



MCU Programmers User Manual

SWD BLASTER ARM MCU PROGRAMMER USER MANUAL

The Earth People Technology SWD Blaster programs and provides in circuit debugging via JTAG or SWD for any ARM MCU. It connects via USB to the Host PC running Windows and is fully plug and play compatible. The SWD Blaster integrates seamlessly into the high-performing C/C++ compiler and debugger tool suite IAR Embedded Workbench IDE for easy-to-use, fast and reliable debugging. The SWD Blaster streams the program counter, variables, and register data to the host computer to provide a view into program execution in real time.

For debugging Cortex devices, the SWD Blaster also supports the SWO (Serial Wire Output) feature, which can be used for tracing the program execution and tracking variables at predefined points in your code.

Supports all Arm7/Arm9/Arm11 cores, Arm Cortex-A/R/M cores from all Silicon Vendors with Automatic core recognition and JTAG/SWD detection. Supports target voltage range from 1.65V to 5V. Includes 0.1 inch header utilizing the MIPI-20 pinout.

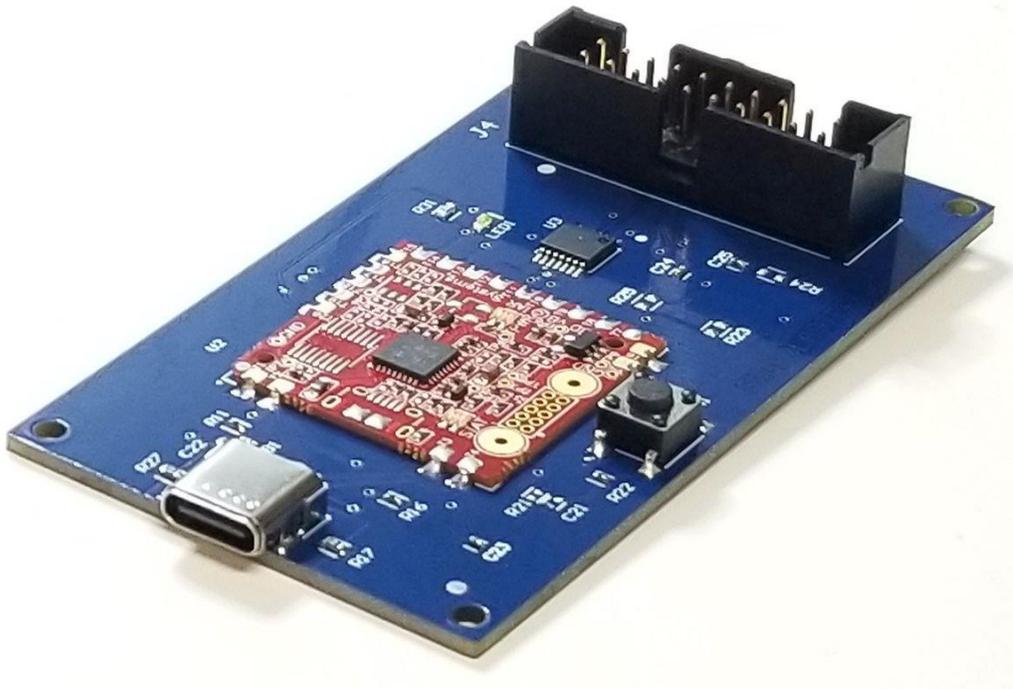
The SWD Blaster provides a fast debugging platform via JTAG and SWD/SWO with download speeds of up to 1.89 MByte/sec. The JTAG and Serial Wire Debug (SWD) clocks up to 8MHz (no limit on the MCU clock speed).



EARTHPEOPLE

T e c h n o l o g y

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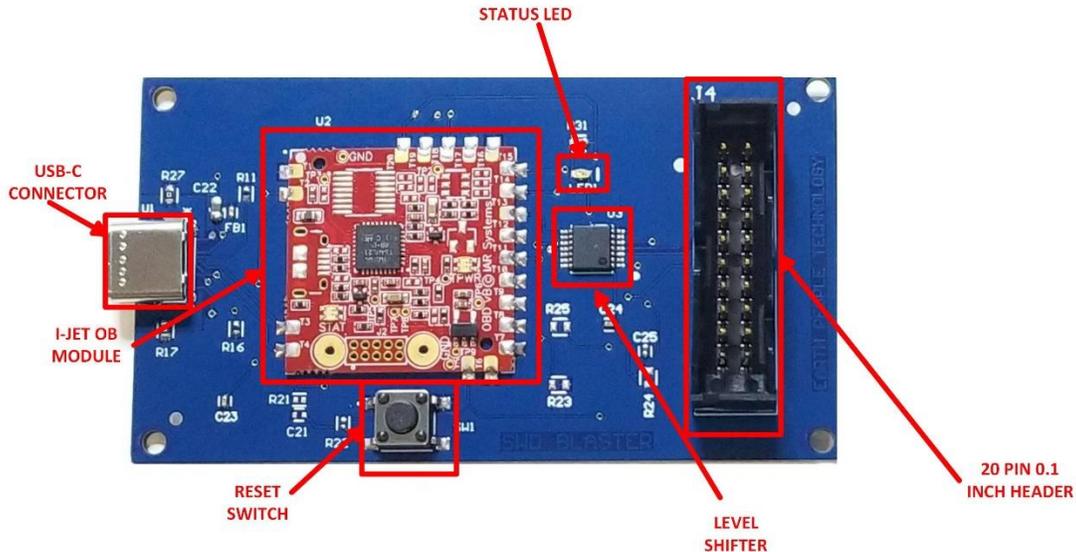
1 Description

The SWD Blaster is a stand alone programmer for use with IAR Embedded Workbench and capable of debugging most ARM MCU's. It includes the I-Jet On Board Module from IAR. It also includes a USB-C connector and a 20 pin 0.1 Inch Header that maps to the MIPI-20 pinout. The SWD Blaster has a reset switch for manual reset of the target MCU. There is a level shifter chip which is powered from the target MCU board. This level shifter allows the SWD signals to match the target MCU from 1.65V to 5V.



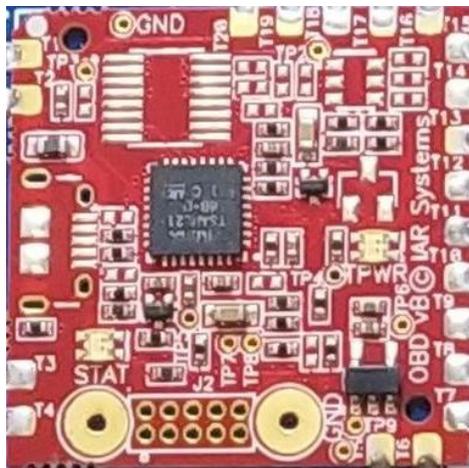
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SWD BLASTER TOP LEVEL CALLOUTS



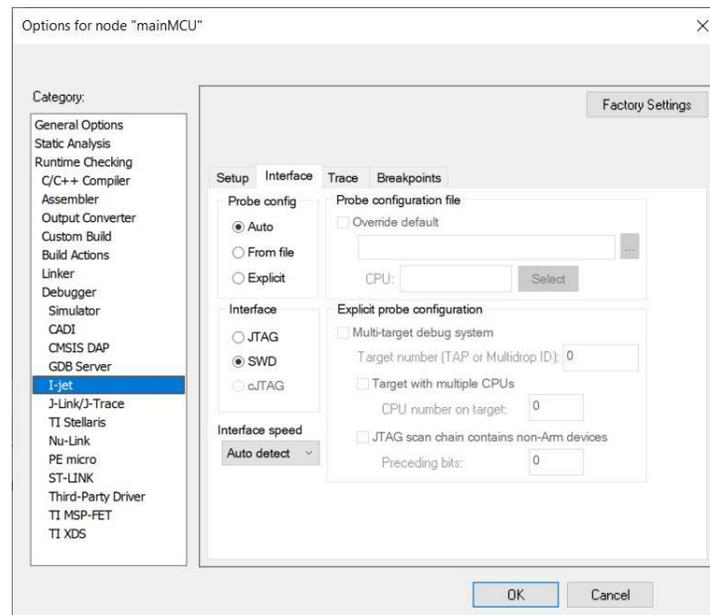
1.1 I-Jet OBM

The I-Jet On Board Module is sourced from IAR so it is officially licensed by the company.



When the SWD Blaster is connected to a USB port on a PC loaded with the latest version of IAR Embedded Workbench, it is immediately recognized as an I-Jet. And it can be used to program the flash of the target MCU or provide in circuit debugging.

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The OBM provides full SWD JTAG in circuit emulation. The emulation speed is limited to 8MHz. However, this speed is more than adequate for most applications. The OBM provides all of the debugging power of the IAR Embedded Workbench. The user can:

- compile user code
- download, debug
- step over functions
- step into functions
- run to cursor
- run full program
- pause
- view all registers
- set breakpoints
- execute to breakpoints
- add variables to watch
- probe variables
- and all other functionality

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The OBM is powered by the USB-C connection from the port of the connected PC.

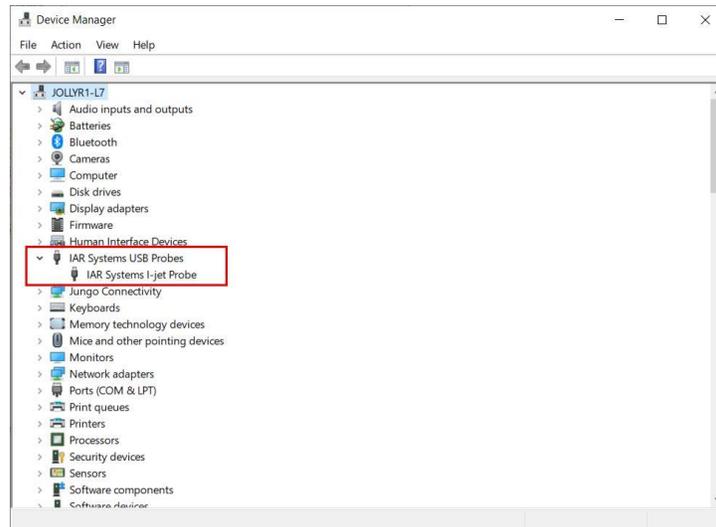
1.2 USB-C Connection

The SWD Blaster communicates with a PC via the USB-C connector. Connect the cable to any USB 2.0 or higher compliant port.

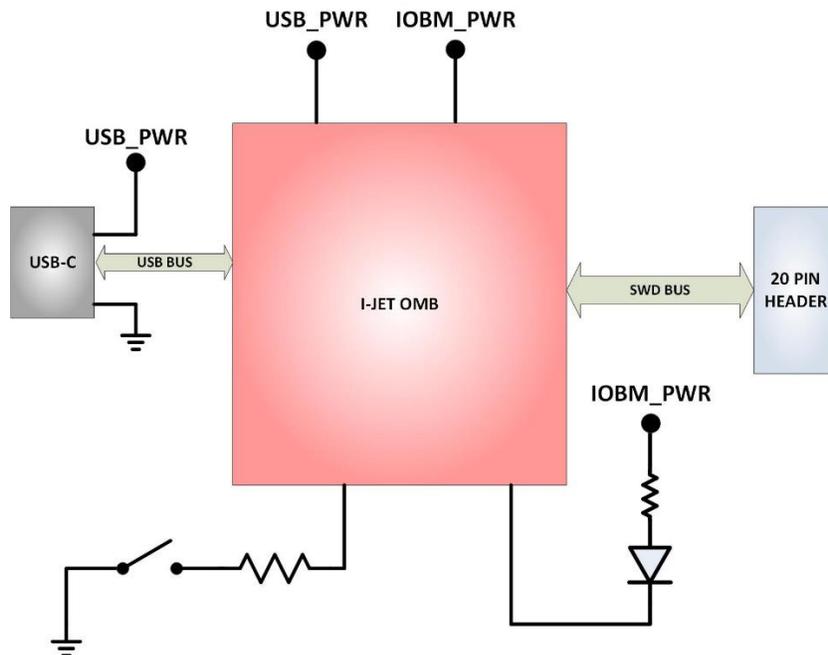


When the IAR Embedded Workbench software is properly installed on the PC, the driver will automatically load.

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The SWD Blaster is powered by the USB-C connection. The USB Power is used to power up the OB Module. The OB Module provides +3.3V power for external use on the SWD Blaster.

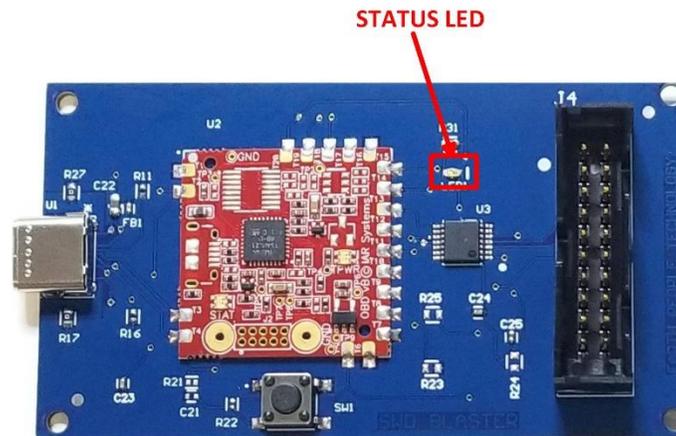


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The USB connection provides the bi-directional communication path between Host PC and the SWD Blaster.

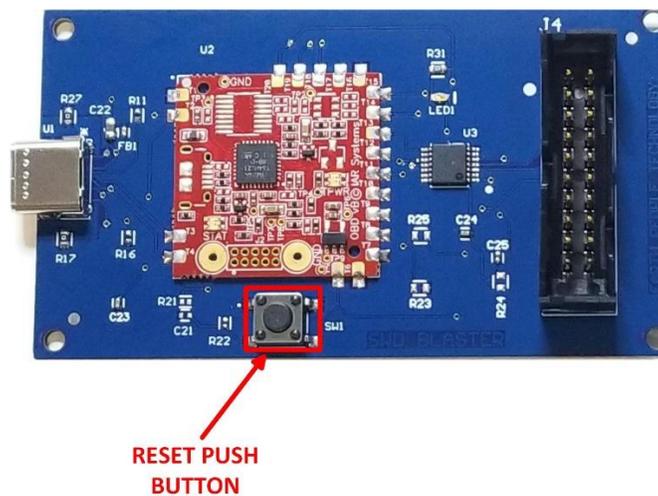
1.3 Status LED

The STATUS LED is used to indicate that the SWD Blaster has been appropriately powered from the Host USB. It will light up green. It is connected to pin 11 of the IOBM and driven with sink from the module.



