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# Basic Testing

Day 5 Artefacts and Deliverables

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# Agenda

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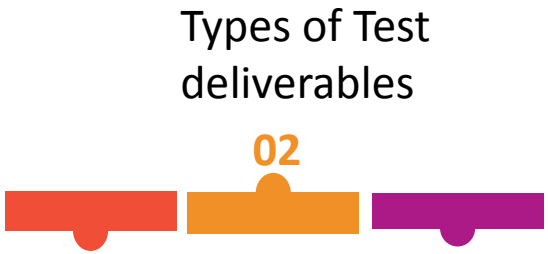
## Day 05



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# 01 Test Artefacts and Deliverables

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# Test artefacts and deliverables

**Test artefacts and deliverables**

- Test deliverables are the artifacts which are given to the stakeholders of a software project during the software development lifecycle.
- There are different test deliverables at every phase of the software development lifecycle.
- Some test deliverables are provided before the testing phase, some are provided during the testing phase and some after the testing cycles is over.

# Types of **Test deliverables**

The Testing team requires to share the following deliverables in the different phases of the SDLC.

# What is a **Test Plan**?

**Test Plan document**

A test plan is a document describing the scope, approach, objectives, resources, and schedule of a software testing effort. It identifies the items to be tested, items not be tested, such as:

- who will do the testing,
- What is the test approach followed,
- what will be the pass / fail criteria,
- training needs for team,
- testing schedule, and so on.

**Test Plan document is a part of Test deliverables**

Test Plan document is also a part of test deliverables because this document lets the stakeholders know about the **scope**, **approach**, **objectives** and **schedule** of software testing.

# Test plan (continued)

A Test plan has the following elements:

| | | | | |
|---|---|---|---|---|
| Test plan identifier | Introduction | Test items | Features to be tested | Features not to be tested |
| Approach | Testing strategy | Item pass / fail criteria | Suspension criteria and resumption criteria | Test Deliverable |
| Automation Scope | Testing Tasks | Effort Estimation | Environmental Needs | Roles and responsibilities |

# Test strategy

**What is a Test strategy**

- Test strategy is a very important test deliverable, the test strategy which is followed for testing should be informed to the project stakeholders.
- It is a statement of the overall approach of testing to meet the business and test objectives.

**When is it prepared**

- It is a plan level document and has to be prepared in the requirement stage of the project.

**Why is it important**

- Developing a test strategy which effectively meets the needs of the organization / project is critical to the success of the software development.
- It identifies the methods, techniques and tools to be used for testing.
- It can be a project or an organization specific.
- Define the strategy upfront before the actual testing helps in planning the test activities.

**What is the success criteria**

- An effective strategy has to meet the project and business objectives.

# Elements of a **Test strategy**

A test strategy will typically include the following elements:

- Definition of test objective
- Strategy to meet the specified objective
- Overall testing approach
- Test environment
- Test automation requirements
- Metric plan
- Risk identification, mitigation, and contingency plan
- Details of tools usage
- Specific document templates used in testing

# Test case

- Test case document is also a part of test deliverables. By reading test case documents, the stakeholders get an idea about the quality of test cases written and their effectiveness.
- Stakeholders can also provide inputs about the current set of test cases as well as suggest some more missing test cases.
- Test case is a set of test inputs, execution conditions, and expected results developed for a particular objective, such as to exercise a particular program path or to verify compliance with a specific requirement.
- It may take many test cases to determine that a requirement is fully satisfied. In order to fully test that all the requirements of an application are met, there must be at least one test case for each requirement.

# Test case attributes

| | |
|---|---|
| Test case id | it must be unique for every test case |
| Test case name | it should be short |
| Test case description | it should be brief |
| Test case priority | priority should be mentioned for each test case |
| Pre condition | what all pre-requisites are required for executing a test case |
| Tester name | who is writing the test case |
| Requirement id | it should be mapped clearly to the test case ID |
| Test case type | to identify the type of test case |
| Test case steps | steps to execute the test case |
| Expected results | the description of what you expect from the function to do |
| Actual results | it is filled during execution.<br>▪ if pass: What actually happens when you run the test<br>▪ if failed: Description of what you've observed |

# Test Scripts

A test script is the executable form of a test.

# Test Data

Test data is the data that is used in tests of a software system.

