



Core Testing>Day 5>Basic Testing



Instructor Guide



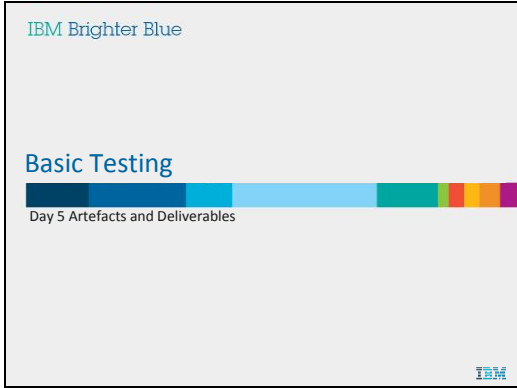
Contents

MODULE 01: TEST ARTEFACTS AND DELIVERABLES


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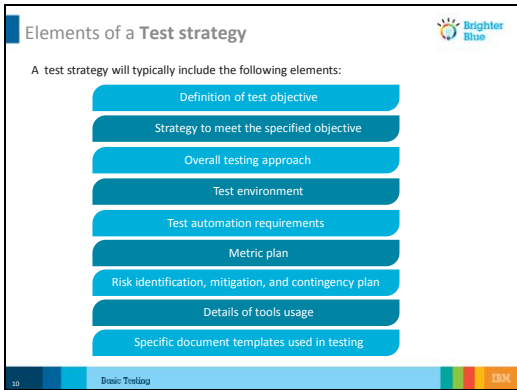
Module 01: Test Artefacts and Deliverables

Slide Content	Use this space for your own notes
<p>Slide 1</p> 	
<p>Slide 2</p>  <p>This course consists of one module which is divided into three sections, each describing the various aspects of Test Artefacts and Deliverables</p>	



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Slide Content	Use this space for your own notes
<p>Slide 3</p> <div>  </div> <p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> • Define what are Test Artefacts and Deliverables • List the different types of deliverables • Discuss in detail about all the deliverables 	
Slide 4	

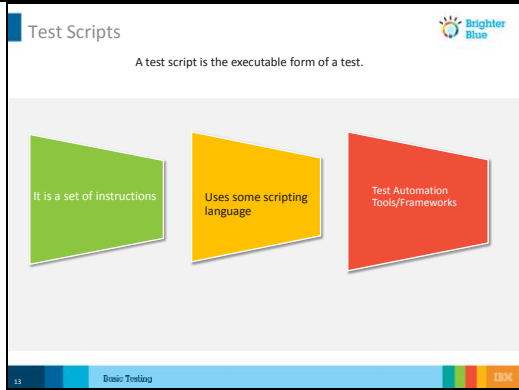
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Slide Content	Use this space for your own notes
 <p>Test strategy</p> <ul style="list-style-type: none"> What is a Test strategy <ul style="list-style-type: none"> Test strategy is a very important test deliverable, the test strategy which is followed 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 <ul style="list-style-type: none"> It is a plan level document and has to be prepared in the requirement stage of the project. Why is it important <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> An effective strategy has to meet the project and business objectives. 	
<p>Slide 9</p>  <p>Elements of a Test strategy</p> <p>A test strategy will typically include the following elements:</p> <ul style="list-style-type: none"> 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 	
<p>Slide 10</p>	

