

Juice Shop Test Cases

1. User Management Test Cases

TC-UM-01: User Registration - Valid Data

Preconditions:

- Juice Shop application is accessible
- User does not have an existing account

Steps:

1. Navigate to the Registration page
2. Enter valid email address
3. Enter valid password (meeting complexity requirements)
4. Select security question and provide answer
5. Click "Register" button

Expected Results:

- User is successfully registered
- Confirmation message is displayed
- User can login with created credentials
- User is redirected to the home page after login

TC-UM-02: User Registration - Email Already Exists

Preconditions:

- Juice Shop application is accessible
- An account with email "test@example.com" already exists

Steps:

1. Navigate to the Registration page
2. Enter email "test@example.com"
3. Enter valid password
4. Select security question and provide answer
5. Click "Register" button

Expected Results:

- Registration fails
- Error message indicates email already exists
- User remains on registration page

TC-UM-03: User Login - Valid Credentials

Preconditions:

- Juice Shop application is accessible
- User has a registered account with email "user@example.com" and password "Password123!"

Steps:

1. Navigate to the Login page
2. Enter email "user@example.com"
3. Enter password "Password123!"
4. Click "Log in" button

Expected Results:

- User is successfully logged in
- User is redirected to the home page
- Navigation menu displays logged-in user options

TC-UM-04: User Login - Invalid Credentials

Preconditions:

- Juice Shop application is accessible
- User has a registered account

Steps:

1. Navigate to the Login page
2. Enter valid email address
3. Enter incorrect password
4. Click "Log in" button

Expected Results:

- Login fails
- Error message indicates invalid email/password
- User remains on login page

TC-UM-05: Password Reset

Preconditions:

- Juice Shop application is accessible
- User has a registered account with associated security question/answer

Steps:

1. Navigate to the Login page
2. Click "Forgot your password?"
3. Enter registered email address
4. Select correct security question and provide answer
5. Enter new password
6. Confirm new password
7. Click "Change" button

Expected Results:

- Password is reset successfully
- Confirmation message is displayed
- User can login with new password

2. Product Management Test Cases

TC-PM-01: Product Listing

Preconditions:

- Juice Shop application is accessible
- Products exist in the system

Steps:

1. Navigate to the home page
2. Observe the product grid

Expected Results:

- Products are displayed in a grid view
- Each product shows image, name, and price
- Grid pagination works if there are many products

TC-PM-02: Product Search - Valid Term

Preconditions:

- Juice Shop application is accessible
- Products exist in the system
- At least one product contains the word "Apple"

Steps:

1. Navigate to the home page
2. Enter "Apple" in the search field
3. Press Enter or click search icon

Expected Results:

- Search results page displays all products containing "Apple"
- No unrelated products are shown
- Result count is accurate

TC-PM-03: Product Search - SQL Injection Prevention

Preconditions:

- Juice Shop application is accessible

Steps:

1. Navigate to the home page
2. Enter "' OR 1=1 --" in the search field
3. Press Enter or click search icon

Expected Results:

- The application handles the input securely
- No database error is exposed
- No unauthorized data is displayed

TC-PM-04: Product Details

Preconditions:

- Juice Shop application is accessible
- Product with ID 1 exists

Steps:

1. Navigate to the home page
2. Click on a specific product

Expected Results:

- Product details page loads
- Correct product information is displayed (name, description, price, image)
- Add to basket button is visible

TC-PM-05: Product Reviews**Preconditions:**

- Juice Shop application is accessible
- User is logged in
- Product with reviews exists

Steps:

1. Navigate to a product details page
2. Scroll to reviews section
3. Enter a review comment
4. Submit the review

Expected Results:

- Review is submitted successfully
- New review appears in the reviews list
- Review shows correct timestamp and user

3. Shopping Functionality Test Cases**TC-SF-01: Add Item to Basket****Preconditions:**

- Juice Shop application is accessible
- User is logged in
- Product inventory is available

Steps:

1. Navigate to product page
2. Click "Add to Basket" button for a product
3. Navigate to shopping basket

Expected Results:

- Product is added to basket
- Basket icon updates to show item count
- Product appears correctly in basket with correct price

TC-SF-02: Update Item Quantity in Basket**Preconditions:**

- Juice Shop application is accessible
- User is logged in
- User has an item in the shopping basket

Steps:

1. Navigate to shopping basket
2. Change quantity of an item to 3
3. Observe basket total

Expected Results:

- Item quantity updates to 3
- Item subtotal recalculates correctly
- Basket total recalculates correctly

TC-SF-03: Remove Item from Basket**Preconditions:**

- Juice Shop application is accessible
- User is logged in
- User has an item in the shopping basket

Steps:

1. Navigate to shopping basket
2. Click "Delete" or trash icon for an item
3. Observe basket

Expected Results:

- Item is removed from basket
- Basket total recalculates correctly
- If basket becomes empty, appropriate message is displayed

TC-SF-04: Checkout Process - Valid Data**Preconditions:**

- Juice Shop application is accessible
- User is logged in
- User has items in the shopping basket
- User has a saved address

Steps:

1. Navigate to shopping basket
2. Click "Checkout" button
3. Select delivery address (or add new)
4. Select delivery method
5. Enter valid payment information
6. Confirm order

Expected Results:

- Order is placed successfully
- Order confirmation page is displayed
- Order appears in order history
- Basket is emptied

TC-SF-05: Order History**Preconditions:**

- Juice Shop application is accessible
- User is logged in
- User has placed orders previously

Steps:

1. Navigate to "Orders & Payment" section
2. Select "Order History"

Expected Results:

- List of previous orders is displayed
- Each order shows correct date, items, and total amount

4. Security Testing Cases

TC-SEC-01: Cross-Site Scripting (XSS) Prevention

Preconditions:

- Juice Shop application is accessible
- User is logged in
- User can add product reviews

Steps:

1. Navigate to product details page
2. Enter `<script>alert('XSS')</script>` as product review
3. Submit the review
4. View the posted review

Expected Results:

- The script is not executed
- The input is either rejected or properly sanitized
- No alert box appears

TC-SEC-02: Authentication Bypass Prevention

Preconditions:

- Juice Shop application is accessible
- Admin section exists

Steps:

1. Navigate to the login page
2. Attempt to access "/admin" directly by URL manipulation

Expected Results:

- Access is denied
- User is redirected to login page
- No unauthorized access to admin functionality

TC-SEC-03: Session Management

Preconditions:

- Juice Shop application is accessible
- User has valid credentials

Steps:

1. Log in to the application
2. Open a new browser tab and navigate to Juice Shop
3. Attempt to access protected pages

Expected Results:

- User session is maintained across tabs
- Protected pages are accessible in the new tab
- No need to log in again

TC-SEC-04: Session Timeout

Preconditions:

- Juice Shop application is accessible
- User is logged in
- Session timeout is configured

Steps:

1. Log in to the application
2. Leave the session idle for longer than the timeout period
3. Attempt to access a protected page

Expected Results:

- Session expires after timeout period
- User is redirected to login page when attempting protected actions
- User needs to log in again

5. API Endpoint Test Cases

TC-API-01: Product API - Get All Products

Preconditions:

- Juice Shop API is accessible
- Products exist in the database

Steps:

1. Send GET request to "/api/Products" endpoint
2. Observe response

Expected Results:

- API returns 200 OK status
- Response contains JSON array of products
- Each product has expected properties (id, name, price, etc.)

TC-API-02: User API - Authentication Required

Preconditions:

- Juice Shop API is accessible
- User API requires authentication

Steps:

1. Send GET request to "/api/Users" endpoint without authentication
2. Observe response

Expected Results:

- API returns 401 Unauthorized status
- No user data is exposed

TC-API-03: Product API - Search Functionality

Preconditions:

- Juice Shop API is accessible
- Products exist in the database

Steps:

1. Send GET request to `"/api/Products/search?q=apple"` endpoint
2. Observe response

Expected Results:

- API returns 200 OK status
- Response contains only products matching search term
- Search is case-insensitive

TC-API-04: Basket API - Add Item**Preconditions:**

- Juice Shop API is accessible
- User is authenticated
- Product with ID 1 exists

Steps:

1. Send POST request to basket API with product ID 1
2. Observe response

Expected Results:

- API returns 200 OK status
- Item is added to user's basket
- Response contains updated basket information

6. UI Component Test Cases**TC-UI-01: Responsive Design - Mobile View****Preconditions:**

- Juice Shop application is accessible
- Testing device has mobile viewport (or emulated mobile viewport)

Steps:

1. Access Juice Shop on mobile device or with mobile emulation
2. Navigate through different pages (home, product details, basket)
3. Test core functionality (search, add to basket, checkout)

Expected Results:

- UI adapts correctly to mobile viewport
- All content is visible and properly arranged
- Key functions work as expected on mobile

TC-UI-02: Form Validation - Required Fields

Preconditions:

- Juice Shop application is accessible
- User is on registration page

Steps:

1. Leave all form fields empty
2. Click "Register" button

Expected Results:

- Form submission is prevented
- Error messages indicate required fields
- Focus moves to the first empty required field

TC-UI-03: Navigation Menu - Authenticated vs. Unauthenticated

Preconditions:

- Juice Shop application is accessible

Steps:

1. Access the site without logging in
2. Observe navigation menu options
3. Log in with valid credentials
4. Observe navigation menu options again

Expected Results:

- Unauthenticated menu shows limited options (Home, Login, etc.)
- Authenticated menu shows additional options (User Profile, Basket, etc.)
- No admin functions visible to regular users