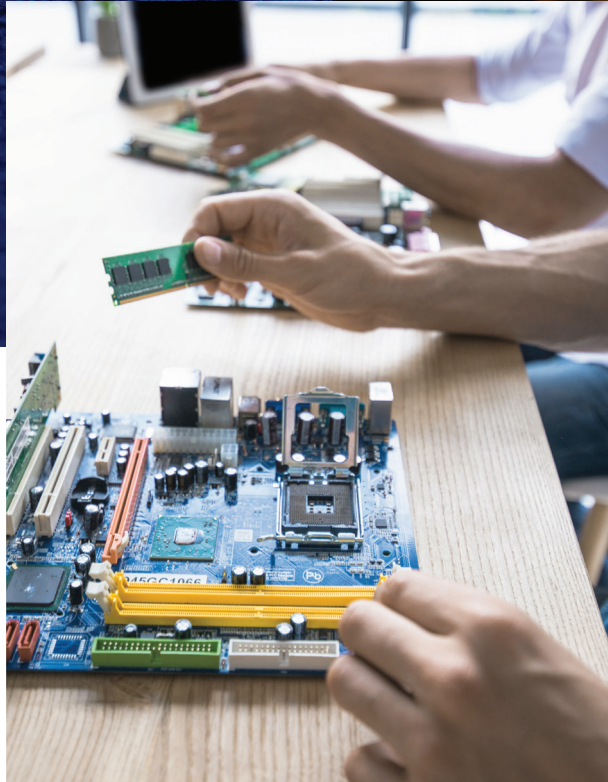


# YOCTO BASICS FOR EMBEDDED LINUX DEVELOPMENT



**Length: 3 Days**

**Hardware: STM32 Microcontroller from  
STMicroelectronics**

**Training Board: STM32MP157F-DK2**

**ENROLL NOW**

## OVERVIEW

This three-day course introduces participants to the fundamental concepts of the Yocto Project for embedded Linux development. Attendees will explore the essentials of Yocto, learning how to create and customize Linux distributions for embedded systems using basic Yocto tools.

## COURSE OBJECTIVE

After completing this course, you will:

- Understand the basics of the Yocto Project and its role in embedded Linux.
- Learn to build simple Linux images using Poky and Yocto.
- Gain familiarity with creating custom layers and recipes.
- Acquire hands-on experience through practical exercises.

## • TARGET AUDIENCE

Entry-level embedded system developers, software engineers, and those new to embedded Linux development with a focus on Yocto.

## • PREREQUISITES

Basic understanding of Linux concepts.

## TEACHING METHODOLOGY

- **Instructional strategies** include lectures, discussions, demonstrations, and workshop-based learning which are used to convey information, facilitate learning, and promote understanding.
- **Technology integration** Simplified lectures, hands-on labs, and interactive discussions.
- **Learning activities** Practical exercises using Yocto Project tools to reinforce basic concepts.

## COURSE FRAMEWORK

### DAY 1 : Introduction to Yocto Project and Building Basics

- ◇ Overview of Embedded Linux and Yocto Project.
- ◇ Introduction to Poky and basic Yocto components.
- ◇ Setting up a simple Yocto environment.
- ◇ **Lab Exercise:** Building a Basic Linux Image. (Lab1 Manual)

### DAY 2 : Customizing with Layers and Recipes

- ◇ Creating basic custom layers and recipes.
- ◇ Configuring and extending existing recipes.
- ◇ Understanding Yocto's layer model in a simple way.
- ◇ Basic usage of Bitbake for simple builds.
- ◇ **Lab Exercise:** Building a Hello World Package in a New Layer (Lab2 Manual)

*Task: Create a new Yocto layer and implement a Hello World package*

*Objective: Gain hands-on experience in customizing Yocto layers and recipes. Understand the process of adding a new package to a Yocto build.*

### DAY 3 : Simple Package Management and Real-world Example

- ◇ Basics of package management in Yocto Project.
- ◇ Adding simple external software packages.
- ◇ Debugging and troubleshooting simple Yocto builds.
- ◇ **Lab Exercise:** Implementing Systemd in Hello World Package and Deploying on SD Card. (Lab3 Manual)

*Task: Enhance the Hello World package by implementing systemd for automatic execution on Linux startup. Deploy the customized image on an SD card.*

*Objective: Apply advanced customization techniques to integrate systemd into a Yocto project. Learn the process of deploying a customized image to hardware and testing its functionality.*