

PROFESSIONAL TRAINING REPORT

at

**Sathyabama Institute of Science and Technology (Deemed
to be University)**

Submitted in partial fulfillment of the requirements for the award of
Bachelor of Technology in Information Technology

By

**T. Jacob raja
REG. NO. 39120041**



DEPARTMENT OF INFORMATION TECHNOLOGY

SCHOOL OF COMPUTING

**SATHYABAMA INSTITUTE OF SCIENCE AND
TECHNOLOGY**

**JEPPIAAR NAGAR, RAJIV GANDHI SALAI,
CHENNAI – 600119, TAMILNADU**

NOVEMBER 2021



SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)

Accredited with Grade "A" by NAAC

(Established under Section 3 of UGC Act, 1956)

JEPPIAAR NAGAR, RAJIV GANDHI SALAI

CHENNAI- 600119

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DEPARTMENT OF INFORMATION TECHNOLOGY

BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of T.Jacob raja(**Reg. No: 39120041**) who carried out the project entitled "**Automation Testing Train Reservation**" under my supervision from June 2021 to November 2021.

Internal Guide

Dr. S. Revathy ,ME.,Ph.d.,

Head of the Department

Dr. R. SUBHASHINI M.E.,Ph.D.,

Submitted for Viva voce Examination held on _____

Internal Examiner

External Examiner

DECLARATION

I **T.Jacob raja (Reg No:39120041)** hereby declare that the Project Report entitled **“Automation Testing Train Reservation”** done by me under the guidance of **Dr. S.Revathy Ph.D.**, is submitted in partial fulfillment of the requirements for the award of Bachelor of Technology degree in Information Technology.

DATE:

PLACE: CHENNAI

SIGNATURE OF THE CANDIDATE

ACKNOWLEDGEMENT

I am pleased to acknowledge our sincere thanks to Board of management of **SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey our thanks to **Dr. T. SASIKALA M.E., Ph.D.**, Dean, School of Computing and **Dr. R. SUBHASHINI M.E., Ph.D.**, Head of the Department, Department of Information technology for providing us the necessary support and details at the right time during the progressive reviews.

I would like to express our sincere and deep sense of gratitude to our Project Guide **Dr.S.Revathy.,Ph.D.**, for her valuable guidance, suggestions and constant encouragement paved way for the successful completion of my project work.

I wish to express our thanks to all Teaching and Non-teaching staff members of the Department of **INFORMATION TECHNOLOGY** who were helpful in many ways for the completion of the project.

TRAINING CERTIFICATE



JS Software Testing Solution Centre

CERTIFICATE OF COMPLETION

This certificate is presented to

T. JACOB RAJA

in recognition of his/her hard work and dedication in completing the
Automation Selenium Testing Course from August 2021 to November 2021.

S. Johnson
Director

Irfana
Trainer

ABSTRACT

Automation Testing Train Reservation is used to automate train booking webpage by the use of Selenium tool and also with TestNG.

Automation is a necessity in the current times as it makes processes more economical and affordable in the long run. It also frees humans from performing banal tasks day in and day out. Once a process is automated the only check that is to be performed is whether it is turned on or not. Automated processes are not prone to errors and even if an error is identified rectification is easy and can be applied system wide without any delay.

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CHAPTER – 1

INTRODUCTION

1.1GENERAL

Software Testing Qualification Board (ISTQB), test automation is defined as using software to either support or perform testing activities. In test automation, software is used not only for test execution per se, but also for activities like management of test cases, design of test cases or the evaluation and reporting of test results. While initially seen as a possibility to increase efficiency and reduce costs, test automation has become an essential part of software development process

1.2 OUTLINE OF THE PROJECT

To test more number of searching site manually it takes days, weeks, papers and human energy to complete it. But by using this project we are able to complete our work in less than an hour. It saves time, money, energy and less paper work. It is also very convenient to check, change the description of the user profile. Many errors are saved in this method.

1.3 ORGANIZATION OF THE REPORT

Chapter 2 deals with Aim, Problem Statement, Literature Review and Scope of the present investigation. Chapter 3 deals with Requirement, Role of Java and Results and Discussion. Chapter 4 deals with Conclusion and Future work.

CHAPTER 2

AIM & SCOPE

2.1 AIM

To test online train reservation system, the given user details should give in the search field while doing this the user shouldn't able to book tickets for previous month then it should shows the availability of train.

2.2 PROBLEM STATEMENT

The problem statement, is to test the online train reservation system in a very short period of time. To give the description to the valid users and error to the invalid users. To do this process manually it takes a lot of time and many paper works. So we are using this automation testing to reduce time and work.

