VECTOR
SOFTWARE

WEBDRIVER.IO

AUTOMATING YOUR FIRST INTERFACE TESTS WITH WEBDRIVER.IO

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IMPACT
SUCCESS
FUN

WHO AM I?

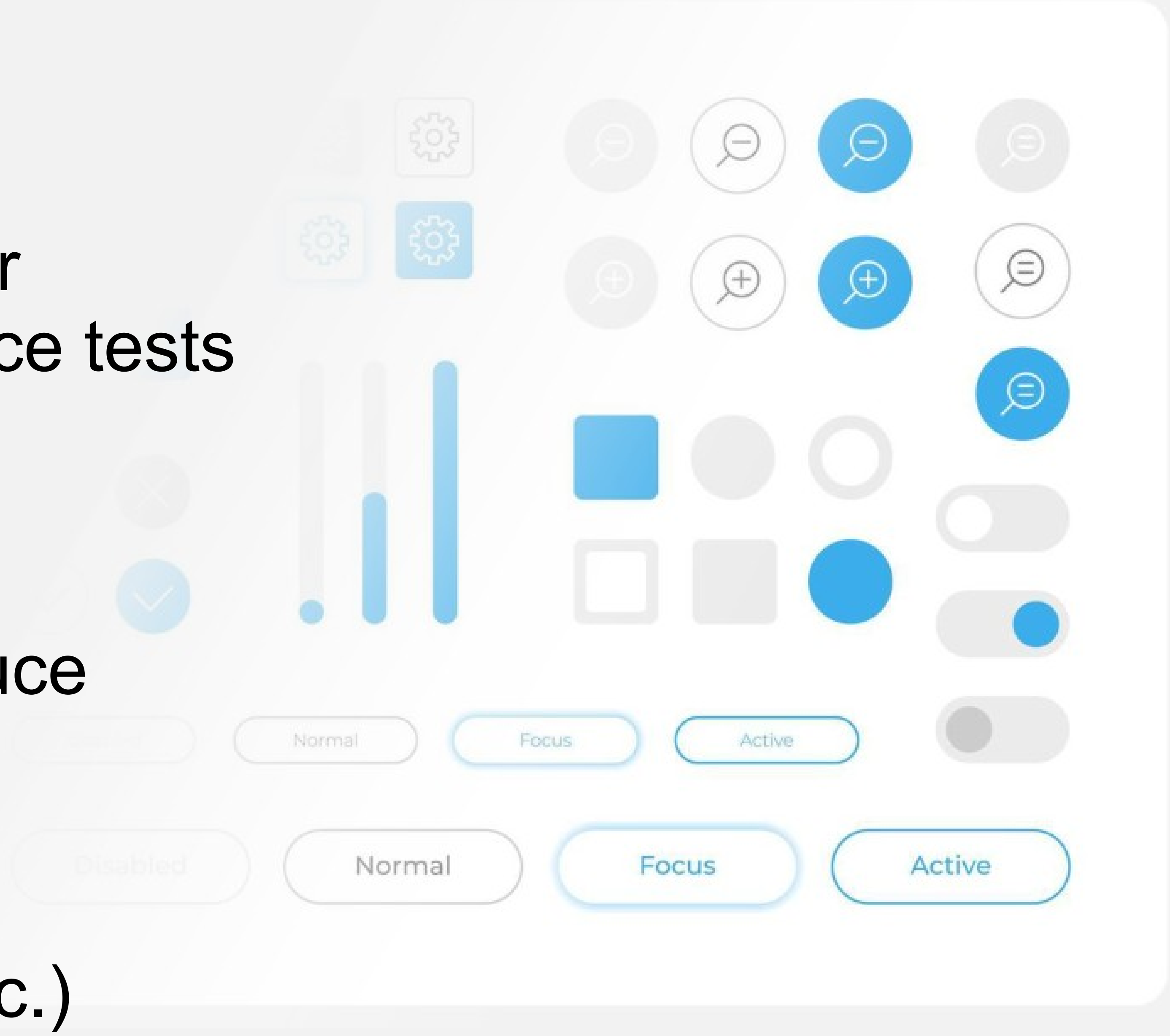
WHAT ABOUT YOU?

SCAN ME

https://strawpoll.com/w4nWrQVRJyA

WHAT IS WEBDRIVER.IO?

