

CE-MAD 2565

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**

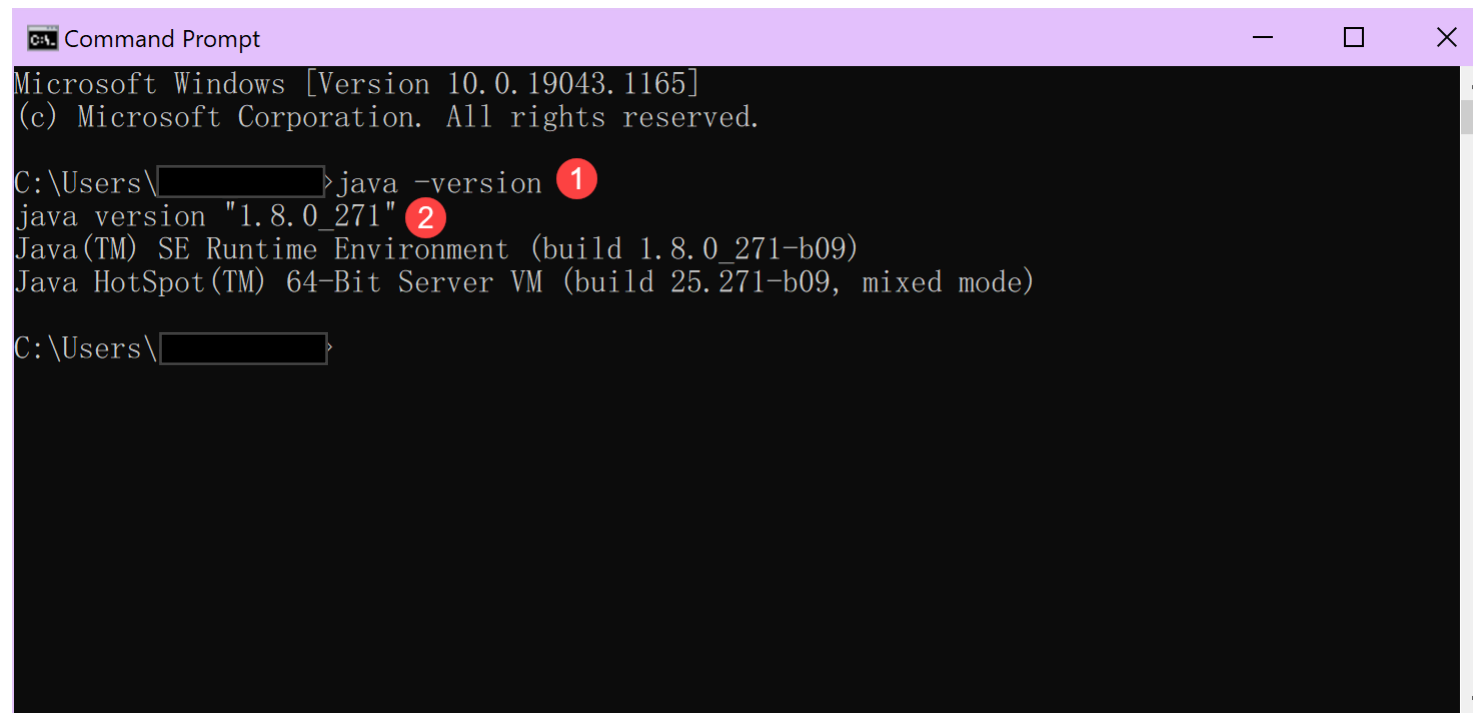
1.2.3 ถ้าแสดง version 1.8.xxx ให้ข้ามไปขั้นตอน 2

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 เพื่อดาวน์โหลดซอฟต์แวร์และเอกสารต่างๆ

