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| **WebDriver (java) | IWebDriver (C#)** | | |
| **driver = New ChromeDriver();**   * openqa.selenium.Chrome;*(JAVA)* * *OpenQA.Selenium.Chrome;(C#)*   **driver = New FirefoxDriver();**   * openqa.selenium.Firefox; *(JAVA)* * *OpenQA.Selenium.Firefox;(C#)*   **driver = New InternetExploreDriver();**   * openqa.selenium.Ie; *(JAVA)* * *OpenQA.Selenium.ie;(C#)* | driver.get(String) | **Not Available** |
| driver.close() | driver.Close() |
| driver.quite() | driver.Quite() |
| driver.getCurrentUrl() | driver.Url { get, set } |
| driver.getTitle() | driver.Title { get } |
| driver.getPageSource() | driver.PageSource { get } |
| driver.getWindowHandle() | driver.CurrentWindowHandle; { get } |
| driver.getWindowHandles() | driver.WindowHandles; { get } |
| driver.findElement(By) | driver.FindElement(By) |
| driver.findelements(By) | driver.Findelements(By) |
| driver.manage() | driver.Manage() |
| driver.navigate() | driver.Navigate() |
| driver.switchTo() | driver.SwitchTo() |

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| **Navigate (Java) | INavigate (c#)** | | |
| **Java**  navigate = driver.navigate();   * openqa.selenium.WebDriver.Navigation;   **C#**  Navigate = driver.Navigate();   * OpenQA.Selenium.IWebDriver.INavigation; | navigate.to(String) | Navigate GoToUrl(String) |
| navigate.to(URL) | Navigate GoToUrl(URI) |
| navigate.back(); | Navigate Back(); |
| navigate.forward(); | Navigate Forward(); |
| navigate.refresh(); | Navigate Refresh(); |

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| **Options (Java) | IOptions (C#)** | | |
| **Java**  manage = driver.manage();   * openqa.selenium.WebDriver.Manage;   **C#**  manage = driver.Manage();   * OpenQA.Selenium.IWebDriver.IManage; | manage.getCookieNamed(String) | manage.Cookies.GetCookieNamed(String) |
| manage.getCookies() | manage.Cookies.AllCookies { get } |
| manage.addCookie(Cookie) | manage.Cookies.AddCookie(Cookie) |
| manage.deleteCookie(Cookie) | manage.Cookies.DeleteCookie(Cookie) |
| manage.deleteAllCookies() | manage.Cookies.DeleteAllCookies() |
| manage.deleteCookieNamed(String) | manage.Cookies.DeleteCookieNamed(String) |
| manage.timeout() | manage.TimeOut() |
| manage.window() | manage.Window { get } |
| manage.ime() | **Not Available** |
| manage.log() | manage.Log { get } |

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| **TargetLocator (Java) | ITagetLocator (C#)** | | |
| **Java**  switchTo = driver.switchTo();   * openqa.selenium.WebDriver.SwitchTo;   **C#**  switchTo = driver.SwitchTo();   * OpenQA.Selenium.IWebDriver.ISwitchTo; | switchTo.activeElement() | switchTo.ActiveElement() |
| switchTo.alert() | switchTo.Alert() |
| switchTo.frame(int) | switchTo.Frame(int) |
| switchTo.frame(String) | switchTo.Frame(String) |
| switchTo.frame(WebElement) | switchTo.Frame(WebElement) |
| switchTo.window(String) | switchTo.Window(String) |
|  | switchTo.parentFrame() |

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| **WebElement (Java) | IWebElement (C#)** | | |
| **Java**  webElement = driver.findElement(By);   * openqa.selenium.WebElement;   **C#**  webElement = driver.FindELement (By);   * OpenQA.Selenium.IWebElement; | webElement.clear(); | webElement.Clear(); |
| webElement.click(); | webElement.Click(); |
| webElement.sendkeys(charSequence) | webElement.Sendkeys(String) |
| webElement.submit() | webElement.Submit() |
| webElement.getText() | webElement.Text { get } |
| webElement.getAttribute() | webElement.GetAttribute() |
| webElement.getCssValue() | webElement.GetCssValue() |
| webElement.getLocation() | webElement.Location { get } |
| webElement.getTagName() | webElement.TagName { get } |
| webElement.getSize() | webElement.Size() { get } |
| webElement.getRect() | **Not Available** |
| webElement.getScreenshotAs(OutputType<x>) | **Not Available** |
| webElement.isDisplayed() | webElement.Displayed { get } |
| webElement.isEnabled() | webElement.Enabled { get } |
| webElement.isSelected() | webElement.Selected { get } |
| webElement.findElement(By) | webElement.FindElement(By) |
| webElement.findElements(By) | webElement.FndElements(By) |
| --- | webElement.GetProperty(String) |

