Certified Tester Specialist

ISTQB® Mobile Application Testing Foundation Level

Overview

Version 2019

Provided by International Software Quality Institute (iSQI)

International Software Testing Qualifications Board

Revision History

Version	Date	Remarks
Alpha	11 May 2018	Alpha Release
Beta	26 January 2019	Beta Release
GA	28 March 2019	GA Release
V2019	3 May 2019	ISTQB® Release

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Acknowledgements

1. Introduction to the Mobile Application Testing Foundation Level

The certification for the Mobile Application Testing Foundation Level is intended for professionals who are working with mobile technology. The certification provides an insight into methods, techniques and tools a professional may use to test mobile applications. It is also for professionals who are planning to start implementing mobile projects or are working within companies that plan to do so (further details of the intended audience are given in section 1.1 below). The certification provides an advantage for those who would like to know the required mobile project activities, roles, methods, and methodologies specific to their role.

In this document, the Mobile Application Testing Foundation Level syllabus [ISTQB_MATFL_2019] is summarized, and the expected Business Outcomes are stated. These provide a specific statement of what can be expected from a person who achieves the Mobile Application Testing certification.

This document also describes how the Mobile Application Testing Foundation Level differs from other current ISTQB® Foundation Level syllabi [ISTQB_CTFL_2018] in terms of practical, hands-on work, which is required in any accredited training. However, from the certification examination point of view, the hands-on exercises on the devices (virtual or real) are not mandatory and the syllabus as well as the exam structure and pattern remain similar to the other ISTQB® Foundation Level syllabi.

1.1 Intended Audience

The Mobile Application Testing Foundation Level qualification is aimed at the following main groups of professionals:

- Professionals who have achieved in-depth testing experience in traditional methods and would like to acquire specific competence for testing mobile applications.
- Junior professional testers who are just starting in the testing profession and would like to know more about the tester's role when developing mobile applications.
- Professionals who are experienced in their role and need more understanding and knowledge about how to perform and manage testing on all levels in mobile projects.

These professionals include people who are in roles such as testers, test analysts, test engineers, test consultants, test managers, user acceptance testers, and software developers.

This Mobile Application Testing Foundation Level certification may also be appropriate for anyone who wants a deeper understanding of software testing in the mobile testing world, such as project managers, quality managers, software development managers, business analysts, IT directors, and management consultants.

1.2 Career Opportunities for Testers

Building on the Foundation Level, the Mobile Application Testing supports career opportunities for professional testers. A person with the Mobile Application Testing certificate will have extended the broad understanding of testing acquired at the Foundation Level to enable him or her to work effectively as a professional tester in a mobile application project.

Those possessing a Mobile Application Testing Foundation Level certificate may use the acronym CTFL-MAT.

Please visit [ISTQB-Web] for the latest overview of ISTQB®'s career opportunities.

1.3 Learning Objectives

In general, all contents of the Mobile Application Testing Foundation Level syllabus are examinable at a K1 level, expect for the Introduction and Appendices, i.e., the candidate may be asked to recognize, remember, and recall terms and concepts stated in the syllabus.

The relevant Learning Objectives and the respective K-levels are presented at the beginning of each chapter in the Mobile Application Testing syllabus.

All Mobile Application Testing Foundation Level syllabus learning objectives are examinable at the respective K- level in the Mobile Application Testing Foundation Level exam.

1.4 Entry Requirements

Candidates wishing to be certified as Mobile Application Testing Foundation Level must already hold the ISTQB® Certified Tester Foundation Level certificate.

1.5 Structure and Course Duration

The Mobile Application Testing Foundation Level contains 5 chapters covering the knowledge and skills necessary for a tester of mobile applications. The top-level heading of each chapter specifies the minimum time in a training course for teaching the chapter; timing is not provided for the sub-chapters. The syllabus specifies a total of 775 minutes of minimum training.

- Chapter 1: Mobile World – Business and Technology Drivers – 175 minutes
- Chapter 2: Mobile Applications Test Types – 265 minutes
- Chapter 3: Common Test Types and Test Process for Mobile Applications – 200 minutes
- Chapter 4: Mobile Application Platforms, Tools and Environment – 80 minutes
- Chapter 5: Automating the Test Execution – 55 minutes

1.6 Keeping it Current

The software industry changes rapidly. To deal with these changes and to provide the stakeholders with access to relevant and current information, the ISTQB® working groups have created links on the www.istqb.org web site which refer to supporting documents, changes to standards, and new occurrences in the industry. This information is not examinable under this syllabus.

1.7 Exam Structure

The Mobile Application Testing Certificate Exam is defined in the document "Certified Tester Specialist – Mobile Application Testing – Foundation Level – Exam Structure and Rules – version 2019" which can be found on [ISTQB-Web].

The format of the exam is multiple choice. The exam contains 40 questions. To pass the exam, at least 65% of the questions (i.e., 26 questions) must be answered correctly.

