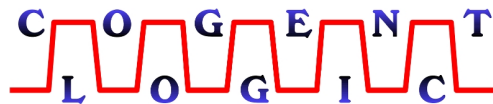


Hands-On Training for Software Developers



In-depth courses for Android, iOS, bada and Rails



Public Courses

All courses are of five days duration and cost £1995 (inc. VAT). Delegates bring along their own laptop computer. Lunch is provided.

Central London—Spring Schedule 2012

Java : 19 March	Java : 30 April
Android : 26 March	C++ : 8 May
C++ : 2 April	iOS : 14 May
bada : 10 April	Ruby on Rails : 21 May
Objective-C : 16 April	Android : 28 May
Ruby : 23 April	bada : 11 June

Contact

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Android Development



Cogent Logic offer intensive five-day training courses delivered by seasoned software developers who are also qualified trainers.

Our courses provide delegates with a broad coverage of material and an in-depth hands-on experience that enables them to return to work with the skills to start software development immediately.

All courses come with extensive notes, sample code and worksheets.

Software Development with Java

- 1 Introduction to Java
- 2 Classes and Methods, Simple Java Programs, Console Output
- 3 Compilation, Class Files, JVM and JRE
- 4 Numbers and Text
- 5 Variables, Data Types, Constants and Conversions
- 6 Exception Handling
- 7 Console Input and Data Processing
- 8 The Eclipse IDE
- 9 Decisions
- 10 Loops
- 11 Arrays
- 12 Debugging
- 13 Class and Objects: Instance Fields, Methods, Constructors, Garbage Collection
- 14 Classes: Encapsulation, Accessor Methods, Scope
- 15 Inheritance and Class Diagrams
- 16 String and StringBuffer
- 17 Class Fields, Class Methods, Class and Instance Initializers, Enumerations
- 18 Polymorphism, Interfaces and Casting
- 19 Math and StrictMath APIs
- 20 Packages and Java Archives
- 21 Annotations
- 22 Assertions and Unit Testing with JUnit
- 23 Local, Member and Anonymous Classes
- 24 Event Listeners
- 25 The Collections Framework: Lists, Sets, Queues, Maps
- 26 Recursion and Memoization
- 27 Generics and Autoboxing

The Android course comprises 38 modules with 62 worksheets.

Developing Mobile Applications with Android

- 1 Introduction to Android and Mobile Devices
- 2 Development Environment Setup
- 3 Application Architecture and Lifecycle
- 4 XML, SAX, the Manifest and Resources
- 5 Resources and R.java
- 6 Activities and Intents - Alerts and Logging
- 7 Declarative Versus Programmatic User Interface Design
- 8 Standard Dialogs
- 9 Debugging
- 10 Common Controls and Colours
- 11 Styles and Themes
- 12 Layout Managers
- 13 Screen Orientation, Form Factors and Features
- 14 Adapters
- 15 Menus
- 16 Managed Dialogs
- 17 Electronic Mail
- 18 Permissions and File I/O
- 19 Preferences
- 20 Camera and Gallery
- 21 Relational Databases and SQLite
- 22 Data Binding
- 23 Assertions and Unit Testing with JUnit
- 24 Test Driven Development with JUnit
- 25 Content Providers and SMS
- 26 Audio and Video
- 27 Acceptance Testing
- 28 Robotium and Robolectric
- 29 Two-Dimensional Animation and Touches
- 30 Custom Components
- 31 Sensors
- 32 Location Services and Maps
- 33 Web Services (Geocoding)
- 34 Multithreading
- 35 Broadcast Receivers
- 36 Services
- 37 Notifications
- 38 2.x to 4.x Migration Issues



iOS Development



Apple iPad, iPhone and iPod Touch run the iOS operating system. iOS apps are written in Objective-C so we provide an Objective-C training course for developers who need it.

Courses are restricted to a maximum of ten delegates to ensure that everyone receives individual attention from the trainer.

