

What is Integration Testing?

Integration Testing is the process of testing the connectivity or data transfer between the couple of units tested modules. It is AKA I&T (Integration & Testing) or String Testing

It is sub divided into Big Bang Approach, Top-Down Approach, Bottom-Up Approach and Sandwich or Hybrid Integration Approach (Combination of Top Down and Bottom Up).

It is done after Unit testing. Each and every module involved in integration testing should be unit testing prior to integration testing. By doing unit testing prior to integration testing gives confidence in performing software integration testing.

It is done as per Test plan. By following the test plan before doing integration testing mitigate the chaos and gives a clear path in performing integration testing effectively.

Objectives of System Integration testing:

Objectives of integration testing include:

- To reduce risk
- To verify whether the functional and non-functional behaviors of the interfaces are as designed and specified
- To build confidence in the quality of the interfaces
- To find defects (which may be in the interfaces themselves or within the components or systems)
- To prevent defects from escaping to higher test levels

How To Write Integration Test Cases?

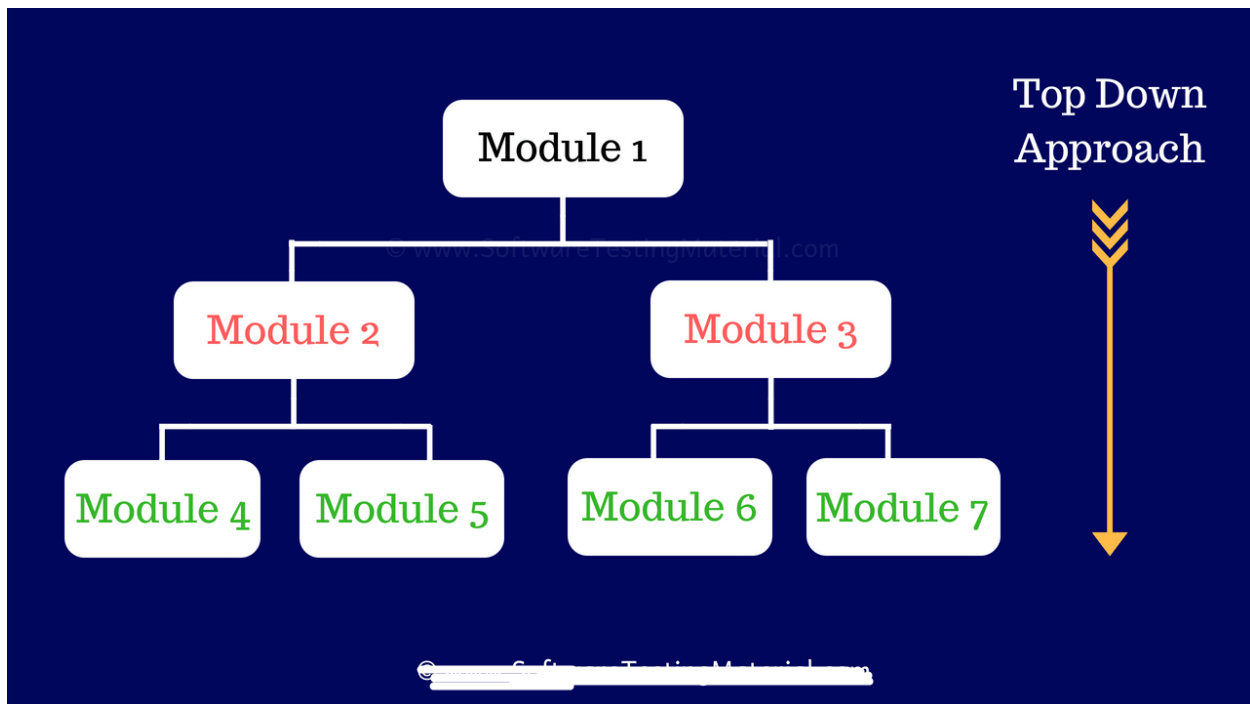
Assume there are 3 modules in an application such as 'Login Page', 'Inbox' and 'Delete Mails'

While writing integration test cases, we don't focus on functionality of the individual modules because individual modules should have been covered during Unit Testing. Here we have to focus mainly on the communication between the

modules. As per our above assumption, we have to focus on “How Login Page is linked to the Inbox Page” and “How Inbox Page is linked to the Delete Mails module”.

