



Training Catalog

Telecom

- Introductory Seminars
- Datacom Networks
- IP Networking
- Transmission and Optical Technologies
- Telephony Networks & Advanced Telephony (Voice over IP – VoIP)
- Cellular and other Wireless Technologies
- Mobile Operating Systems & Application Development
- Internet (See Computer Technologies Skills)
- Security
- Video Technologies
- OSS/BSS

Hardware Design

- FPGA Tools
- Advanced FPGA
- Embedded Design
- DSP Design
- HDL
- PCB World
- Hardware Enrichment
- MATLAB Courses
- Long Term Training (LTT)

Computer Technologies Skills

- Software Engineering
- Technology Management & Administration (Project, Product etc)
- Linux/Unix
- DotNet Environment
- C and C++
- Java
- Real Time
- Internet
- Open Source
- Smartphones
- Security
- Quality Assurance and Software Testing
- Database

“Our vision is to empower people all over the world, enabling them to achieve their professional aspirations”.

Logtel is proud to be providing knowledge to it's customers for over 30 years, such as:





Transmission & Optical Technologies

- Intro to Optical Communication
- Intro to OTN (Optical Transport Networks)
- Optical Networking
- Passive Optical Networks (PON) & GPON

SDH:

- Intro to SDH
- Next Generation SDH

IP Networking

- TCP/IP Illustrated
- Dockers
- Introduction to SDN, Openflow & NFV
- Diameter
- IP Networking
- IP Routing & Switching Technologies
- IP Multicasting
- Asterisk
- IP Multimedia Subsystem (IMS)
- IP Traffic Engineering
- IP TV
- IPv6
- Mobile IP
- Multicore / Manycore & NOC Architectures
- New Technologies in IP Networking
- Programming Networking Applications
- Quality of Service (QoS) in IP Networks
- SS7oIP - Sigtran
- Wireshark (Ethereal) - How to use it effectively

Introductory Seminars

- IOT review
- Mastering Telecom
- M2M open system & solutions
- Smart City

Video Technologies

- Video Compression and MPEG-2
- Advanced Compression
- Techniques -MPEG4 / H.264 & Video Application
- Audio and Video Codecs
- Future Video Codecs (HEVC/H.265 & VP9)
- Speech Technology and Voice
- Recognition
- Video Coding Technologies for
- Next Generation Networks (NGN)
- Digital and Analog Video
- Google Video Technologies
- Intro to Open CL
- Triple play - a fantasy that becomes a reality

TV:

- TV Fundamentals
- OVER-THE-TOP TV – The Future of Television
- Advanced TV
- IP TV in Depth
- Mobile TV
- TV Standards and High
- Definition HDTV
- Understanding Multimedia
- Video and Android
- Video Everywhere
- Video Implementation in Software
- Video Integration
- Video on 3G & 4G

Internet

- See *Computer Technologies Skills*

Mobile Operating Systems & Application Development

- Android Extended
- Android Fundamentals
- Android Security
- Android Software Architecture
- Android Workshop for Developers
- iOS Development
- iPhone & iPad Developers Course - Intro
- iPhone & iPad Developers Course - Advanced
- Mobile Hybrid Applications
- Mobile OS Trends
- Mobile Payment and Mobile Marketing
- Native, Web, Platform Based & Hybrid Applications
- Android Internals
- Mobile Devices Security
- Smartphone Software Platforms
- SWIFT iOS
- Vehicle Connectivity

OSS/BSS

- Introduction to NGOSS
- BSS/OSS architecture in the new world of telecommunication – using NGOSS

Horizon 2020

- Step by step Workshop for the submission of the European HORIZON 2020 program



>> **Continued**

| Cellular & other Wireless Technologies |
|---|
| • Ad hoc networks and MANETs |
| • BMI (Broadband Mobile Internet): Preparing the Cellular network |
| • CAMEL |
| • CDMA 2000 |
| • Cellular Networks From 2G to 4G |
| • Converged & Broadband Networks |
| • GSM Technology |
| • GPRS Technology |
| • UMTS Networks: Planning & Optimizing |
| • UMTS Technical Description (WCDMA) |
| • HSPA High Speed Packet Access |
| LTE : |
| • 4G Technical Overview - LTE & Core |
| • Evolved Packet System (4G) LTE Access & EPC |
| • LTE for MAC Experts |
| • LTE for PHY Experts |
| • Detailed LTE |
| • LTE - Advanced |
| • VoLTE – Voice over LTE |
| * <u>For more courses in this field check out the column on the right</u> |