In order to test a software application you need to enter some data for testing most of the features. Any such specifically identified data which is used in tests is known as test data.

You can have test data in excel sheet which can be entered manually while executing test cases or it can be read automatically from files (XML, Flat Files, Database and so on.) by automation tools.

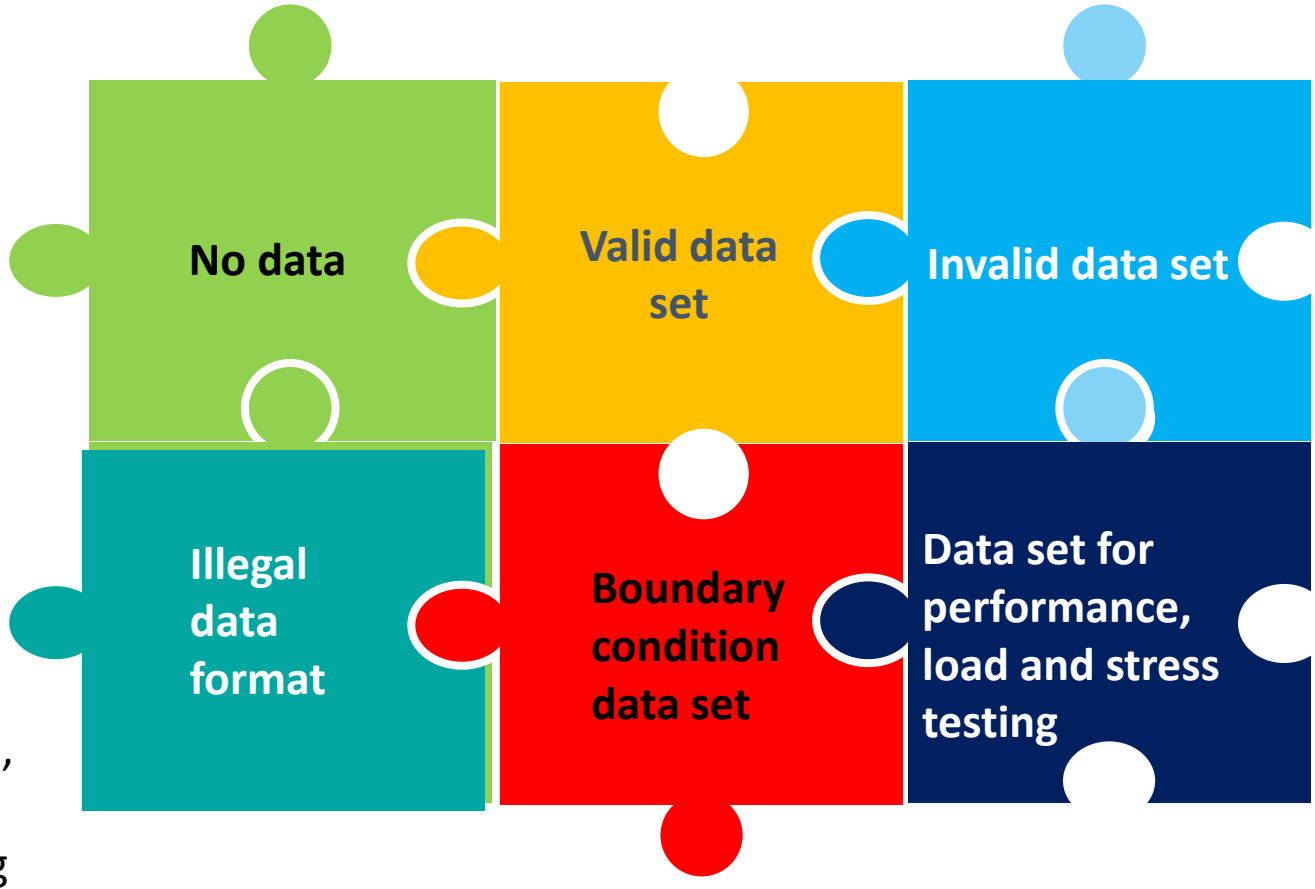
Some test data is used to confirm the expected result, i.e. when test data is entered the expected result should come. Some test data is used to verify the software behavior to invalid input data.