2.3 LITERATURE REVIEW

Booking tickets with the help of technology can summarize the costs and time required in conventional ticket bookings. Focusing on the needs and emotions of users when using a ticket booking application is one of the keys to the success of an application, evaluating user experience to ticket booking application users can find out the experience users get when using a ticket booking application. The method used in this research is the Systematic Literature Review (SLR) from journal papers published from 2017–2021. The results showed that the ticket ordering application had more research on the Traveloka and Tiket.com applications, and the methods used for evaluating user experience/user experience and ticket booking applications were more dominant using the User Experience Questionnaire (UEQ) method, as well as the advantages of the method used.

2.4 Scope

It reduces the manpower needed to perform the entire administration task by reducing the paper work needed, all the work is done by the computer there will be no chance of error. In a nutshell, it can be summarized that the future scope of the project circles around maintaining information regarding.

- * We can add printer in future
- * We can give more advance software for Train reservation system including more facilities
- * We will host platform on online servers to make it accessible worldwide
- * Implement the backup mechanism for taking backup of codebase and database on regular basis on different servers.

CHAPTER 3

SYSTEM IMPLEMENTATION

3.1 REQUIREMENTS

I. HARDWARE REQUIREMENTS

- A 64-bit operating system like Windows 7 or later.
- Microsoft Internet Explorer 9.0 or later.
- Intel Core i5 or Intel Core i7 (the 3rd generation).

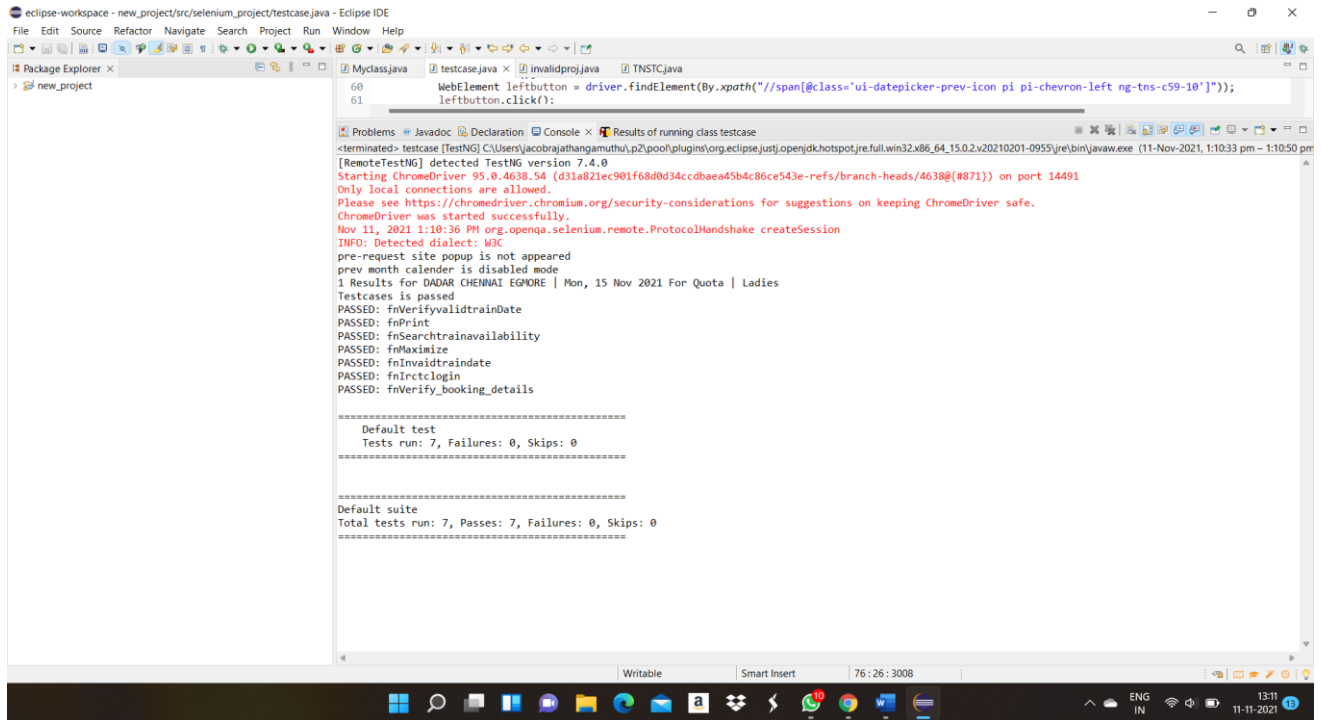
II. SOFTWARE REQUIREMENTS

- Eclipse
- TestNG
- Java

3.2 RESULTS AND DISCUSSION

Using TestNG, successfully launched the browser and the Online train reservation website, the valid code executed successfully.

