



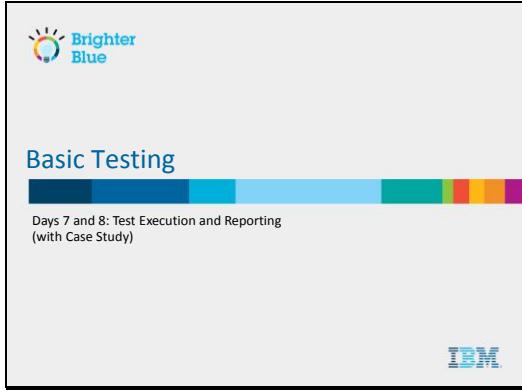
Core Testing>Basic Testing>Day 7 & 8

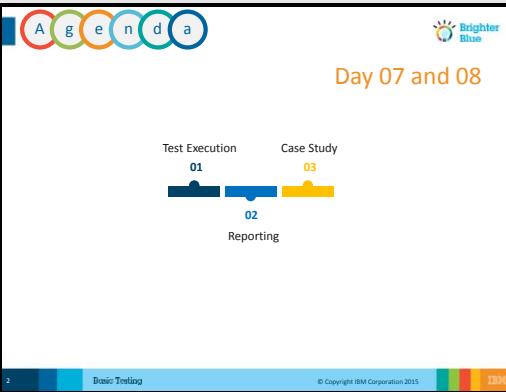
Student Guide

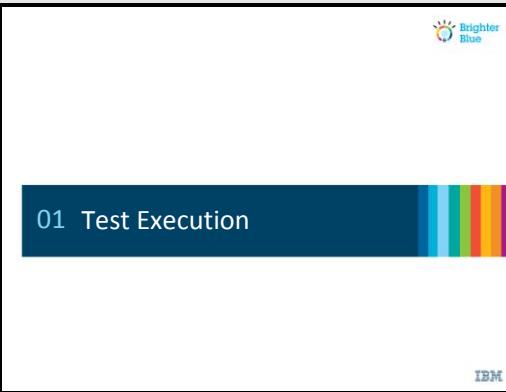
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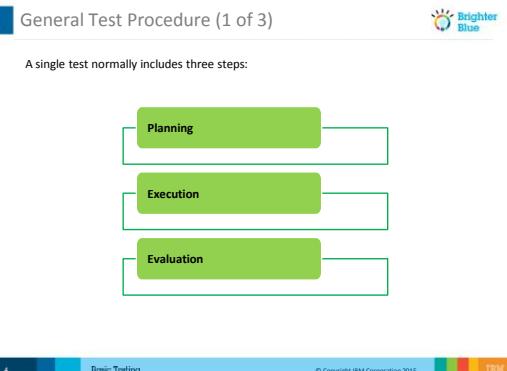
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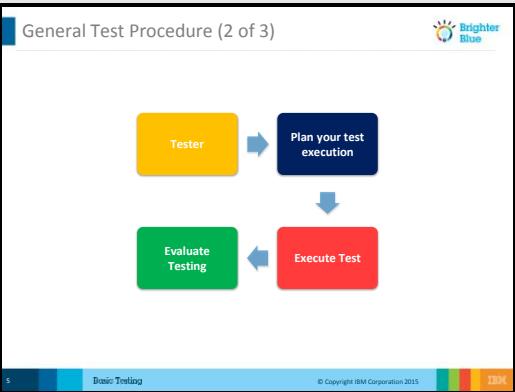
Module 01: Test Execution

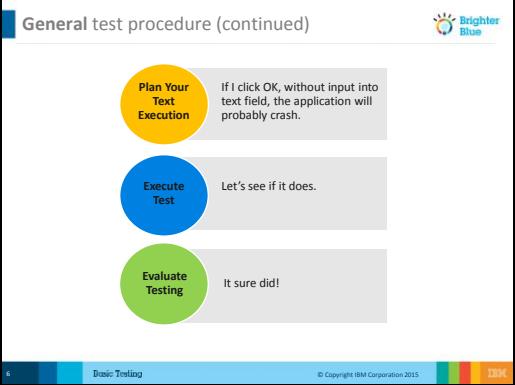
Slide Content	Use this space for your notes
Slide 1  <p>The placeholder slide content shows a slide from the 'Basic Testing' module. The slide features the Brighter Blue logo at the top left, followed by the title 'Basic Testing' in a large, bold, blue font. Below the title is a horizontal bar composed of several colored segments: dark blue, light blue, green, yellow, orange, and purple. Underneath the bar, the text 'Days 7 and 8: Test Execution and Reporting (with Case Study)' is displayed in a smaller, black font. At the bottom right of the slide is the IBM logo.</p>	
Slide 2	

