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# Introduction to Qt for Desktop Development

Based on Qt 5.15, created on March 16, 2023

The logo for KDAB, featuring a stylized white lightning bolt icon to the left of the text 'KDAB' in a white, sans-serif font, all contained within a blue rectangular shape with a diagonal cut on the bottom-left corner.

KDAB

*The Qt, OpenGL and C++ Experts*

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## Introduction to QtWidgets

- Fundamentals of Qt
  - The Story of Qt
  - "Hello World" with QtWidgets
  - Important Application Classes
  - Introducing Qt Creator
  - Practical Tips for Developers
- Visual Studio Integration
- Objects in Qt
  - Common Features of Qt's Object Model
  - Qt Meta Object System
  - Object Communication Using Signals & Slots
  - Defining Invokable Methods
  - Event Handling
- Widgets
  - Common Widgets
  - Layout Management
  - Guidelines for Custom Widgets
- Qt Designer

## Dialogs And Windows

- Dialogs
- Common Dialogs
- Main Windows

## Under the Hood

- Core Classes
  - String Handling
  - Container Classes
  - File Handling
  - Variants and Properties
- Painting
  - Painting Basics
  - Color Handling
  - Painting Operations
  - Painting Performance

## Fundamentals of Model/View

- Concepts
- Models
  - List Models
  - Table Models
  - Tree Models
  - Value-based Models
  - Proxy Models
- QtWidgets Views
  - Item Views
  - Delegates
  - Selection
  - Drag and Drop

## Supplemental Topics

### Application Infrastructure

- The Event System
- Printing
- Internationalization
- Resources
- Settings
- Drag and Drop
- Commandline Arguments

### Development and Testing

- Deployment
- Development Tools for Linux
- QMake
- Some Thoughts About Portability
- Qt Debugging Aids
- QTestLib
- Testing with Squish
- Introduction to Git
- Introduction to CMake

## Supplemental Topics

### XML, JSON and SQL

- Basic XML APIs
- JSON
- SQL Database API

### Interprocess Communication

- Network Programming
- QProcess