

# **SOFTWARE VERIFICATION, VALIDATION AND TESTING**

## **TESTING DOCUMENTATION**

OLX.BA

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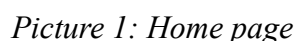
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## 1.1. About the Project

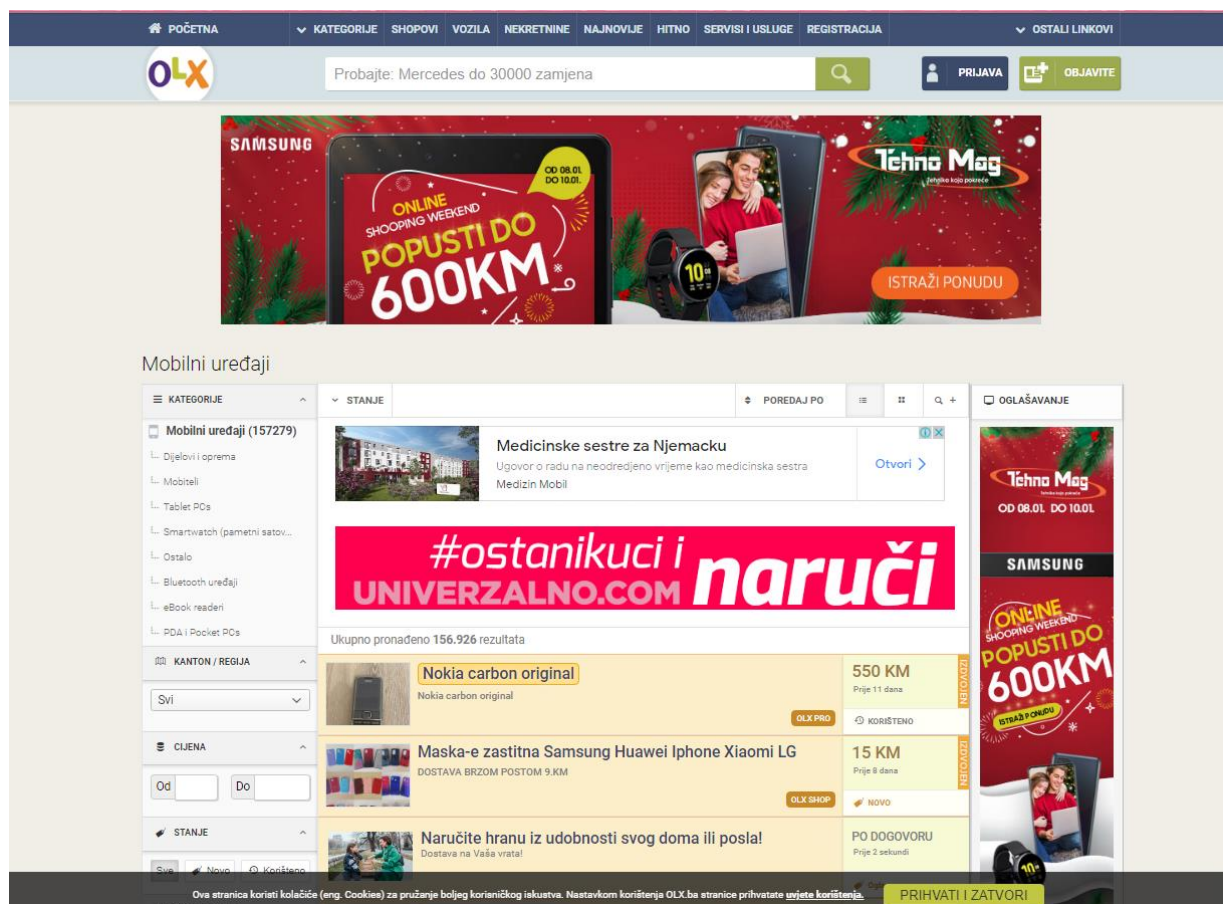
Link to the project application: <https://www.olx.ba/>

The website is mobile-friendly.



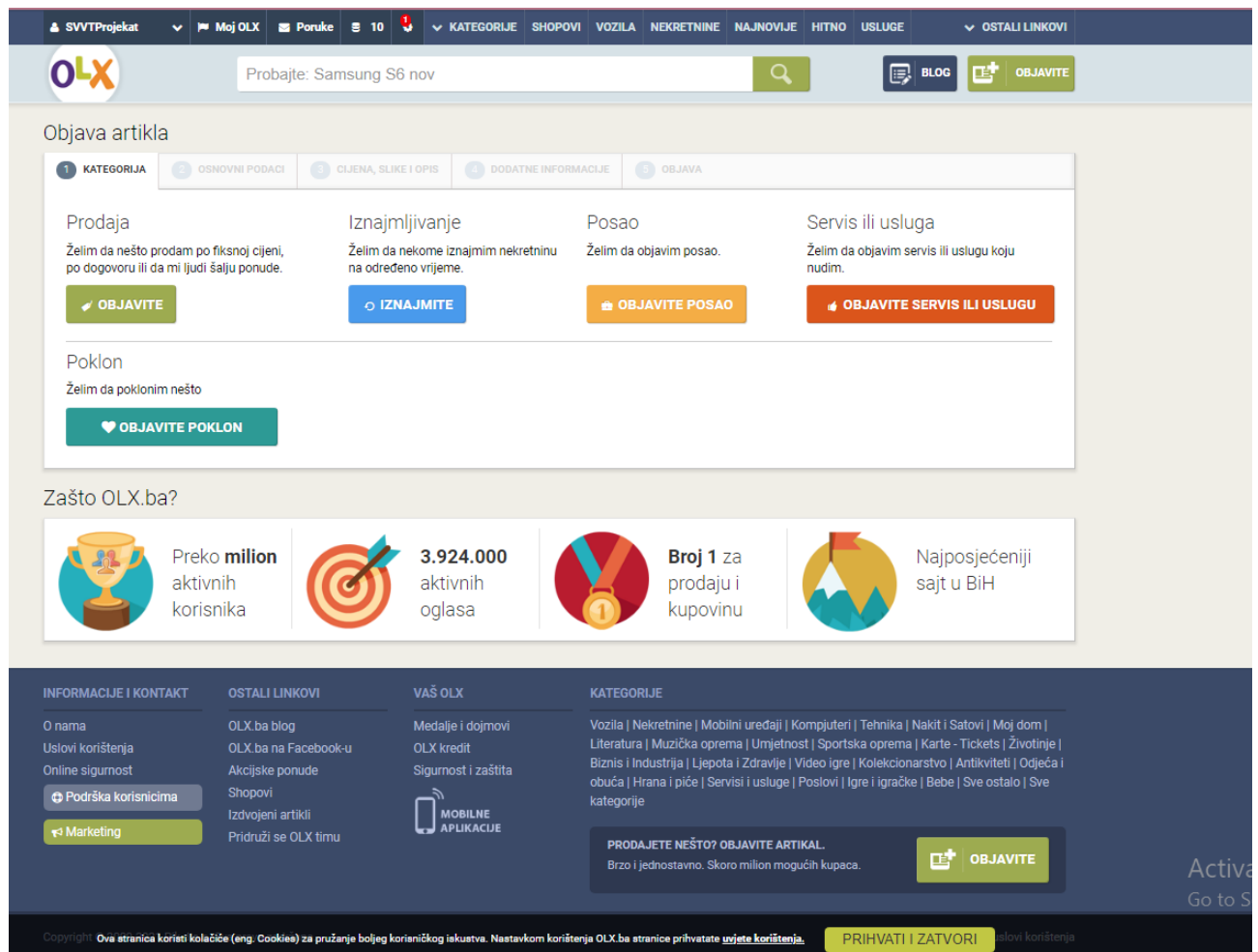
## 1.2. Project Functionalities and Screenshots

- **Home page:** The home page (<https://www.olx.ba>) is the page where you can see a short preview of the newest items. The home page (and every other page) includes a navbar with buttons that are links to **Categories, Shops, Cars, Real Estate, Latest Items, Urgent, Services, Registration, and Other Links**; it also includes a field to **search**, and tabs to **sign up** or **log in**. Also, there is a pop up which asks a user to **accept cookies**. The home page is a default tab that opens as a first page.
- **Login:** Login is the part of the navbar. It is a form for a user's data entry: username and password, as well as a login button.
- **Mobile Devices page:** Mobile Devices page (<https://www.olx.ba/dijelovi-i-oprema/3/252>) is the preview of listed items with text, image, and price part. Also, there is a drop-down menu that is used for searching by categories, region, price, etc.



