

Qt Core and Widgets

Training Course

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Produced by Integrated Computer Solutions

Material based on Qt 5.2, created on April 18, 2014

Qt Fundamentals

- Fundamentals of Qt
 - The Story of Qt
 - Developing a Hello World Application
 - Hello World using Qt Creator
 - Practical Tips for Developers

Objects and Core Types

- Core Classes
 - String Handling
 - Container Classes
 - File Handling
- Objects
 - Qt's Object Model
 - Variants
 - Properties
- Object Communication
 - Signals & Slots
 - Event Handling

Widgets and Designer

- Widgets
 - Designer Introduction
 - Common Widgets
 - Layout Management
 - Guidelines for Custom Widgets
- Dialogs
 - Dialogs
 - Common Dialogs
 - Designer Forms and Code Integration

Applications and Painting

- Application Creation
 - Main Windows
 - Designer: Main Windows, Menus, and Actions
 - Settings
 - The System Clipboard
 - Drag and Drop
 - Resources
 - Translation for Developers
 - Deploying Qt Applications
- Painting and Styling
 - Painting on Widgets
 - Color Handling
 - Painting Operations
 - Style Sheets

Models and Views

- Model/View
 - Model/View Concept
 - Showing Simple Data
 - Proxy Models
 - Custom Models
- Model/View II
 - Delegates
 - Editing item data
 - Data Widget Mapper
 - Drag and Drop
 - Custom Tree Models

GraphicsView

- Graphics View
 - Using GraphicsView Classes
 - Coordinate Systems and Transformations
 - Creating Custom Items
- Graphics View 2
 - Widgets in a Scene
 - Drag and Drop
 - Effects
 - Performance Tuning

Other Topics

- Animation
 - Starting Animation
 - Animation Groups
 - States and Animations
 - Events and Transitions

Qt Additional Modules

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MultiThreaded Programming and Multimedia in Qt

- Multithreaded Programming
 - Qt Multithreading
 - Threading Primitives
 - QtConcurrent
- Multimedia Programming
 - Qt Multimedia

Inter-Process Communication

- Interprocess Communication
 - QProcess
 - Shared Memory with Qt
 - Network Programming
 - QNetworkAccessManager Request / Reply
 - Bearer Management API
 - TCP/UDP Sockets
 - SSL Sockets
 - DNS and Proxies
 - QtDBus – Qt Bindings to D-Bus
 - QtDBus - Advanced Topics

Other Topics

- Extending Qt with Plugins
 - Qt Plugins
 - Plugin Example: Custom Image Formats
- Data Processing
 - Basic XML APIs
 - SQL Database API
 - SQL Models
- XML Patterns
 - XPath, XQuery and XSLT
 - QtXmlPatterns
 - XML Schema