TEST DESIGN AND ADMINISTRATION
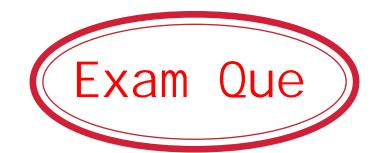
CHAPTER 06

INTRODUCTION TO TEST CASES

What are Test Cases?

❑ A test case is a set of conditions or actions executed to verify a particular feature or functionality of the software application.

❑ Test cases ensure that the software behaves as expected under various conditions.

Importance of Test Cases

❑ Detect Bugs Early: Identify defects at an early stage, reducing the cost and effort needed for fixes.

❑ Improve Software Quality: Systematic testing helps maintain high quality and reliability of the software.

❑ Provide Documentation: Test cases serve as a record of what has been tested, helping in future test cycles and audits.

KEY COMPONENTS OF A TEST CASE

1. Test Case ID: A unique identifier for each test case to distinguish it from others.

2. Test Description: A brief overview of what the test case is designed to verify.

3. Preconditions: Any setup required before executing the test case, such as user login or specific data in the database.

4. Test Steps: Detailed, step-by-step instructions on how to perform the test.

5. Test Data: Specific data values used during the test, such as input values.

6. Expected Result: The outcome that should occur if the system is functioning correctly.

7. Actual Result: The actual outcome observed after executing the test. This is compared to the expected result.

8. Status: Indicates whether the test passed or failed based on the comparison of the expected and actual results.

EXAMPLE OF A TEST CASE

Test Case ID: TC001

Test Description: Verify login functionality with valid credentials.

Preconditions: User must have valid login credentials.

Test Steps:

1. Navigate to the login page.

2. Enter valid username.

3. Enter valid password.

4. Click the login button.

Test Data: Username: validUser, Password: validPassword

Expected Result: User is redirected to the dashboard.

Actual Result: ………………(To be filled after test execution)

Status: …………(To be marked as Pass/Fail after comparison)

Click for Sample: DOWNLOAD

WRITING EFFECTIVE TEST CASES

1. Be Clear and Concise: Write in simple language to avoid ambiguity.

2. Maintain Consistency: Use a consistent format and terminology throughout your test cases.

3. Focus on Requirements: Align test cases with the software requirements and specifications to ensure all functionalities are covered.

4. Prioritize Test Cases: Start with critical functionalities that have the highest impact if they fail.

5. Include Negative Scenarios: Test how the system handles invalid inputs, unexpected user behavior, and edge cases.

BEST PRACTICES FOR TEST CASE MANAGEMENT

1. Regularly Review and Update: Keep test cases up-to-date with the latest changes in the software.

2. Reuse Test Cases: Create reusable test cases for common functionalities to save time and effort.

3. Organize Test Cases: Categorize test cases by modules, features, or user stories for better manageability.

4. Use a Test Management Tool: Tools like JIRA, TestRail, or even spreadsheets can help organize and track test cases.

5. Collaborate with Team: Involve developers, business analysts, and stakeholders in the review process to ensure completeness and accuracy.

TEST SUIT AND TEST SCRIPTS

Test Scenarios:

- High-level concepts or ideas of what to test.

- Derived from use cases and user stories.

- Example: Verify the user can log in with valid credentials.

Test Scripts:

- Automated scripts written to execute test cases.

- Often used in automated testing tools like Selenium, QTP, etc.

- Example: A script that automates the steps to log in to an application and verify the dashboard is displayed.

A test suite

-A test suite is a collection of test cases designed to validate the functionality and performance of a software application or system.

-It ensures that the software behaves as expected under various conditions and meets the specified requirements.

HANDS-ON ACTIVITY

Question : Write a test case for a simple functionality (e.g., Signup form).

Instructions:

1. Choose a functionality (e.g., Signup form with fields for username, password, and ema

2. Identify the test case components: ID, Description, Preconditions, Steps, Data, Expecte Result.

3. Write the test case using the template provided.

Test Case ID:

Test Description:

Preconditions:

Test Steps:

Test Data:

Expected Result:

Actual Result:

Status:

OTHER TESTS

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