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Nota di contenuto	TITLE PAGE; COPYRIGHT; TABLE OF CONTENTS; DEDICATION; FOREWORD BY GUALTIERO BAZZANA; FOREWORD BY ROBERT V. BINDER; PREFACE; THE ISTQB CERTIFIED TESTER FOUNDATION LEVEL - MODEL-BASED TESTER; HOW THIS BOOK IS ORGANIZED?; ACKNOWLEDGMENTS; 1 INTRODUCTION TO MODEL-BASED TESTING; 1.1 WHY DO WE NEED NEW APPROACHES TO TESTING?; 1.2 WHAT IS MODEL-BASED TESTING?; 1.3 BENEFITS OF MBT; 1.4 PITFALLS OF MBT; 1.5 WHAT CAN YOU REALISTICALLY EXPECT?; 2 WHAT YOU SHOULD KNOW ABOUT MBT BEFORE STARTING; 2.1 ISTQB MBT GLOSSARY TERMS USED IN THIS BOOK; 2.2 OTHER TERMS TO KNOW 2.3 THE MODELING LANGUAGES USED IN THIS BOOK 3 PROCESS ASPECTS OF MBT; 3.1 MBT AND THE FUNDAMENTAL TEST PROCESS; 3.2 THE TYPICAL MBT PROCESS; 3.3 MBT AND SOFTWARE DEVELOPMENT LIFECYCLES; 3.4 HOW MBT SUPPORTS REQUIREMENT ENGINEERING; 4 ASPECTS TO CONSIDER BEFORE YOU START WRITING AN MBT MODEL; 4.1 PRELIMINARY CONSIDERATIONS ON MBT MODELING; 4.2 SUBJECT AND FOCUS OF YOUR MBT MODEL; 4.3 THE INFLUENCE OF TEST OBJECTIVES ON MBT MODELS; 5 MODELING LANGUAGES - THE AGONY OF CHOICE; 5.1 MAIN CATEGORIES OF MODELING LANGUAGES; 5.2 UML

AND BPMN; 5.3 OTHER GRAPHICAL MODELING LANGUAGES USED FOR MBT

5.4 TEXTUAL MODELING LANGUAGES USED FOR MBT; 5.5 HOW TO SELECT THE APPROPRIATE MODELING LANGUAGE; 6 GOOD MBT MODELING PRACTICES; 6.1 QUALITY CHARACTERISTICS FOR MBT MODELS; 6.2 TYPICAL MISTAKES AND PITFALLS IN MBT MODEL DESIGN; 6.3 LINKING REQUIREMENTS AND PROCESS-RELATED INFORMATION TO THE MBT MODEL; 6.4 THE SIGNIFICANCE OF MODELING GUIDELINES FOR MBT; 6.5 THE QUESTION OF REUSING MODELS FROM OTHER DEVELOPMENT ACTIVITIES; 6.6 TOOL SUPPORT FOR MBT MODELING ACTIVITIES; 6.7 ITERATIVE MBT MODEL DEVELOPMENT; 6.8 OTHER RECOMMENDATIONS; 7 HOW MBT RELATES TO TEST DESIGN TECHNIQUES?

7.1 EQUIVALENCE PARTITIONING AND BOUNDARY VALUE ANALYSIS; 7.2 DECISION TABLES; 7.3 STATE TRANSITION TESTING; 7.4 USE CASE TESTING; 8 DERIVING TESTS FROM AN MBT MODEL; 8.1 TAXONOMY OF SELECTION CRITERIA; 8.2 TEST CASE SELECTION IN PRACTICE; 8.3 EXAMPLES OF COVERAGE CRITERIA; 8.4 PROS AND CONS OF SPECIFIC TEST SELECTION CRITERIA; 8.5 SOME RECOMMENDATIONS REGARDING TEST CASE SELECTION; 8.6 DEGREE OF AUTOMATION IN TEST GENERATION; 9 EXECUTING MODEL-BASED TESTS; 9.1 UNDERSTANDING THE CONCEPTS; 9.2 ADAPTING TEST CASES FOR AUTOMATED EXECUTION; 9.3 ADAPTING MBT ARTIFACTS DUE TO CHANGES  
10 INTRODUCING MBT IN YOUR COMPANY  
10.1 FIVE STEPS TO MBT ADOPTION; 10.2 RETURN-ON-INVEST CONSIDERATIONS; 10.3 PRIORITIZE YOUR ORGANIZATIONAL OBJECTIVES; 10.4 HOW TO MEASURE PROGRESS AND SUCCESS?; 10.5 DEPLOYING MBT; 10.6 INITIAL AND RUNNING COSTS OF MBT; 10.7 INTEGRATING THE TOOLS; 11 CASE STUDIES; 11.1 ENTERPRISE IT MODEL-BASED TESTING - ORANGEHRM CASE STUDY; 11.2 MBT FOR PROCESS-SUPPORTING SW - TOOL VALIDATION CASE STUDY; 11.3 MBT FOR SECURITY COMPONENTS - PKCS#11 CASE STUDY; 12 CONCLUSIONS; APPENDIX A SOLUTIONS OF EXERCISES; APPENDIX B TEST YOURSELF; APPENDIX C TAXONOMY OF MBT APPROACHES

## ABBREVIATIONS

### Sommario/riassunto

Provides a practical and comprehensive introduction to the key aspects of model-based testing as taught in the ISTQB® Model-Based Tester—Foundation Level Certification Syllabus. This book covers the essentials of Model-Based Testing (MBT) needed to pass the ISTQB® Foundation Level Model-Based Tester Certification. The text begins with an introduction to MBT, covering both the benefits and the limitations of MBT. The authors review the various approaches to model-based testing, explaining the fundamental processes in MBT, the different modeling languages used, common good modeling practices, and the typical mistakes and pitfalls. The book explains the specifics of MBT test implementation, the dependencies on modeling and test generation activities, and the steps required to automate the generated test cases. The text discusses the introduction of MBT in a company, presenting metrics to measure success and good practices to apply. Provides case studies illustrating different approaches to Model-Based Testing. Includes in-text exercises to encourage readers to practice modeling and test generation activities. Contains appendices with solutions to the in-text exercises, a short quiz to test readers, along with additional information. Model-Based Testing Essentials – Guide to the ISTQB® Certified Model-Based Tester – Foundation Level is written primarily for participants of the ISTQB® Certification: software engineers, test engineers, software developers, and anybody else involved in software quality assurance. This book can also be used for

anyone who wants a deeper understanding of software testing and of the use of models for test generation.

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