Introduction

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

<table>
<thead>
<tr>
<th>Type</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major release</td>
<td>• STM32CubeMX v5.5.0 integration</td>
</tr>
<tr>
<td></td>
<td>• Support for STM32L5 devices</td>
</tr>
</tbody>
</table>

Customer support

For more information or help concerning STM32CubeIDE, contact the nearest STMicroelectronics sales office. 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/stm32softwaretools.
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™ 2019-09 and CDT version 9.9.0
- 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
- 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 Arm Embedded Processors 7-2018-q2-update) 8.1.0.20180315-git
- AdoptOpenJDK Runtime Environment (build 1.8.0_202, 64-bit)
- ST-LINK_gdbserver 5.4.0, supporting ST-LINK/V2 and STLINK-V3
- OpenOCD 0.10.0+dev-00022-g02bea1f
- OpenOCDDAP 0.10.0+dev-01161-ge8858a7-dirty

Windows® specific build tools:
- BusyBox v1.31.0.st_20191513-1010_longpath_windows: mkdir.exe, rm.exe, echo.exe
- make-4.2.1_st_20190816-0744: make.exe

Linux® specific build tools:
- make-4.2.1_st_20190816-0744: make.exe

macOS® specific build tools:
- make-4.2.1_st_20190816-0744: 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 14.04, LTS 16.04, LTS 18.04, and Fedora® 29, 64 bits)
- macOS® 10.12 (Sierra), 10.14 (Mojave)

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.
1.3 Setup procedure

Refer to the STM32CubeIDE installation guide (UM2563) and STM32CubeIDE quick start guide (UM2553) 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

<table>
<thead>
<tr>
<th>Name</th>
<th>Version</th>
<th>Owner</th>
<th>License</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>STLink-USB-Driver</td>
<td>-</td>
<td>STMicroelectronics</td>
<td>SLA0047</td>
<td>Image V2 (object release only)</td>
</tr>
<tr>
<td>STLink-USB-Driver-lib</td>
<td>-</td>
<td>STMicroelectronics</td>
<td>Ultimate Liberty</td>
<td>Ultimate Liberty (source release)</td>
</tr>
<tr>
<td>ST-LINK Server</td>
<td>v1.2.0-5</td>
<td>STMicroelectronics</td>
<td>GPL-2.0</td>
<td><a href="http://www.gnu.org/licenses/old-licenses/gpl-2.0.en.html">www.gnu.org/licenses/old-licenses/gpl-2.0.en.html</a></td>
</tr>
<tr>
<td>jacl</td>
<td>1.4.1</td>
<td>SUN MICROSYSTEMS</td>
<td>jacl 1.4.1 license</td>
<td>fossies.org/linux/jacl/docs/license.html</td>
</tr>
<tr>
<td>Tcl/Java</td>
<td>1.4.1</td>
<td>-</td>
<td>-</td>
<td>tcljava.sourceforge.net/docs/website/index.html</td>
</tr>
<tr>
<td>MigLayout</td>
<td>v3.7</td>
<td>-</td>
<td>-</td>
<td><a href="http://www.miglayout.com">www.miglayout.com</a></td>
</tr>
<tr>
<td>Velocity</td>
<td>v2.0</td>
<td>Apache Velocity Project</td>
<td>Apache License 2.0</td>
<td>velocity.apache.org/engine/2.0/license.html</td>
</tr>
<tr>
<td>.slf4j</td>
<td>v1.7.26</td>
<td>SLF4J</td>
<td>MIT</td>
<td><a href="http://www.slf4j.org/license.html">www.slf4j.org/license.html</a></td>
</tr>
<tr>
<td>commons-io</td>
<td>2.5</td>
<td>Apache Software Foundation</td>
<td>Apache License 2.0</td>
<td><a href="http://www.apache.org/licenses">www.apache.org/licenses</a></td>
</tr>
<tr>
<td>commons-lang</td>
<td>3.6</td>
<td>Apache Software Foundation</td>
<td>Apache License 2.0</td>
<td><a href="http://www.apache.org/licenses">www.apache.org/licenses</a></td>
</tr>
</tbody>
</table>

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.
STM32CubeIDE v1.2.0 release information

