Embedded Systems Development using Zynq

Zynq
Vivado 2018.2 Version

XILINX.

Course Objectives

- **After completing this course, you will be able to:**
  - Architect an embedded system targeting Zynq, and 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 and Vivado
- 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 2018.2**
- **Xilinx University board**
  - Zedboard or **Zybo**
- **Supported Operating Systems**
  - Windows 7 SP1 Professional (64 Bit)
  - Windows 10 Professional (64 Bit)
  - Red Hat Enterprise Workstation/Server 7.2, 7.3 (64 Bit)
  - Red Hat Enterprise Workstation 6.6, 6.7, 6.8 (64 Bit)
  - SUSE Linux Enterprise 11.4, 12.2 (64 Bit)
  - Centos Linux 6.7, 6.8, 7.2, 7.3 (64 Bit)
  - Ubuntu Linux 16.04.1 LTS (64 Bit)

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- Adding Your Own Peripheral
- Lab 3: Creating and Adding Custom IP
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