

PROFINET Developers Course- Day 1,

- **Introduction**
 - Organization, & Market Information
 - Supported Technology (PROFIBUS DP & PA, PROFINET, IO Link)
 - Industrial Ethernet Market
 - PROFINET Overview

- **Network Infrastructure**
 - Network Switches, hubs, routers
 - Port mirroring, network tap
 - Wireless for PROFINET

- **PROFINET IO**
 - PROFINET in OSI model
 - Device Certification requirements
 - IO Controller, IO Device, IO Supervisor
 - Real Time Communications
 - Device Slot/ subslot model
 - Application and Communication Relations
 - Start up sequence
 - Read & Write Record services
 - Model for Diagnostics

- **PNIO Engineering**
 - GSD File import
 - PROFINET Configuration
 - IO cycle times
 - Use of Proxies
 - Download Device names

- **PNIO Ethernet Frames**
 - Standard Ethernet Frame, & VLAN
 - PROFINET Ethertype & Frame ID
 - Different PROFINET Frames (Connect, Parameter, Data Exchange,...)
 - Provide and Consumer status
 - Watchdog timer

- **Wireshark**
 - Use of Wireshark
 - PROFINET Colouring
 - Capture of Startup, Data exchange, and alarms

- **PROFINET XML-Viewer**
 - GSD File naming
 - Vendor/Device ID
 - Browser and XML views
 - Contents of GSD file

- **Practical Exercises**

Each topic will have a associated practical exercise

PROFINET Developers Course-Day 2

- **Introduction**
 - ComDec
 - Trainer's Background
 - Course contents

- **Development Kits**
 - Overview
 - Development Kit selection

- **PROFINET ASIC**
 - ERTEC 200
 - ERTEC 400

- **PROFINET IO Stack**
 - Overview

- **Practical demonstration "Working with Development kit"**
 - Start up
 - Eclipse Environment
 - Building application software

- **Debugger**
 - Jtag Debugger
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- **Application Program Interface**
 - API-RT
 - API-IRT

- **GSD File**
 - GSD file Creation

- **Working with Development kit-Part 2**
 - Standard Ethernet Controller
 - Adaptation to other Operating Systems