

CE-MAD 2568

Lab 00 – Getting Started

สรยุทธ์ กลมกล่อม

วัตถุประสงค์

- 1) สามารถติดตั้งโปรแกรมที่เกี่ยวข้องกับการปฏิบัติการ
- 2) สามารถพัฒนาโปรแกรมโดยใช้ซอฟต์แวร์ที่เกี่ยวข้องได้
- 3) สามารถดาวน์โหลดโปรแกรมที่พัฒนาลงบอร์ด
ไมโครคอนโทรลเลอร์ได้

ขั้นตอน

1. ติดตั้ง Java 8 Runtime
2. ติดตั้ง STM32CubeIDE
3. เปิด STM32CubeIDE
4. อัปเดต ST-Link Firmware
5. สร้าง New Project
6. เพิ่ม Code
7. Build (Compile -> Link)
8. Run

1. ติดตั้ง Java 8 Runtime

1.1 ใช้ Java 8 เท่านั้น !!!

1.1.1 Version ที่สูงกว่า จะมีปัญหาการใช้งานในบางจุด

1.2 ตรวจสอบว่ามี Java 8 Runtime อยู่ในเครื่องหรือไม่

1.2.1 เปิด Command Prompt

1.2.2 พิมพ์ **java -version**

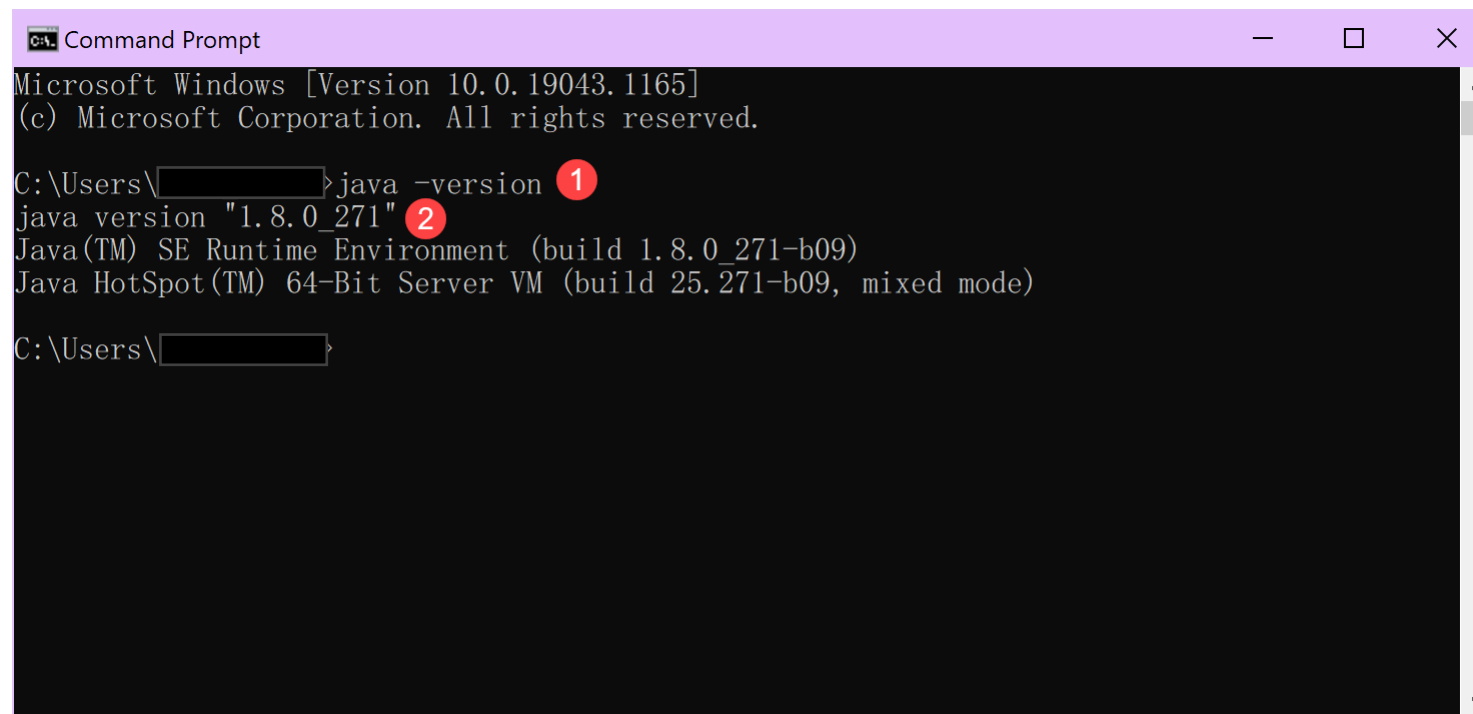
1.2.3 ถ้าแสดง version 1.8.xxx ให้ข้ามไปขั้นตอน 2

