Migrating to the Vitis Embedded Software Development IDE Workshop
Embedded Software 3

EMBD VITIS (v1.0)

Course Specification

Course Description

This workshop demonstrates the tools and techniques required for software design and development using the Vitis™ unified software platform.

The emphasis of this course is on:

- Reviewing the basics of using the Vitis platform
- Migrating existing SDK projects to the Vitis platform
- Developing software applications using the Vitis platform

What's New for 2020.1

- All labs have been updated to the latest software versions

Level – Embedded Software 3

Course Details

- 1 day live instructor led training (online or in person)
- 8 lectures
- 5 labs

Price – $800 or 8 Xilinx Training Credits

Course Part Number – EMBD VITIS

Who Should Attend? – Existing embedded developers using Xilinx SDK tools for software development

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)

Software Tools

- Vitis unified software platform 2020.1

Hardware

- Architecture: Zynq® UltraScale+™ MPSoC
- Demo board: Zynq UltraScale+ MPSoC ZCU104 board

Check with Morgan Advanced Programmable Systems, Inc. for the specifics of the in-class lab board or other customizations.

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

Course Outline

- **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. As well as 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, Lab}
- **Building a Linux Application in the Vitis IDE**
  Reviews the use of the Vitis tool for Linux software development. {Lecture}
- **System Debugger**
  Describes the basics of running a debugger and illustrates the most used debugging commands. {Lecture, Lab}
- **Profiling Overview**
  Introduces the purpose and techniques for profiling a user application. {Lecture, Lab}

Register Today

Morgan Advanced Programmable Systems, Inc. (Morgan A.P.S.) delivers public and private courses in locations throughout the central US region; including Iowa, Illinois, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin.

Visit **morgan-aps.com/training**, for full course schedule and training information.

Morgan Advanced Programmable Systems

You must have your tuition payment information available when you enroll. We accept credit cards (Visa, MasterCard, or American Express) as well as purchase orders and Xilinx training credits.

Student Cancellation Policy

- Student cancellations received more than 7 days before the first day of class are entitled to a 100% refund. Refunds will be processed within 14 days.
- Student cancellations received less than 7 days before the first day of class are entitled to a 100% credit toward a future class.
- Student cancellations must be sent here.

Morgan A.P.S. Course Cancellation Policy

- We regret from time-to-time classes will need to be rescheduled or cancelled.
- In the event of cancellation, live on-line training may be offered as a substitute.
- Morgan A.P.S. may cancel a class up to 7 days before the scheduled start date of the class; all students will be entitled to a 100% refund.
- Under no circumstances is Morgan A.P.S. responsible or liable for travel, lodging or other incidental costs. Please be aware of this cancellation policy when making your arrangements.
- For additional information or to schedule a private class contact us here.

Online training with real hardware

During the Covid-19 period, some companies do not allow their staff to participate in live in-person training.

- Consequently, Morgan Advanced Programmable Systems, Inc. has set up a training VPN where engineer participants can take classes online using the same computers and devCards used during in-person training.

EMBD VITIS (v1.0) updated 06/23/2023
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Xilinx
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- Even better, and upon request, you can use these computers after hours on training days to experiment with labs.   This is not possible for in-person training.
- Additionally, just like in-person training, the laptops and devCards, tools, OS, and licensing are set up in advance.
- In some ways, live online-training is better than in-person…for example, you can grant the instructor permission to look at your Vivado, PetaLinux terminal, or Vitis for extended periods of time if your lab is not going exactly has planned to a missed step.
- This is often more comfortable than two engineers crowding around a laptop screen.
- Taking remote training also allows you to learn some tips and tricks for working remote.   Whether your devCard is in the lab down the hall, or across the world via VPN, you can control your Xilinx based device quickly and efficiently.