Picture 2: Mobile Devices page

- **Publish Article page:** Publish Article page (<https://www.olx.ba/objava>) is the page for publishing the article. It includes tabs to add information about the article that we are publishing, those are *Category; Basic Information; Price, Image, Description; Delivery and Payment; and Publication*.



Picture 3: Publish Article page

- **Logo image:** The logo image is the clickable image that brings back to the home page.
- **Search bar:** The search bar is part of the navbar, with input for entering the data that the user wants to search for, as well as a search button.
- **Messages tab:** Messages tab (<https://www.olx.ba/poruke>) is part of the navbar for logged in users. This tab leads to the page with the preview of the messages that the user has.
- **Send Message tab:** Send message is a button to send a message to the user (on the user profile).
- **MyProfile tab:** MyProfile is part of the navbar for logged in users. This tab leads to the page with the preview of the user's information.

## 2. Test Plan

### 2.1. Scope

This test plan describes the testing approach for testing Olx's website. The document introduces :

- Test strategy: rules the test will be based on, description of the process to set up a valid test
- Execution strategy: how the test will be performed and process to identify and report defects, and to fix and implement fixes
- Test cases: list of all test cases that are executed

## 2.2. Testing Environment and Tools

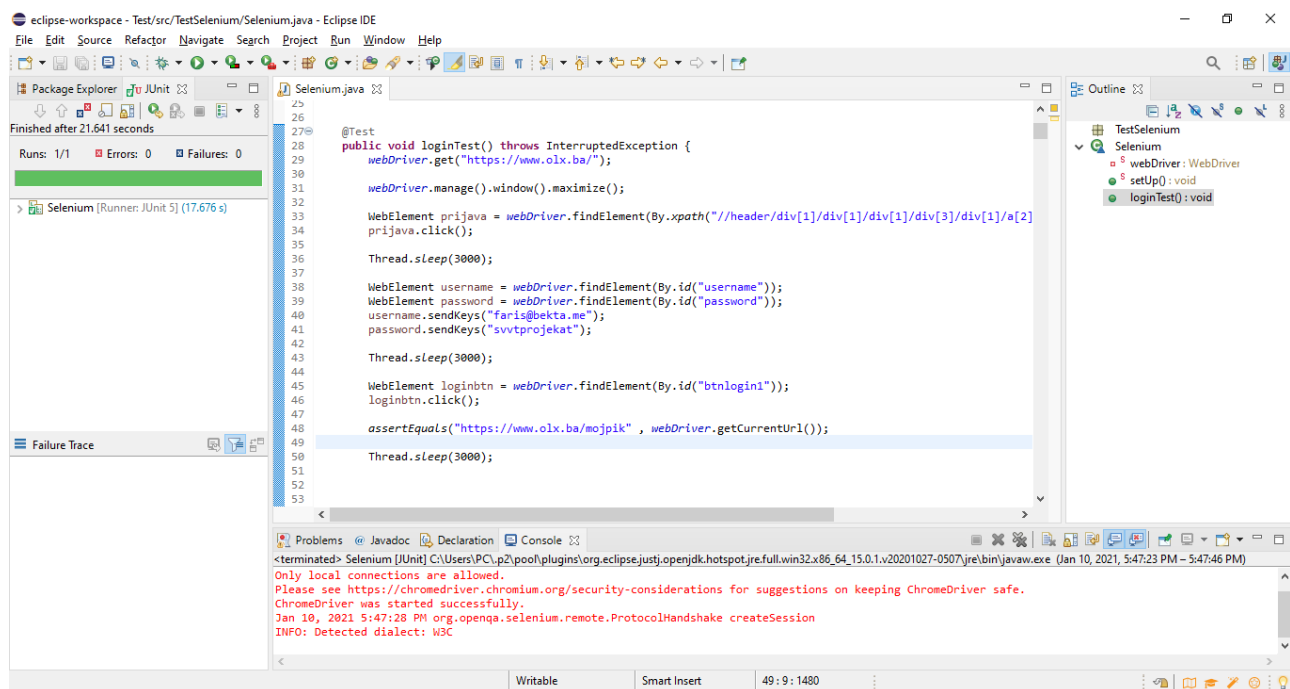
During this testing, we used Java programming language. For writing tests and extensions, we used Junit Jupiter and as an object-oriented automation API, that natively drives a browser, we used Selenium WebDriver.

## 3. Test Execution

### 3.1. Login – Check if the Login Form works correctly

The purpose is to check if when the login button is clicked, it forwards to the page <https://www.olx.ba/mojpik>.

Test Name: loginTest()				
Description: Testing does login process works				
Pre-condition(s):				
Test Steps:	Test Data:	Expected Result:	Actual Result:	Status:
1. Clicking button “Prijava”. 2. Sending keys/values to username and password text spaces. 3. Clicking login button.	- There are only input values for username and password.	To take us to the OLX.ba logged in.	Took us to the OLX.ba logged in.	PASS
Notes:				



Picture 4: Check if login form works correctly

### 3.2. Accept Cookies – Check if the Accept Cookies button works correctly

The purpose is to check if the pop up at the footer of the page says “Accept and Close” and whether button to accept cookies works correctly and accept cookies and close pop up as well.

Test Name: acceptCookies()				
Description: Testing if Accept Cookies button works				
Pre-condition(s):				
Test Steps:	Test Data:	Expected Result:	Actual Result:	Status:
1. Wait until OLX.ba website is loaded. 2. Find the xpath of button, and click it. 3. Testing if the leading pop-up text is the one we expected.		Accept cookies window disappear.	Accept cookies window disappear..	PASS
Notes:				

The screenshot shows the Eclipse IDE with a Selenium test file named `Selenium.java`. The code is as follows:

```
@Test
public void acceptCookies() throws InterruptedException {
    webDriver.get("https://www.olx.ba/");

    webDriver.manage().window().maximize();

    WebElement prijava = webDriver.findElement(By.xpath("//header/div[1]/div[1]/div[3]/div[1]/a[2]"));
    prijava.click();

    Thread.sleep(3000);

    WebElement username = webDriver.findElement(By.id("username"));
    WebElement password = webDriver.findElement(By.id("password"));
    username.sendKeys("faris@beka.me");
    password.sendKeys("svtprojekat");

    Thread.sleep(3000);

    WebElement loginbtn = webDriver.findElement(By.id("btnlogin1"));
    loginbtn.click();

    Thread.sleep(3000);

    WebElement cookies = webDriver.findElement(By.xpath("//button[contains(text(),'Prihvati i zatvori')]"));
    assertEquals("PRIHVATI I ZATVORI", cookies.getText());
    cookies.click();
}
```

The console output shows the following messages:

```
<terminated> Selenium [JUnit] C:\Users\PC\p2\poo\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64_15.0.1.v20201027-0507\jre\bin\javaw.exe (Jan 10, 2021, 6:02:19 PM - 6:02:43 PM)
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
Jan 10, 2021 6:02:24 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
```