1.2.4 ถ้าไม่พบ ให้ทำการติดตั้งในขั้นตอน 1.3

1.2.5 ถ้าแสดง version อื่น ให้ถอนการ แล้วติดตั้งในขั้นตอน 1.3

1. ติดตั้ง Java 8 Runtime

- แสดงการตรวจสอบ Java 8 ภายในเครื่อง



```
Command Prompt
Microsoft Windows [Version 10.0.19043.1165]
(c) Microsoft Corporation. All rights reserved.

C:\Users\[username]>java -version 1
java version "1.8.0_271" 2
Java(TM) SE Runtime Environment (build 1.8.0_271-b09)
Java HotSpot(TM) 64-Bit Server VM (build 25.271-b09, mixed mode)

C:\Users\[username]>
```

1. ติดตั้ง Java 8 Runtime

1.3 ดาวน์โหลด Java 8 จาก link ด้านล่าง

[1.3.1 Amazon Corretto 8](#) หรือ

[1.3.2 Java Downloads for All Operating Systems](#)

1.4 ติดตั้ง

2. ติดตั้ง STM32CubeIDE

2.1 สมัครสมาชิก www.st.com เพื่อดาวน์โหลดซอฟต์แวร์
และเอกสารต่างๆ

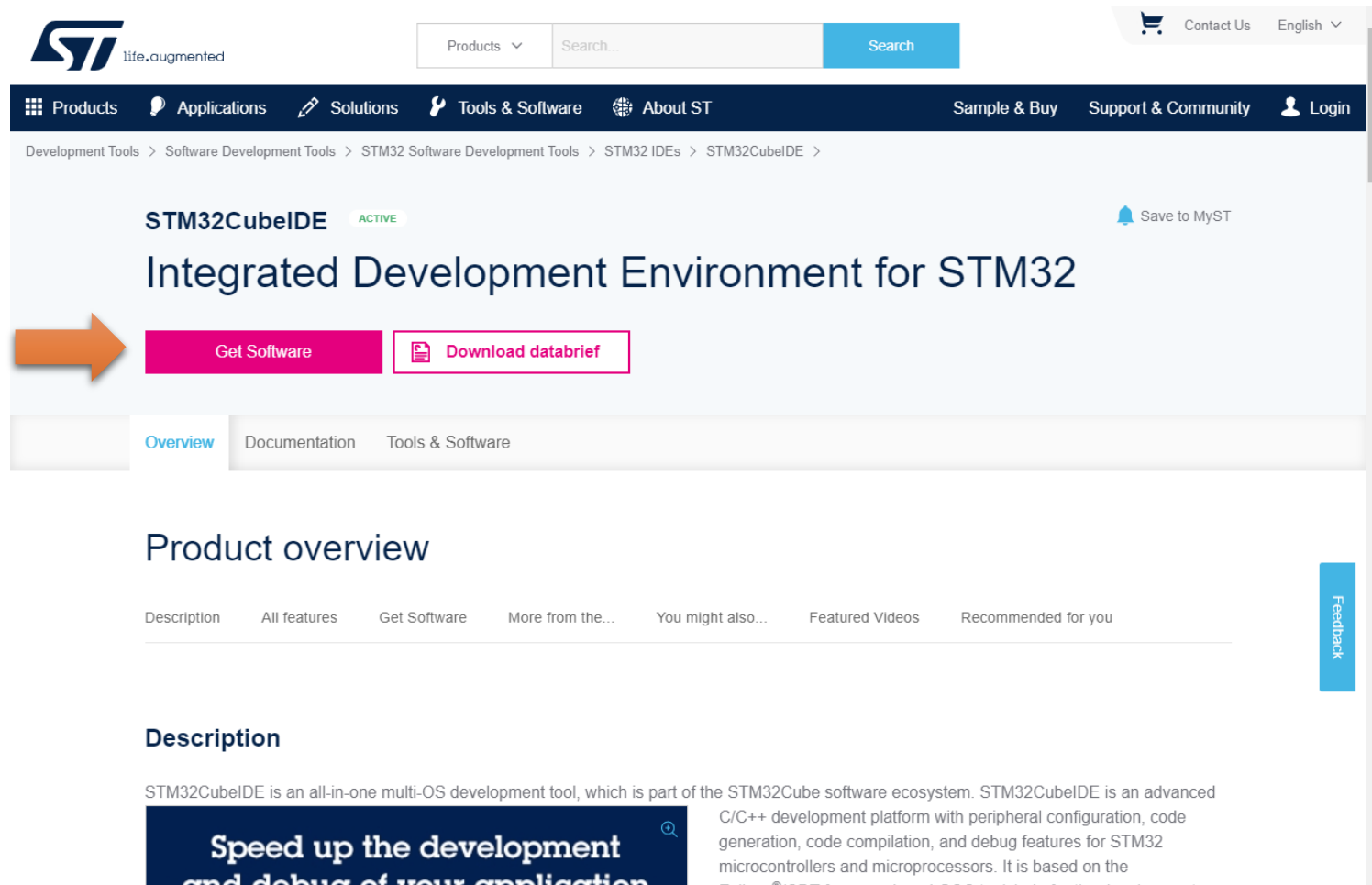
2.2 ไปยังเพจ [STM32CubeIDE](https://www.st.com/en/development-tools/stm32cubeide.html)

2.3 เลือก Get Software

2.4 เลือก Get Latest -> กด Accept

2.5 ดาวน์โหลดและติดตั้ง (สามารถกด Next ได้ทั้งหมด)

เลือก Get Software



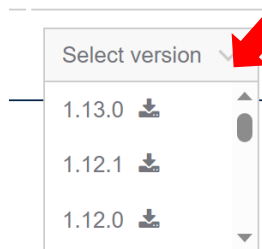
The screenshot shows the STM32CubeIDE product page on the ST website. The page features the ST logo and tagline 'life.augmented' at the top left. A navigation bar includes links for Products, Applications, Solutions, Tools & Software, and About ST. A search bar is located at the top right. The breadcrumb trail indicates the path: Development Tools > Software Development Tools > STM32 Software Development Tools > STM32 IDEs > STM32CubeIDE. The main heading is 'STM32CubeIDE' with an 'ACTIVE' status and a 'Save to MyST' button. Below the heading is the title 'Integrated Development Environment for STM32'. Two buttons are present: 'Get Software' (highlighted with an orange arrow) and 'Download databrief'. A tabbed interface shows 'Overview' as the active tab, with 'Documentation' and 'Tools & Software' as options. The 'Product overview' section includes a navigation bar with links: Description, All features, Get Software, More from the..., You might also..., Featured Videos, and Recommended for you. The 'Description' section begins with the text: 'STM32CubeIDE is an all-in-one multi-OS development tool, which is part of the STM32Cube software ecosystem. STM32CubeIDE is an advanced C/C++ development platform with peripheral configuration, code generation, code compilation, and debug features for STM32 microcontrollers and microprocessors. It is based on the...'. A dark blue banner at the bottom of the description section reads 'Speed up the development and debug of your application'.