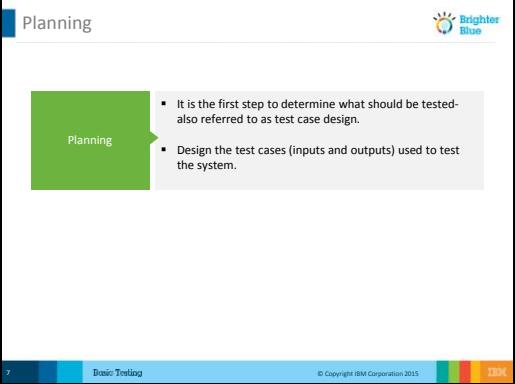
Slide Content	Use this space for your notes
 <p>The slide features a circular 'Agenda' icon at the top left. The title 'Day 07 and 08' is centered above a horizontal timeline. The timeline consists of three colored segments: blue ('Test Execution'), yellow ('Case Study'), and orange ('Reporting'). Each segment is labeled with a number: '01' under the blue segment, '02' under the yellow segment, and '03' under the orange segment. The Brighter Blue logo is in the top right corner.</p>	
At the end of this module, you should be able to: <ul style="list-style-type: none">▪ Recognize the features of test execution▪ Explain the process of reporting▪ List the process of case study Slide 3	

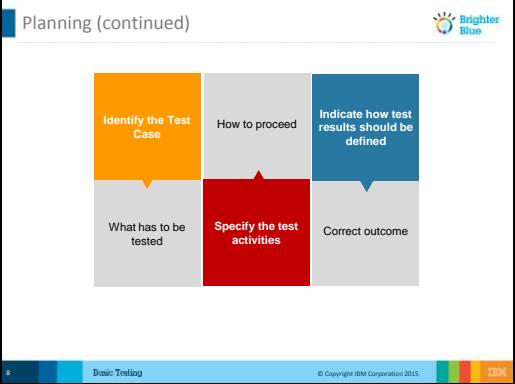
Slide Content	Use this space for your notes
 A screenshot of a presentation slide titled "01 Test Execution". The slide has a dark blue header bar with the title and a decorative bar of colored squares (blue, green, yellow, red) to its right. The main content area is white. In the bottom right corner of the slide, there is a small "IBM" logo. <p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none">■ Understand the flow of general test procedures■ Plan and execute tests■ Set-up systems and software■ Execute test cases	
Slide 4	

Slide Content	Use this space for your notes
<p>General Test Procedure (1 of 3)</p> <p>A single test normally includes three steps:</p>  <p>Planning</p> <p>Execution</p> <p>Evaluation</p> <p>4 Basic Testing © Copyright IBM Corporation 2015 IBM</p>	
Slide 5	

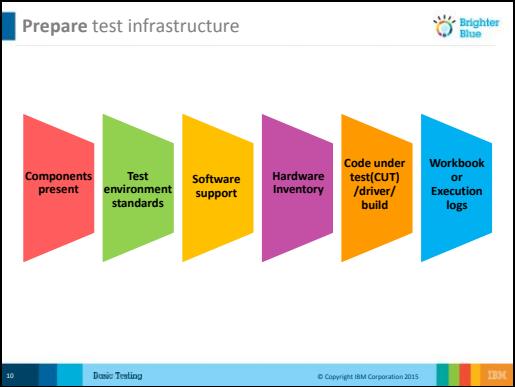
Slide Content	Use this space for your notes
<p>General Test Procedure (2 of 3)</p>  <pre>graph TD; A[Tester] --> B[Plan your test execution]; B --> C[Execute Test]; C --> D[Evaluate Testing]; D --> A;</pre> <p>The flowchart illustrates the General Test Procedure. It begins with a yellow box labeled "Tester". An arrow points from "Tester" to a dark blue box labeled "Plan your test execution". Another arrow points from "Plan your test execution" to a red box labeled "Execute Test". A third arrow points from "Execute Test" to a green box labeled "Evaluate Testing". Finally, an arrow points from "Evaluate Testing" back to "Tester", completing the cycle.</p> <p>© Copyright IBM Corporation 2015 </p>	
Slide 6	