All testcases are passed



The screenshot shows the Eclipse IDE interface with the console window open. The console displays the output of a TestNG test run. The test suite is named 'Default suite' and contains 7 tests. All tests passed successfully. The console output includes the following information:

```
<terminated> testcase [TestNG] C:\Users\jacobrajathangamuthu\p2\pool\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64_15.0.2.v20210201-0955\jre\bin\javaw.exe (11-Nov-2021, 1:10:33 pm - 1:10:50 pm)
[TestNG] detected TestNG version 7.4.0
Starting ChromeDriver 95.0.4638.54 (d31a821ec901f68d0d34ccdbaa45b4c86ce543e-refs/branch-heads/4638@{#871}) on port 14491
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
Nov 11, 2021 1:10:36 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
pre-request site popup is not appeared
prev month calendar is disabled mode
1 Results for DADAR CHENNAI EGNORE | Mon, 15 Nov 2021 For Quota | Ladies
Testcases is passed
PASSED: fnVerifyvalidtrainDate
PASSED: fnPrint
PASSED: fnSearchtrainavailability
PASSED: fnMaximize
PASSED: fnInvalidtraindate
PASSED: fnIrctlogin
PASSED: fnVerify_booking_details

=====
Default test
Tests run: 7, Failures: 0, Skips: 0
=====

=====
Default suite
Total tests run: 7, Passes: 7, Failures: 0, Skips: 0
=====
```

