Software Testing Life Cycle – STLC

1. Test Planning and Control
2. Test Analysis and Control
3. Test Implementation and Execution
4. Evaluating Exit Criteria and Reporting
5. Test Closure Activities.

\*. Test Planning and Control

Test Lead prepares a Test Plan doc which consists of strategy to accomplish testing on AUT.

Test plan includes:

What to test?

Who will test?

When to test?

What feature to test for the current release?

What could be the risks and their solutions?

What resources do we need?

What documents will be prepared?

Etc.

\*. Test Analysis and Design

Tester analyses the requirements with the intent of deriving the test conditions – Test Scenario document.

Example.

Gmail – Sign In – under test

Sign In- Test Scenario:

Conditions:

Test gmail sign in with valid username and valid password.

Test gmail sign in with valid username and invalid password.

Test gmail sign in with invalid username.

Test gmail sign in with valid username and empty password.

Test gmail sign in with empty username.

Etc.

\*. Test Implementation and Execution

Test Implementation – Test case preparation.

Test case – step by step execution of a scenario with test data required and expected results.

Example.

To test gmail sign in with valid username and valid password.

Steps:

Open browser

Enter url: [www.gmail.com](http://www.gmail.com)

Enter username: test123

Click on Next button

Enter the password: 12344dfh

Click on Next button

Expected Result:

User should be signed in successfully and Inbox mails should be displayed.

Test Execution: tester executes the test cases and find the defects. If defects found then prepare the defects reports and report it to developer.

\*. Evaluating Exit Criteria and Reporting

Exit criteria – Define when to stop testing.

In this phase, team evaluates if the application is fully tested or not.

They will check for conditions like:

Defects should be solved.

All the requirements should be covered.

Quality should be maintained.

Application should be functioning.

All the test cases should be executed.

If the given criteria is met then application is given for release.

\*. Test Closure Activities.

Tester summarizes the testing phase – test summary report is prepared.

Handover all the documents, resources, tools which were created in the testing phase.

Testing

Write testcases

Execute testcases

Manual testing

Automation testing

Verification and Validation

These are the two types of testing.

Verification

Evaluation of the work products/ deliverables/ documents.

Also called as Static testing as execution of build or software is not involved, we check the documents if it has all required attributes are present or not in it.

It is easy for us to locate the defect.

Verification is preventive as of it prevents of moving the defect from one phase to another.

Verification is performed in each n every phase of SDLC.

Quality Assurance.

Validation

Evaluation of end product/ build/ software.

Also called as Dynamic testing as application’s execution is involved.

It is difficult to locate the defect because modules are interconnected and the root cause of the defect might be somewhere in the modules.

Validation is detective and corrective as defects are detected are corrected as well.

Validation is done from Coding phase till Release.

Quality Control.

Verification Techniques

1. Walkthrough

Author of the document will discuss about the document among his colleagues. Colleagues will provide some feedback, suggestions, viewpoints.

Led by author.

Informal Review.

1. Inspection

Led by trained moderator.

Formal Review.

Meeting has to be conducted.

Location, date and time, people is decided by moderator.

Involves some roles

Author: whose doc is under inspection.

Reader: presents the doc in the meeting.

Inspector: finds the defects and provides the solutions.

Scribe: records the conversation.

Moderator: coordinates the flow of the meeting.

1. Technical Review

Semiformal review.

Peer to peer review.

Validation Techniques/ Levels of testing

1. Unit Testing
2. Integration Testing
3. System Testing
4. User Acceptance Testing

\*. Unit Testing

Single module is tested. It is always performed by the developers.

\*Integration Testing

Two or more units are integrated together to check if both are working fine.

We test the interface between the modules.