Brighter Blue

Core Testing>Basic Testing>Day 7 & 8
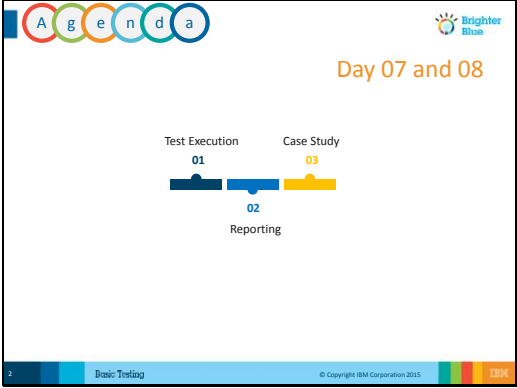
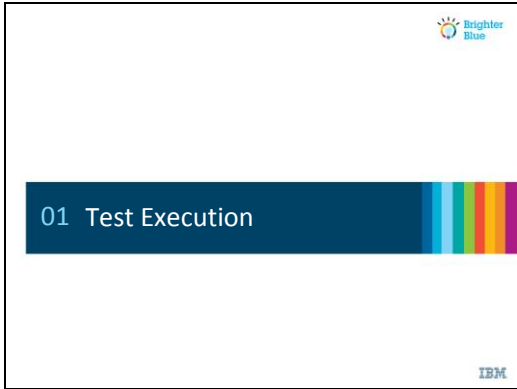Instructor Guide

Contents

Module 01: Test Execution

Slide Content	Instructor Guide	Use this space for your notes
Slide 1 **Brighter Blue** Basic Testing Days 7 and 8: Test Execution and Reporting (with Case Study) IBM		
Slide 2	**Purpose:** To cover the training program agenda **Approximate Duration: 5-15** minutes depending on length of program	

Slide Content	Instructor Guide	Use this space for your notes
Agenda Day 07 and 08 Test Execution 01 Case Study 03 02 Reporting Basic Testing © Copyright IBM Corporation 2015 At the end of this module, you should be able to: ▪ Recognize the features of test execution ▪ Explain the process of reporting ▪ List the process of case study	**What to cover:** ▪ Distribute the Participant guides and Program attendance sheets. ▪ Go over the agenda for each of the days. Briefly describe the subject areas that will be covered and the activities that will be performed (exercises, case studies, and so on). Address the expectations that the participants listed in their introductions. Include information about breaks, lunch, and so on, while describing the agenda. ▪ Inform the participants about the evaluation criteria and end of course assessments. ▪ Inform the participants that you expect highly interactive sessions and that you welcome any questions that they might have. ▪ Ask that all participants to turn off their phones or put them in silent mode. Inform them that if they are found to be using their phones or any mobile devices during	

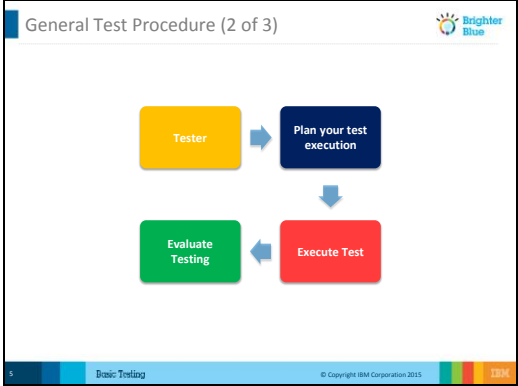| Slide Content	Instructor Guide	Use this space for your notes
	the sessions, it will be confiscated and returned only at the end of the day. ▪ Inform the participants of the location of exits (in case of fires or any other emergencies). ▪ Go over the format of the Participant guide. Encourage them to take notes as the course using the Notes pages provided in the guide.	
Slide 3 Brighter Blue 01 Test Execution IBM	**Purpose:** To cover the objectives of this module **Approximate Duration:** 2 mins **What to cover:** ▪ The course starts with giving the participants an overview of the key areas in automation methodologies. It first starts with introduction to Automation Basics, its benefits, and value adds. It also sheds light on what to automate and what not to automate. ▪ Then the popular testing tools are	