Test data is generated by testers or by automation tools which support testing. Most of the times in regression testing the test data is re-used. It is always a good practice to verify the test data before re-using it in any kind of test.

# Test data (continued)

Test data document should include test data from following categories:

No data




Data set for performance, load and stress testing

# Requirements **Traceability Matrix**

**What is a Requirements traceability matrix (RTM?**

- Requirements traceability matrix (RTM) is a document that traces and maps user requirements [Requirement IDs from requirement specification document] with the test case IDs.
- Purpose is to make sure that all the requirements are covered in the test cases identified, so that no functionality can be missed while testing.

**How does it help?**

- Gives confidence to client that the software is being developed as per the requirements.
- Required to make sure that all requirements are included in the identified `test cases.
- RTM makes it easy to identify the missing functionalities
- Through RTM we can get the idea of “Extra” functionality that may have been implemented but not specified in the design specification. Hence gives the idea of wastage of manpower, time and effort.

# Requirements Traceability Matrix (continued)

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Requirement Traceability Matrix – Parameters include:

- Requirement ID
- Risks
- Requirement Type and Description
- Trace to design specification
- Unit test cases
- Integration test cases
- System test cases
- User acceptance test cases

# Test results /report

Reporting test execution results is an important part of testing. Whenever test execution cycle is complete, tester should make a complete test results report which includes the Test Pass/Fail status of the test cycle.

The Test Report gives the picture of the Testing done for the project-

Details of the test cases which are PASSED / FAILED

Defects which are still OPEN / REJECTED/In Progress, and so on are captured here

Only with these inputs does the Management decide if the release can happen or not.

It can be manual or can be generated using Test tools.

Test results are captured and stated in Test Execution Status Report.

# Test Results /report (continued)

**Test Execution Status Report**

- This is a communication sent out to establish transparency to the QA team's activities of the day during the test cycle – includes both defect information and test case run information.
- It is sent to Development team, Environment support team, Business analyst, and the project team.

# Test Results /report (continued)

Test Execution Status Report should contain the following 10 points:

1. Number of test cases planned for that day
2. Number of test cases executed – that day
3. Number of test cases executed overall
4. Number of defects encountered that day/and their respective states
5. Number of defect encountered so far/and their respective states
6. Number of critical defects- still open
7. Environment downtimes – if any
8. Showstoppers – if any
9. Attachment of the test execution sheet / Link to the test management tool where the test cases are placed
10. Attachment to the bug report/link to the defect/test management tool used for incident management

# Test Summary Report

- **Test summary report** is an important deliverable which is prepared at the end of a Testing project or rather after Testing is completed.
- The prime objective of this document is to explain various details and activities about the Testing performed for the Project to the respective stakeholders such as Senior Management, Client, and so on

As part of Test execution report daily testing results is shared with involved stakeholders every day. But Test Summary Report provides a consolidated report on the Testing performed so far for the project.

# Test Summary Report (continued)

Test Summary Status Report should contain below sections

- Purpose of the document
- Application Overview
- Testing Scope
- Metrics
- Types of testing performed
- Lessons Learned
- Recommendations
- Best Practices:
- Exit Criteria
- Conclusion / Sign Off
- Definitions, Acronyms, and Abbreviations

# Release notes

Release notes is a document, which is released as part of the final build that contains new enhancements that went in as part of that release and also the known issues of that build.

It is a document released along with the product which explains about the product. It also contains information about the bugs that are in deferred status.

Release notes are usually written by technical writers which are communication documents shared with clients. Release notes also feed the process of end-user documentation, user guide, and training materials.

# Release notes **format**

# Spot Quiz

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## 01

**A test plan is a**

| | |
|---|---|
| A | Is a type of test deliverable |
| B | Is a document describing the scope, approach, objectives, resources, and schedule of a software testing effort. |
| C | Is a type of usability test. |
| D | A tool that helps the stakeholder about the schedule and objectives of software testing |

# Spot Quiz

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02

## When is Testing strategy prepared?

| | |
|---|---|
| A | Requirement stage of the project |
| B | Development stage |
| C | Initial stage |
| D | At the end of the project |

# Spot Quiz

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03

**Test data is the data which is used**

| | |
|---|---|
| A | By automation tools |
| B | For functionality tests |
| C | Used in Tests in software testing |
| D | To validate the results |