1.4 Reset Switch

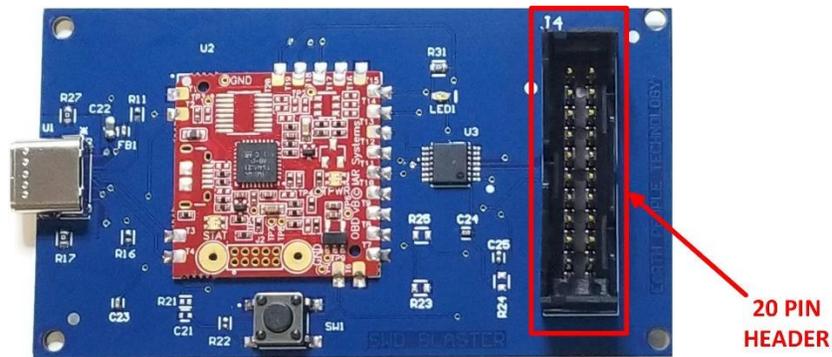
The Reset Push Button is used to manually reset the target MCU.



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1.5 20 Pin Header

The SWD Blaster includes a 20 Pin 0.1 Inch Dual Row Shrouded Header.



This header is used to connect the

- SWDIO
- SWDCLK
- TARGET POWER
- SWO
- GROUND
- TRESET

Signals to the target MCU. The header pinout follows the MIPI-20 scheme.

VTREF	1	2	SWDIO/TMS
GROUND	3	4	SWCLK/TCK
GROUND	5	6	SWO/TDO
NO CONNECT	7	8	TDI
NO CONNECT	9	10	TGT_RESET
NO CONNECT	11	12	NO CONNECT
NO CONNECT	13	14	NO CONNECT
GROUND	15	16	NO CONNECT
GROUND	17	18	NO CONNECT
GROUND	19	20	NO CONNECT

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The VTREF signal is power applied from the Target Device. It is used to power the output sample circuit of the IOBM. It must have the capability of supplying:

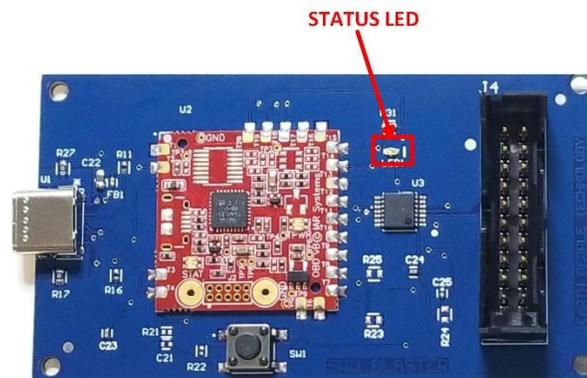
20mA

1.6 Using the SWD Blaster

The SWD Blaster must have the IAR Embedded Workbench installed on the PC. The USB driver is included in the software. Once installed, connect the SWD Blaster using a USB-C cable. Connect the USB cable to a port on the Host PC.

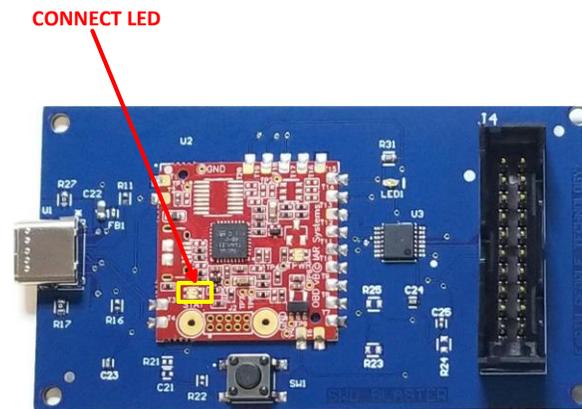


The driver will automatically load. The STATUS LED will light to indicate power has been correctly applied to the SWD Blaster.

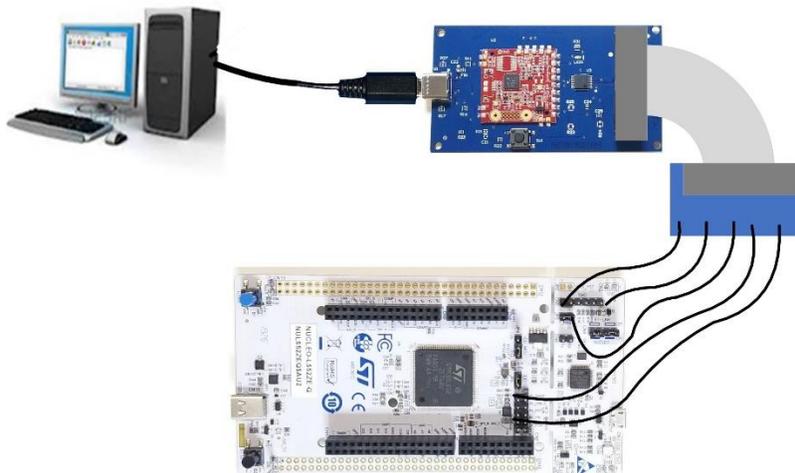


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The “CONNECT” LED will light up in the Green color.

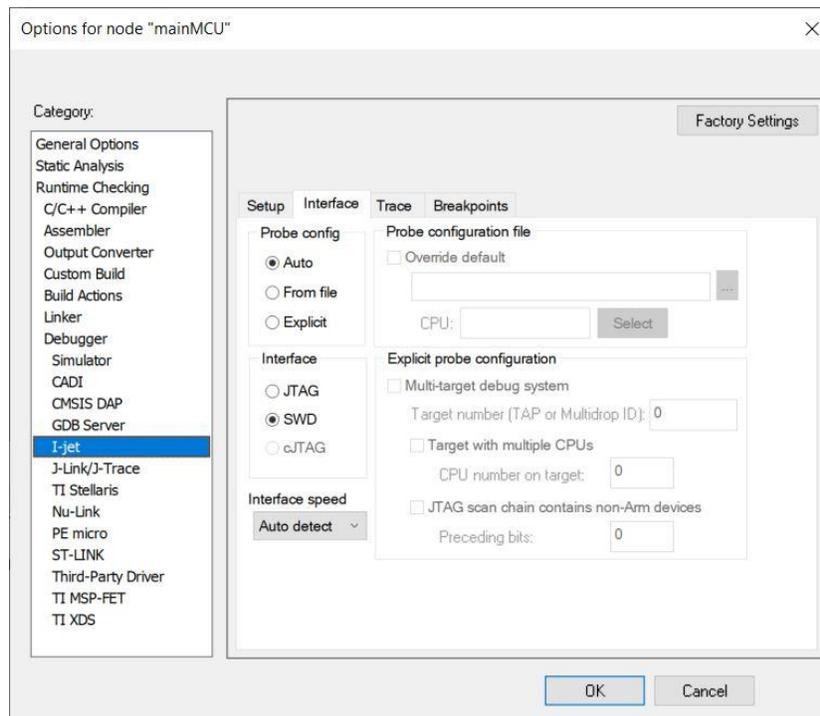


If the CONNECT LED lights up in Red, it means the IOBM USB Driver did not properly. Use the 20 pin Header and Adapter Board to connect the SWD signals to the Target Board.



Use the Embedded Workbench software to connect to the target board. Write user code, compile, download and start debugging.

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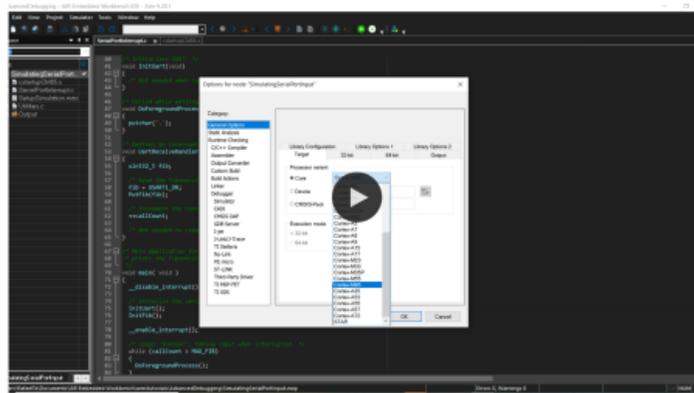
2 Installing Software for use with SWD Blaster

The SWD Blaster uses the I-Jet On Board Module from IAR. IAR makes the software called Embedded Workbench.



Product overview

See IAR Embedded Workbench for Arm V9.30 and its powerful features in action in this video.



This software along with the SWD Blaster will allow developers to create software to run on any ARM MCU. EPT acquires the I-Jet OBM directly from IAR. So, this is an officially licensed product. The Embedded Workbench software includes all drivers for use with the SWD Blaster.

IAR provides two free versions of Embedded Workbench for download for users.

- Time Limited Embedded Workbench – Full version of software expires after 14 days. No code size limitation.
- Code Limited Embedded Workbench – All software features available (Download and Debugging), compiled code size is limited to 32Kbytes.

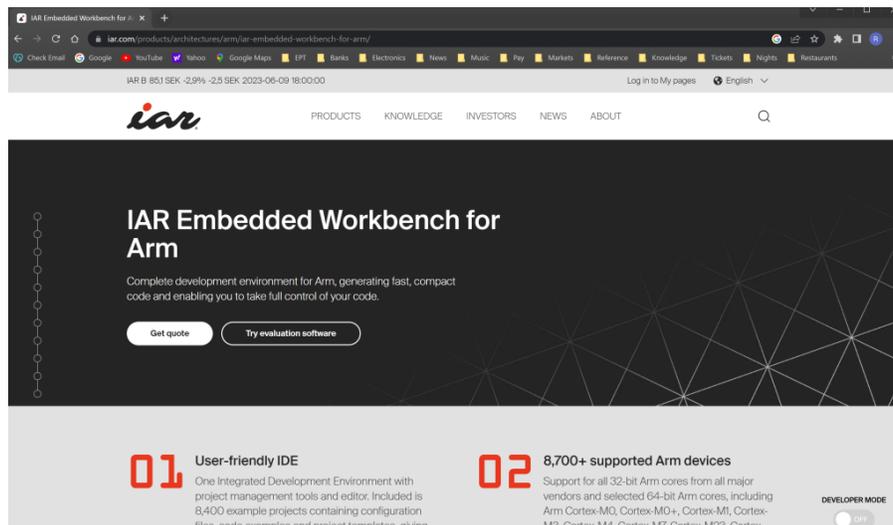
Follow the steps below to install the free version of software.

2.1 Download and install IAR Workbench

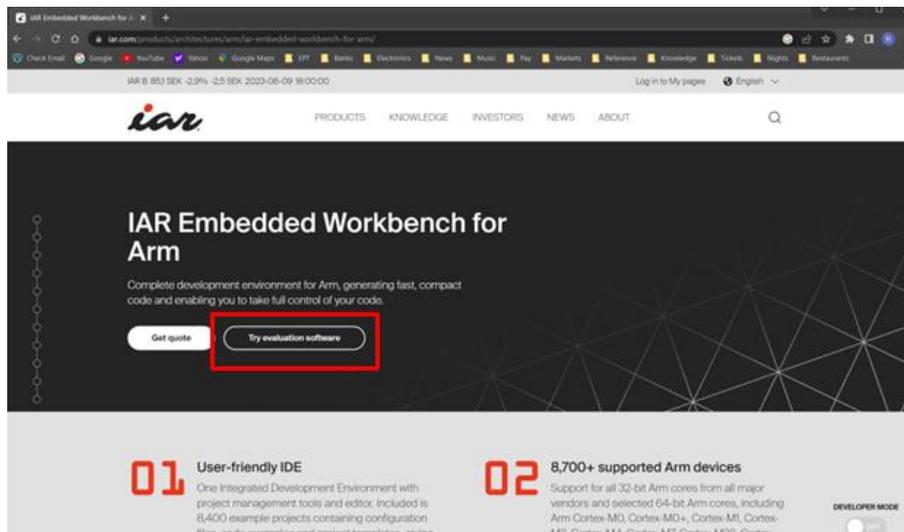
Go to the [IAR Download ARM Software](#) page



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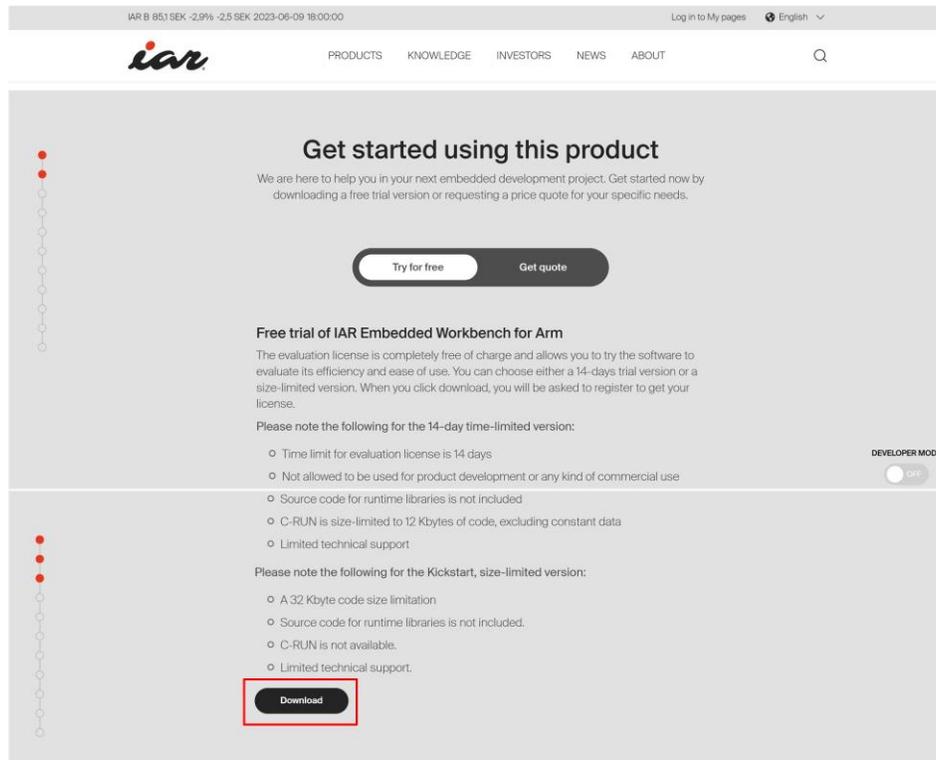


Click on the “Try evaluation software” button



At the “Use this Product” page, click on the “Download” button.

