Test Plan Document

1. Overview

This document outlines the test strategy for automated testing of both the TODO web application UI and Reqres.in API services. The framework validates functional requirements through Behavior-Driven Development (BDD) scenarios.

2. Test Coverage

UI Testing (TODO Web Application)

| **Area** | **Scenarios Covered** | **Test Cases** |
| --- | --- | --- |
| Authentication | Login functionality | 1. Failed login (Invalid credentials) 2. Successful login (Valid credentials) |
| Task Management | CRUD operations | 3. Create new task 4. Delete existing task |

API Testing (Reqres.in)

| **Area** | **Scenarios Covered** | **Test Cases** |
| --- | --- | --- |
| User Management | CRUD operations | 5. Get user list 6. Create user 7. Update user 8. Delete user |

3. Testing Tools

| **Tool** | **Purpose** | **Justification** |
| --- | --- | --- |
| SpecFlow | BDD framework | Enables human-readable test scenarios |
| Selenium WebDriver | UI automation | Industry standard for web testing |
| RestSharp | API testing | Simplified HTTP client for .NET |
| NUnit | Assertions | Robust verification library |
| ChromeDriver | Browser automation | Headless/headed execution support |

4. Test Execution

Prerequisites

* .NET 6.0 SDK
* Chrome browser (v100+)
* API access to reqres.in

Running Tests

bash

*# Full test suite*

dotnet test

*# UI tests only*

dotnet test --filter "Category=UI"

*# API tests only*

dotnet test --filter "Category=API"

Test Reports

* TRX files generated in /TestResults
* HTML reports via SpecFlow+Runner (optional)

5. Assumptions

1. Test environment is stable and accessible
2. API endpoints remain consistent
3. Test data is reset between runs
4. UI locators won't change frequently

6. Limitations

1. No mobile browser testing
2. Limited performance testing
3. No OAuth token handling