Test Objective:

The objective is to automate the below testcase using selenium WebDriver and framework concepts.

Testcase: Tc06

Process: Edit a product

Steps to Execute:

Step1: Login to admin portal

Step2: Edit a product

Step3: Go to list all category option under show entries

Expected Results:

Validate the presence modified product.

Verify the presence of modified product on user page.

Note: Search for product using search bar.

Source code:

```
File1: EditProduct.java
package com.ibm.groceries;
import java.io.IOException;
import org.openqa.selenium.By;
import org.openqa.selenium.support.ui.ExpectedConditions;
import org.testng.Assert;
import org.testng.Reporter;
import org.testng.annotations.Test;
import com.ibm.groceriespages.EditProductsPage;
import com.ibm.groceriespages.GroceriesUserPage;
import com.ibm.groceriespages.PageDashboard;
import com.ibm.groceriespages.PageLogin;
import com.ibm.groceriespages.PageProducts;
import com.ibm.initialization.WebDriverLaunch;
public class EditProduct extends WebDriverLaunch {
      @Test(priority=1, testName="EditProduct",groups="low")
      public void editProduct()throws IOException,InterruptedException
      {
             String url=data.get("url");
             String userName = data.get("username");
             String password = data.get("password");
             String expMessage=data.get("expectedEditProductMessage");
             String newNameProduct=data.get("prodNameNew");
```

```
String newmodelProduct=data.get("modelNameNew");
             String productNotUpdatedMsg=data.get("productNotUpdated");
             String userPage=data.get("userPageUrl");
             String proudctFoundMessage=data.get("userPageMsg");
             //Launching the web site for atozgroceries
             driver.get(url);
             PageLogin login = new PageLogin(driver, wait);
             //To enter email address and password and clickon login button
             login.enterEmailAddress(userName);
             login.enterPassword(password);
             login.clickOnLogin();
      Assert.assertTrue(driver.findElement(By.partialLinkText("Logout")).isDisplayed
());
             PageDashboard dashboard=new PageDashboard(driver, wait);
             //To click on Catalog
             dashboard.clickOnCatalog();
             //To click on Products
             dashboard.clickOnProducts();
             PageProducts selProduct=new PageProducts(driver, wait);
             selProduct.selectProduct();
             // TO wait for the text box product name to be displayed.
      wait.until(ExpectedConditions.presenceOfElementLocated(By.id("pro_name")));
             EditProductsPage editPage=new EditProductsPage(driver, wait);
             String pageSource=editPage.editProduct(newNameProduct,newmodelProduct);
       try {
              if(pageSource.contains(expMessage))
                   Reporter.log(expMessage);
                   Assert.assertTrue(pageSource.contains(expMessage));
      wait.until(ExpectedConditions.presenceOfElementLocated(By.xpath("//select[@nam
e='dataTableExample2_length']")));
                   //Calling method to select the entry dropdown as 'All'
                   String pageSource2=selProduct.selectEntry();
             //To check the new name of the product is displayed
             Assert.assertTrue(pageSource2.contains(newNameProduct));
             //To check the new model of the product is displayed
             Assert.assertTrue(pageSource2.contains(newmodelProduct));
      catch(Exception e)
```

```
{
             Assert.fail();
      }
      finally {
             //To click on on Logout button
             driver.findElement(By.partialLinkText("Logout")).click();
      }
      //To launch groceries user page
      driver.get(userPage);
      GroceriesUserPage userpage=new GroceriesUserPage(driver,wait);
      String userPageSource=userpage.searchProduct(newNameProduct);
      try {
              if(userPageSource.contains(newNameProduct))
                   System.out.println(proudctFoundMessage);
                   Assert.assertTrue(userPageSource.contains(newNameProduct));
             }
              catch(Exception e)
                    Assert.fail();
      }
}
File2:PageLogin.java
package com.ibm.groceriespages;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openga.selenium.WebElement;
import org.openqa.selenium.support.FindBy;
import org.openqa.selenium.support.PageFactory;
import org.openga.selenium.support.ui.ExpectedConditions;
import org.openqa.selenium.support.ui.WebDriverWait;
public class PageLogin {
      @FindBy(name="email")
      WebElement emailEle;
      @FindBy(name="pword")
      WebElement passEle;
      //@FindBy(className="btn btn-labeled btn-info m-b-5")
      @FindBy(xpath="//button[@class='btn btn-labeled btn-info m-b-5']")
```

```
WebElement loginEle;
      WebDriverWait wait;
      WebDriver driver;
       public PageLogin(WebDriver driver, WebDriverWait wait)
       {
             PageFactory.initElements(driver, this);
             this.driver=driver;
             this.wait=wait;
       }
       //To enter email address
       public void enterEmailAddress(String userName)
              emailEle.sendKeys(userName);
       }
       //To enter apssword
       public void enterPassword(String password)
       {
              passEle.sendKeys(password);
       }
       //To click on Login button
       public void clickOnLogin()
       {
              loginEle.click();
       }
}
File3: PageDashboard.java
package com.ibm.groceriespages;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.support.FindBy;
import org.openga.selenium.support.PageFactory;
import org.openga.selenium.support.ui.ExpectedConditions;
import org.openga.selenium.support.ui.WebDriverWait;
public class PageDashboard {
```

```
//@FindBy(xpath="//a[@class='material-ripple']")
@FindBy(xpath="//a[text()=' Catalog']")
WebElement catalogEle;
@FindBy(xpath="//a[text()=' Products']")
WebElement productEle;
By prodElt=By.xpath("//a[text()=' Products']");
WebDriverWait wait;
WebDriver driver;
//Locating elements for Marketing link
@FindBy(xpath="//a[text()=' Marketing']")
WebElement marketEle;
//Locating Pushnotification link
@FindBy(xpath="//a[text()=' Push Notification']")
WebElement notificationEle;
//Locating System link
@FindBy(xpath="//a[text()=' System']")
WebElement systemEle;
//Locating Returns link
@FindBy(xpath="//a[text()=' Returns']")
//@FindBy(xpath("//a[contains(text(),'Returns')]"))
WebElement returnsEle;
```

```
//Locating Shipping link
@FindBy(xpath="//a[text()=' Shipping']")
WebElement shippingEle;
//Locating ShippingLocatons link
@FindBy(xpath="//a[text()=' Shipping Locations']")
WebElement locatoinEle;
@FindBy(xpath="//a[text()=' Return Actions']")
WebElement actionsEle;
public PageDashboard(WebDriver driver,WebDriverWait wait) {
        PageFactory.initElements(driver, this);
        this.driver=driver;
        this.wait=wait;
}
//To click on Catalog
public void clickOnCatalog()
{
        catalogEle.click();
        wait.until(ExpectedConditions.presenceOfElementLocated(prodElt));
        }
//To click on Products
public void clickOnProducts()
        productEle.click();
```

```
}
//To click on Marketing link
public void clickOnMarketing()
{
        marketEle.click();
}
//To click on Push Notificatoin link
public void clickOnPushNotification()
{
        notificatonEle.click();
}
        //TO click on System link
public void clickOnsystem()
{
        systemEle.click();
}
//To click on Retuns link
public void clickOnReturns()
{
```

```
//returnsEle.click();
        }
        //To click on Return actoins link
        public void clickOnRetrunActions()
        {
                actionsEle.click();
        }
        public void clickOnShipping()
        {
                driver.findElement(By.partialLinkText("Shipping")).click();
                //shippingEle.click();
        }
        public void clickOnShippingLocations()
        {
                locatoinEle.click();
        }
}
File4: PageProducts.java
package com.ibm.groceriespages;
```

