



Core Testing>Day 5>Basic Testing

Instructor Guide



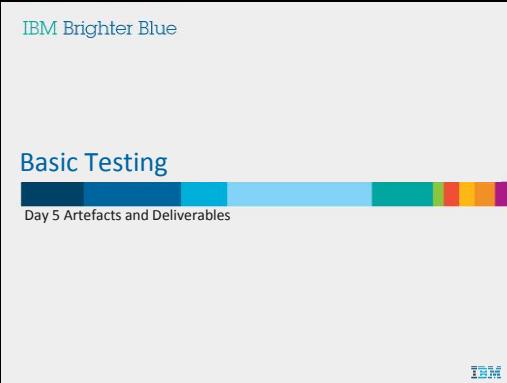
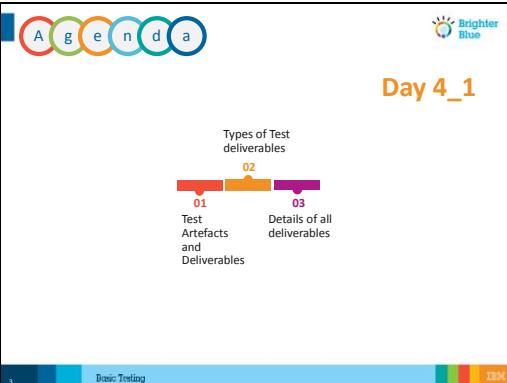
Contents

MODULE 01: TEST ARTEFACTS AND DELIVERABLES

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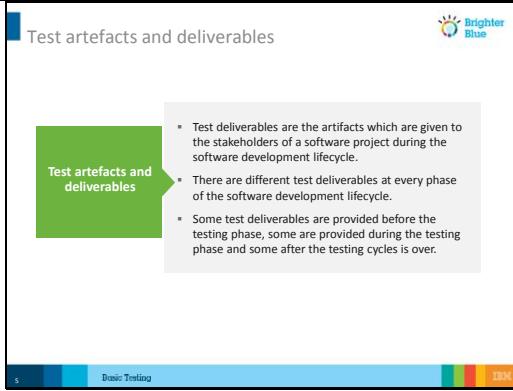
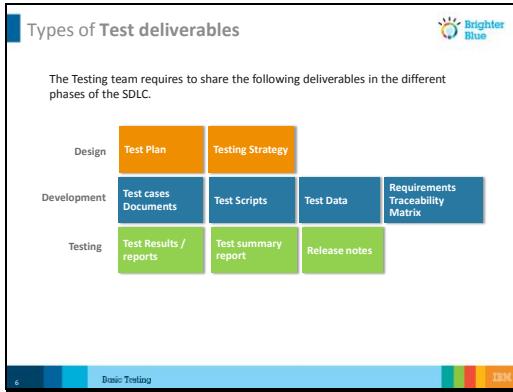
Module 01: Test Artefacts and Deliverables

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>	

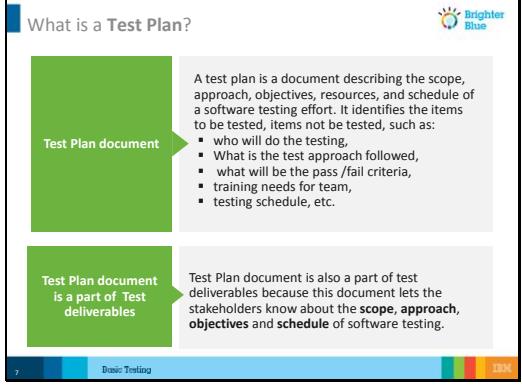
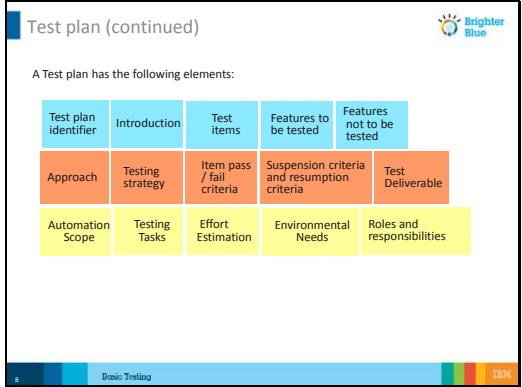
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Slide Content	Use this space for your own notes
<p>Slide 3</p>  <p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none">• Define what are Test Artefacts and Deliverables• List the different types of deliverables•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