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A screenshot of the IAR Embedded Workbench for Arm product page. The page has a grey background and a white navigation bar at the top. The navigation bar includes the IAR logo, the text "PRODUCTS KNOWLEDGE INVESTORS NEWS ABOUT", and a search icon. The main content area is titled "Get started using this product" and contains a sub-header "Free trial of IAR Embedded Workbench for Arm". Below the sub-header, there are two buttons: "Try for free" and "Get quote". The page also lists several bullet points under the heading "Please note the following for the 14-day time-limited version:" and "Please note the following for the Kickstart, size-limited version:". A "Download" button is highlighted with a red box. On the right side of the page, there is a "DEVELOPER MODE" toggle switch set to "OFF".

What type of license do you need?

Our tools are available in a flexible license model to suit your company needs. Together with our support and update agreements, you get the support you need in multiple time

At the “Register for Evaluation” page, fill out the information, then click on the “Submit Registration” button.



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English • 日本語 • 中文

Register for Evaluation

Please complete the following registration in order to complete the activation of your product.

Evaluation license type *

Time limited (14 days)
IAR Embedded Workbench for Arm, v. 9.40, Evaluation Edition

Code size limited
IAR Embedded Workbench for Arm, v. 9.40, 32K Kickstart Edition

I intend to work offline *

Yes
 No

First name *

Last name *

Job title

Email *

Phone *
 Extension:

Company *

Please describe your project

What is the reason for your interest in this product? *

I'm looking for a tool for a new project or for maintaining an existing product
 I use other tools now but I am looking for future options
 I already use this tool but want the latest version
 I'm curious
 I have a commercial license and want this tool for other reasons

What is the rough time frame for when the software development should be completed? *

No time limit
 <6 months from now
 Within 6-12 months
 >12 months from now
 Not applicable/other

What is the approximate number of developers involved in the planned project? *

1
 2-5
 >5
 Not applicable/Not known

* Indicates a required field.

Yes, I agree to [IAR Privacy Policy](#).

Yes, I agree to [IAR Software Licence Agreement](#).

[IAR website](#)

Go to the email address you specified and search for the email from IAR.



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Please Confirm Registration

An email has now been sent to the address you specified (_____@yahoo.com), asking you to confirm the registration. Follow the instructions in that email to receive information on how to proceed.

[IAR website](#)

Click on the link in the email.



noreply.www1@iar.com <noreply.www1@iar.com>
To: Richard Jolly

Dear Developer,

Please confirm your web registration for the product

IAR Embedded Workbench for Arm, v. 9.40, 32K Kickstart Edition

using this link

<https://register.iar.com/confirm?lang=en&key=69df9e18-992a-4f00-b21d-4c5577418f9c>

Unconfirmed registrations are erased from our system after 14 days.

You cannot reply to this email. Please use the Contact page on our website (<http://www.iar.com/contact/>) if you have any comments or questions.

Best regards,

IAR



Click on the "Download software" link



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Registration Complete

Thank you for your registration!

You have been assigned the following license number:

When you launch the application for the first time, you will be asked to specify this license number in the IAR License Manager. If the IAR License Manager does not pop-up automatically you can start it either from the Windows Start menu or from the Help menu in your IAR product.

[Download software](#) (Windows, 1.6 GB)

IAR

[IAR website](#)

Wait for the download to complete



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Registration Complete

Thank you for your registration!

You have been assigned the following license number:

9403-873-161-2151

When you launch the application for the first time, you will be asked to specify this license number in the IAR License Manager. If the IAR License Manager does not pop-up automatically you can start it either from the Windows Start menu or from the Help menu in your IAR product.

[Download software](#) (Windows, 1.6 GB)

IAR

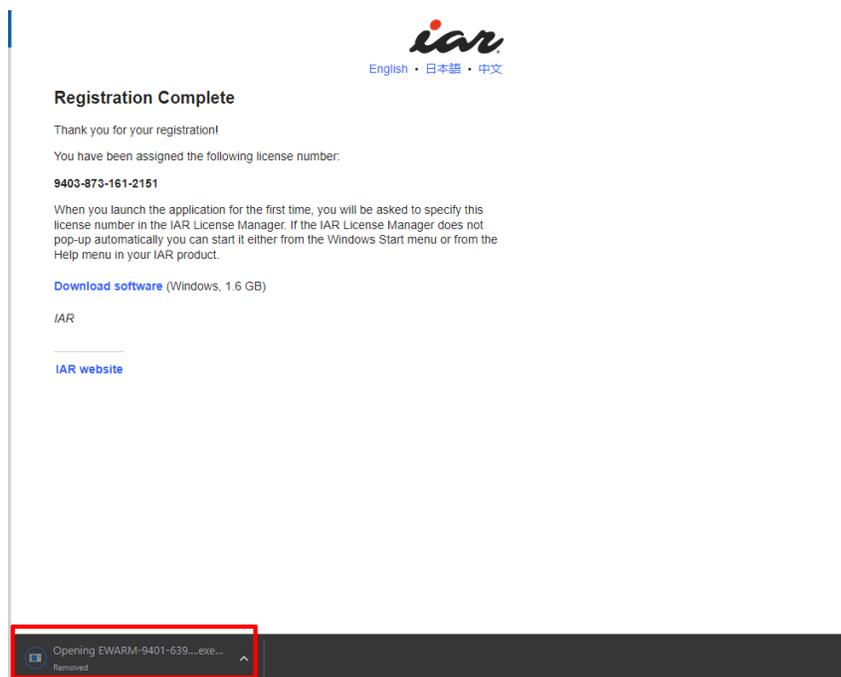
[IAR website](#)



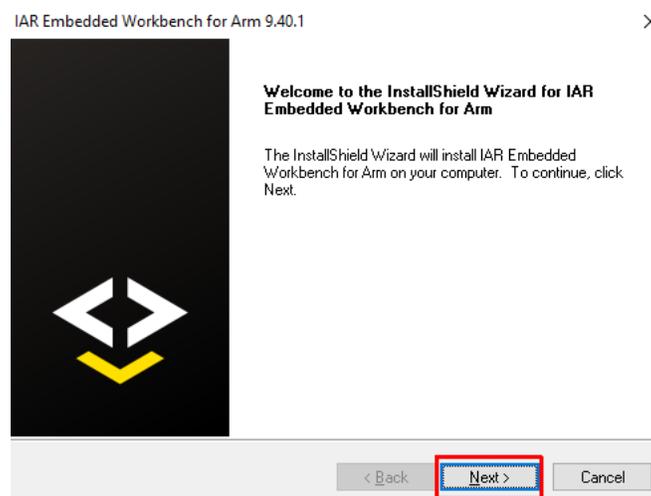
Double click on the link when complete



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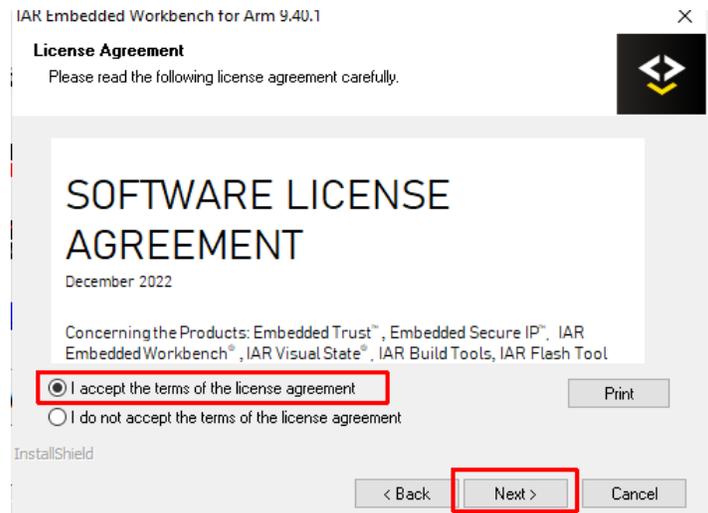
Double click on the



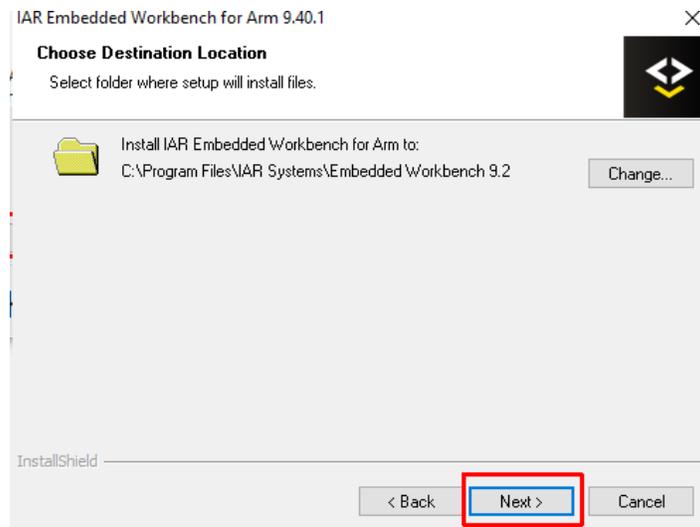
D



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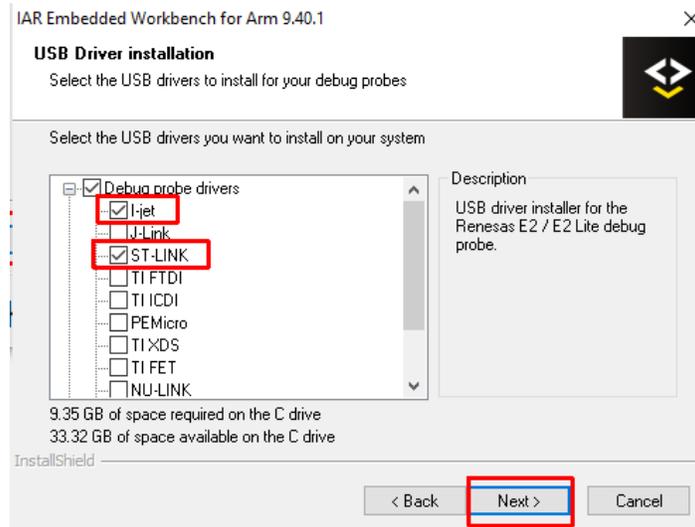


Double click on the

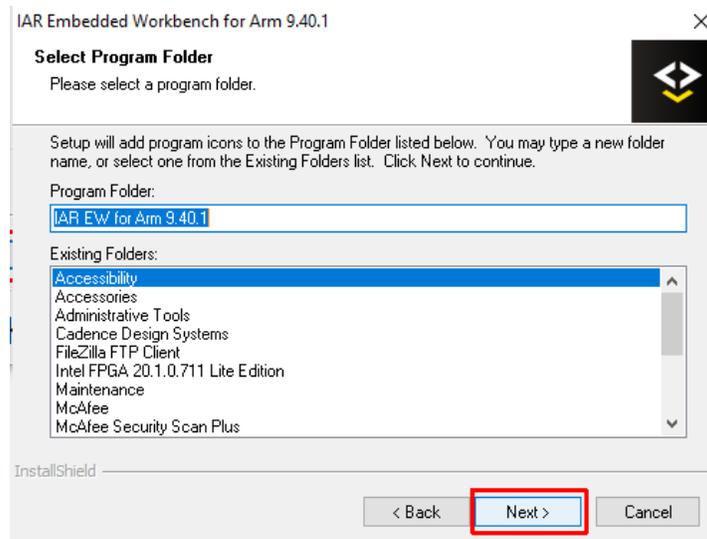


Make sure the "I-Jet" and "ST-LINK" radio boxes are selected. Then click Next.

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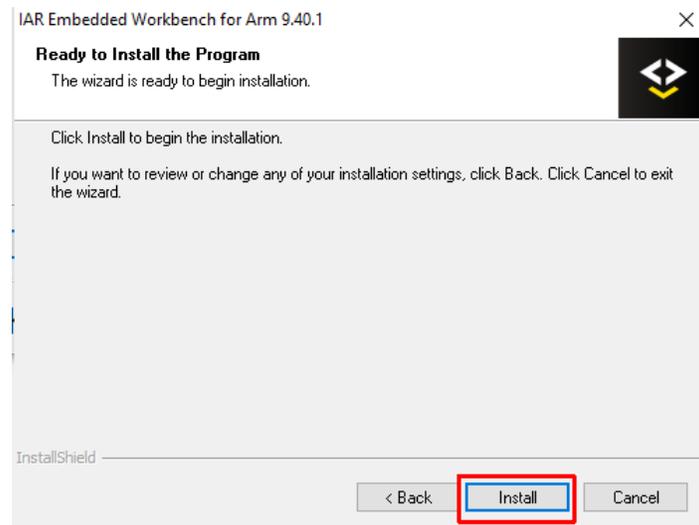
Accept the defaults on the next screens and click next.



