STM32CubeCLT installation guide

Introduction

This installation guide for the STM32Cube command-line toolset (STM32CubeCLT) gives directions on how to install software on each of the operating systems it supports. It is primarily intended for software developers or system administrators who are about to install the STM32CubeCLT product.

This installation guide covers the following topics:

- System requirements
- Important information
- STM32CubeCLT installation (Windows®)
- STM32CubeCLT installation (Linux®)
- STM32CubeCLT installation (macOS®)
- Uninstall STM32CubeCLT (Windows®)
- Uninstall STM32CubeCLT (Linux®)
- Uninstall STM32CubeCLT (macOS®)

UM3089 - Rev 3 - March 2024
For further information contact your local STMicroelectronics sales office.

www.st.com

1   System requirements

STM32CubeCLT is tested and verified on the Microsoft® Windows®, Linux®, and macOS® versions listed in this chapter.

Important: *Only 64-bit OS versions are supported.*

The STM32CubeCLT command-line toolset for STM32 MCUs provides tools to build, program, run, and debug applications targeting STM32 microcontrollers based on the Arm® Cortex®-M processor.

Note: *Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.*

1.1   Microsoft® Windows®

- Microsoft® Windows® 10
- Microsoft® Windows® 11

Note: *Microsoft and Windows are trademarks of the Microsoft group of companies.*

1.2   Linux®

- Ubuntu® LTS 20.04
- Ubuntu® LTS 22.04
- Fedora® 37

Note: *Linux® is a registered trademark of Linus Torvalds.*

Ubuntu® is a registered trademark of Canonical Ltd.

Fedora® is a trademark of Red Hat, Inc.

1.3   macOS®

- macOS® 13 (Ventura)
- macOS® 14 (Sonoma)

Note: *macOS® is a trademark of Apple Inc., registered in the U.S. and other countries and regions.*

1.4   Hardware requirements

The following hardware requirements apply:

- 1 Gbyte of RAM minimum. 1 Gbyte of RAM recommended
- 1.7 Gbyte of free hard-disk space

2 Important information

This chapter contains important information regarding the installation of STM32CubeCLT.

2.1 Product installer

The latest version of the STM32CubeCLT installer can be downloaded from the STMicroelectronics web site at *www.st.com*.

2.2 Installing from USB memory

It is not recommended to launch the STM32CubeCLT installer directly from a USB memory. Instead, copy the executable installation file from the USB memory to the local hard-disk drive of the computer and execute the installation from the hard-disk drive.

If an installation from a USB memory is still preferred:

- Make sure that the USB memory is not write-protected.
- Make sure that there is at least 2 Gbytes of free memory beyond the space occupied by the installation executable. The extra space is required for temporary files during the installation.

Caution: Do not remove the USB memory from the computer until the installation process is completely finished or the installation would fail.

2.3 Product upgrades

It is possible to install new versions of STM32CubeCLT in parallel with older versions.

Note: *For a new installation, the `PATH` environment variable of the last STM32Cube CLI installed is set.*

3 STM32CubeCLT installation (Windows®)

This section describes how to install the STM32CubeCLT product on Microsoft® Windows®.

Note: *The installation is done through a product installer. Make sure that the user account, from which the installer is launched, has administrative privileges.*

Proceed as follows:

1. Launch the product installer (`.exe` file)
   `st-stm32cubeclt_VERSION_ARCHITECTURE.exe`
   where:
   – `VERSION` is the actual product version and build date
     Example: `1.11.0_2026_20221221_1309`
   – `ARCHITECTURE` is the architecture of the target host computer to run STM32CubeCLT
     Example: `x86_64`

   When launching the product installer, if it reports an attempt to install a version that is already installed:

   a. Launch the register dialog by typing `regedit.exe` in the search bar
   b. Remove the registry key
      `HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\STMicroelectronics\STM32CubeCLT`

2. During the installation process, the operating system might display a dialog stating: "`Do you want to allow this app to make changes to your device?`" with info "`Verified publisher: STMicroelectronics Software AB.`" Accept ([**YES**]) to let the installer continue.

3. Wait for the installer **Welcome** dialog to be displayed and click on [**Next >**].

Figure 1. Installer Welcome page (Windows®)
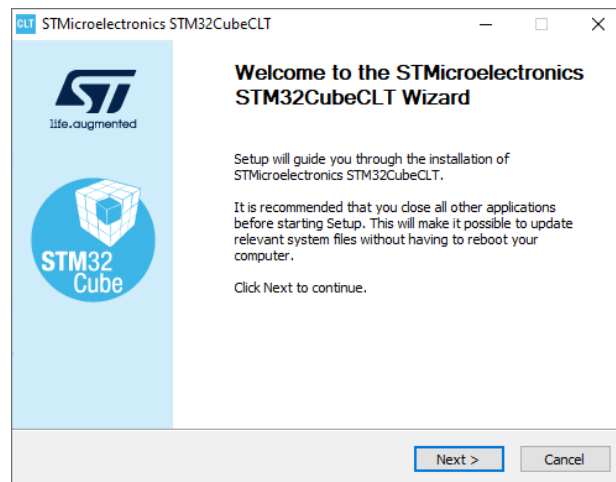
4. Read the license agreement. Click on [**I Agree**] to accept the terms of the agreement, or [**Cancel**] to abort the installation. If the agreement is accepted, the installation wizard continues.