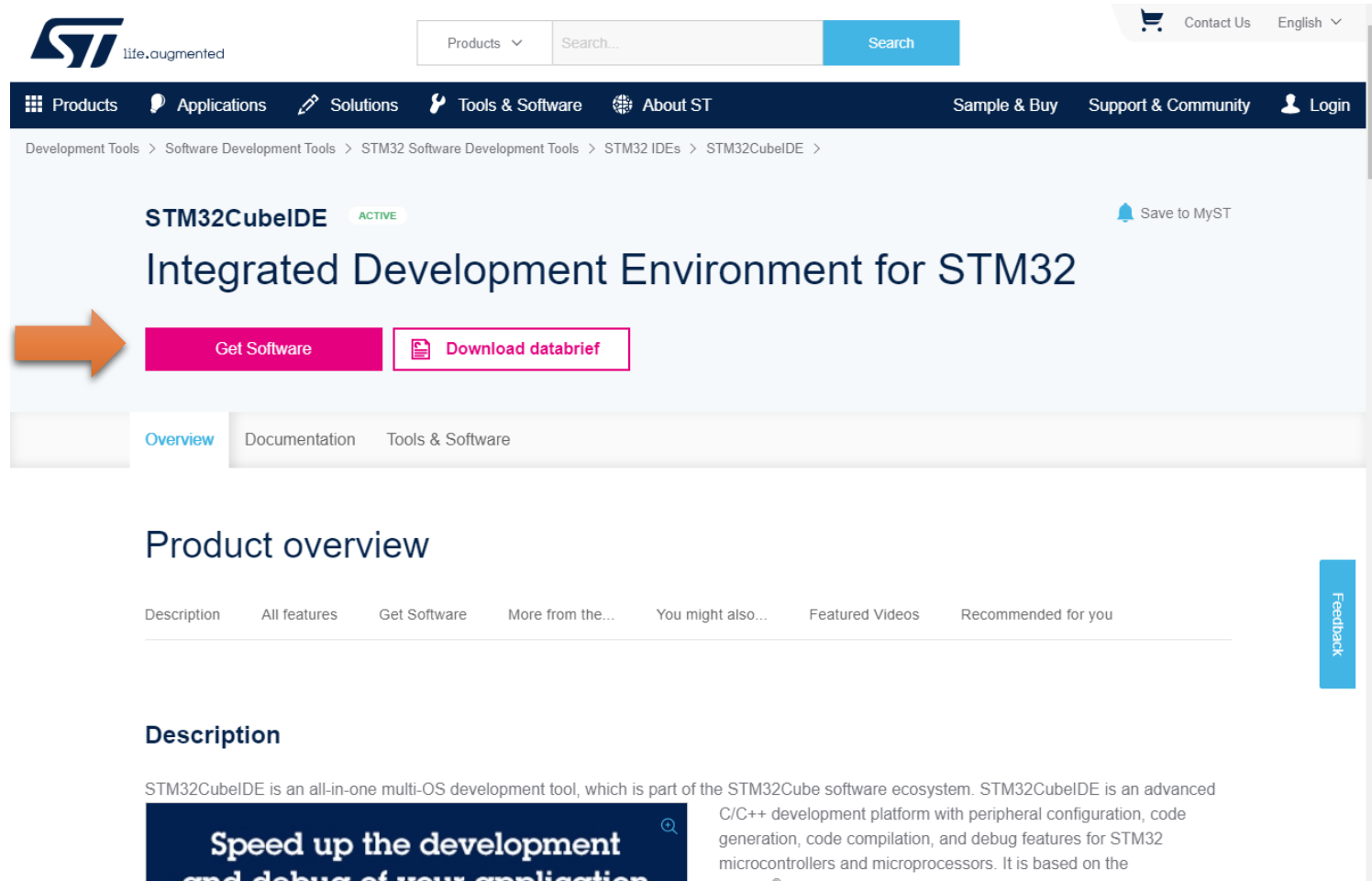
2.2 ไปยังเพจ [STM32CubeIDE](https://www.st.com/en/development-tools/stm32cubeide.html)

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 main heading is 'STM32CubeIDE' with a green 'ACTIVE' badge. Below the heading is the subtitle 'Integrated Development Environment for STM32'. Two buttons are visible: 'Get Software' (highlighted with an orange arrow) and 'Download databrief'. A 'Save to MyST' button is also present. The page includes a breadcrumb trail: 'Development Tools > Software Development Tools > STM32 Software Development Tools > STM32 IDEs > STM32CubeIDE >'. The 'Overview' tab is selected in the navigation menu. The 'Product overview' section includes tabs for Description, All features, Get Software, More from the..., You might also..., Featured Videos, and Recommended for you. The 'Description' tab is active, showing a brief overview of the tool and a banner that reads 'Speed up the development and debug of your application'.