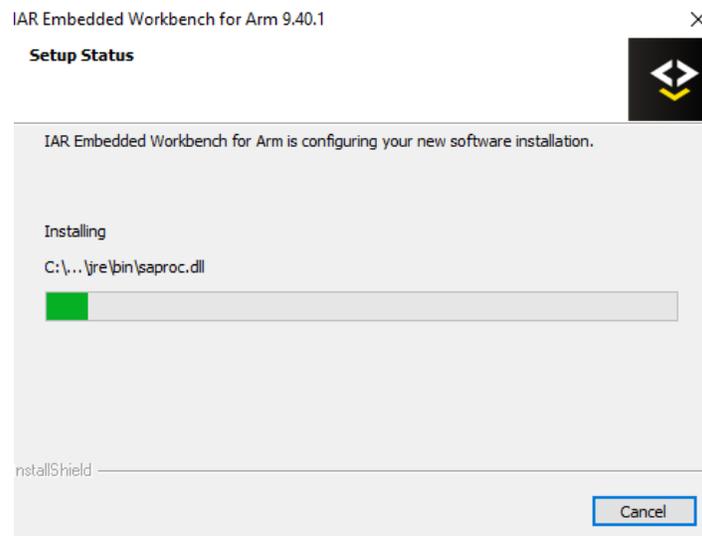
Click Install



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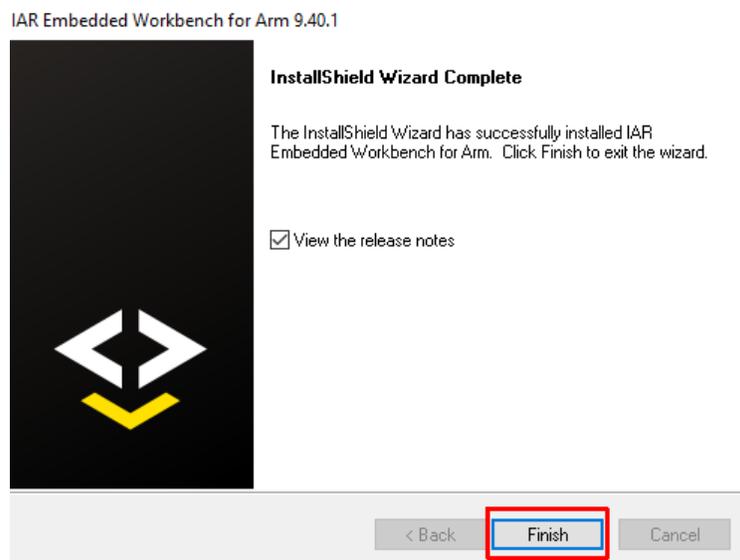


Wait until the EW is installed

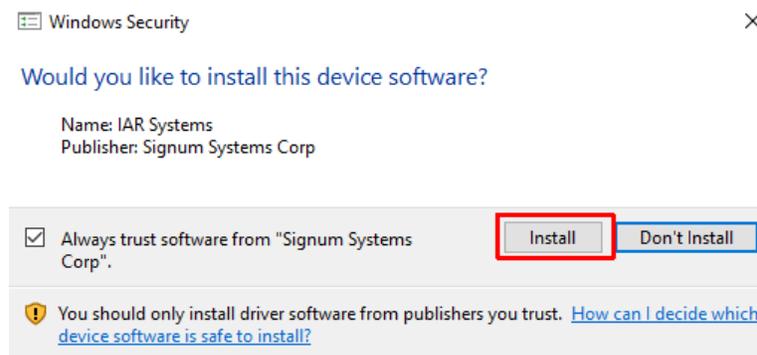


When complete, click on the "Finish" button

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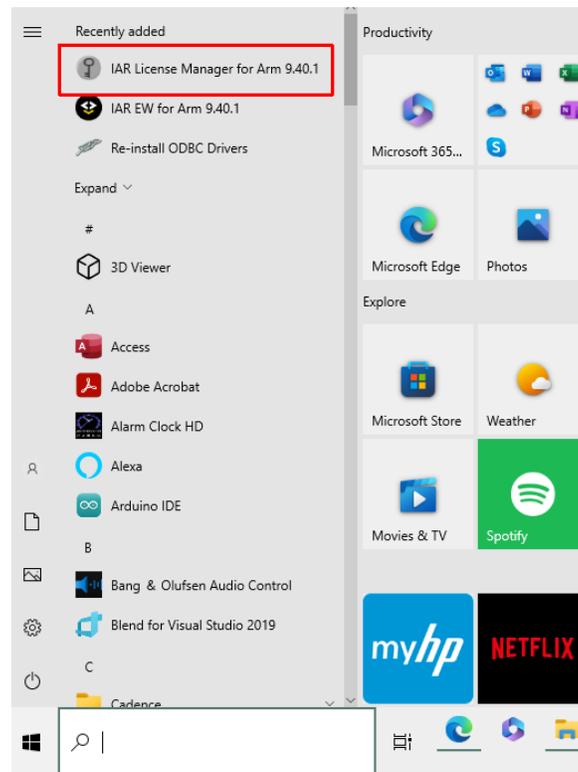
Next up, the drivers will install for programming cables.



Select the defaults and allow the wizards to complete the driver installation.

Once software and driver installation is complete, you will need to obtain a license. Click on the Windows button and click on the "IAR License Manager For ARM xxx" link.

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The license manager will search for installed licenses. When it does not find one, you will see this message:



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License Wizard ×

Welcome 

This wizard will help you to activate your IAR Embedded Workbench for Arm license.

If you have a license number, enter it here:

|xxxx-xxxx-xxxx-xxxx

Use a network license

Register with IAR Systems to get an evaluation license

Don't run the Wizard for this product at startup.

< Back Next > Cancel

Here, you will refer to the previous website that displays your license number. So, select the “If you have a license number, enter it here” and click next.



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Registration Complete

Thank you for your registration!

You have been assigned the following license number:

9403-873-161-2151

When you launch the application for the first time, you will be asked to specify this license number in the IAR License Manager. If the IAR License Manager does not pop-up automatically you can start it either from the Windows Start menu or from the Help menu in your IAR product.

[Download software](#) (Windows, 1.6 GB)

[IAR](#)

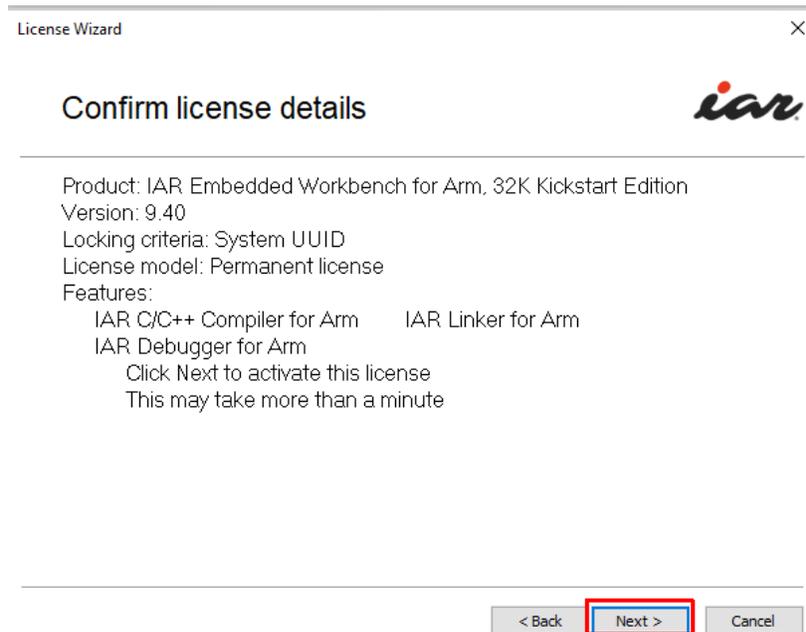
[IAR website](#)

A screenshot of the IAR License Wizard dialog box. The title bar reads "License Wizard" and there is a close button (X) in the top right corner. The main content area has a "Welcome" heading and the IAR logo. Below the heading, a message states: "This wizard will help you to activate your IAR Embedded Workbench for Arm license." There are three radio button options: "If you have a license number, enter it here:" (which is selected), "Use a network license", and "Register with IAR Systems to get an evaluation license". A text input field contains the license number "9403-873-161-2151". At the bottom, there is a checkbox labeled "Don't run the Wizard for this product at startup." and three buttons: "< Back", "Next >" (highlighted), and "Cancel".

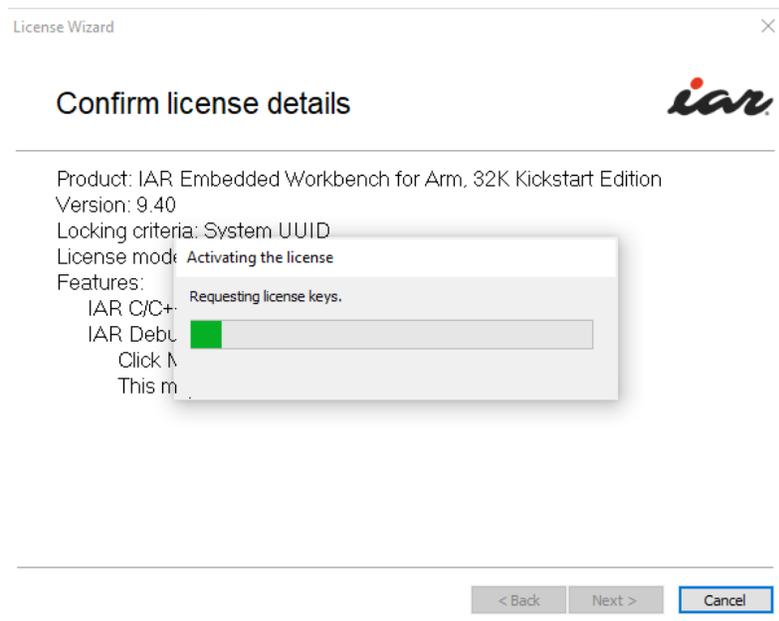
You should receive a confirmation. Click “Next”



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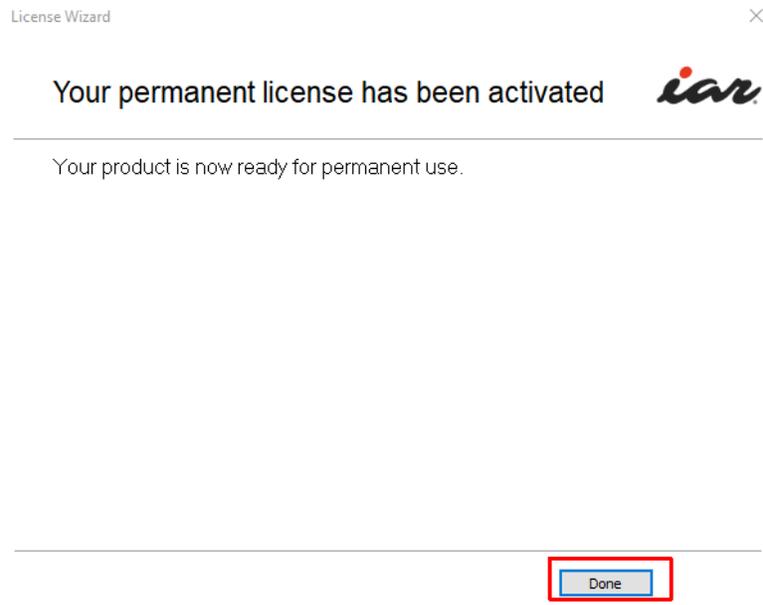
The following message will appear.



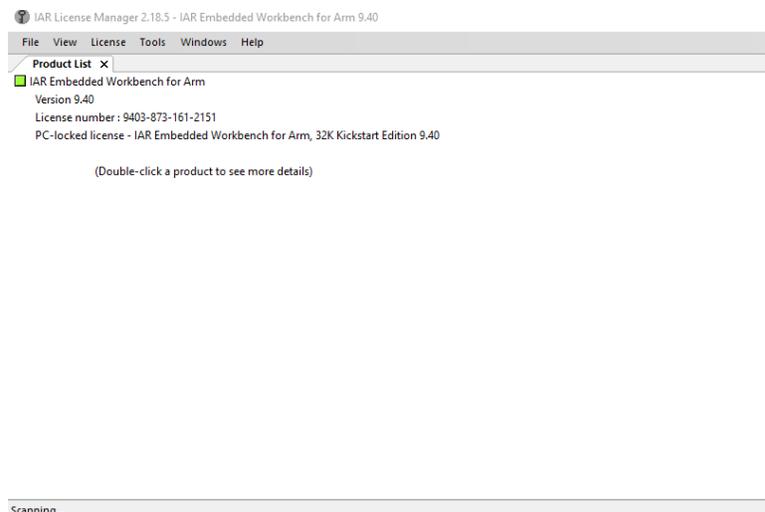


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Click “Done”

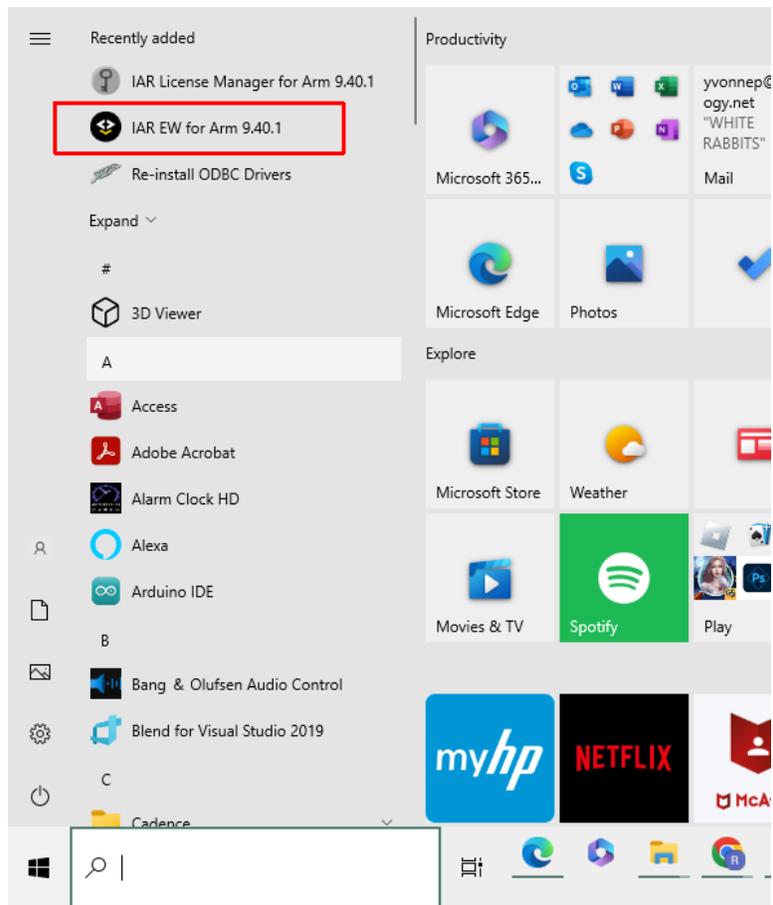


License Manager should now look like this:



The IAR EW software is now installed and the license has been applied. You can run the software by clicking on the icon in the Windows Tray.