2.1 New feature

- STM32CubeMX v5.5.0 integration
- Support for STM32L5 devices

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

2.2 Fixed issues

Table 3. Main issues fixed in STM32CubeIDE v1.2.0

<table>
<thead>
<tr>
<th>ID</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>62132</td>
<td>The macOS® installer displays incompatible version dialog when installing the stlink-server package. This can safely be ignored.</td>
</tr>
<tr>
<td>66327</td>
<td>Updating field [HCLK] in tab Clock Configuration is difficult.</td>
</tr>
<tr>
<td>69113</td>
<td>Importing a project from an earlier version into the current one will hang STM32CubeIDE when opening the .ioc editor. This only affects macOS®.</td>
</tr>
<tr>
<td>69233</td>
<td>In the STM32CubeMX .ioc editor under [Project Manager]--[Code Generator], there is a [settings] button that is not yet implemented.</td>
</tr>
<tr>
<td>70529</td>
<td>Null Pointer Exception occurs when trying to create a new debug configuration on a hierarchical root project, selecting OpenOCD debug probe, and changing some options.</td>
</tr>
<tr>
<td>73310</td>
<td>For importing an MPU project, consult application note Getting started with projects based on the STM32MP1 Series in STM32CubeIDE (AN5360).</td>
</tr>
<tr>
<td>73521</td>
<td>For STM32H7 devices using OpenOCD, the Cortex®-M7 must launch the debug session first.</td>
</tr>
<tr>
<td>73635</td>
<td>Projects with a debug configuration from a previous version of STM32CubeIDE need to disable, click [apply], and then enable SWV and Live Expressions.</td>
</tr>
<tr>
<td>73652</td>
<td>ST-LINK GDB-server debugger may lose control over STM32H7 dual-core devices during reset operations. This is less prevalent if Flash loading is disabled. Preferably use multiple use case oriented debug configurations.</td>
</tr>
<tr>
<td>73785</td>
<td>ST-LINK GDB-server debugger may fail while attaching to a core in a low-power state, even if option Halt all cores is enabled. This is circumvented by waiting to attach to the core until the application has exited any low-power state.</td>
</tr>
<tr>
<td>73790</td>
<td>The [Reset] toolbar button might fail during a multi-core debug scenario. Restart of the debug session is then required.</td>
</tr>
<tr>
<td>73890</td>
<td>ST-LINK GDB-server does not work properly with the macOS® version of STM32CubeIDE. The use of OpenOCD or J-Link is required.</td>
</tr>
<tr>
<td>78587</td>
<td>STM32L5 empty projects have incorrect linker scripts.</td>
</tr>
</tbody>
</table>

2.3 Known problems and limitations

- The [Run] button is not yet implemented and is therefore hidden from the toolbar menu and Run menu.
- Importing the .ioc file created by stand-alone STM32CubeMX is not fully supported.
- Editor hyperlinks sometimes jump to declaration instead of definition.
- Some Linux® installers install a few packages before the license agreement has been accepted.
- Some STM32CubeMX pop-up dialogs are not opened in front of the STM32CubeIDE workbench on all OS.
• **STM32CubeIDE** does not support switching from one MCU to another once the project is created.
• **STM32CubeIDE** SWV selecting large amounts of data to copy to the clipboard may crash **STM32CubeIDE**.
• Conditional breakpoints do not work with **OpenOCD**.
• The project importer for **SW4STM32** cannot import all settings in projects from very old versions (older than 2.0).
• Having a space or non-ascii character in the **project/workspace** path or installation path is not fully supported.
• Updating field **[HCLK]** in tab **Clock Configuration** is difficult.
• Some radio or check buttons in the **debugger** tab have unexpected rendering on any Ubuntu® 14.04.
• Some **STM32CubeMX** code generation operation does not clean out all files from the project. These files must be manually deleted.
• Hierarchical projects cannot be renamed.
• Hierarchical projects cannot be imported with the option **Copy into workspace**.
• An MPU project generated with **STM32CubeMX** cannot be debugged in both the engineering and production modes.
• An MPU project being debugged in Cortex®-M shows all hardware peripheral registers in the SFR view, even the ones that are not managed by Cortex®-M.
• Not all **STM32CubeIDE** projects for STM32H7 boards can be built.
• Peripherals are not initialized when creating an **STM32CubeIDE** project for several STM32G4 boards.
• SWV configuration is not reset for STM32H7 on the next launch if it was terminated with record active.
• Pin assignment in ioc-editor pinout view on STM32MP1 and STM32H7 devices does not lead to a dirty **ioc** file and need to be manually generated through **Alt + K**.
• **MCUFinder** is unusable on GNOME on Wayland.
• 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.
• When using a proxy server, if the MPU is not accessible through the server, it is required to add the IP address to the proxy bypass list.
• **ST-LINK GDB** server is not able to debug NUCLEO-L4P5ZG. Use **OpenOCD** or set target connection mode to **Software System Reset**.
3 Previous release information

3.1 STM32CubeIDE v1.1.0 release information

3.1.1 New feature

- STM32CubeMX v5.4.0 integration
- Support for STM32MP1 devices
- Beta support for STM32L5 devices
- Support for STM32H7 devices

1. Beta support only. Contact the local STMicroelectronics sales office or distributor (refer to www.st.com/content/st_com/en/contact-us.html) to get STM32CubeL5 MCU Package V0.7.0.

Important:
STMicroelectronics recommends that a new workspace is created for the work done with STM32CubeIDE v1.1.0. Existing projects made with a previous version of STM32CubeIDE must be imported and copied into the new workspace.

