**Selenium Question & Answer:**

1. What is selenium?
   * It’s a API
2. What is API?
   * API(Application programming interface) means interaction between two or multiple program and sharing information or data. This is a communication channel helps to talk between your apps and database.
3. Why you need selenium in automation?
   * Selenium acts as an intermediary between automation code and web application that open in browser. Actually selenium driver the browser.
4. Why you use selenium in your current project?
   * Selenium is open source that’s means free of cost
   * Selenium do automation in HTML not in GUI level
   * Selenium automation is faster and default reaction time is 0 sec
   * Selenium Web driver can driver the browser for automation testing
   * Selenium Grid can distribute test cases in multiple nodes and reduce the run time
   * It can check version of browser and different platform
5. What are the disadvantage of selenium?
   * Selenium can’t generate report
   * Selenium has no vendor support
   * As an open source and outside server communication, selenium is less secured
   * Selenium learning curve is challenging as you need different programing language knowledge
6. How to overcome all those challenges?
   * We can generate report with
     1. 3rd party framework or tool like – Testng/Junit with the help of
        1. surefire plugin,
        2. extend report API
        3. cucumber maven report API
     2. Also generate reports from maven & CI like Jenkins (but these need help from Testng/Junit, surefire and need any report API)
   * Selenium has big community support in the online selenium community
   * I can setup all Selenium automation component like Eclipse, maven, Library or JARs in a server and disconnect internet and make it more secure for the company
   * I have good java programing background and can teach selenium to my team in a very easy way and share my knowledge with the team
7. Selenium parts or components?
   * IDE
     1. Use only firefox browser
     2. Record and run only
     3. No need programing language knowledge
     4. Use language named selense
   * Webdriver
     1. Main API which driver the browser in automation by selenium command or methods
     2. Can use any browser
     3. Need coding knowledge or programing language
   * RC
     1. Remote control server
   * Grid
     1. It’s very powerful part of selenium to handle
        1. Distribute test cases in multiple node to cut down runtime
        2. Check cross browser testing
        3. Check browser version
        4. Check cross platform testing
8. How to setup selenium grid?
   * Download selenium server standalone JAR
   * Run command from CDM to start HUB
   * Run command from CMD to start node
   * Than start test from HUB and test will run from node
9. ***What is hub in selenium grid?***
   * The machine or laptop which has all test case
10. ***What is selenium node?***
    * Where we distribute test cases to run test
11. How to open a browser in selenium?
    * Get() method
    * Also can do by navigate() method
12. Which one you like and why? Or get() Vs navigate() in selenium

|  |  |
| --- | --- |
| Get | Navigate |
| Only can open the browser | Not only open the browser |
|  | Also can refresh the browser |
|  | Go back page |
|  | Can go forward page |

1. How to maximize your window or browser size?

* driver.manage.window.maximize();

