# MCUXpresso IDE for NXP's Arm® Cortex®-M MCUs

Application development with Eclipse and GCC-based IDE for advanced editing, compiling, and debugging for general purpose, crossover and wireless Arm Cortex-M-based MCUs from NXP.

MCUXpresso IDE

The MCUXpresso IDE enables powerful application development for general-purpose, crossover and wireless Arm Cortex-M-based MCUs from NXP. The MCUXpresso IDE offers advanced editing, compiling and debugging features with the addition of MCU-specific debugging views, code trace and profiling, multicore debugging and more.

- Feature-rich IDE with integrated MCUXpresso config tools (pins, clocks, peripherals, device configuration and TEE)

- Based on industry-standard Eclipse and GCC providing a powerful application development environment

- Supports NXP's general purpose Cortex-M-based EVKs and your own custom boards with plug-and-play support for debug probes from NXP, P&E*, and SEGGER

- Fully featured, no code size limits, with many MCU-specific enhancements

- Includes pre-built SDK packages for easy device/ board selections

The MCUXpresso IDE is part of the cohesive suite of MCUXpresso Software and Tools, and is inherently compatible with the MCUXpresso Software Development Kit (SDK), the MCUXpresso Config Tools suite, and the MCUXpresso Secure Provisioning Tool.
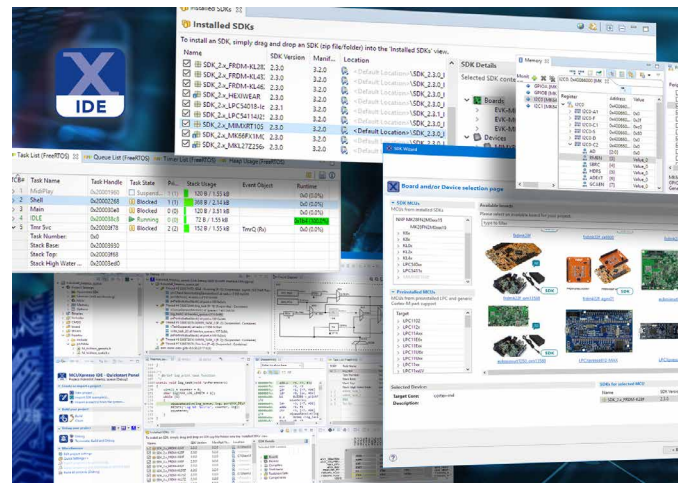
Designed to ease and accelerate embedded system development and optimization, the MCUXpresso Software and Tools suite brings high-quality, comprehensive enablement to NXP's general-purpose, crossover and wireless enabled Arm Cortex-M-based MCUs, allowing easy migration and scalability between families.
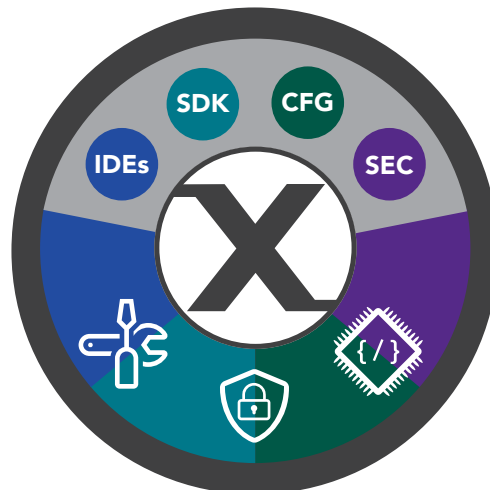
* Only specific versions of P&E Micro probes. Check with P&E Micro for more details.

Features

- A complimentary code-size-unlimited IDE for general-purpose, crossover and wireless-enabled Arm Cortex-M-based MCUs from NXP

- Based on extensible and feature-rich Eclipse IDE with specific enhancements to simplify MCU application development and debugging

- Industry-standard GNU toolchain with a choice of libraries: Arm newlib C/C++ library, Arm newlib-nano library, and an optimized, small footprint NXP RedLib library

- Single installation with optional MCUXpresso SDK add-on packages

- Support for Github-based SDK development

- Project wizard to create projects from SDK or Application Code Hub

- Support for customizing and exporting SDK packages

- Support for Open-CMSIS-Pack middleware importing

- Manager to view full details of all SDK components

- Support for LPCOpen and LPC800 code bundles

- ITM feature supporting very low overhead data I/O streaming over SWO

- Advanced views for instruction trace, SWO trace, profiling with power measurement*, data watching and peripheral viewing

- Editor awareness functionality for linker map files, linker scripts and linker script templates, providing syntax coloring as well as navigation of file content

- Support for Cortex-M33 secure TrustZone projects

- "Faults" view to analyze Cortex-M CPU's fault registers and stack backtrace

- Image info view gives a breakdown analysis of a project build, including overall memory usage, content of memory regions and static call graph (including stack usage information)

- Heap and stack usage view provides ability to track heap and stack usage

- FreeRTOS and Azure RTOS ThreadX task aware debug with RTOS resource viewers

- Zephyr and MQX RTOS thread awareness

- GUI-based flash programming tool

- Live variable viewing for all probe types, with graphing option

- Offline and online peripheral and core register views

- Configurable boot control (where supported on MCU-Link based EVKs)

- Integrated serial terminal for simplified use of board VCOM features

- Energy/power/current/target supply voltage measurement*

- Analog signal viewer (MCU-Link)

- Dark theme support

- Extendible Eclipse plug-ins

- Supported host operating systems:
  - Microsoft ® Windows® 10 and 11 (64 bit only)
  - Ubuntu Linux® (64 bit only)
  - Mac OS X (Intel and Apple silicon)

Get Started:

Learn more:
www.nxp.com/mcuxpresso/ide

Join the MCUXpresso IDE community: https://community.nxp.com/community/mcuxpresso/mcuxpresso-ide

Professional Support & Services: www.nxp.com/services

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* Requires MCU-Link on-board or MCU-Link Pro debug probe. Limited version also available on most LPCXpresso V3, JN5189 and QN9080/90 boards.

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