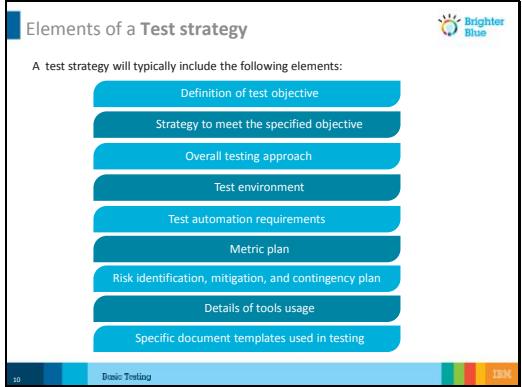
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Slide Content	Use this space for your own notes																		
<p>Test artefacts and deliverables</p>  <p>Test artefacts and deliverables</p> <ul style="list-style-type: none"> Test deliverables are the artifacts which are given to the stakeholders 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. <p>5 Basic Testing 100</p>																			
<p>Slide 5</p>  <p>Types of Test deliverables</p> <p>The Testing team requires to share the following deliverables in the different phases of the SDLC.</p> <table border="1"> <thead> <tr> <th>Design</th> <th>Test Plan</th> <th>Testing Strategy</th> </tr> </thead> <tbody> <tr> <td>Development</td> <td>Test cases Documents</td> <td>Test Scripts</td> </tr> <tr> <td>Testing</td> <td>Test Results / reports</td> <td>Test Data</td> </tr> <tr> <td></td> <td></td> <td>Requirements Traceability Matrix</td> </tr> <tr> <td></td> <td></td> <td>Test summary report</td> </tr> <tr> <td></td> <td></td> <td>Release notes</td> </tr> </tbody> </table> <p>6 Basic Testing 100</p>	Design	Test Plan	Testing Strategy	Development	Test cases Documents	Test Scripts	Testing	Test Results / reports	Test Data			Requirements Traceability Matrix			Test summary report			Release notes	
Design	Test Plan	Testing Strategy																	
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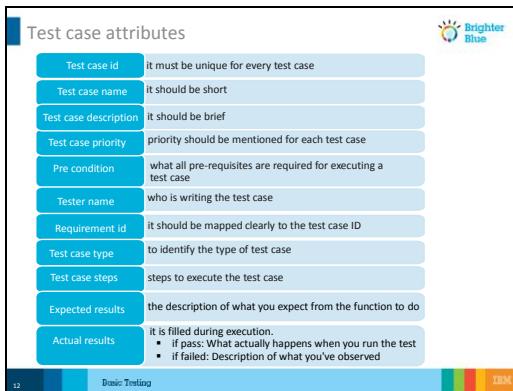
Basic testing>Day 5>Artefacts and Deliverables