Figure 2. License agreement dialog (Windows®)
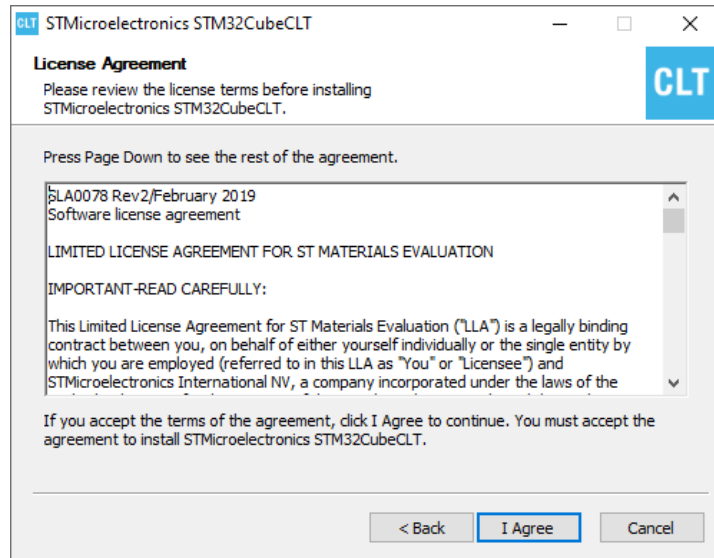
5. Select the location for the installation.

Figure 3. Installer location dialog (Windows®)
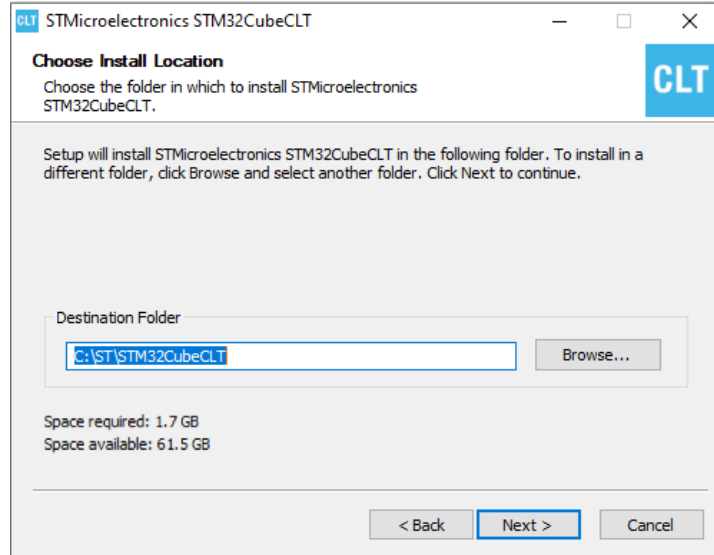

If the user opts for an alternative location, a pop-up window indicates that the PATH system variable is not updated accordingly. The user can then:

– either click on [**Yes**] to accept this and continue the installation
– or click on [**No**] to refuse this and return to restore the default path

If the user accepts, the commands are launched from the relative location.

Figure 4. Pop-up warning about PATH update (Windows®)
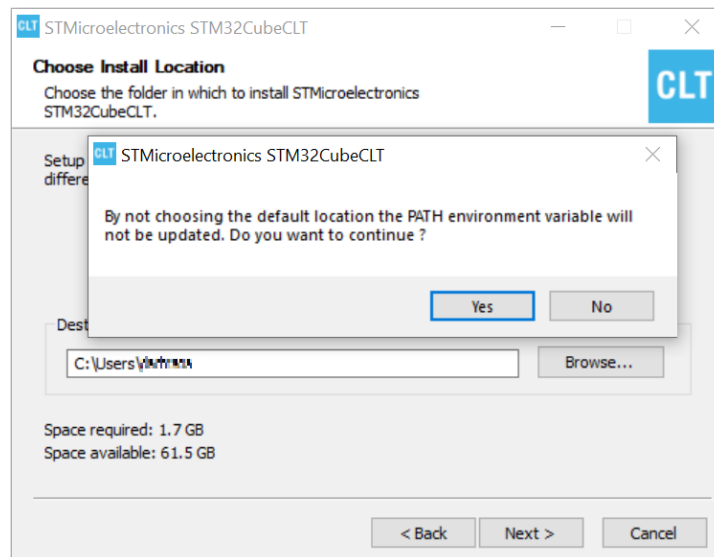
6. Wait for the **Choose Components** dialog to be displayed. Select the *ST-LINK drivers* components to install together with STM32CubeCLT.

Figure 5. ST-LINK drivers dialog (Windows®)
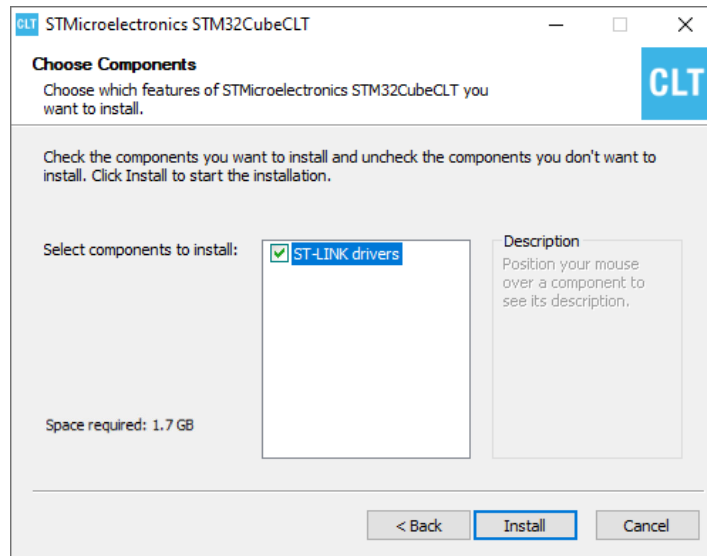
DT71084V2

