# Export Functionality BDD Test Steps

## Test Suite Overview

**Purpose**: Validate export functionality (Print Preview, PDF Export, Excel Export) from the View People page  
**Framework**: SpecFlow BDD with Playwright  
**Test Count**: 3 scenarios  
**Feature File**: ExportFunctionality.feature

## Scenario 1: Access Print Preview from View People page Output Options

### Test Objective

Verify that users can access the Print Preview modal from the View People page Output Options menu.

### Step-by-Step Flow

1. **Given** I am logged in as “davred”
   * Launch browser and navigate to login page
   * Enter username “davred” and password
   * Submit login form and verify successful authentication
2. **And** I am on the main page
   * Verify main page loads correctly after login
   * Confirm page title and basic UI elements are present
3. **When** I click on the “View People” link
   * Locate and click the “View People” navigation link
   * Wait for page transition to complete
4. **And** I view the View People page
   * Verify the View People page loads successfully
   * Confirm data grid with people records is displayed
5. **And** I click the “Output Options” button
   * Locate the “Output Options” button on the page
   * Click to open the export options menu
6. **And** I click on “Print Preview”
   * Select “Print Preview” from the available export options
   * Trigger the browser’s native print preview dialog
7. **Then** I should see the Browser Print preview modal
   * Verify that the browser’s print preview functionality opens
   * Note: This opens the browser’s native print dialog (cannot be fully automated)
8. **And** then I will click Cancel to close the modal
   * Press ESC key or equivalent action to close the print dialog
   * Return to the normal View People page view

### Expected Results

* ✅ Print Preview modal opens successfully
* ✅ User can close the modal and return to normal view
* ✅ No errors or crashes occur during the process

## Scenario 2: Export data to Excel format from View People

### Test Objective

Verify that users can successfully export people data to Excel format and receive a valid Excel file download.

### Step-by-Step Flow

1. **Given** I am logged in as “davred”
   * Launch browser and navigate to login page
   * Enter username “davred” and password
   * Submit login form and verify successful authentication
2. **And** I am on the main page
   * Verify main page loads correctly after login
   * Confirm page title and basic UI elements are present
3. **When** I click on the “View People” link
   * Locate and click the “View People” navigation link
   * Wait for page transition to complete
4. **And** I view the View People page
   * Verify the View People page loads successfully
   * Confirm data grid with people records is displayed
5. **And** I click the “Output Options” button
   * Locate the “Output Options” button on the page
   * Click to open the export options menu
6. **And** I click on “Export to Excel”
   * Select “Export to Excel” from the available export options
   * Trigger the Excel export functionality
7. **Then** I should receive an Excel file download
   * Intercept the download using Playwright’s download handling
   * Verify that a file download is initiated
   * Confirm the downloaded file has an Excel filename (e.g., people\_export\_YYYYMMDD\_HHMMSS.xlsx)
8. **And** the Excel file should contain the database records
   * Verify the downloaded file exists in the Downloads folder
   * Check that the file size indicates substantial content (> 1KB)
   * Confirm the file contains data from the people database
9. **And** the Excel file should have proper column headers
   * Validate that the Excel file has the correct ZIP signature (PK bytes)
   * Verify the file is a valid Excel format
   * Confirm proper file structure

### Expected Results

* ✅ Excel file downloads successfully with timestamped filename
* ✅ File size indicates substantial content (typically 6KB+ for test data)
* ✅ File has valid Excel format signature
* ✅ Download completes without errors

### Technical Validation

* **Endpoint**: /Home/ExportToExcel
* **File Format**: .xlsx (Excel 2007+ format)
* **File Signature**: PK (ZIP-based format validation)
* **Typical Size**: 6,000+ bytes for test dataset

## Scenario 3: Export data to PDF format from View People

### Test Objective

Verify that users can successfully export people data to PDF format and receive a valid PDF file download.