เลือก Get latest

Get Software

Part Number	General Description	Supplier	Download	All versions
+ STM32CubeIDE-DEB	STM32CubeIDE Debian Linux Installer	ST	Get latest	Select version
+ STM32CubeIDE-Lnx	STM32CubeIDE Generic Linux Installer	ST	Get latest	Select version
+ STM32CubeIDE-Mac	STM32CubeIDE macOS Installer	ST	Get latest	Select version
+ STM32CubeIDE-RPM	STM32CubeIDE RPM Linux Installer	ST	Get latest	Select version
+ STM32CubeIDE-Win	STM32CubeIDE Windows Installer	ST	Get latest	Select version

1



Get Software

License Agreement

2

ACCEPT

Please indicate your acceptance or NON-acceptance by selecting "I ACCEPT" or "I DO NOT ACCEPT" as indicated below in the media.

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Feedback

MacOS

Figure 14. macOS® - Gatekeeper blocking STM32CubeIDE launch

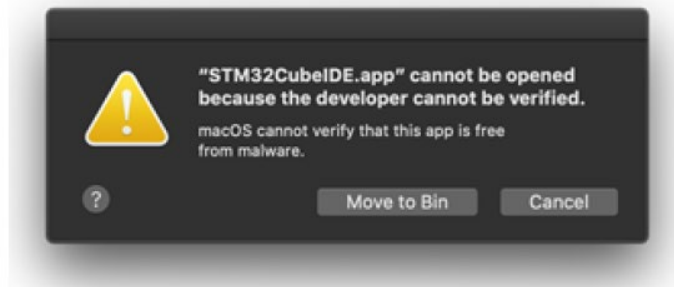
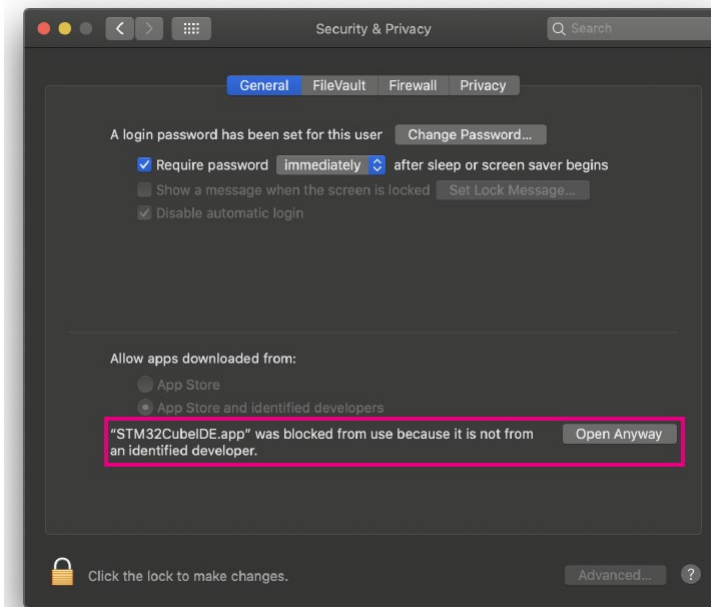


