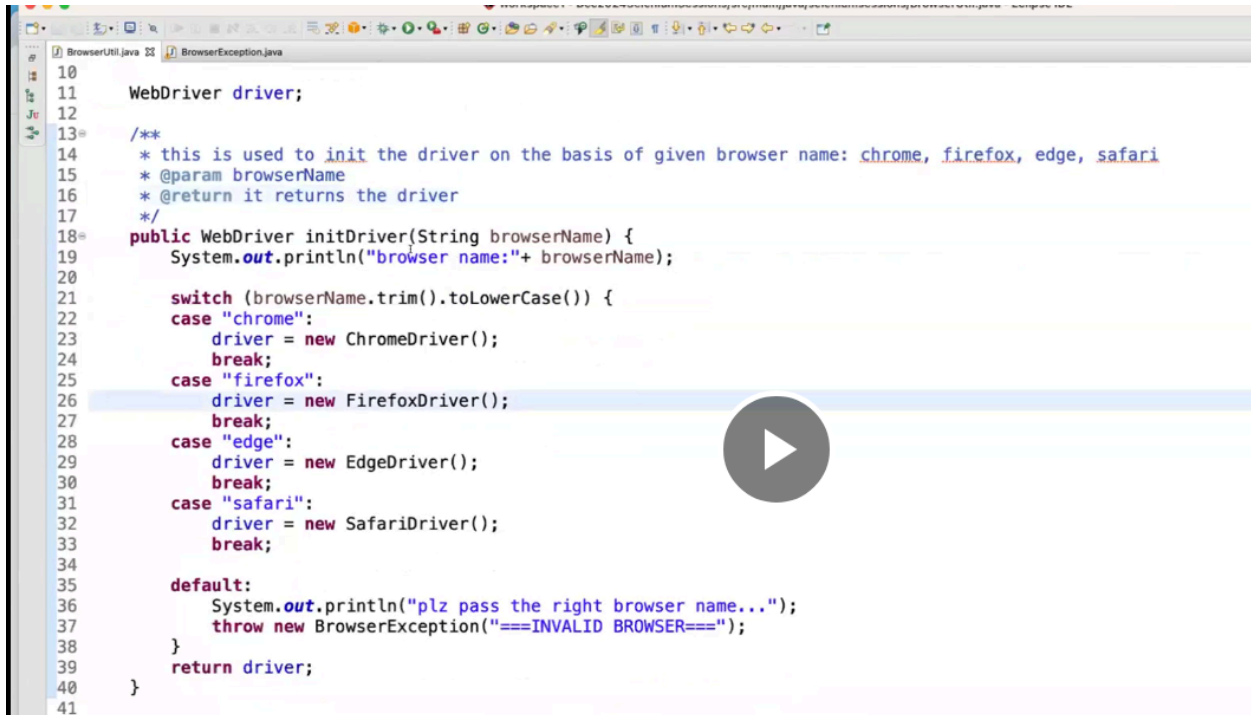


## Browser util class-



```
10
11 WebDriver driver;
12
13 /**
14  * this is used to init the driver on the basis of given browser name: chrome, firefox, edge, safari
15  * @param browserName
16  * @return it returns the driver
17  */
18 public WebDriver initDriver(String browserName) {
19     System.out.println("browser name:" + browserName);
20
21     switch (browserName.trim().toLowerCase()) {
22     case "chrome":
23         driver = new ChromeDriver();
24         break;
25     case "firefox":
26         driver = new FirefoxDriver();
27         break;
28     case "edge":
29         driver = new EdgeDriver();
30         break;
31     case "safari":
32         driver = new SafariDriver();
33         break;
34
35     default:
36         System.out.println("plz pass the right browser name...");
37         throw new BrowserException("===INVALID BROWSER===");
38     }
39     return driver;
40 }
41
```

Author name can also be written at the start of the code-

```
5 import org.openqa.selenium.edge.EdgeDriver;
6 import org.openqa.selenium.firefox.FirefoxDriver;
7 import org.openqa.selenium.safari.SafariDriver;
8
9 /**
10  * |
11  * @author naveenautomationlabs
12  *
13  */
14 public class BrowserUtil {
15
```