Picture 5: Check if Accept Cookies button works correctly

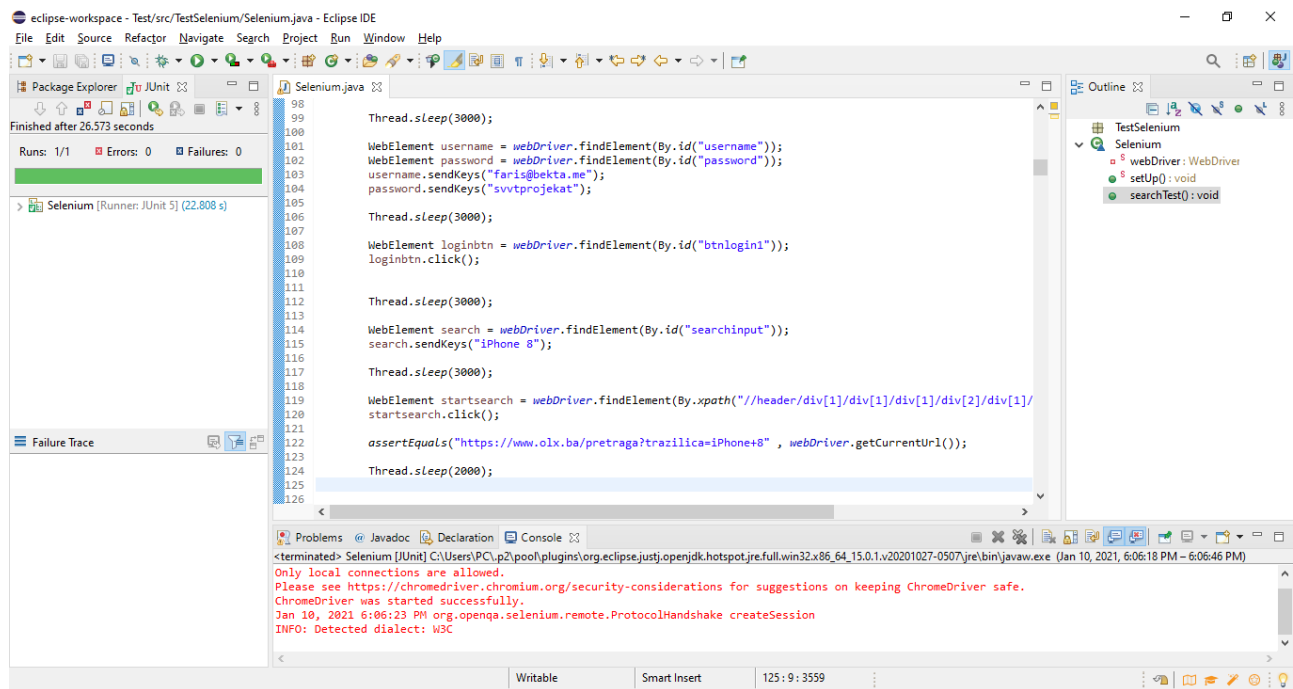


### 3.3. Search Test – Check if the Search bar works correctly

The purpose is to check if the search bar works correctly if the user can input value to search, and search it by clicking on the button, and if the button leads to the

<https://www.olx.ba/pretraga?trazilica=iphone+8> page.

<b>Test Name:</b> searchTest()				
<b>Description:</b> Testing does OLX search works				
<b>Pre-condition(s):</b> Getting OLX.ba				
<b>Test Steps:</b>	<b>Test Data:</b>	<b>Expected Result:</b>	<b>Actual Result:</b>	<b>Status:</b>
<ol style="list-style-type: none"> <li>Find the path of text space and send key/value/text to search.</li> <li>Find path of button and click it.</li> </ol>	-Sending some data input for search.	Taking us to next page of our wanted search.	Taking us to next page of our wanted search.	PASS
<b>Notes:</b>				



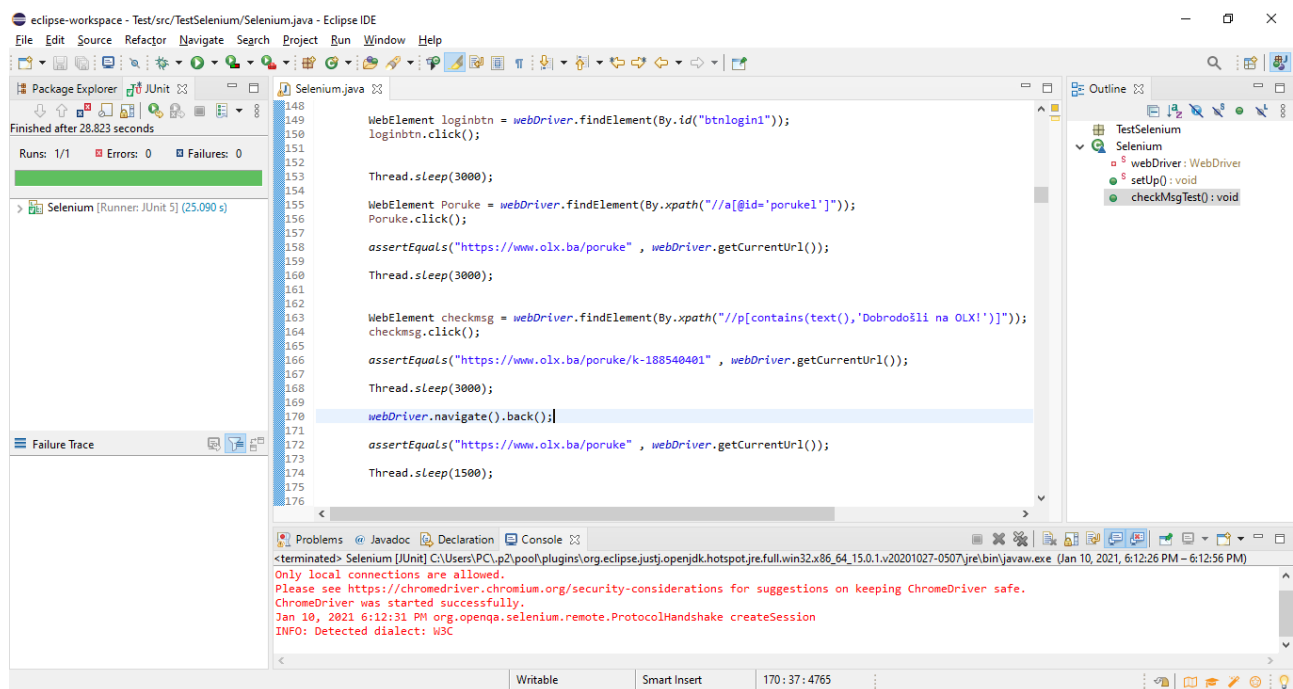
Pictures 6: Check if the Search bar works correctly



### 3.4. Check Message – Check if the Check Message button and Opening Message work correctly

The purpose is to check if the Check Message button takes to the Messages page with no problem. Next, to check if by clicking on the message that user has, does it take to the link for that message. After all, to check if clicking on the back button leads back to the Messages page (<https://www.olx.ba/poruke>).