7. Click on [**Install**] to start the installation.

Figure 6. Installation successful (Windows®)
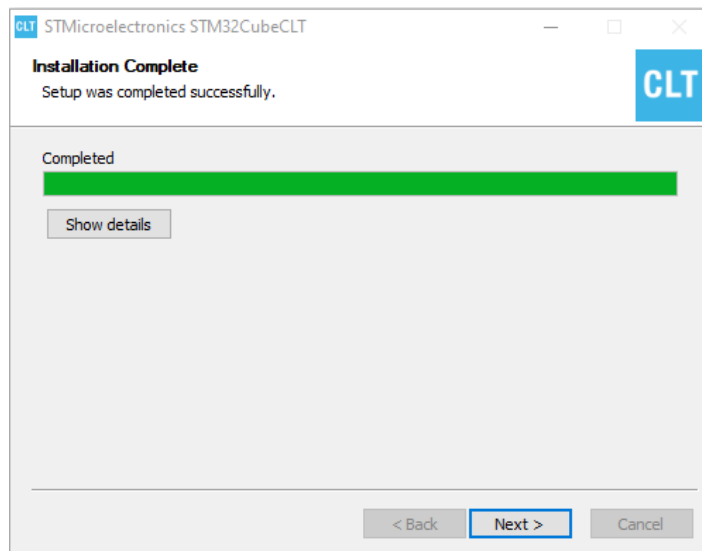
DT71078V2

8. Click on [**Next**] to continue to the final step of the installation process. That is a **Confirmation** dialog informing the user that the installation is finished. Once the user clicks on [**Finish**], the installation process is complete.

Figure 7. Installation finished (Windows®)
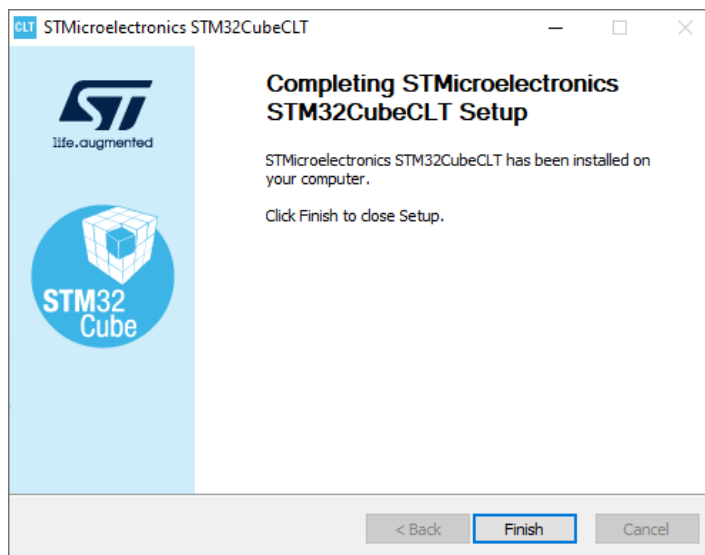
4   STM32CubeCLT installation (Linux®)

This section describes how to install the STM32CubeCLT product on Linux®.

Note: *The installation is done through a product installer. Linux® root privileges are required to complete the installation.*

The installer comes in different bundles to suit the various Linux® distributions. The bundles are named according to:

`st-stm32cubeclt_VERSION_ARCHITECTURE.PACKAGE`

where:

- `VERSION` is the actual product version and build date
  Example: `1.11.0_2026_20221221_1309`

- `ARCHITECTURE` is the architecture of the target host computer to run STM32CubeCLT
  Example: `amd64`

- `PACKAGE` is the Linux® package type to be installed. The supported packages are:

  - `rpm_bundle.sh` for Fedora®/CentOS™

  - `deb_bundle.sh` for Ubuntu®

  - `.sh` for generic Linux®

Proceed as follows:

1. Navigate to the location of the installer file with a command console on the host computer.
2. Enter the following command in the console window:
   `sudo sh ./st-stm32cubeclt_VERSION_ARCHITECTURE.PACKAGE`
   where `VERSION`, `ARCHITECTURE` and `PACKAGE` must be entered after the selected Linux® package.
3. Follow the further instructions provided through the console window.
4. To update the PATH environment variable, restart the computer or log out and log in back into the session.

Manual installation (.rpm/.deb)

For RPM-based distributions (Red Hat®, CentOS™, SUSE®, Fedora®):

`> sudo rpm -Uhv st-stlinkudev-rules-xxxx-linux-noarch.rpm st-stlink-server-xxxx-linux-amd64.rpm ststm32cubeclt_xxxx_amd64.rpm`

For Debian-based distributions (Debian®, Ubuntu®):

`> sudo apt-get install ./st-stlink-udev-rules-xxxx-linux-all.deb ./ststlink-server-xxxx-linux-amd64.deb ./st-stm32cubeclt_xxxx_amd64.deb`

Note: *CentOS is a trademark of Red Hat, Inc.*

SUSE is a trademark of SUSE LLC or its subsidiaries or affiliates.

5 STM32CubeCLT installation (macOS®)

This section describes how to install the STM32CubeCLT product on macOS®.

Note: *The installation is done through a product installer. Make sure that the user account from which the installer is launched has administrative privileges.*

Proceed as follows:

1. Extract the macOS® installer (`.pkg`) from the tarball (`tar.gz` file) and open the destination folder.
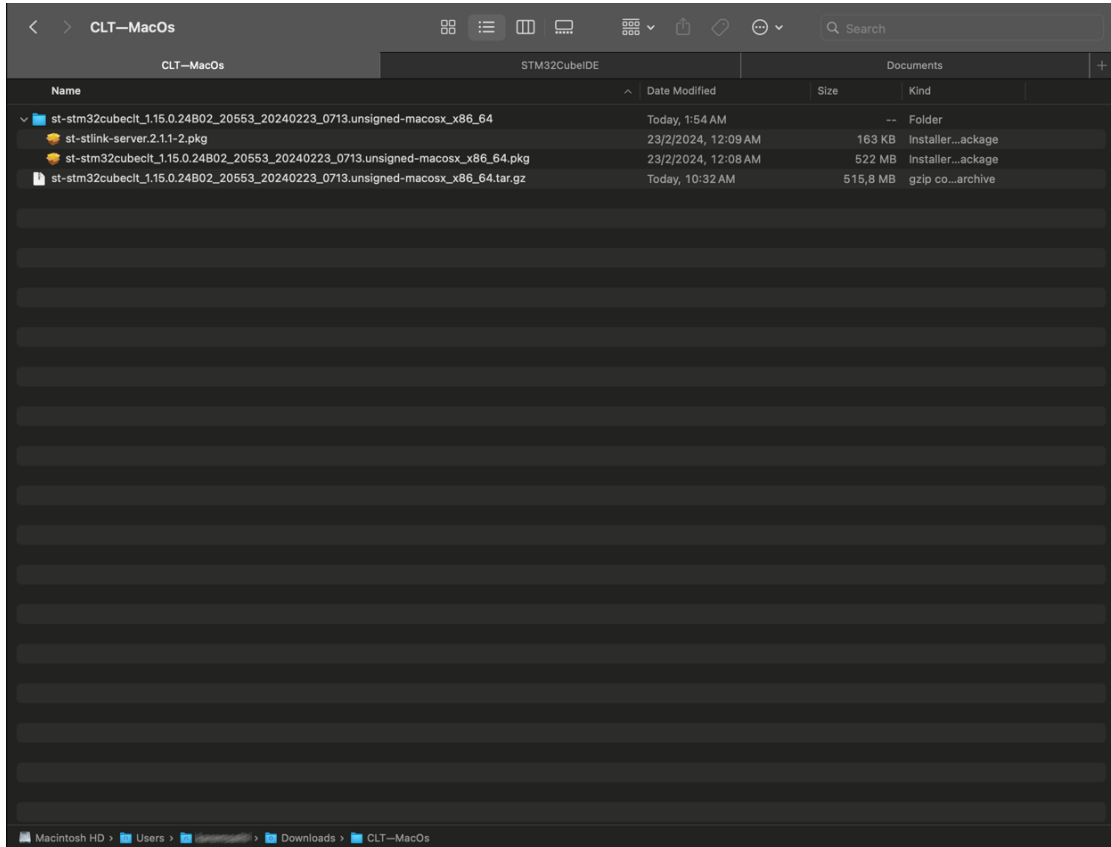
Figure 8. STM32CubeCLT installer tarball (macOS®)
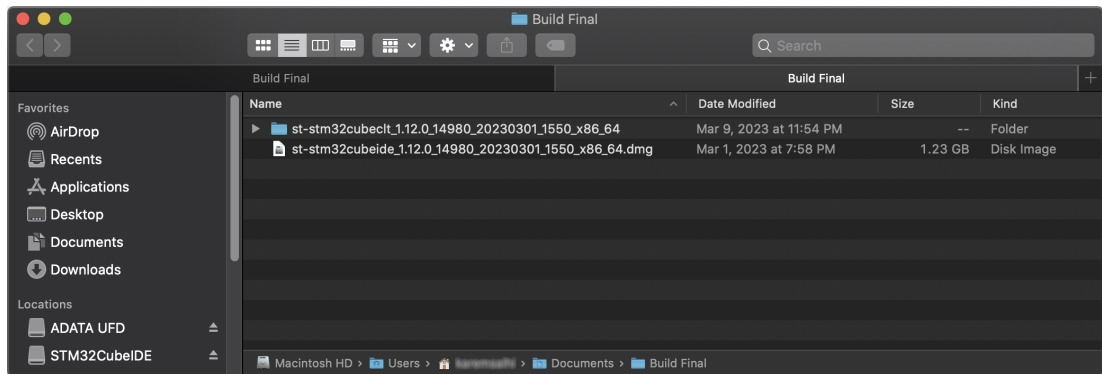
2. Double-click on the `.pkg` file
    `st-stm32cubeclt_VERSION_ARCHITECTURE.pkg`
    where:

    –   `VERSION` is the actual product version and build date
        Example: `1.13.0_17399_20230707_0829`

    –   `ARCHITECTURE` is the architecture of the target host computer to run STM32CubeCLT
        Example: `x86_64`

Figure 9. STM32CubeCLT installer (1 of 2 - macOS®)

Figure 10. STM32CubeCLT installer (2 of 2 - macOS®)
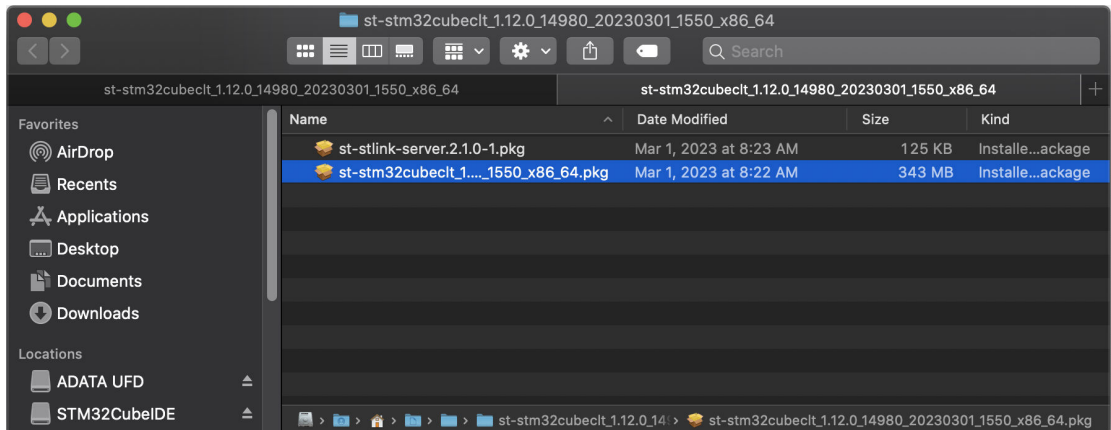
3. Wait for the installation **welcome page** to appear.