Fig:3.2 console

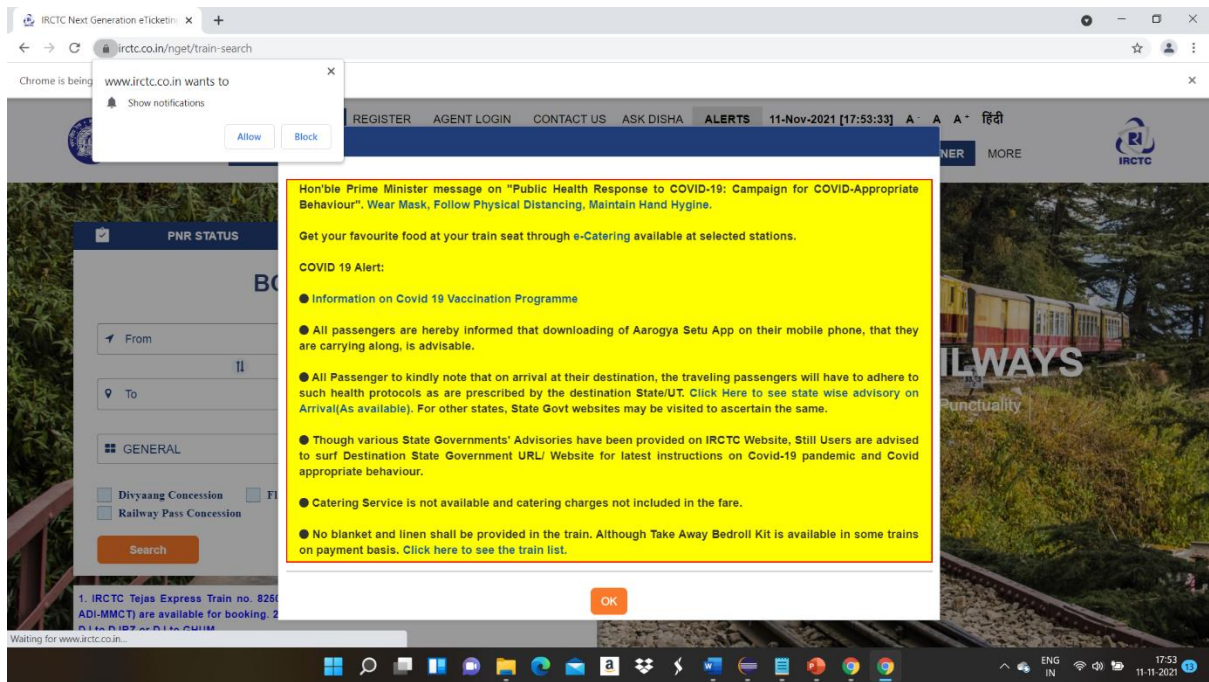


Fig 3.3 Highlighting the alert message

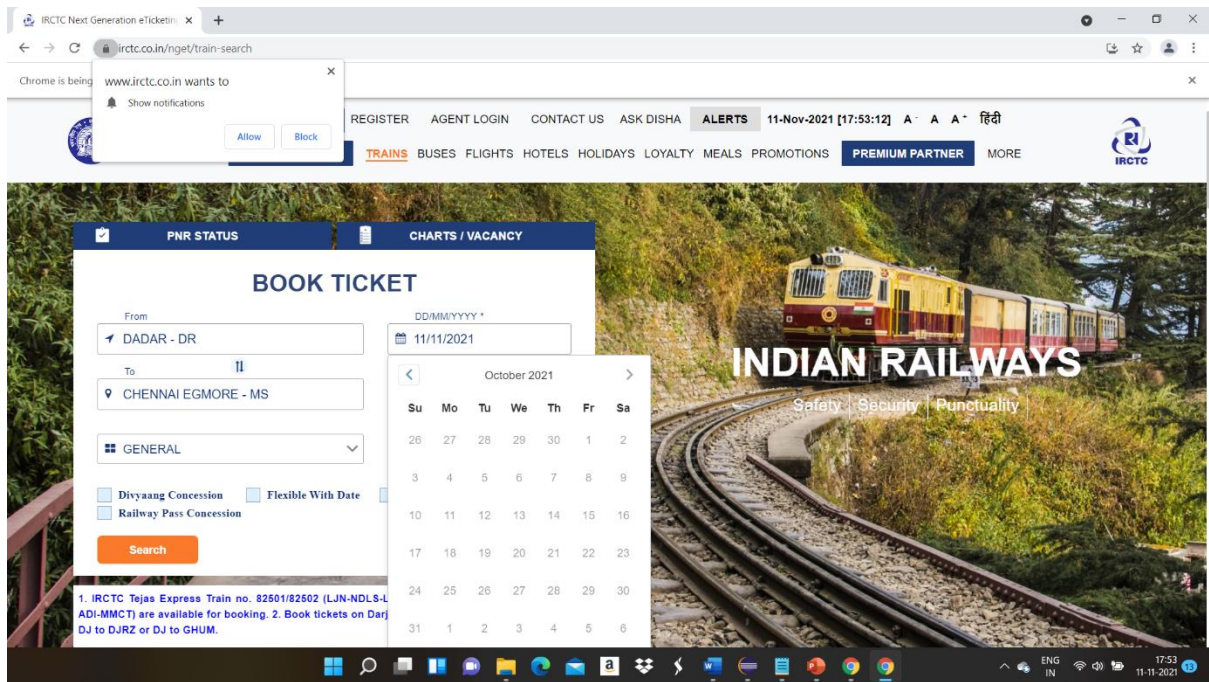


Fig:3.4 verifying details

The screenshot displays the IRCTC Next Generation eTicketing interface. The search criteria are DADAR - DR to CHENNAI EGMORE on 15/11/2021, AC 2 Tier (2A), LADIES. The results show 1 train for DADAR → CHENNAI EGMORE | Mon, 15 Nov 2021 For Quota | Ladies.

Train Details: LTT MAS SF SPL (01479) Runs On: M T W T F S S

Train Schedule: 13:20 | LOKMANYATILAK T | Mon, 15 Nov — 21:40 — 11:00 | MGR CHENNAI CTL | Tue, 16 Nov

Second Sitting (2S)	Sleeper (SL)	AC 3 Tier (3A)	AC 2 Tier (2A)
NOT AVAILABLE ₹ 355	AVAILABLE-0001 ₹ 590	NOT AVAILABLE ₹ 1540	NOT AVAILABLE ₹ 2200

Filters:

- JOURNEY CLASS:** Select All
- AC 2 Tier (2A):** ☒ **Second Sitting (2S):** ☐
- AC 3 Tier (3A):** ☐ **Sleeper (SL):** ☐
- TRAIN TYPE:** Select All
- SPECIAL:** ☒ **SPECIAL TATKAL:** ☒
- DEPARTURE TIME:** Select All
- 00:00 - 06:00 Early Morning:** ☐ **06:00 - 12:00 Morning:** ☐
- 12:00 - 18:00:** ☐ **18:00 - 24:00:** ☐

Fig 3.5 Availability of train

CHAPTER 4

CONCLUSION AND FUTURE WORK

4.1 CONCLUSION

Selenium is a cost-effective and flexible tool developers can use in the automation testing of their web applications. The most intriguing feature of this software is the ability to test applications across various web browsers