Figure 15. macOS® - System Preferences window



Figure 16. macOS® - Security & Privacy window



3. เปิด STM32CubeIDE

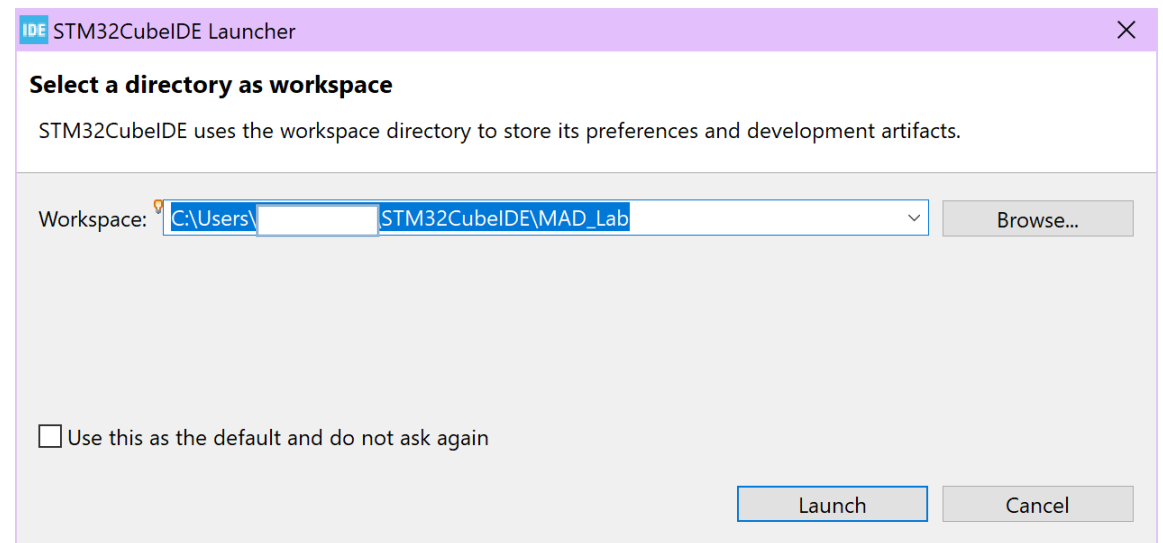
3.1 เปิดโปรแกรม STM32CubeIDE

3.2 เลือกโฟลเดอร์สำหรับ
workspace