Test Name: checkMsgTest()				
Description: Testing does message button works, message inside it and back button				
Pre-condition(s): Getting OLX.ba, Logging in				
Test Steps:	Test Data:	Expected Result:	Actual Result:	Status:
1. Find the path of message button and click it.		Opening Messages page	Opening Messages page	PASS
2. Find the path of message inside it and click it.		Opening our new message for us.	Opening our new message for us.	
3. Testing if the leading Page Title is the one we expected.		Taking us back to Messages page	Taking us back to Messages page	
Notes:				

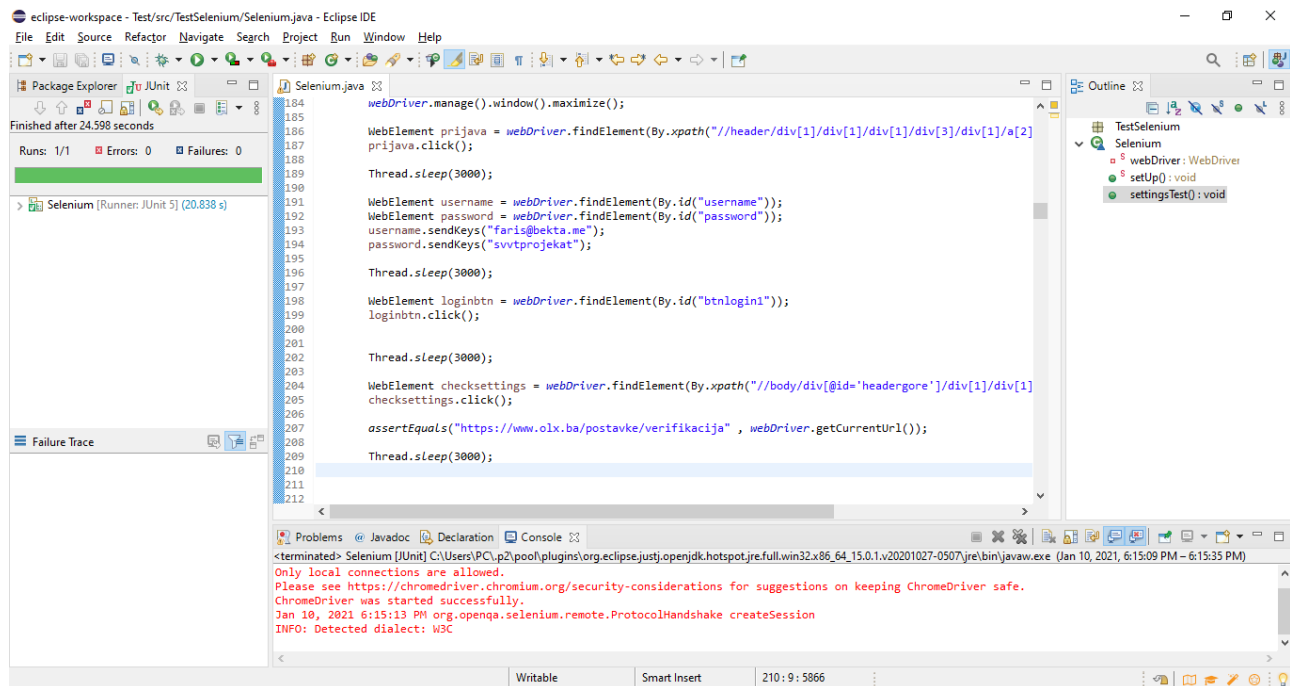


Picture 7: Check if Check message button works correctly

### 3.5. Settings Test – Check if the Settings button works correctly

The purpose is to check if the button leading to the settings page works correctly.

Test Name: settingsTest()				
Description: Testing does settings button work.				
Pre-condition(s): Getting OLX.ba, Logging in				
Test Steps:	Test Data:	Expected Result:	Actual Result:	Status:
1. Find the path of settings button, click it.		Opening our settings page.	Opening our settings page.	PASS
Notes:				



Picture 8: Check if Settings button works correctly

### 3.6. Mobile Devices – Check if it opens correctly

The purpose is to check if the Mobile Devices, button from the Category dropdown, leads to the Mobile Devices page with no problems. Also, to check if clickable logo picture leads to Home Page.

**Test Name:** KategorijaMobiteliPikLogoTest()**Description:** Testing does category-mobile phones works, and does OLX logo works.**Pre-condition(s):** Getting OLX.ba, Logging in

Test Steps:	Test Data:	Expected Result:	Actual Result:	Status:
<ol style="list-style-type: none"> <li>1. Find the path of category dropdown button, click it.</li> <li>2. Find the path of mobile devices inside it, and click it.</li> <li>3. Testing if the leading Page Title is the one we expected.</li> <li>4. Navigate back to OLX by finding path of OLX logo button and clicking it.</li> </ol>		Open wanted category with mobile devices, go back to OLX.ba	Open wanted category with mobile devices, go back to OLX.ba	PASS
<b>Notes:</b>				

```

eclipse-workspace - TestSelenium/Selenium.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help

Package Explorer  Selenium.java
Finished after 32.185 seconds
Runs: 1/1  Errors: 0  Failures: 0
Selenium [Runner: JUnit 5] (28.469 s)

230 Thread.sleep(3000);
231
232 WebElement loginbtn = webDriver.findElement(By.id("btnlogin1"));
233 loginbtn.click();
234
235
236
237 Thread.sleep(3000);
238
239 WebElement kategorije = webDriver.findElement(By.id("km"));
240 kategorije.click();
241
242 Thread.sleep(3000);
243
244 WebElement mob = webDriver.findElement(By.xpath("//body/div[@id='headergore']/div[1]/div[1]/div[1]/ul"));
245 mob.click();
246
247 assertEquals("https://www.olx.ba/mobilni-uredjaji", webDriver.getCurrentUrl());
248
249 Thread.sleep(3000);
250
251 WebElement backToOlx = webDriver.findElement(By.id("piklogo"));
252 backToOlx.click();
253
254 assertEquals("https://www.olx.ba/", webDriver.getCurrentUrl());
255
256 Thread.sleep(3000);
257
258

Problems  Javadoc  Declaration  Console
<terminated> Selenium [JUnit] C:\Users\PC\p2\pool\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64_15.0.1.v20201027-0507\jre\bin\javaw.exe (Jan 10, 2021, 6:18:27 PM - 6:19:00 PM)
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
Jan 10, 2021 6:18:31 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C

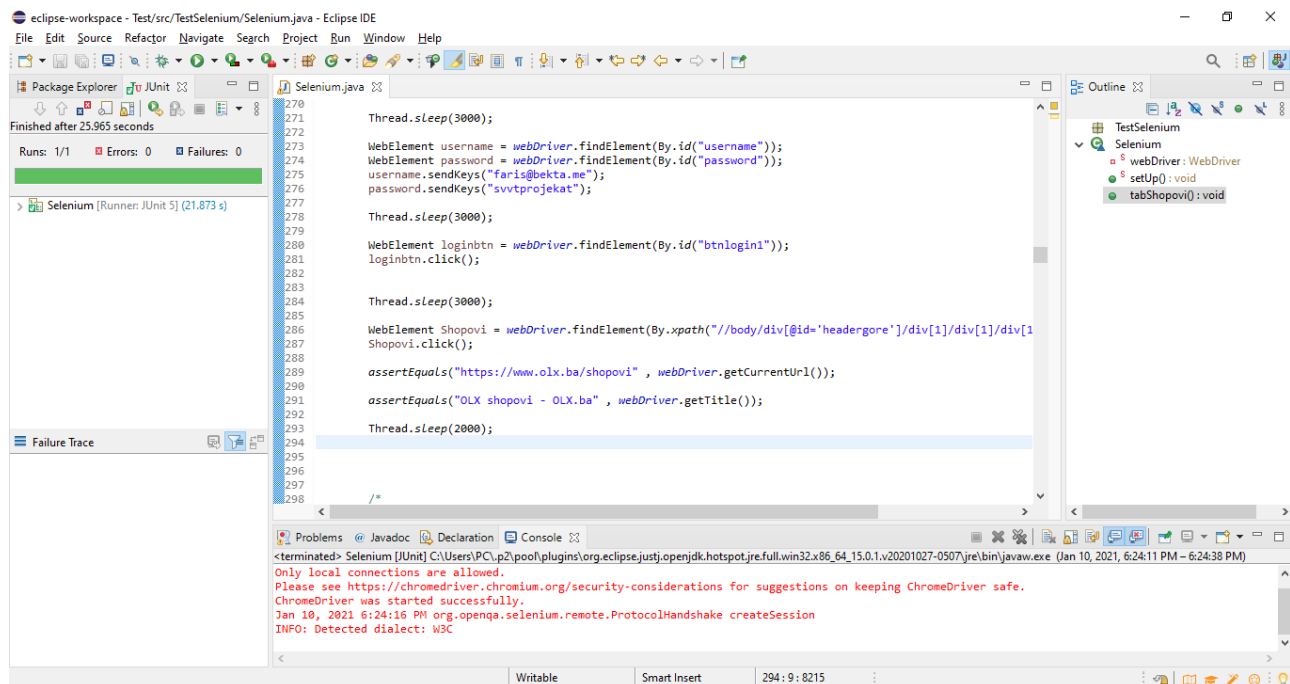
```

