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## Selenium WebDriver Interview Questions

### Q1. What is a WebDriver in selenium?

**WebDriver in Selenium** is a web automation framework. It allows the developers to execute their tests against different browsers. With this, the developers can also use different programming languages like **Java**, **.net**, **PHP**, **Python**, **Perl**, and **Ruby** in creating the test scripts. Conditional operations like if-else, switch-case, and loop operations like do-while are possible with the WebDriver. The Selenium WebDriver is considered as one of the most important components in the Selenium Tool's suite.

### Q2. What are the components of selenium?

**There are four basic components present in the WebDriver architecture.**

1. Bindings
2. JSON Wire Protocol
3. Browser Drivers
4. Real Browsers

**Bindings** are used by the developers in order to support multiple languages.

**JSON Wire Protocol** is a transport mechanism to transfer the data between a server and a client.

**Browser Driver** is specific to each browser to establish a secure connection with the browser without revealing the internal logic of the browser's functionality.

**Real browsers** are the browsers supported by the Selenium. They are Mozilla Firefox, Safari, Internet Explorer, and Google Chrome.

### Q3. What are the limitations of Selenium WebDriver?

**Some of the limitations of the Selenium WebDriver are,**

- Only support for Web-Based applications
- Takes time to create test cases
- Difficult to set up a test environment
- No support for automation of windows application
- No built-in reporting facility

- Doesn't have test tool integration for test management
- Difficult to process popups or frames
- Doesn't have the ability to automate captcha and OTP

#### Q4. What is searchcontext in selenium?

The **SearchContext** is a topmost interface present in the Selenium WebDriver hierarchy. It has two methods that will be the abstract as SearchContext is an interface.

The two methods are the **findElement()** and **findElements()**.

The **findElement()** is used to find the first WebElement that matches the current context.

The **findElements()** method is used to find all elements within the current context. It returns all the elements that match or returns empty if nothing matches.

#### Q5. How to take input from user in selenium webdriver?

There are different **WebElements** present in the Selenium to get the **input from the user**. They are TextBoxes, Password fields, Checkboxes, Radio buttons, file inputs, Dropdowns, etc. Developers can use any of these WebElements depending upon their needs to get the input from the user.

#### Q6. List some Selenium commands in WebDriver?

List some of the WebDriver Selenium commands are,

- **get()** - It takes a URL as its parameter and launches a new browser as it opens the specified URL in the browser instance.
- **getClass()** - It is used to retrieve the Class object that represents the runtime class of this object.
- **getCurrentUrl()** - It is used to retrieve the URL of the webpage that is currently processed by the user.
- **getPageSource()** - It is used to retrieve the page source of the webpage that is currently accessed by the user.
- **getTitle()** - It is used to retrieve the title of the webpage that is currently used by the user.
- **getText()** - It is used to retrieve the inner text of the specified web element.
- **getAttribute()** - It is used to retrieve the value of the specified attribute.
- **getWindowHandle()** - It is used to tackle the situation when there is more than one window to deal with.

#### Q7. How to install selenium webdriver for python?

To install Selenium WebDriver for python,

You need to have python installed on your device. Then, you can use the **pip command** to **install** the Selenium as follows.

**pip install -U selenium**

### **Q8. How to check the selenium webdriver version?**

To check the **version of the selenium webdriver** installed, you can use the following command in the python shell.

```
selenium._version_
```

### **Q9. List types of WebDriver APIs available in Selenium?**

The **WebDriver API** gives a more simplistic and compact programming interface for the selenium.

They can be categorized into five types.

1. Domain
2. Synchronization
3. Navigation
4. Interrogation
5. Manipulation.

### **Q10. What are the advantages of selenium webdriver?**

Some of the advantages of using Selenium WebDriver are,

- Selenium WebDriver has support for all languages and framework
- It is an open-source tool. So it can be publicly accessible with no upfront cost
- The Selenium script is compatible with multiple browsers
- It also has support in the various OS such as Windows, Linux, Mac OS, Unix, etc
- The Selenium tests are reusable so it can be tested across different browsers and operating systems
- It offers great flexibility
- The Selenium automation framework is easy to use with a friendly interface

### **Q11. List some CSS selectors of selenium webdriver?**

Some of the mainly used CSS selectors are,

- Tag and ID

- Tag and Class
- Tag and Attribute
- Tag, Class, and Attribute
- Child elements such as Direct child, Sub-child, nth-child
- And, Sub-Strings that matches start with (^), ends with (\$) and contains (\*)

## Q12. List some alternatives of selenium webdriver?

**Some of the alternative tools to the Selenium WebDriver is,**

**UI.Vision Kantu** - An open-source task and test automation tool.

**Katalon Studio** - A robust API, web, and mobile test automation solutions with continuous integration.

**CasperJS** - A Javascript-based open-source navigation scripting and testing utility.

**Wildfire** - A custom automation workflow tool.

**TestCafe** - A Node JS end-to-end solution for testing web applications.

**Puppeteer** - A Node JS library that offers a high-level API to control headless Chrome.

**Cypress.io** - A front end automated testing tool created for the modern web.

**Robot framework** - A generic test automation framework.

## Q13. List different types of waits available in selenium WebDriver?

**There are three different types of waits available in Selenium.**

They are the Implicit wait, Explicit wait, and Fluent wait.

**The implicit wait** will wait for all the findElement() and findElements() once it has been defined. **The explicit wait** is defined for a particular web element and will wait for that single web element. **The fluent wait** is similar to the explicit wait but we can ignore the exception and define the polling time in it.

## Q14. List the programming languages supported by Selenium WebDriver?

**The programming languages** supported by the Selenium WebDriver are Java, Python, Ruby, C#, JavaScript, Perl, and PHP.

**Q15. List some exceptions that you had faced in the Selenium web driver?**

Some of the common Exceptions in the Selenium WebDriver are,

**ElementNotVisibleException** - Here, the element will not be visible even if it is present.

**ElementNotSelectableException** - Here, the element is disabled.

**NoSuchElementException** - Here, the WebDriver cannot determine the element during the runtime.

**NoSuchFrameException** - Here, the switching to an invalid frame by the WebDriver is unavailable.

**NoAlertPresentException** - Here, the switching to an invalid alert by the WebDriver is unavailable.

**NoSuchWindowException** - Here, the switching to an invalid window by the WebDriver is unavailable.

**WebDriverException** - Here, the WebDriver will be acting immediately after closing the browser.

**TimeoutException** - Here, the command will not be completed in the specified time.

**SessionNotFoundException** - It occurs when the session is not found in the Selenium WebDriver.

**StaleElementReferenceException** - Here, the referenced element is longer present on the DOM page.

**Q16. What do you understand by MSBI?**

**MSBI** stands for (**Microsoft Business Intelligence**). It is an ETL tool used for database operations. The MSBI in turn composed of different tools that help in providing the best solution for the Business Intelligence and the Data Mining Queries. The tools present in the MSBI are the **SSIS**, **SSAS**, and **SSRS**. The MSBI allows the user to gain access to accurate and up-to-date information for better decision making in the organization. It is a Business Intelligence (**BI**) solutions tool that uses Visual Studio with the SQL server.

**Q17. What is the full form of SSIS?**

The full form of the SSIS is **SQL Server Integration Services**.

**Q18. Enlist some core elements of SSIS Designer?**

Some of the important **components present** in the SSIS are the packages, control flow elements, data flow elements, connection managers, variables, event handlers, and log providers.

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