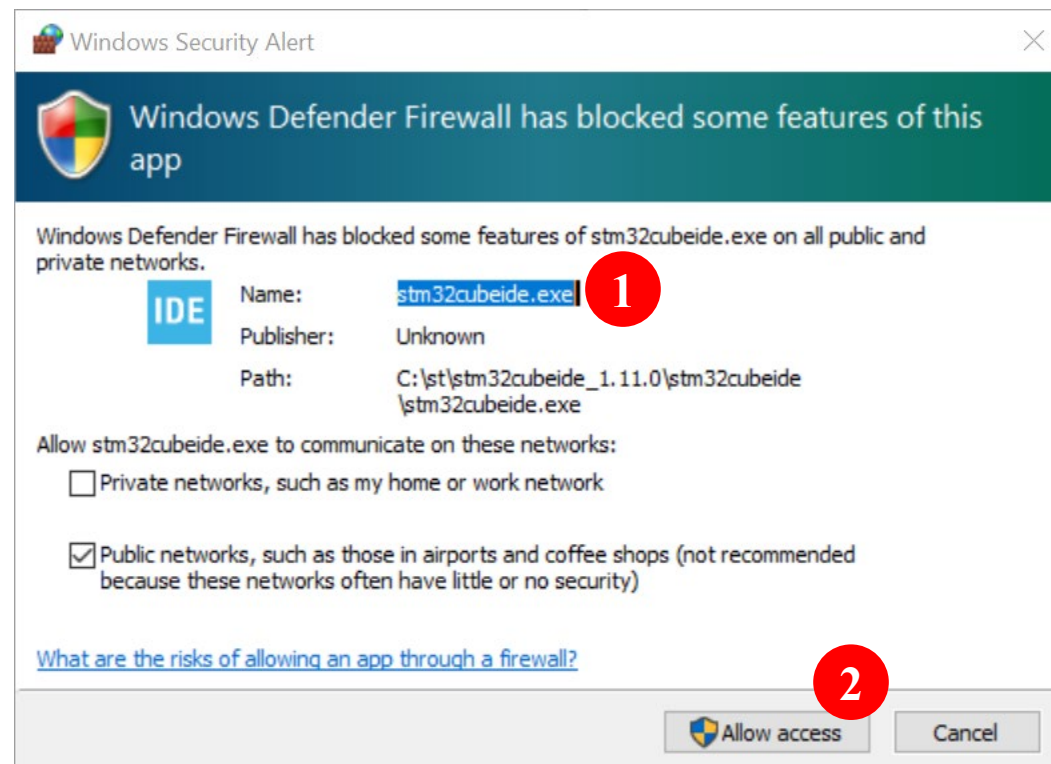
3.3 แนะนำให้ตั้งชื่อ **MAD_Lab**

3.4 กด Launch

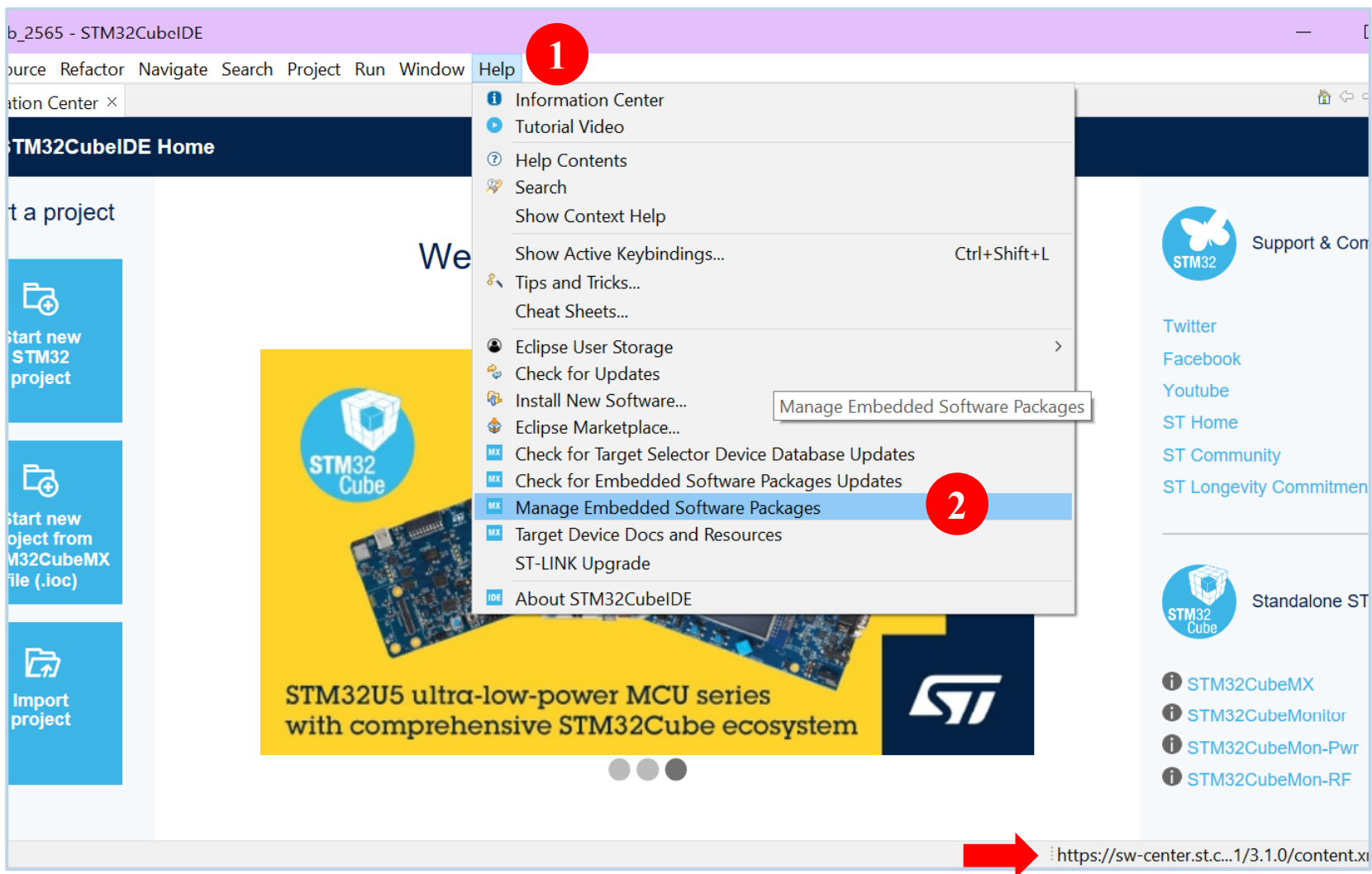
3.5 อนุญาตให้โปรแกรมสามารถ
เชื่อมต่ออินเทอร์เน็ตเพื่อดาวน์โหลด
โมดูลอื่นๆ ที่เกี่ยวข้อง