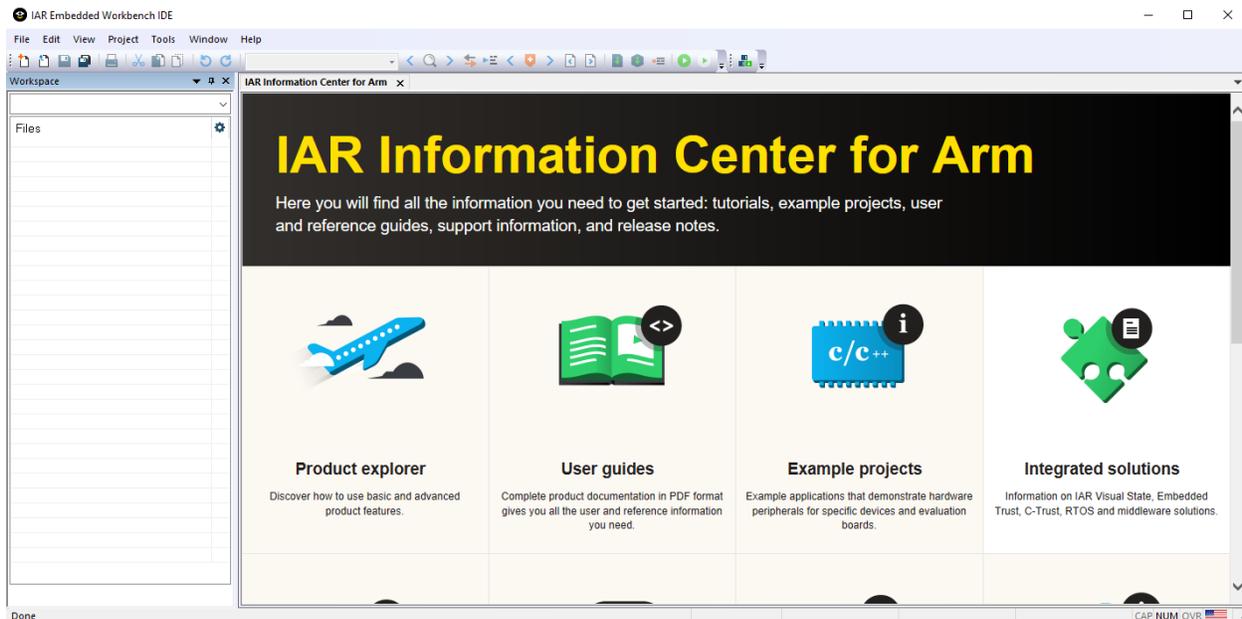
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It will open similar to this:



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So, the software is ready, but we are not ready to start creating a project for an MCU just yet. Follow the next steps to get the Board Support Package software installed. The BSP software will allow us to prepare all the project files to use in IAR EW.

2.2 ST CubeMX software installation

The SWD Blaster will support a wide range of MCUs with the list not limited to:

ST Micro

NXP

Texas Instruments

Microchip

Silicon Labs

Infineon

Toshiba



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For the example purposes of this User Manual, we will focus on MCU's from ST Micro. We will install and give a tutorial on the use of ST CubeMX Board Support Package software. However, most of the above vendors have similar BSP software.

Go to the ST.com website and find the STM32CubeMX download page.

A screenshot of the STM32CubeMX download page on the ST.com website. The page has a white background with a blue header. The header includes the ST logo, a search bar, and navigation links for "Products", "Tools & Software", "Applications", "Solutions", "STM32 Developer Zone", and "About Us". There are also language options for "日本語", "中文", and "English". The main content area is titled "STM32Cube initialization code generator" and features two prominent blue buttons: "Get Software" and "Download databrief". Below this, there are tabs for "Overview", "Documentation", and "Tools & Software". The "Overview" tab is selected, showing a "Product overview" section with sub-tabs for "Description", "All features", "Circuit Diagram", "Get Software", "Featured Videos", and "Recommended for you". The "Description" sub-tab is active, displaying a text block and a large image of the STM32 logo next to a blue 3D cube. The text describes the tool's capabilities for configuring STM32 microcontrollers and microprocessors and generating initialization C code. A vertical yellow "Feedback" button is visible on the right side of the page.

Scroll down to the bottom of the page to the download section and click on “Get latest”



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Get Software

Part Number	General Description	Latest version	Download	All versions
+ Patch-CubeMX	Patch for STM32CubeMX	6.7.1	Get latest	
+ STM32CubeMX-Lin	STM32Cube init code generator for Linux	6.8.1	Get latest	Select version ▾
+ STM32CubeMX-Mac	STM32Cube init code generator for macOS	6.8.1	Get latest	Select version ▾
+ STM32CubeMX-Win	STM32Cube init code generator for Windows	6.8.1	Get latest	Select version ▾

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4. This software package or any part thereof, including modifications and/or derivative works of this software package, must be used and execute solely and exclusively on or in combination with a microcontroller or a microprocessor devices manufactured by or for STMicroelectronics.
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Fill out the registration information and click "Download"



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A screenshot of a web page with a dark grey background. At the top, there are navigation links: "Careers", "Sample & Buy", and "Support & Community". A white modal box is centered on the page, containing the text: "Your registration has been successfully submitted!". Below this, it says: "To validate your e-mail and start the download, please click on the link inside the e-mail that has been sent to you. This link will be valid for 24 hours. Please check your spam filters in case you did not receive the e-mail." Below the modal box, the heading "Get Software" is visible. Underneath, there is a table with columns: "Part Number", "General Description", "Latest version", "Download", and "All versions". The table contains two rows of software items.

Part Number	General Description	Latest version	Download	All versions
+ Patch-CubeMX	Patch for STM32CubeMX	6.7.1	Download latest	
+ STM32CubeMX-Lin	STM32Cube init code generator for Linux	6.8.1	Get latest	Select version

Search for the email from STMicro.



Start your software download

Hi Richard

Please click on this button to validate your email address and start the download of Patch-CubeMX

[Download now](#)

If you have any further issues, please send your request to our [online support](#) using the subject line: Software download issues.

Thank you,

STMicroelectronics
www.st.com

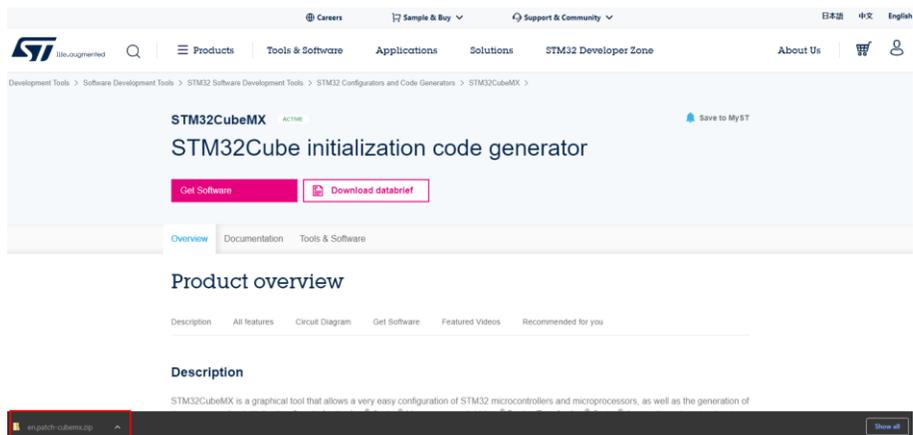




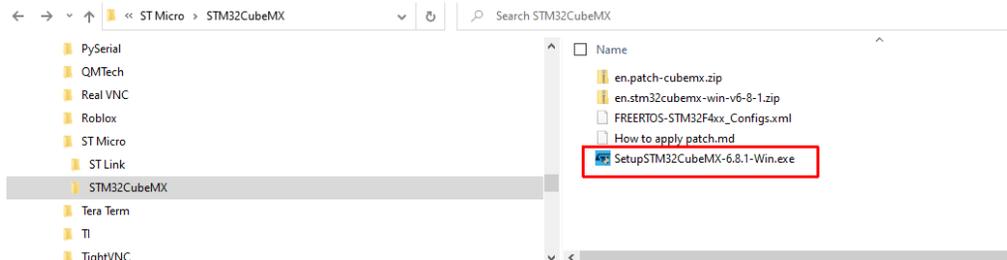
MCU Programmers User Manual

Click on the “Download now” button.

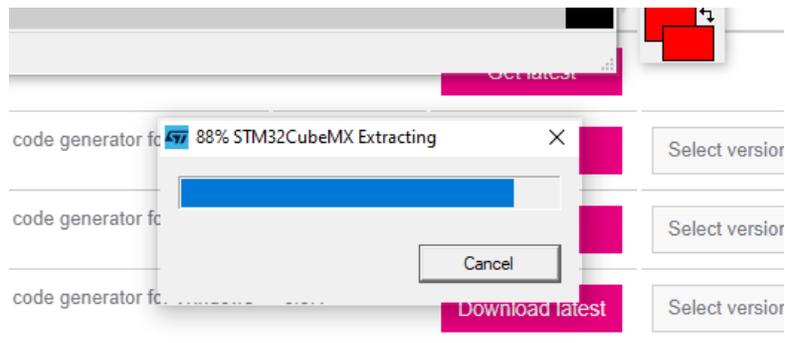
The browser will store the file in the tray.



Double click on the link to install.



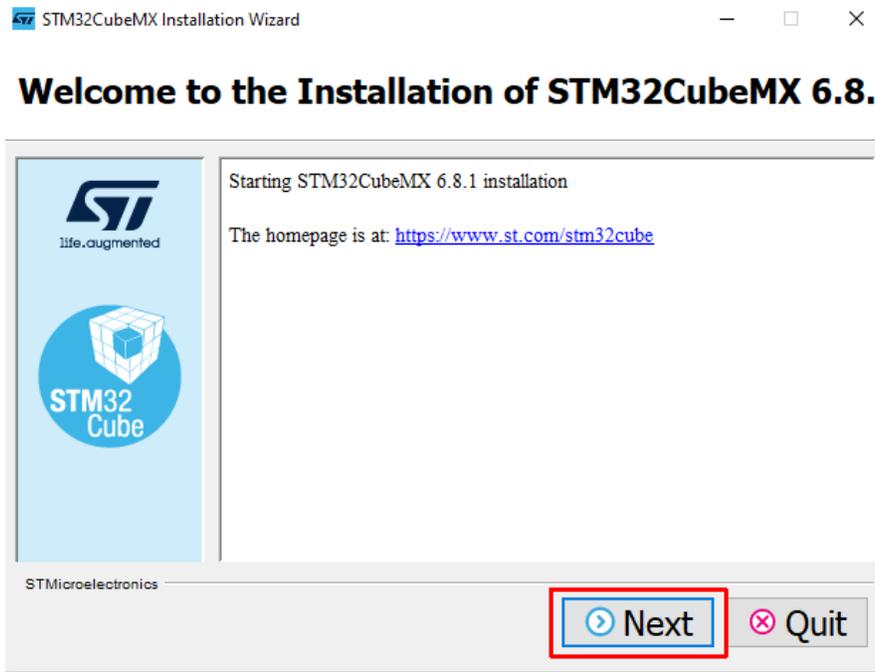
Select the install from the question, you should see the extraction message:





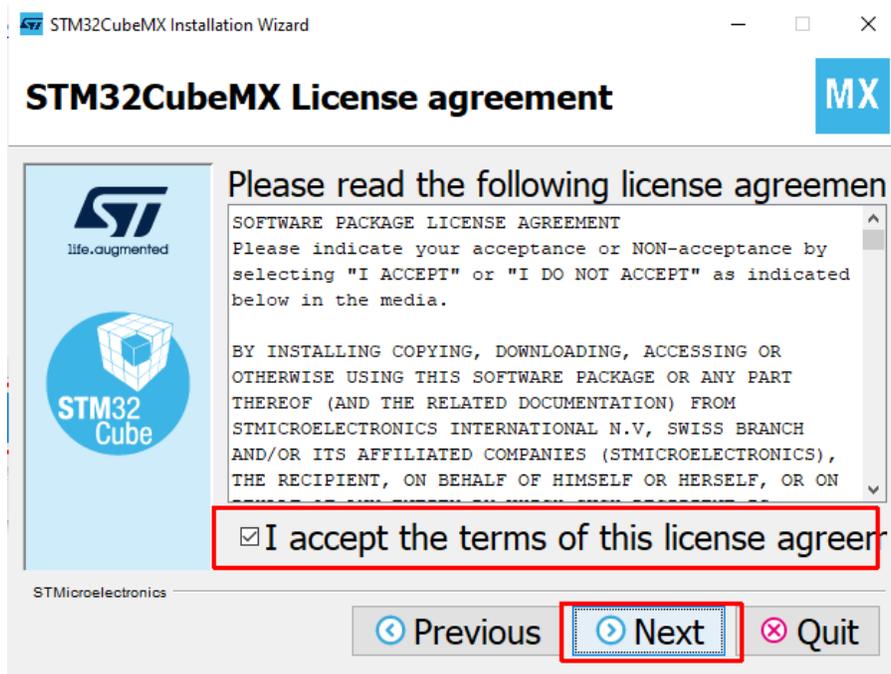
MCU Programmers User Manual

Click “Next”

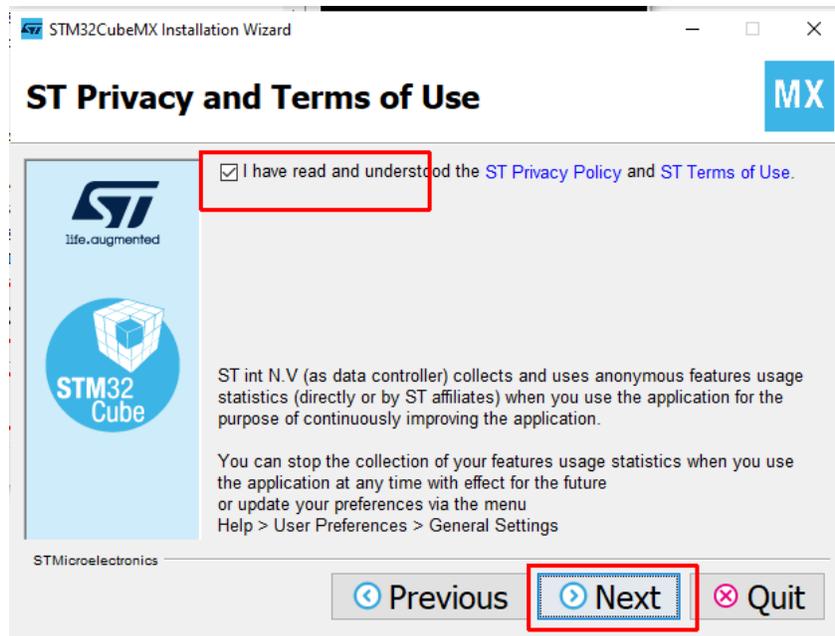


Accept the License terms and click “Next”

MCU Programmers User Manual



Accept the Privacy Terms and click “Next”.