| Continued: Cellular & other Wireless Technologies |
|--|
| • Wireless |
| • Wireless Technologies Overview |
| • Bluetooth |
| • Satellite Communications |
| • WiFi and Hotspots Technologies |
| • WiMAX for Broadband Wireless |
| • Access |
| • Mobile Networks: To 4G & Beyond |
| • Mobile Short Messaging Services Fundamentals (SMS) |
| • OFDM-MIMO |
| • RF Fundamentals |
| • Radius |
| • RF&MW |
| • Roaming - Implication and Implementation |
| • Roaming Fundamentals and Mobile Networks |
| • Femtocell Overview |
| • Upper protocols implementation over SS7 |
| • GPS (Global Positioning System) |
| • IP/Ethernet Backhauling for 3G & 4G Networks |
| • Location Based Services (LBS) |

| Security |
|--|
| • Fundamental Security |
| • Don't let the Hackers in |
| • DoS (Denial of Services) & DDoS (Distributed Denial of Services) Attacks |
| • Information Security for Management |
| • Malware |
| • Open Source Security Tools |
| • Practical Security |
| • Understanding Security |
| • Secure Code |
| • Android Security |
| • Building Secure Applications |
| • C++ Secure Development Best Practices |
| • DotNet Security |
| • Java/JEE Security |
| • SOA, Web Services & XML Security |
| • Web Application Security |
| • Specialized & Advanced Security Topics |
| • Advanced security |
| • Applied Cryptography |
| • Cloud Computing Security |
| • Ethical hacking |
| • Mobile Devices Security |
| • SMARTPHONE SECURITY |
| • IP Security |
| • Network Security |
| • From threats to code |
| • Virtualization Security |
| • VoIP/SIP Security |

| Connected Car |
|---|
| • Connected Car introduction |
| • Connected Car advanced technology |
| • Developing vehicle applications |
| • Connected Car business & application review |
| • The Connected car & related industries |

| Datacom Networks |
|--|
| • 1 to 10 GB Ethernet Networking |
| • ATM & ATM Networking |
| • Carrier Ethernet Networks |
| • Metro Ethernet Forum (MEF) |
| • DSL |
| • Implementation in the Metro Area Network |
| • Main trends in VPN Architectures |
| • MPLS |
| • MPLS/GMPLS |



FPGA Tools

- Debugging Techniques using the ChipScope Pro Tools
- Designing with the PlanAhead Tool
- Essentials of FPGA Design
- FPGA Architecture & ISE Features
- FPGA for Board Designers
- Vivado Design tool flow
- Vivado Design Suite for ISE Software Project Navigator Users

Advanced FPGA

- Advanced FPG Implementation
- Advanced Tools & Techniques of Vivado Design Suite
- Designing for Performance
- Debugging Techniques Using the Vivado Logic Analyzer
- Designing with Multi-Gigabit Serial I/O
- Designing with Spartan-6 & Virtex-6
- Designing with the Xilinx 7 Series
- Designing with the Xilinx Analog Mixed Signal Solution
- Designing with the UltraScale Architecture
- FPGA Design Methodology
- FPGA Power Optimization
- Industrial Motor Control Using FPGAs and SoCs
- Migrating to Xilinx for experienced FPGAs
- UltraFast Design Methodology
- UltraScale Architecture Workshop
- Tips & Tricks for FPGA Designers
- Partial Xilinx Partial Reconfiguration Tools & Techniques
- Vivado Design Suite Hands-on Introductory Workshop
- Vivado Design Suite Advanced XDC and Timing Analysis for ISE Users
- Vivado Design Suite Static Timing Analysis and Xilinx Design Constraints

Embedded Design

- Advanced Features & Techniques of Embedded Systems Design
- Advanced Features & Techniques of Embedded Systems Software Design
- C Language Programming with SDK
- Embedded Linux on the MicroBlaze Processor
- Embedded Design with PetaLinux SDK
- Embedded Open-source Linux Development
- Embedded Systems Design
- Embedded Systems Software Design
- Essentials of Microprocessors
- How to Design Xilinx Embedded Systems Workshop
- MPSoC
- SDSoC
- Zinc All Programmable SoC System Architecture
- Zynq Smarter Solutions – Decision Maker 1/2 Day & 1 Day Courses
- Zynq Smarter Solutions – Hardware Workshop
- Zynq Smarter Solutions – Software Workshop

