

# The YOCTO™ PROJECT LINUX TOOLS



## Open Source Development Tools for Embedded Linux Software

The Yocto Project provides an Application Development Toolkit (ADT) which includes a set of recommended development tools from the open source community. The Enea Linux distribution includes some of these tools and suggests that the tools are used in Eclipse.

Eclipse™ is an open source Integrated Development Environment (IDE) comprising a base workspace and an extensible plug-in system for customizing the environment, written mostly in Java. It is the preferred choice of IDE if you prefer working in a graphical IDE instead of issuing commands in a shell.

### The Application Development Kit

- Aimed at application developers
- Cross-develop on the host machine for the target hardware
- Not requiring to learn a build system
- Architecture specific cross-toolchain and sysroot
- Eclipse IDE Yocto Plug-in
- Debugging tools
- Profiling tools
- QEMU emulator integration

### Cross Compiling

- Cross-compiler toolchain for specific host/target
- Automatically generate Makefile for specific target

### Debugging remotely

- Compile using generated
- Makefile
- Load using TCF
- Run remotely
- Debug using GDB
- TCF connection (Target Communication Framework)

### LTTng tracing

- Track down and debug problems involving concurrent processes and threads.
- Kernel and UST
- LTTng Viewer – display and analyze traces
- Remotely run a tracing session

### Powertop

- Power usage statistics

### Latencytop

- Identify system latency hiccups
- What kind of operation/action is causing it

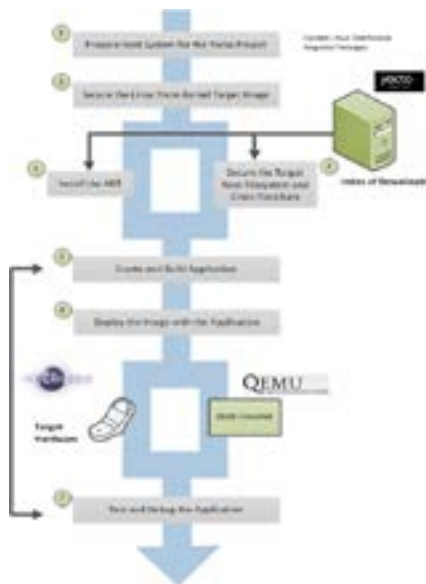


Image 1: Provides workflow using the ADT and Eclipse™



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Enea is a global software and services company focused on solutions for communication-driven products. With 40 years of experience Enea is a world leader in the development of software platforms with extreme demands on high-availability and performance. Enea's expertise in realtime operating systems and high availability middleware shortens development cycles, brings down product costs and increases system reliability. Enea's vertical solutions cover telecom handsets and infrastructure, medtech, industrial automation, automotive and mil/aero. Enea has 750 employees and is listed on Nasdaq OMX Nordic Exchange Stockholm AB. For more information please visit [enea.com](http://enea.com) or contact us at [info@enea.com](mailto:info@enea.com).

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## Bitbake commander

- Used for creating Embedded Linux image projects
- Uses the poky folder
- Can automatically clone the yocto repo

## Perf

- Generalized abstractions over hardware specific capabilities
- Per task, per CPU and per-workload counters
- Source code event annotation
- RSE (Remote System Explorer) interface to target

## System tap

- Uses its own scripting language
- Extract, filter and summarize data to enable diagnosis of complex performance or functional problems
- Aimed at System administrators
- Plugin enables a user to launch system tap kernel modules on target

## HOB

- Graphical tool for configuring and building a Yocto image
- Choose layers, targets, packages and settings
- Modify existing base image recipes
- Save build configurations as templates
- Build images
- Run images in the QEMU emulator
- Useful to see package dependencies

## BSP Package

- BSP creation wizard

## About the ADT and IDE

For a basic understanding of the development environment, we recommend studying the Yocto Project ADT User's Guide.  
<http://www.yoctoproject.org/docs/1.2/adt-manual/adt-manual.html>

For information on how to use the IDE and the tools once you have started them, see the Yocto Project Development Manual.  
<http://www.yoctoproject.org/docs/latest/dev-manual/dev-manual.html>

## About Yocto and Enea Linux

Enea Linux is based on the Yocto Project, hence most of the documentation from the Yocto Project is valid for Enea Linux as well. We recommend the resources below:

### Yocto Project documentation:

<http://www.yoctoproject.org/docs>

A comprehensive list of high quality documentation regarding all things in Yocto.

### OpenEmbedded documentation:

<http://docs.openembedded.org>

Since the Yocto Project is downstreamed from OpenEmbedded, reading the OE documentation will be helpful.

### bitbake documentation:

<http://bitbake.berlios.de/manual/>

Bitbake is the tool used to parse all recipes.

### Enea Linux web page:

<http://www.enea.com/linux>

The best source of information about Enea Linux and related technical documentation.

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