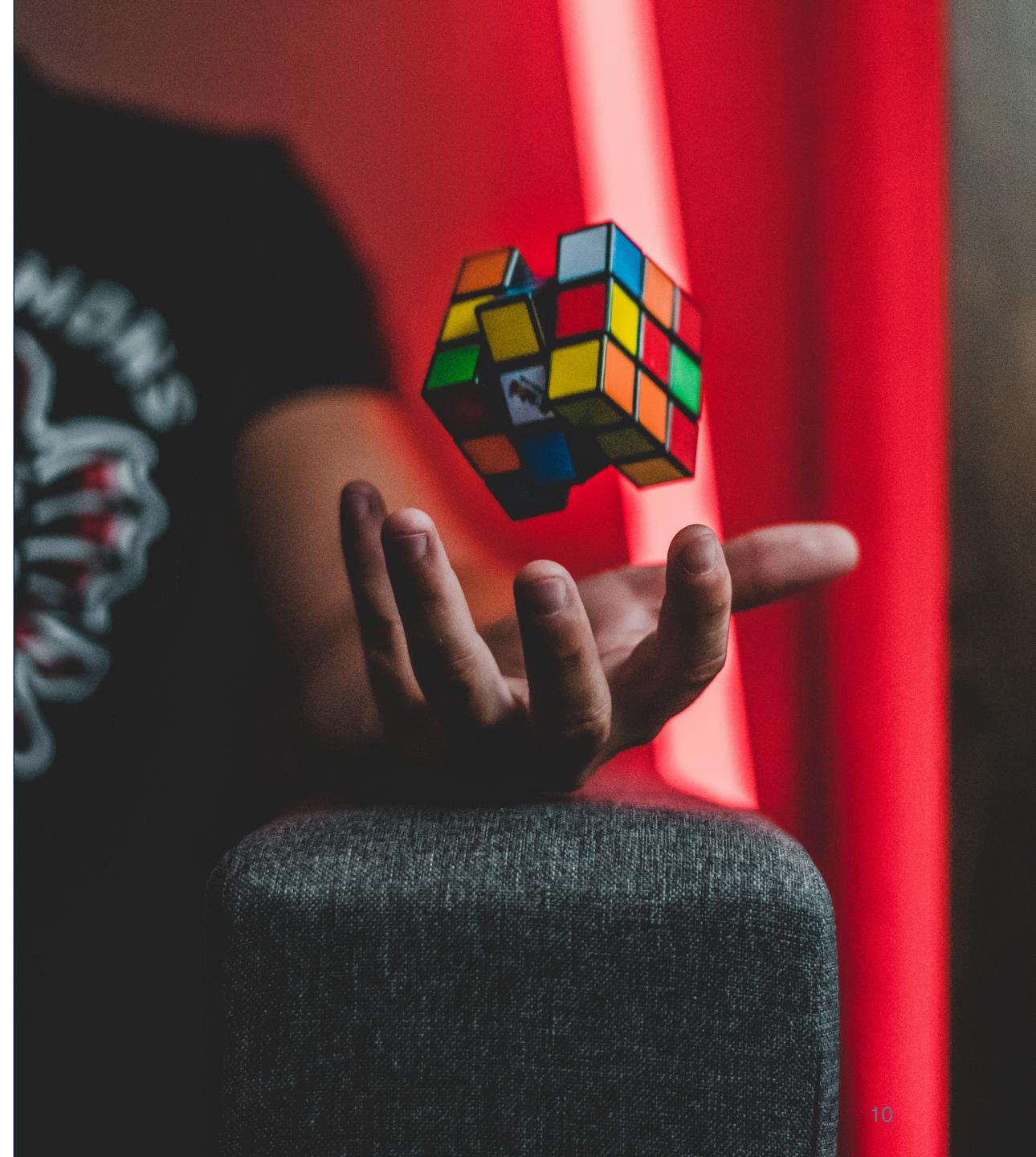
# Things we need to gain back control

- Simple to setup
- Easy extensibility
- Fast test-runs
- Reproducibility
- Tools to debug the tests



# Simple to setup

Our development environment should be easy to setup, easy to run in production mode and behave as close as possible to it.



# Easy extensibility

Writing tests should be as easy as writing an email. Implementing new test steps shouldn't be difficult either.



# Fast test-runs

Time is the most valuable thing we have, we shouldn't waste it waiting.



# Reproducibility

We lose trust and control when our tests behave differently for no reason.



# Tools to debug the tests

Wouldn't it be great if we could just  
replay failing tests?





# Playwright

**API for *TypeScript*, *JavaScript*,  
*Python*, *.NET*, *Java*.**

**Multiple isolated contexts which enables us to test with many different users.**

**It auto-waits for all the relevant checks to pass and only then performs the requested action.**

**Automate Chromium, WebKit and Firefox  
using the same API ...**

**Gives access to network requests, console  
messages, chrome extensions and  
even more ...**

**... tracing, trace viewer, HAR recording,  
screenshots, video recording.**

# Demo

- Run tests with ownCloud Infinite Scale Server
- Debug the failing test
- Fix the bug that is causing the test to fail

```
fosdem22.feature × file.ts × config.js ×
1 ➤ Feature: Microsoft Playwright FOSDEM 2022 Demo
2
3   Background:
4     Given the following users have been created
5     | Florian |
6     | Ludovic |
7     And the default folder for received shares has been set to "Shares"
8     And auto-accept shares has been disabled
9
10 ➤ Scenario: I can share my presentation with the FOSDEM team
11   When "Florian" logs in
12   And "Florian" opens the "files" app
13   And "Florian" navigates to the files page
14   And "Florian" creates the following folders
15   | papers/fosdem |
16   And "Florian" uploads the following resources
17   | resource           | to           |
18   | 2022-e2e-testing-with-microsoft-playwright.pdf | papers/fosdem |
19   And "Florian" shares the following resources via the sidebar panel
20   | resource | user | role |
21   | papers/fosdem | Ludovic | viewer |
22   When "Ludovic" logs in
23   And "Ludovic" opens the "files" app
24   And "Ludovic" accepts the following resources
25   | fosdem |
26   And "Ludovic" downloads the following files
27   | resource           | from          |
28   | 2022-e2e-testing-with-microsoft-playwright.pdf | Shares/fosdem |
29   And "Ludovic" logs out
30   And "Florian" logs out
31
```

# Tips

- If something is missing, just implement it in your codebase and wrap playwright.
- Prefer ID's, classes or test-selectors over text or too explicit XPath selectors.
- Use Playwright locators whenever possible.
- Check out playwrights GitHub repository and read the code.



# **Less painful E2E tests with Cypress.io**

FOSDEM 2019 talk by Pavel Kruhlei

<https://www.youtube.com/watch?v=daTwEHBRfQE&t=725s>

# Acknowledgments

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