- It is an Open Source automation test framework for web, desktop and mobile applications, based on Javascript/Typescript/NodeJS
- Allows Developers and QAs to perform automations for specific use cases and also perform automated interface tests using real browsers and mobile devices (mobile cloud/emulators)
- Integrate with several services, like BrowserStack, Sauce Labs, Gmail, and Slack, to name a few
- Supports several JS Unit Testing frameworks (Mocha, Jasmine, etc), and numerous exporters (spec, jUnit, etc.)



WHY AUTOMATE FRONT-END TESTS?

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- Performing manual interface tests take way longer to complete, when compared to automated tests

- Automated tests can be run quickly, on every system build in a CI setup, leading to a faster feedback loop

- Consistent Regression testing, so the developers would be sure their new functionality is not breaking what already exists

- Allow for testing in different environments, browsers and devices, concurrently

- Cost reductions in the long run – it costs a bit more in the beginning but the effort pays off in the long term.

WHY AUTOMATE FRONT-END TESTS?

- Faster time to market – Faster development and testing cycles
- … And many more.

SOLD!
HOW DO I START?!

HOW TO SET IT UP?

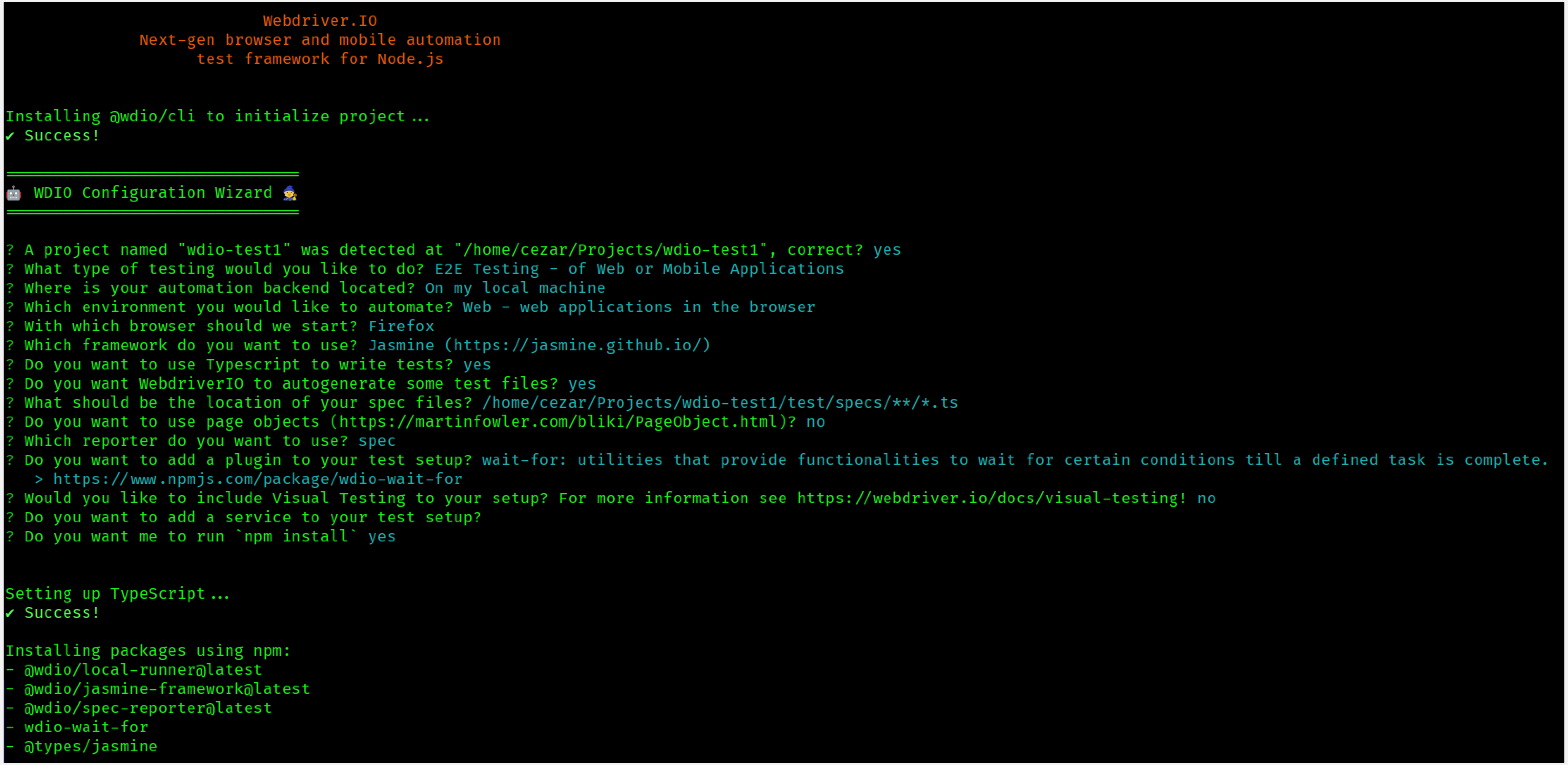
Requirements:

- NodeJS installed and on PATH (latest LTS is sufficient)
- A system to be tested. In this talk, we will explore an open-source HR Management software, called OrangeHRM.
- Some knowledge of Javascript/Typescript
- Patience

HOW TO SET IT UP?