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| **Timeouts (Java) | ITimeouts (C#)** | | |
| **Java**  timeouts = driver.manage().timeouts();   * openqa.selenium.WebDriver.Timeouts;   **C#**  timeouts = driver.manage().timeouts();   * OpenQA.Selenium.IWebDriver.ITimeouts; | timeouts.implicityWait(long, TimeUnit) | timeouts.ImplicityWait {get,set} |
| timeouts.pageLoadTimeout(long, TimeUnit) | timeouts.PageLoad {get,Set} |
| timeouts.setScriptTimeout(long, TimeUnit) | **Not Available** |
| **Not Available** | timeouts.Asynchronous JavaScript |

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| **Window (Java) | IWindow (C#)** | | |
| **Java**  window = driver.manage().window();   * openqa.selenium.WebDriver.Window;   **C#**  window = driver.manage().window();   * OpenQA.Selenium.IWebDriver.IWindow; | window.Timeouts.fullscreen() | window.Fullscreen() |
| window.getPosition() | window.Position {get, set} |
| window.setPosition() |
| window.getSize() | window.Size {get, set} |
| window.setSize() |
| window.maximize() | window.Maximize() |
| **Not Available** | window.Minimize() |

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| **Alert (Java) | IAlert (C#)** | | |
| **Java**  alert = driver.manage().alert();   * openqa.selenium.WebDriver.Alert;   **C#**  alert = driver.manage().timeouts();   * OpenQA.Selenium.IWebDriver.IAlert; | alert.accpet(); | alert.Accpet(); | |
| alert.dismiss(); | alert.Dismiss(); | |
| alert.getText(); | alert.Text; - {get} | |
| alert.sendKeys(String); | alert.SendKeys(String); | |
| **Not Available** | alert.SetAuthenticationCredentials(String, String) | |

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| **Point (Java) | IPoint (C#)** | | |
| **Java**  point = driver.findElement(By).getlocation();   * openqa.selenium.WebDriver.Point;   **C#**  point = driver.findElement(By).getlocation();   * OpenQA.Selenium.IWebDriver.Point; | point.getx() | point..X {get,set} |
| point.gety() | point.Y {get,Set} |
| point.move(int, int) | **Not Available** |
| point.moveBy(int, int) | **Not Available** |
| **Not Available** | point.isEmpty{get}  :::: |

| **Action (Java) | IAction (C#)** | | |
| --- | --- | --- |
| **Java**  Actions action = new Actions(driver)   * openqa.selenium.Interactions.Actions;   **C#**  Actions action = new Actions(driver)   * OpenQA.Selenium.Interactions.Actions; | action.click() | action.Click() |
| action.click(webElement) | action.Click(WebElement) |
| action.clickAndHold() | action.ClickAndHold() |
| action.clickAndHold(WebElement) | action.ClickAndHold(WebElement) |
| action.contextClick() | action.ContextClick() |
| action.contextClick(WebElement) | action.ContextClick(WebElement) |
| action.doubleClick() | action.DoubleClick() |
| action.doubleClick(WebElement) | action.DoubleClick(WebElement) |
| action.dragAndDrop(WebElement,WebElement) | action.DragAndDrop(WebElement,WebElement) |
| action.dragAndDrop(WebElement,int,int) | action.DragAndDropToOffset(WebElement,int,int) |
| action.keyDown(Charsequnces) | action.KeyDown(String) |
| action.keyDown(webElement, charsequnces) | action.KeyDown(webElement, String) |
| action.keyUp(charSequence) | action.KeyUp(String) |
| action.keyUp(WebElement, charSequunces) | action.KeyUp(WebElement, String) |
| action.moveByOffset(int, int) | action.MoveByOffset(int, int) |
| action.moveToElement(WebElement) | action.MoveToElement(WebElement) |
| action.moveToElement(WebElement,int,int) | action.MoveToElement(WebElement,int,int) |
| action.pause(duration) | **Not Available** |
| action.pause(long) | **Not Available** |
| action.perform() | action.Perform() |
| action.release() | action.Release() |
| action.release(WebElement) | action.Release(WebElement) |
| action.sendkeys(charSequence) | action.Sendkeys(String) |
| action.sendkeys(WebElement,charSequence) | action.Sendkeys(WebElement,charSequence) |
| action.tick(action) | **Not Available** |
| action.tick(interaction) | **Not Available** |

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| **TargetLocator / DIMENSION** | |
| TargetLocator | driver.switchTo().frame |
| TargetLocator | driver.switchTo().Window |
| TargetLocator | driver.switchTo().activeElement |
| DIMENSION | driver.findElement(By).getSize |

