

Levels of Testing

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Levels

- Unit Test/Components Test
- Integration test
- System Test
- Acceptance Test

Unit Testing

- Performed in development (coding) of an application.
- Also called as component testing
- Testing to ensure that the developed module is working fine

Integration

- Individual software modules are integrated logically and tested as a group.
- Big Bang Approach
- Incremental Approach
 - Top Down Approach
 - Bottom Up Approach
 - Sandwich Approach - Combination of Top Down and Bottom Up

Approaches of integration testing

- **Big Bang Approach:**
 - Here all component are integrated together at **once**, and then tested.
- **Incremental Approach:**
 - testing is done by joining two or more modules that are *logically related*
- **Stub:** it is called by the Module under Test. (Top to Bottom)
- **Driver:** Calls the Module to be tested. (Bottom to Top)

White Box testing

- Structural testing
- Clear Box testing
- Open Box Testing
- Glass Box Testing

White Box Testing

- Testing of a software's internal coding and infrastructure
 - Broken or poorly structured paths in the coding processes
 - The flow of specific inputs through the code
 - Expected output
 - The functionality of conditional loops
 - Testing of each statement, object and function on an individual basis
- This can be done by both **Developer and tester**

Black Box Testing

- We just **focus on inputs and expected output** of the software system **without bothering about Code**
- This is done only by tester
 - **Functional testing**
 - **Non-functional testing**
 - **Regression testing**

System Testing

- Testing done by a professional testing agent on the completed software product before it is introduced to the market.
- In This phase we will do both black box testing and white box testing

Functional test and Non Functional Test

Functional Test

- Smoke Testing
- Sanity Testing
- Regression Testing

Non Functional Test

- Load Testing
- Volume Testing
- Stress Testing
- Security Testing
- Compatibility Testing
- Migration Testing

Acceptance testing

- Testing performed by the Client to certify the system with respect to the requirements
- This testing happens in the final phase of testing before moving the software application to Market or Production environment.

Who Performs UAT?

- Client
- End users