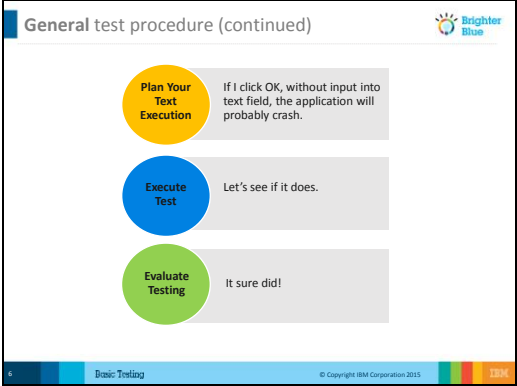| Slide Content	Instructor Guide	Use this space for your notes
At the end of this module, you should be able to: ■ Understand the flow of general test procedures ■ Plan and execute tests ■ Set-up systems and software ■ Execute test cases	highlighted, such as Regression Testing Tools, Performance Test Tools, Java Test Tools, Link Checking Test Tools, Embedded Tools, and Test Management Tools. ■ The third section deals with the steps involved in Testing Tool Evaluation. ■ The next section deals with various test automation approaches, such as Capture Playback, Functional Decomposition, Data-driven and Table-driven. ■ Once the approaches are discussed, some light is shed on the steps involved in execution and deployment of Automation.	
Slide 4	**Purpose:** To understand the steps of a General Test Procedure **Approximate Duration:** 10 mins **What to cover:** ■ Explain the three steps of a General Test Procedure:	

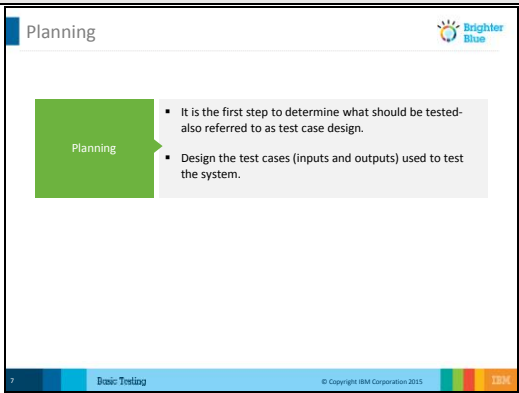| Slide Content	Instructor Guide	Use this space for your notes

General Test Procedure (1 of 3)
 	
A single test normally includes three steps:
 	
Planning
 	
Execution
 	
Evaluation
 	
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	o Planning
	   o Execution
	   o Evaluation
	▪ Explain how the General Test Procedure applies to Test Execution.
	▪ Give a sample scenario of how the General Test Procedure translates to a Test Execution.	

Slide 5	**Purpose:** To discuss the general test procedure
	
	Approximate Duration: 10 mins
	
	What to cover:
	
	▪ Explain how the General Test Procedure applies to Test Execution.
	▪ Describe the steps involved in the general test procedure:
	   o Tester
	   o Planning the test execution	

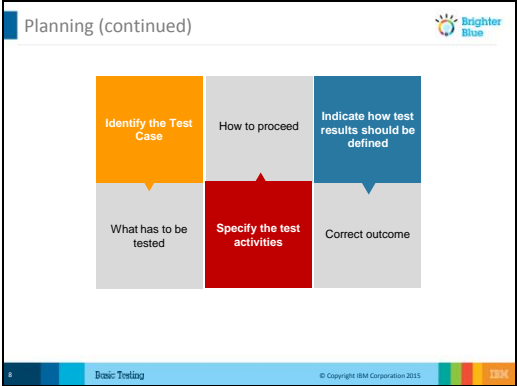| Slide Content	Instructor Guide	Use this space for your notes
General Test Procedure (2 of 3)	o Executing test o Evaluate testing o Illustrate how the process works.	
Slide 6	**Purpose:** To discuss the general test procedure **Approximate Duration:** 10 mins **What to cover:**	

