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Release note

STM32CubeIDE release v1.5.0

Introduction

This release note is updated periodically to keep abreast of STM32CubeIDE evolution, problems and limitations. Check the STMicroelectronics website at www.st.com/stm32softwaretools for the latest version. For the latest release summary, refer to Table 1.

Table 1. STM32CubeIDE v1.5.0 release summary

Type	Summary
Major release	• STM32CubeMX v6.1.0 integration • Support for STM32WL devices • Support for STM32G0 512k devices • FreeRTOS support • Toolchain manager • OpenOCD improvements - Live expressions support, SWV (Serial Wire Viewer) support • Add ability to write value into Live Expression view and propagate to target memory • SFR view extension with ARM core registers • Updated Eclipse platform • OpenSTLinux 2.1 update • Ubuntu 20.04 support

Customer support

For more information or help concerning STM32CubeIDE, contact the nearest STMicroelectronics sales office or use the ST community at www.community.st.com. For a complete list of STMicroelectronics offices and distributors, refer to the *www.st.com* webpage.

Software updates

Software updates and all the latest documentation can be downloaded from the STMicroelectronics support webpage at www.st.com/en/development-tools/stm32cubeide.html.

STM32 CubeIDE

STM32 Cube

1 General information

1.1 Overview

STM32CubeIDE is an integrated development environment (IDE) based on the Eclipse® framework. It is aimed at users developing embedded software in C/C++ for the STMicroelectronics STM32 products. It uses an enhanced GNU tool chain for STM32, based on *GNU Arm Embedded*. It has an integrated version of STM32CubeMX and MCUFinder, which allows easy project configuration as well as the generation of the corresponding initialization C code through a step-by-step process. Furthermore, STM32CubeIDE integrates the command-line version of STM32CubeProgrammer (STM32CubeProg) for Flash memory handling while using the ST-LINK GDB server. This allows the STM32 device programming through debug interfaces (JTAG and SWD).

STM32CubeIDE is based on the following technology, with STMicroelectronics-specific enhancements:

- Eclipse® 2020-06 and CDT version 9.11.1
- GNU Tools for STM32, based on *GNU Tools for Arm Embedded Processors 7-2018-q2-update 7.3.1 20180622 (release) [ARM/embedded-7-branch revision 261907]*
- GNU GDB (GNU Tools for STM32 7-2018-q2-update.20190328-1800) 8.1.0.20180315-git
- AdoptOpenJDK Runtime Environment (build 1.8.0_272, 64-bit)
- ST-LINK_gdbserver 5.7.0, supporting ST-LINK/V2 and STLINK-V3
- SEGGER J-Link GDB Server V6.86f
- Open On-Chip Debugger 0.10.0+dev-01288-g7491fb4

Windows® specific build tools:

- BusyBox v1.31.0.st_20200221-0903_longpath: `mkdir.exe`, `rm.exe`, `echo.exe`
- make-4.2.1_st_20200221-0903_longpath: `make.exe`

Linux® specific build tools:

- make-4.2.1_st_20200221-0903_longpath: `make.exe`

macOS® specific build tools:

- make-4.2.1_st_20200221-0903_longpath: `make.exe`

STM32CubeIDE supports STM32 32-bit products based on the Arm® Cortex® processor.

Note:

- *ECLIPSE is a registered trademark of the Eclipse foundation.*
- *macOS® is a trademark of Apple Inc. registered in the U.S. and other countries.*
- *Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.*

1.2 Host PC system requirements

Supported operating systems and architectures

- Windows® 7, 8, and 10: 64 bits (x64)
- Linux® (tested on Ubuntu® LTS 18.04, LTS 20.04, Fedora® 29 and Fedora® 31, 64 bits)
- macOS® 10.12 (Sierra), 10.14 (Mojave), 10.15 (Catalina)

Note:

- *Ubuntu® is a registered trademark of Canonical Ltd.*
- *Fedora® is a trademark of Red Hat, Inc.*
- *All other trademarks are the property of their respective owners.*

Memory and storage

- RAM: 4 GB recommended
- Hard-disk space: 6 GB of free space for non STM32 MPU OpenSTLinux developers, 15 GB for STM32 MPU OpenSTLinux usage

1.3 Setup procedure

Refer to the *STM32CubeIDE installation guide* (UM2563), *STM32CubeIDE quick start guide* (UM2553) and *STM32CubeIDE user guide (UM2609)* available at *www.st.com*.

1.4 Licensing

STM32CubeIDE is delivered under the *Mix Ultimate Liberty+OSS+3rd-party V1* software license agreement (SLA0048).

The open-source and third-party software components used in the development of STM32CubeIDE and their licenses are listed in a zip file available from the product page in STMicroelectronics *www.st.com* web site.

Table 2 provides the description of the licenses of additional components in STM32CubeIDE.