Figure 11. STM32CubeCLT installation welcome page (macOS®)
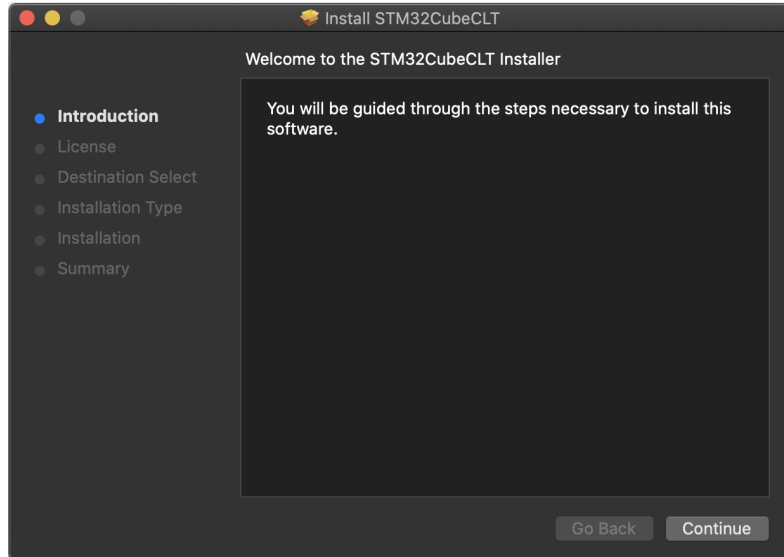
4. Click on the [**Continue**] button.

5. Read the license agreement. Click on the [**Continue**] button, then on [**Agree**] to accept the terms of the agreement, or [**Disagree**] to abort the installation. If the agreement is accepted, the installation wizard continues.

Figure 12. License agreement dialog (macOS®)
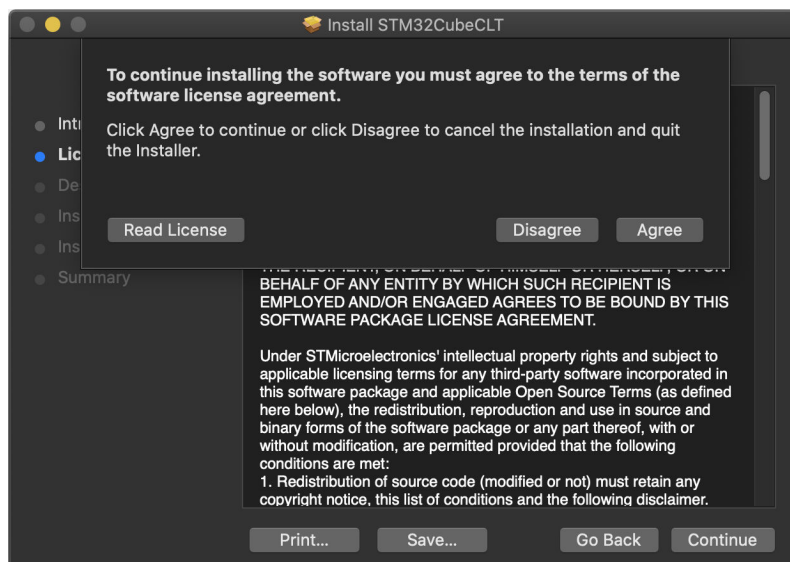
6. Click on [**Install**]. Log in to authorize the installation if prompted to do so.

Figure 13. STM32CubeCLT installation page (macOS®)
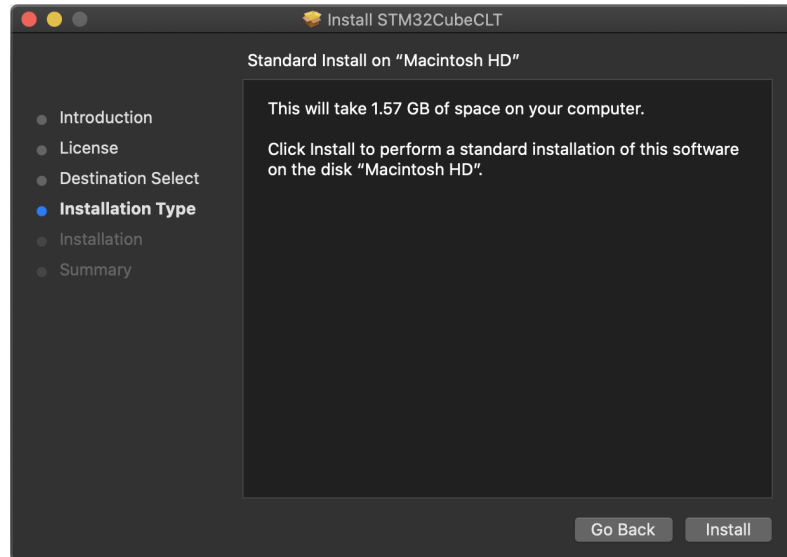
7. Wait for the installation to finish.