Launch url method-

```

44     return driver;
45 }
46
47 //https://www.google.com
48 public void launchURL(String url) {
49
50     if(url.length()==0) {
51         System.out.println("url can not be blank..." + url);
52         throw new BrowserException("===Empty URL===");
53     }
54
55     if(url.indexOf("http")!=0) {
56         System.out.println("http is missing in the url..." + url);
57         throw new BrowserException("===http is missing===");
58     }
59
60     driver.get(url);
61 }
62
63

```

Overload the launch url to accept URL-

```

66
67 public void launchURL(URL url) {
68
69     String appUrl = String.valueOf(url);
70
71     if (appUrl.length() == 0) {
72         System.out.println("url can not be blank..." + url);
73         throw new BrowserException("===Empty URL===");
74     }
75
76     if (appUrl.indexOf("http") != 0) {
77         System.out.println("http is missing in the url..." + url);
78         throw new BrowserException("===http is missing===");
79     }
80
81     driver.navigate().to(url);
82 }
83

```


Http check and length check method-

Make it private because this is business logic no need to show it in front.

```

49     }
50
51
52     private void lengthCheck(String value) {
53         if (value.length() == 0) {
54             System.out.println("value can not be blank..." + value);
55             throw new BrowserException("===Empty value===");
56         }
57     }
58
59     private void httpCheck(String urlValue) {
60         if (urlValue.indexOf("http") != 0) {
61             System.out.println("http is missing in the url..." + urlValue);
62             throw new BrowserException("===http is missing===");
63         }
64     }
65
66     // https://www.google.com
67

```



Updated both launch functions-

```

66
67     // https://www.google.com
68     public void launchURL(String url) {
69         lengthCheck(url);
70         httpCheck(url);
71         driver.get(url);
72     }
73
74     public void launchURL(URL url) {
75
76         String appUrl = String.valueOf(url);
77         lengthCheck(appUrl);
78         httpCheck(appUrl);
79         driver.navigate().to(url);
80     }
81

```

Title and url functions-

Best practice to always use sysout here only even if function returns. Then no need to capture and sysout in main method.

```

65
66 public String getPageTitle() {
67     String title = driver.getTitle();
68     System.out.println("page title is: " + title);
69     return title;
70 }
71
72 public String getPageURL() {
73     String pageURL = driver.getCurrentUrl();
74     System.out.println("page URL is: " + pageURL);
75     return pageURL;
76 }
77
78 |
79

```



Close browser-

Quit browser -

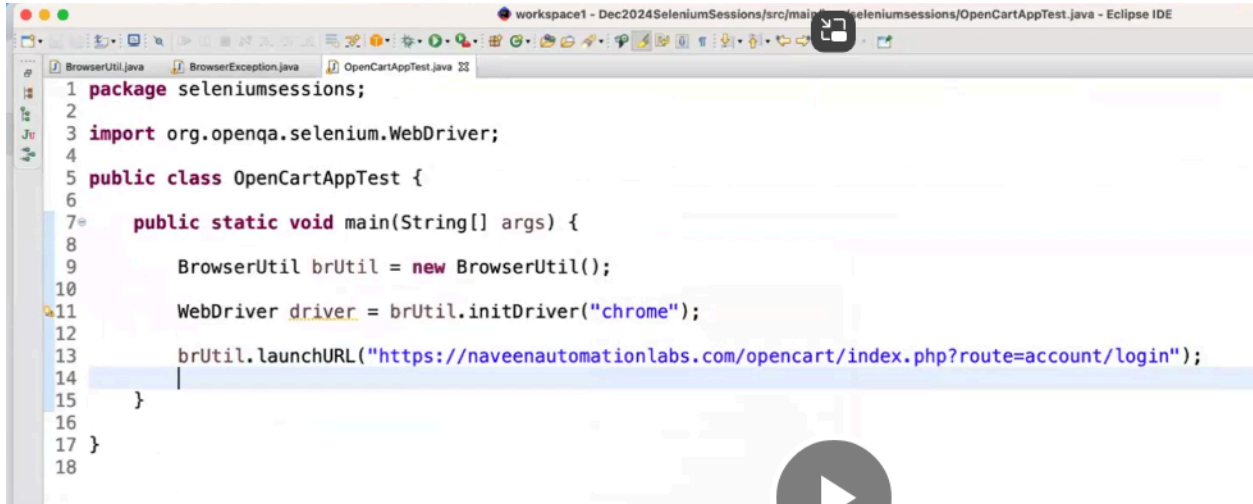
```

74     return pageURL;
75 }
76
77 public void closeBrowser() {
78     if (driver != null) {
79         driver.close();
80     }
81 }
82
83 public void quitBrowser() {
84     if (driver != null) {
85         driver.quit();
86     }
87 }
88

