Test Automation Foundations

Selenium WebDriver

SoftUni Foundation

QA
Fundamentals

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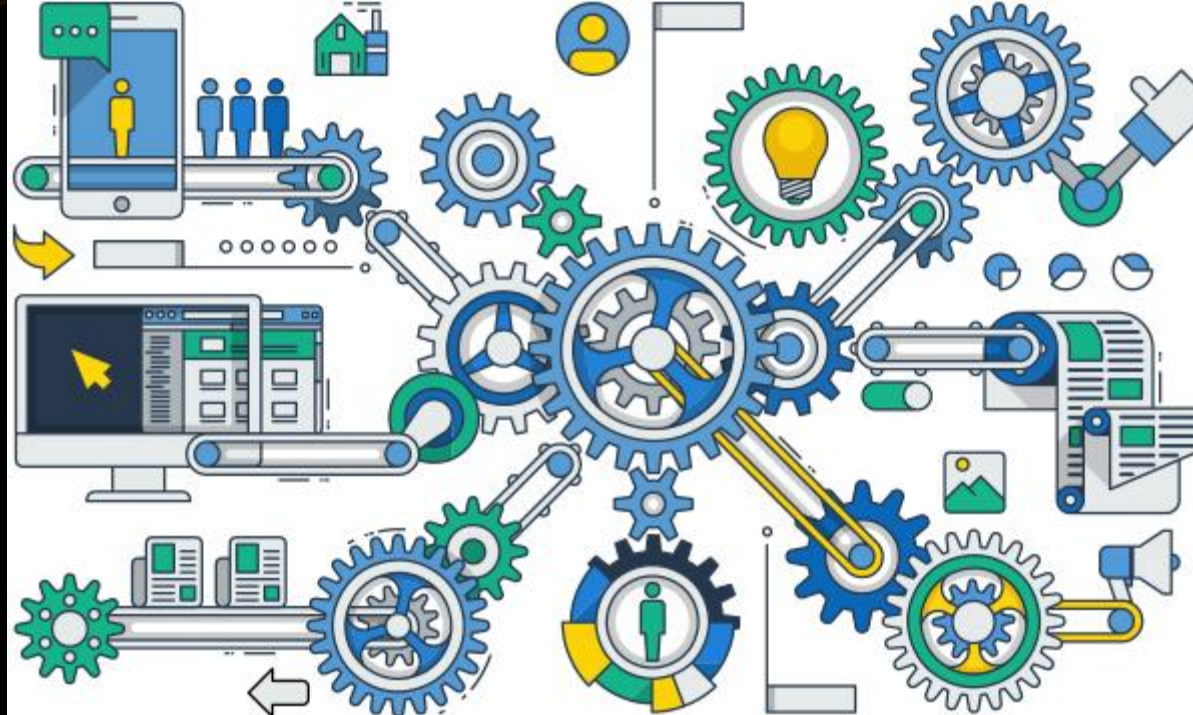
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Selenium

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   ▪ Select Elements

   ▪ Send Keys

   ▪ Assertions

Automation

What is Test Automation?

- Executing repetitive but necessary tasks
  - Login, registration, etc…
- Comparing the actual and expected outcomes
  - Checking visual result
  - Checking api responses
- Adding a test to difficult to perform manual actions
  - Big scenario e.g. login the user, then add some products to cart, then check database, then checkout the cart, etc…

What Is Selenium Automation Good For ?

- Selenium can be used for automating:

  - Acceptance / Functional testing

  - Reproducing bugs

  - Regression testing
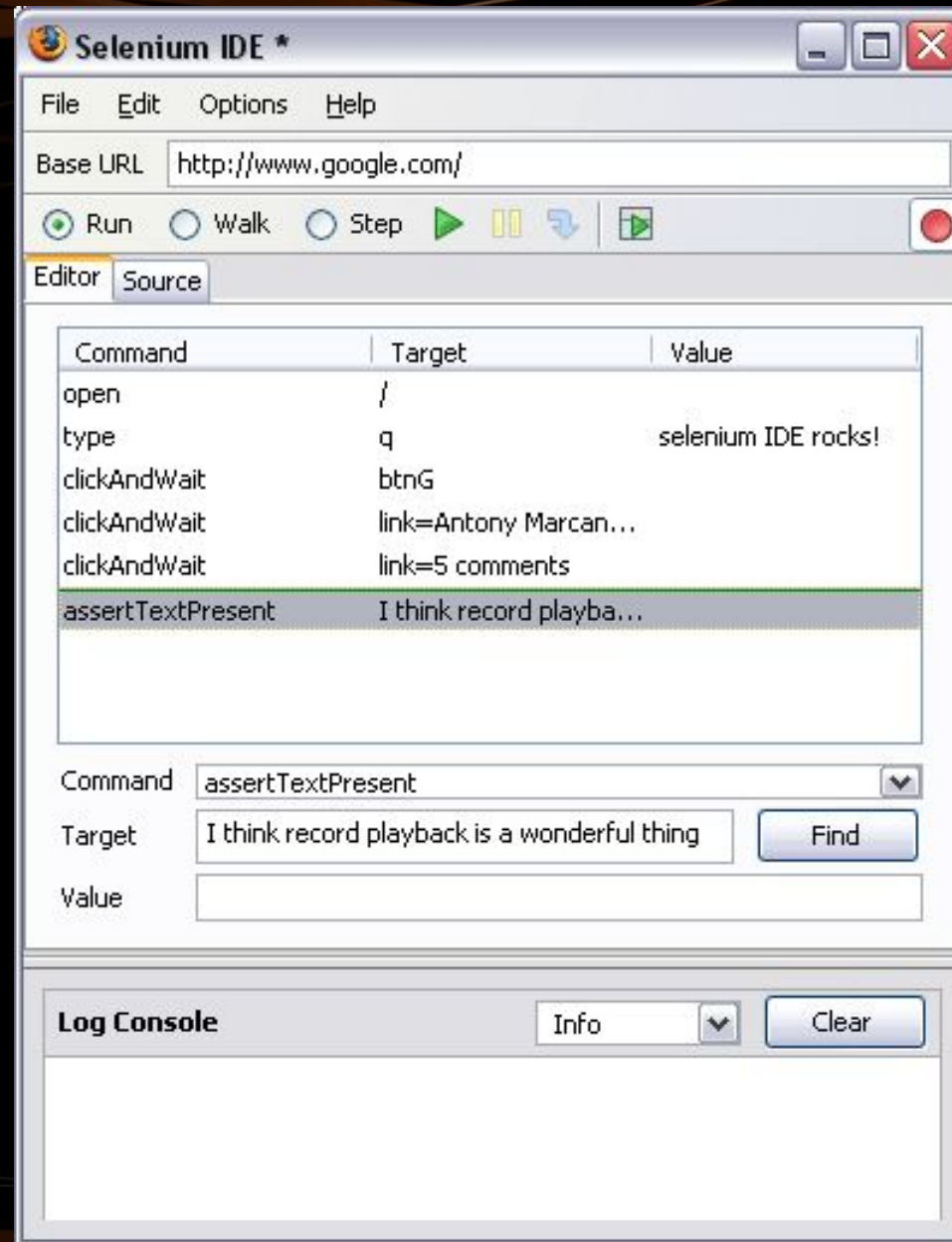
  - Smoke-testing

  - Etc.

Selenium

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Introduction to Selenium?