VHDL

- Advanced Design with Verilog
- Advanced VHDL
- Expert VHDL for Design & Verification
- Designing with System Verilog
- Essential Tcl Scripting for the Vivado Design Suite
- Fast-track Verilog for VHDL Users
- SystemVerilog for Design & Verification
- Design with Verilog
- Verification with System Verilog
- Design with VHDL

ARM

- ARM - AMBA3/4 AND NIC301
- ARM -AXI3 / AXI4 INTERCONNECT
- ARM - CYCLONE-V CORTEX-A9 HARD PROCESSOR SYSTEM
- ARM - CORTEX-A8 SYSTEM DESIGN
- ARM - CORTEX-A15 / CORTEX-A7 BIG/Little Implementation
- ARM - P2040 QorIQ implementation
- Cortex M3
- Cortex M4
- Cortex R4
- Cortex A5MP
- Cortex-A9MP software implementation
- Cortex R5
- Cortex A15
- ARM CORTEX-A9MP SYSTEM DESIGN
- Neon Programming

Doulos

- Advanced Design with VHDL
- Comprehensive SystemVerilog
- Expert VHDL Advanced Level
- OVM Adopter Class
- UVM Adopter
- VHDL for Designers
- VMM Adopter Class



>> **Continued**

| Hardware Enrichment |
|--|
| • Advanced Digital Design |
| • ASIC Prototyping with FPGA |
| • From Network Concept to Working Silicon |
| • PCI Express Bus Gen 1-3 |
| • Practical Aspects of Electronic Module Development & Production workshop |
| • Principles of Digital Image Processing |
| • RTOS & VxWorks |
| • The Secrets of Electronics in 2 days |
| • USB 3.0 |

| MATLAB Courses |
|--|
| • MATLAB Fundamentals |
| • Advanced MATLAB |
| • MATLAB for Signal Processing |
| • MATLAB for Image Processing |
| • Simulink for Communication Systems |
| • Simulink for System & Algorithm Modeling |

| PCB World |
|---|
| • Designing with Ethernet Mac controllers |
| • Designing with UltraScale FPGA Transceivers |
| • EMI, EMC & ESD |
| • High-Speed Implementation & Simulation of DDR3 Interfaces |
| • How to Design a High-Speed Memory Interface |
| • How to Design a Xilinx Connectivity system in 1 Day |
| • PCB Layout Design |
| • Power and Signal Integrity for Board Design |
| • Printed circuit Board Design for Professionals |
| • Signal Integrity and Board Design using HyperLynx |
| • Signal Integrity for High-Speed Memory & Processor I/O |
| • Tips & Tricks for Board Designers |
| • Zynq Board Design & High-Speed Interfacing |

| Horizon 2020 |
|---|
| • Step by step Workshop for the submission of the European HORIZON 2020 program |

| DSP Design |
|--|
| • C-based Design: High-Level Synthesis with Vivado HLS |
| • C-based HLS Coding for Hardware Designers |
| • C-based HLS Coding for Software Designers |
| • DSP Implementation Techniques for Xilinx FPGAs |
| • DSP Design using the System Generator |
| • How to Design a Xilinx Digital Signal Processing System in 1 Day |
| • Signal Processing Applications & Algorithms |
| • VLSI-DSP for the ASIC and FPGA Engineer |

| Long Term Training (LTT) |
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| • Board Design Expert (120 hours training) |
| • FPGAXpert (120 hours training) |
| • LinuXpert |



| Software Engineering |
|--|
| Agile, Extreme and Scrum: |
| • Agile Software Development |
| • Developing in Scrum |
| • Extreme Programming |
| • Test Driven Development |
| • A.I. (Artificial Intelligence) |
| • Good Coding Practices |
| • GUI (HCI) Design |
| • Introducing XML |
| • Performance profiling |
| • Introducing Operating Systems |
| Object Oriented and UML: |
| • Appreciating UML |
| • Detailed UML |
| • Move 2 Object Oriented UML |
| • Object Oriented Analysis & Design |
| • Object Oriented Programming |
| • SysML |
| • PC Architecture |
| • Service Oriented Architecture (SOA) |
| • SOA, Web Services and XML Security |
| • Software Architecture & Design Methods |
| • Software Engineering Essentials |
| • Software Engineering Literacy |
| • Understand Software Engineering |