```

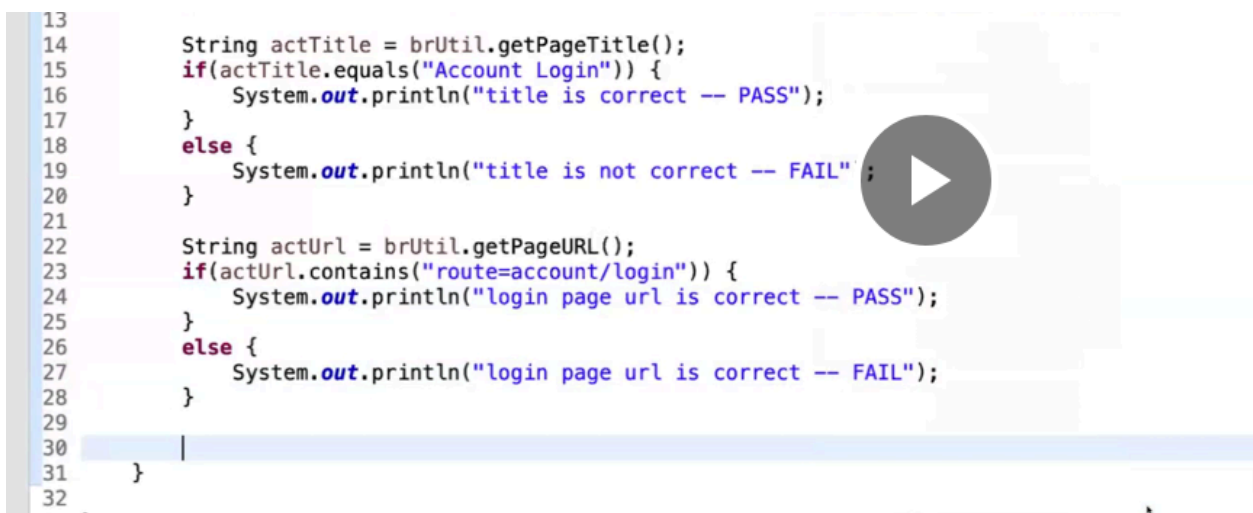
Press control+o on the class to know all methods written inside the class.

Call the util class-



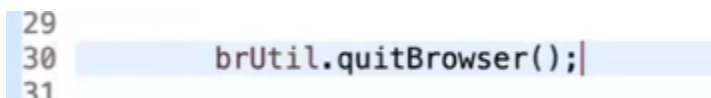
```
1 package seleniumsessions;
2
3 import org.openqa.selenium.WebDriver;
4
5 public class OpenCartAppTest {
6
7     public static void main(String[] args) {
8
9         BrowserUtil brUtil = new BrowserUtil();
10
11         WebDriver driver = brUtil.initDriver("chrome");
12
13         brUtil.launchURL("https://naveenautomationlabs.com/opencart/index.php?route=account/login");
14     }
15 }
16
17 }
18
```

More tests-



```
13
14     String actTitle = brUtil.getPageTitle();
15     if(actTitle.equals("Account Login")) {
16         System.out.println("title is correct -- PASS");
17     }
18     else {
19         System.out.println("title is not correct -- FAIL");
20     }
21
22     String actUrl = brUtil.getPageURL();
23     if(actUrl.contains("route=account/login")) {
24         System.out.println("login page url is correct -- PASS");
25     }
26     else {
27         System.out.println("login page url is correct -- FAIL");
28     }
29
30 }
31
32
```

