Sistemas Web I

Grado en Ingeniería de Sistemas de Información
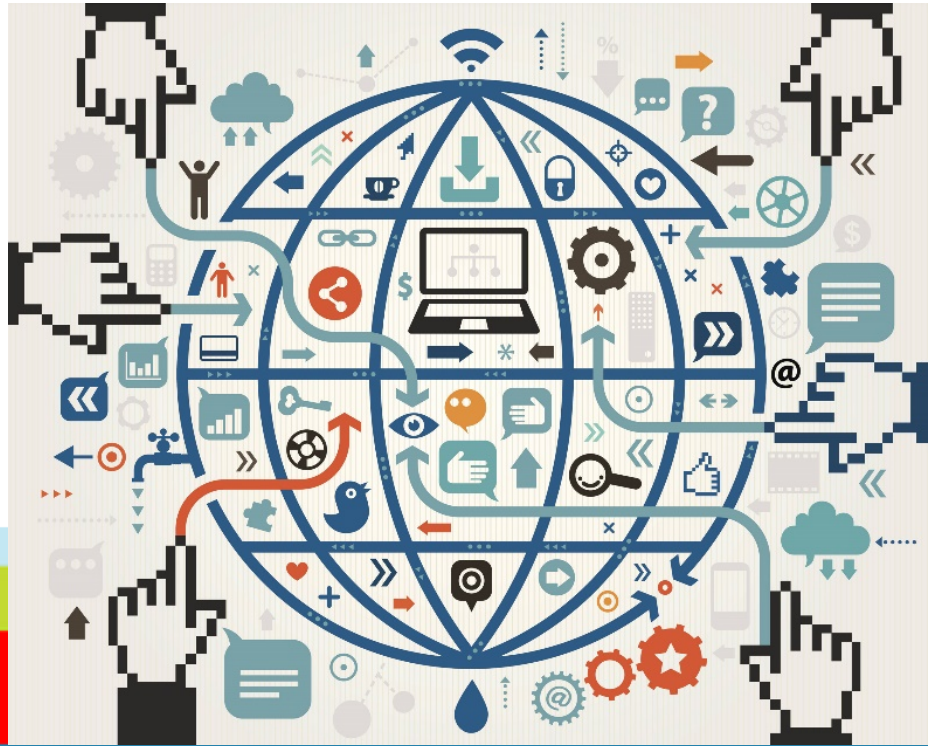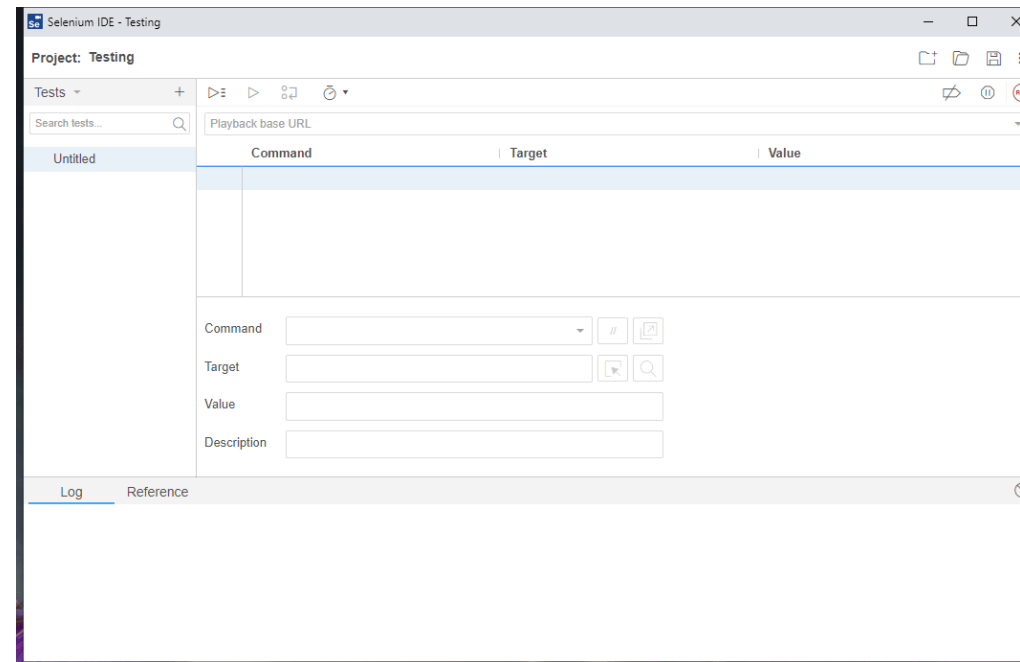
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Introducción

- Herramientas para la automatización de acciones en el navegador
- Usada, entre otras cosas, para front-end testing
- Desde 2004 ([historia](#))
- Componentes:
  - IDE
  - WebDriver
  - Grid