Software Development with Objective-C

- 1 Introduction to Objective-C 2.0
- 2 Simple Objective-C Programs, Console Output, Compilation
- 3 Numbers and Text
- 4 Variables, Data Types, Constants, Casting and Conversions
- 5 Pointers
- 6 Console Input, Data Processing
- 7 The Xcode IDE
- 8 Decisions
- 9 Loops
- 10 Arrays and Strings
- 11 Debugging
- 12 Foundation Framework Projects
- 13 Classes and Objects
- 14 Classes: Encapsulation, Properties, Accessor Methods, Scope
- 15 Inheritance and Class Diagrams
- 16 Static Variables, Class Methods, Enumerations
- 17 Polymorphism, Categories and Protocols
- 18 Exception Handling
- 19 Memory Management and Garbage Collection
- 20 Assertions and Unit Testing with OCUnit
- 21 Test Driven Development with Xcode
- 22 Version Control with Subversion
- 23 Recursion
- 24 Callbacks and Blocks
- 25 Introduction to The Foundation Framework
- 26 Numbers and Strings
- 27 Logging
- 28 Collections
- 29 File I/O
- 30 Interoperability with C and C++

Developing Mobile Applications with iOS

- 1 Introduction to iOS and Mobile Devices from Apple
- 2 iOS Developer Registration
- 3 iOS Development Tools (Xcode, Interface Builder)
- 4 Device Provisioning
- 5 View-Based Applications and Interface Builder
- 6 Debugging
- 7 iPhone (iPod Touch) Versus iPad
- 8 Display Orientation, Icons and Images
- 9 Application Architecture and Life Cycle
- 10 The Delegation Design Pattern and Accelerometer
- 11 Model-View-Controller Design Pattern
- 12 Table Views and Navigation-Based Applications
- 13 Tab Bar Controllers
- 14 Dialog Boxes and Popovers (iPad)
- 15 File I/O
- 16 Preferences and Settings
- 17 Core Audio
- 18 Relational Databases and SQLite
- 19 Core Data
- 20 Protecting User Data
- 21 Split Views (iPad)
- 22 Keyboards
- 23 Documents
- 24 Electronic Mail
- 25 Multi-Touch and Gestures
- 26 Movie Player
- 27 Performance Tuning
- 28 Two-Dimensional Animation
- 29 Web Access
- 30 Core Location API and Map Kit
- 31 Interoperability with Custom Web Services (JSON)
- 32 Interoperability with Social Networks
- 33 Local and Push Notifications
- 34 Submitting an Application to the App Store



bada applications are written in C++ so we provide a C++ training course for developers who need it.

Software Development with C++

- 1 Introduction to the C++ Programming Language
- 2 Simple C++ Programs and Visual C++
- 3 Input, Output and Error Streams
- 4 Numbers and Characters
- 5 Variables, Data Types, Conversions and Constants
- 6 Binary Logic
- 7 Arrays and Strings
- 8 Addresses and Pointers
- 9 Stack-Based and Heap-Based Data
- 10 Boolean Logic and Decisions
- 11 Loops
- 12 Exception Handling
- 13 Functions and References
- 14 Debugging
- 15 Classes, Objects and OOP
- 16 Encapsulation, Accessors, Enumerations, Constructors and Destructors
- 17 Inheritance and Class Diagrams
- 18 Class Fields, Class Methods
- 19 Overloading and Overriding Member Functions
- 20 Polymorphism and Casting
- 21 Interfaces (Multiple Inheritance), Abstract Classes and Virtual Functions
- 22 Macros and Aliases
- 23 Namespaces
- 24 Operator Overriding
- 25 Copy Constructors and Assignment Operators
- 26 Friends
- 27 Smart Pointers
- 28 Templates and STL
- 29 Recursion
- 30 Linked Lists
- 31 Binary Trees
- 32 Searching and Sorting
- 33 Class Libraries: MFC
- 34 Multithreading: Synchronization and Deadlocks
- 35 Interoperability with C