Quit browser



```
29
30     brUtil.quitBrowser();
31
```

Browser util class-

Add null check for url.

```

96     }
97     |
98     private void nullCheck(String value) {
99         if (value == null) {
100             System.out.println("value can not be null..." + value);
101             throw new BrowserException("===value is null===");
102         }
103     }

```

Updated launch url code to add null-

```

46         throw new BrowserException("===INVALID BROU
47     }
48     return driver;
49 }
50
51 // https://www.google.com
52 public void launchURL(String url) {
53     nullCheck(url);
54     lengthCheck(url);
55     httpCheck(url);
56     driver.get(url);
57 }
58
59 public void launchURL(URL url) {
60     String appUrl = String.valueOf(url);
61     nullCheck(appUrl);
62     lengthCheck(appUrl);
63     httpCheck(appUrl);
64     driver.navigate().to(url);
65 }
66
67 public String getPageTitle() {

```

Test class

Comment 15 add 17 19

```

6 import org.openqa.selenium.WebDriver;
7
8 public class OpenCartAppTest {
9
10     public static void main(String[] args) throws MalformedURLException {
11
12         BrowserUtil brUtil = new BrowserUtil();
13
14         WebDriver driver = brUtil.initDriver("firefox");
15         //brUtil.launchURL("https://naveenautomationlabs.com/opencart/index.php?route=account/login");
16
17         URL url = new URL("https://naveenautomationlabs.com/opencart/index.php?route=account/login");
18
19         brUtil.launchURL(url);
20
21     }

```

Remove https and see url class auto handles the wrong url-

```
14 WebDriver driver = brUtil.initDriver("firefox");
15 //brUtil.launchURL("https://naveenautomationlabs.com/opencart/index.php?route=account/login");
16
17 URL url = new URL("naveenautomationlabs.com/opencart/index.php?route=account/login");
18
```

//opens blank browser and throws this exception:

//browser name:chrome

//java.net.MalformedURLException: no protocol:

// naveenautomationlabs.com/opencart/index.php?route=account/login

// at java.base/java.net.URL.<init>(URL.java:772)

// at java.base/java.net.URL.<init>(URL.java:654)

// at java.base/java.net.URL.<init>(URL.java:590)

// at

seleniumbatch.OpenCartAppTest3.main(OpenCartAppTest3.java:19)

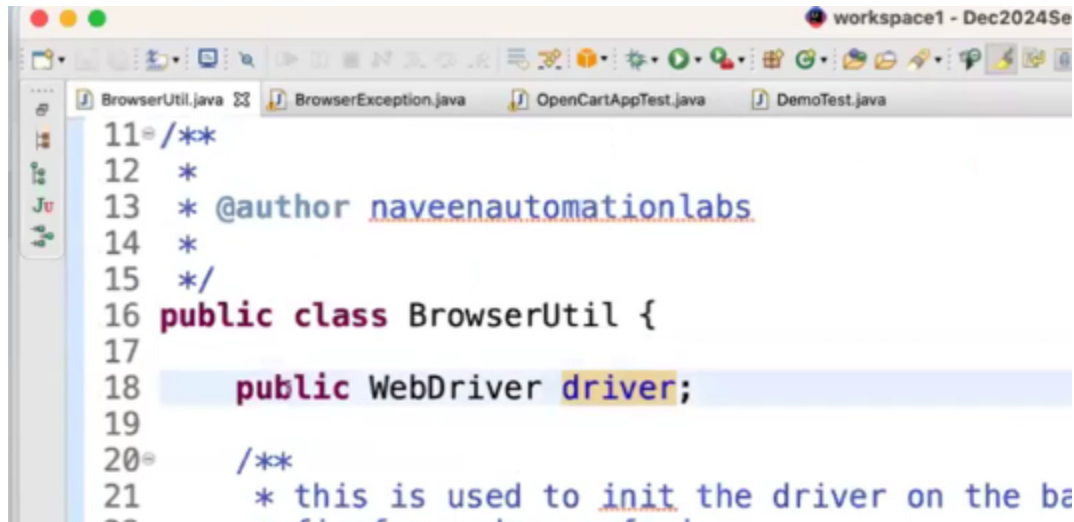
//Exception in thread "main" seleniumbatch.BrowserException: http is  
missing