*Picture 9: Check if the Mobile devices page opens correctly*

### 3.7. Tab Shops – Check if it opens correctly

The purpose is to check if the Shops, button from the navbar, works with no problems and leads to the Shops page. Also, to check if the title of this page ("OLX SHOPOVI – OLX.ba) leads to the Shops page (<https://www.olx.ba/shopovi>).

Test Name: tabShopovi()				
Description: Testing does Shopovi tab works.				
Pre-condition(s): Getting OLX.ba, Logging in				
Test Steps:	Test Data:	Expected Result:	Actual Result:	Status:
<ol style="list-style-type: none"> <li>Find the path of Shopovi button, click it.</li> <li>Testing if the leading Page Title is the one we expected.</li> </ol>		Open Shopovi page.	Open Shopovi page.	PASS
Notes:				

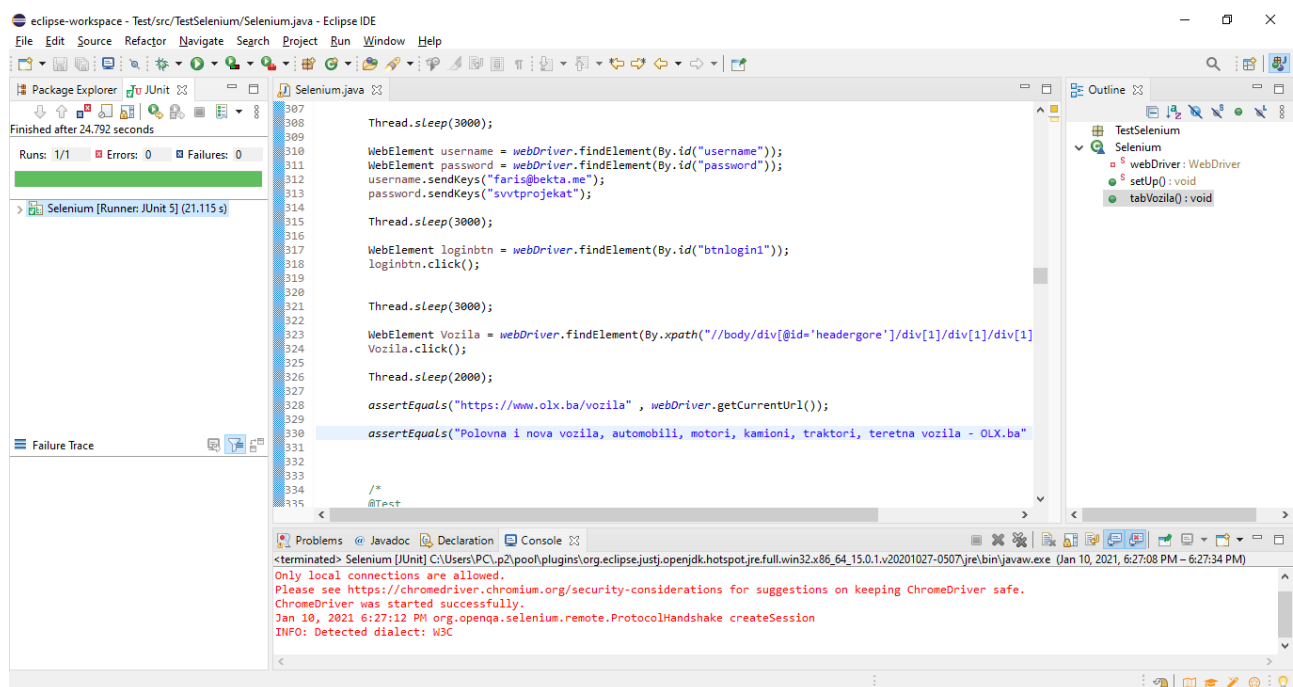


Picture 10: Check if tab Shops works correctly

### 3.8. Tab Cars – Check if it opens correctly

The purpose is to check if the Cars, button from the navbar, works with no problems and leads to the Cars page. Also, to check if the page title leads to the Cars page.

Test Name: tabVozila()				
Description: Testing does Vozila button work.				
Pre-condition(s): Getting OLX.ba, Logging in				
Test Steps:	Test Data:	Expected Result:	Actual Result:	Status:
<ol style="list-style-type: none"> <li>Find the path of Vozila button, click it.</li> <li>Compare current and expected titles</li> </ol>		Opening our Vozila page.	Opening our Vozila page.	PASS
Notes:				

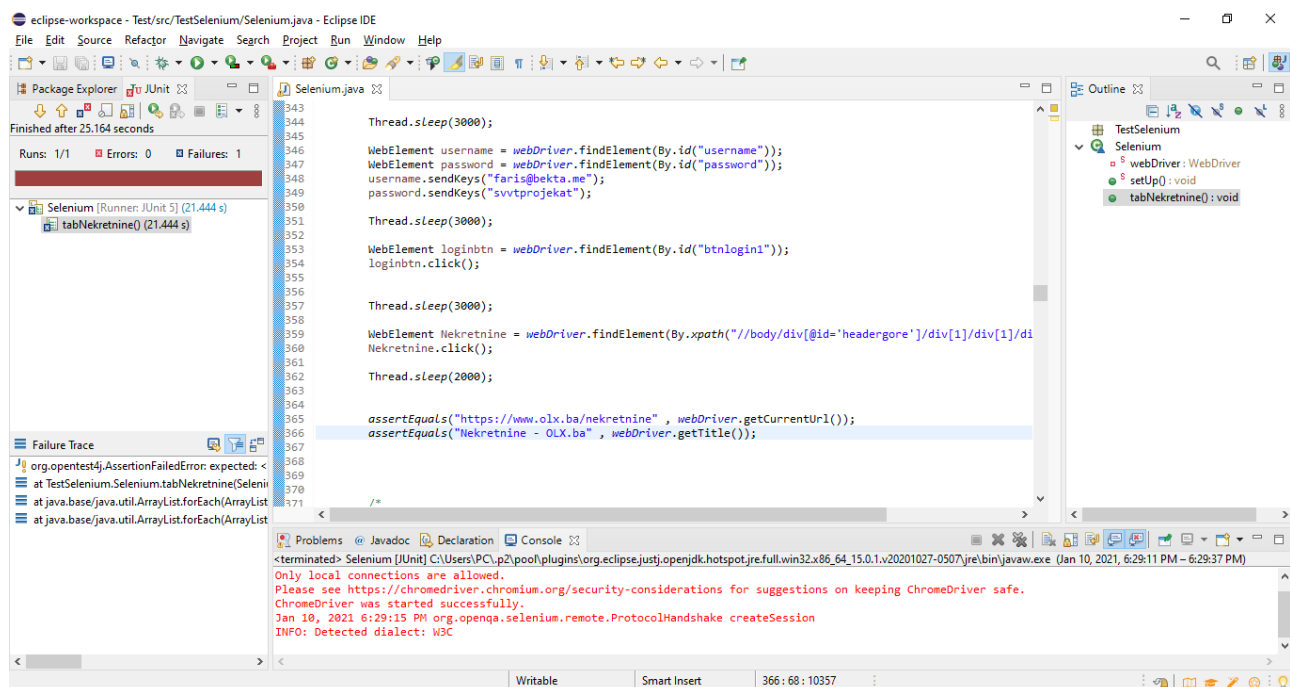


Picture 11: Check if tab Cars works correctly

### 3.9. Tab Real Estate – Check if it opens correctly

The purpose is to check if Real Estate, button from the navbar, works with no problems and leads to the Real Estate page. Also, to check if the page tittle leads to the Real Estate page.

