



Promoting IT Efficiency

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Blog Article
IT Methodology Life Cycle – Software Testing

The Cycle of Life: Software Testing

Context

From the initial days of Information Technology (IT), practitioners have always recognized the need to establish and apply a suite of industry recognized best practices. One of these best practices is used to develop and maintain computer applications. This is the cycle of life for software.

A number of lifecycles have been developed to address specific disciplines within IT – examples include Project Management Lifecycle (PMLC), Software Development Lifecycle (SDLC), and Software Testing Lifecycle (STLC). In all cases, these lifecycles are made up of a number of phases, each containing a set of deliverables.

Software Testing Lifecycle (STLC)

The STLC is used by application development and support teams to test and verify the functionality of an IT application or system. The SDLC is usually applied across an entire organization and is used from the inception of a project through to a successful implementation of the required solution – in the majority of organizations the STLC is executed and monitored using an accompanying Project Management Lifecycle (PMLC). Though a multitude of STLC's exist, they commonly rely on a phased approach, pre-defined deliverables, and standard naming conventions. The STLC traditionally executes in parallel and concurrently with a software development lifecycle (SDLC).

Here's an overview of the most common phases in the Software Testing Lifecycle.

Systems Analysis

The Systems Analysis phase is the first phase to be performed within an STLC. It is initiated in conjunction with a project being authorized or approved. Its purpose is to ensure proper and effective planning is applied to the strategic and user acceptance testing effort and activity that will be performed on the application prior to it being placed in the production environment. This includes defining the user acceptance criteria and conditions the user community will apply to assess the functionality being delivered.

Design

The purpose of the Design phase within the STLC is to

1. Ensure proper and effective planning is applied to define the system integration and unit testing efforts to be performed on the application
2. Establish the pre-defined testing criteria and conditions that will be used to evaluate the system integration and unit testing results

Build

The Build phase is an iterative process within the STLC. Its purpose is to ensure all the technical code that has been developed reflects the pre-defined unit testing criteria established during the Design phase. It is comprised of the following steps Apply and execute the pre-defined unit testing criteria (defined in the Design phase) against the technical code that have been created by the development or maintenance teams

Identify and document unit testing deviations (expected results versus actual results)

1. Communicate unit testing deviations to development team
2. Retest revised technical code against the unit testing criteria
3. Confirm that all the pre-defined unit testing criteria have been satisfied
4. Promote the authorized technical code from the unit test environment to the system integration test environment

Test

Like the Build phase, the Test phase is an iterative process within the STLC. Its purpose is to ensure all the technical code that has been developed reflects the pre-defined system integration testing criteria established during the Design phase and includes

1. Apply and execute the pre-defined system integration testing criteria against the technical code that have been created by the development or maintenance teams
2. Identify and document system integration testing deviations
3. Communicate system integration testing deviations to development team
4. Retest revised technical code against system integration testing criteria
5. Confirm that all the pre-defined system integration testing criteria have been satisfied
6. Promote the authorized technical code from the system integration test environment to the user acceptance test environment

Release

Just like the Build and Test phases, the Release phase is also an iterative process within the STLC. Its purpose is to ensure that what has been developed meets the user acceptance testing criteria established during the Systems Analysis phase and includes

1. Apply and execute the pre-defined user acceptance testing criteria that have been created by the development or maintenance teams
2. Identify and document user acceptance testing deviations
3. Communicate user acceptance testing deviations to development team
4. Retest revised technical code against the user acceptance criteria
5. Confirm that all the pre-defined user acceptance testing criteria have been satisfied
6. Promote the authorized technical code from the user acceptance test environment to the production environment
7. Provide ongoing support of the application to the user community

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