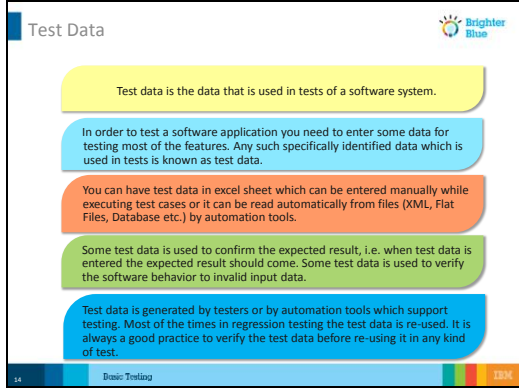
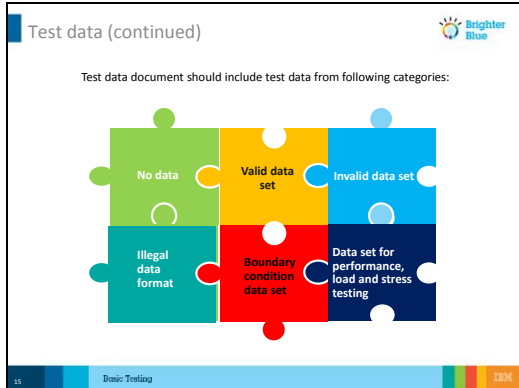
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Slide Content	Use this space for your own notes																						
<div> <p>Test case</p>  <ul style="list-style-type: none"> Test case document is also a part of test deliverables. By reading test case documents, the stakeholders get an idea about 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. <p>11 Basic Tooling IBM</p> </div>																							
<p>Slide 11</p> <div> <p>Test case attributes</p>  <table border="1"> <tr><td>Test case id</td><td>it must be unique for every test case</td></tr> <tr><td>Test case name</td><td>it should be short</td></tr> <tr><td>Test case description</td><td>it should be brief</td></tr> <tr><td>Test case priority</td><td>priority should be mentioned for each test case</td></tr> <tr><td>Pre condition</td><td>what all pre-requisites are required for executing a test case</td></tr> <tr><td>Tester name</td><td>who is writing the test case</td></tr> <tr><td>Requirement id</td><td>it should be mapped clearly to the test case ID</td></tr> <tr><td>Test case type</td><td>to identify the type of test case</td></tr> <tr><td>Test case steps</td><td>steps to execute the test case</td></tr> <tr><td>Expected results</td><td>the description of what you expect from the function to do</td></tr> <tr><td>Actual results</td><td>it is filled during execution. <ul style="list-style-type: none"> if pass: What actually happens when you run the test if failed: Description of what you've observed </td></tr> </table> <p>12 Basic Tooling IBM</p> </div>	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. <ul style="list-style-type: none"> if pass: What actually happens when you run the test if failed: Description of what you've observed 	
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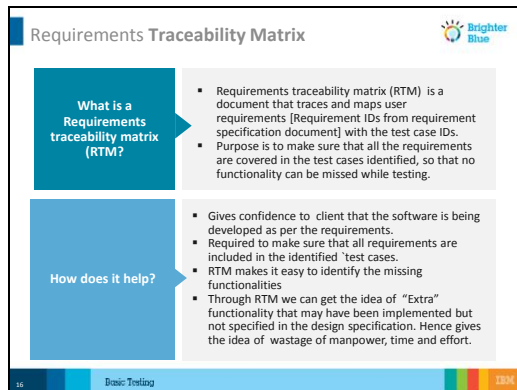
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Slide Content	Use this space for your own notes
<div>  <p>Test Scripts</p> <p>A test script is the executable form of a test.</p> <ul style="list-style-type: none"> It is a set of instructions Uses some scripting language Test Automation Tools/Frameworks </div> <ul style="list-style-type: none"> • A Test Script is a set of instructions (written using a scripting/programming language) that is performed on a system under test to verify that the system performs as expected. Test scripts are used in automated testing. <p>Uses some scripting language - Some scripting languages used in automated testing are:</p> <ul style="list-style-type: none"> —JavaScript —Perl —Python —Unix Shell Script —VBScript <ul style="list-style-type: none"> • s - There are also many Test Automation Tools/Frameworks that generate the test scripts for you; without the need for actual coding. Many of these tools have their own scripting languages (some of them based on a core scripting languages). For example, Sikuli, a GUI automation tool, uses Sikuli Script which is based on Python 	