<b>Test Name:</b> tabNekretnine()				
<b>Description:</b> Testing does Nekretnine button work.				
<b>Pre-condition(s):</b> Getting OLX.ba, Logging in				
<b>Test Steps:</b>  1. Find the path of Nekretnine button, click it.  2. Testing if the leading Page Title is the one we expected.	<b>Test Data:</b>	<b>Expected Result:</b>  Opening our Nekretnine page.	<b>Actual Result:</b>  Opening our Nekretnine page.	<b>Status:</b>  FAIL
<b>Notes:</b>				



Picture 12: Check if tab Real Estate works correctly

### 3.10. Tab Latest – Check if it opens correctly

The purpose is to check if the Latest, button from the navbar, works with no problems and leads to the Latest page. Also, to check if the page title leads to the Latest page.

Test Name: tabNajnovije()				
Description: Testing does Najnovije button work.				
Pre-condition(s): Getting OLX.ba, Logging in				
Test Steps:	Test Data:	Expected Result:	Actual Result:	Status:
<ol style="list-style-type: none"> <li>1. Find the path of Najnovije button, click it.</li> <li>2. Testing if the leading Page Title is the one we expected.</li> </ol>		Opening our Najnovije page.	Opening our Najnovije page.	PASS
Notes:				

```

379 prijava.click();
380 Thread.sleep(3000);
381
382 WebElement username = webDriver.findElement(By.id("username"));
383 WebElement password = webDriver.findElement(By.id("password"));
384 username.sendKeys("fari@beka.me");
385 password.sendKeys("svtprojekat");
386
387 Thread.sleep(3000);
388
389 WebElement loginbtn = webDriver.findElement(By.id("btnlogin1"));
390 loginbtn.click();
391
392 Thread.sleep(3000);
393
394 WebElement Najnovije = webDriver.findElement(By.xpath("//body/div[@id='headergore']/div[1]/div[1]/div
395 Najnovije.click();
396 Thread.sleep(2000);
397
398 assertEquals("https://www.olx.ba/zadnje", webDriver.getCurrentUrl());
399 assertEquals("Tek objavljeni artikli - OLX.ba", webDriver.getTitle());
400
401
402
403
404
405
406
407

```

Finished after 23.657 seconds

Runs: 1/1 Errors: 0 Failures: 0

Selenium [Runner: JUnit 5] (19.928 s)

Failure Trace

Problems @ Javadoc Declaration Console

<terminated> Selenium [JUnit] C:\Users\PC\p2\poo\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86\_64\_15.0.1.v20201027-0507\jre\bin\javaw.exe (Jan 10, 2021, 6:32:24 PM - 6:32:49 PM)

Only local connections are allowed.

Please see <https://chromedriver.chromium.org/security-considerations> for suggestions on keeping ChromeDriver safe.

ChromeDriver was started successfully.

Jan 10, 2021 6:32:29 PM org.openqa.selenium.remote.ProtocolHandshake createSession

INFO: Detected dialect: W3C

Picture 13: Check if tab Latest works correctly



### 3.11. Tab Urgent – Check if it opens correctly

The purpose is to check if the Urgent, button from the navbar, works with no problems and leads to the Urgent page.

Test Name: tabHitno()				
Description: Testing does Hitno button work.				
Pre-condition(s): Getting OLX.ba, Logging in				
Test Steps:	Test Data:	Expected Result:	Actual Result:	Status:
<ol style="list-style-type: none"> <li>Find the path of Hitno button, click it.</li> <li>Testing if the leading Page Title is the one we expected.</li> </ol>		Opening our Hitno page.	Opening our Hitno page.	FAIL
Notes:				

The screenshot shows the Eclipse IDE interface. The main editor displays the Selenium test code for `tabHitno()`. The code includes steps for logging in, clicking the 'Hitno' button, and asserting the URL. The left sidebar shows the test results, indicating that the test `tabHitno()` failed. The bottom console shows the error message: `org.opentest4j.AssertionFailedError: expected: <...>`. The status bar at the bottom indicates the test was terminated.

Picture 14: Check if tab Urgent works correctly

### 3.12. Tab Services – Check if it opens correctly

The purpose is to check if the Services, button from the navbar, works with no problems and leads to the Services page. Also, to check if the button from side bar, Homes and Offices, leads to the Homes and Offices page.

Test Name: tabUsluge()				
Description: Testing does Usluge button work.				
Pre-condition(s): Getting OLX.ba, Logging in				
Test Steps:	Test Data:	Expected Result:	Actual Result:	Status:
1. Find the path of Usluge button, click it.		Opening our Usluge page.	Opening our Usluge page.	PASS
2. Find the path of Dom I Kancelarija button, click it.		Opening our Dom I Kancelarija page.	Opening our Dom I Kancelarija page	
Notes:				

```

eclipse-workspace - Test/src/TestSelenium/Selenium.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer JUnit Selenium.java
Finished after 28.174 seconds
Runs: 1/1 Errors: 0 Failures: 0
Selenium (Runner: JUnit 5) (24.473 s)
Failure Trace
Selenium.java
password.sendKeys("svtprojekat");
Thread.sleep(3000);
WebElement loginbtn = webDriver.findElement(By.id("btnlogini"));
loginbtn.click();
WebElement cookies = webDriver.findElement(By.xpath("//button[contains(text(),'Prihvati i zatvori')]"));
cookies.click();
Thread.sleep(3000);
WebElement Usluge = webDriver.findElement(By.xpath("//a[@id='siul']"));
Usluge.click();
String link = "https://www.olx.ba/servisi-i-usluge";
assertEquals(link, webDriver.getCurrentUrl());
Thread.sleep(2000);
WebElement domkanc = webDriver.findElement(By.xpath("//a[contains(text(),'Dom i kancelarija')]"));
domkanc.click();
Thread.sleep(1500);
assertEquals("https://www.olx.ba/dom-i-kancelarija/2159/2175", webDriver.getCurrentUrl());
Thread.sleep(1500);
TestSelenium
Selenium
webDriver: WebDriver
setUp(): void
tabUsluge(): void
Problems Javadoc Declaration Console
<terminated> Selenium [JUnit] C:\Users\PC\p2\pool\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64_15.0.1.v20201027-0507\jre\bin\javaw.exe (Jan 10, 2021, 6:51:35 PM - 6:52:05 PM)
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
Jan 10, 2021 6:51:40 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
Writable Smart Insert 475: 9: 13422

