PLC2 Embedded

Professional MicroBlaze System Design

Online Live

Power Workshop

Applicable Technologies	Requirements	Contact
Xilinx® FPGAs, Zynq® SoC, Zynq® UltraScale+™ MPSoC and RFSoC, Versal®	Basic knowledge in microprocessor architecture and the Xilinx® FPGA development. Comfort with the C programming language	Michael Schwarz P. +49 7664 91313-15 E. info@plc2.de

Fee (net per person)	Inclusive	Duration
OL € 2,800	Training material	5 days
PW € 3,250	Plus beverages during breaks Lunch	5 days

Workshop

This five-day PLC2 Power Workshop addresses hardware and software embedded developers designing with the Xilinx® microprocessor MicroBlaze™.
After a comprehensive introduction to the MicroBlaze™ controller and the embedded Vivado® tool flow, you will learn to implement individual FPGA embedded systems.
In particular, this workshop includes numerous practical exercises and is aimed at developers who already have basic experience with the Xilinx® tools design flow.

Major topics include custom peripheral development, device driver, use and user application debugging and integration.

Practical implementation tips and best practices are also provided throughout to enable you to make good design decisions and keep your design cycles to a minimum. You will get the best practical information to start developing your embedded FPGA project.

Due to accompanying exercises, the course offers in-depth and practice-oriented training. Attendees of the online live course will do the practical exercises in the afternoon on their own.

Agenda

01. Embedded processor design using Vivado®
02. Block design entry - IP integrator
03. MicroBlaze™ architecture
04. MicroBlaze™ processor configurations
05. Arm® Cortex®-M1/M3 versus MicroBlaze™ memories
06. DDRAM and flash memory controller
07. Designing custom peripherals
08. Bus Functional Model (BFM)
09. Software development using Vitis™
10. Board Support Packages (BSP)
11. Address and linker script management
12. Interrupt and exception handler
13. Software platform download and boot
14. Application debugging
15. Software profiling
16. Writing a custom device driver
17. Xilinx® Vitis™ libraries
18. Ethernet and LwIP stack
19. Embedded project management