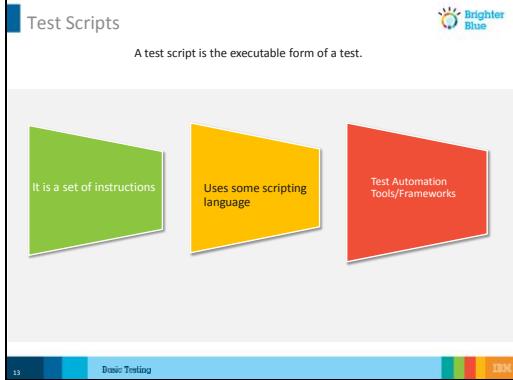
Slide Content	Use this space for your own notes															
<p>What is a Test Plan?</p>  <p>A test plan is a document describing the scope, approach, objectives, resources, and schedule of a software testing effort. It identifies the items to be tested, items not to be tested, such as:</p> <ul style="list-style-type: none"> ▪ who will do the testing, ▪ What is the test approach followed, ▪ what will be the pass / fail criteria, ▪ training needs for team, ▪ testing schedule, etc. <p>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.</p> <p>7 Basic Testing IBM</p>																
<p>Slide 7</p>  <p>A Test plan has the following elements:</p> <table border="1"> <thead> <tr> <th>Test plan identifier</th> <th>Introduction</th> <th>Test items</th> <th>Features to be tested</th> <th>Features not to be tested</th> </tr> </thead> <tbody> <tr> <td>Approach</td> <td>Testing strategy</td> <td>Item pass / fail criteria</td> <td>Suspension criteria and resumption criteria</td> <td>Test Deliverable</td> </tr> <tr> <td>Automation Scope</td> <td>Testing Tasks</td> <td>Effort Estimation</td> <td>Environmental Needs</td> <td>Roles and responsibilities</td> </tr> </tbody> </table> <p>8 Basic Testing IBM</p>	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	
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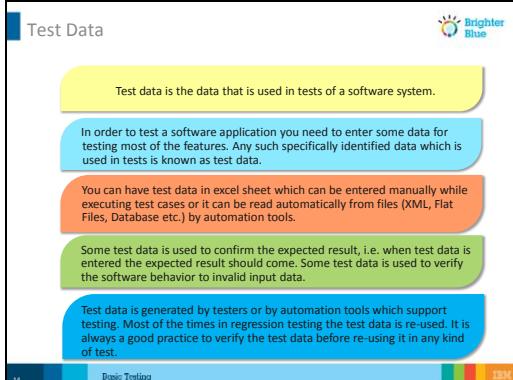
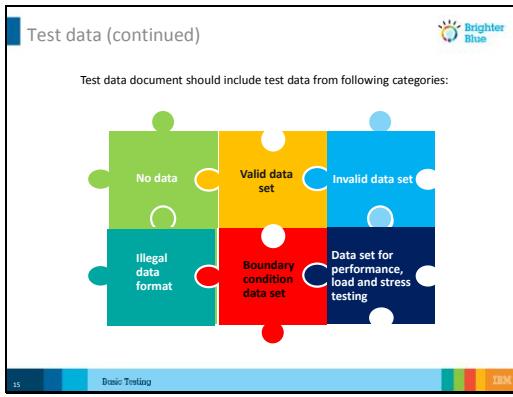
Slide Content	Use this space for your own notes
<p>Test strategy</p>  <p>What is a Test strategy When is it prepared Why is it important What is the success criteria</p> <ul style="list-style-type: none"> ▪ Test strategy is a very important test deliverable, the test strategy which is followed for testing should be informed to the project stakeholders. ▪ It is a statement of the overall approach of testing to meet the business and test objectives. ▪ It is a plan level document and has to be prepared in the requirement stage of the project. ▪ 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. ▪ An effective strategy has to meet the project and business objectives. <p>9 Basic Testing 10 IBM</p>	
<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>10 Basic Testing 11 IBM</p>	
<p>Slide 10</p>	

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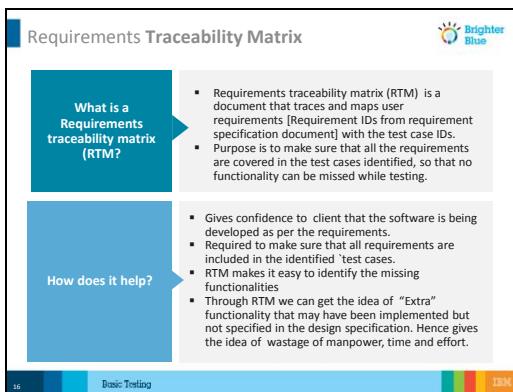
Slide Content	Use this space for your own notes																						
 <p>Test case</p> <ul style="list-style-type: none"> Test case document is also a part of test deliverables. By reading test case documents, the stakeholders get an idea about the quality of test cases written and their effectiveness. 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 Testing IBM</p>																							
<p>Slide 11</p>  <p>Test case attributes</p> <table border="1"> <tbody> <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> </tbody> </table> <p>12 Basic Testing IBM</p>	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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<p>Slide 12</p>																							