3.1.2 Fixed issues

Table 4. Main issues fixed in STM32CubeIDE v1.1.0

<table>
<thead>
<tr>
<th>ID</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>64364</td>
<td>The [Help]&gt;[Data refresher] can be invoked several times without pop-up dialog.</td>
</tr>
<tr>
<td>65331</td>
<td>The creation of static libraries with the option add libraries as reference leads to the unintended generation of the Drivers folder.</td>
</tr>
<tr>
<td>65482</td>
<td>Creating a BOARD project with Code generator options add necessary library files as reference... and initialize all peripherals with default settings can cause build errors if BOARD depends on the USB library.</td>
</tr>
<tr>
<td>66391</td>
<td>The Generate code operation re-includes excluded files in folders that are created by STM32CubeMX.</td>
</tr>
<tr>
<td>68131</td>
<td>The user cannot change Application Structure from Basic to Advanced or vice versa without losing user's code.</td>
</tr>
<tr>
<td>69380</td>
<td>When creating an empty project, the FPU is enabled in the build settings, but the project is generated without a SystemInit function to initialize FPU at run-time.</td>
</tr>
<tr>
<td>71371</td>
<td>Pre- and post-build steps, build configuration, and non-STM32CubeMX generated files inside project and others get deleted when project is regenerated.</td>
</tr>
</tbody>
</table>

3.2 STM32CubeIDE v1.0.2 release information

3.2.1 New feature

STM32CubeMX v5.3.0 integration.

3.2.2 Fixed issues

Table 5. Main issues fixed in STM32CubeIDE v1.0.2

<table>
<thead>
<tr>
<th>ID</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>56619</td>
<td>Conditional breakpoints do not work. Fixed in ST-LINK and J-Link provided that Live expressions is enabled.</td>
</tr>
</tbody>
</table>
### 3.3 STM32CubeIDE v1.0.1 release information

#### 3.3.1 New feature
STM32CubeMX v5.2.1 integration including latest MCUFinder evolution.

#### 3.3.2 Fixed issues

#### Table 6. Main issues fixed in STM32CubeIDE v1.0.1

<table>
<thead>
<tr>
<th>ID</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>59230</td>
<td>X-CUBE-AI links properly.</td>
</tr>
<tr>
<td>65403</td>
<td>On Windows®: BusyBox sh.exe pwd command fixed.</td>
</tr>
<tr>
<td>65897</td>
<td></td>
</tr>
<tr>
<td>67661</td>
<td></td>
</tr>
<tr>
<td>66212</td>
<td>Fixed loss of source files upon regeneration of code with dependencies on STM32Cube Expansion Packages.</td>
</tr>
<tr>
<td>66986</td>
<td>Integrated STM32CubeMX 5.2.1 supporting latest .ioc file format.</td>
</tr>
<tr>
<td>67014</td>
<td>Fixed project nature warning message when importing SW4STM32 projects.</td>
</tr>
<tr>
<td>67155</td>
<td>Fixed _estack value on newly generated projects to be correctly aligned.</td>
</tr>
<tr>
<td>67664</td>
<td>Removed shortcut to non-existing readme.txt from Windows® start menu.</td>
</tr>
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</table>

### 3.4 STM32CubeIDE v1.0.0 release information

#### 3.4.1 Features
- Integration of STM32CubeMX that provides services for:
  - STM32 microcontroller selection
  - Pinout, clock, IP, and middleware configuration
  - Project creation and generation of the initialization code
• Based on ECLIPSE™/CDT, with support of ECLIPSE™ add-ons
• GNU C/C++ for Arm® toolchain and GDB debugger:
  – GNU Arm Embedded
  – GNU tools for STM32, with enhancements compared to the standard toolchain
• Additional advanced features including:
  – Build Analyzer view
  – Static Stack Analyzer view
  – CPU core, IP register, and memory views
  – Live Expressions view
  – System analysis and real-time tracing views (SWV)
  – Fault Analyzer view
  – ITM software tracing
  – SFR view
• Support of STMicroelectronics ST-LINK/V2 and STLINK-V3:
  – ST-LINK_gdbserver 5.2.2
  – OpenOCD 0.10.0+dev00021-g524e8c8
• Support of SEGGER J-Link
  – SEGGER J-Link gdbserver v6.44c
• Import of projects from Atollic® TrueSTUDIO® and AC6 System Workbench for STM32
## Revision history

### Table 7. Document revision history

<table>
<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Changes</th>
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<td>19-Apr-2019</td>
<td>1</td>
<td>Initial release.</td>
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<td>11-Jun-2019</td>
<td>2</td>
<td>Added information related to STM32CubeIDE v1.0.1:</td>
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<tr>
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<td></td>
<td>• STM32CubeIDE v1.0.1 release information</td>
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<tr>
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<td></td>
<td>• Cross-selector data disclaimer</td>
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<tr>
<td>16-Jul-2019</td>
<td>3</td>
<td>Added information related to STM32CubeIDE v1.0.2:</td>
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<td>15-Oct-2019</td>
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<td>Added information related to STM32CubeIDE v1.1.0:</td>
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<tr>
<td>8-Jan-2020</td>
<td>5</td>
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