Exams may be taken as part of an accredited training course or taken independently (e.g., at an exam center or in a public exam). Completion of an accredited training course is not a prerequisite for the exam.

2. Overview of the Foundation Level Mobile Application Testing

2.1 Business Outcomes

This section lists the business outcomes expected of a candidate who has achieved the Mobile Application Testing Foundation Level certification.

A Mobile Application Tester can:

MAT-1 Understand and review business and technology drivers for mobile apps in order to create a test strategy.

MAT-2 Identify and understand the key challenges, risks and expectations associated with testing a mobile application.

MAT-3 Apply test types and levels specific to mobile applications.

MAT-4 Apply common test types, such as those mentioned in [ISTQB_CTFL_2018], in the mobile specific context.

MAT-5 Carry out the activities required specifically for mobile application testing as part of the main activities of the ISTQB® test process.

MAT-6 Identify and use suitable environments and appropriate tools for mobile application testing.

MAT-7 Understand methods and tools used specifically to support mobile application test automation.

2.2 Content

Chapter 1: Business and Technology Drivers

This chapter contains:

- Business and technology drivers that need to be considered when creating a test strategy for mobile applications.

- How the business and technology drivers influence the testing of mobile applications.

- Key challenges, risks, and expectations associated with testing of mobile applications.

- Ways to mitigate risks specific to testing of mobile applications.

- How to create a test strategy for mobile application testing.

Chapter 2: Mobile Application Test Types

This chapter contains:

- Tests for various features of mobile devices including different hardware and various types of sensors.

- Tests for app interactions with device software.

- Tests required to obtain approval for publishing on application stores.

- Tests for testing various connectivity methods.

- How to apply the different test types and test levels when testing mobile applications.

Chapter 3: Common Test Types and Test Process for Mobile Application

This chapter contains:

- How to apply common test types, as described in the Certified Tester Foundation Level syllabus, in the mobile-specific context.

- Testing mobile applications for installability, stress, performance, usability, accessibility, security, globalization, localization and with databases.

- Additional test levels applicable for mobile application testing.

- Use of mobile-specific heuristics, personas, mnemonics and tours used for performing exploratory testing.

- Mobile test process and approaches.

Chapter 4: Mobile Applications Platforms, Tools and Environment

This chapter contains:

- Development platforms used for mobile application development.

- Using some of the common tools supplied as part of application development platforms.

- Emulators and simulators, and their use in various situations.

- Various approaches for setting up an automation test lab.

Chapter 5: Automating the test Execution

This chapter contains:

- Automation approaches, frameworks, and solutions for mobile application testing.

- Parameters to be considered during the evaluation of mobile testing automation tools.

- Advantages and disadvantages of different approaches for creating automation test labs.

2.3 Additional Elements for Supporting Hands-on Exercises

The syllabus, exam structure, and exam questions are as per ISTQB® guidelines and there are no changes from the point of view of an examinee who takes the exam without any training.

Hands-on Levels (HO)

To support hands-on training there are additional elements in the syllabus called HO, similar to the LOs. The HOs (Hands-on Objectives) describe the hands-on exercises, including those to be done using pen and paper; using a computer, and mobile devices (both real and virtual).

The following levels apply to hands-on objectives:

- H0: This can include a live demo of an exercise or recorded video. Since this is not performed by the trainee, it is not strictly an exercise.

- H1: Guided exercise. The trainees follow a sequence of steps performed by the trainer.

- H2: Exercise with hints. The trainee is given an exercise with relevant hints to enable the exercise to be solved within the given timeframe.

- H3: Unguided exercises without hints.

Recommendations:

- K1 learning objectives typically use H0 level and H1 or H2 when the situation demands.

- K2 learning objectives typically use H1 or H2 levels and H0 or H3 when the situation demands.

- K3 learning objectives typically use H2 or H3 levels, although it is not always necessary to have a hands-on exercise for a K3 learning objective. If the setup is complex or if it will be too time consuming, then use H0 level. It is not necessary for every K3 to have a hands-on.

These exercises can be performed individually or in groups, and it is left to the discretion of the training provider.

To support the learner who appears for the exam without training, but still wants hands-on experience, Competency Guidelines have been created. These are similar to the Accreditation Guidelines and should be read along with the syllabus. The Competency Guidelines provide an explanation and details of what competencies are to be mastered for each HO. Both Competency and Accreditation Guidelines are available in *CTFL-MAT-2019-Accreditation-and-Competence-Guidelines.pdf*.

To assist with the accreditation process, where considered helpful, LOs have detailed notes for accreditation in the accreditation guidelines. These notes will help the training providers implement the exercises in their training material and will also help the accreditation body in assessing or evaluating the material for accreditation. Competency Guidelines for each HO provide more information on the hands-on exercises than the training provider needs to submit for accreditation.

