# Software Testing Process Documentation

This document outlines the complete software testing process from initial build verification to final user acceptance testing. It covers various testing stages, environments, methodologies, and documentation practices.

## 1. Testing Environments & URLs

Developers provide a build (usually a URL) for testing in different environments:  
- Development (Dev) URL – Initial environment where features are developed.  
- Test URL – Environment for functional and system testing.  
- Staging (Stage) URL – Pre-production environment for final verification.  
- Production (Prod) URL – Live environment used by end-users.  
- User Site URL – Final public-facing website or application URL.

## 2. Smoke Testing

A high-level check performed by testers to verify that the application launches successfully and key functionalities are working. This ensures the build is stable enough for further testing.

## 3. System Testing

A complete end-to-end functional testing phase where all features are tested as per the requirements.  
Preparation includes:  
- Test Strategy  
- Test Plan  
- Test Scenarios  
- Test Cases  
- Defect Reporting  
- Test Closure Report

## 4. End-to-End (E2E) Testing

Performed every sprint to ensure the overall quality of the product. Covers all integrated systems and business workflows from start to finish.

## 5. Regression Testing

Ensures that new changes, enhancements, or defect fixes do not negatively impact existing functionalities.  
Example: If working on Sprint 10, regression testing should cover Sprints 1 to 9. Automation can help run all previous sprint test cases with a single execution.

## 6. Sanity Testing

A focused testing approach conducted after all major changes are completed to verify that specific bugs are fixed and related functionalities are working correctly.

## 7. Requirement Traceability Matrix (RTM)

RTM maps requirements to corresponding test cases and defects. This ensures full coverage and helps track which requirements are tested.  
- One requirement may have multiple test cases and defects.  
- Naming convention example: Req01 → Test Scenario TS01.1 → Test Case TC01.1\_TS01.1  
- Test Data: Provide realistic mock data (e.g., 34-character strings).

## 8. Test Design Techniques

- Boundary Value Analysis (BVA) – Tests the boundaries of input ranges.  
- Equivalence Partitioning (EP) – Divides input data into valid and invalid partitions.

## 9. Additional Testing Types

User Acceptance Testing (UAT): Final testing phase performed by the client/end-user to verify the system meets business requirements.  
System Testing: Verifies complete and integrated software system.  
Integration Testing: Validates data flow and interactions between integrated modules or services.





