

Programming with Qt

Qt Essentials - Training Course

Produced by Nokia, Qt Development Frameworks

Material based on Qt 4.7, created on August 13, 2010



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Part 1

- Fundamentals of Qt
 - The Story of Qt
 - Developing a Hello World Application
 - Hello World using Qt Creator
 - Practical Tips for Developers
- Objects in Qt
 - Common Features of Qt's Object Models
 - Object Communication using Signals & Slots
 - Signal & Slot Variations
 - Handling Events in Qt
- Core Classes
 - String Handling
 - Item Container
 - File Handling
 - Variants



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Part 2

- Widgets
 - Common Widgets
 - Layout Management
 - Guidelines for Custom Widgets
- Painting and Styling
 - Painting on Widgets
 - Color Handling
 - Painting Operations
 - Style Sheets
- Application Creation
 - Main Windows
 - Settings
 - Resources
 - Translation for Developers
 - Deploying Qt Applications



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Part 3

- Dialogs and Designer
 - Dialogs
 - Common Dialogs
 - Qt Designer
- Model/View
 - Item Widgets
 - Model/View Concept
 - Custom Models
 - Item Views
- Data IO
 - SAX and DOM XML APIs
 - XML Streaming API
 - SQL Database API
 - SQL Models



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Part 4

- Graphics View
 - Using GraphicsView Classes
 - Transformations and Coordinate Systems
 - Creating Custom Items



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Optional Content



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Optional Modules - Content I

- Graphics View 2
 - Widgets in a Scene
 - Drag and Drop
 - Effects
 - Performance Tuning
- Advanced Graphics
 - QImage
 - Custom Image Formats
 - Coordinate Systems
 - OpenGL in Qt
- Multimedia
 - Playing Sounds
 - Multimedia with Phonon



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Optional Modules - Content II

- Animation
 - Starting Animation
 - Animation Groups
 - States and Animations
 - Events and Transitions
- Gestures
 - Introduction to Gestures
 - Recognizing Gestures
- Multitouch
 - Starting Multitouch
 - Touch Events



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Optional Modules - Content III

- Development Process
 - QMake
 - Some Thoughts About Portability
 - Qt Debugging Aids
 - Development Tools for Linux
 - Qt Licensing
 - Shipping Qt With Your Application
 - Unit Testing with QTestLib
- Other IDEs
 - Visual Studio Integration
 - Eclipse Integration
 - KDevelop



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Optional Modules - Content IV

- Application Scripting
 - Qt Script
 - Debugging Scripts
- Inter-Process Communication
 - Running Processes
 - Shared Memory with Qt
 - QtDBus – Qt Bindings to D-Bus
- Multithreading
 - Multithreading I
 - QtConcurrent (Multithreading II)
 - Multithreading III



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Optional Modules - Content V

- Specialized Widgets
 - Emulating MDI with QMdiArea
 - Scroll Areas
- Native System Integration
 - ActiveQt
 - Migration Techniques
 - Migrating Motif programs to Qt
- Widget Styles
 - Widget Styles
 - Custom Widget Styles
 - Translucent and Shaped Windows



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Optional Modules - Content VI

- Advanced Xml Processing
 - XQuery, XPath and XSLT
 - XML Schema
- Network Programming
 - The Network Module
 - Protocols
 - Request / Reply
 - TCP/UDP Sockets
 - SSL Sockets
 - DNS and Proxies
- The Event System
 - Synthetic Events



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Optional Modules - Content VII

- WebKit
 - WebKit
 - QWebView
 - Settings
 - Accessing the DOM
- Text Processing
 - Validating Input
 - Rich Text Editing and Processing
- Other Topics
 - Memory mapped files
 - Timers