Slide Content	Instructor Guide	Use this space for your notes
	▪ Give a sample scenario of how the general test procedure translates to a test execution: o Planning the test execution o Executing test ▪ Evaluating testing	
Slide 7	**Purpose:** To describe the processes involved in Planning **Approximate Duration:** 10 mins **What to cover:** ▪ Describe the process of planning by focusing on the various phases: o Identifying the Test Case o Specifying the test activities ▪ Indicating how test results should be	

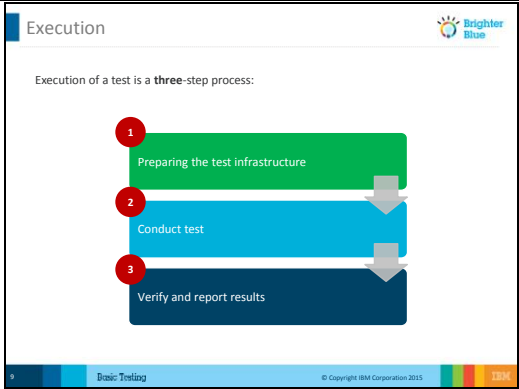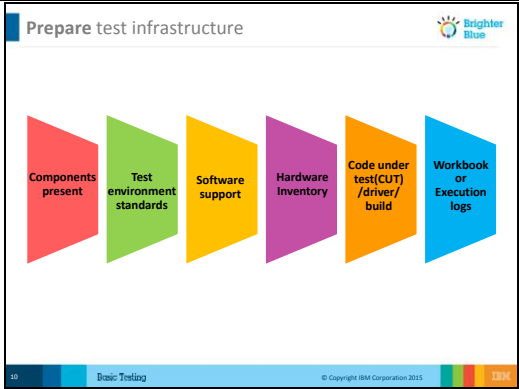| Slide Content	Instructor Guide	Use this space for your notes
Planning Planning ▪ It is the first step to determine what should be tested- also referred to as test case design. ▪ Design the test cases (inputs and outputs) used to test the system.	defined	

Slide 8	**Purpose:** To describe the processes involved in Planning
	
	Approximate Duration: 10 mins
	
	What to cover:
	
	▪ Describe the process of planning by focusing on the various phases:
	    o Identifying the Test Case
	    o Specifying the test activities
	▪ Indicating how test results should be	

Slide Content	Instructor Guide	Use this space for your notes
Planning (continued) — Identify the Test Case / How to proceed / Indicate how test results should be defined / What has to be tested / Specify the test activities / Correct outcome	defined	
Slide 9	**Purpose:** To describe the steps of Test Execution **Approximate Duration:** 8 mins **What to cover:** - Recall the three steps in Test Execution. - Provide examples for each step.	
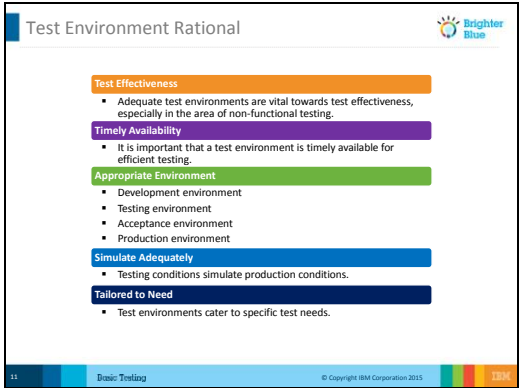
Slide Content	Instructor Guide	Use this space for your notes
Slide 10	**Purpose:** To determine what is needed to Prepare a Test Infrastructure **Approximate Duration:** 35 mins **What to cover:**	

Slide Content	Instructor Guide	Use this space for your notes
  Components present • 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 **Test environment standards** • 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,	▪ Discuss the importance of preparing a test infrastructure. ▪ Determine components needed / present, test environment standards, and software support. ▪ Determine hardware inventory, Code Under Test (CUT) / driver / build, and workbook or exchange logs.	