Slide Content	Use this space for your notes
 <p>General test procedure (continued)</p> <p>Plan Your Test Execution</p> <p>If I click OK, without input into text field, the application will probably crash.</p> <p>Execute Test</p> <p>Let's see if it does.</p> <p>Evaluate Testing</p> <p>It sure did!</p> <p>6 Basic Testing © Copyright IBM Corporation 2015 IBM</p>	
Slide 7	

Slide Content	Use this space for your notes
 <p>The slide content is titled "Planning". It features a green box labeled "Planning" on the left. To the right of the box is a list of bullet points:</p> <ul style="list-style-type: none">▪ It is the first step to determine what should be tested - also referred to as test case design.▪ Design the test cases (inputs and outputs) used to test the system. <p>At the bottom of the slide, there is a navigation bar with icons for back, forward, and search, followed by the text "Basic Testing" and the IBM logo.</p>	
Slide 8	

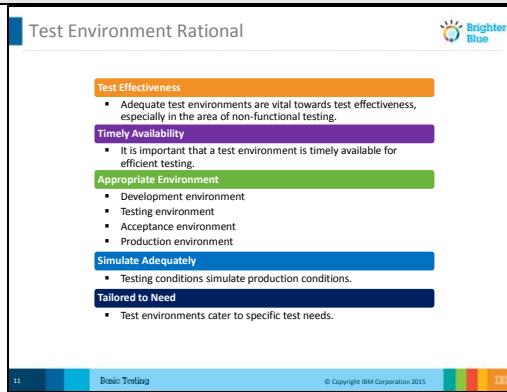
Slide Content	Use this space for your notes
 <p>The slide content is titled "Planning (continued)". It features a flowchart with three main steps: "Identify the Test Case" (orange), "How to proceed" (grey), and "Indicate how test results should be defined" (blue). Arrows point from "Identify the Test Case" to "What has to be tested" (grey) and "Specify the test activities" (red). Arrows point from "How to proceed" to "Specify the test activities" and "Indicate how test results should be defined". Arrows point from "Indicate how test results should be defined" to "Correct outcome" (grey). The bottom of the slide includes a navigation bar with icons for back, forward, and search, and the text "Basic Testing" and "© Copyright IBM Corporation 2015".</p>	
Slide 9	

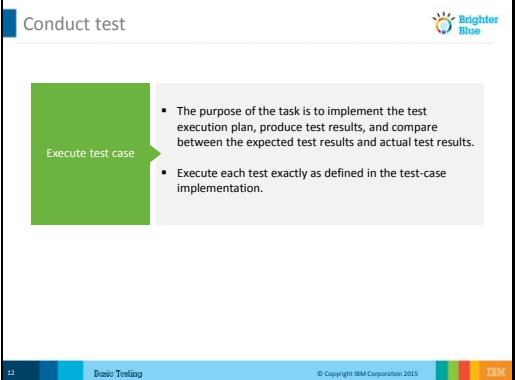
Slide Content	Use this space for your notes
 <p>The slide content is titled "Execution". It states that execution of a test is a three-step process: 1. Preparing the test infrastructure, 2. Conduct test, and 3. Verify and report results. The steps are shown in a vertical flow with numbered circles and arrows.</p>	
Slide 10	