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| **Selenium - Java / C# Version** | | |
| Above details originated from given Selenium version | Selenium Java – 3.141.59 | Selenium C# - 3.141.0 |

| **Selenium Release Notes: (2.53 TO 3.141)** |
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| 1. **V2.53 - Final Release in 2.XX**    1. NoSuchSessionException – Introduce – This exception will occur when try to access browser after browser.quit().    2. Fixs in Member leak    3. Updated Expected Condition    4. Firefox support only **v46 and below.** 2. **V 3.0.0 – B1 | B2 | B3 | B4 | Final**     1. Java 8+    2. RC API Separated (only available for leg-rc package)    3. Firefox support be removed from core legacy, need to use GeckoDriver for Firefox support from **v47.0.1 or earlier**    4. Firefox profile passed to both legacy FirefoxDriver and GeckoDriver.    5. MS -> IE Driver provide service for V9 (or) above.    6. MS -> Support for Edge via Edge Driver    7. Mac -> support for Safari via safari driver (as part of safari 10)    8. SessionNotFoundExecption is removed (Deprecated) favour of NoSuchSessionException    9. Stability fix in grid 3. **V 3.0.1**     1. Include ElementScrollBehaviour enum in the release.    2. Update in HtmlUnit (Dependency) / Grid (new session)    3. Firefox driver clean up for fie system. 4. **V 3.1.0**    1. Update Wait and fluent Wait for java 8, require to update guava-v21.0    2. Selenium server - introduce new ‘-version’ server.    3. WebElement.getText will return text from shadow DOM.    4. ChromeDriver support ‘new connection’ interface. 5. **V 3.3.0**    1. Support for GeckoDriver 0.15.0 6. **V 3.3.1**    1. Support for GeckoDriver 0.15.0 notably, exception returned from remote end unwrapped properly. 7. **V 3.4.0**    1. GeckoDriver 0.16.0 Strongly recommended.    2. Better support for W3C endpoints.    3. requriedCapabilities removed use desiredCapabilities instead. 8. **V 3.5.0**    1. New standalone server and grid node feature for “pass through” Mode.    2. Guava 21+ and lambda being used in expected condition.    3. Better handling for getText() for shadow DOM. 9. **V3.6.0**     1. Added Interactive interface to EventFiringDriver    2. Now Option Class extend ‘MutableCapabilities    3. Add option to start firefox and chrome in headless mode. 10. **V 3.7.0**     1. Minimise the disk space when starting new remote connection.     2. Safari driver        1. Moving some safari config option from safariOption to the safariDriverservice.     3. Better error message for htmlrunner.     4. Migrated from using ‘DesiredCapablities’ to either ‘mutableCapabilities’ or (perfectly) ‘immutableCapabilities’ 11. **V 3.141.59 (Latest – Dec-2018)**     1. Restored Remote Host support     2. Fix in help servlet.   **Calculation :**  Version 3 release mostly covered.   * + - The changes in geckoDriver / SafariDriver support.     - Java 8 / Guava /Shadow Dom / W3C compatibilities     - Selenium Standalone server / Grid Issue Fixes |