3.5.1 Allow Firewall



3.6 Manage Embedded Software Packages



3.6.1 เลือกเฉพาะ Version 1.17.0

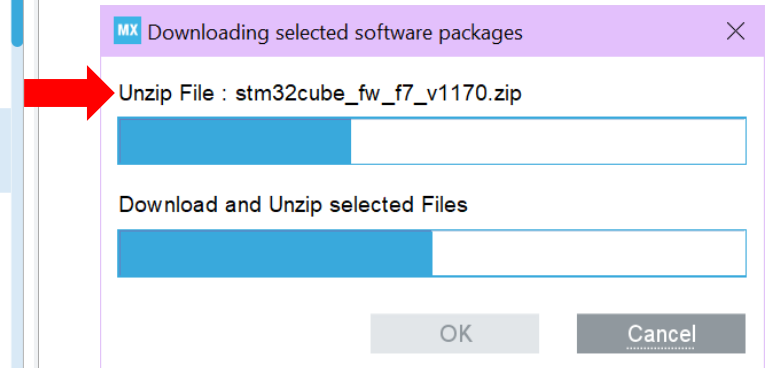
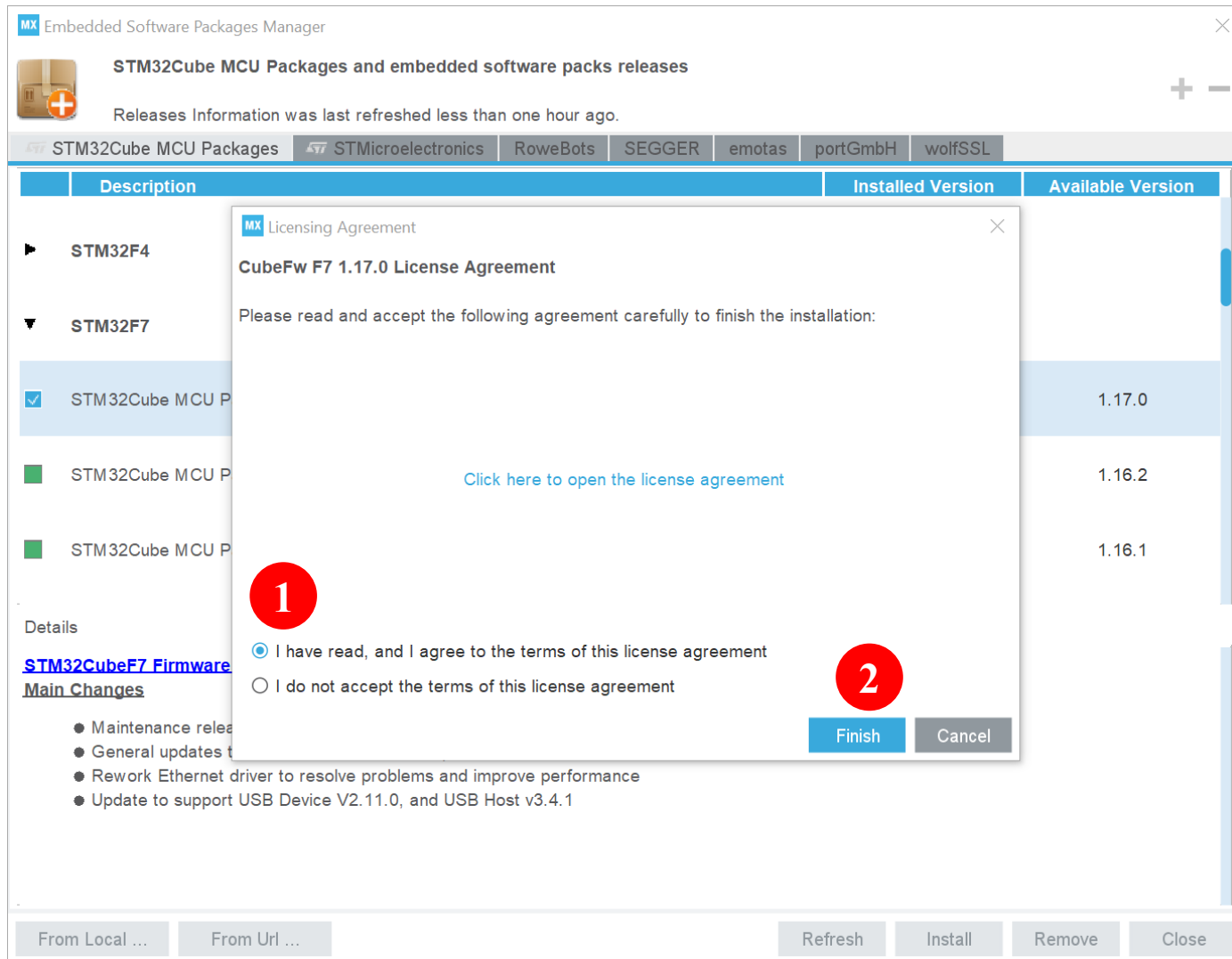
The screenshot shows the MX Embedded Software Packages Manager interface. The title bar is "MX Embedded Software Packages Manager". The main content area is titled "STM32Cube MCU Packages and embedded software packs releases". Below this, there is a tab bar with "STM32Cube MCU Packages" selected. The main table has columns: "Description", "Installed Version", and "Available Version".