Slide Content	Use this space for your own notes
 <p>The slide content for 'Test Scripts' includes:</p> <ul style="list-style-type: none"> A title 'Test Scripts' with a blue square icon. A subtitle 'A test script is the executable form of a test.' with a small 'Brighter Blue' logo. Three callout boxes with arrows pointing to the right: <ul style="list-style-type: none"> 'It is a set of instructions' (green arrow) 'Uses some scripting language' (yellow arrow) 'Test Automation Tools/Frameworks' (red arrow) A navigation bar at the bottom with icons for back, forward, and search, and the text 'Basic Testing'. <p>Below the slide content, there is a bulleted list and a section about scripting languages:</p> <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 • 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 	

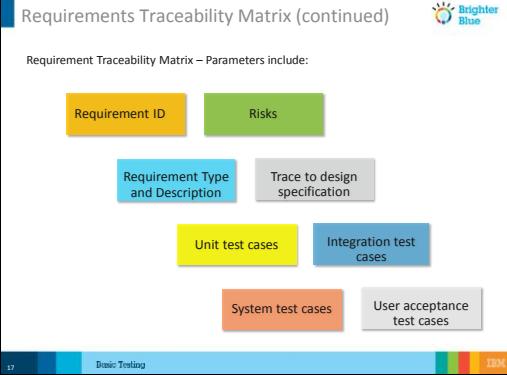
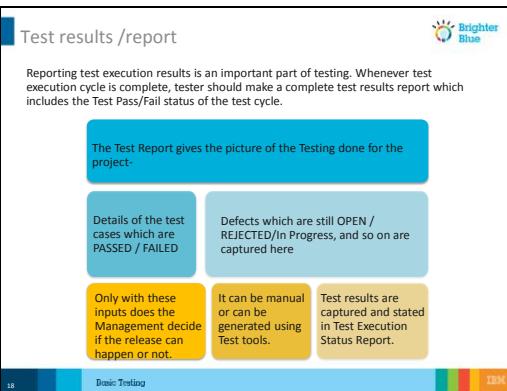
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Slide Content	Use this space for your own notes
<p>Slide 13</p>  <p>The slide is titled "Test Data". It contains the following text:</p> <ul style="list-style-type: none"> Test data is the data that is used in tests of a software system. In order to 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 etc.) 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. 	
<p>Slide 14</p>  <p>The slide is titled "Test data (continued)". It contains the following text:</p> <p>Test data document should include test data from following categories:</p> <p>Diagram illustrating categories of test data using colored puzzle pieces:</p> <ul style="list-style-type: none"> No data (Green) Valid data set (Yellow) Invalid data set (Blue) Illegal data format (Teal) Boundary condition data set (Red) Data set for performance, load and stress testing (Dark Blue) <p>• No data: Run your test cases on blank or default data. See if proper error messages are generated.</p>	

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Slide Content	Use this space for your own notes
<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 content is a Requirements Traceability Matrix (RTM) slide. It includes a title 'Requirements Traceability Matrix' and a Brighter Blue logo. The slide is divided into two main sections: 'What is a Requirements traceability matrix (RTM?)' and 'How does it help?'. The 'What is a Requirements traceability matrix (RTM?)' section contains a bulleted list explaining that it traces and maps user requirements from requirement specification documents to test case IDs, ensuring all requirements are covered. The 'How does it help?' section contains a bulleted list detailing its benefits: giving confidence to clients, ensuring all requirements are included in test cases, making it easy to identify missing functionality, and helping to identify extra functionality. The slide footer includes the number '16' and the text 'Basic Testing'.</p>	
<p>Slide 16</p>	

