

# 30 Selenium Interview Questions Every QA Should Know

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These questions cover the most practical Selenium topics for UI automation interviews.

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## 1. What is Selenium?

Answer: Selenium is an open-source suite of tools used for automating web browsers. It supports multiple languages (Java, Python, C#, etc.) and provides browser compatibility across Chrome, Firefox, Safari, and more.

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## 2. What are the main components of Selenium?

Answer:

- Selenium WebDriver
  - Selenium IDE
  - Selenium Grid
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## 3. What is Selenium WebDriver?

Answer: WebDriver is the main automation component in Selenium. It provides APIs to control browser behavior and interact with elements.

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## 4. What browsers does Selenium support?

Answer: Chrome, Firefox, Edge, Safari, Opera, and headless browsers like HtmlUnitDriver.

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## **5. What's the difference between findElement() and findElements()?**

Answer:

- findElement() returns a single WebElement and throws an exception if not found.
  - findElements() returns a list of WebElements and returns an empty list if none are found.
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## **6. How do you handle dynamic web elements?**

Answer: Use stable locators like CSS selectors or XPath with contains, starts-with, or regular expressions. Avoid using changing attributes like timestamps or session IDs.

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## **7. What is the difference between XPath and CSS Selector?**

Answer:

- XPath can navigate both forward and backward in the DOM.
  - CSS selectors are generally faster and easier to read, but cannot traverse up the DOM.
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## **8. How do you handle waits in Selenium?**

Answer: Implicit Wait. Explicit Wait (WebDriverWait with ExpectedConditions). Fluent Wait. Use waits to handle elements that load asynchronously.

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## **9. What is the Page Object Model (POM)?**

Answer: A design pattern that helps organize code by separating page elements and logic into reusable classes. It improves maintainability and scalability.

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## **10. How do you take a screenshot in Selenium?**

Answer: Use TakesScreenshot interface and call getScreenshotAs() method.

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### **11. How do you handle dropdowns?**

Answer: Use the Select class and its methods like selectByVisibleText(), selectByValue(), and selectByIndex().

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### **12. How do you perform mouse and keyboard actions?**

Answer: Use the Actions class to handle mouse hovers, drag-and-drop, clicks, and keyboard keys.

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### **13. How do you switch between browser tabs?**

Answer: Use getWindowHandles() and switchTo().window(handle) to change tabs.

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### **14. How do you switch to a frame in Selenium?**

Answer: Use driver.switchTo().frame() with index, name, or WebElement.

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### **15. What are some common exceptions in Selenium?**

Answer:

- NoSuchElementException
  - TimeoutException
  - ElementNotInteractableException
  - StaleElementReferenceException
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## **16. How do you handle alerts?**

Answer: Use `driver.switchTo().alert()` and call `accept()`, `dismiss()`, or `getText()`.

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## **17. Can Selenium be used for testing mobile apps?**

Answer: Not directly. For mobile apps, use Appium, which extends Selenium for mobile automation.

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## **18. How do you run tests in parallel?**

Answer: Use Selenium Grid or integrate with TestNG/JUnit to run parallel test classes and methods.

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## **19. How do you scroll down a page in Selenium?**

Answer: Use `JavaScriptExecutor` to run `window.scrollTo()` or `element.scrollToIntoView()`.

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## **20. How do you upload a file in Selenium?**

Answer: Use `sendKeys()` to send the absolute file path to an `<input type="file">` element.

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## **21. What is a headless browser and how do you use it?**

Answer: A headless browser runs without a GUI. Configure `ChromeOptions` or `FirefoxOptions` to run in headless mode.

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## **22. How do you validate broken links?**

Answer: Get all link elements, extract href attributes, and use HTTP libraries (like `URLConnection`) to validate status codes.

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### **23. How do you assert values in Selenium?**

Answer: Use test frameworks like JUnit/TestNG with assertEquals(), assertTrue(), etc.

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### **24. How do you generate logs in Selenium tests?**

Answer: Use Java logging frameworks like Log4j or built-in loggers to print execution details.

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### **25. How do you retry failed tests?**

Answer: Implement retry logic in TestNG using IRetryAnalyzer, or configure test reruns in your CI tool.

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### **26. What is Selenium Grid?**

Answer: A tool that lets you run tests across multiple machines, browsers, and OSes in parallel.

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### **27. What's the role of DesiredCapabilities?**

Answer: Used to set browser-specific configurations for WebDriver sessions (mostly replaced by Options classes in newer versions).

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### **28. What is FluentWait in Selenium?**

Answer: A wait that defines the frequency to check conditions and ignores exceptions during the wait period.

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### **29. How do you handle CAPTCHA in Selenium?**

Answer: CAPTCHA is designed to block automation. Workarounds include bypass mechanisms or asking devs for a test-friendly version.

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### **30. What are the limitations of Selenium?**

Answer: Cannot test non-browser apps. No built-in reporting. Limited support for CAPTCHA, image comparison, and barcode testing. Needs coding knowledge and maintenance