

Selenium 4

Relative Locators

Selenium 4 Video Playlist

https://www.youtube.com/playlist?list=PLfp-cJ6BH8u_4AMzeLVizVfq4SCywSTJ

Selenium 4 provides 5 Relative Locators to find an element or elements located above(), below(), near(), toLeftOf(), and toRightOf() another element.

In this session, we will use TestProject's website. It's a free E2E test automation platform for web, mobile, and API. If you are interested in more videos, you can subscribe to my YouTube channel and click the bell icon. Also connect with me on LinkedIn, Facebook, and follow me on Twitter. Lately, I have been slow creating my transcripts but I will make sure to place them on GitHub.

Okay, let's go ahead and get straight to the point. Relative Locators were formerly called Friendly Locators. The TestNG Configuration methods BeforeMethod and AfterMethod are pre-written. BeforeMethod will set up our test and AfterMethod will tear down our test.

```
WebDriver driver;  
  
@BeforeMethod  
public void setUp () {  
    WebDriverManager.chromedriver().setup();  
    driver = new ChromeDriver();  
    driver.manage().timeouts().implicitlyWait(time: 5, TimeUnit.SECONDS);  
    driver.manage().window().maximize();  
}
```

```
@AfterMethod  
public void tearDown () {  
    driver.quit();  
}
```

Our Test Script is testRelativeLocator_Below. It will find the Sign In button then click the Forgot Password link below the Sign In button.

Let's inspect the Sign In button and we see the value for id is tp-sign-in. Inspect the Forgot Password link and we see the value for the Tag Name is 'a' is the tagName. 'a' is for hyperlink. That's all we need to click the Forgot Password link.

There are 2 ways to write a Relative Locator. We start by writing `driver.findElement(RelativeLocator.withTagName())` and the other way is to bypass writing `RelativeLocator` and to start by using `withTagName`. Import.

```
@Test
public void testRelativeLocator_Below () {
    driver.get("https://app.testproject.io/");
    driver.findElement(RelativeLocator.withTagName())
}
```

```
@Test
public void testRelativeLocator_Below () {
    driver.get("https://app.testproject.io/");
    driver.findElement(withTagName())
}
```

However, there's a difference with the import statements. To use `withTagName` without writing `Relative Locator`, we import the package with `static`. If you want to use the other way with `Relative Locator.withTagName`. It's the other package without `static`. By default, Eclipse does not import the `static` package.

The `tagName` for `Forgot Password` is "a" so we enter "a" dot. Here's a list of our `Relative Locators`. I want you to notice something. Each `Relative Locator` is overloaded with more than 1 option: `above` has a `By locator` parameter and a `WebElement element` parameter, the same with `below`: `By locator`, `WebElement element`, `near` is the only locator with 4 options (`By locator`, `WebElement element`, `By locator`, `int atMostDistanceInPixels`, and `WebElement element`), `toLeftOf` has a (`By locator` and `WebElement element`), the same with `toRightOf` (`By locator` and `WebElement element`).

```
m above(By locator)
m above(WebElement element)
Ctrl+Down and Ctrl+Up will move caret down and up in the editor Next Tip
```

```
m below(By locator)
m below(WebElement element)
Ctrl+Down and Ctrl+Up will move caret down and up in the editor Next Tip
```

```
m near(By locator)
m near(WebElement element)
m near(By locator, int atMostDistanceInPixels)
m near(WebElement element, int atMostDistanceInPixels)
Ctrl+Down and Ctrl+Up will move caret down and up in the editor Next Tip
```

```
m toLeftOf(By locator)
m toLeftOf(WebElement element)
m toRightOf(By locator)
m toRightOf(WebElement element)
```

Right now, we are trying to find the `Forgot Password` link which has a `tagName` of "a" and located below the `Sign In` button so we select `below` with a `By locator` parameter. We write the locator for the `Sign In` button: `By.id("tp-sign-in")`). Now, we can also do 1 more thing after entering the value for `id`. When it comes to a link `Forgot Password`, next is to click the `Password` link. If you wanted to, you can also use `WebElement` by writing `WebElement signInButton = driver.findElement(By.id("tp-sign-in"))`. Next, we pass in `signInButton`. Either way is okay. Now we have the `Forgot Password` link and we are clicking the `Password` link. Next, let's go ahead and see if we actually land on the next page. Go back to the `AUT` and click the `Forgot Password` link and to verify we landed on the `Forgot Password`. We are going to inspect

Reset Password and it has an id value of tp-title. If we wanted to, we can also use an assert statement but I want to make sure a statement is printed to the Console. Relative Locators can be good for dynamic elements. Dynamic elements are elements like tp-title that changes every time but in this case the value is not dynamic. If the value changes but the tagName remains the same then that's a good reason to use Relative Locator.

```
Write String title = driver.findElement(By.id("tp-title")).getText();
sysout("Title: " + title)
```

```
@Test
public void testRelativeLocator_Below () {
    driver.get("https://app.testproject.io/");
    WebElement signInButton = driver.findElement(By.id("tp-sign-in"));

    driver.findElement(withTagName("a").below(signInButton)).click();
    String title = driver.findElement(By.id("tp-title")).getText();
    System.out.println("Title: " + title);
}
```

Let's Run. Bingo Title = Reset Password.

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