1. What is selenium default time?
   * Zero second
2. How you can force selenium to wait for certain time?
   * By selenium wait or synchronization
3. How to handle slow internet or slow server response or application data loading issue or application spinning effect?
   * By selenium wait or synchronization
4. What is selenium wait or synchronization?
   * Matching of speed between automation and application
   * Selenium = faster, slow down selenium
   * Application
5. Why it important in automation?
   * Selenium default time is zero second, so it will give you error msg – ‘No such element exception’ or ‘browser not responding’ if any issue like slow internet or slow application response.
6. Types of selenium wait.
   * Implicit wait
   * Explicit wait
   * Fluent wait
7. What is sleep in selenium?
   * Implicit /explicit / fluent wait – are depends on some condition and those will wait until condition will full fill
   * But sleep never depends on any condition and will total stop until your specific times end
8. Tell me some sleep
   * Thread.sleep(2000) (time in millisecond)
   * TimeUnit.sleep(3 second) – here you can use millisecond, second, mint, month,year
9. Which one is better to use in automation? Selenium Sleep or wait?
   * Wait is better and faster than sleep as it will wait until my condition fulfill
10. What is implicit wait?
    * Implicit means internal
    * Wait until HTML DOM () is fully loaded
    * If you use once the implicit code , than it will work for every line of Automation code
    * Code :
      1. driver.manage().timeouts().implicitlyWait(10, TimeUnit.SECONDS);
11. What is explicit wait?
    * Explicit means external
    * It is use for any specific object only not HTML DOM
    * It’s another name is dynamic wait
    * Code:
      1. WebDriverWait wait = new WebDriverWait(driver,30);
      2. wait.until(ExpectedConditions.ElementTobeClickable(By.id("item")));
12. Which one is better?
    * Explicit wait is better to use as it will wait only for specific object not slow down whole automation
13. Which wait you use in your current project?
    * I used both implicit and explicit wait depends on which situation need to handle
      1. If slow internet issue , slow server issue or application loading /spinning issue than I used implicit wait
      2. If specific object delay issue like object/text is visible or enable or clickable in certain amount of time, than I prefer to use explicit wait
      3. Explicit never slow down whole automation, so better to use explicit wait
14. Why you need fluent wait? Same as explicit
    * If I need to check one object is clickable or enable or disable in every few seconds interval for certain amount of time than fluent is good
    * If I need to handle any exception with wait statement than it is a good option
    * Can handle stale( element exception
    * Code:
      1. Wait<WebDriver> wait = new FluentWait<WebDriver>(driver)
      2. withTimeout(30, SECONDS)
      3. .pollingEvery(5, SECONDS)
      4. .ignoring(NoSuchElementException.class);
15. Difference between fluent and explicit wait?
    * WebDriverWait is a subclass of FluentWait. In FluentWait you have more options to configure, along with maximum wait time, like polling interval, exceptions to ignore etc
16. Difference between implicit and explicit wait?

|  |  |
| --- | --- |
| Implicit | Explicit |
| Wait for HTML DOM load | Wait for any object property like clickable/enable / disable |
| It use for all code | Use for only one web element |
| Slowdown whole automation | No slow automation |

1. How to use wait for all element of a specific page loaded properly or not?
   * We can do it easily with implicit wait as it will wait until all HTML DOM loaded
   * But selenium has another pageload() method too like below
   * Code: driver.manage().timeouts().pageLoadTimeout(10, TimeUnit.SECONDS)
2. What is selenium no such element exception?
   * If selenium not find any element locator than tell as no such element exception
   * This exception happened mostly with incorrect xpath or locator
   * Also can happened if selenium failed to interact with application for internet failure or server failure or application down
3. What is selenium stale element exception?
   * In this situation – your xpath or locator is good
   * Internet connection is good or not down server
   * But xpath got hidden during run time for some unknown reason
4. How to handle stale element exception?
   * Make a loop to find out the element for more than 4 time than selenium will find the xpath ot locator
   * Also we can use fluent wait which can check the element in every 5 seconds for certain amount of time
5. How to find element in selenium?
   * Findelement() or findElements() method
6. How to handle multiple element in selenium?
   * Use findelements() method
   * Use List<WebElement>
   * Code :
   * List<WebElement> allproduct = driver.findElements(By.xpath(“your xpath”))
   * Than loop like below
   * For(int I = 0; i<allproduct.size();i++){
   * Syso(allproduct.get(i))==🡺 to find each product
   * }
7. Teel me selenium locator?
   * Id,class, name,linktext, partial link text, xpath, css selector
8. Which locator you use in your current project and why?
   * Xpath with methods to handle dynamic object
9. What is absolute or relative xpath?
   * Xpath start with // is called relative xpath
   * Xpath with / is called absolute xoath
10. Which one you use in your current project and why?
    * I used relative xpath mean xpath with //
    * Because it will look only specific child object and not depends on parent or grandparent object
    * So if developer change any parent or grandparent object HTML code than automation will still work as relative xpath only depends on specific child object
11. How to get xpath for text?
    * //\*(text()=’value’) or
    * //\*[conatins(text(),’value’)]
12. How to get xpath for anchor link (<a)?
    * Xpathcode//a
13. How to get xpath for anchor link href attribute?
    * //\*a[@href='value'] or
    * //a[@class='specified\_string']/@href or
    * //a/@href[@class='specified\_string']
14. Why you need href?
    * Because href conatin link or partian link URL
15. How to send username or password in selenium?
    * By sendkeys() method
16. Difference between quit and close method?