TEST CASE ID	TEST CASE OBJECTIVE	TEST CASE DESCRIPTION	EXPECTED RESULT
1	Verify the integration between login and Inbox module	Enter login credentials and do login	Inbox should be displayed
2	Verify the integration between Inbox and Delete mails module	Select an email and click on delete button	Deleted email should be disappeared from Inbox and should appear in the Trash box

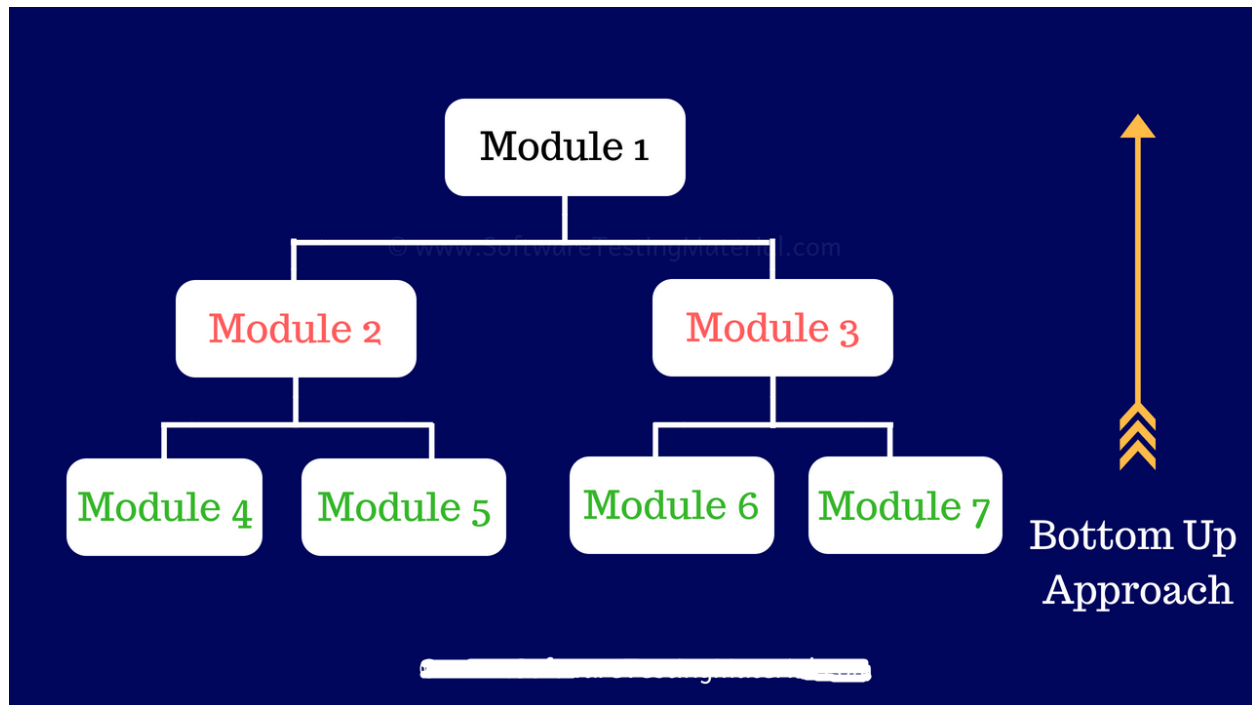
What is Top-Down Approach?



In Top-Down Integration Testing, testing takes place from top to bottom. High-level modules are tested first and then low-level modules and finally integrating the low-level modules to a high level to ensure the system is working as intended.

What is Bottom-Up Approach?

It is a reciprocal of the Top-Down Approach. In Bottom-Up Integration Testing, testing takes place from bottom to up. Lowest level modules are tested first and then high-level modules and finally integrating the high-level modules to a low level to ensure the system is working as intended.



What is Big Bang Approach?

Combining all the modules once and verifying the functionality after completion of individual module testing. In Big Bang Integration Testing, the individual modules are not integrated until all the modules are ready. Then they will run to check whether it is performing well.

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