เลือก Version 1.11.0

Get Software

Part Number	General Description	Supplier	Download	All versions
+ STM32CubeIDE-DEB	STM32CubeIDE Debian Linux Installer	ST	Download latest	Select version ▾
+ STM32CubeIDE-Lnx	STM32CubeIDE Generic Linux Installer	ST	Download latest	Select version ▾
+ STM32CubeIDE-Mac	STM32CubeIDE macOS Installer	ST	Download latest	Select version ▾
+ STM32CubeIDE-RPM	STM32CubeIDE RPM Linux Installer	ST	Download latest	Select version ▾
+ STM32CubeIDE-Win	STM32CubeIDE Windows Installer	ST	Download latest	<div> <div>1.11.0</div> <div>1.10.1</div> <div>1.10.0</div> </div>

Get Software

License Agreement

2

ACCEPT

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3. เปิด STM32CubeIDE

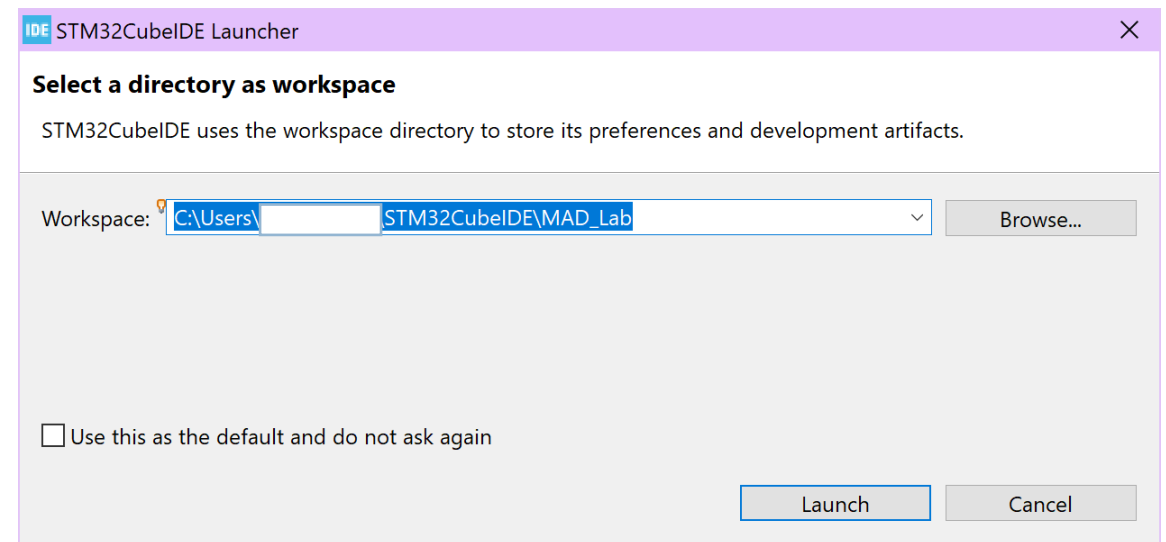
3.1 เปิดโปรแกรม STM32CubeIDE

3.2 เลือกโฟลเดอร์สำหรับ
workspace

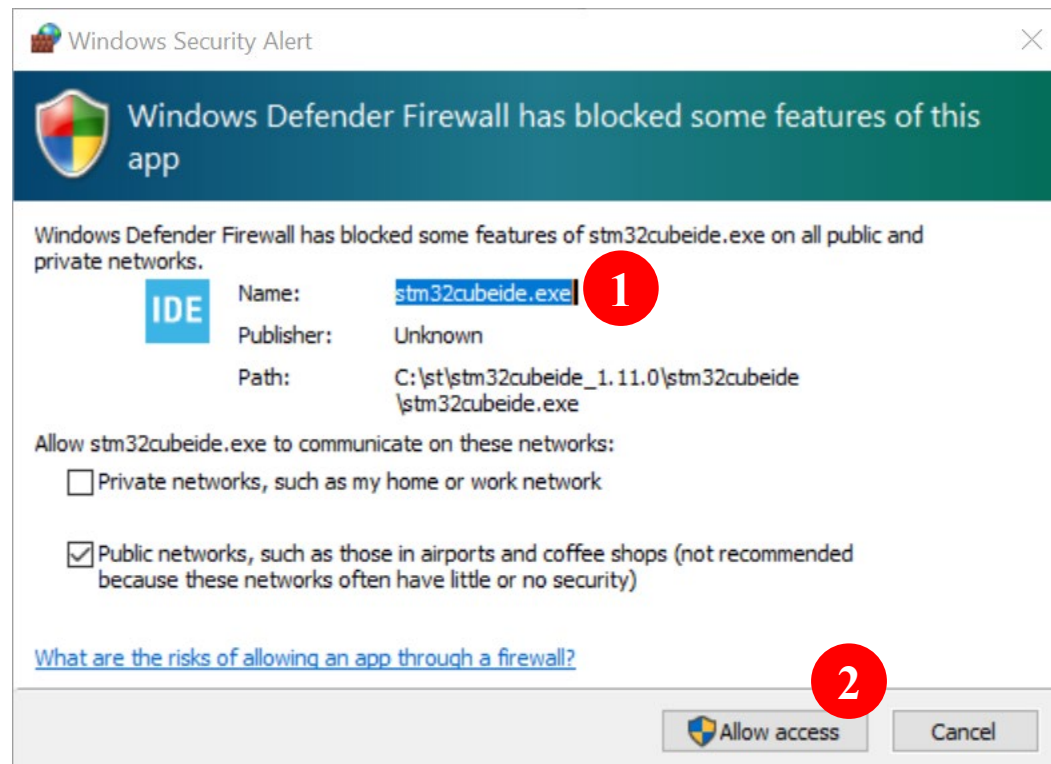
3.3 แนะนำให้ตั้งชื่อ **MAD_Lab**

3.4 กด Launch

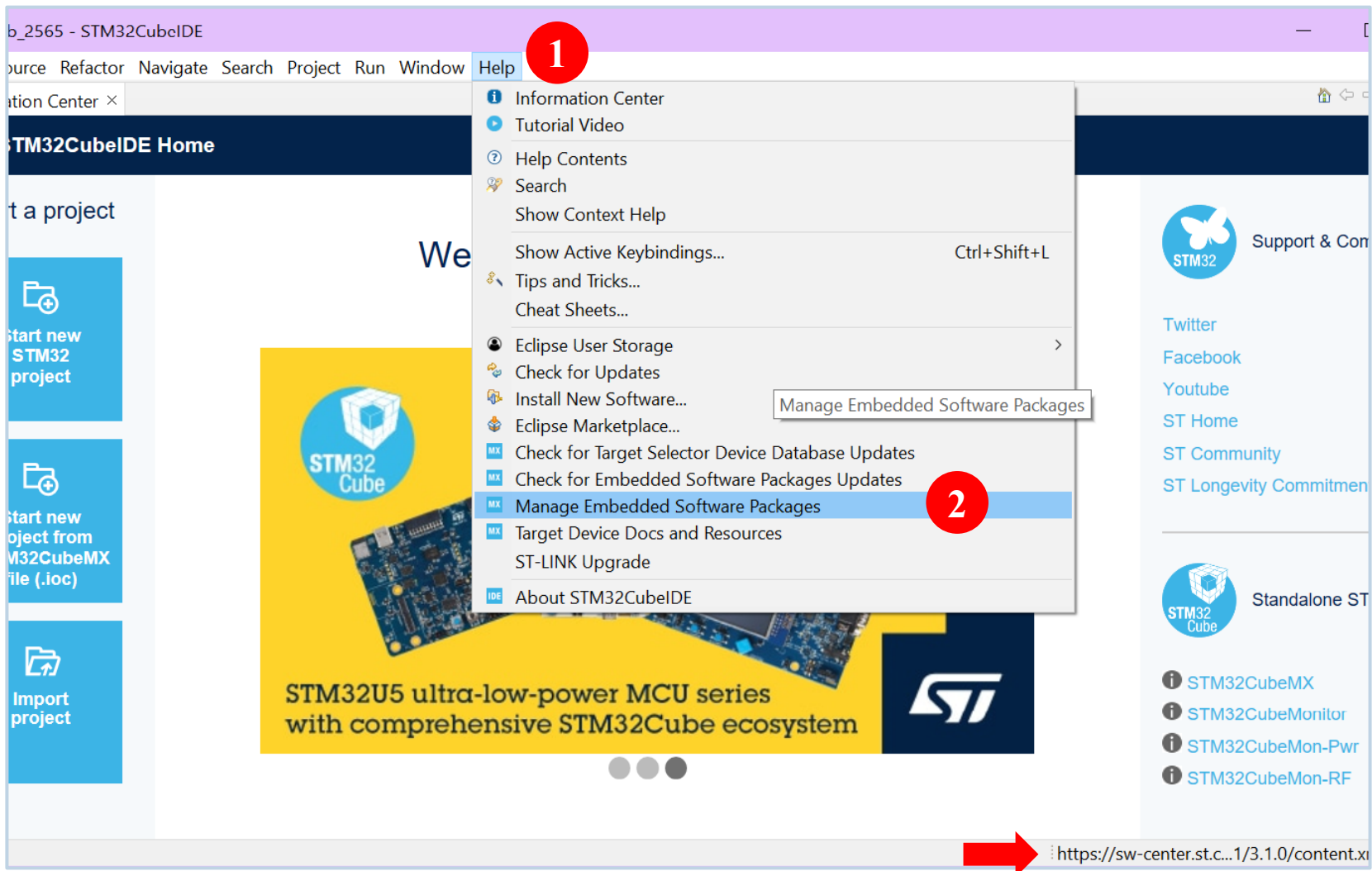
3.5 อนุญาตให้โปรแกรมสามารถ
เชื่อมต่ออินเทอร์เน็ตเพื่อดาวน์โหลด
โมดูลอื่นๆ ที่เกี่ยวข้อง



