

Automation Testing

Testing an application feature with the help of automation tool and executing test script is called automation testing

Disadvantage of Manual Testing

- Compatibility testing is difficult
- Test cycle duration increases
- More human efforts are required
- Regression testing is time consuming

Advantage of automation testing

- 1) Reusability of test script
- 2) Project duration will be reduced
- 3) Cross browser / cross platform testing is possible
- 4) Less human effort are required
- 5) To overcome drawback of regression testing
- 6) Cost of project will be reduced
- 7) It is reliable and efficient

Advantage of Selenium

- 1) Open source
- 2) Multi language support
- 3) Cross browser testing is possible
- 4) Cross platform is possible

Disadvantage of Selenium

- 1) We cannot automate standalone application
- 2) Adhoc test cases cannot be automated
- 3) We cannot automate captcha
- 4) No support for file uploading
- 5) Only for web based application

Selenium flavors

- a) Selenium IDE (Integrated dev environment)
- b) Selenium RC (Remote Control)
- c) Selenium webdriver**
- d) Selenium Grid

Advantage of selenium IDE :- record and playback

Drawback :- it can be useful only on Firefox browser

It can be useful in java language only

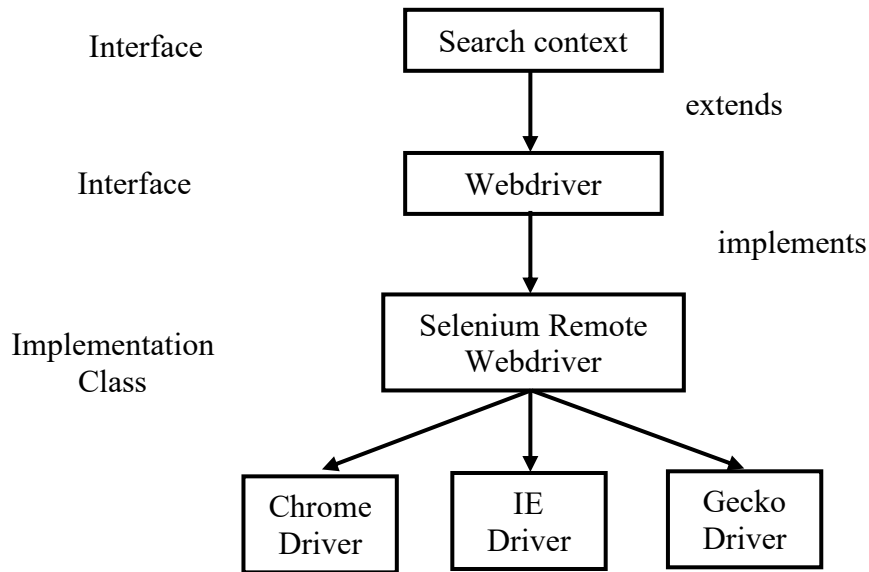
Advantage of selenium RC :- Compatible testing is possible

Drawback :- Execute script only in java

Advantage of Selenium webdriver:

- Compatibility testing is possible
- Support multiple languages

Selenium Architecture



WebDriver driver = new ChromeDriver (). -->upcasting

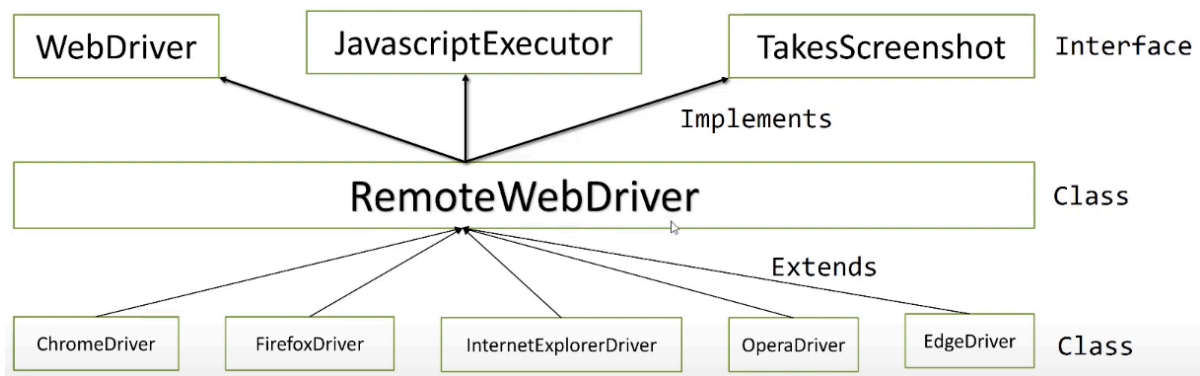
int a = 10;