driver.findElement(By.partialLinkText("Returns")).click();

```
import java.io.IOException;
import java.util.List;
import java.util.concurrent.TimeUnit;
import org.openqa.selenium.Alert;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.support.FindAll;
import org.openqa.selenium.support.FindBy;
import org.openga.selenium.support.PageFactory;
import org.openqa.selenium.support.ui.ExpectedConditions;
import org.openga.selenium.support.ui.Select;
import org.openqa.selenium.support.ui.WebDriverWait;
public class PageProducts {
       //Locating no.of products
       @FindAll(@FindBy(xpath="//table[@id='dataTableExample2']/tbody/tr"))
       List<WebElement> productRows;
       //Locating action button
       @FindBy(xpath="//table[@id='dataTableExample2']/tbody/tr[5]/td[9]/descendant::button")
       WebElement actionEle:
       //Locating delete web element
       @FindBy(xpath="//table[@id='dataTableExample2']/tbody/tr[1]/td[9]/descendant::a[2]")
       WebElement deleteEle;
       //Locating confirm button
       //@FindBy(xpath="//button[@className='confirm']")
```

```
@FindBy(xpath="//button[text()='Yes, delete it!']")
WebElement confirmEle;
By confirmButton=By.xpath("//div[@class='sa-confirm-button-container']/descendant::button");
//Locating Edit web element
@FindBy(xpath="//table[@id='dataTableExample2']/tbody/tr[5]/td[9]/descendant::a[1]")
WebElement editEle;
@FindBy(xpath="//select[@name='dataTableExample2 length']")
WebElement entryEle;
WebDriverWait wait;
WebDriver driver;
public PageProducts(WebDriver driver,WebDriverWait wait) {
       PageFactory.initElements(driver, this);
       this.driver=driver;
       this.wait=wait;
}
//Method to delete the product
public String deleteProduct() throws InterruptedException
{
       //Verifying if number of products greater than zero
       if(productRows.size()>0)
       {
```

```
System.out.println("The list of products are dipslayed");
                Thread.sleep(10000);
                //To click on action button
                actionEle.click();
                //To click on Delete button
                deleteEle.click();
                Thread.sleep(10000);
                wait.until(ExpectedConditions.presenceOfElementLocated(confirmButton));
                //To click on confirm button
                confirmEle.click();
                driver.manage().timeouts().implicitlyWait(60, TimeUnit.SECONDS);
        }
        return driver.getPageSource();
}
//Method to clikcon on edit button to edit product
public void selectProduct()
{
if(productRows.size()>0)
        {
        //to click on on action web element
        actionEle.click();
        //to click on Edit link
        editEle.click();
        }
```

```
}
       public String selectEntry()
       {
               WebElement
entryElt=driver.findElement(By.xpath("//select[@name='dataTableExample2_length']"));
               //Select selectEntry=new Select(entryEle);
               Select selectEntry=new Select(entryElt);
               selectEntry.selectByVisibleText("All");
               return driver.getPageSource();
       }
}
File5: EditProductsPage.java
package com.ibm.groceriespages;
import java.util.List;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.support.FindAll;
import org.openqa.selenium.support.FindBy;
import org.openqa.selenium.support.PageFactory;
import org.openqa.selenium.support.ui.WebDriverWait;
public class EditProductsPage {
```

```
//To located product name
@FindBy(xpath = "//input[@id='pro_name']")
WebElement nameEle;
// To locate Data link
@FindBy(xpath = "//a[text()='Data']")
WebElement dataEle;
// To locate model text box
@FindBy(xpath = "//input[@id='model']")
WebElement modelEle;
// To locate save button
@FindBy(xpath = "//button[@title='Save']")
WebElement saveEle;
WebDriverWait wait;
WebDriver driver;
public EditProductsPage(WebDriver driver, WebDriverWait wait) {
       PageFactory.initElements(driver, this);
       this.driver = driver;
       this.wait = wait;
}
public String editProduct(String productNewname, String modelNewname) {
       // To enter the new name for product
       nameEle.clear();
```

```
nameEle.sendKeys(productNewname);
             // To click on Data link
             dataEle.click();
             // To enter the new name for model
              modelEle.clear();
              modelEle.sendKeys(modelNewname);
             // To click on Save button
             saveEle.click();
              return driver.getPageSource();
      }
}
File6: GroceriesUserPage.java
package com.ibm.groceriespages;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.support.FindBy;