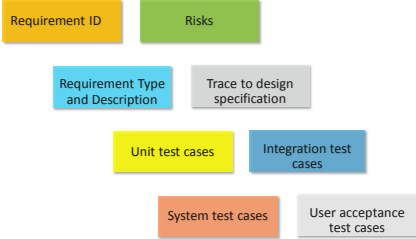
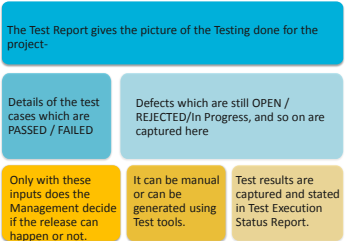
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<p>Slide 13</p> 	
<p>Slide 14</p>  <ul style="list-style-type: none"> • No data: Run your test cases on blank or default data. See if proper error messages are generated. 	


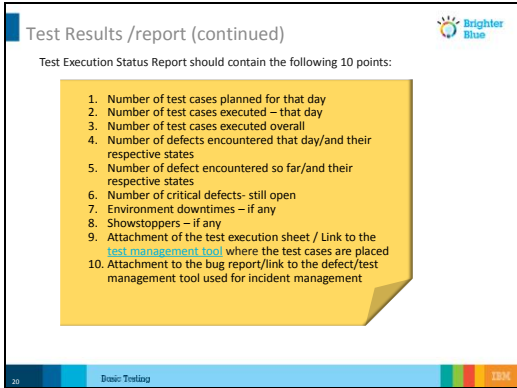
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<p>Valid data set: Create it to check if application is functioning as per requirements and valid input data is properly saved in database or files.</p> <ul style="list-style-type: none"> • Invalid data set: Prepare invalid data set to check application behavior for negative values, and alphanumeric string inputs. • Illegal data format: Make one data set of illegal data format. System should not accept data in invalid or illegal format. Also check proper error messages are generated. • Boundary condition data set: Data set containing out of range data. Identify application boundary cases and prepare data set that will cover lower as well as upper boundary conditions. • Data set for performance, load and stress testing: This data set should be large in volume. 	
<p>Slide 15</p>  <p>The slide titled 'Requirements Traceability Matrix' explains the purpose and benefits of an RTM. It defines an RTM as a document that traces and maps user requirements (Requirement IDs) to test case IDs. The purpose is to ensure all requirements are covered in the test cases. Benefits include giving confidence to the client, ensuring requirements are included in test cases, identifying missing functionalities, and preventing wastage of resources by identifying 'extra' functionality not specified in the design.</p>	
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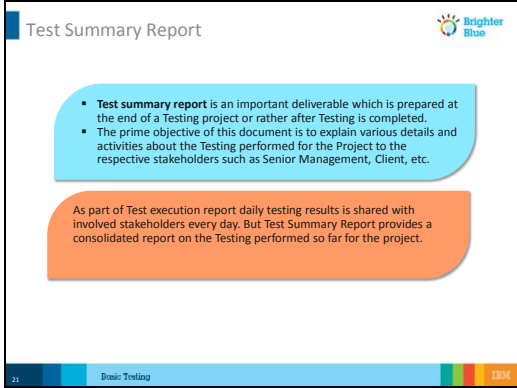
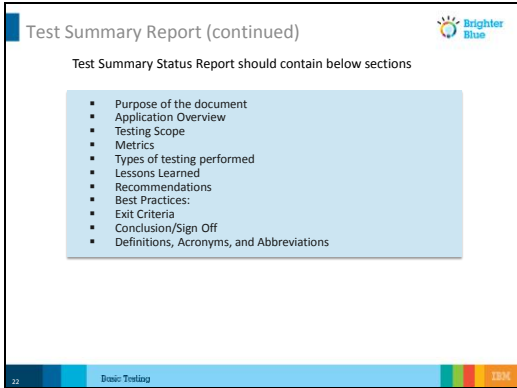
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Slide Content	Use this space for your own notes
<div> <p>Requirements Traceability Matrix (continued)</p> <p>Requirement Traceability Matrix – Parameters include:</p>  <p>The diagram shows a hierarchy of parameters for the Requirements Traceability Matrix. At the top are 'Requirement ID' (orange box) and 'Risks' (green box). Below 'Requirement ID' is 'Requirement Type and Description' (blue box). Below 'Risks' is 'Trace to design specification' (grey box). Below 'Requirement Type and Description' are 'Unit test cases' (yellow box) and 'Integration test cases' (blue box). Below 'Unit test cases' are 'System test cases' (orange box) and 'User acceptance test cases' (grey box).</p> </div>	
<div> <p>Test results /report</p> <p>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.</p>  <p>The diagram outlines the components and generation of a Test Report. A central blue box states: 'The Test Report gives the picture of the Testing done for the project-'. Below this, two light blue boxes list details: 'Details of the test cases which are PASSED / FAILED' and 'Defects which are still OPEN / REJECTED/In Progress, and so on are captured here'. At the bottom, three yellow boxes describe generation: '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.', and 'Test results are captured and stated in Test Execution Status Report.'</p> </div>	
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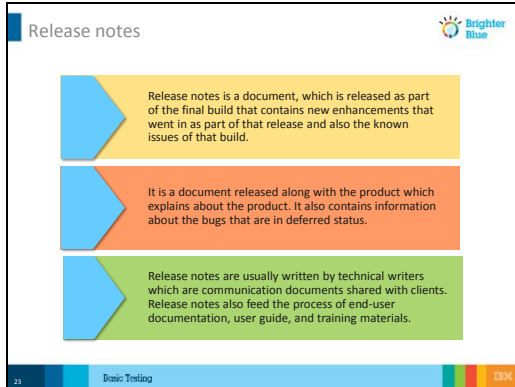
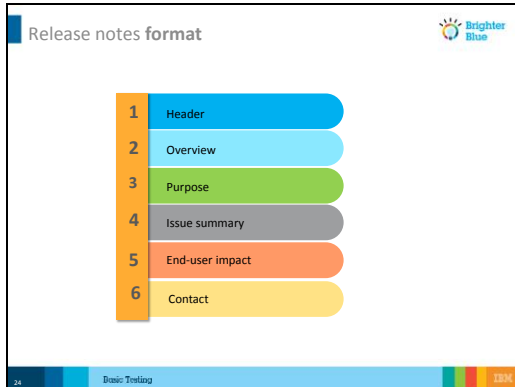
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 <p>Test Summary Report</p> <ul style="list-style-type: none"> Test summary report is an important deliverable which is prepared at the end of a Testing project or rather after Testing is completed. The prime objective of this document is to explain various details and activities about the Testing performed for the Project to the respective stakeholders such as Senior Management, Client, etc. <p>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.</p>	
<p>Slide 21</p>  <p>Test Summary Report (continued)</p> <p>Test Summary Status Report should contain below sections</p> <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Purpose of the document: Short description about the objective of preparing the document Application Overview: Brief description about the application tested Testing Scope: This section explains about the functions/modules in scope and out of scope for testing; Any items which are not tested due to any 	