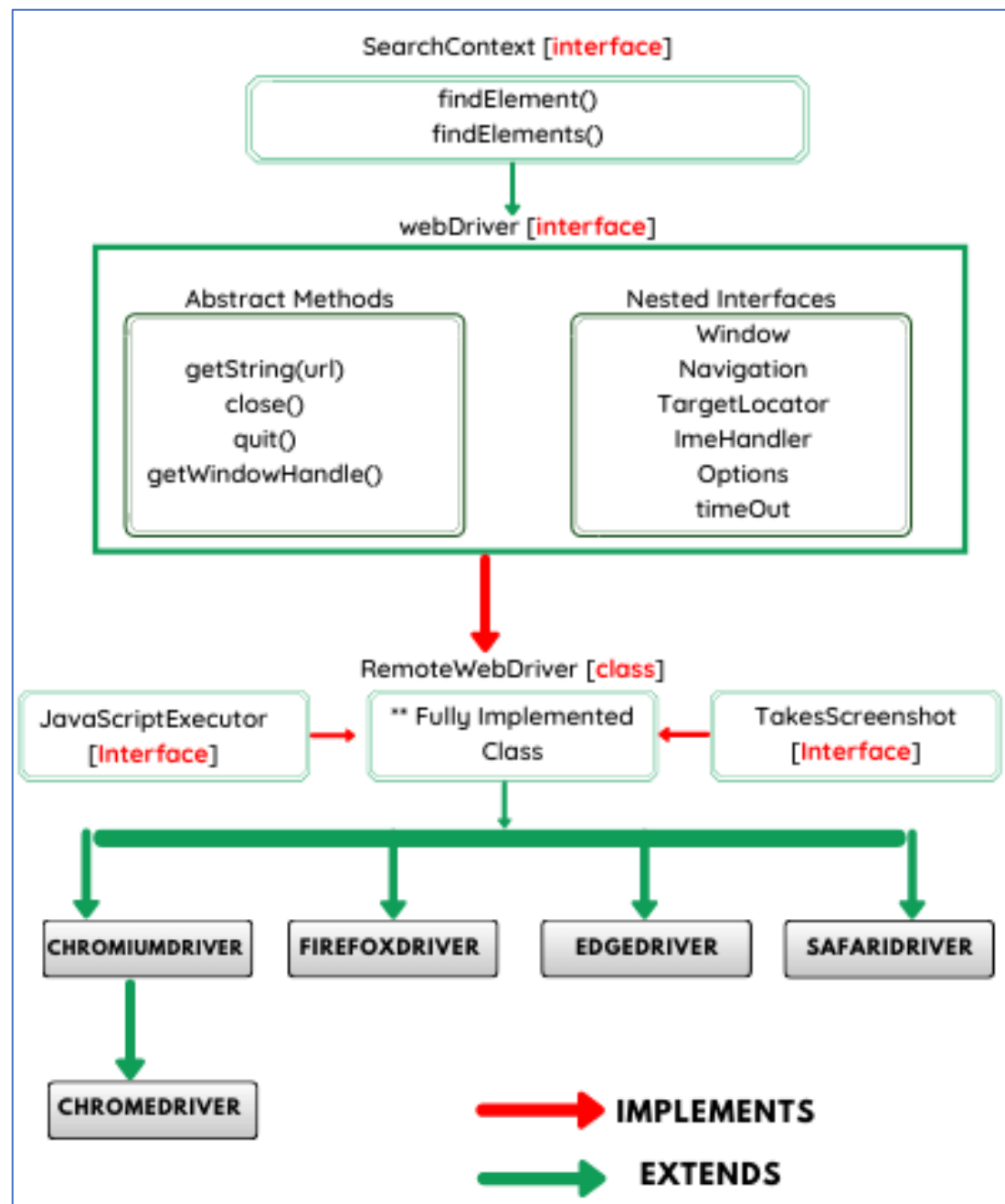
Search context is super most interface which contain abstract method and inherited to webdriver interface

WebDriver is interface which contain abstract method of search context and its own abstract methods