Figure 14. STM32CubeCLT installation progress bar (macOS®)
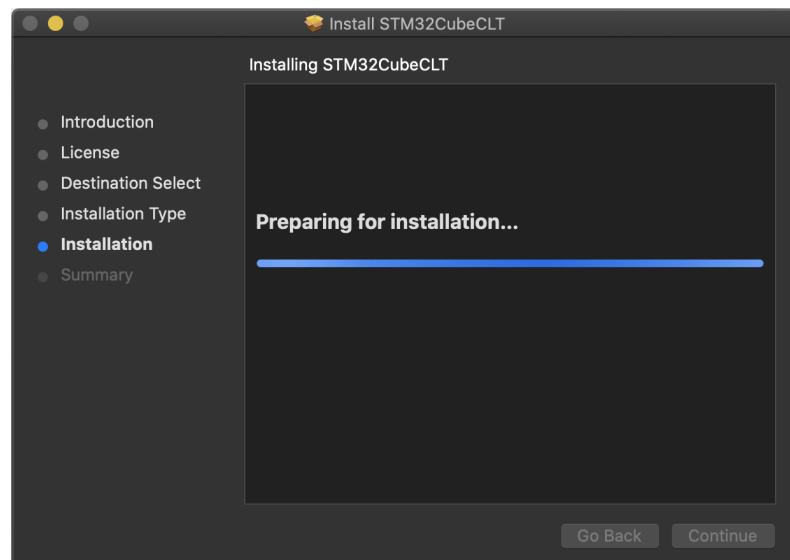
8. Click on [**Close**] and continue the installation of the STM32CubeCLT product.

Figure 15. STM32CubeCLT installation finished (macOS®)
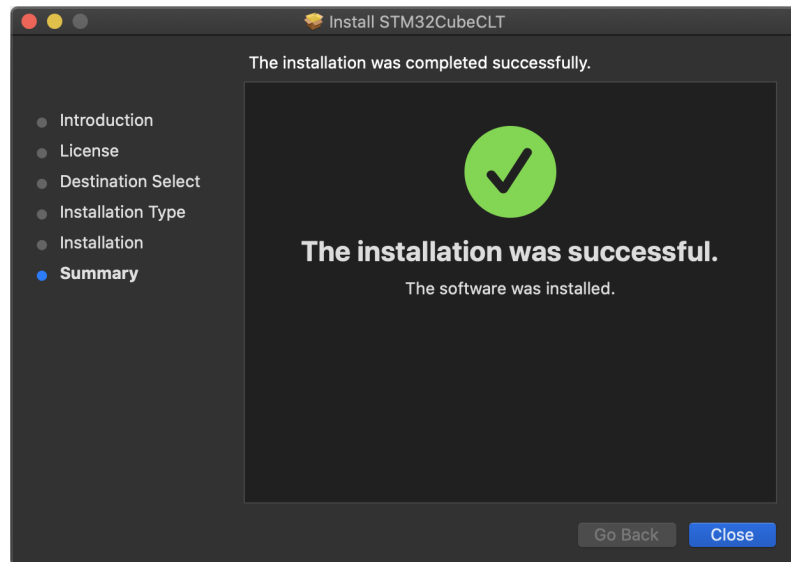
9. Install the ST-LINK server as required. Double-click on the `.pkg` file
   `ST-Link-server_VERSION.pkg`
   where:

   – `VERSION` is the actual product version and build date
      Example: `2.1.0-1`

Figure 16. ST-LINK server product installer (macOS®)
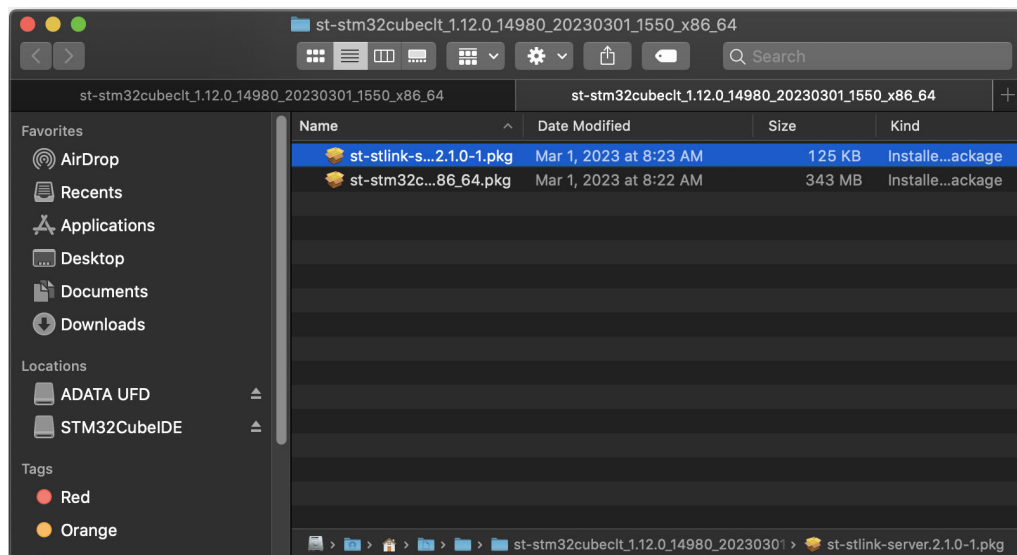
10. Click on the [**Continue**] button.

Figure 17. **ST-LINK server welcome page (macOS®)**
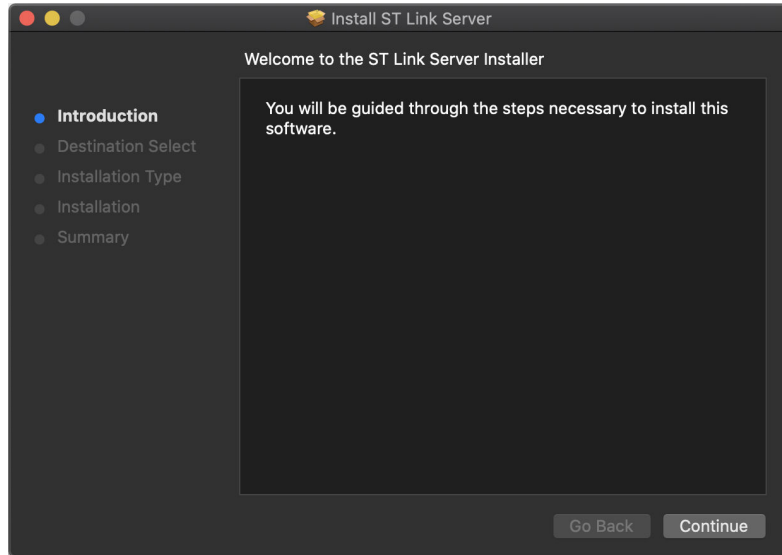
11. Click on [**Install**]. Log in to authorize the installation if prompted to do so.