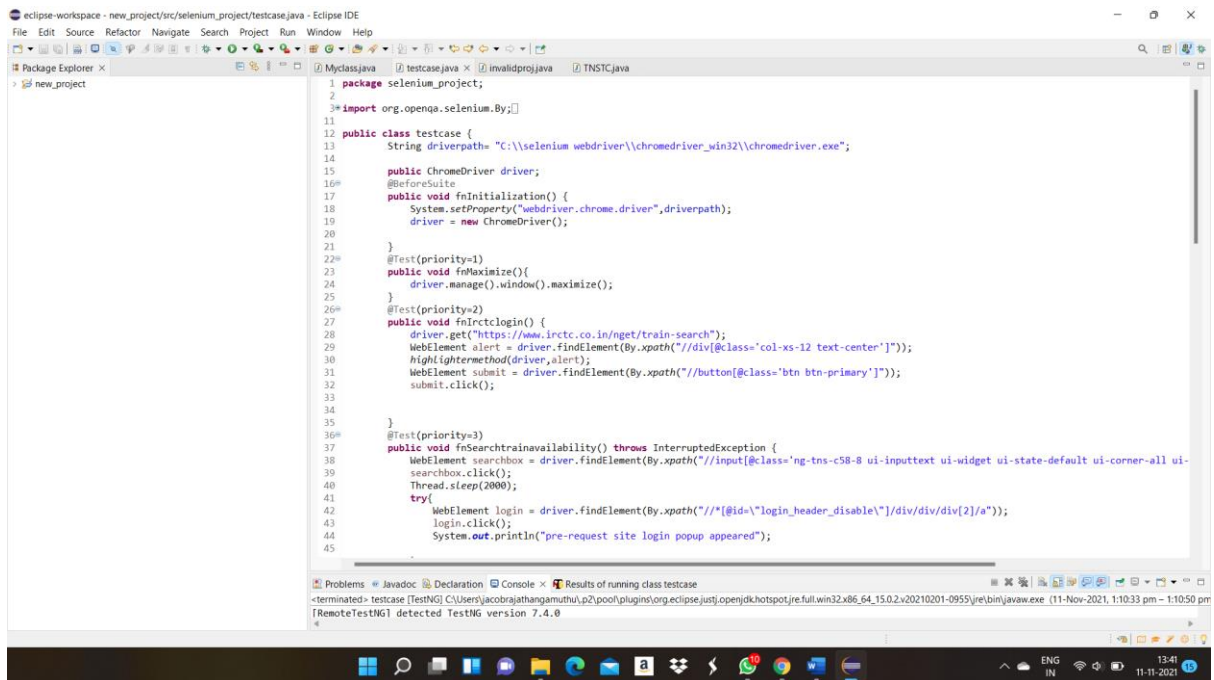
I say that this project has given me a great experience. Thanks to this project, I learned a lot of technical skill as well as I was personally benefited.

4.2 FUTURE WORK

There is a future scope of this facility that many more features such as online lectures video tutorials can be added by teachers as well as online assignments submission facility, a feature of group chat where students can discuss various issues of engineering can be added to this project thus making it more interactive more user friendly and project which fulfills each users need in the best way possible.