|  |  |
| --- | --- |
| Quit | Close |
| Close browser | Close only browser |
| Close web driver |  |

1. How to handle JavaScript in selenium?
   * By javascriptexecutor - JavaScriptExecutor is an interface, which provides mechanism to execute Javascript through selenium driver.
2. How to use highlight in selenium?
   * By JavaScriptExecutor
3. How to take screenshot in selenium?
   * By interface TakesScreenshot
   * Type cast (polymorohism)with driver
4. How to write xpath for application web Table?
   * HTML table code :
   * <table>
   * <tbody>
   * <tr>
   * <th>Automation Tool</th>
   * <th>Licensing</th>
   * <th>Market response</th>
   * </tr>
   * <tr>
   * <td>Selenium</td>
   * <td>Free</td>
   * <td>In</td>
   * </tr>
   * <tr>
   * <td>QTP</td>
   * <td>Paid</td>
   * <td>Out</td>
   * </tr>
   * </tbody>
   * </table>
   * Whole table = //table
   * Table body = //tbody
   * Table rows =//tr
   * Table column = //td
5. How to find all row in a webtable?
   * /table/tbody/tr
6. How to find specific row?
   * /table/tbody/tr[rownumberhere]
7. How to find all column from a web table?
   * /table/tbody/tr/td
8. How to find specific column?
   * /table/tbody/tr/td[column number here]
9. How to find last row number from webtable in selenium?
   * Int lastRowcount=driver.findElement(By.xpath("//table[1]/tbody/")).findElements(By.tagName("tr")).size();
   * WebElement Lastrow =driver.findElement(By.xpath("//table[1]/tbody/tr["+lastRowcount+"]"));
10. How to handle mouse hover action in selenium?
    * By Actions class
    * Code:
    * Actions action = new Actions(driver);
    * Action.moverToElement(xpath).build().performe(); or
    * Action.moverToElement(xpath).performe();
11. What is Actions in selenium?
    * It’s a class
    * Help selenium to
      1. Mouse hover
      2. Drag and drop
      3. Move to any element
12. How to do drag&drop in selenium?
    * By the help of Actions class
    * Code:
    * //Element that needs to drag.
    * WebElement drag=driver.findElement(By.xpath("//\*[@id='credit2']/a"));
    * //Element on which need to drop.
    * WebElement drop=driver.findElement(By.xpath("//\*[@id='bank']/li"));
    * //Using Action class for drag and drop.
    * Actions act=new Actions(driver);
    * //Dragged and dropped.
    * act.dragAndDrop(drag, drop).build().perform();
13. How to handle multiple window in selenium?
    * By the method
      1. windowHandle 🡺 to identify parent or main window
      2. windowHandles🡺 to identify all child window
      3. than use switchTo() method to switch from parent to child window
      4. code:
      5. String MainWindow=driver.getWindowHandle();
      6. Set<String> totalwindows=driver.getWindowHandles();
      7. String childwindow = null;
      8. int count =totalwindows.size();
      9. System.out.println("Total window" + count);
      10. for(String eachWindow : totalwindows){
      11. if (!eachWindow.equals(MainWindow)) {
      12. childwindow=eachWindow;
      13. driver.switchTo().window(childwindow);
      14. driver.close();
      15. }
14. How to handle drop down in selenium?
    * By Select class
    * Code :
    * Select select = new Select(driver.findElement(By.xpath("xpath")));
    * // Select option text
    * select.selectByVisibleText("text");
    * // select by index
    * select.selectByIndex(2);
    * // select by value
    * select.selectByValue(“valueText”);
    * // Get the size of the Select element
    * List<WebElement> dropDownOptions = select.getOptions();
    * //int OptionsCount = dropDownOptions.size();
    * // Setting up the loop to print all the options
    * for(int i =0; i < dropDownOptions.size() ; i++){
    * // Storing the value of the option
    * String value = select.getOptions().get(i).getText();
    * // Printing the stored value
    * System.out.println( value); }
15. How to find broken link in your web application?
    * 1st find out all link by xpath of href or linktext
    * Than check the status code 200 or 400
    * If its 200 than link is good
    * If link is 400 than it’s a bad link or broken link