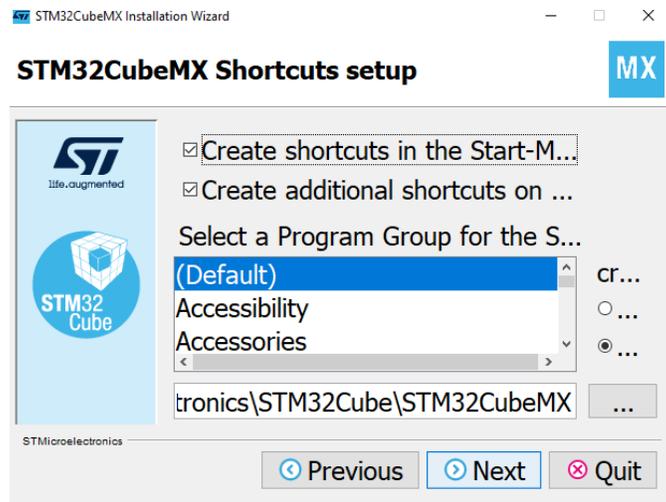


EARTHPEOPLE

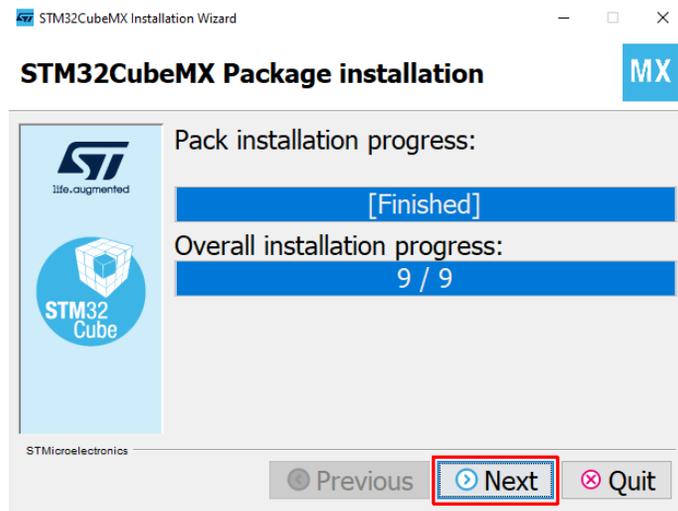
T e c h n o l o g y

MCU Programmers User Manual

Accept the defaults and install.



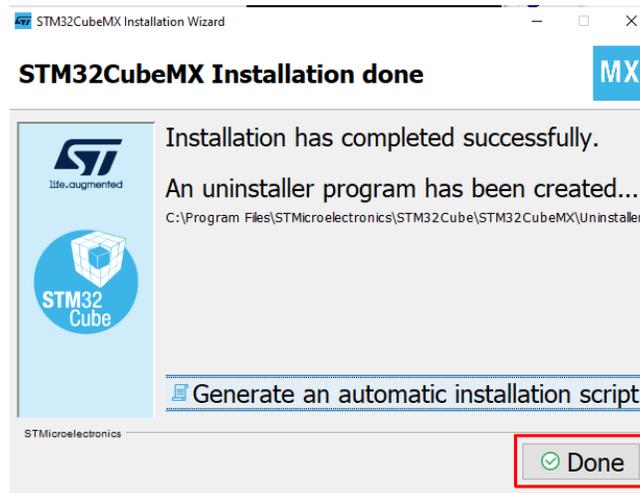
Click on “Next”



Click “Done”



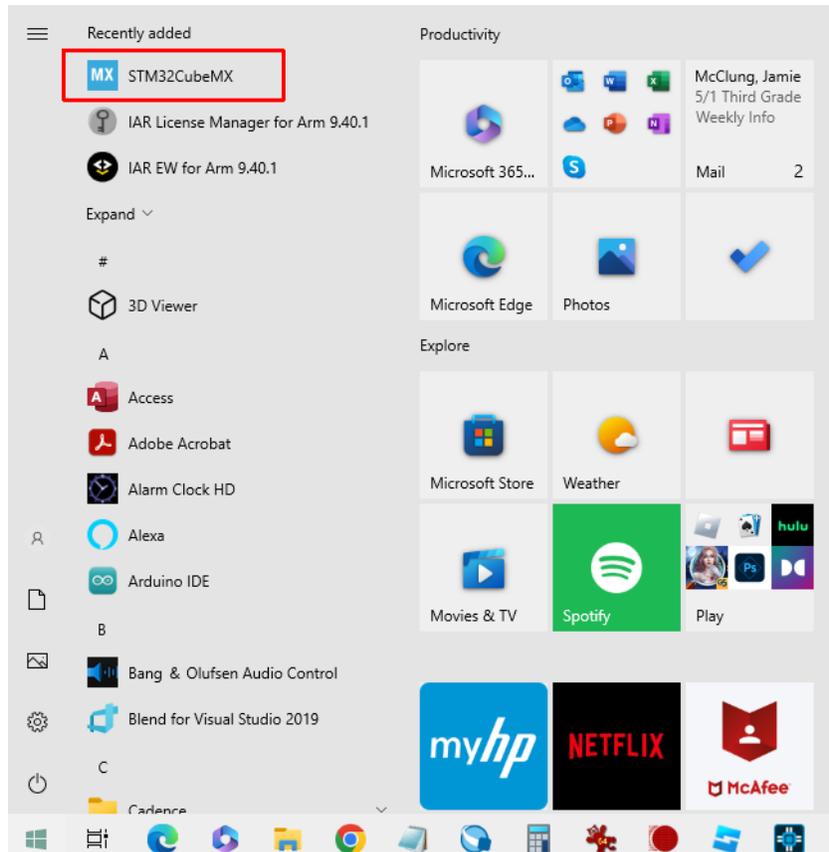
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Click on the Windows Icon and click on the STM32CubeMX icon.



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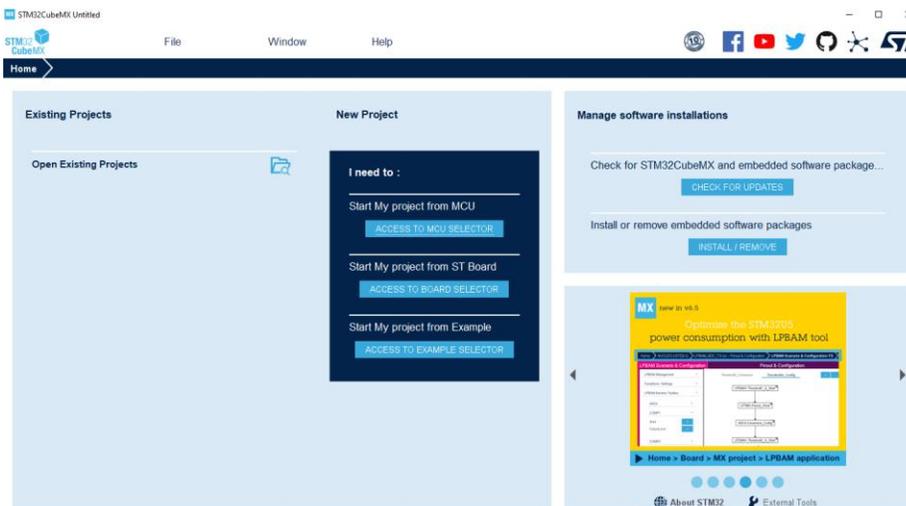
The software will open.



MCU Programmers User Manual



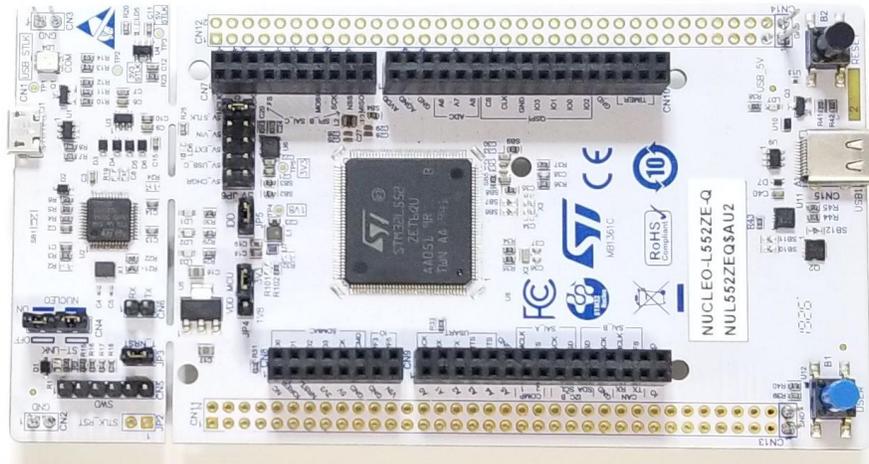
Once the software is opened, we are ready to start an MCU project.



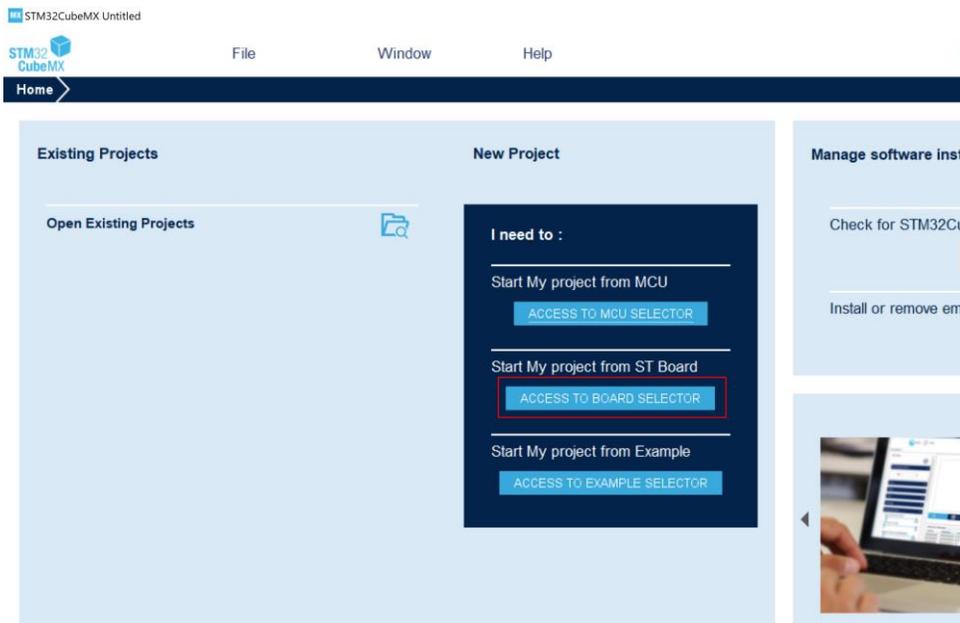
2.3 Creating a Project for IAR Embedded Workbench

For the purposes of this example, we will be using the NUCLEO-L552ZE-Q board from STMicro. The same steps can be used for most STM32 MCU's.

MCU Programmers User Manual

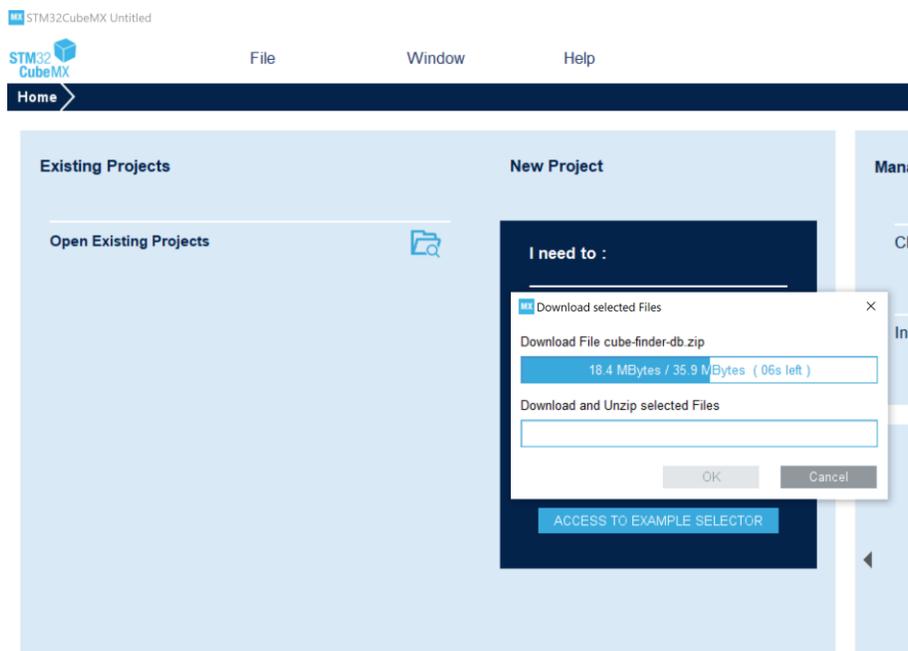


The first step is to select the MCU under CubeMX. CubeMX has a built in selection tool for the specific NUCLEO boards in its catalog. So, we only need to select the board from the drop down box. First click on the “Access To Board Selector” button.



CubeMX will download the required files from an internet connection.

MCU Programmers User Manual



Then you will see the selector menu.



MCU Programmers User Manual

The screenshot shows the STM32Cube Configurator interface. On the left is a sidebar with filters for Board Filters, Product Info, Memory, and Features. The main area displays a promotional banner for the STM32U5 ultra-low-power MCU series. Below the banner is a table of boards.

Boards List: 187 items		Commercial Part No
☆		B-G473E-ZEST1S
☆		B-G474E-OPW1
☆		B-L072Z-LRWAH1
☆		B-L462E-CELL1

Click on the Drop Down box next to the “Commercial Part Number” and scroll down to the NUCLEO-L552ZE-Q.

