



Basic Setup

Install Selenium 4

```
npm install selenium-webdriver cmd
```

Setup Browser Driver

```
require('chromedriver'); .js
```

Import selenium Webdriver

```
Const{Builder, By, Key, until} =  
require('selenium-webdriver'); .js
```

Creating Webdriver Instance

```
let const driver = new  
Builder().forBrowser('chrome').build(); .js
```

Basic Operations

Navigating to a URL

```
await  
driver.get('http://www.example.com'); .js
```

Searching for Element

```
await  
driver.get('http://www.example.com'); .js
```

Sending Keys

```
await element  
.sendKeys('selenium', key.RETURN); .js
```

Wait for Elements

```
let el = await driver  
.wait(until  
.elementLocated(By.name('q'))  
, 10000); .js
```

Cookies

Getting Cookies

```
let cookies = await  
driver.manager().getCookies();  
console.log(cookies); .js
```

Adding Cookies

```
await  
driver.manage.addCookies({name: 'key',  
value: 'value'}); .js
```

Deleting Cookies

```
await  
driver.manage().deleteCookie('key'); .js
```

Deleting All Cookies

```
await  
driver.manage().deleteAllCookies(); .js
```

Element Interactions

Clicking an Element

```
await  
driver.findElement(By.id('submit'))  
.click(); .js
```

Getting Attribute values

```
let attributeValue = await  
driver.findElement(By.id('id'))  
.getAttribute('attributeName'); .js
```

Working with dropdowns

```
let selectElement = await  
driver.findElement(By.id('dropdown'));  
  
let selectObject = new  
select(selectElement);  
  
await selectObject  
.selectByVisibleText('option text'); .js
```

Drag & Drop

```
Actions action = new Actions(driver);  
action.dragAndDrop(  
SourceLocator, DestinationLocator)  
.build().perform(); .js
```

Advanced Interactions

Execute Javascript

```
await  
driver.executeScript('window.scrollTo(0,  
document.body.scrollHeight)'); .js
```

Taking Screenshots

```
let encodedString = await  
driver.takeScreenshot();  
  
require('fs').writeFileSync(  
'screenshot.png', encodedString,  
'base64'); .js
```

Switching between Windows

```
let windows = await  
driver.getAllWindowHandles();  
  
await  
driver.switchTo().window(windows[1]); .js
```

Handling Alerts

```
await  
driver.switchTo().alert().accept(); .js
```

Testing & Assertions

Page Title Assertion

```
let title = await driver.getTitle();  
assert.equal(title, 'Expected Page  
Title'); .js
```

Element Visibility

```
let displayed = await  
driver.findElement(By.css('selector'))  
.isDisplayed();  
  
assert.isTrue(displayed); .js
```

Text Content Assertion

```
let text = await driver  
.findElement(By.xpath('//element'))  
.getText();  
  
assert.equal(text, 'Expected text'); .js
```

Existence of an Element

```
let exists = await  
driver.findElements(By.css('selector'))  
.then(elements => elements.length >  
0);  
  
assert.isTrue(exists); .js
```



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