Qt Group

Qt Application Developer Certificate Curriculum

Qt 6.12 LTS

PUBLIC

1. Qt Application Developer (6.12 LTS)

This test is designed for Qt application developers pursuing certification in fundamental aspects of application-logic development within the Qt Framework. The test covers key topics such as data input and output, multithreading in Qt, Qt Concurrent, database handling, Qt Test use, and working with Qt libraries and plugins. Upon successfully passing the test, you will be awarded the Qt Application Developer certificate.

The exam contains 50 single- and multi-select questions and the passing score is 65%.

Generic IO and Files

- QIODevice read and write functionality
- QFile usage
- File I/O using Qt
- Differences between QDataStream and QTextStream
- Memory-mapped files
- Know the related classes for file and directory access

Qt Test

- Know how to write and compile unit tests
- Test macros
- Asynchronous tests
- Benchmarks

Libraries and Plugins

- Know how to create custom libraries
- Understand private implementation pattern and how to use it for binary compatibility
- Know how to write Qt plugins using low-level APIs
- Know how to deploy and load/unload libraries and plugins using QLibrary and QPluginLoader

Multitasking

- Thread affinity
- Thread creation, interruption, and cleanup
- Event handling in threads
- Inter-thread communication
- Mutual exclusion and synchronization

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Runnables

- Understanding the concept of a thread pool
- Queuing and executing runnables

Qt Concurrent

- Concept of the future
- Synchronizing and waiting futures
- Mapping and filtering
- Result reduction
- QPromise usage
- QTaskBuilder usage

Databases

- Database connection
- Know how to make queries and transactions efficiently
- Know how to use database model classes
- Principles of database drivers

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