- Framework and a tool for web automation
- Consists of two components
  - Selenium IDE – record/playback tool for Firefox
  - Selenese – A domain-specific language
  - Selenium WebDriver – API For most of the popular languages
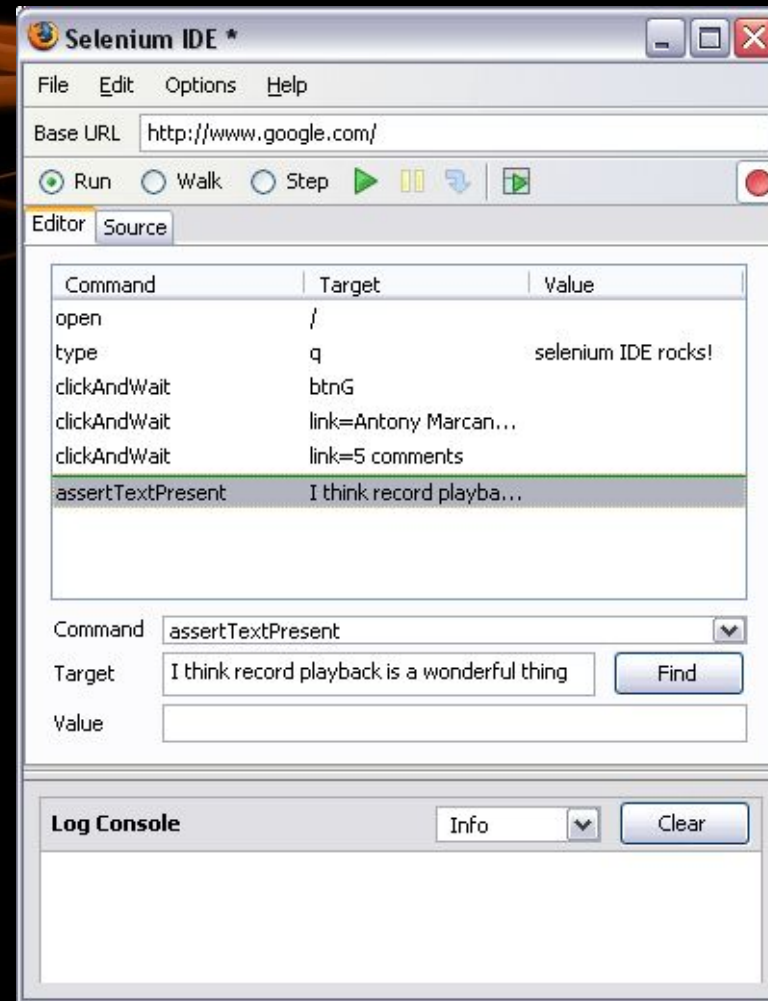
Selenium IDE

Selenium IDE (2)

- Recording actions

- Using selectors/xpath for interaction

- Has basic own api for various actions (click, wait, select, etc..)