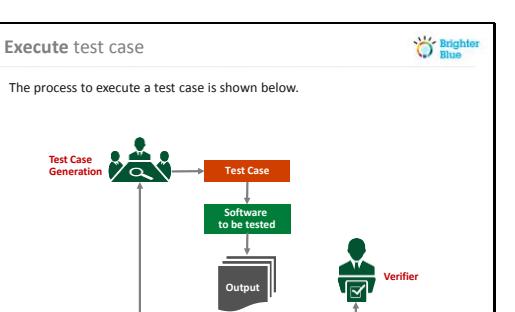
Slide Content	Use this space for your notes
 <p>Components present</p> <ul style="list-style-type: none">• Prepare test infrastructure task ensures that all the components such as technical resources, human resources, configurations, data, and test design specification are in place for successful execution of the test <p>Test environment standards</p> <ul style="list-style-type: none">• The key to set up a test environment is to establish a set of standards that everyone in the project can adhere to.• Software support• Includes operating systems, middleware, system utilities, application, and patches and so on.• Supporting software is stored on CD or available on a shared file system.	

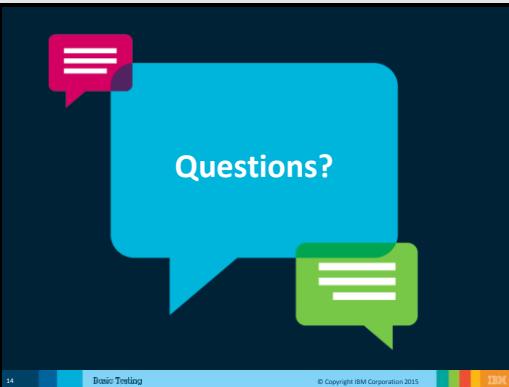
Slide Content	Use this space for your notes
<ul style="list-style-type: none"> • All supporting software will need to be installed in the environment in the exact sequence required by the components. • Detailed installation steps will be needed as it is a part of the implementation of the test cases. • When installing multiple supporting software elements, the order of installation is critical to the proper functioning of the environment. <p>Hardware Inventory</p> <ul style="list-style-type: none"> • Properly setting up the test-execution environment requires to have access the inventory of hardware that is needed, along with any special instructions for configuring the hardware. • It is important to ensure that you execute the test case in the exact hardware configuration identified by the test cases. • Tester must confirm that the hardware meets all the requirements and specifications such as memory, disk space, processor speeds and so on <p>Code under test(CUT) /driver/ build</p> <ul style="list-style-type: none"> • Code under test, also referred as a Driver or a Build is the packaged new / updated code that is ready to be installed and tested. • Properly preparing the environment for test-case execution also requires that you have access to the CUT. • Code is stored in a well-known place with naming conventions that indicate the exact driver or build levels. • Detailed procedures need to be in place to enable you to install the code 	

Slide Content	Use this space for your notes
<p>accurately and efficiently.</p> <p>Workbook or Execution logs</p> <ul style="list-style-type: none">• Workbook and execution logs are used to record the test-execution activity.• Workbooks are used when manually running tests, while execution logs are used to capture execution of tests run programmatically.• Store the log files in a well-known place with naming conventions to indicate the date captured and the build level being tested	
Slide 11	

Slide Content	Use this space for your notes
 <p>The slide is titled "Test Environment Rational" and features a "Brighter Blue" logo in the top right corner. It contains five colored horizontal bars with corresponding text descriptions:</p> <ul style="list-style-type: none"> Test Effectiveness (Orange bar): Adequate test environments are vital towards test effectiveness, especially in the area of non-functional testing. Timely Availability (Purple bar): It is important that a test environment is timely available for efficient testing. Appropriate Environment (Green bar): Development environment, Testing environment, Acceptance environment, Production environment. Simulate Adequately (Blue bar): Testing conditions simulate production conditions. Tailored to Need (Dark Blue bar): Test environments cater to specific test needs. <p>At the bottom left is a small number "11" and at the bottom center is the text "Basic Testing". The bottom right corner features the IBM logo.</p> <ul style="list-style-type: none"> ■ Adequate test environments are vital towards test effectiveness, especially in the area of non-functional testing, where environment factors have a large influence on the behaviors. ■ Similarly, the timely availability of such a test environment is paramount towards the efficiency of the test activity. ■ Testing is performed in the appropriate dedicated environment, according to the principles of: <ul style="list-style-type: none"> - Development environment - Testing environment - Acceptance environment - Production environment ■ Testing environments simulate the production conditions adequately. 	