import org.openqa.selenium.support.PageFactory;
import org.openga.selenium.support.ui.WebDriverWait;
public class GroceriesUserPage {
       @FindBy(xpath = "//input[@placeholder='Search for products...']")
      WebElement searchEle;
       @FindBy(xpath = "(//div[@class='input-group']/descendant::input[1])[2]")
      WebElement searchEle2;
       @FindBy(xpath = "//div[@id='searchproducts-div']/descendant::a[1]")
      WebElement productNewLink;
      WebDriverWait wait;
      WebDriver driver;
```

```
public GroceriesUserPage(WebDriver driver, WebDriverWait wait) {
              PageFactory.initElements(driver, this);
              this.driver = driver;
              this.wait = wait;
       }
       public String searchProduct(String proudctName) throws InterruptedException {
              searchEle.sendKeys(proudctName);
              searchEle.click();
              // To enter product name in search text box of popup
              searchEle2.sendKeys(proudctName);
              Thread.sleep(10000);
              productNewLink.click();
              return driver.getPageSource();
       }
}
File7: WebDriverLaunch.java
package com.ibm.initialization;
import java.io.IOException;
import java.util.HashMap;
import java.util.concurrent.TimeUnit;
import org.openga.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.openqa.selenium.ie.InternetExplorerDriver;
import org.openqa.selenium.support.ui.WebDriverWait;
import org.testng.annotations.AfterMethod;
import org.testng.annotations.BeforeMethod;
import org.testng.annotations.BeforeSuite;
import org.testng.annotations.BeforeTest;
import org.testng.annotations.Optional;
import org.testng.annotations.Parameters;
import com.ibm.utilities.PropertiesFileHandler;
```

```
public class WebDriverLaunch {
       public WebDriver driver;
       public WebDriverWait wait;
       public PropertiesFileHandler propFileHandler;
        public HashMap<String, String> data;
       //Getting the keys from properties file
       //@BeforeSuite
       @BeforeSuite(groups= {"high","low"})
               public void preSetForTest() throws IOException {
               String file = "./TestData/groceries.properties";
               propFileHandler = new PropertiesFileHandler();
               data = propFileHandler.getPropertiesAsMap(file);
       }
       //@BeforeTest
        @BeforeMethod(groups= {"high","low"})
        @Parameters({"browser"})
        public void Initialization(@Optional("ff")String browser) {
               browserInitialization(browser);
               wait = new WebDriverWait(driver, 60);
               driver.manage().window().maximize();
               driver.manage().timeouts().implicitlyWait(30, TimeUnit.SECONDS);
       }
```

```
//@AfterMethod
//Closing driver
@AfterMethod(groups= {"high","low"})
public void closeBrowser() {
        driver.quit();
}
//Setting path for webdriver
public void browserInitialization(String browser)
{
        switch (browser.toLowerCase()) {
        case "ff":
        case "firefox":
                System.setProperty("webdriver.gecko.driver", "./drivers/geckodriver.exe");
                driver = new FirefoxDriver();
                break;
        case "ch":
                System.setProperty("webdriver.chrome.driver", "./drivers/chromedriver.exe");
                driver = new ChromeDriver();
                break;
        case "ie":
                System.setProperty("webdriver.ie.driver", "./drivers/IEDriverServer.exe");
                driver = new InternetExplorerDriver();
                break;
        default:
                System.out.println("No browser Available "+browser);
                break;
        }
}
```

```
File8: PropertiesFileHandler.java
package com.ibm.utilities;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.IOException;
import java.util.HashMap;
import java.util.Properties;
import java.util.Set;
public class PropertiesFileHandler {
        public HashMap<String, String> getPropertiesAsMap(String file) throws IOException {
                HashMap<String, String> magentoMap = new HashMap<String, String>();
                FileInputStream fileIn = new FileInputStream(file);
                Properties prop = new Properties();
                prop.load(fileIn);
                Set<Object> keysProp = prop.keySet();
                for (Object key: keysProp) {
                        magentoMap.put(key.toString(), prop.getProperty(key.toString()));
                }
                prop.clear();
                return magentoMap;
        }
```