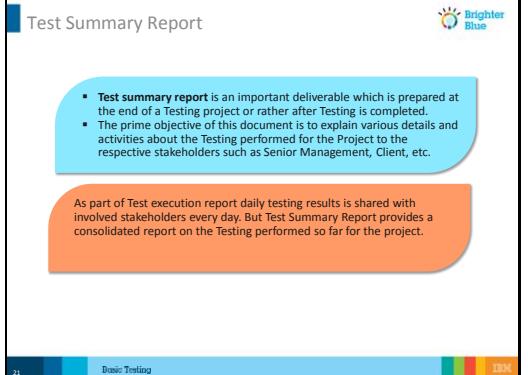
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Slide Content	Use this space for your own notes
<p>Requirements Traceability Matrix (continued)</p> <p>Requirement Traceability Matrix – Parameters include:</p>  <p>17 Basic Testing 18M</p>	
<p>Slide 17</p> <p>Test results /report</p> <p>Reporting 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>18 Basic Testing 18M</p>	
<p>Slide 18</p>	

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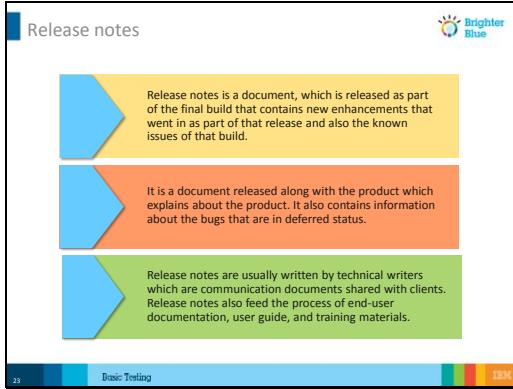
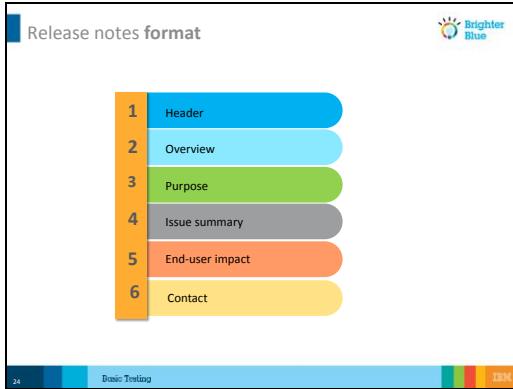
Slide Content	Use this space for your own notes
<p>Test Results /report (continued)</p> <div style="display: flex; align-items: center;"> <div style="flex-grow: 1; padding-right: 10px;"> <p>Test Execution Status Report</p> <ul style="list-style-type: none"> ▪ This is a communication sent out to establish 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. </div> <div style="text-align: right; margin-top: -10px;">  </div> </div> <p style="text-align: center; font-size: small; color: #ccc;">19 Basic Testing IBM</p>	
<p>Slide 19</p> <div style="display: flex; align-items: center;"> <div style="flex-grow: 1; padding-right: 10px;"> <p>Test Results /report (continued)</p> <p>Test Execution Status Report should contain the following 10 points:</p> <ul style="list-style-type: none"> 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 </div> <div style="text-align: right; margin-top: -10px;">  </div> </div> <p style="text-align: center; font-size: small; color: #ccc;">20 Basic Testing IBM</p>	
<p>Slide 20</p>	

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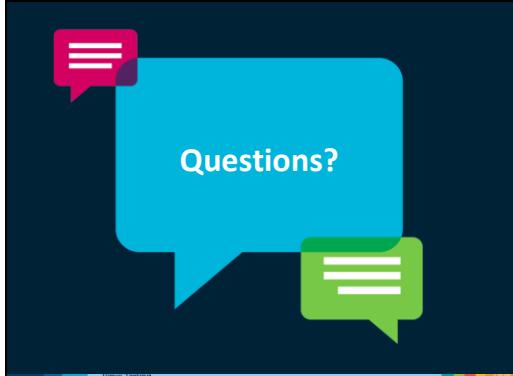
Slide Content	Use this space for your own notes
<p>Test Summary Report</p>  <ul style="list-style-type: none"> ▪ Test summary report is an important deliverable which is prepared at the end of a Testing project or rather after Testing is completed. ▪ The prime objective of this document is to explain 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>21 Basic Testing IBM</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 <p>22 Basic Testing IBM</p> <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 	