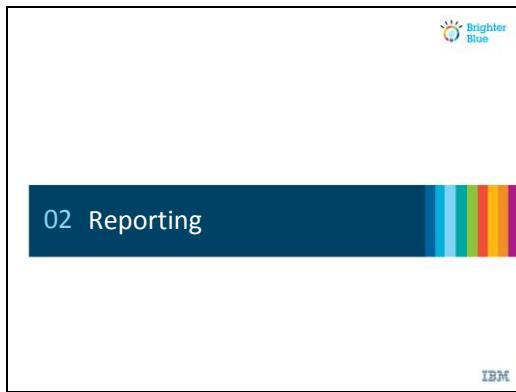
Slide Content	Use this space for your notes
<ul style="list-style-type: none">▪ Testing environments are tailored to specific testing needs under control of the test manager.	
Slide 12  <p>Conduct test</p> <p>Execute test case</p> <ul style="list-style-type: none">▪ The purpose of the task is to implement the test execution plan, produce test results, and compare between the expected test results and actual test results.▪ Execute each test exactly as defined in the test-case implementation. <p>12 Basic Testing © Copyright IBM Corporation 2015 IBM</p>	

Slide Content	Use this space for your notes
<p>Slide 13</p>  <pre>graph TD; A[Test Case Generation] --> B[Test Case]; B --> C[Software to be tested]; C --> D[Output]; E[Verifier] --> D</pre> <p>The process to execute a test case is shown below.</p> <p>13 Basic Testing © Copyright IBM Corporation 2015</p>	
Slide 14	

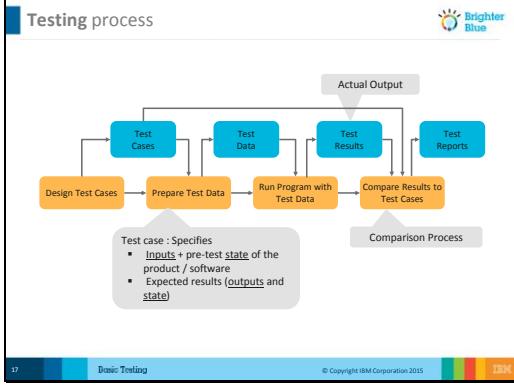
Slide Content	Use this space for your notes
 <p>A slide with a dark blue background. In the center is a large light blue speech bubble containing the text "Questions?". To its left is a small pink speech bubble with three horizontal lines, and to its right is a small green speech bubble with three horizontal lines. At the bottom of the slide, there is a thin blue footer bar with the number "14" on the left, the text "Basic Testing" in the center, and the IBM logo on the right.</p>	

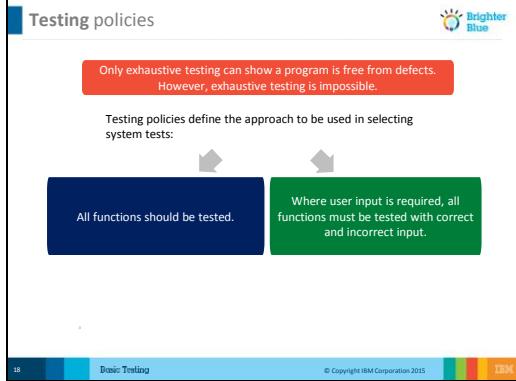
Module 02: Reporting

Slide Content	Use this space for your own notes

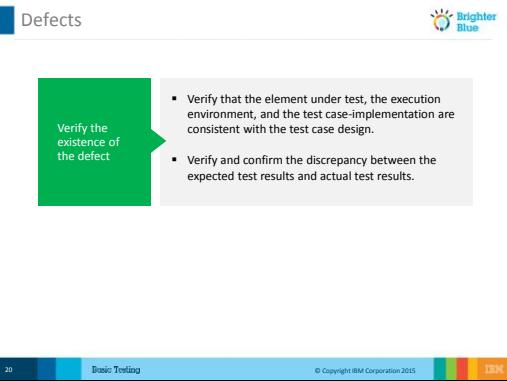
Slide Content	Use this space for your own notes
<p>Slide 15</p>  <p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none">▪ Verify and analyze results▪ Perform reporting	
Slide 16	