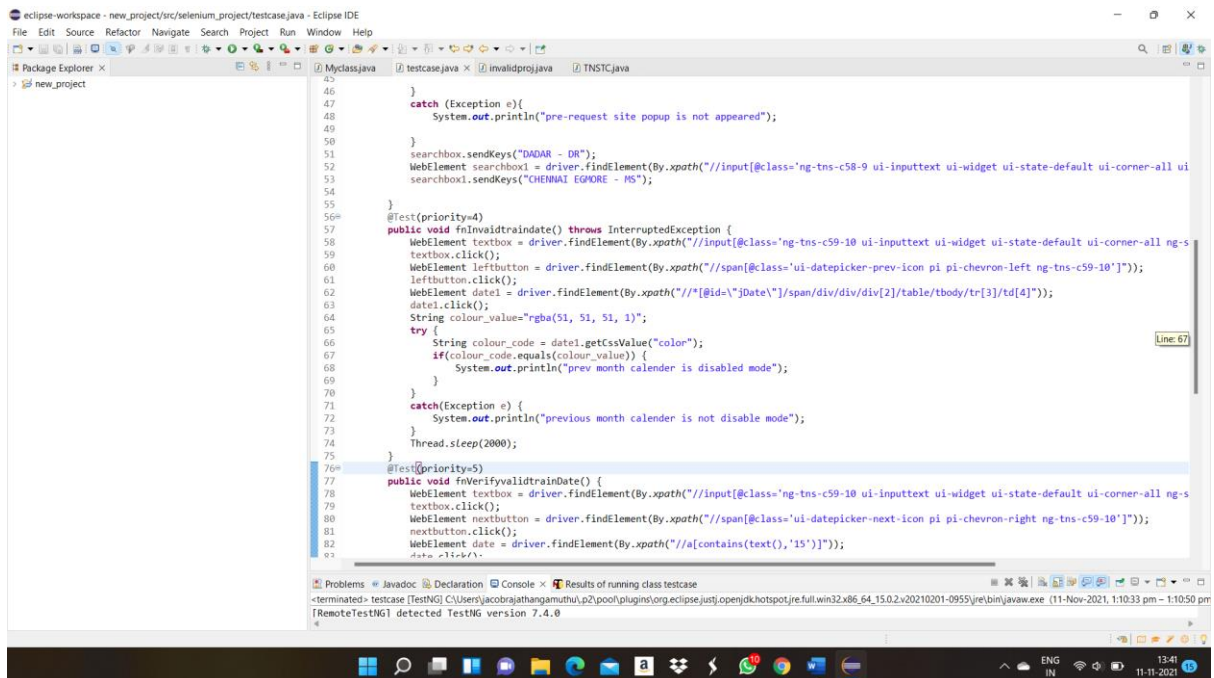
APPENDICES

SCREENSHOTS



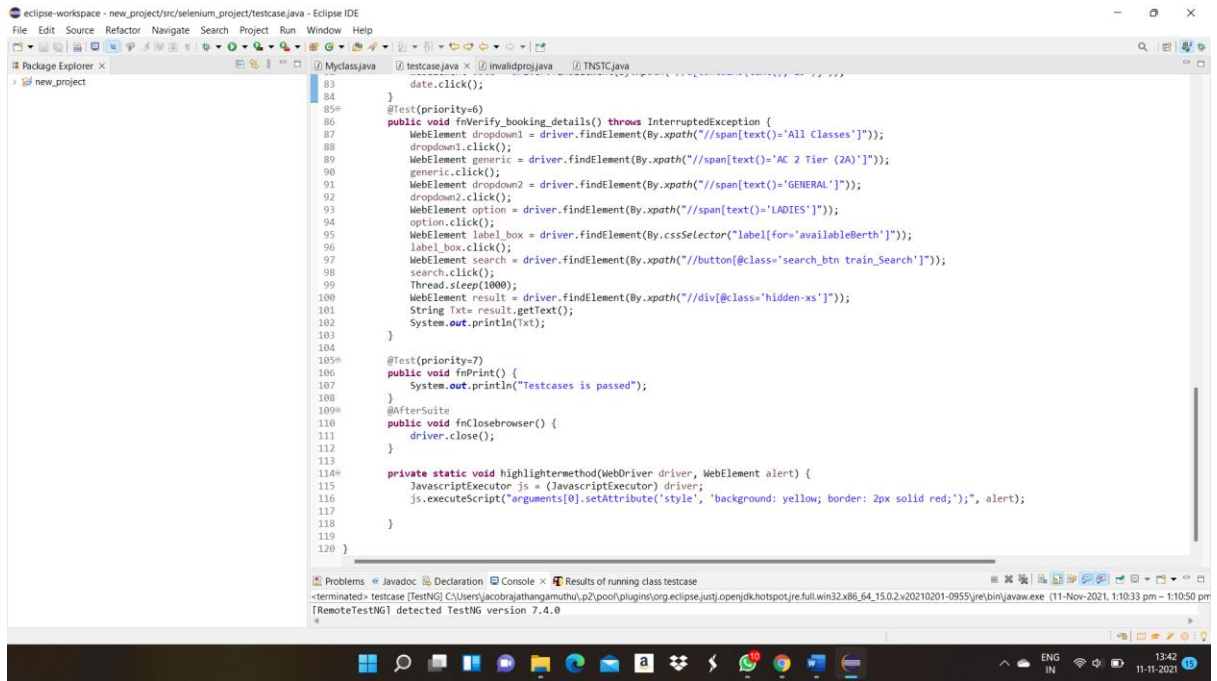
The screenshot shows the Eclipse IDE with a Java project named 'new_project'. The 'testcase.java' file is open, containing Selenium WebDriver test code. The code includes package declarations, imports, and several test methods. The 'fnInitialize()' method sets the WebDriver path and initializes the driver. The 'fnIrctclogin()' method performs a login on the IRCTC website. The 'fnSearchtrainavailability()' method searches for train availability and handles a login popup. The console output shows the test execution results, including the detection of TestNG version 7.4.0.

```
1 package selenium_project;
2
3 import org.openqa.selenium.By;
4
11
12 public class testcase {
13     String driverpath= "C:\\selenium webdriver\\chromedriver_win32\\chromedriver.exe";
14
15     public ChromeDriver driver;
16
17     @BeforeSuite
18     public void fnInitialize() {
19         System.setProperty("webdriver.chrome.driver", driverpath);
20         driver = new ChromeDriver();
21     }
22
23     @Test(priority=1)
24     public void fnMaximize() {
25         driver.manage().window().maximize();
26     }
27
28     @Test(priority=2)
29     public void fnIrctclogin() {
30         driver.get("https://www.irctc.co.in/nget/train-search");
31         WebElement alert = driver.findElement(By.xpath("//div[@class='col-xs-12 text-center']"));
32         highlightmethod(driver, alert);
33         WebElement submit = driver.findElement(By.xpath("//button[@class='btn btn-primary']"));
34         submit.click();
35     }
36
37     @Test(priority=3)
38     public void fnSearchtrainavailability() throws InterruptedException {
39         WebElement searchbox = driver.findElement(By.xpath("//input[@class='ng-tns-c58-8 ui-inputtext ui-widget ui-state-default ui-corner-all ui-
40         searchbox.click();
41         Thread.sleep(2000);
42         try {
43             WebElement login = driver.findElement(By.xpath("//div[@id='login_header_disable']/div/div/div[2]/a"));
44             login.click();
45             System.out.println("pre-request site login popup appeared");
46         } catch (Exception e) {
47             System.out.println("pre-request site popup is not appeared");
48         }
49     }
50
51     searchbox.sendKeys("DADAR - DR");
52     WebElement searchbox1 = driver.findElement(By.xpath("//input[@class='ng-tns-c58-9 ui-inputtext ui-widget ui-state-default ui-corner-all ui-
53     searchbox1.sendKeys("CHENNAI EGMORE - MS");
54
55 }
56
57 @Test(priority=4)
58 public void fnInvalidtraindate() throws InterruptedException {
59     WebElement textbox = driver.findElement(By.xpath("//input[@class='ng-tns-c59-10 ui-inputtext ui-widget ui-state-default ui-corner-all ng-
60     textbox.click();
61     WebElement leftbutton = driver.findElement(By.xpath("//span[@class='ui-datepicker-prev-icon pi pi-chevron-left ng-tns-c59-10']"));
62     leftbutton.click();
63     WebElement date1 = driver.findElement(By.xpath("//div[@id='jDate']/span/div/div/div[2]/table/tbody/tr[3]/td[4]"));
64     date1.click();
65     String colour_value="rgb(51, 51, 51)";
66     try {
67         String colour_code = date1.getCssValue("color");
68         if(colour_code.equals(colour_value)) {
69             System.out.println("prev month calender is disabled mode");
70         }
71     } catch (Exception e) {
72         System.out.println("previous month calender is not disable mode");
73     }
74     Thread.sleep(2000);
75 }
76
77 @Test(priority=5)
78 public void fnVerifyvalidtraindate() {
79     WebElement textbox = driver.findElement(By.xpath("//input[@class='ng-tns-c59-10 ui-inputtext ui-widget ui-state-default ui-corner-all ng-
80     textbox.click();
81     WebElement nextbutton = driver.findElement(By.xpath("//span[@class='ui-datepicker-next-icon pi pi-chevron-right ng-tns-c59-10']"));
82     nextbutton.click();
83     WebElement date = driver.findElement(By.xpath("//div[contains(text(),'15')]"));
84     date.click();
85 }
```