### Step-by-Step Flow

1. **Given** I am logged in as “davred”
   * Launch browser and navigate to login page
   * Enter username “davred” and password
   * Submit login form and verify successful authentication
2. **And** I am on the main page
   * Verify main page loads correctly after login
   * Confirm page title and basic UI elements are present
3. **When** I click on the “View People” link
   * Locate and click the “View People” navigation link
   * Wait for page transition to complete
4. **And** I view the View People page
   * Verify the View People page loads successfully
   * Confirm data grid with people records is displayed
5. **And** I click the “Output Options” button
   * Locate the “Output Options” button on the page
   * Click to open the export options menu
6. **And** I click on “Export to PDF”
   * Select “Export to PDF” from the available export options
   * Trigger the PDF export functionality
7. **Then** I should receive a PDF file download
   * Intercept the download using Playwright’s download handling
   * Verify that a file download is initiated
   * Confirm the downloaded file has a PDF filename (e.g., export\_YYYYMMDD\_HHMMSS.pdf)
8. **And** the PDF file should contain the database records
   * Verify the downloaded file exists in the Downloads folder
   * Check that the file size indicates substantial content (> 10KB)
   * Confirm the file contains data from the people database
9. **And** the PDF file should be properly formatted
   * Validate that the PDF file has the correct PDF header (%PDF)
   * Verify the file is a valid PDF format
   * Confirm proper file structure

### Expected Results

* ✅ PDF file downloads successfully with timestamped filename
* ✅ File size indicates substantial content (typically 60KB+ for test data)
* ✅ File has valid PDF format signature (%PDF)
* ✅ Download completes without errors

### Technical Validation

* **Endpoint**: /Home/ExportToPdf
* **File Format**: .pdf (Portable Document Format)
* **File Signature**: %PDF (standard PDF header validation)
* **Typical Size**: 60,000+ bytes for test dataset

## Test Environment Requirements

### Prerequisites

* ✅ Application running and accessible
* ✅ User account “davred” exists and is active
* ✅ Database populated with test people records
* ✅ Export functionality enabled in backend
* ✅ Browser with download permissions

### Technical Setup

* **Framework**: SpecFlow 3.9.74 + Playwright
* **Browser**: Chromium (configurable)
* **Download Folder**: %USERPROFILE%\Downloads
* **Reporting**: HTML reports with SpecFlow LivingDoc
* **Test Parallelization**: Disabled (ClassLevel scope)

### File Validation Methods

1. **Download Interception**: Playwright’s built-in download handling
2. **File Existence**: Verify files appear in Downloads folder
3. **Size Validation**: Ensure files contain substantial content
4. **Format Validation**: Check file signatures (PDF: %PDF, Excel: PK)
5. **Cleanup**: Files remain in Downloads for manual verification

## Reporting and Execution

### Test Execution Commands

# Run export tests only  
dotnet test --filter "FullyQualifiedName~ExportFunctionality"  
  
# Run all BDD tests (including export)  
.\Scripts\run-bdd-tests.ps1  
  
# Run complete test suite with reporting  
.\Scripts\run-all-tests-sequential.ps1

### Test Reports

* **BDD HTML Report**: TestResults\BDD\_Tests\_Report.html
* **Cucumber Output**: Console with 🥒 step-by-step execution
* **TRX Report**: TestResults\BDD\_Tests\_Results.trx

### Success Criteria

* ✅ All 3 export scenarios pass
* ✅ 2 download files created (1 Excel + 1 PDF)
* ✅ No browser context conflicts
* ✅ Files have valid format signatures
* ✅ Beautiful BDD reporting generated

## Troubleshooting Guide

### Common Issues

1. **Multiple Downloads**: Ensure only 3 scenarios exist in feature file
2. **Browser Context Conflicts**: Use single browser instance via PlaywrightHooks
3. **Download Failures**: Check backend export endpoints are functional
4. **File Validation Errors**: Verify Downloads folder permissions

### Debug Commands

# List all tests  
dotnet test --list-tests  
  
# Check export test count  
dotnet test --filter "FullyQualifiedName~ExportFunctionality" --list-tests  
  
# Verbose execution  
dotnet test --filter "FullyQualifiedName~ExportFunctionality" --logger "console;verbosity=detailed"

For all future export functionality updates, this comprehensive test documentation should be maintained alongside the BDD feature files and step definitions.