| **Version Details for drivers, Test Framework , BDD Framework (As of Dec’18)** | | | | |
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| **ChromeDriver Support**   |  |  | | --- | --- | | **Chrome Driver** | **Chrome Browser** | | V 2.45 | V70 - V72 | | V 2.44 | V69 – V71 | | V 2.23 | V69 – V71 | | V 2.42 | V68 – V70 | | V 2.41 | V67 – V69 | | V 2.40 | V66 – V68 | | V 2.39 | V66 – V68 | | V 2.38 | V65 – V67 | | V 2.37 | V64 – V66 | | V 2.36 | V63 – V65 | | V 2.35 | V62 – V64 | | V 2.34 | V61 – V63 | | V 2.33 | V60 – V62 | | V 2.32 | V61 – V62+ | | V 2.31 | V 58+ | | V 2.30 | V58 – V60 | | V 2.29 | V 57+ | | V 2.28 | V 57+ | | V 2.25 | V 54+ | | V 2.21 | V 51+ | | V2.19 | V 44+ | | V2.15 | V 42+ | | **FirefoxDriver Support**   |  |  |  | | --- | --- | --- | | **Gecko Driver** | **Firefox Browser** | **Selenium** | | V 0.23.0 | V 57+ | 3.11 or earlier | | V 0.22.0 | V 57+ | | V 0.21.0 | V 57+ | | V 0.20.1 | V 55+ | 3.5 or earlier | | V 0.20.0 | V 55+ | | V 0.19.1 | V 55+ | | V 0.19.0 | V 55+ | | V 0.19.0 | V 53+ | 3.4 or earlier | | V 0.17.0 | V 52+ | | Selenium 2.53 support – Firefox V46 | | | | | | **IEDriver Support**   |  |  | | --- | --- | | **IE Driver** | **IE Browser** | | V 3.6.0 + | IE 7,8,9,10, 11 | | Selenium not support with IE 6 | | |
| **Safari Driver Support**   |  |  | | --- | --- | | **Safari Driver** | **Safari Browser** | | Safari driver installed by default when install safari | Safari 10+ | | Selenium V 2.48 Support- Safari 7,8,9 | | |
| **JUnit**   |  | | --- | | **Junit** | | [V 5](https://junit.org/junit5/docs/current/user-guide/) (5.3.2 –Nov’18 to 5.0 – Jul’16) | | V4 (4.12 – Dec 2014 to 4.0 – Feb’2006 ) | | V3 – (3.8 – May 2007 to 3.0 ) | |
| **EdgeDriver Support**   |  |  | | --- | --- | | **Edge Driver** | **Edge Browser** | | V 6.17134 | V 17.17134 | | V 5.16299 | V 16.16299 | | V 4.15063 | V 15.15063 | | V 3.14393 | V 14.14393 | | V 2.10586 | V 13.10586 | | V 1.10240 | V 12.10240 | | | |
| **TestNG**   |  | | --- | | [**TestNG**](https://mvnrepository.com/artifact/org.testng/testng) | | V 7 (7.0 Beta – Sep 18) | | V 6 ( 6.14.3 – Apr 2018 TO 6.0 –Mar-2011) – 6.9 | | V5 (5.14.10 – Feb 2010 TO 5.0 Jul-2010) | | V4 (4.7 – Jul 2010 TO 4.4 – Jul 2010) | |
| **C # - .Net – Visual studio Version**   |  |  |  | | --- | --- | --- | | **C#** | **.Net Framework** | **Visual Studio** | | V 1.0 | .Net 1.0/1.1 | V 2002 | | V 2.0 | .Net 2.0 | V 2005 | | V 3.0 | .Net 3.0/3.5 | V 2008 | | V4.0 | .Net 4.0 | V 2010 | | V 5.0 | .Net 4.5 | V 2012 /V 2013 | | V 6.0 | .Net 4.6 | V 2013 /V 2015 | | V 7.0 | .Net Core | V 2017 | | | **Specflow – TechTalk Specflow Team**   |  |  | | --- | --- | | **Visual Studio** | **Specflow** | | V 2010 | 1.9.2 | | V 2012 | 1.9.2 | | V 2013 | 2.7 | | V 2015 | 2.7 | | V 2017 | 2.7 | | | [**Nunit**](https://www.nuget.org/packages/NUnit/3.10.0)   |  |  | | --- | --- | | **Nunit** | **Support** | | V 3.11.0 | .Net 2.0+ & .Net Core & .Net Std 1.6+ | NuGet 2.12 + | | V 3.10.0/ V 2.10.1 | .Net 2.0+ & .Net Core & .Net Std 1.6+ | NuGet 2.12 + | | V 3.9.0 to V 3.0.0 | Window 8 | .Net 2.0+ & .Net Core | | V 2.6.7 to V 2.6.1 | .Net 2.0+ | |
| **Rest Assured**   |  |  | | --- | --- | | **Version** | **Details** | | V3 .2 | V3.2.0 - Oct 2018 | | V 3.1 | V3.1.1 - Aug 2018 | | V3.1.0 – Apr 2018 | | V3.0 | V3.0.7 – Feb 2018 | | V3.0.0 – Jun 2016 | | V2.0 | V2.9.0 – Mar 2016 | | V2.0.0 – Nov 2013 | | V 1.0 | V1.9.0 – Nov 2013 | | V 1.0.0 – Dec 2010 | | \*\*Developed by **’com.jayway.restassured’** till V2.9  \*\***’** Developed by **io.rest-assured’** from V3 | | | | | **Cucumber Java (io.cucumber)**   |  |  | | --- | --- | | **Version** | **Details** | | V4.x | V4.0.0 TO 4 .2.0 - Oct 2018 | | V3.X | V3.0.1 to 3.0.2 – May 2018 | | V2.X | V2.4.0 – Mar 2018 | | V2.0.0 – Aug 2017 | | |

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| **Migration from Junit 4 to Junit 5** |
| Annotations reside in the org.junit.jupiter.api package.Assertions reside in org.junit.jupiter.api.Assertions@Before and @After no longer exist; use @BeforeEach and @AfterEach instead.@BeforeClass and @AfterClass no longer exist; use @BeforeAll and @AfterAll instead.@Ignore no longer exists: use @Disabled or one of the other built-in execution conditions instead@Category no longer exists; use @Tag instead.@RunWith no longer exists; superseded by @ExtendWith.@Rule and @ClassRule no longer exist; superseded by @ExtendWith and @RegisterExtension |

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| **JUNIT 5** |
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