| Continued: Software Engineering |
|--|
| • USB 3.0 System Architecture |
| • Windows Internals |
| • Writing Software Technical Documentation |
| Windows 8 : |
| • Introduction to Window 8 |
| • Hands on Windows 8 |
| • Building Windows 8 Applications |

| Security |
|--|
| • Application Penetration Testing |
| • Applied Cryptography |
| • Don't Let the Hackers in |
| • Ethical Hacking |
| • SSL in Depth |
| • Information Security |
| • Applied Cryptography MACSec & IPSec |
| • Malware |
| • Browser based attacks and mitigation |
| Internet: |
| • Cloud Computing Security |
| • SOA, web services and XML security |
| • Secured Technical Design |
| • Web Application Penetration Testing |
| • Open Source Security Tools |

| Continued- Security |
|--------------------------------|
| Security Programming: |
| • Building Secure Applications |
| • Secure C++ |
| • Secure DotNet |
| • Secure Java |
| Smartphones: |
| • Android Security |
| • iPhone Security |
| • Smartphone Security |
| • Windows phone Security |

| Linux/Unix |
|--|
| • Get to Know Linux |
| • Linux for the System Programmer |
| • Linux Fundamentals |
| • Linux Kernel & Device Drivers |
| • Linux Kernel Internals |
| • Linux LTT (Long Term Training) |
| • Linux Multithreaded Programming |
| • Linux Networking |
| • Linux Overview |
| • Linux Security |
| • Linux Shell Scripting |
| • Linux System Administration |
| • Linux User-space Programming |
| • GDB |
| • Linux System Management |
| • Perl |
| • Real Time & Embedded Linux Development |



>> **Continued**

| C and C++ |
|---|
| • Advanced C |
| • Advanced C++ |
| • Advanced C Programming for Real Time |
| • C++ and Object Oriented Programming |
| • C++11 Enhancements |
| • C++ Design Patterns |
| • C++ Secure Development Best Practices |
| • Desktop Application Development with MFC |
| • Effective Real Time Embedded C & C++ |
| • Embedded C++ for Real Time Systems |
| • From C to Object oriented C++ Programming |
| • Programming in C |
| • Programming in C++ |
| • Advanced PHP |
| • PHP Fundamentals |
| • PHP Zend Framework |
| • ZCE Exam Preparation |
| • Programming on the Web |
| • Service Oriented Architecture (SOA) |
| • Social Networks |
| • The Intelligent Internet User |
| • Twitter Business Use |
| • Web Applications Development |

| Java |
|--|
| • Advanced Java |
| • Advanced Java EE |
| • AngularJS |
| • Apache Tomcat |
| • Design Patterns in Java |
| • Developing Java Beans |
| • Developing Java ME Applications & Games |
| • Eclipse – A Java Developer's Guide |
| • eXtreme Java |
| • Groovy for Java developers |
| • IntelliJ – a Developer's Guide |
| • Java Servlets & JSP |
| • Java Advanced Developer LTT (Long Term Training) |
| • Java & Object Oriented Programming |
| • Java and Web Services |
| • Java and Web Technologies |
| • Java Basics |
| • Java EE |
| • Java for the C++ Programmer |
| • Java FX Platform |
| • Java Programming |
| • JavaServer Facelets |
| • JavaServer Faces Fundamentals |
| • JNDI– Java Naming & Directory Interface |
| • JSP and Web Servlets |

| Continued- Java |
|--------------------------------------|
| • JUnit Framework |
| • GlassFish |
| • Object Oriented Programming & Java |
| • Monitoring the JVM |
| • SCJP Exam Preparation |
| • Spring Framework |
| • Using Java EE |
| • Web Services and Java |
| • WebSphere |

| DotNet Environment |
|--------------------------|
| • ADO.NET |
| • Advanced DotNet |
| • ASP.NET |
| • C# |
| • C# Design Patterns |
| • DotNet Applications |
| • DotNet Debugging |
| • DotNet Performance |
| • Introduction to DotNet |
| • LINQ |
| • Team Foundation System |
| • Visual Basic |
| • Visual Studio |
| • WCF |
| • WF |
| • WPF |