Table 2. Complementary component licenses

Name	Version	Owner	License	Detail
STLink-USB-Driver	-	STMicroelectronics	SLA0047	Image V2 (object release only)
STLink-USB-Driver-lib	-	STMicroelectronics	Ultimate Liberty	Ultimate Liberty (source release)
ST-LINK Server	V2.0.2-1	STMicroelectronics	SLA0048	-
jacl	1.4.1	SUN MICROSYSTEMS	jacl 1.4.1 license	fossies.org/linux/jacl/docs/license.html
Tcl/Java	1.4.1	-	-	tcljava.sourceforge.net/docs/website/index.html
MigLayout	v3.7	-	-	www.miglayout.com
Velocity	v2.0	Apache Velocity Project	Apache License 2.0	velocity.apache.org/engine/2.0/license.html
slf4j	v1.7.26	SLF4J	The MIT License	www.slf4j.org/license.html
commons-io	2.5	Apache Software Foundation	Apache License 2.0	www.apache.org/licenses
commons-lang	3.6	Apache Software Foundation	Apache License 2.0	www.apache.org/licenses

1.5 Cross-selector data disclaimer

The information presented in the cross-reference tool is intended to help the users narrow their search of STMicroelectronics products based on similarity to other available products. The information is based on data published by other semiconductor manufacturers and might contain errors. STMicroelectronics provides the information “as is” and does not make any representations or warranties as to its accuracy or suitability for any particular purpose. STMicroelectronics recommends that the users make their purchase decision based on their review of STMicroelectronics datasheets and other product documentation. Any pricing information is an estimate for budgetary purposes only.

2 STM32CubeIDE v1.5.0 release information

2.1 New feature

- STM32CubeMX v6.1.0 integration
- Support for STM32WL devices
- Support for STM32G0 512k devices
- FreeRTOS support
- Toolchain manager
- OpenOCD improvements – Live expressions support, SWV (Serial Wire Viewer) support
- Add ability to write value into Live Expression view and propagate to target memory
- SFR view extension with ARM core registers
- Updated Eclipse platform
- OpenSTLinux 2.1 update
- Ubuntu 20.04 support

Note: FreeRTOS is a trademark of Amazon in the United States and/or other countries.

Important:
STMicroelectronics recommends that a new workspace is created for the work done with STM32CubeIDE v1.2.0 or later versions. Existing projects made with a previous version of STM32CubeIDE must be imported and copied into the new workspace.

With STM32CubeIDE v1.5.0, the option "Disable thread-safe initialization of local static objects (-fno-threadsafe-statics)" has changed default value from "true" to "false". This means that both the FLASH and the RAM usage will be slightly increased to previous versions of STM32CubeIDE but with the benefit of removing a potential race condition in the embedded code. To preserve the old behavior, make sure that the checkbox for the option is checked under the Project properties -> C/C++ Build -> Settings -> Tool Settings -> MCU G++ Compiler -> Optimization.

2.2 Fixed issues

Table 3. Main issues fixed in STM32CubeIDE v1.5.0

ID	Summary
89316	Debug configuration for STM32L4+ is missing low-power and watchdog selections for ST-LINK GDB server.
93098	Headless build script should return with same exit code than sub-process
93376	[Kubuntu] Installing CubeIDE on Kubuntu 20.04 leads to corrupt installation

3 Known problems and limitations

Table 4. Main limitations in STM32CubeIDE v1.5.0

ID	Summary
56223	The project importer for SW4STM32 cannot import all settings in projects from very old versions (older than 2.0).
59435	Having a space or non-ascii character in the `project/workspace` path or installation path is not fully supported.
62974	Conditional breakpoints do not work with OpenOCD.
63212	Editor hyperlinks sometimes jump to declaration instead of definition.
63624	Some STM32CubeMX pop-up dialogs are not opened in front of the STM32CubeIDE workbench on all OS's.
68184	Hierarchical projects cannot be imported with the option `Copy into workspace`.
68440	Hierarchical projects cannot be renamed.
73456	An STM32MP1 project being debugged in Cortex®-M shows all peripheral registers in the SFR view, even those not managed by Cortex®-M.
73552	Serial Wire Viewer configuration is not reset for STM32H7 devices on the next launch if it was terminated with record active
73895	When using a proxy server, if the STM32MP1 is not accessible through the server, it is required to add the IP address to the proxy bypass list.
73896	The synchronization check between the peripheral address entered in launch configuration and the peripheral address of the target does not abort the launch in case of mismatch.
74251	SWV Exception Trace log data tab displays a peripheral column, which is always empty.
77518	MCUFinder is unusable on GNOME on Wayland
79658	When debugging STM32H7 dual-core devices with one core going to sleep, ST-LINK GDB server reports `0x05F0001`. This cannot be circumvented by using OpenOCD as it does not support debugging on STM32H7 dual-core devices using sleep modes.
81763	OpenOCD reads incorrect values while debugging a Cortex®-M4 when FreeRTOS™ is activated.
85064	Some macOS® versions report installation image corruption. This can be circumvented using command `xattr -c /Applications/STM32CubeIDE.app`.
85888	Space in project name prevents import of OpenSTLinux projects
89454	Restart configuration only works for Flash memory projects and not for RAM projects.
93375	On Ubuntu/Kubuntu the installation does not depend on libwebkit2gtk-4.0-37 which can lead to unrendered properties of the information center.
94328	The external flash loader does not work properly for the STM32H750B-DK
95809	On Fedora the installation does not depend on webkit2gtk3 which can lead to unrendered properties of the information center.

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