- Open a terminal inside a folder (e.g. “wdio-test”) in your computer, and type the following command (without quotes):
  - “npm init wdio@latest”

HOW TO SET IT UP?



```
                           Webdriver.IO
              Next-gen browser and mobile automation
                    test framework for Node.js


Installing @wdio/cli to initialize project...
✔ Success!

═══════════════════════════════
🤖 WDIO Configuration Wizard 🧙
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? A project named "wdio-test1" was detected at "/home/cezar/Projects/wdio-test1", correct? yes
? What type of testing would you like to do? E2E Testing - of Web or Mobile Applications
? Where is your automation backend located? On my local machine
? Which environment you would like to automate? Web - web applications in the browser
? With which browser should we start? Firefox
? Which framework do you want to use? Jasmine (https://jasmine.github.io/)
? Do you want to use Typescript to write tests? yes
? Do you want WebdriverIO to autogenerate some test files? yes
? What should be the location of your spec files? /home/cezar/Projects/wdio-test1/test/specs/**/*.ts
? Do you want to use page objects (https://martinfowler.com/bliki/PageObject.html)? no
? Which reporter do you want to use? spec
? Do you want to add a plugin to your test setup? wait-for: utilities that provide functionalities to wait for certain conditions till a defined task is complete.
   > https://www.npmjs.com/package/wdio-wait-for
? Would you like to include Visual Testing to your setup? For more information see https://webdriver.io/docs/visual-testing! no
? Do you want to add a service to your test setup?
? Do you want me to run `npm install` yes


Setting up TypeScript...
✔ Success!

Installing packages using npm:
- @wdio/local-runner@latest
- @wdio/jasmine-framework@latest
- @wdio/spec-reporter@latest
- wdio-wait-for
- @types/jasmine
```

HOW TO RUN IT?

- Open a terminal inside the folder you have created previously (e.g. “wdio-test”) in your computer, and type the following command (without quotes):
  - “npm run wdio”

HOW TO INTERACT WITH A WEB PAGE?

- Selectors:
  - CSS - $(‘nav a.navbar__brand’)
  - ID - $(‘#someid’)
  - Link Text - $(‘=Some Link Text’)
  - Approximate Link Text - $(‘*=Link Text’)
  - ARIA Roles - $('[role=button]')
  - ARIA Label - $('aria/foobar')
  - XPath - $(‘//body/p[2]’)
  - Name - $(‘[name=”username”]’)
  - Tag name - $(‘<my-element-tag />’)

HOW TO INTERACT WITH A WEB PAGE?

- Clicking - await $('button[type="submit"]').click();
- Setting values - await $('#username').setValue(‘user_name’)
- Navigating – await browser.url(‘https://my.website.com’)

WHAT ABOUT TESTING?

WHAT ABOUT TESTING?

- To proper test things in this project, and validate if our interfaces are working or not, we depend on a Javascript Testing Framework

- In our case, we will be using Jasmine (https://jasmine.github.io), but the WDIO setup offers multiple testing framework options.

- With Jasmine, we describe our tests using a BDD (Behavior-Driven Design approach)

WHAT ABOUT TESTING?

- Test sample:

```
describe("A suite is just a function", function() {
  let a;
  it("and so is a spec", function() {
    a = true;
    expect(a).toBe(true);
  });
});
```

WHAT ABOUT TESTING?

- With Jasmine, we can set some code to run once before all tests in a suite begin, and also before each test case runs.

- For component testing, we can also use Jasmine to create mocks/stubs for testing isolated components.

ENOUGH TALK.
SHOW ME THE CODE!

MORE INFO?

- Webdriver.IO documentation
  - https://webdriver.io/docs/gettingstarted
- Jasmine documentation:
  - https://jasmine.github.io
- OrangeHRM test portal:
  - https://opensource-demo.orangehrmlive.com
- Code repository for this presentation:
  - https://github.com/cezarlamann/wdio-test-presentation

QUESTIONS?

THANK YOU!