MCU Programmers User Manual

MA New Project from a Board

MCU/MPU Selector Board Selector Example Selector Cross Selector

Board Filters

Commercial Part Number

NUCLEO-L496ZG-P
NUCLEO-L4A6ZG
NUCLEO-L4P5ZG
NUCLEO-L4R5ZI
NUCLEO-L4R5ZI-P
NUCLEO-L552ZE-Q
NUCLEO-U545RE-Q
NUCLEO-U575ZI-Q
NUCLEO-U5A5ZJ-Q
NUCLEO-WB15CC
NUCLEO-WB55RG
NUCLEO-WBA52CG
NUCLEO-WL55JC1
NUCLEO-WL55JC2
P-L496G-CELL01
P-L496G-CELL02
P-NUCLEO-WB55
P-NUCLEO-WB55-NUCLEO
P-NUCLEO-WB55-USBDON
STEVAL-ASTRA1B

PRODUCT INFO

Type

Supplier

MCU / MPU Series

Marketing Status

Price

MEMORY

Ext. Flash From 0 158

Ext. EEPROM From 0 158

Ext. RAM From 0 to 8192 (MBit) 8192

FEATURES

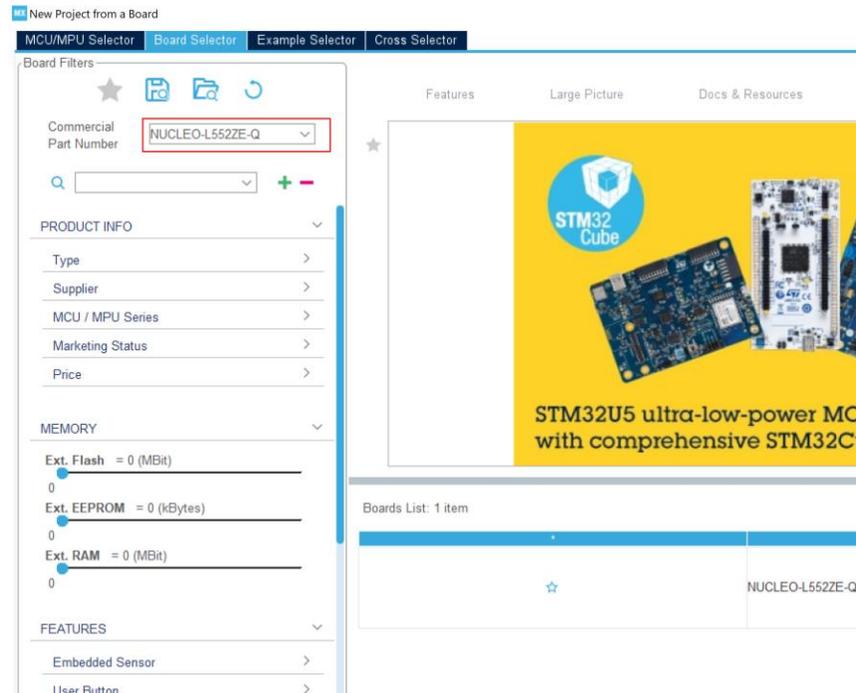
Features Large Picture Doc



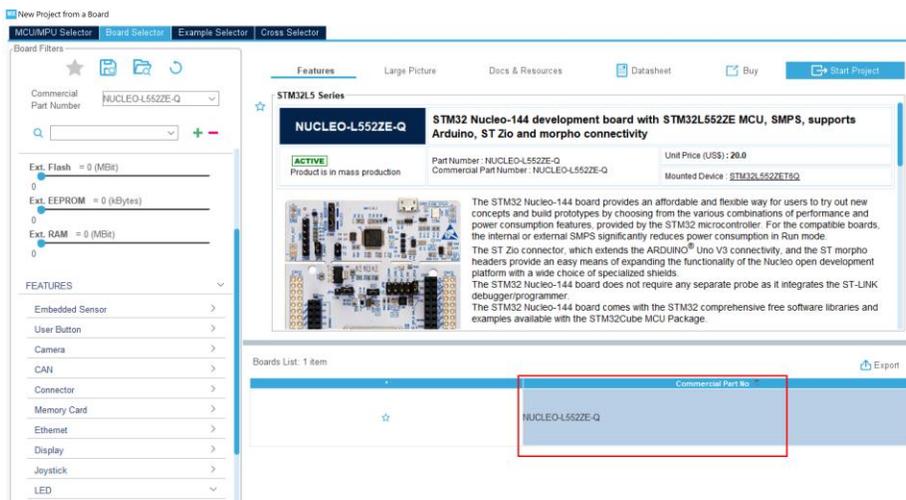
Boards List: 187 items

Click on the selection, and the Part Number will show under the Drop Down Box.

MCU Programmers User Manual

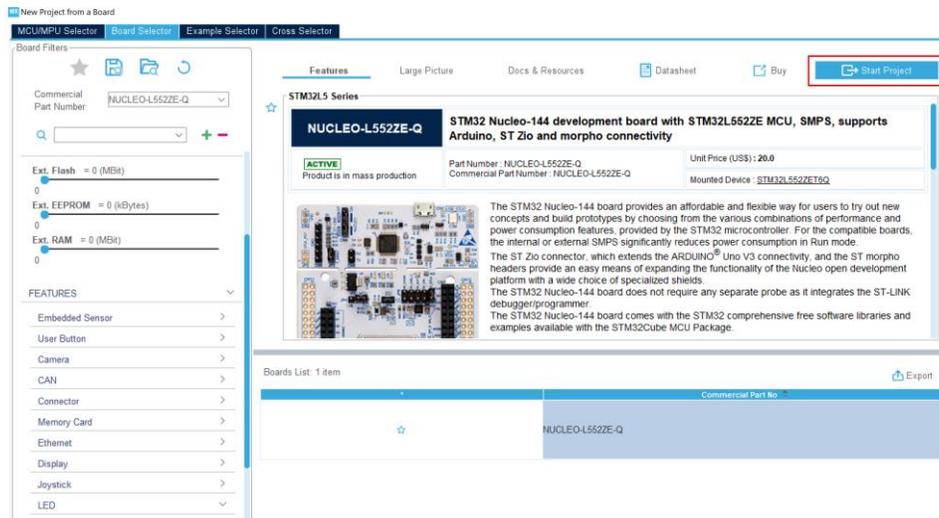


Click on the NUCLEO-L552LZE-Q icon in the lower left corner, and the details of the board will be populated under Features.

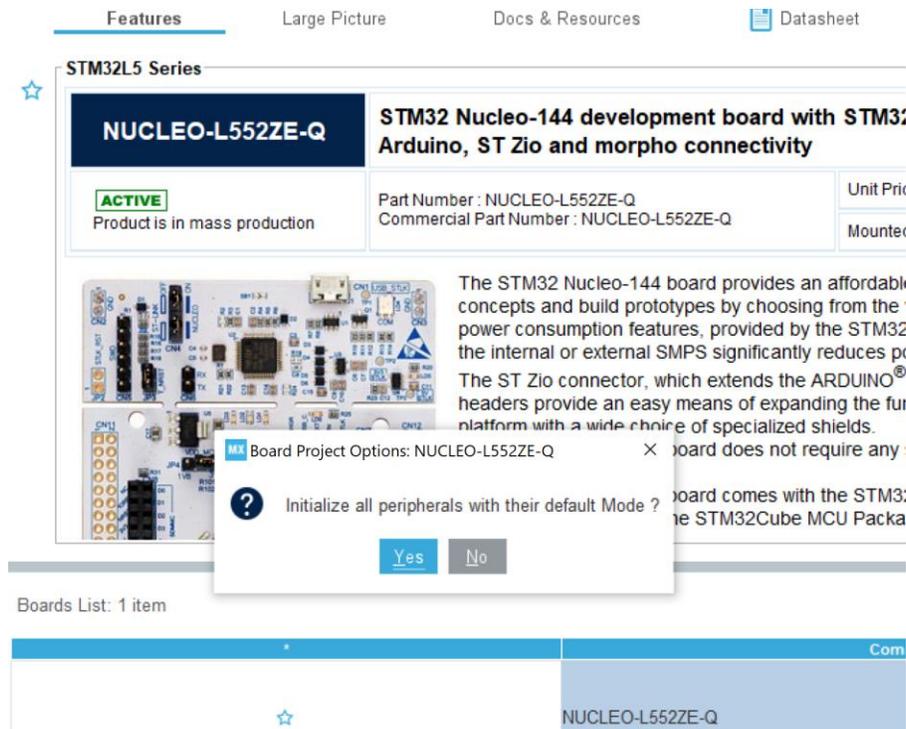


Next, click on the “Start Project” in the upper right corner.

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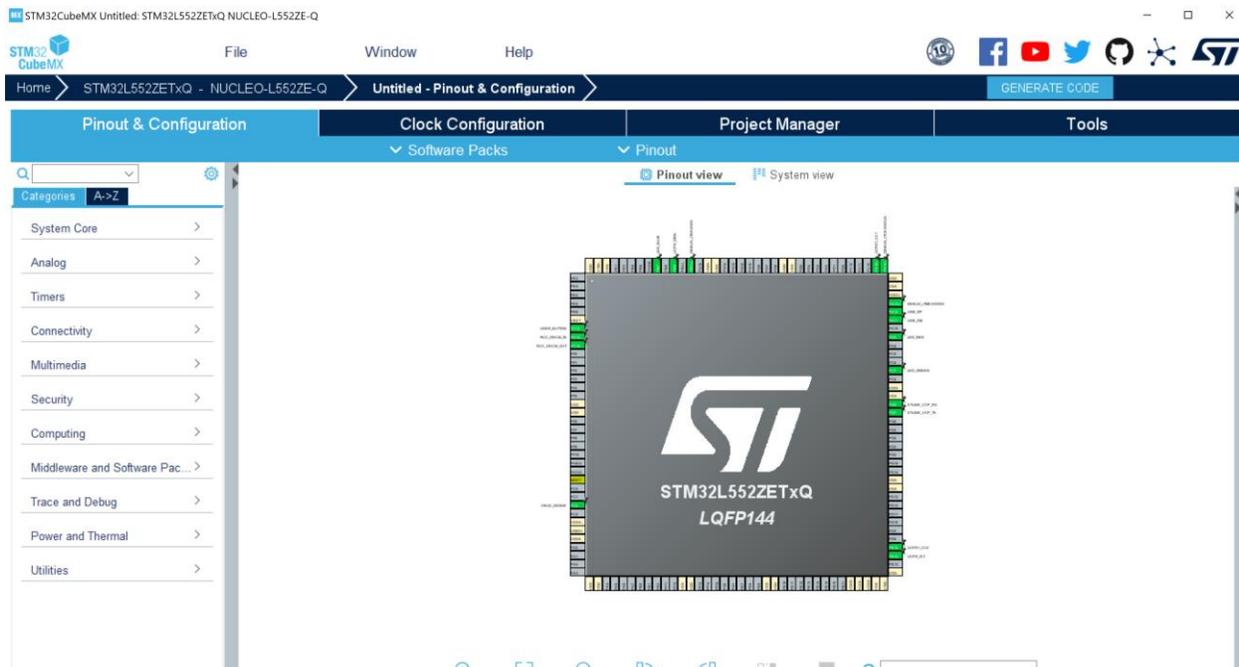


Accept the defaults.



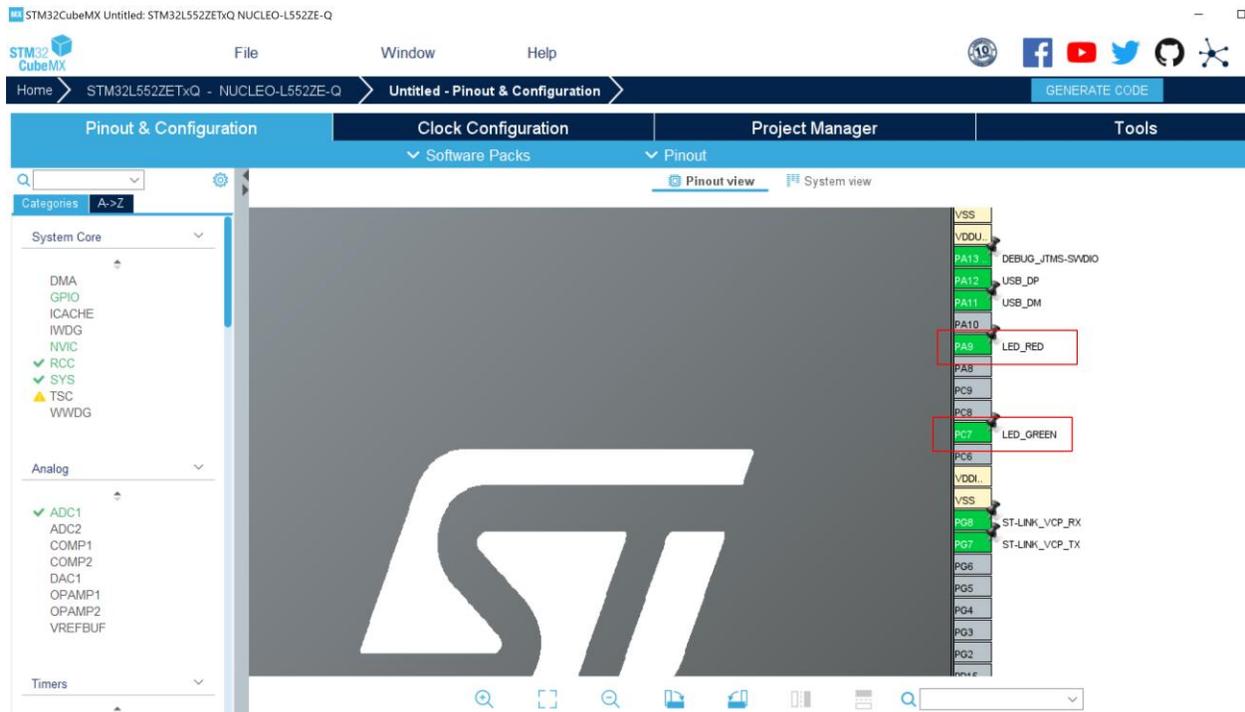
You will see an image of the L552 chip with the GPIO's pre-selected.

MCU Programmers User Manual



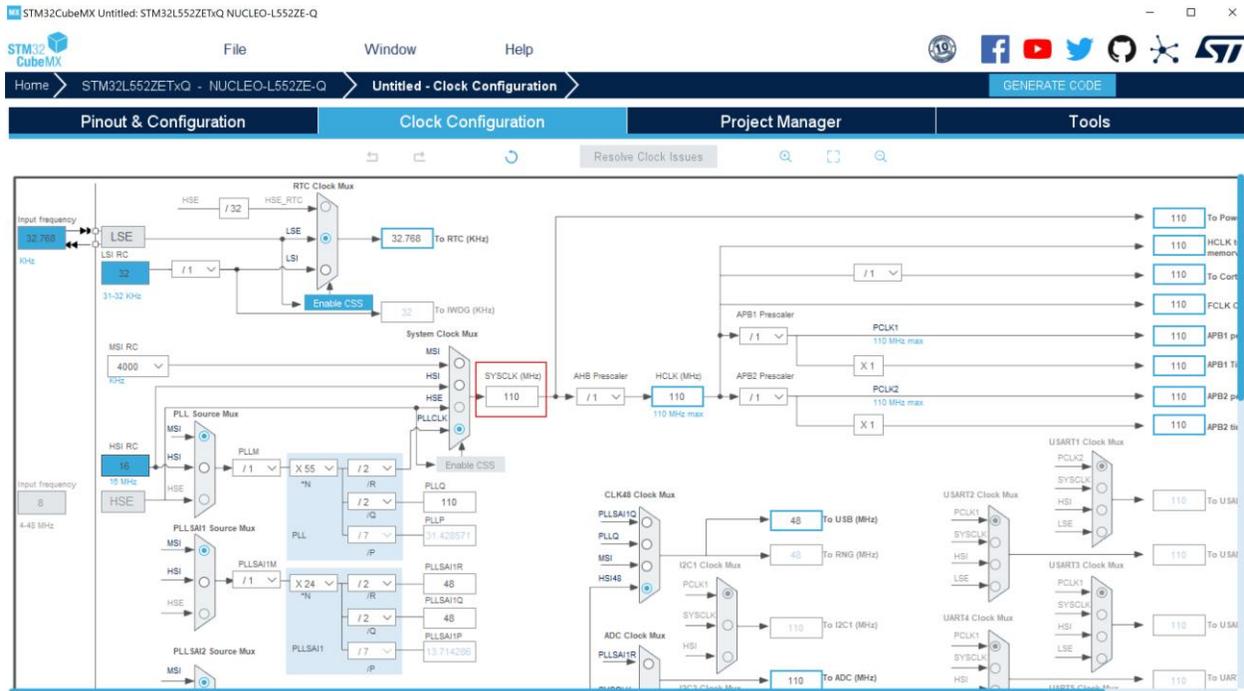
You can select the various tabs under “Categories” to see the default settings that STMicro has chosen for the board. We are specifically interested in the LED Green GPIO and the LED Red GPIO.