3.5.1 Allow Firewall



3.6 Manage Embedded Software Packages



3.6.1 เลือกเฉพาะ Version 1.17.0

The screenshot shows the STM32Cube MCU Packages Manager interface. The main window displays a list of packages for the STM32F7 series. The package 'STM32Cube MCU Package for STM32F7 Series (Size : 1157.12 MB)' is selected, and its version 1.17.0 is highlighted. A red circle with the number 1 points to the 'STM32F7' category, and a red circle with the number 2 points to the selected package. A red circle with the number 3 points to the 'Install' button at the bottom. A red arrow points from the 'Install' button to a secondary dialog box titled 'Downloading selected software packages'. This dialog shows the download of 'stm32cube_fw_f7_v1170.zip' (2.0 MBytes / 1157.1 MBytes) and provides 'OK' and 'Cancel' buttons.

MX Embedded Software Packages Manager

STM32Cube MCU Packages and embedded software packs releases

Releases Information was last refreshed less than one hour ago.

STM32Cube MCU Packages STMicroelectronics RoweBots SEGGER emotas portGmbH wolfSSL

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

Details

[STM32CubeF7 Firmware Package V1.17.0 / 10-June-2022](#)

Main Changes

- Maintenance release
- General updates to fix known defects and implementation enhancements
- Rework Ethernet driver to resolve problems and improve performance
- Update to support USB Device V2.11.0, and USB Host v3.4.1