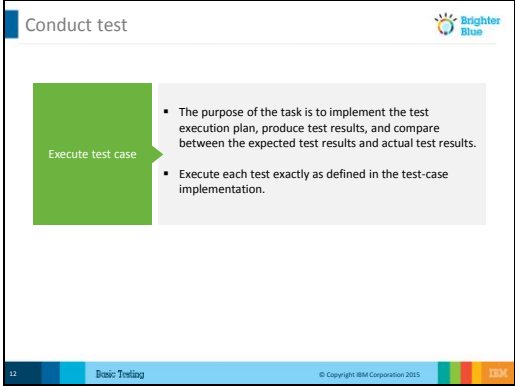| Slide Content	Instructor Guide	Use this space for your notes
application, and patches and so on. • Supporting software is stored on CD or available on a shared file system. • All supporting software will need to be installed in the environment in the exact sequence required by the components. • Detailed 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. **Hardware Inventory** • 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		

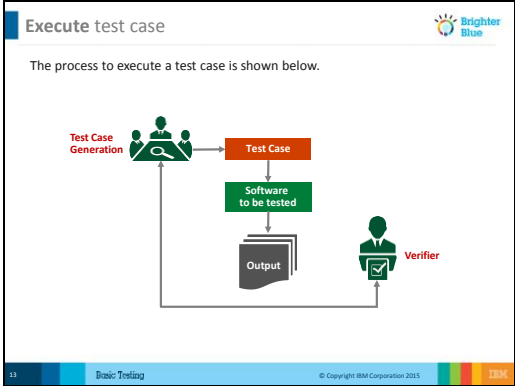| Slide Content	Instructor Guide	Use this space for your notes
Code under test(CUT) /driver/ build • Code under test, also referred as a Driver or a Build is the packaged new / updated code that is ready to be installed and tested. • Properly preparing the environment for test-case execution also requires 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 accurately and efficiently. **Workbook or Execution logs** • 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 Content	Instructor Guide	Use this space for your notes
Slide 11 - 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:	**Purpose:** To determine and outline the requirements / rationale for a successful test environment **Approximate Duration:** 15 mins **What to cover:** - Enumerate the five Test Environment Rationale: - o Test effectiveness - o Timely availability - o Appropriate environment - o Adequate simulation - o Custom tailored - Illustrate through examples.	
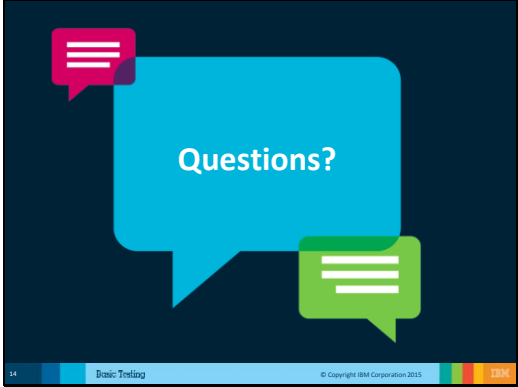
Slide Content	Instructor Guide	Use this space for your notes
- Development environment - Testing environment - Acceptance environment - Production environment ▪ Testing environments simulate the production conditions adequately. ▪ Testing environments are tailored to specific testing needs under control of the test manager.		
Slide 12	**Purpose:** To understand the purpose of conducting or executing a test case **Approximate Duration:** 10 mins **What to cover:** Provide a definition of execute test case.	