Selenium remote webdriver

- All abstract or incomplete method are implemented in selenium remote webdriver class
- This class is extended to different browser like chrome, Firefox, IE etc
- To run application in multiple browser for compatibility testing we need to perform upcasting





Selenium webdriver and its methods

Webdriver is an interface used to perform action on browser

1) Get method

It is use to enter URL or to open an application

```
driver.get("url of application");  
driver.get("https://www.facebook.com");
```

2) Close method

It is used to close the browser or current tab of browser

```
driver.close();
```

3) Maximize method

It is used to maximize the browser

```
driver.manage().window().maximize();
```

4) Quit method

It use to close all tabs or close the browser

```
driver.quit();
```

5) Navigate method

It is used to enter URL as well as we can perform move forward, back and refresh functionality

Program:

```
driver.navigate().to("https://www.google.com/");  
driver.navigate().back();  
driver.navigate().forward();  
driver.navigate().refresh();
```

6) Get Title

Use to get title of web page, return type is string

7) Get current URL

It is used to get current URL of webpage and it return string type value

Program:

```
String expTitle = "Rediff.com";  
String actualTitle = driver.getTitle();  
driver.getCurrentUrl();
```

8) Setsize method

Program:

```
Dimension z = new Dimension(600, 1000);  
driver.manage().window().setSize(z);
```

```
Point p = new Point(500,500);  
driver.manage().window().setPosition(p);
```

Program :

```
package SimpleSeleniumProg;

import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;

public class Demo {

    public static void main(String[] args) throws Throwable {
        System.setProperty("webdriver.chrome.driver", "chromedriver");
        WebDriver driver = new ChromeDriver();
        Thread.sleep(3000);
        driver.manage().window().maximize();
        Thread.sleep(3000);
        driver.get("https://www.facebook.com/");
        Thread.sleep(3000);
        driver.close();
        driver.quit();
    }
}
```

Program :

```
package SimpleSeleniumProg;

import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;

public class Prog1 {

    public static void main(String[] args) throws Exception {
        System.setProperty("webdriver.chrome.driver", "chromedriver");
        WebDriver driver = new ChromeDriver();
        Thread.sleep(2000);
        driver.manage().window().maximize();
        Thread.sleep(2000);
        driver.manage().window().minimize();
        Thread.sleep(2000);
        driver.get("https://is.rediff.com/signup/register");
        Thread.sleep(2000);
        driver.manage().window().maximize();
        Thread.sleep(2000);

        driver.navigate().to("https://www.facebook.com/");
        Thread.sleep(2000);
        driver.navigate().to("https://www.google.co.in/");
        Thread.sleep(2000);
        driver.navigate().back();
        Thread.sleep(2000);
        driver.navigate().forward();
    }
}
```

```

        Thread.sleep(2000);
        driver.navigate().refresh();
        Thread.sleep(5000);
        driver.close();

        //What is the difference between get and navigate method??????
    }
}

```

Program :

```

package SimpleSeleniumProg;

import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;

public class Prog2 {

    public static void main(String[] args) throws Exception {
        System.setProperty("webdriver.chrome.driver", "chromedriver");
        WebDriver driver = new ChromeDriver();
        Thread.sleep(2000);
        driver.manage().window().maximize();
        Thread.sleep(2000);
        driver.get("https://is.rediff.com/signup/register");

        String expTitle = "Rediff.com";

        String actTitle = driver.getTitle();

        if(expTitle.equals(actTitle))
        {
            System.out.println("Title - Test case pass");
        }
        else
        {
            System.out.println("Title - Test case failed");
        }

        System.out.println("Actual Title = " + actTitle);

        String currURL = driver.getCurrentUrl();

        System.out.println("URL :- " + currURL);

        driver.close();
    }
}

```

Program :

```
package SimpleSeleniumProg;

import org.openqa.selenium.Dimension;
import org.openqa.selenium.Point;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;

public class Prog3 {

    public static void main(String[] args) throws Exception {
        System.setProperty("webdriver.chrome.driver", "chromedriver");
        WebDriver driver = new ChromeDriver();
        Thread.sleep(2000);
        driver.manage().window().maximize();
        Thread.sleep(2000);
        driver.get("https://is.rediff.com/signup/register");
        Thread.sleep(2000);
        Dimension d = new Dimension(200, 300);
        driver.manage().window().setSize(d);
        Thread.sleep(5000);

        Point p = new Point(10, 700);
        driver.manage().window().setPosition(p);
        Thread.sleep(5000);
        driver.close();
    }
}
```