1. By **ID**:

|  |  |
| --- | --- |
| 1 | in Java: driver.findElement(By.id("element id")) |

2. By **CLASS**:

|  |  |
| --- | --- |
| 1 | in Java: driver.findElement(By.className("element class")) |

3. By **NAME**:

|  |  |
| --- | --- |
| 1 | in Java: driver.findElement(By.name("element name")) |

4. By **TAGNAME**:

|  |  |
| --- | --- |
| 1 | in Java: driver.findElement(By.tagName("element html tag name")) |

5. By **CSS Selector**:

|  |  |
| --- | --- |
| 1 | in Java: driver.findElement(By.cssSelector("css selector")) |

6. By **Link**:

|  |  |
| --- | --- |
| 1 | in Java: driver.findElement(By.link("link text")) |

7. By **XPath**:

|  |  |
| --- | --- |
| 1 | in Java: driver.findElement(By.xpath("xpath expression")) |

Let’s get a HTML snippet code and see how can we use these Selenium WebDriver selectors in order to identify the desired elements:

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11 | </pre>  <div class="thumbnail center well well-small text-center">  <h2>Newsletter</h2>  Subscribe to our weekly Newsletter and stay tuned.  <form action="" method="post" name="subscribe"><label for="name">Name: </label>   <input class="name" id="name" type="text" placeholder="Enter name..." />   <label for="email">Email: </label> <input class="email" id="email" type="text" placeholder="your@email.com" />   <input class="btn btn-large" type="submit" value="Subscribe" /></form>   <a title="first link" href="#link1">First Link</a>   <a title="second link" href="#link2">Second Link</a></div>  <pre> |

Let’s get some WebElements from the above HTML code snippet:

|  |  |
| --- | --- |
| 1 | WebElement nameInputField = driver.findElement(By.id("name")); |

or

|  |  |
| --- | --- |
| 1 | WebElement nameInputField = driver.findElement(By.className("name")); |

or

|  |  |
| --- | --- |
| 1 | WebElement emailInputField = driver.findElement(By.id("email")); |

Locate link elements with findElements() method from the HTML snipped

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8 | @Test  public void findLinksTest(){     //Get all the links displayed     List links = driver.findElements(By.tagName("a"));     assertEquals(2, links.size());     for(WebElement link : links)     System.out.print(link.getAttribute("href"));  } |

**Locate link elements from the HTML snipped:**

How to find a link with Selenium WebDriver API by full text:

|  |  |
| --- | --- |
| 1  2 | WebElement firstLink = driver.findElement(By.linkText("First Link"));  assertEquals("#link1", firstLink.getAttribute("href")) |

**How to find a link with Selenium WebDriver API by partial text:**

|  |  |
| --- | --- |
| 1  2 | WebElement firstLink = driver.findElement(By.partialLinkText("First"));  assertEquals("#link1", firstLink.getAttribute("href")) |

**Locate elements by HTML Tag Name:**

|  |  |
| --- | --- |
| 1 | WebElement subscribeButton = driver.findElement(By.tagName("button")); |

**Locate elements by CSS Selectors**

|  |  |
| --- | --- |
| 1  2 | WebElement emailInputField =             driver.findElement(By.cssSelector("form input#email")); |

or

|  |  |
| --- | --- |
| 1  2 | WebElement emailInputField =             driver.findElement(By.cssSelector("input.email")); |

or

|  |  |
| --- | --- |
| 1  2 | WebElement emailInputField =             driver.findElement(By.cssSelector("input[type='submit'][value='Subscribe']")); |

**Performing partial match on attribute values**

|  |  |
| --- | --- |
| 1 | ^= as in input[id^='email'] means Starting with. |

|  |  |
| --- | --- |
| 1 | $= as in input[id$='\_name'] means Ending with. |

|  |  |
| --- | --- |
| 1 | \*= as in Input[id\*='userName'] means Containing. |

**Finding elements with XPATH**

* **Absolute path**

|  |  |
| --- | --- |
| 1  2 | WebElement userName =             driver.findElement(By.xpath("html/body/div/form/input")); |

* **Relative path**

|  |  |
| --- | --- |
| 1 | WebElement email = driver.findElement(By.xpath("//input")); |

**Finding elements using index**

|  |  |
| --- | --- |
| 1  2 | WebElement email =             driver.findElement(By.xpath("//input[3]")); |

**Finding elements using attributes values with XPath**

|  |  |
| --- | --- |
| 1  2 | WebElement logo =             driver.findElement(By.xpath("img[@alt='logo']")); |

**XPATH**

|  |  |
| --- | --- |
| 1  2  3 | starts-with()    input[starts-with(@id,'input')] |

**Starting with:**

|  |  |
| --- | --- |
| 1  2  3 | ends-with()    input[ends-with(@id,'\_field')] |

**Ending with:**

|  |  |
| --- | --- |
| 1  2  3 | contains()    input[contains(@id,'field')] |

Containing

**Locating table rows and cells**

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17 | @Test  public void testTable() {     WebElement simpleTable = driver.findElement(By.id("items"));       //Get all rows     List rows = simpleTable.findElements(By.tagName("tr"));     assertEquals(3, rows.size());       //Print data from each row     for (WebElement row : rows) {        List cols = row.findElements(By.tagName("td"));        for (WebElement col : cols) {           System.out.print(col.getText() + "\t");        }     System.out.print();     }  } |

**Using jQuery selectors**

Locate all the Checkbox which are checked by calling jQuery find() method.  
find() method returns elements in array

|  |  |
| --- | --- |
| 1  2 | List elements =          (List) js.executeScript("return jQuery.find(':checked')"); |