The screenshot shows the Eclipse IDE with the 'testcase.java' file open, displaying the continuation of the Selenium test code. The code includes package declarations, imports, and several test methods. The 'fnInvalidtraindate()' method verifies the date picker functionality by clicking the previous and next buttons and checking the color of the date. The 'fnVerifyvalidtraindate()' method verifies the date picker functionality by clicking the next button and checking the date. The console output shows the test execution results, including the detection of TestNG version 7.4.0.

```
45
46
47     catch (Exception e) {
48         System.out.println("pre-request site popup is not appeared");
49     }
50
51     searchbox.sendKeys("DADAR - DR");
52     WebElement searchbox1 = driver.findElement(By.xpath("//input[@class='ng-tns-c58-9 ui-inputtext ui-widget ui-state-default ui-corner-all ui-
53     searchbox1.sendKeys("CHENNAI EGMORE - MS");
54
55 }
56
57 @Test(priority=4)
58 public void fnInvalidtraindate() throws InterruptedException {
59     WebElement textbox = driver.findElement(By.xpath("//input[@class='ng-tns-c59-10 ui-inputtext ui-widget ui-state-default ui-corner-all ng-
60     textbox.click();
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62     leftbutton.click();
63     WebElement date1 = driver.findElement(By.xpath("//div[@id='jDate']/span/div/div/div[2]/table/tbody/tr[3]/td[4]"));
64     date1.click();
65     String colour_value="rgb(51, 51, 51)";
66     try {
67         String colour_code = date1.getCssValue("color");
68         if(colour_code.equals(colour_value)) {
69             System.out.println("prev month calender is disabled mode");
70         }
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74     Thread.sleep(2000);
75 }
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77 @Test(priority=5)
78 public void fnVerifyvalidtraindate() {
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80     textbox.click();
81     WebElement nextbutton = driver.findElement(By.xpath("//span[@class='ui-datepicker-next-icon pi pi-chevron-right ng-tns-c59-10']"));
82     nextbutton.click();
83     WebElement date = driver.findElement(By.xpath("//div[contains(text(),'15')]"));
84     date.click();
85 }
```



SOURCE CODE

```
package selenium_project;

import org.openqa.selenium.By;

import org.openqa.selenium.JavascriptExecutor;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

import org.testng.annotations.AfterSuite;

import org.testng.annotations.BeforeSuite;

import org.testng.annotations.Test;

public class testcase {

    String driverpath= "C:\\selenium
webdriver\\chromedriver_win32\\chromedriver.exe";

    public ChromeDriver driver;

    @BeforeSuite

    public void fnInitialization() {

        System.setProperty("webdriver.chrome.driver",driverpath);
```

```

        driver = new ChromeDriver();
    }

    @Test(priority=1)

    public void fnMaximize(){

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

    }

    @Test(priority=2)

    public void fnIrrctclogin() {

        driver.get("https://www.irctc.co.in/nget/train-search");

        WebElement alert =
driver.findElement(By.xpath("//div[@class='col-xs-12 text-center']"));

        highlightermethod(driver,alert);

        WebElement submit =
driver.findElement(By.xpath("//button[@class='btn btn-primary']"));

        submit.click();

    }

    @Test(priority=3)

    public void fnSearchtrainavailability() throws
InterruptedException {

        WebElement searchbox =
driver.findElement(By.xpath("//input[@class='ng-tns-c58-8 ui-inputtext ui-
widget ui-state-default ui-corner-all ui-autocomplete-input ng-star-
inserted']"));

