

Embedded Linux Development Using Yocto

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Language: French

Duration : 2 days - 14 hours | Level : Intermediate | Inter-company price excl. taxes / attendee : 2,200 EUR | Registration : Until D-7

This training is also available in-company. The content, practical work and technical environment can be adapted to your objectives, participants' level and projects.

In-company duration : According to your needs | Level : Adapted to participants' level | In-company price : Quotation upon request | Access lead time : 2 months

GENERAL OBJECTIVE OF THE TRAINING

Describe Yocto Project® and learn how to use the AMD Embedded Development Framework (EDF) to create an embedded Linux system

TARGET AUDIENCE

Technicians and Engineers in Digital Electronics

PREREQUISITES

Familiarity with the Linux command line and basic Linux commands
Basic understanding of embedded systems and their components
Experience with version control systems (e.g., Git)
Familiarity with AMD SoCs and evaluation boards is a plus

TEACHING STAFF

The training course is delivered by **William Duluc**, AMD Authorized Trainer since 2017, an electronics and telecommunications engineer, an expert in AMD technologies since 2009. His experience combines digital system design, FPGA and embedded software development, technical project management, and professional training on Xilinx and subsequently AMD technologies. His main areas of expertise include:

- **AMD FPGAs:** VHDL and Verilog languages, RTL design, integration and validation of digital systems;
- **AMD SoCs and MPSoCs:** C/C++ development, hardware and software architectures, design and integration of embedded systems;
- **AMD DSP and RFSoc:** high-level synthesis (HLS), MATLAB/Simulink, digital signal processing and radio-frequency architectures;
- **AMD Versal:** AI Engines, adaptive architectures and heterogeneous system design.

[Discover the trainer profile](#)

ACCESSIBILITY

People with disabilities are invited to contact MVD Training before registering so that possible training adjustments can be considered. Educational, technical, or organisational adaptations are reviewed on a case-by-case basis, taking into account the participant's needs, the technical requirements, and the training objectives. Where relevant, this review may be carried out with support from AGEFIPH.

USEFUL CONTACTS

- **William Duluc** - Administrative manager, trainer and training coordinator - 06 74 52 37 89 - william.duluc@mvd-training.com
- **Sylvie Bonafous** - Disability coordinator and contact for following up on dissatisfaction - sylvie.bonafous@mvd-training.com

LEARNING OBJECTIVES AND TARGET SKILLS

- 1 - Describe embedded Linux systems and their applications in AMD SoCs, and describe the Yocto project for creating custom Linux distributions
- 2 - Explore the main components and compilation process of the Yocto project, and use a guide to switch from PetaLinux commands to Yocto commands
- 3 - Identify the role of board support packages (BSPs) and package groups in the Yocto project, and how to create and customize them for AMD SoCs.
- 4 - Describe the profiles of developers within the AMD EDF, and describe the SHEL workflow and its key tools.

COURSE CONTENT

Day 1

- **Objective 1**
 - Introduction to Embedded Linux {Lecture}
 - Introduction to the Yocto Project {Lecture}
- **Objective 2**
 - Yocto Components {Lecture}
 - PetaLinux to Yocto: Command Cross-Reference {Lecture}
 - Yocto Build Flow for AMD SoCs {Lecture, Lab}

Day 2

- **Objective 3**
 - Introduction to Layers and Recipes {Lecture}
 - BSPs and Package Groups in Yocto {Lecture, Lab}
- **Objective 4**
 - Using the Embedded Development Framework (EDF) {Lecture}
 - Introduction to Software Hardware Exchange Loop (SHEL) Flow {Lecture, Lab}

REGISTRATION ARRANGEMENTS AND ACCESS LEAD TIMES

- Registration requests can be made online, by email or by phone.
- The prerequisites and the suitability of the training for the participant's needs are verified by the trainer, by email or during a telephone interview.
- Registration is confirmed after the prerequisites have been checked and subject to availability.
- For **inter-company sessions**, registration is possible until **7 calendar days before the start of the course**. Requests received after this deadline may be considered on a case-by-case basis, depending on organisational possibilities.
- For **in-company sessions**, the average lead time for implementation is approximately **2 months from the date of the request**, depending on the availability of the client, the trainer and any adaptations required.
- A registration confirmation and the information necessary to attend the course are sent before the session begins.

TEACHING RESOURCES

Inter-company online training:

- Live virtual classroom delivered via Cisco Webex;
- Training materials provided in PDF format;
- Technical demonstrations conducted by the trainer;
- Individual practical exercises carried out on a training workstation accessed remotely via RealVNC;
- Guidance and technical support provided by the trainer during the exercises.

Intra-company on-site training at the client's premises:

Equipment and logistical arrangements must be agreed with the client before the training course.

• Resources to be provided by the client:

- Suitable training room;
- Projector or presentation screen;
- Whiteboard;
- One computer per participant, equipped with the required AMD tools.

• Resources provided by MVD Training:

- Training materials in PDF format;
- Presentations, technical demonstrations and practical exercises;
- Files, examples and resources required for the practical exercises;
- Loan of computer equipment available upon request and subject to availability.

TECHNICAL RESOURCES AND EQUIPMENT

Inter-company online training:

- Computer running a 64-bit operating system;
- High-speed and stable internet connection;
- Webcam and headset with microphone;

- Cisco Webex application 

AMD tools access arrangements:

The practical exercises are carried out using one of the following two options, as agreed with the trainer:

- **Option 1 – Remote access:** 

Use of the RealVNC Viewer application to access the practical training workstation made available remotely by MVD Training.

- **Option 2 – Local use:** 

Installation of the AMD software tools required for the training course on the participant's computer. The version to be used must be specified and approved with the trainer before the start of the session.

Intra-company on-site training at the client's premises:

- Computer running a 64-bit operating system;
- Installation of the AMD software tools required for the training course. The version to be used must be specified and approved with the trainer before the start of the session.

TEACHING METHODS, ASSESSMENT AND RECOGNITION

• Teaching methods:

- A combination of theoretical instruction, technical questionnaires and practical exercises completed individually on a computer.

• Training monitoring:

- Attendance sheet signed by both the participant and the trainer.

• Assessment of learning outcomes and progress:

- Continuous assessment of learning outcomes and learner progress through technical quizzes, hands-on laboratory exercises, and trainer observation against the targeted competencies.

• Satisfaction assessment:

- At the end of the training course: satisfaction questionnaire completed by the participant.

• Three-month follow-up evaluation:

- Three months after the training course: questionnaire assessing how the acquired skills have been applied in the workplace.

• Training recognition:

- Training certificate stating the results of the learning assessment, issued to the participant.
- Certificate of completion issued to the employer or the organisation commissioning the training.