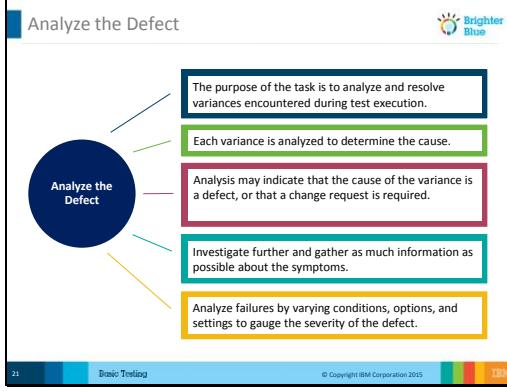
Slide Content	Use this space for your own notes
 A screenshot of a presentation slide titled "Test Execution Status Report". The slide contains a green callout box with the following text: <ul style="list-style-type: none">▪ This is a communication sent out to establish transparency to the QA team's activities of the day during the test cycle.▪ This includes both defect information and test case run information.▪ It is sent to Development, Environment support, Business analyst, and the Project teams. The slide footer includes the IBM logo and copyright information: "IBM Basic Testing © Copyright IBM Corporation 2015".	
Slide 17	

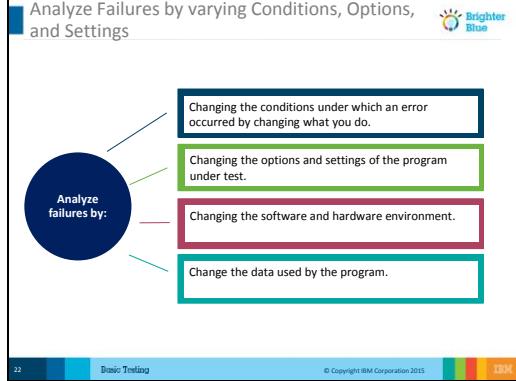
Slide Content	Use this space for your own notes
 <p>The diagram illustrates the testing process flow:</p> <pre> graph TD TC[Test Cases] --> PD[Prepare Test Data] PD --> RPTD[Run Program with Test Data] RPTD --> TR[Test Results] TR --> TRS[Compare Results to Test Cases] TRS --> AR[Actual Output] AR --> TC </pre> <p>Test case : Specifies</p> <ul style="list-style-type: none"> ▪ <u>Inputs</u> + pre-test <u>state</u> of the product / software ▪ Expected results (<u>outputs</u> and <u>state</u>) <p>Comparison Process</p>	
Slide 18	

Slide Content	Use this space for your own notes
 <p>The slide content is titled "Testing policies". It features a central text box stating: "Only exhaustive testing can show a program is free from defects. However, exhaustive testing is impossible." Below this, a statement says: "Testing policies define the approach to be used in selecting system tests:". Two arrows point from this statement to two boxes: "All functions should be tested." (blue box) and "Where user input is required, all functions must be tested with correct and incorrect input." (green box). The slide footer includes the IBM logo and copyright information.</p>	
Slide 19	

Slide Content	Use this space for your own notes
<p>Testing guidelines</p> <p>Testing guidelines are hints for the testing team to help them choose tests that will reveal defects in a system</p> <p>Enter all positive/correct data to validate the happy path of testing.</p> <p>Choose inputs that force the system to generate all error messages:</p> <ul style="list-style-type: none"> ▪ Design inputs that cause buffers to overflow ▪ Repeat the same input or input series several times ▪ Force invalid outputs to be generated ▪ Force computation results to be too large or too small <p>3</p> <p>19 Basic Testing © Copyright IBM Corporation 2015 IBM</p>	
Slide 20	

Slide Content	Use this space for your own notes
 <p>Defects</p> <p>Verify the existence of the defect</p> <ul style="list-style-type: none">▪ Verify that the element under test, the execution environment, and the test case implementation are consistent with the test case design.▪ Verify and confirm the discrepancy between the expected test results and actual test results. <p>20 Basic Testing © Copyright IBM Corporation 2015 IBM</p>	
Slide 21	