Slide Content	Instructor Guide	Use this space for your notes
Slide 13	**Purpose:** To become familiar with the execute test case process **Approximate Duration:** 15 mins **What to cover:**	

Slide Content	Instructor Guide	Use this space for your notes
	- Discuss the flow of execute test case process from test case generation to the verifier. - Illustrate the process so that the participants can better grasp the concept.	
Slide 14	**Approximate Duration:** 5 mins **What to cover:** - Ask the participants if they have any questions. - Include any questions that will be addressed later in the course as parking lot items. Use this activity to recap the key takeaways from this module.	

Slide Content	Instructor Guide	Use this space for your notes
Questions?		
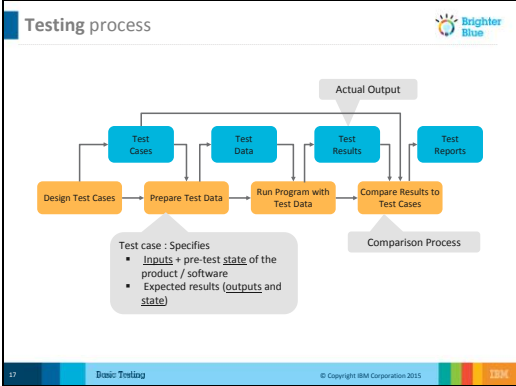
Module 02: Reporting

Slide Content	Instructor Guide	Use this space for your notes

Slide 15
 	
02 Reporting
 	
At the end of this module, you should be able to:
▪ Verify and analyze results
▪ Perform reporting
	Purpose: To cover the objectives of this module
	
	Approximate Duration: 5 mins
	
	What to cover:
	▪ Give a brief idea about testing process, policies and guidelines.
	▪ Define and describe defects.
	▪ Discuss the metrics which need to be collected for closure.
	▪ At the end of this module, you should be able to:
	   o Verify and analyze results
	   o Perform reporting	

Slide 16	**Purpose:** To become familiar with test execution status report	
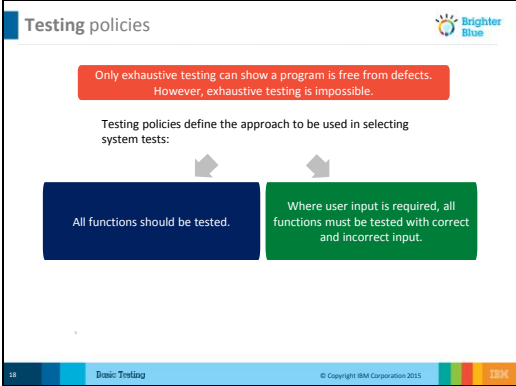
Slide Content	Instructor Guide	Use this space for your notes
Test Execution Status Report Test Execution Status Report ▪ This is a communication sent out to establish transparency to the QA team's activities of the day during the test cycle. ▪ This includes both defect information and test case run information. ▪ It is sent to Development, Environment support, Business analyst, and the Project teams. 16 Basic Testing © Copyright IBM Corporation 2015	**Approximate Duration:** 10 mins **What to cover:** ▪ Test execution status report 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.	
Slide 17	**Purpose:** To become familiar with the testing process **Approximate Duration:** 20 mins **What to cover:**	