```

```

        searchbox.click();

        Thread.sleep(2000);

        try{

            WebElement login =
driver.findElement(By.xpath("//*[@id=\"login_header_disable\"]/div/div/div[2]/
a"));

            login.click();

            System.out.println("pre-request site login popup
appeared");

        }

        catch (Exception e){

            System.out.println("pre-request site popup is not
appeared");

        }

        searchbox.sendKeys("DADAR - DR");

        WebElement searchbox1 =
driver.findElement(By.xpath("//input[@class='ng-tns-c58-9 ui-inputtext ui-
widget ui-state-default ui-corner-all ui-autocomplete-input ng-star-
inserted']"));

        searchbox1.sendKeys("CHENNAI EGMORE - MS");

    }

    @Test(priority=4)

    public void fnInvalidtraindate() throws InterruptedException{

```

```
WebElement textbox = driver.findElement(By.xpath("//input[@class='ng-tns-c59-10 ui-inputtext ui-widgit ui-state-default ui-corner-all ng-star-inserted']"));
```

```
    textbox.click();
```

```
    WebElement leftbutton =  
driver.findElement(By.xpath("//span[@class='ui-datepicker-prev-icon pi pi-chevron-left ng-tns-c59-10']"));
```

```
    leftbutton.click();
```

```
    WebElement date1 =  
driver.findElement(By.xpath("//*[@id='\"jDate\"']/span/div/div/div[2]/table/tbody/tr[3]/td[4]"));
```

```
    date1.click();
```

```
    String colour_value="rgba(51, 51, 51, 1)";
```

```
    try {
```

```
        String colour_code = date1.getCssValue("color");
```

```
        if(colour_code.equals(colour_value)) {
```

```
            System.out.println("prev month calender is  
disabled mode");
```

```
        }
```

```
    }
```

```
    catch(Exception e) {
```

```
        System.out.println("previous month calender is  
not disable mode");
```

```
    }
```

```

        Thread.sleep(2000);

    }

    @Test(priority=5)

    public void fnVerifyvalidtrainDate() {

        WebElement textbox =
driver.findElement(By.xpath("//input[@class='ng-tns-c59-10 ui-inputtext ui-
widget ui-state-default ui-corner-all ng-star-inserted']"));

        textbox.click();

        WebElement nextbutton =
driver.findElement(By.xpath("//span[@class='ui-datepicker-next-icon pi pi-
chevron-right ng-tns-c59-10']"));

        nextbutton.click();

        WebElement date =
driver.findElement(By.xpath("//a[contains(text(),'15')]"));

        date.click();

    }

    @Test(priority=6)

    public void fnVerify_booking_details() throws
InterruptedException {

        WebElement dropdown1 =
driver.findElement(By.xpath("//span[text()='All Classes']"));

        dropdown1.click();

        WebElement generic =
driver.findElement(By.xpath("//span[text()='AC 2 Tier (2A)']"));

```

```

        generic.click();

        WebElement dropdown2 =
driver.findElement(By.xpath("//span[text()='GENERAL']"));

        dropdown2.click();

        WebElement option =
driver.findElement(By.xpath("//span[text()='LADIES']"));

        option.click();

        WebElement label_box =
driver.findElement(By.cssSelector("label[for='availableBerth']"));

        label_box.click();

        WebElement search =
driver.findElement(By.xpath("//button[@class='search_btn train_Search']"));

        search.click();

        Thread.sleep(1000);

        WebElement result =
driver.findElement(By.xpath("//div[@class='hidden-xs']"));

        String Txt= result.getText();

        System.out.println(Txt);

    }

```

```

@Test(priority=7)

```

```

public void fnPrint() {

```

```

        System.out.println("Testcases is passed");

```

```

    }

    @AfterSuite

    public void fnClosebrowser() {

        driver.close();

    }


    private static void highlightermethod(WebDriver driver,
    WebElement alert) {

        JavascriptExecutor js = (JavascriptExecutor) driver;

        js.executeScript("arguments[0].setAttribute('style',
'background: yellow; border: 2px solid red;');", alert);

    }

}

```

REFERENCES

- <https://www.w3schools.in/software-testing/overview/>
- <https://www.guru99.com/>
- <https://www.javatpoint.com/automation-testing-tool>