From Local ... From Url ... Refresh Install Remove Close

MX Downloading selected software packages

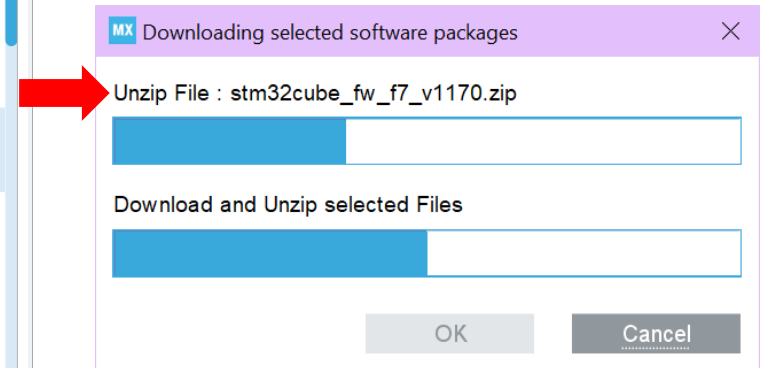
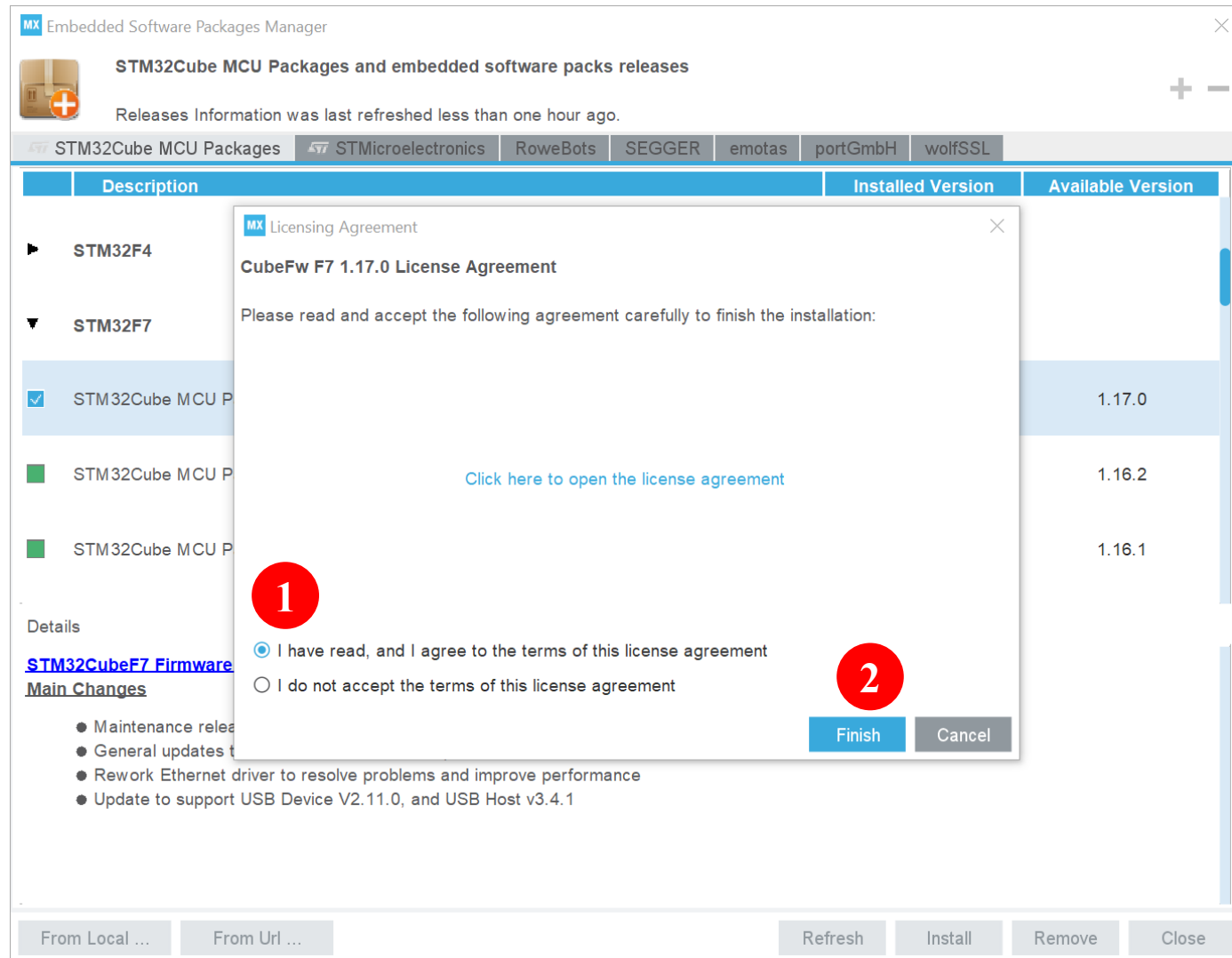
Download File stm32cube_fw_f7_v1170.zip

2.0 MBytes / 1157.1 MBytes (09m 40s left)

Download and Unzip selected Files

OK Cancel

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