Slide Content	Instructor Guide	Use this space for your notes
	- Explain the testing process. - Recall the various stages of testing process.	
Slide 18	**Purpose:** To define Testing Policies **Approximate Duration:** 15 mins **What to cover:** - Explain the Testing Policies to be used in selecting system tests - Recall the advantages and disadvantages of Testing Policies	
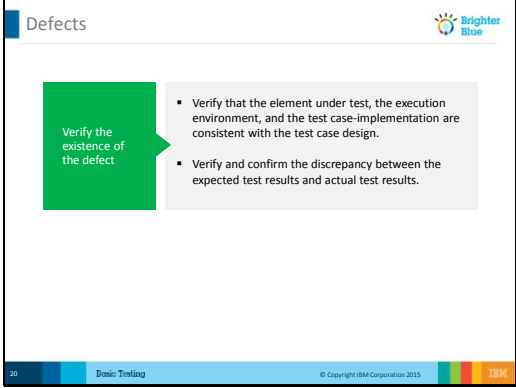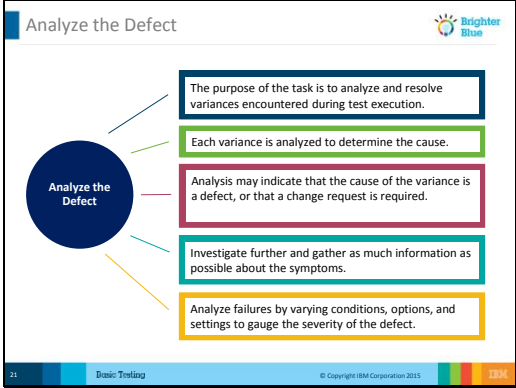
Slide Content	Instructor Guide	Use this space for your notes
Slide 19	**Purpose:** To determine Testing Guidelines **Approximate Duration:** 15 mins **What to cover:** ▪ Provide a definition of Testing Guidelines. Provide inputs that that force the system to generate all error messages.	
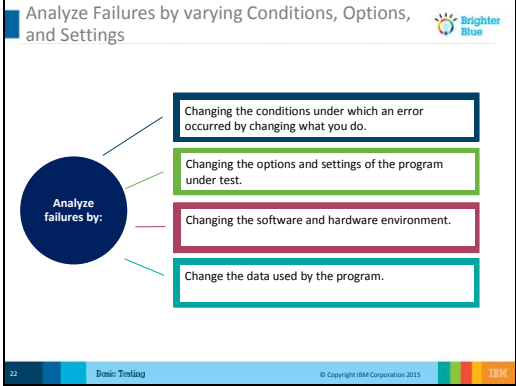
Slide Content	Instructor Guide	Use this space for your notes
Slide 20	**Purpose:** To understand the role of Defects in the system **Approximate Duration:** 10 mins **What to cover:** Explain the process of verification of Defects.	
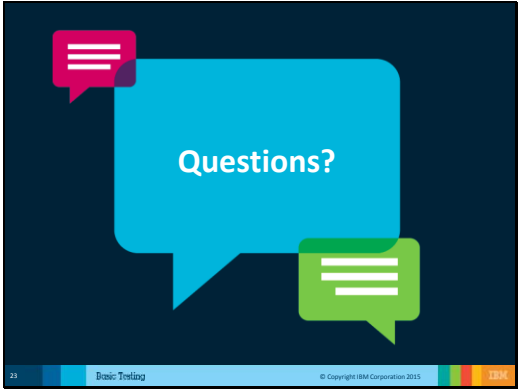
Slide Content	Instructor Guide	Use this space for your notes
Defects ⚫ Brighter Blue Verify the existence of the defect → ▪ Verify that the element under test, the execution environment, and the test case-implementation are consistent with the test case design. ▪ Verify and confirm the discrepancy between the expected test results and actual test results. 20 Basic Testing © Copyright IBM Corporation 2015 IBM		
Slide 21	**Purpose:** To understand the importance of analyzing defects **Approximate Duration:** 20 mins **What to cover:** ▪ Explain the reasons for analyzing defects. ▪ Discuss that addressing these issues will lead to better products and lesser iterations.	

Slide Content	Instructor Guide	Use this space for your notes
Slide 22	**Purpose:** To learn how to analyze failures by varying conditions, options, and settings **Approximate Duration:** 30 mins **What to cover:** Understand the process of analyzing failures by providing conditions, options, and settings.	