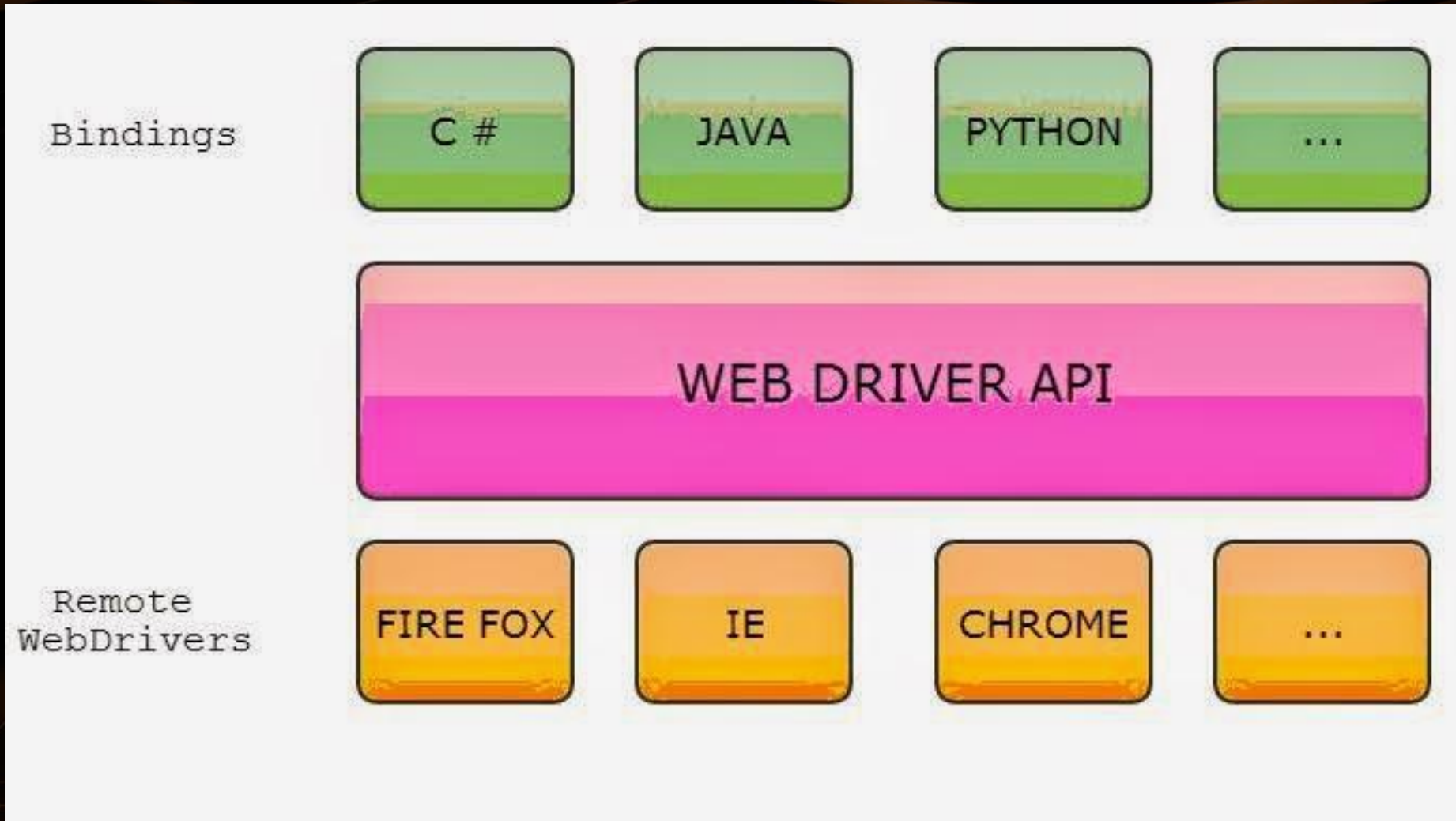| Command	Target
open	/
type	q
clickAndWait	btnG
clickAndWait	link=Antony Marcan
clickAndWait	link=5 comments
assertTextPresent	I think record playba...

Selenium IDE - Live Demo

Selenium WebDriver

- Library for automating scripts in various languages (Java, C#, Ruby, Python, PHP…)

- Uses unit testing engine for a lot of the core actions

- Has API for all web-browser actions a user can do

Flexibility Of Selenium Web Driver

Selenium WebDriver API

Selenium WebDriver API (2)

- Maven dependencies

```xml
<dependency>
     <groupId>org.seleniumhq.selenium</groupId>
     <artifactId>selenium-java</artifactId>
     <version>2.45.0</version>
</dependency>
```

Selenium WebDriver API (3)

- Setup a test class

```
public class MyTest {
    private WebDriver driver;
    private String baseUrl;
    private boolean acceptNextAlert = true;
    private StringBuffer verificationErrors = new StringBuffer();
}
```

Selenium WebDriver API (4)

- Setup an initializer

```
@Before
public void setUp() throws Exception {
    this.driver = new FirefoxDriver();
    this.baseUrl = "http://application.to.test.com";
    this.driver
    .manage().timeouts().implicitlyWait(30, TimeUnit.SECONDS);
}
```

Selenium WebDriver API (5)

- Click on an element
  - Find the element – findElement()
  - Use a certain selector – The "By" class
  - Perform an action – click()

```
this.driver
    .findElement(By.id("submit-btn")).click();
```

Different Selector Types

- You can locate elements in your page by:

  - ID

  - Class Name

  - Link Text

  - Name

  - Tag Name

  - CSS Selector

  - XPath

Selenium WebDriver - Live Demo

Summary

- Test automation theory

- Selenium IDE – record, play, export case

- Selenium WebDriver – using Java Library with Maven and JUnit to automate a simple scenario

- The `findElement()` method

- The `By` static class

- Selector methods

Introduction To Test Automation

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