

Migrating to the Vitis Embedded Software Development IDE Workshop

1 day - 7 hours

OBJECTIVES

- This workshop is intended for existing embedded developers using Xilinx SDK tools for software development.
- After completing this comprehensive training, you will have the necessary skills to:
 - Develop and deploy an application on a Xilinx embedded system using the Vitis unified software platform
 - Migrate an existing SDK project to the Vitis platform

RELATED TRAININGS

- The essentials of embedded design for Xilinx Zynq™-7000 & Zynq MPSoC components
- Zynq UltraScale+™ MPSoC : System Architecture
- Zynq UltraScale+™ MPSoC : Hardware and Software Design

PREREQUISITES

- C or C++ programming experience, including general debugging techniques
- Conceptual understanding of embedded processing systems as it relates to the Xilinx ecosystem (specifically writing and modifying scripts, user applications, and boot loader operation)

PARTNERS



CONFIGURATIONS

- Software Configuration :
 - Vitis unified software platform 2020.1
- Hardware configuration:
 - Recent computer (i5 or i7)
 - OS Linux 64-bits (Windows 10 compatible)
 - At least 16GB RAM
 - Display resolution recommended 1920x1080

CHAPTERS

OVERVIEW OF EMBEDDED SOFTWARE DEVELOPMENT

- Overview of the process for building a user application. {Lecture}

DRIVING THE VITIS SOFTWARE DEVELOPMENT TOOL

- Introduces the basic behaviors required to drive the Vitis tool to generate a debuggable C/C++ application. {Lecture, Lab}

MIGRATING FROM SDK TO THE VITIS PLATFORM

- Overview of migrating existing Xilinx SDK projects to Vitis software development projects {Lecture, Demo}

STANDALONE SOFTWARE PLATFORM DEVELOPMENT AND CODING SUPPORT

- Covers the various software components, or layers, supplied by

Xilinx that aid in the creation of low-level software. Also the basic services (libraries) available. {Lecture, Lab}

LINUX SOFTWARE APPLICATION DEVELOPMENT OVERVIEW

- Highlights important parts of the underlying Linux system as it pertains to applications. {Lecture}

BUILDING A LINUX APPLICATION IN THE VITIS IDE

- Reviews the use of the Vitis tool for Linux software development. {Lecture, Lab}

SYSTEM DEBUGGER

- Describes the basics of actually running a debugger and illustrates the most commonly used debugging commands. {Lecture, Lab}

PROFILING OVERVIEW

- Introduces the purpose and techniques for profiling a user application. {Lecture, Lab}

TEACHING METHODS

- Classroom training:
 - Face to face
 - Presentation by video projector
 - Provision of PDF course materials
- Virtual training:
 - Onlive training
 - Presentation by Webex
 - Provision of PDF course materials

SUPPORT

- Authorized Trainer Provider XILINX : Engineer Electronics and Telecommunications ENSIL
 - Expert FPGA XILINX - Language VHDL/Verilog - RTL Design
 - Expert SoC & MPSoC XILINX - Language C/C++ - System Design
 - Expert DSP & RFSoc XILINX - HLS - Matlab - Design DSP RF
 - Expert ACAP XILINX - AI Engines - Heterogenous System Architect

METHODS OF MONITORING AND ASSESSMENT OF RESULTS

- Attendance sheet
- Evaluation questionnaire
- Evaluation sheet on:
 - Technical questionnaire
 - Result of the Practical Works

- Validation of Objectives
- Presentation of a certificate with assessment of prior learning

CONCERNED PUBLIC

- Technicians and Engineers in Digital Electronics

CONTACT

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