// at

seleniumbatch.OpenCartAppTest3.main(OpenCartAppTest3.java:25)

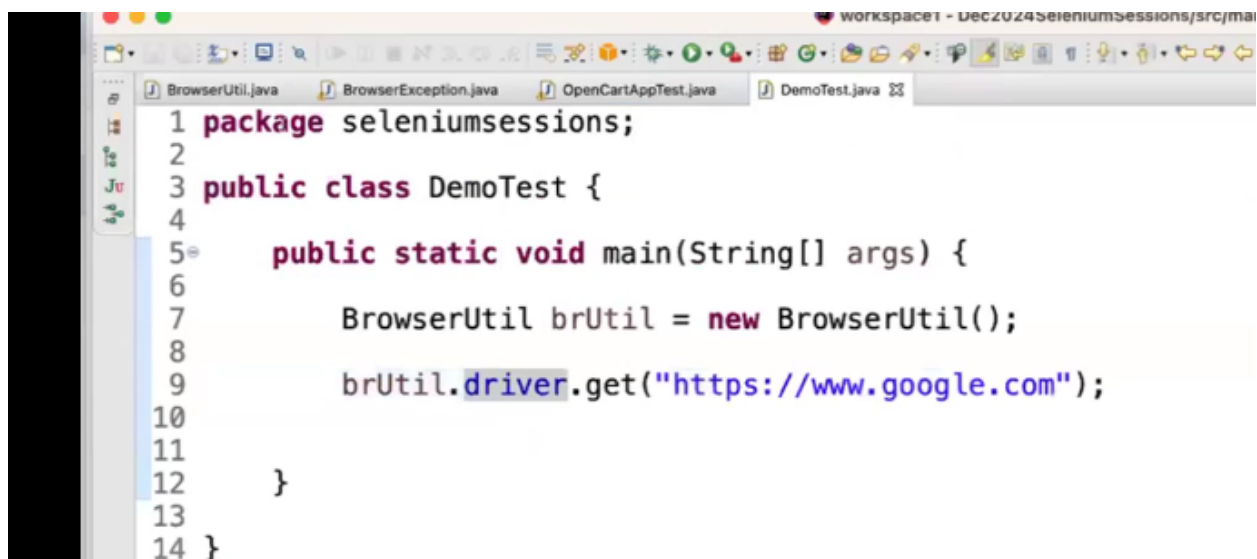
Make driver public in util class.





```
11= /**
12  *
13  * @author naveenautomationlabs
14  *
15  */
16 public class BrowserUtil {
17
18     public WebDriver driver;
19
20     /**
21      * this is used to init the driver on the ba
22      * f... ..
```

Create test class.



```
1 package seleniumsessions;
2
3 public class DemoTest {
4
5     public static void main(String[] args) {
6
7         BrowserUtil brUtil = new BrowserUtil();
8
9         brUtil.driver.get("https://www.google.com");
10
11
12     }
13
14 }
```

Run

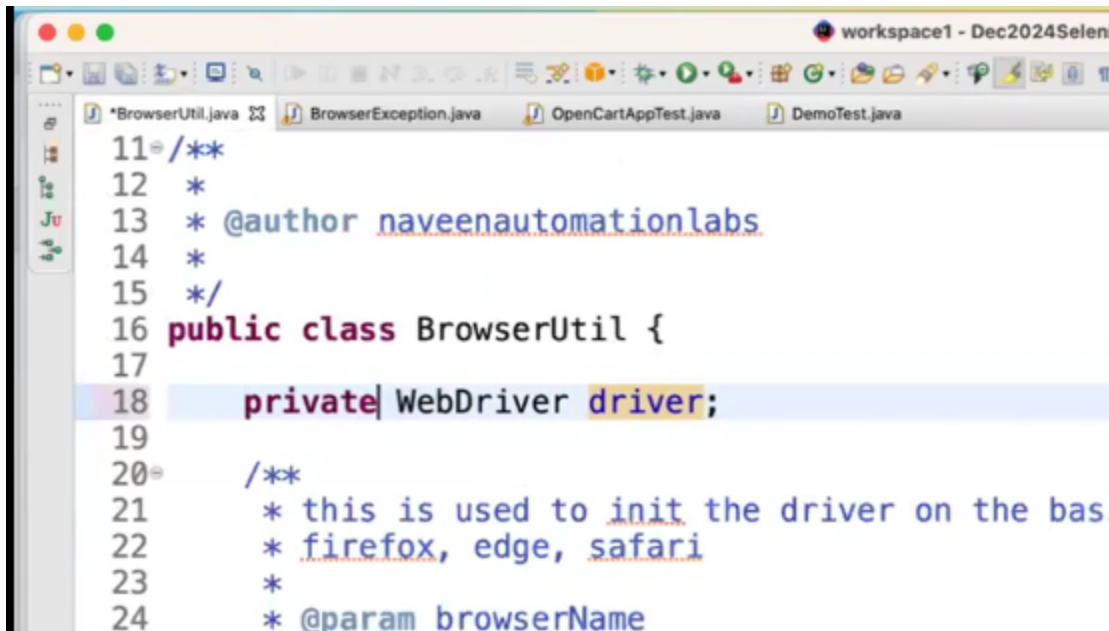
We get npe because driver is null.