Figure 18. **ST-LINK server installation page (macOS®)**
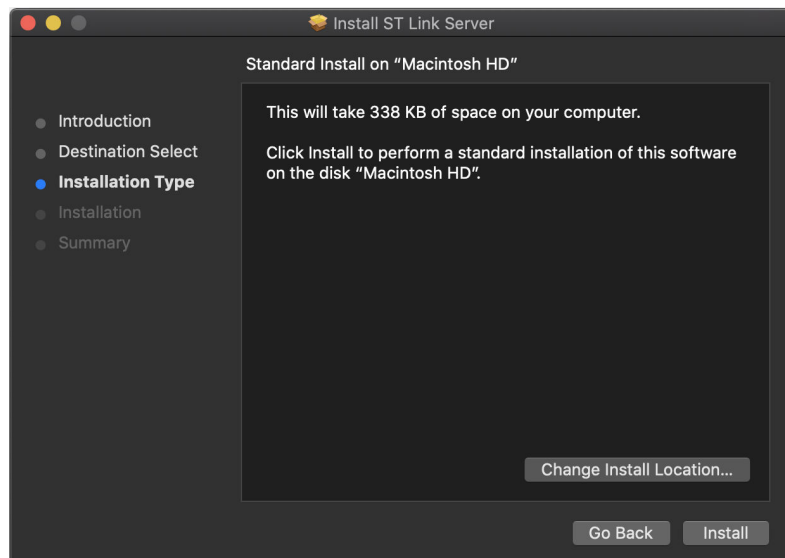
12. Wait for the installation to finish.

Figure 19. ST-LINK server installation progress bar (macOS®)
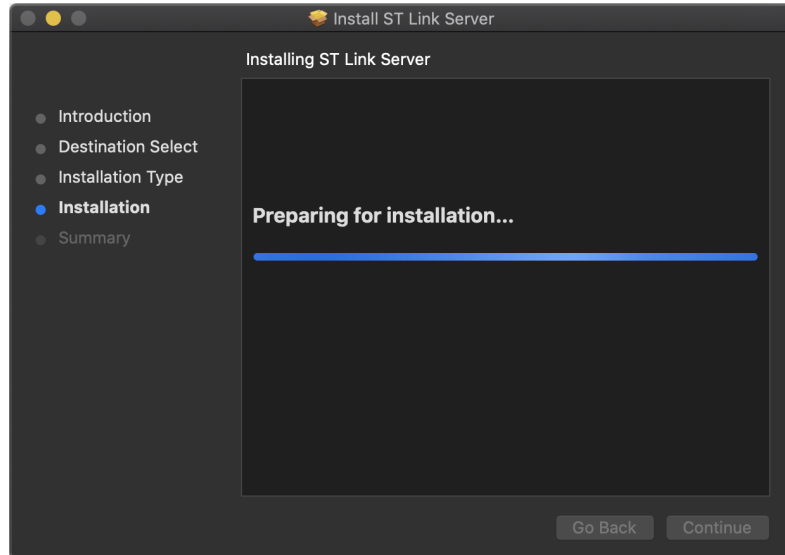
13. Click on [**Close**] and continue the installation of the ST-LINK server product.

Figure 20. ST-LINK server installation finished (macOS®)
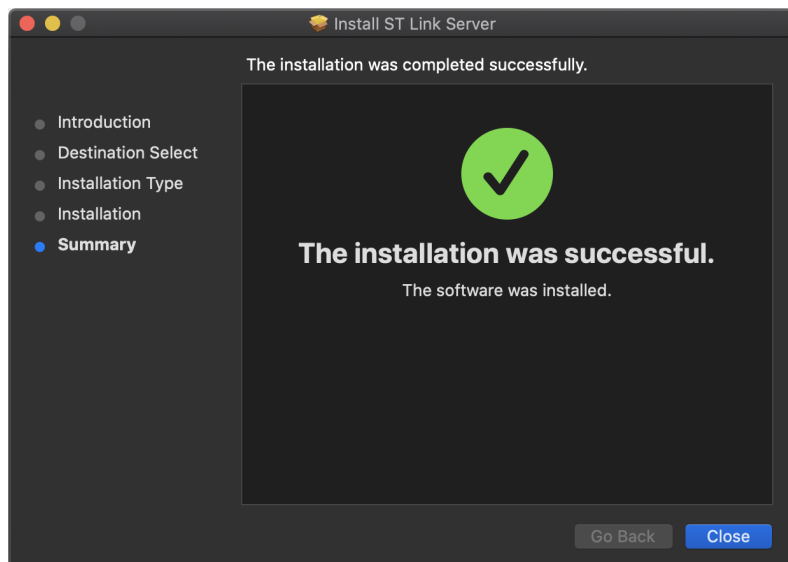
5.1 Gatekeeper tips

Because STM32CubeCLT is not signed and not Apple®-notarized, the Gatekeeper might block the first launch of the application as shown in Figure 21.

Figure 21. macOS® - Gatekeeper blocking STM32CubeCLT launch
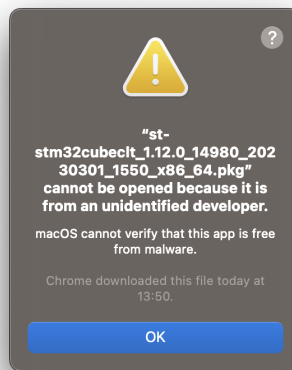
A similar blocking situation might occur for the first launch of the ST-LINK server as shown in Figure 22.