Slide Content	Use this space for your own notes
 <p>Analyze the Defect</p> <p>The purpose of the task is to analyze and resolve variances encountered during test execution.</p> <p>Each variance is analyzed to determine the cause.</p> <p>Analysis may indicate that the cause of the variance is a defect, or that a change request is required.</p> <p>Investigate further and gather as much information as possible about the symptoms.</p> <p>Analyze failures by varying conditions, options, and settings to gauge the severity of the defect.</p>	
Slide 22	

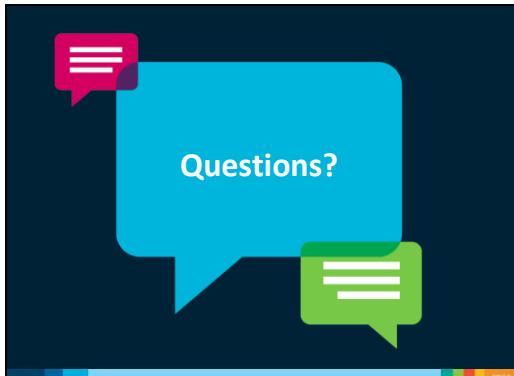
Slide Content	Use this space for your own notes
 <p>Analyze Failures by varying Conditions, Options, and Settings</p> <p>Change the conditions under which an error occurred by changing what you do.</p> <p>Change the options and settings of the program under test.</p> <p>Change the software and hardware environment.</p> <p>Change the data used by the program.</p> <p>22 Basic Testing © Copyright IBM Corporation 2015</p>	

Change the conditions under which an error occurred by changing what you do. As an example, if the problem seems related to entering data very quickly, try slowing your rate of input.

Change the options and settings of the program under test. As an example, if the problem seems related to desktop screen-resolution settings, try varying the settings.

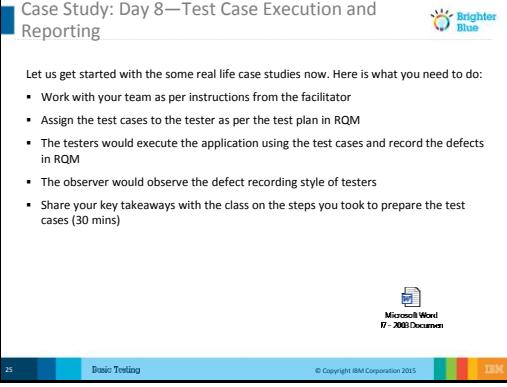
Change the software and hardware environment. For example, if the defect seems related to a low-end hardware configuration, try using the lowest configuration specified in the requirements.

Change the data used by the program. As an example, if the defect seems related to strings exceeding a certain number of characters in length, create a second set of test data to check the hypothesis

Slide Content	Use this space for your own notes
<p>Slide 23</p>  <p>23 Basic Testing © Copyright IBM Corporation 2015 IBM</p>	

Module 03: Case Study

Slide Content	Use this space for your own notes
Slide 24  A large, empty rectangular box with a black border, intended for displaying content from Slide 24. It contains a small Brighter Blue logo in the top right corner and a dark blue horizontal bar with the text "03 Case Study" and a vertical color bar below it. <p>IBM</p>	
Slide 25	

Slide Content	Use this space for your own notes
<p>Case Study: Day 8—Test Case Execution and Reporting</p>  <p>Let us get started with some real life case studies now. Here is what you need to do:</p> <ul style="list-style-type: none"> ▪ Work with your team as per instructions from the facilitator ▪ Assign the test cases to the tester as per the test plan in RQM ▪ The testers would execute the application using the test cases and record the defects in RQM ▪ The observer would observe the defect recording style of testers ▪ Share your key takeaways with the class on the steps you took to prepare the test cases (30 mins) <p>25 Basic Testing © Copyright IBM Corporation 2015 IBM</p>	
Slide 26	

Slide Content	Use this space for your own notes
 <p>A slide with a dark blue background. In the center is a large light blue speech bubble containing the text "Questions?". To its left is a small pink speech bubble with three horizontal lines. To its right is a small green speech bubble with three horizontal lines. At the bottom of the slide, there is a thin blue footer bar with the number "26" on the left, the text "Basic Testing" in the center, and the IBM logo on the right.</p>	