}

```
public void setKeyAndValue(String file,String key,String value) throws IOException
       {
              FileInputStream fileIn = new FileInputStream(file);
              Properties prop = new Properties();
              prop.load(fileIn);
              prop.setProperty(key, value);
              FileOutputStream fOut=new FileOutputStream(file);
              prop.store(fOut, "Test Result");
             fOut.close();
             fileIn.close();
       }
}
File9:groceries.properties
url=https://atozgroceries.com/admin
username=demo@atozgroceries.com
password=456789
expectedMessage=Success: You have successfully deleted data!
notifyName=DemoNotification
notifyMessage=Adding Notification
expNotificationMessage=Success: You have successfully sent push notification to your
imagePath=C:\\Users\\IBM_ADMIN\\eclipse-
workspace\\TestCases DataDrivenFramework\\TestData\\globe.jpg
searchForKeyword=refund
searchDispalyMessage=Search with keyword is successful
noMatchDisplayMessage=No matching records found
searchForShipKeyword=Discount
prodNameNew=ProductNew100
modelNameNew=Model-New
expectedEditProductMessage=Success: You have successfully updated product!
productNotUpdated=Product update failed
userPageUrl=https://atozgroceries.com
userPageMsg=New Product found on User page
```

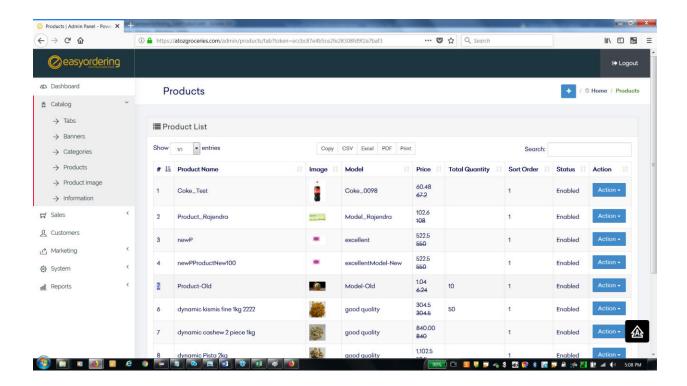
Test Result:

It is verified that the search is displayed data with "Discount" keyword when matching result found. It is also verified for expected message 'No matching records found' when no matching result found.

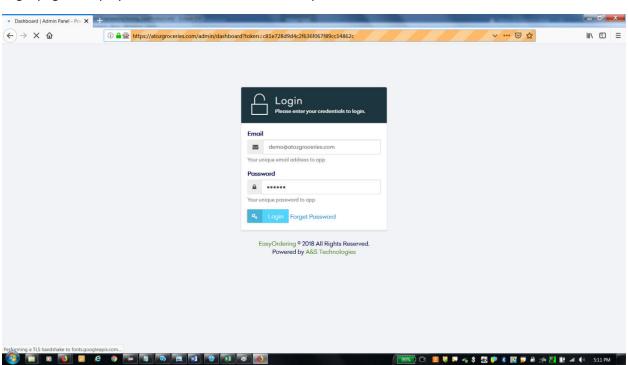
Screenshots:

Console output:

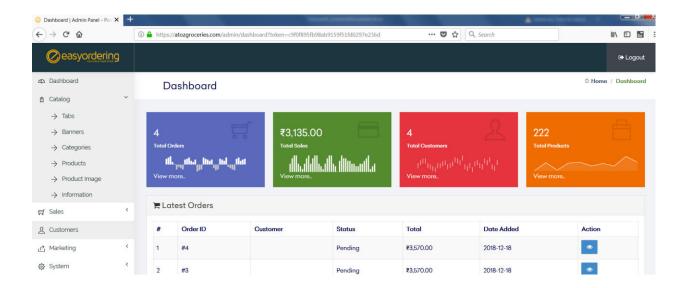
Existing Products List:



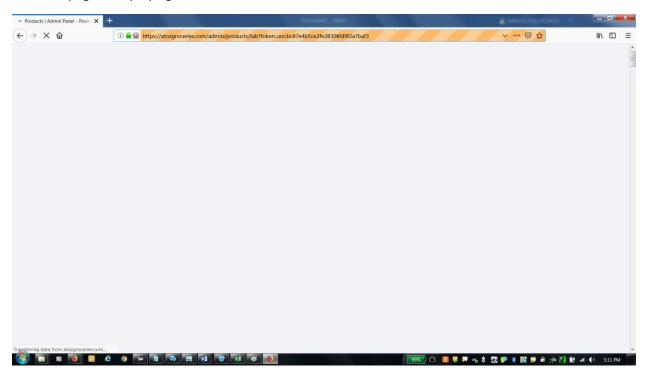
Login page Is displayed with entered username and password