//null pointer because the driver is not pointing to any browser instance.

//no browser will be launched.

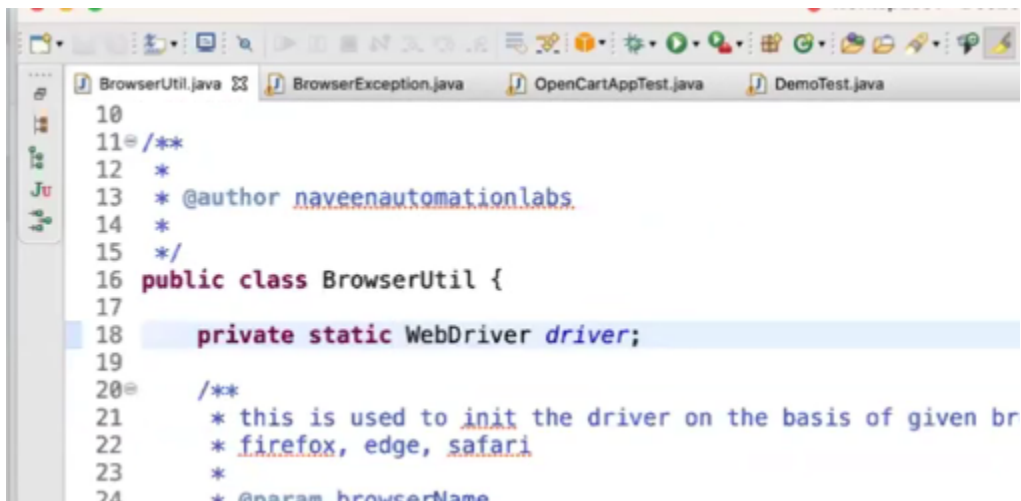
Best is driver should be private





```
workspace1 - Dec2024Selen
*BrowserUtil.java  BrowserException.java  OpenCartAppTest.java  DemoTest.java
11= /**
12  *
13  * @author naveenautomationlabs
14  *
15  */
16 public class BrowserUtil {
17
18     private WebDriver driver;
19
20     /**
21      * this is used to init the driver on the bas
22      * firefox, edge, safari
23      *
24      * @param browserName
```