Slide Content	Instructor Guide	Use this space for your notes
Analyze Failures by varying Conditions, Options, and Settings Analyze failures by: - Changing the conditions under which an error occurred by changing what you do. - Changing the options and settings of the program under test. - Changing the software and hardware environment. - Change the data used by the program. 22 Basic Testing © Copyright IBM Corporation 2015 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.		
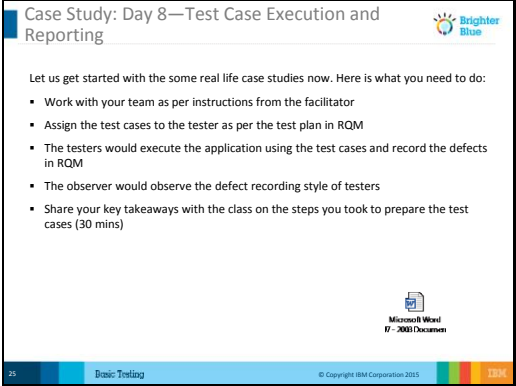
Slide Content	Instructor Guide	Use this space for your notes
Change the data used by the program. As an example, if the defect seems related to strings exceeding a certain number of characters in length, create a second set of test data to check the hypothesis		
Slide 23	**Approximate Duration:** 5 mins **What to cover:** ▪ Ask the participants if they have any questions. ▪ Include any questions that will be addressed later in the course as parking lot items. Use this activity to recap the key takeaways from this module.	

Module 03: Case Study

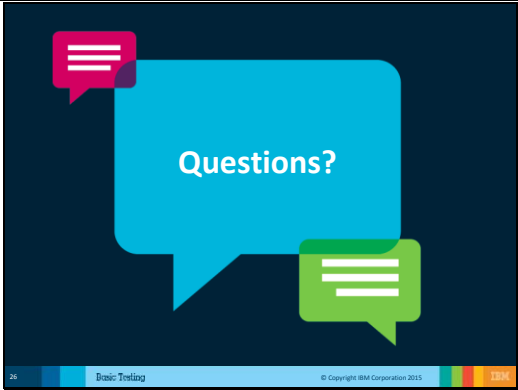| Slide Content	Instructor Guide	Use this space for your own notes
Slide 24 03 Case Study	**Purpose-** To provide the participants with a real life exposure to the concept of reporting **Duration-** 2 mins **What to cover:** ▪ Use the Online Money Transfer Case study to let the participants apply the concept of reporting. ▪ Refer to the Case Study Usage Guide document for the Use Case and details. ▪ Continue with the same groups that you created for the Case study on Day 1.	
Slide 25	**Approximate Duration:** 20 mins **Additional Materials or Pre-session prep tasks**: ▪ Ensure that PCs have minimum 2.93	

Slide Content	Instructor Guide	Use this space for your own notes

Case Study: Day 8—Test Case Execution and Reporting
 	
Let us get started with the some real life case studies now. Here is what you need to do:
▪ 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)
 	
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	GHz Processor and 4 GB RAM (minimum 2GB), and 100 GB hard disk space
	▪ Software requirements:
	   o Platform: Microsoft Windows
	   o Operating System (OS): Microsoft Windows XP SP3 or higher
	   o Browser: Internet Explorer 8 and / or above
	   o Technologies used: Java/J2EE, JSP, XML, and Tomcat
	   o Software Tools: Rational Quality Manager (RQM) 4.0.3.1 for Test Management
	   o Database: MySQL
	   o Testing: Manual and RFT for Automation
	▪ Distribute the specific Use case for the day to the participants.	

Slide Content	Instructor Guide	Use this space for your own notes
	What to cover: ▪ 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) **Purpose:** To show how to review the test cases and record the review observations and comments using RQM or OPAL template **Instructions for the participant:** ▪ Work with your team as per	

Slide Content	Instructor Guide	Use this space for your own notes
	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) **Debrief:** Explain the correct method based on any errors the participants may have introduced to the process of defect recording style (the written language, recording of detailed steps to recreate the problem, the completeness of testing).	
Slide 26	**Approximate Duration:** 2 mins	

Slide Content	Instructor Guide	Use this space for your own notes
	What to cover: ▪ Ask the participants if they have any questions. ▪ Include any questions that will be addressed later in the course as parking lot items. Use this activity to recap the key takeaways from this module.	