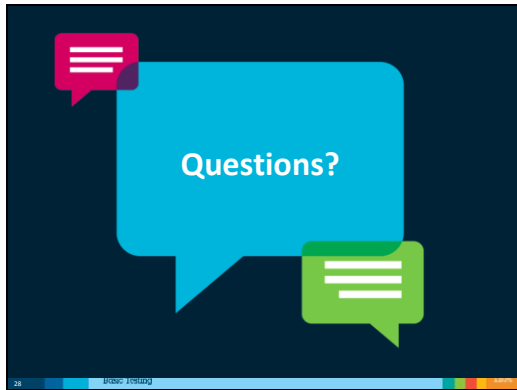
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<p>constraints/dependencies/restrictions</p> <ul style="list-style-type: none"> • Metrics: Metrics will help to understand the test execution results, status of test cases and defects and so on. Required Metrics can be added as necessary. Example: Defect Summary-Severity wise; Defect Distribution-Function/Module wise; Defect Ageing and so on. Charts/Graphs can be attached for better visual representation • Types of testing performed: Describe the various types of Testing performed for the Project. This will make sure the application is being tested properly through testing types agreed as per Test Strategy. • Test Environment and tools: Provide details on Test Environment in which the Testing is carried out. Server, Database, Application URL and so on. If any Tools were used like Quality Center (now HP ALM) for logging defects • Lessons Learned: This section is used to describe the critical issues faced and their solutions (how they were solved during the Testing). Lessons learnt will help to make proactive decisions during the next Testing engagement, by avoiding these mistakes or finding a suitable workaround • Recommendations : Any workaround or suggestions can be mentioned here • Best Practices: There will be lot of activities done by the Testing team during the project. Some of them could have saved time, some proved to be a good and efficient way to work, and so on. These can be documented as a 'Value Add' to show case to the Stakeholders • Exit Criteria: Exit Criteria is defined as a Completion of Testing by fulfilling certain conditions like <ul style="list-style-type: none"> (i) All planned test cases are executed; (ii) All Critical defects are closed and so on. • Conclusion/Sign Off: This section will mention whether the Testing team agrees and gives a Green signal for the application to 'Go Live' or not, after the Exit Criteria was met. If the application does not meet the Exit Criteria, then it can be mentioned as – "The application is not suggested to 'Go Live'. It will be left with the decision of Senior Management and Client and other Stakeholders involved 	