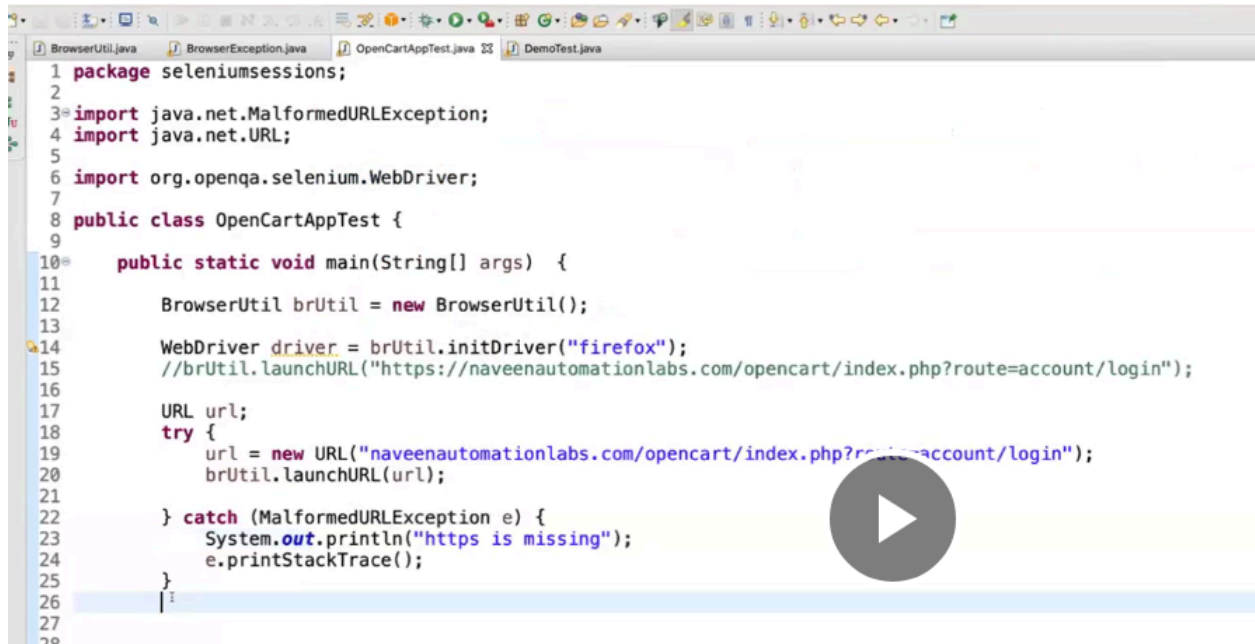
Problem when driver is static



```
BrowserUtil.java  BrowserException.java  OpenCartAppTest.java  DemoTest.java
10
11= /**
12  *
13  * @author naveenautomationlabs
14  *
15  */
16 public class BrowserUtil {
17
18     private static WebDriver driver;
19
20     /**
21      * this is used to init the driver on the basis of given br
22      * firefox, edge, safari
23      *
24      * @param browserName
```

Parallel execution cannot happen. At a time only one driver is active and available.

Try to handle the url exception ourselves-



```
1 package seleniumsessions;
2
3 import java.net.MalformedURLException;
4 import java.net.URL;
5
6 import org.openqa.selenium.WebDriver;
7
8 public class OpenCartAppTest {
9
10     public static void main(String[] args) {
11
12         BrowserUtil brUtil = new BrowserUtil();
13
14         WebDriver driver = brUtil.initDriver("firefox");
15         //brUtil.launchURL("https://naveenautomationlabs.com/opencart/index.php?route=account/login");
16
17         URL url;
18         try {
19             url = new URL("naveenautomationlabs.com/opencart/index.php?route=account/login");
20             brUtil.launchURL(url);
21
22         } catch (MalformedURLException e) {
23             System.out.println("https is missing");
24             e.printStackTrace();
25         }
26     }
27
28 }
```

Blank browser is opened. Then it performs all steps on blank browser.

Now we don't want to proceed only if url is wrong-  
Use throw.

In try catch blank browser is opened and we just continue with no use.

Throw will stop it if url itself not present.

```
1 package seleniumsessions;
2
3 import java.net.MalformedURLException;
4 import java.net.URL;
5
6 import org.openqa.selenium.WebDriver;
7
8 public class OpenCartAppTest {
9
10     public static void main(String[] args) {
11
12         BrowserUtil brUtil = new BrowserUtil();
13
14         WebDriver driver = brUtil.initDriver("firefox");
15         //brUtil.launchURL("https://naveenautomationlabs.com/opencart/index.php?route=account/login");
16
17         URL url;
18         try {
19             url = new URL("naveenautomationlabs.com/opencart/index.php?route=account/login");
20             brUtil.launchURL(url);
21
22         } catch (MalformedURLException e) {
23             System.out.println("https is missing");
24             e.printStackTrace();
25             throw new RuntimeException("http is mising");
26         }
27
28
29         String actTitle = brUtil.getPageTitle();
30     }
```

//blank browser opens.

//errors comes.

//browser does not close as we dont reach that step.