Figure 22. macOS® - Gatekeeper blocking ST-LINK server launch
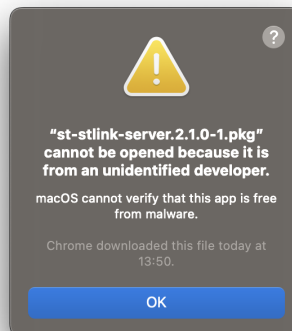
If any of the above situations occurs, open the *Security & Privacy* preferences in macOS® *System Preferences* and click on [**Open Anyway**] (highlighted in Figure 23 or Figure 24).

Figure 23. macOS® - *Security & Privacy* window for STM32CubeCLT
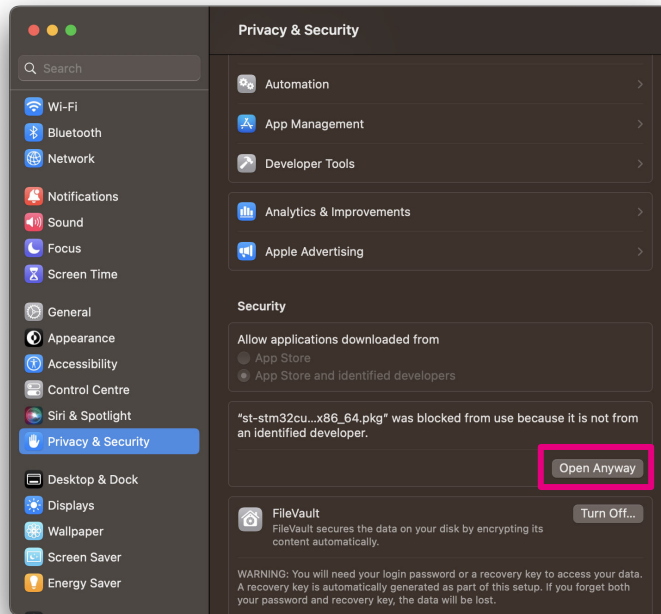
Figure 24. macOS® - *Security & Privacy* window for ST-LINK server
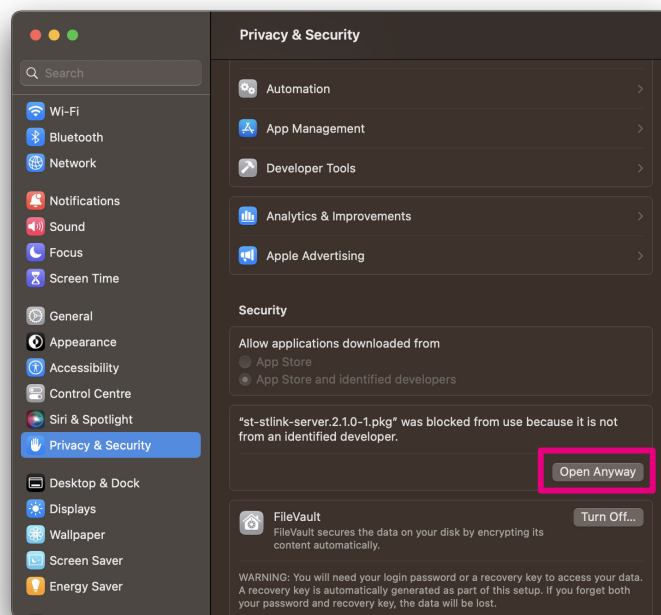
6 Uninstall STM32CubeCLT (Windows®)

To uninstall STM32CubeCLT, under the installation folder:

1. Launch the product uninstaller (`uninstall.exe`)
2. Wait for the uninstaller dialog box and click on [**Uninstall**]

Note: *In Windows®, the removal of the installation directory instead of using the uninstall procedure prevents further installation. In this case, delete the registry key* `HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\STMicroelectronics\STM32CubeCLT\VersionToS uppress` *using* `regedit.exe`*.*

7   Uninstall STM32CubeCLT (Linux®)

The uninstallation of STM32CubeCLT depends on the distribution. Uninstall STM32CubeCLT according to the step below corresponding to the distribution used:

- For any distribution or if the distribution is not known:
  ```
  sudo /opt/st/stm32cubeclt_xxxx/uninstall.sh
  ```

- For RPM-based distributions (such as Red Hat®, CentOS™, SUSE®, Fedora®, or others):
  ```
  sudo rpm -e st-stm32cubeclt_xxxx st-stlink-udev-rules st-stlink-server
  ```

- For Debian-based distributions (such as Debian®, Ubuntu®, or others):
  ```
  sudo dpkg -r st-stm32cubeclt--xxxx st-stlink-udev-rules st-stlink-server
  ```

8 Uninstall STM32CubeCLT (macOS®)

To uninstall STM32CubeCLT:

1. Locate the version of STM32CubeCLT to uninstall in the `/opt/ST/ STM32CubeCLT` folder
   `>cd /opt/ST/STM32CubeCLT`

2. Launch the uninstall script
   `>sudo ./uninstall.sh`

Revision history

Table 1. Document revision history

Date	Revision	Changes
12-Dec-2022	1	Initial version.
12-Jul-2023	2	Updated the OS versions in *System requirements*. Updated the screenshots in the document from *Figure 1* to *Figure 3*, from *Figure 5* to *Figure 8*, and from *Figure 10* to *Figure 20*. Added *Figure 4. Pop-up warning about PATH update (Windows®)* and *Figure 9. STM32CubeCLT installer (1 of 2 - macOS®)*. Added *Section 5.1 Gatekeeper tips*.
13-Mar-2024	3	Updated the OS versions in System requirements. Updated the second item in STM32CubeCLT installation (macOS®).

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IMPORTANT NOTICE – READ CAREFULLY