Developing Mobile Applications with bada

- 1 Introduction to bada and Mobile Devices
- 2 Development Environment Setup
- 3 Application Architecture and Lifecycle
- 4 Resources, Metadata and Privileges
- 5 Frames, Forms and Controls: UI Builder
- 6 Event Handling
- 7 Built-In Data Types and Collections
- 8 Error Handling
- 9 Screen Orientation
- 10 Multiple Screen Resolutions
- 11 Internationalization and String Resources
- 12 Two-Dimensional Rendering and Canvas
- 13 Form Management
- 14 Menus
- 15 Message Boxes
- 16 File Input/Output
- 17 Relational Databases: SQLite
- 18 Data Binding
- 19 Preference: Registry
- 20 Application Control
- 21 Electronic Mail and SMS
- 22 Two-Dimensional Animation (Timer) and Touches
- 23 Sensors: Tilt
- 24 Audio and Video
- 25 Camera
- 26 Services
- 27 Location-Based Services and Maps
- 28 Interoperability with Custom Web Services
- 29 Notifications
- 30 Submitting an Application to the Seller Office



Ruby on Rails Development



Ruby on Rails web applications are written in Ruby so we provide a Ruby training course for developers who need it.

Both our Ruby course and our Rails course cover behaviour-driven development as well as unit testing and test-driven development.

Software Development with Ruby

- 1 Introduction to Ruby 1.8.7
- 2 Numbers and Text
- 3 Variables, Conversions and Constants
- 4 Simple Input and Data Typing
- 5 Using Methods
- 6 Decisions
- 7 Exceptions
- 8 TextMate and IDEs
- 9 Loops and Iterators
- 10 Arrays
- 11 Debugging
- 12 Writing Methods
- 13 Documentation
- 14 Creating Classes
- 15 Classes: Encapsulation, Attributes, Inheritance and Class Diagrams
- 16 Classes: Polymorphism
- 17 Class Variables, Class Methods, Mixins (Modules)
- 18 Symbols, Hashes, Ranges
- 19 Unit Testing
- 20 Test Driven Development
- 21 File IO and YAML
- 22 Version Control with Git
- 23 Closures (Blocks and Procs)
- 24 Regular Expressions
- 25 RubyGems and Rake
- 26 Introducing Behaviour Driven Development
- 27 RSpec
- 28 Cucumber
- 29 Recursion and Memoization
- 30 Method Parameters
- 31 Sending E-mail Messages
- 32 Metaprogramming
- 33 Design Patterns
- 34 Ruby Versions: RVM and Gemsets

Developing Web Applications with Ruby on Rails

- 1 Introduction to Ruby on Rails 2.3.8
- 2 Relational Databases
- 3 Database Access with Active Record
- 4 ACID Transactions
- 5 Rails Architecture
- 6 Rails Development
- 7 A Simple Rails Application
- 8 Routing and Templates
- 9 Helpers
- 10 Controllers
- 11 Simple XHTML Forms
- 12 Rails Security: XSS
- 13 Public Assets
- 14 Routing: RESTful Interfaces
- 15 Database-Backed XHTML Forms (Models and Scaffolding)
- 16 Data Types and Form Validation
- 17 Rails Security: SQL Injection
- 18 User Sessions
- 19 Authentication
- 20 User Profiles
- 21 Web Site Logging
- 22 Action Mailer
- 23 E-Mail Verification of User Identity (User Account Creation)
- 24 Ajax and jQuery
- 25 Stored Procedures
- 26 Accessing Multiple Tables with Active Record
- 27 Test Data: Factories(Machinist), Stubbing, Mocking
- 28 BDD for Rails (Cucumber and RSpec)
- 29 Testing Tools: Webrat, Capybara, Selenium
- 30 Accessing Multiple Databases with Active Record
- 31 Web Application Deployment with Capistrano
- 32 Ruby on Rails 3
- 33 Rails Source Code: Metaprogramming and Contributing to Rails