```

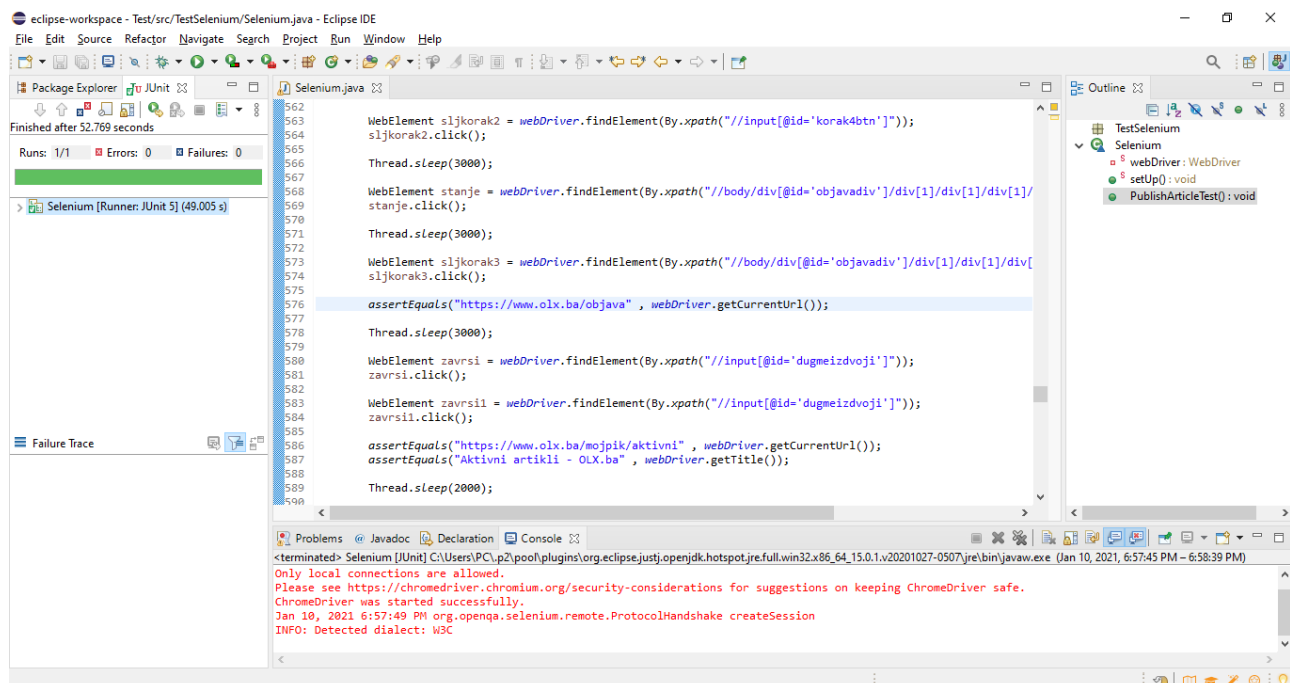
Picture 15: Check if tab Services works correctly

### 3.13. Publish Article – Check if it works correctly

The purpose is, firstly, to check if the button on the navbar works properly and leads to the publication page.

Secondly, to check if, after publishing article, it leads to published article page.

Test Name: PublishArticleTest()				
Description: Testing does publishing article process works.				
Pre-condition(s): Getting OLX.ba, Logging in, Accepting cookies				
Test Steps:	Test Data:	Expected Result:	Actual Result:	Status:
1. Find the path of Objavite button, click it.		Publishing our article “iPhone 8”.	Published our article “iPhone 8”.	PASS
2. Find the path of Zavrsi button, click it		Taking us to the Published Article Page	Taking us to the Published Article Page	
Notes:				

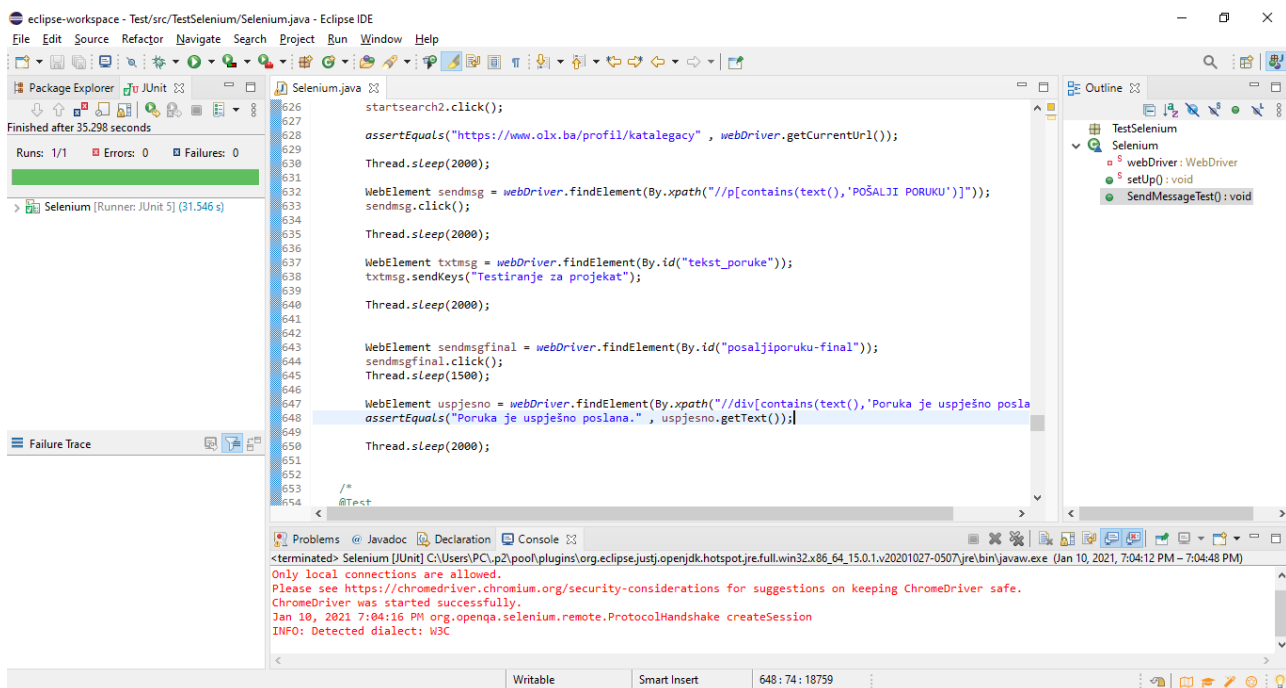


Picture 16: Check if Publish Article page works correctly

### 3.14. Tabs Profile and SendMessage – Check if it works correctly

The purpose is to check if the Profile Button, works with no problems and leads to a Profile page. Next, to check if, after sending message, pop up with content that message is sent appears.