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<p>to take the call on whether the application can 'Go Live' or not</p> <ul style="list-style-type: none"> • Definitions, Acronyms, and Abbreviations :This section mentions the meanings of Abbreviated terms used in this document and any other new definitions 	
<p>Slide 22</p> 	
<p>Slide 23</p>  <ul style="list-style-type: none"> • Header: Name of the document, which carries product name, release number, 	

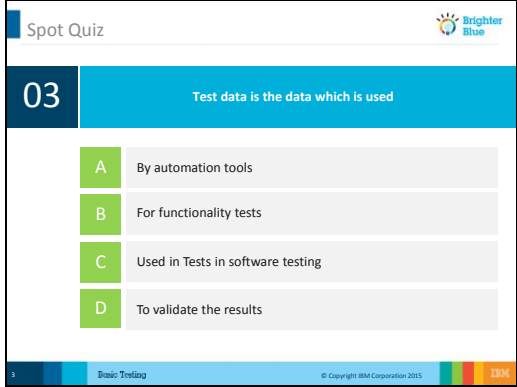
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<p>release date, release note date and version.</p> <ul style="list-style-type: none"> • Overview: An overview of the product and changes to the recent software version. • Purpose: An overview of the purpose of the release notes which lists the new feature, enhancements and defects of the current build. • Issue summary: Provides description about the defect. • End-user impact: Provides information about the end-users impact due to the defect. • Contact: Support contact information 	
<p>Slide 24</p> 	
<p>Slide 25</p>	

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Slide Content	Use this space for your own notes
<div> <p>Spot Quiz </p> <p>01 A test plan is a</p> <ul style="list-style-type: none"> 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 <p><small>Basic Training © Copyright IBM Corporation 2015 IBM</small></p> </div>	
<p>Slide 26</p> <div> <p>Spot Quiz </p> <p>02 When is Testing strategy prepared?</p> <ul style="list-style-type: none"> A Requirement stage of the project B Development stage C Initial stage D At the end of the project <p><small>Basic Training © Copyright IBM Corporation 2015 IBM</small></p> </div>	
<p>Slide 27</p>	

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Slide Content	Use this space for your own notes
 <p>Spot Quiz</p> <p>03 Test data is the data which is used</p> <ul style="list-style-type: none"> A By automation tools B For functionality tests C Used in Tests in software testing D To validate the results <p>Basic Training © Copyright IBM Corporation 2015 2015</p>	