Embedded Systems Development using Zynq

Zynq
Vivado 2013.4 Version

Course Objectives

- **After completing this course, you will be able to:**
  - Rapidly architect an embedded system targeting the AXI4 interface standard using Vivado and IP Integrator
  - Extend the system by adding peripherals
    - Add Xilinx provided peripherals from the IP catalog
    - Create and add a custom peripheral using IP Integrator
  - Create and debug software applications
    - Create software applications in the Software Development Kit (SDK)
    - Debug an application on-chip using the GNU debugger via SDK

Course Outline
Day 1

The course consists of the following modules:

- Introduction to Embedded System Design using Zynq
- Lab 1: Simple Hardware Design
- Zynq Architecture
- Extending the Embedded System into PL
- Lab 2: Adding IPs in Programmable Logic
- Adding Your Own Peripheral
- Lab 3: Creating and Adding Custom IP

Course Outline
Day 2

- Software Development Environment
- Lab 4: Writing Basic Software Applications
- Software Development and Debugging
- Lab 5: Software Debugging Using SDK

Prerequisites

- Familiarity with the Xilinx tool set and design flow
- Basic C programming
- Basic understanding of processor-based system
- Basic HDL knowledge

Platform Support

- **Vivado System Edition 2013.4**
- **Xilinx University board**
  - ZYBO
- **Supported Operating Systems**
  - Windows XP (SP2) (32/64 Bit)
  - Windows 7 Professional (32/64 Bit)
  - Red Hat Enterprise Linux 5/6 (32/64 Bit)
  - SUSE Linux Enterprise 11 (32/64 Bit)