Testing

Q. Testing - Defect Lifecycle, Sanity vs Smoke Testing, Regression vs Retesting, SDLC, STLC, how do you ensure all testing covered or not?

A. Testing:- Testing the Software/Application perfectly working fine or not, as per client requirements is known as Testing.

There are different types of testing

like smoke, sanity, progression, regression.

#Sanity Testing - Sanity Testing is done during the release phase to check for the main functionalities of the application.

#Smoke Testing - Smoke Testing is done to make sure if the build we received from the development team is testable or not. It is done at build level.

Sanity vs Smoke Testing

***Smoke Testing verifies the critical functionalities of the system whereas Sanity Testing verifies the new functionality like bug fixes.**

***Smoke testing is a subset of acceptance testing whereas Sanity testing is a subset of Regression Testing.**

@Progression Testing - Executing new functionalities added in the build is called Progression Testing.

@Regression Testing - Reexecuting the all-existing test case on the Modified build.

@Retesting - Reexecuting the specific test case in a build after fixing the bug.

Regression vs Retesting

***Regression testing is performed for passed test cases while Retesting is done only for failed test cases.**

***Regression testing checks for unexpected side-effects while Re-testing makes sure that the original fault has been corrected.**

***Regression Testing is possible with the use of automation whereas Re-testing is not possible with automation.**

DefectLifecycle

***Defect Life Cycle or Bug Life Cycle in software testing is the specific set of states that defect or bug goes through in its entire life.**

*** The purpose of Defect life cycle is to easily coordinate and communicate current status of defect which changes to various assignees and make the defect fixing process systematic and efficient.**

***New: When a new defect is logged and posted for the first time. It is assigned a status as "NEW".**

***Assigned: When the defect is assigned to the development team then the defect status will be in "Assigned/ Open status".**

***Fixed: If the defect is fixed by the development team, then the status will be changed to Fixed.**

***Pending retest: Once the defect is fixed the developer gives a particular code for retesting the code to the tester.**

***Since the software testing remains pending from the testers end, the status assigned is “Pending retest.”**

***Closed - If the defect no longer exists then tester assigns the status “Closed.”**

***Failed Retest - If the defect persists even after the developer has fixed the defect, the tester changes the status to “Failed Retest”. Then the defect will be assigned to back to the development team.**

***Rejected - If the defect is not valid and is not able to replicate the issue, then the defect status will be "Rejected".**

***Differed - If the defect is valid and is not fixing in the current release and is targetted for the future release. Then the status will be changed to "Differed".**

Software Development Life Cycle

@SDLC - Software Development Life Cycle which contains various phases like requirements, design, coding and testing phases in project development progress.

@Requirement’s phase - Going through the requirements, FRD, BRD documents and functionality of each user story. we will be involved in requirements walkthrough sessions by BA & designers.

@Design Phase - We will be involved in understanding the HLD and LLD documents. Development team will be involved in technical part & pseudo code understanding from the technical documents. Testing team will be focused on the test scenarios and test case design effort. Test scenario walk through sessions to be planned for Business Analysts , design team , development team and required Project stakeholders like that.

@Coding Phase - Development team will be completely involved in coding and will do the unit testing. They will share all the unit test results and sessions to required teams.

***Testing team will also focus on test environmental access and checks, Test data preparation activities, user setup roles and responsibilities matrix.**

@Testing phase - Once build is ready, testing team will focus on smoke testing and sanity testing, Progression& regression testing. Once SIT, FAT and System Testing is completed.

***The testing team will give the test completion certificate about the Overall Test execution summary metrics & outstanding defect conclusion to all project team and stake holders.**

***Project Team & stake holders will take decision for release to GO/No GO discussions and accordingly further Release action plans will be taken care and all New functional features will be into Production like that.**

Software testing life cycle

@STLC - Software testing life cycle is a sequence of specific activities conducted during the testing process to ensure software quality goals are met. STLC contains various phases like Requirement Analysis, Test Planning, Test case development, Test Environment setup, Test Execution, Test Cycle Closure.

@Requirement Analysis - We have to go through the requirement analysis and understanding the FRD/BRD documents.QA team may interact with various stakeholders to understand the requirements in detail.

@Test Planning - Test plan creation is the crucial phase of STLC. Testing strategy and effort estimation documents provided by this phase. Test case execution can be started after the successful completion of Test Plan Creation.

@Test case development - Test Scenario preparation, Query resolution on requirements by BA/ Designers.

***Test Scenario walk through sessions to all project team and taking formal approval on test scenario coverage about requirements.**

***Peer reviews and external reviews.**

***Taking signoff and approval by BA & clients in Test scenarios and test case documents. Uploading all test cases into HP ALM.**
***Uploading all testing documents in share point by release specific folders.**

@Test Environment setup - Setup of the test environment is an independent activity and can be started along with Test Case Development.

***This is an essential part of the manual testing procedure as without environment testing is not possible.**

***Checking and access test application URL.**

***User setup, credentials checking and roles and responsibilities access to the user.**

***Test Data Preparation activities.**

*** Checking interface connectivity and readyness follow-up activities.**

@Test Execution Phase - Executing the test cases in HP ALM and sharing daily dashboard test execution summary.

*** Logging defects in QC and defect follow-up with development teams with other teams.**

***RTM(Requirement Traceability Matrix) is also prepared in this phase.**

***Requirement Traceability Matrix is industry level format, used for tracking requirements.**

***Each test case is mapped with the requirement specification. Backward & forward traceability can be done via RTM.**

@Test Cycle Closure - The Test Cycle closure report includes all the documentation related to software design, development, testing results, and defect reports.

***Getting confirmation Go/ No GO decision by client for the current release deliverables or new features implemented.**

***This phase evaluates the strategy of development, testing procedure, possible defects in order to use these practices in the future if there is a software with the same specification.**