Business Outcomes Traceability Matrix with Learning Objectives

Business Outcomes: MAT							
n Version 2019	K-Level	Competency	MAT-1	MAT-2	MAT-3	MAT-4	MA
cribe how available mobile analytics data can be used as input for est strategy and the test plan.	K2	H3	X				
nguish between various business models for mobile applications.	K2	-	X				
all different types of mobile devices.	K1	-	X				
nguish between different types of mobile applications.	K2	-	X				
nguish between general architecture types of mobile applications.	K2	-	X				
y characteristics and specifics of the mobile market in preparing st strategy.	K3	-	X				
examples of the challenges associated with testing mobile ications.	K2	H1		X			
cribe how risks specific to mobile applications may be mitigated.	K2	-		X			
cribe device-specific features and hardware which should be sidered for testing.	K2	H1			X		
pare tests for the app's compatibility with screen sizes, aspect , and screen density.	K3	H3			X		
cribe how tests can show the potential effects of device heating on the system under test.	K2	-			X		
all different test types for testing of the various input sensors used obile devices.	K1	-			X		
all the tests to be run for various input methods.	K1	H0 (optional)			X		
cribe how tests can reveal user interface issues when changing en orientation.	K2	H3			X		
pare tests for an app using typical mobile device interrupts.	K3	H3			X		
pare tests for changing the access permissions to the device ures requested by the app.	K3	H3			X		
n Version 2019	K-Level	Competency	MAT-1	MAT-2	MAT-3	MAT-4	MA

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	K-Level	Competency	MAT-1	MAT-2	MAT-3	MAT-4	MA
are tests to verify the impact of an app on a device's power sumption and the impact of its power state on the app.	K3	H3			X		
are tests for the handling of notifications by the system under test.	K3	H2			X		
cribe how tests can verify correct functionality of quick-access	K2	H3			X		
are tests for the impact on an app of the user preference settings ided by an operating system	K3	H3			X		
nguish between the different tests required for native, web and id applications.	K2	H0 (optional)			X		
all tests required for apps which are available on multiple orms or operating system versions.	K1	-			X		
all tests required for co-existence and interoperability with other	K1	-			X		
marize the tests for connectivity testing, including those across orks, when using Bluetooth and when switching to flight mode.	K2	H0 (optional)			X		
are installability tests for mobile apps.	K3	-				X	
are stress tests for mobile apps.	K3	-				X	
examples of security issues related to mobile apps.	K2	-				X	
all time and resource behavior considerations for mobile apps.	K1	-				X	
are usability tests for mobile apps.	K3	H2				X	
ognize the type of tests required for database testing of mobile s.	K1	-				X	
marize the tests required for internationalization (globalization) localization testing of mobile apps.	K2	-				X	
marize the need for accessibility testing in mobile application ng.	K2	-				X	
cribe the additional test levels, such as field testing, and the ociated extra activities required for effective mobile testing	K2	-			X		
cribe the tests required for carrying out application store approval ublishing apps.	K2	-			X		
n Version 2019	K-Level	Competency	MAT-1	MAT-2	MAT-3	MAT-4	MA

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ll session-based test management, personas and mnemonics in context of exploratory mobile testing.	K1	H2				X	
cribe the usage of tours and heuristics as exploratory techniques mobile application testing.	K2	H2				X	
e use of a mobile specific tour (such as the Feature tour) to test a ile application.	K3	H2				X	
ch the test process, as described in [ISTQB_CTFL_2018], to the ds of mobile application testing.	K2	-					X
cribe the approaches to testing at each test level, specific to ile application testing.	K2	-			X		
ll the development environments used for mobile application elopment.	K1	-					
ll some of the common tools supplied as part of application elopment platforms.	K1	H1					
erstand the differences between emulators and simulators.	K2	-					
cribe the use of emulators and simulators for mobile application g.	K2	H1					
nguish between various approaches to set up a test lab.	K2	-					
nguish between common automation approaches and eworks for mobile application testing.	K2	-					
cribe various automation methods for testing mobile apps.	K2	-					
ll the various parameters to be considered during the evaluation obile testing automation tools.	K1	-					
nguish between common approaches of creating test labs with antages and disadvantages with respect to test automation.	K2	-					
		Total:	6	2	19	11	1

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Appendix

1　Trademarks

The following registered trademarks and service marks are used in this document:

ISTQB® is a registered trademark of the International Software Testing Qualifications Board

2　References

Identifier	Reference
[ISTQB_CTFL_2018]	ISTQB® Certified Tester – Foundation Level Syllabus – Version 2018
[ISTQB_MATFL_2019]	ISTQB® Certified Tester Specialist – Mobile Application Testing – Foundation Level Syllabus – Version 2019
[ISTQB-Web]	Web site of the International Software Testing Qualifications Board. Refer to this website for the latest ISTQB® Glossary and Syllabi. (www.istqb.org)