>> **Continued**

| Open Source | Technology Management and Administration (Project, Product...) | Database |
|--|--|---|
| • ACE Framework | • Computer Room Relocation | • Data Cleaning, Conversion & Migration |
| • Apache Derby | • Defining Requirements | • Database Technology |
| • Apache Tomcat | • Defining Requirements Workshop | • Getting to know Apache Derby |
| • Developing with Eclipse | • Design Reviews | • MSSQL Server |
| • MongoDB | • Designing & maintaining Microsoft server | • MySQL |
| • Embedded Open Source Linux Development | • Designing, Implementing & Testing Financial Systems | • Administrating MySQL |
| • MySQL | • Estimating Software Projects | • SQL and MySQL |
| • Administrating MySQL | • Estimating Software Projects Workshop | • Principles of Database Design |
| • PostgreSQL | • From Requirements to Design | • Principles of Database Design Workshop |
| • SQL & MySQL | • Guide to Market Analysis | SQL: |
| • Open Source Tools | • Managing & Maintaining Microsoft Server | • Advanced SQL |
| • Open Source Security Tools | • Network Administration | • PostgreSQL |
| • Python Platform | • Principles of Risk Analysis & Management | • Basic Standard SQL |
| • Advanced Python | Project Management: | • Introduction to SQL |
| • Python | • Project Management for Implementers | • MongoDB |
| • Python Design Patterns | • Project Management for the Software Developer | • Big Data |
| • Ruby on Rails Framework | • Successful Project Management | • Big Data Ecosystem, Hadoop & |
| • Scala | • Product Management: | • MapReduce for Software |
| • TCL (Tickle / Tool Command language) | • Basic Product Management | • Engineer & Admin |
| • Using SystemC | • Strategic Product Management | • Tuning and Optimizing Queries |
| | • Product Requirements | Horizon 2020 |
| | • Using the RFP | • Step by step Workshop for the submission of the European HORIZON 2020 program |



>> **Continued**

| Real Time and Embedded | QA and Software Testing | Smartphones |
|---|---|--|
| <ul style="list-style-type: none"> Advanced C Programming for Real Time ARM Software Development Design Patterns for Real Time Effective Real Time Embedded C and C++ Embedded C++ for Real Time Systems Embedded Open-source Linux Development Linux Multithreaded Programming Real Time Architecture Real Time and Embedded Linux Development Real Time Embedded Programming Real Time Operating Systems Real Time System Testing Real Time System Testing & Debugging | <ul style="list-style-type: none"> Automatic testing Configuration Management Introduction to Software testing QA Lifecycle Real Time System Testing Real Time System Testing & Debugging Software Testing Engineering Test Driven Development Testing Mobile Applications & Games Testing Web Applications UML & the STD Understand Software Testing Unit Testing for Programmers Writing Test Documents (STP, STD, STR) | <p>Android:</p> <ul style="list-style-type: none"> Android Extended Android Fundamentals Android Internals Android Security Android Software Architecture <p>iPhone and iPad :</p> <ul style="list-style-type: none"> Developers – Advanced Developers – Introduction iOS Development Course - 5 days iOS Development Course - 9 days iPhone Security Mobile Applications Development Mobile Payments & Mobile Marketing Smartphone Security Smartphone Software Platforms Windows Phone Fundamentals |
| Real Time & Embedded | QA & Software Testing | |
| <ul style="list-style-type: none"> Advanced C Programming for Real Time ARM Software Development Design Patterns for Real Time Effective Real Time Embedded C and C++ Embedded C++ for Real Time Systems Embedded Open-source Linux Development Linux Multithreaded Programming Real Time Architecture Real Time and Embedded Linux Development Real Time Embedded Programming Real Time Operating Systems Real Time System Testing Real Time System Testing & Debugging | <ul style="list-style-type: none"> Automatic testing Configuration Management Introduction to Software testing QA Lifecycle Real Time System Testing Real Time System Testing & Debugging Software Testing Engineering Test Driven Development Testing Mobile Applications & Games Testing Web Applications UML & the STD Understand Software Testing Unit Testing for Programmers Writing Test Documents (STP, STD, STR) | |