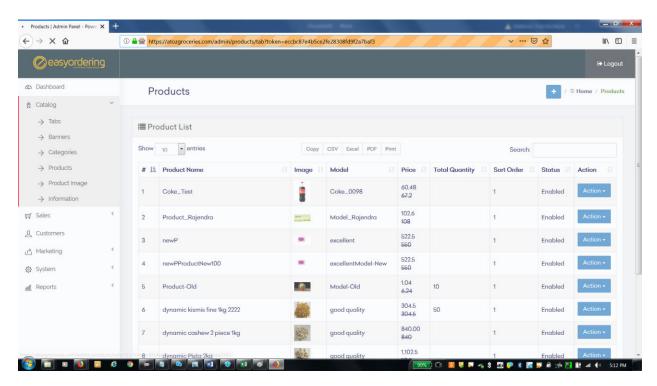


Dashboard page is displayed with Catalog->Products

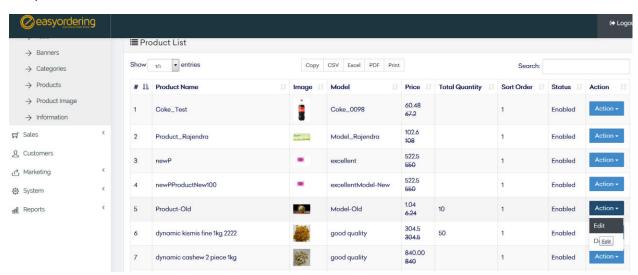


Products page is displaying

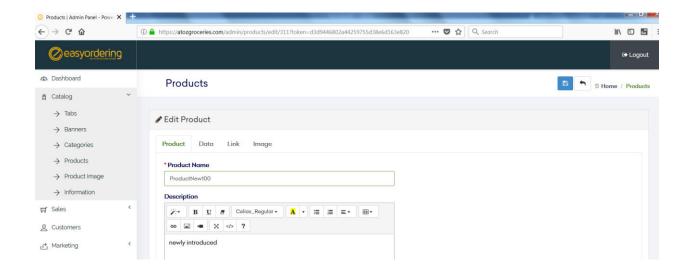




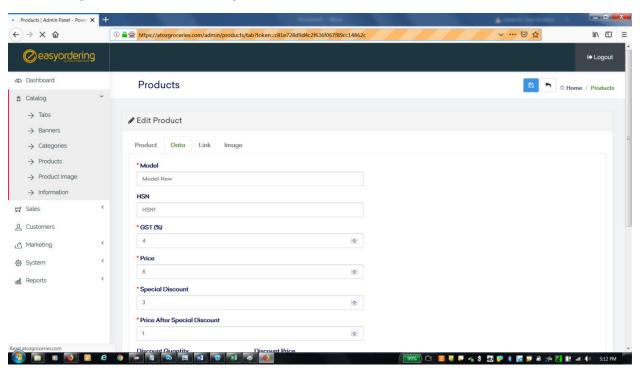
The product is selected to edit.



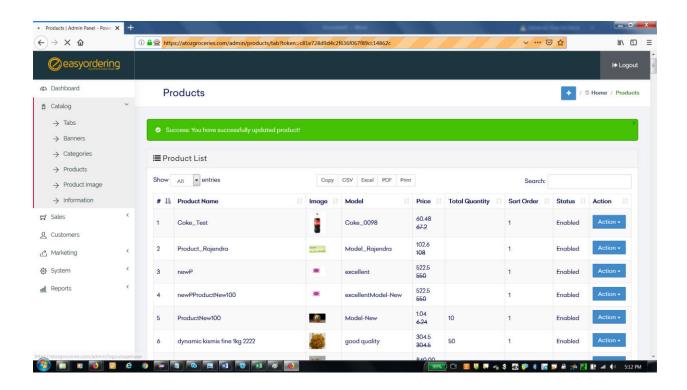
Edit Product page is displayed and Product Name is edited as 'ProductNew100' for existing product 'Product-Old'