Slide Content	Use this space for your own notes
<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 	

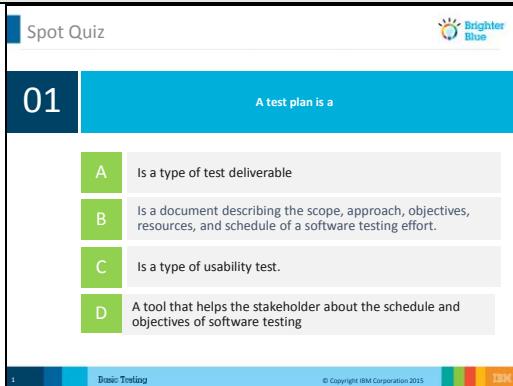
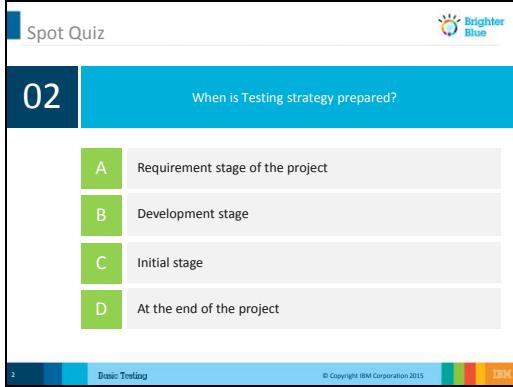
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<p>to take the call on whether the application can ‘Go Live’ or not</p> <ul style="list-style-type: none"> • Definitions, Acronyms, and Abbreviations :This section mentions the meanings of Abbreviated terms used in this document and any other new definitions 	
<p>Slide 22</p>  <p>The slide content is titled "Release notes". It includes three bullet points with blue chevron icons:</p> <ul style="list-style-type: none"> 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. <p>At the bottom, there is a navigation bar with "23" and "Basic Testing" on the left, and the IBM logo on the right.</p>	
<p>Slide 23</p>  <p>The slide content is titled "Release notes format". It shows a numbered list from 1 to 6 with corresponding colored bars:</p> <ol style="list-style-type: none"> 1 Header 2 Overview 3 Purpose 4 Issue summary 5 End-user impact 6 Contact <p>At the bottom, there is a navigation bar with "24" and "Basic Testing" on the left, and the IBM logo on the right.</p> <ul style="list-style-type: none"> • Header: Name of the document, which carries product name, release number, 	

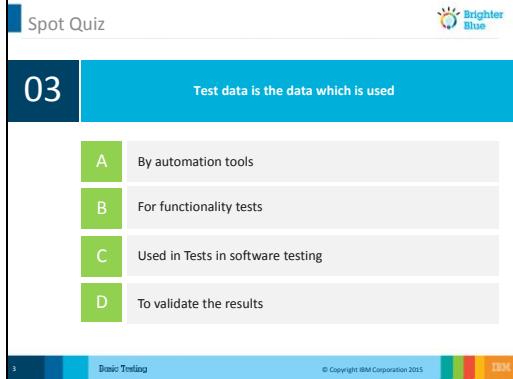
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<p>release date, release note date and version.</p> <ul style="list-style-type: none"> • Overview: An overview of the product and changes to the recent software version. • Purpose: An overview of the purpose of the release notes which lists the new 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
 <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>1 Basic Testing © Copyright IBM Corporation 2015 IBM</p>	
<p>Slide 26</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>2 Basic Testing © Copyright IBM Corporation 2015 IBM</p>	
<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 toolsB For functionality testsC Used in Tests in software testingD To validate the results <p>Basic Testing © Copyright IBM Corporation 2015 18/48</p>	