Description	Installed Version	Available Version
STM32F4		
STM32F7		
STM32Cube MCU Package for STM32F7 Series (Size : 1157.12 MB)		1.17.0
STM32Cube MCU Package for STM32F7 Series	1.16.2	1.16.2
STM32Cube MCU Package for STM32F7 Series	1.16.1	1.16.1

At the bottom of the window, there are buttons: "From Local ...", "From Url ...", "Refresh", "Install", "Remove", and "Close".

The screenshot shows a dialog box titled "MX Downloading selected software packages". It contains the text "Download File stm32cube_fw_f7_v1170.zip" and a progress bar showing "2.0 MBytes / 1157.1 MBytes (09m 40s left)". Below the progress bar, it says "Download and Unzip selected Files". At the bottom, there are "OK" and "Cancel" buttons.

3.6.2 Accept license to start unzipping



4. อัปเดต ST-Link Firmware

4.1 เชื่อมต่อ Board เข้ากับเครื่องคอมพิวเตอร์ด้วยสาย USB

4.2 เลือกเมนู Help -> ST-Link Upgrade

IDE MAD_Lab_2565 - STM32CubeIDE

File Edit Source Refactor Navigate Search Project Run Window Help

Information Center

STM32CubeIDE Home

Start a project

- Start new STM32 project
- Start new project from STM32CubeMX file (.loc)
- Import project
- Import STM32Cube example

We

Improved Speed Registers (S

Enhancements to of peripheral and including bit field information

How to access it : Window > Show view > SFRs

Quick links

- STM32CubeIDE resource portal on wiki
- STM32CubeIDE manuals
- STM32 videos
- STM32 MPU wiki
- STM32 MCU wiki

Help

- Information Center
- Tutorial Video
- Help Contents
- Search
- Show Context Help
- Show Active Keybindings... Ctrl+Shift+L
- Tips and Tricks...
- Cheat Sheets...
- Eclipse User Storage
- Check for Updates
- Install New Software...
- Eclipse Marketplace...
- Check for Target Selector Device Database Updates
- Check for Embedded Software Packages Updates
- Manage Embedded Software Packages
- Target Device Docs and Resources
- ST-LINK Upgrade
- About STM32CubeIDE

Support & Community

- Twitter
- Facebook
- Youtube
- ST Home
- ST Community
- ST Longevity Commitment

Standalone STM32 Tools

- STM32CubeMX
- STM32CubeMonitor
- STM32CubeMon-Pwr
- STM32CubeMon-RF
- STM32CubeMon-UCPD
- STM32CubeProg

STLinkUpgrade 3.4.0

Refresh device list

Open in update mode

ST-Link ID:

Current Firmware:

Type:

Version:

Update to Firmware:

Upgrade

STM32

Releasing your creativity