<b>Test Name:</b> SendMessageTest()				
<b>Description:</b> Testing does sending message to another user works.				
<b>Pre-condition(s):</b> Getting OLX.ba, Logging in, search button.				
<b>Test Steps:</b>  1. Find the path of Profile button, click it. 1. Send input values to search space of wanted user. 2. Find the path of user, click it. 3. Find the path of Send message button, click it. 4. Send some input values for message. 5. Find the path of Posalji and click it. 6. Testing if the leading pop-up text is the one we expected.	<b>Test Data:</b>  -Input value for user. -Input value for text message.	<b>Expected Result:</b>  Sending message to user. Pop-up appearing.	<b>Actual Result:</b>  Sent message to user. Pop-up appearing.	<b>Status:</b>  PASS
<b>Notes:</b>				

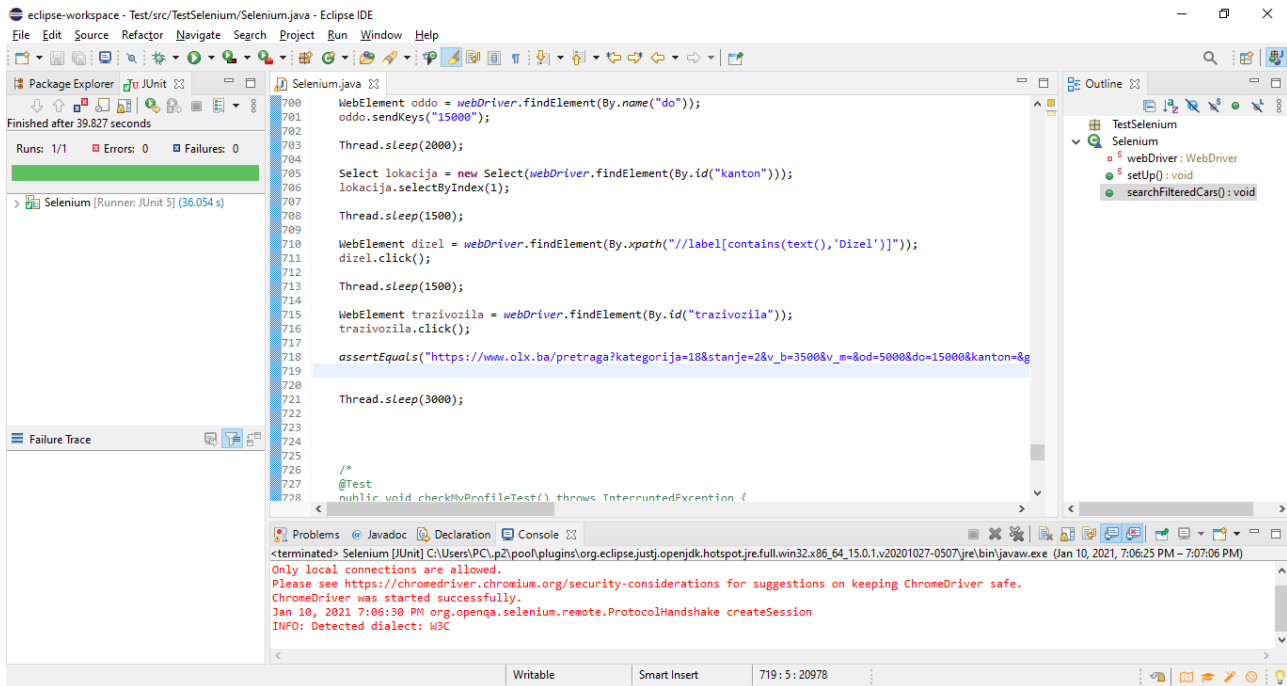


Pictures 17: Check if tab Send Message works correctly

### 3.15. Search bar searchFilerCars – Check if it works correctly

The purpose is to check, if when all the filters are selected and the Search button is clicked, does it lead to the page where it displays cars with entered criteria.

Test Name: searchFilteredCars()				
Description: Testing does searching filtered cars work.				
Pre-condition(s): Getting OLX.ba, Logging in				
Test Steps:	Test Data:	Expected Result:	Actual Result:	Status:
1. Find the path of Vozila button, click it. 2. Click the “Polovna” button. 3. We want BMW so on dropdown using Select, select BMW vehicles. 4. Send keys from 5000 to 15000 price. 5. Click the button “Dizel”. 6. On dropdown select that we want it from Sarajevo. 7. Click “Trazi vozila” button.	-Input values for the price.	Opening page of our wanted filtered cars.	Opening page of our wanted filtered cars.	PASS
Notes:				

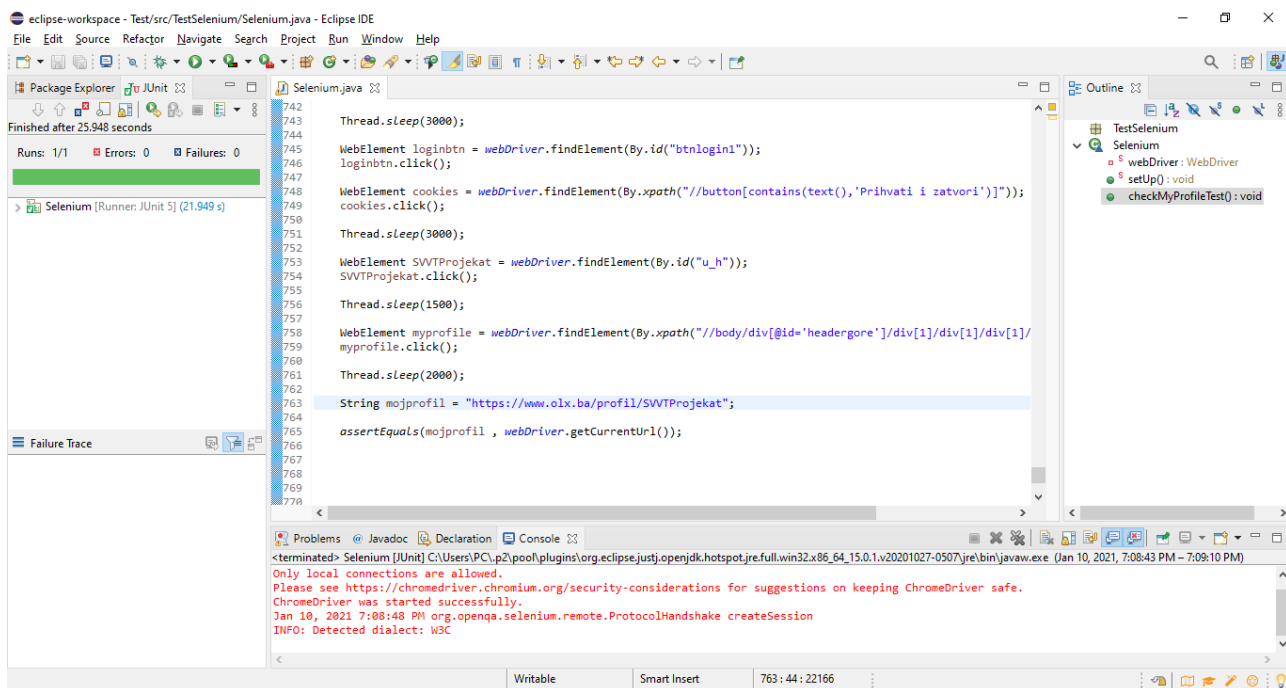


Picture 18: Check if search bar searchFilteredCars works correctly

### 3.16. Tab MyProfile – Check if it opens correctly

The purpose is to check if MyProfile, button from the navbar, works with no problems and leads to the MyProfile page.

Test Name: checkMyProfileTest()				
Description: Testing does checking my profile button works.				
Pre-condition(s): Getting OLX.ba, Logging in, Accepting cookies				
Test Steps:	Test Data:	Expected Result:	Actual Result:	Status:
1. Find the path of our username top left corner, click it. 2. Find the path of our profile, and click it.		Opening our profile page.	Opening our profile page.	PASS
Notes:				



Picture 19: Check if `checkMyProfile` button works correctly

## 4. Conclusion

### 4.1. Testing summary

Testing Tool	Total Tests	Passed Tests	Failed Tests
JUnit	16	14	2
Selenium WebDriver			
	16		2

### Failed Tests:

Tab Real Estate – Check if it opens correctly

Tab Urgent – Check if it opens correctly

## 4.2. Final Thoughts

We tested some of the biggest companies website on our region. Even before testing, we doubted there would be some mistakes on the website. And as we thought everything was implemented well. Some of the tests failed (on purpose) for us to check is the real URL correct. It is simply the simplest, without any mistakes, fully functional, working website. It was fun testing it.