Selenium IDE

- Extensión para el navegador

- Creación de scripts rápidos

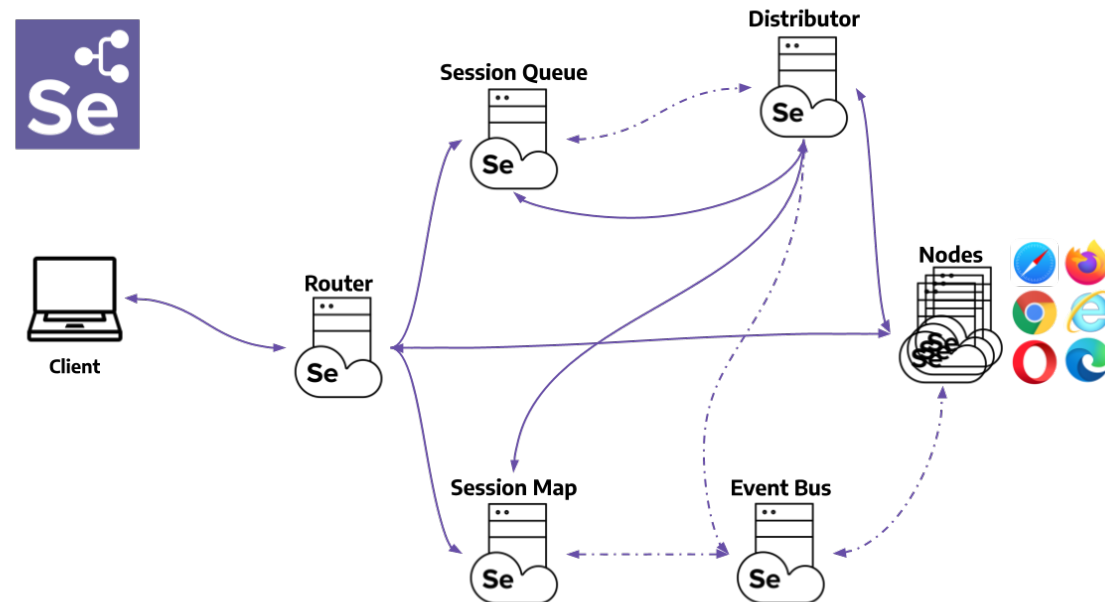- Interacciones record-and-playback

Selenium WebDriver

- Programar automatizaciones y tests
- Para cualquier navegador
- Lenguajes:
  - Java
  - Python
  - C#
  - Ruby
  - JS
  - Kotlin
- W3C Recommendation

Selenium Grid

- Ejecutar scrips WebDriver en máquinas remotas
- Permite ejecutar múltiples tests en paralelo
- Usar diferentes navegadores

Selenium WebDriver

- Descargar y añadir al PATH el webdriver correspondiente:
  - https://www.selenium.dev/selenium/docs/api/javascript/
  - Buscar aquí para versiones de Chrome recientes
- Instalar la dependencia:

  ```
  npm install selenium-webdriver
  ```
- Añadir test en la sección de scripts de package.json:

  ```
  "test": "npx mocha test/**/*.spec.js --timeout 60000"
  ```

DEMOS

Demo 1

```
const {Builder} = require('selenium-webdriver');

(async function helloSelenium() {
  let driver = await new Builder().forBrowser('chrome').build();

  await driver.get('https://selenium.dev');

  await driver.quit();
})();
```

Demo 2

```javascript
const {By, Builder} = require('selenium-webdriver');
const assert = require("assert");
(async function firstTest() {
  let driver;
    try {
    driver = await new Builder().forBrowser('chrome').build();
    await driver.get('https://www.selenium.dev/selenium/web/web-form.html');
    let title = await driver.getTitle();
    assert.equal("Web form", title);
    await driver.manage().setTimeouts({implicit: 500});
    let textBox = await driver.findElement(By.name('my-text'));
    let submitButton = await driver.findElement(By.css('button'));
    await textBox.sendKeys('Selenium');
    await submitButton.click();
    let message = await driver.findElement(By.id('message'));
    let value = await message.getText();
    assert.equal("Received!", value);
  } catch (e) {     console.log(e)
  } finally {     await driver.quit();
  }}())
```

Ejemplos

- [Páginas para testear](#)
- Múltiples ejemplos [aquí](#)

```
$ npm test

> javascript-examples@1.0.0 test
> npx mocha test/**/*.spec.js --timeout 60000

[INFO] Searching for WebDriver executables installed on the current system...
[INFO] ... located chrome
[INFO] ... located MicrosoftEdge
[INFO] ... located firefox
[INFO] ... located internet explorer
[INFO] Running tests against [chrome, MicrosoftEdge, firefox, internet explorer]


  [chrome]
    Actions API - Pause and Release All Actions
      √ Pause (3206ms)
      √ Clear (188ms)


  [chrome]
    Keyboard Action - Keys test
      √ KeyDown (280ms)
      √ KeyUp (83ms)
      √ sendKeys (74ms)
      √ Designated Element (196ms)
      √ Copy and Paste (177ms)


  [firefox]
    Keyboard Action - Keys test
      √ KeyDown (307ms)
      √ KeyUp (268ms)
      √ sendKeys (242ms)
      √ Designated Element (370ms)
      √ Copy and Paste (171ms)
```

Referencias

- [Selenium](#)

- [Github](#)

- [Selenium-webdriver](#)