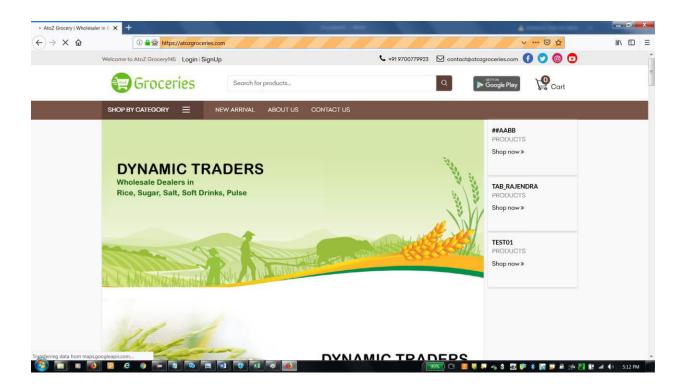


After clicking Data link, Model is changed to Model-New

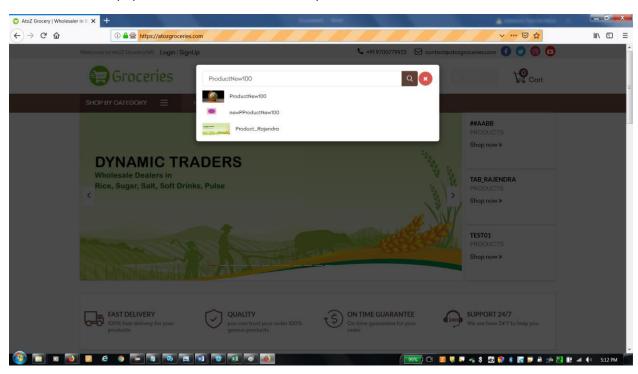


After clicking on Save button, the below page is displayed

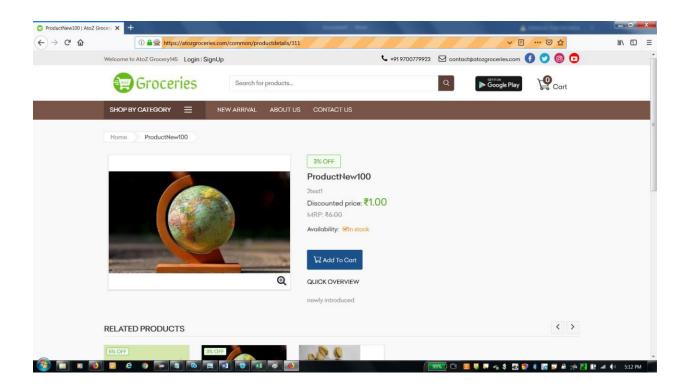


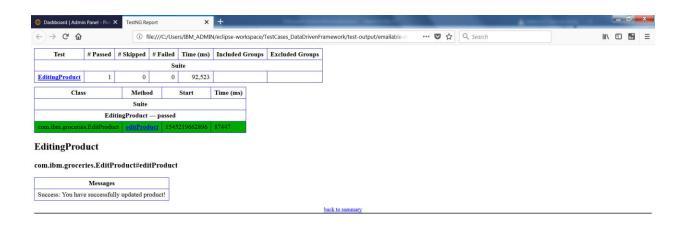


Search text box is populated with new name of the product to search

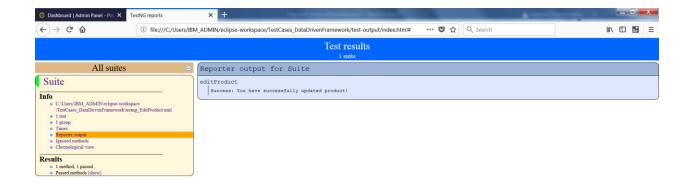


Product with new name is displayed on user page.





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Flow Information:

Initially a property file 'groceries.properties' is created in Test Data folder of the project and list of key, values for admin page url, username, password, expected validation message, user page url etc. are stored in this property file.

Under the class 'WebDriverLaunch', a Test NG annotation 'Before Suite' is used to invoke the method 'preSetFortTest' which is used to instantiate object for class PropertiesFileHandler to return the list of these key, values in to a HashMap.

The Test NG annotation 'Before Method' is used by passing the parameter for browser to select and to invoke the method 'Initialization' which is used to call another method and to create webdriver object for the firefoxdriver or chromedriver or internet explorer by using switch statement and setting path for webdriver exe.

The PageLogin class is defined with methods to locate the web elements email, password and login buttons. PageFactory is used in the constructor of this class. The method sendKeys is used to enter the email address and password. The method click is used to click on login button

The class 'PageDashboard' is defined with methods to locate the web elements Catalog, Products. PageFactory is used in the constructor of this class. The method click is used to click on Catalog, Products links.

The class 'PageProducts' is defined with method selectProduct to click on action link,Edit link which are located using 'FindBy' annotation . PageFactory method is used in the in the constructor of this class. The method selectEntry is defined to select the value as 'All' for entry dropwdown and pagesource is returned.

The class 'EditProductsPage' uses FindBy annotation to locate the elements product name, model ,data link,Save link.The method editProduct is defined to click edit the new name for product name, new value for model using sendkeys method.Click method is used to clik on Save button and pasgesource is returned.

The annotation @Test is used with method editProduct in the class 'EditProduct'. This method is used to get the values for username, password, new name for product, new name for model, valiation message etc. The get method is called to launch the web url for admin portal as well as user page. The objects for classes PageLogin, PageDashboard, PageProducts, EditProductsPage, GroceriesUserPage are created and the above necessary methods are called on these objects. Finally the Assert is used to verify presence of the new name of product, new value of the model and expected message when product updated in admin page. The product with new name is also searched and validated in user page too. The testng_EditProduct xml file is having the parameter 'firefox' to launch Firefox browser.