

Preface

Why this book

Software testing is becoming more and more important in the industry, reflecting the increasing importance of software quality in today's world.

Due to the lack of formal and recognized training in software testing, a group of specialist consultants gathered together in 2002 and founded the International Software Testing Qualifications Board (ISTQB). They defined the minimal set of methodological and technical knowledge that testers should know depending on their experience. This was gathered into what is called a syllabus. The foundation level syllabus was reviewed in 2011 and is the basis of an international certification scheme, already obtained by more than 200,000 testers worldwide. For testers who wish to prepare for the ISTQB foundation level exam, this book can serve as reference material and a study guide. It references the 2011 version of the ISTQB Certified Tester Foundation Level syllabus.

This book follows the order and chapters of the syllabus, helping you to successfully complete the certification exam. It is a one-stop reference book offering you:

- more detailed explanations than those found in the ISTQB syllabus;
- definitions of the terms (i.e. the Glossary) used in the certification exams;
- practice questions similar to those encountered during the certification exam;
- a sample exam.

For testers who want to acquire a good understanding of software and system tests, this book provides the fundamental principles as described by the ISTQB and recognized experts.

This book provides answers and areas of discussion allowing test leaders and managers to:

- improve their understanding of testing;
- have an overview of process improvement linked to software testing;
- increase the efficiency of their software development and tests.

Throughout this book, you will find learning objectives (noted FLO-...) that represent the ISTQB foundation level syllabus learning objectives. These are the topics that certification candidates should know and that are examined in the ISTQB certification exams.

Prerequisite

Software testing does not require specific prerequisites. Although it is not mandatory, a common understanding of data processing and software allows you to have a better understanding of software testing.

The reader with software development knowledge, whatever the programming language, will understand certain aspects faster, but a simple practice as a user should be enough to understand this book.

ISTQB, CFTL (Comité Français des Tests Logiciels) and national boards

The ISTQB is a not-for-profit international association grouping national software testing boards covering approximately 50 countries. These national boards are made up of software testing specialists, consultants, and experts, and together they define the syllabi and examination directives for system and software testers. The CFTL represents France on the ISTQB and offers the ISTQB certification in France.

To define the syllabus content for all three software tester certification levels (i.e. foundation, advanced, expert), and the applicable exam directives, the ISTQB has created a number of working groups, each in charge of a specific subject (i.e. foundation level syllabus, advanced level syllabus, expert level syllabi, training provider accreditation, examination specification, etc.). These work groups are, as the national boards, made up of software testing experts and specialists, consultants, presenters at conferences, professors and national or international specialists in software testing and systems quality. Their combined expertise enables them to synthesize knowledge from numerous fields (aeronautics, space, medical,

commercial, rail, telecoms, etc.) and various levels (technicians, analysts, project leaders, specialists, experts, researcher, managers, etc.).

A number of prominent authors of software testing books participate in the creation of the syllabi, ensuring that these reflect what a tester should know depending on his/her level of experience (foundation, advanced, expert) and on his/her objectives (test management, functional testing, and test techniques, specialization in software security or performance testing, etc.).

Glossary and syllabus

The ISTQB is aware of the broad diversity of terms used and the associated diversity of interpretation of these terms depending upon the customers, countries, and organizations. A common glossary of software testing terms has been set up and national boards provide translation of these terms in national languages to promote better understanding of the terms and the associated concepts. This becomes more and more important in a context of international cooperation and offshore sub-contracting.

The syllabi define the basis of the certification exams; they also help to define the scope of training and are applicable at three levels of experience: foundation level, advanced level and expert level. This book focuses on the foundation level.

The foundation level, made up of a single module, is detailed in the following chapters.

The advanced level is made up of three modules:

- test manager, which focuses on the test management and test process improvements aspects;
- test analyst, which focuses on the testing of characteristics of the software and systems, mostly without the use of tools; and
- technical test analyst, which focuses on the testing of non-functional characteristics of software and systems, mostly with the use of tools.

The expert level focuses on specific aspects, such as test management, test process improvement, or performances.

ISTQB certification

The ISTQB proposes software tester certifications, which are recognized as equivalent by all ISTQB member boards throughout the world. The level of difficulty of the questions and the exams are based on the same criteria (defined in the syllabi) and the same terms (defined in the Glossary).

The certification exams proposed by the CFTL and the national boards of the ISTQB enable the candidates to validate their knowledge, and assure employers or potential customers of a minimum level of knowledge from their testers, whatever their origin.

These certifications are recognized as equivalent throughout the whole world, enabling international cross-recognition. In France, more than 1,500 people have successfully passed the certification, and more than 200,000 have acquired such a certification worldwide. This shows the need from the industry to have an independent certification of the software testing activities.

Key for understanding the content

To be used efficiently, this book has the following characteristics:

FLO-xxx: text that starts with FLO-xxx is a reminder of the learning objectives present in the ISTQB foundation level syllabus for certified testers. Those objectives are expanded in the paragraphs following this tag.

The titles of the chapters correspond to those of the ISTQB foundation level syllabus, version 2011. This is often the case too for the section heads; the syllabus reference is provided in the form (FLx.y) where x.y stands for the chapter and section head of the ISTQB foundation level syllabus. The example below shows that the section of the book refers to the 2.4 section of the foundation syllabus:

2.4. Tests and maintenance (FL2.4)

A synopsis closes each of the chapters, summarizing the aspects covered and identifying the terms of the glossary to know for the certification exam. Sample exam questions are also provided at the end of each chapter. These questions were developed by applying the same criteria as for the creation of real exam questions.

The sample questions provided in Chapters 1, 2, 3, 4, 5 and 6 are reproduced with kind permission of © Bernard Homès 2011.