HTML DOM and Stateelement exception

* HTML DOM-Document object model 🡪W3C standard(world wide web consortium)

3 types of DOM:

HTML DOM – Standard model for HTML documents

XML DOM -for XML documents

core DOM -for all different types of documents

DOM is a platform or interface available in the form of APIs.

DOM will be created runtime when I load a particular page and DOM is available pagewise.

Whenever a webpage is loaded,

1.browser automatically creates a DOM of that particular page

By using javascript,we can interact with APIs(CRUD APIs) and using this APIs,we do any operations to the webpage

Javascript

[www.facebook.com](http://www.facebook.com)

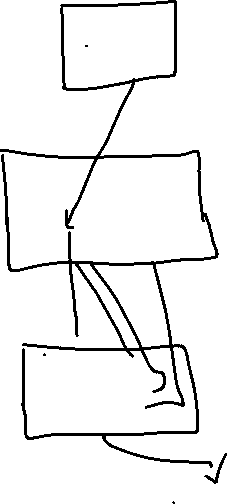
DOM-interface APIs

C-Add

R-Get CRUD APIs

U-change

D-delete



Chrome-HTML DOM

Home page-DOM

Settings page -dom

Newsfeed page-DOM

Privacy page-DOM

Services layer(Webservices) ---🡪databases

DOM is provided by specific browsers.

For.eg.take facebook.com home page

DoM structure in chrome is different

DOM struc in FF is different

DoM structure in IE is different for same home page

Now,JAvascript can do all the CRUD operations in DOM structure.

i.e.javascript has all the powers to create dynamic HTML

Staleelement exception :

Stale means old,decayed or not fresh.

Stale element means the particular element is old or not available.

e.g.

assume a webelement in a page

if the DOM structure changes or gets updated

webelement goes stale

i.e.reference of that particular element in DOM structure goes stale.

now,when we try to interact or do some operation to that web element,stale element exception will be thrown.

Solutions to overcome stalelement exception:

1.refresh the page and click the button again

3.use explicitly wait conditions until the webelement is loaded

3.we can use POM where element will be loaded and initialized during run time

How to read selenium webdriver JAVA DOC?

We can find the selenium architecture in this site:

Google🡪seleniumHQ🡪

### [https://www.seleniumhq.org/-->downloads-->](https://www.seleniumhq.org/-->downloads--> Selenium Client & WebDriver Language Bindings-->javadoc-->) [Selenium Client & WebDriver Language Bindings](https://www.seleniumhq.org/-->downloads--> Selenium Client & WebDriver Language Bindings-->javadoc-->)

[-->javadoc-->](https://www.seleniumhq.org/-->downloads--> Selenium Client & WebDriver Language Bindings-->javadoc-->)

We can see all the packages,interfaces,classes.intefaces,methods will be written in italics.

e.g.for package:

when we import chrome driver,we use

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

chromedriver class is available in org.openqa.selenium.chrome package

For.e.g.webdriver driver=new chromedriver();

Webdriver🡪interface

Chromedriver🡪class implementing webdriver interface through dynamic polymorphism.

Note:A class can inherit multiple intefaces

Q:Different interfaces available in selenium?

Webdriver,Takescreenshot,Javascriptexecutor

Internal working of selenium:

e.g. WebDriver driver = new ChromeDriver();

driver.get(<http://www.seleniumhq.org>);

Once you are ready with your script, you will click Run to execute the program. Based on the above statement, the Chrome browser will be launched and it will navigate to the **SeleniumHQ** website.

Flow:

Run🡪selenium client library(JAVA JAR fies ) interacts with selenium API.

Selenium API--🡪through JSON Protocol--------🡪selenium webdriver(srever)

i.e.JSON- JavaScript Object Notation

JSON is used to transfer data between client and server on the web. A simple JSON file have .json extension. JSON wired protocol send data in JSON format and server firstly parse the data and then execute the data and after that response given by the server send back to the client in JSON format.

Selenium webdriver(server)----------🡪 Thru HTTP server --🡪browsers

e.g.chrome driver

Client library JARS----🡪 Selenium API(server)---------------------------🡪 selenium webdriver

(client) JSON Protocol HTTP server



browsers