MCU Programmers User Manual



Click on the “Clock Configuration” tab to see the internal and external clock setups. We are specifically interested in the “SYSCLK” which is running at 110MHz for this project.

MCU Programmers User Manual



Click on the “Project Manager” tab. Enter a project name and location on your PC.



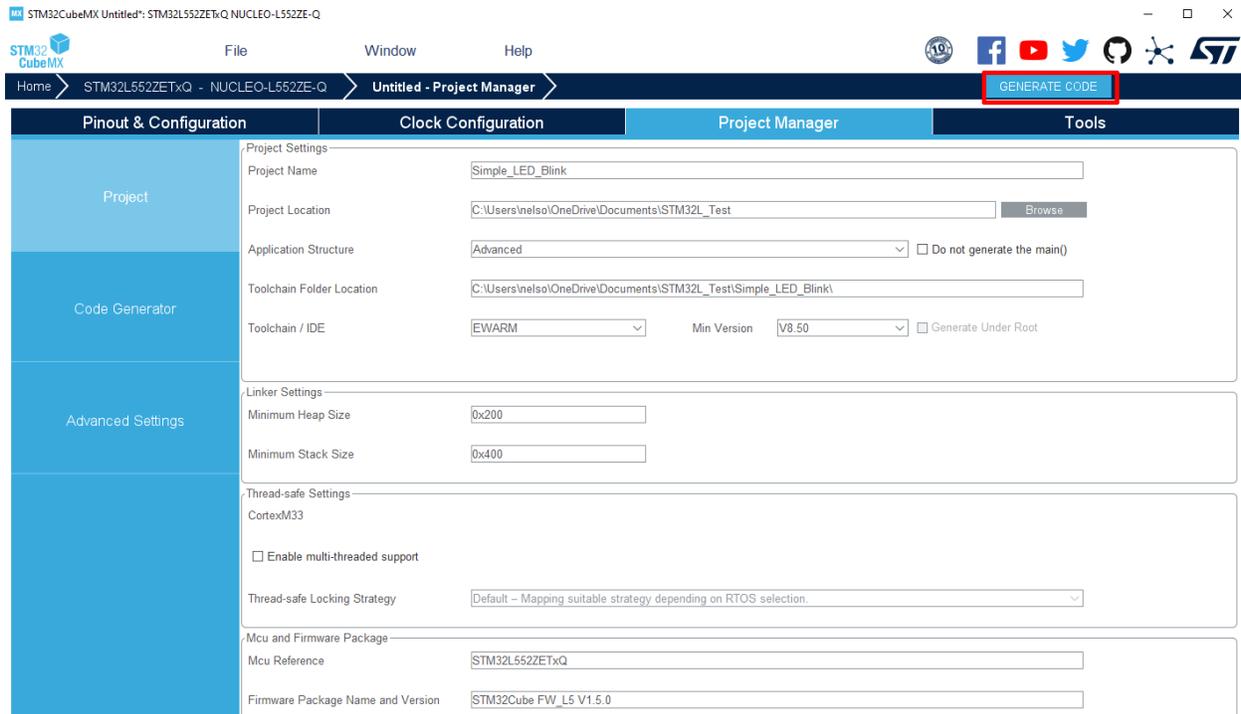
MCU Programmers User Manual

The screenshot shows the STM32CubeMX software interface. At the top, there is a title bar with the text "STM32CubeMX Untitled: STM32L552ZETxQ, NUCLEO-L552ZE-Q". Below the title bar is a menu bar with "File", "Window", and "Help". On the right side of the menu bar, there are social media icons for Facebook, YouTube, Twitter, and LinkedIn, along with the ST logo. Below the menu bar is a breadcrumb trail: "Home > STM32L552ZETxQ - NUCLEO-L552ZE-Q > Untitled - Project Manager". A "GENERATE CODE" button is visible in the top right corner. The main interface is divided into four tabs: "Pinout & Configuration", "Clock Configuration", "Project Manager" (which is selected), and "Tools". The "Project Manager" tab is active, showing a form for project settings. The form is organized into sections: "Project Settings" (Project Name: "Simple_LED_Blink", Project Location: "C:\Users\nelson\OneDrive\Documents\STM32L_Test", Application Structure: "Advanced", Toolchain Folder Location: "C:\Users\nelson\OneDrive\Documents\STM32L_Test\Simple_LED_Blink"), "Linker Settings" (Minimum Heap Size: "0x200", Minimum Stack Size: "0x400"), "Thread-safe Settings" (CortexM33, "Enable multi-threaded support" checkbox, Thread-safe Locking Strategy: "Default - Mapping suitable strategy depending on RTOS selection."), and "Mcu and Firmware Package" (Mcu Reference: "STM32L552ZETxQ", Firmware Package Name and Version: "STM32Cube FW_L5 V1.5.0").

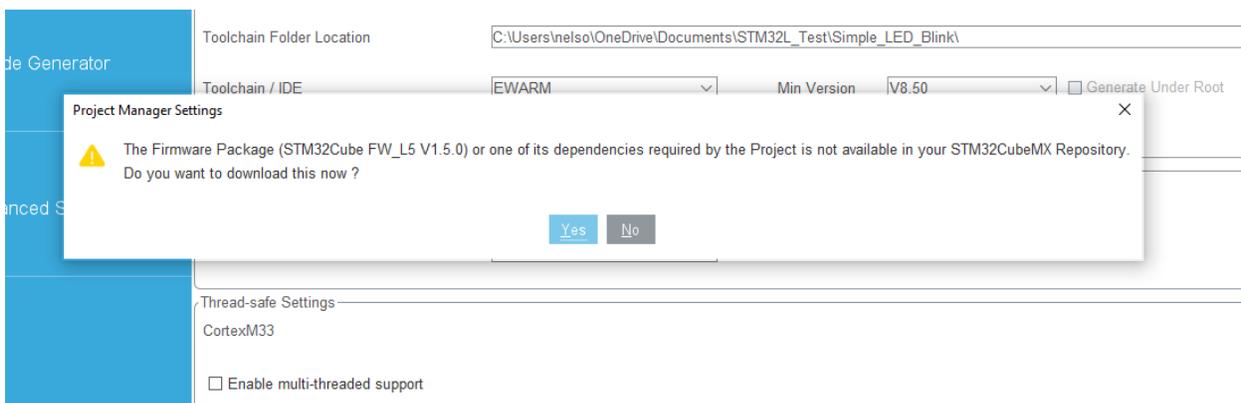
Click on the “Generate Code” button to create an IAR Project.



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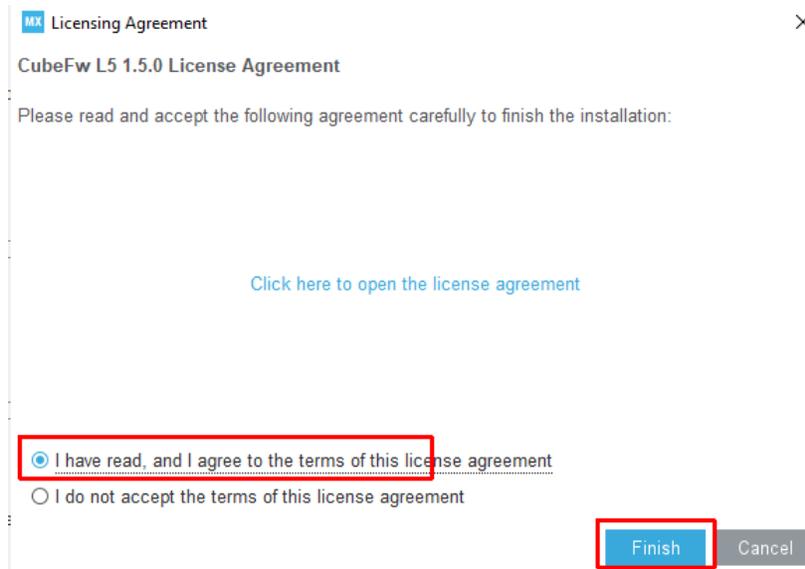
The CubeMX will probably require a download from the internet.



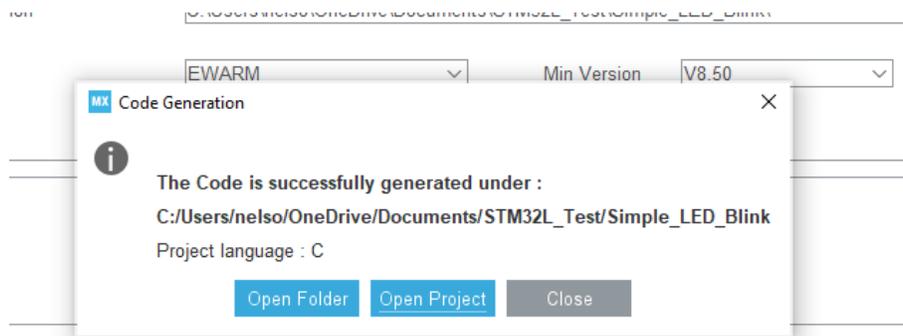
Accept the License and click "Finish".



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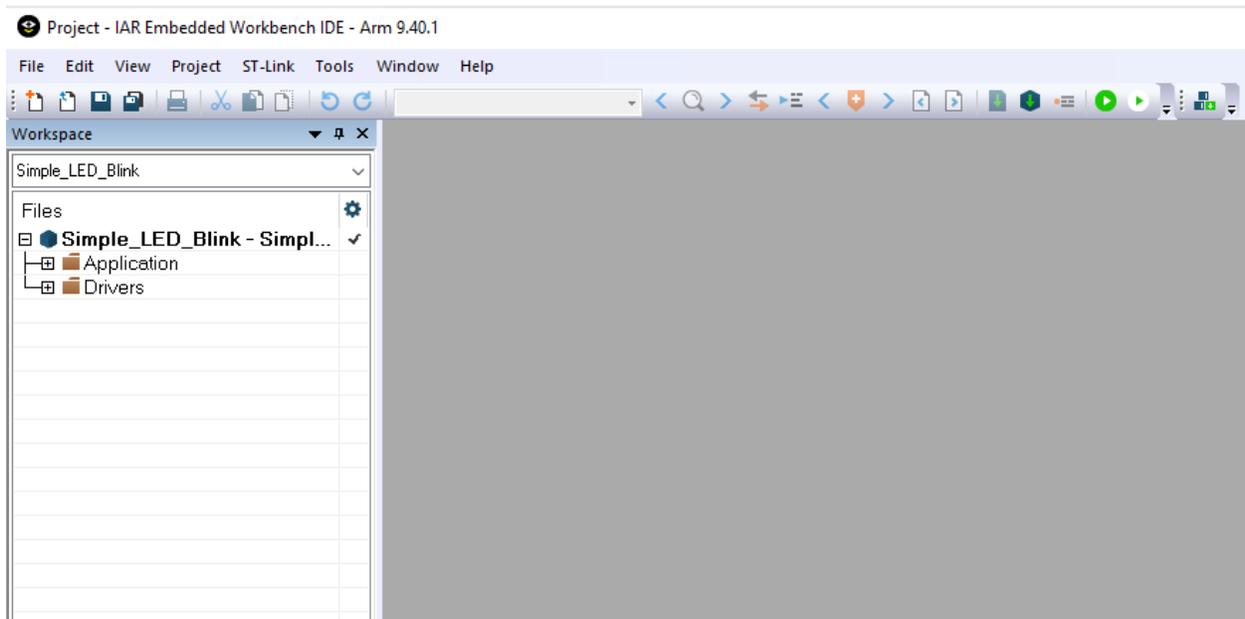
Accept any defaults during generation. Once complete, the success message will be displayed.



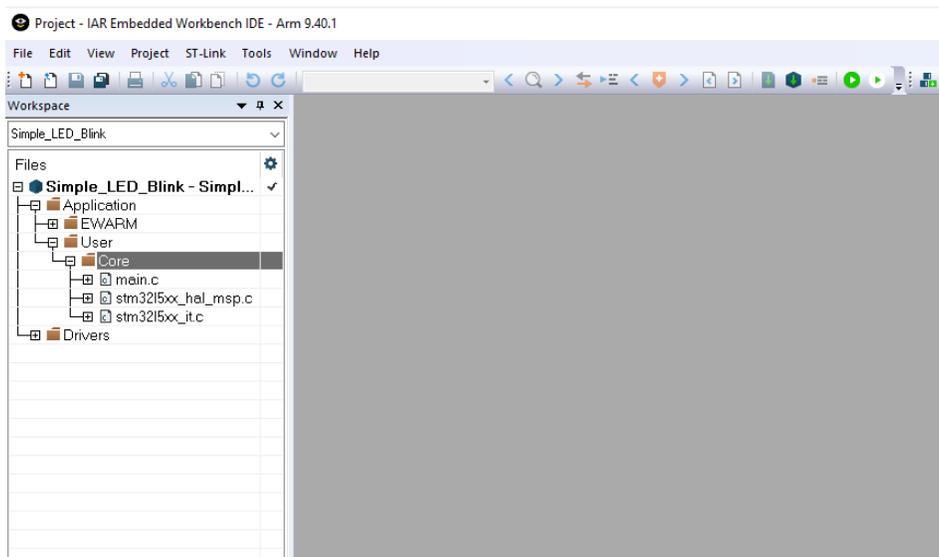
ted support

Click on the "Open Project". The software will automatically open the IAR with all project files populated correctly.

MCU Programmers User Manual

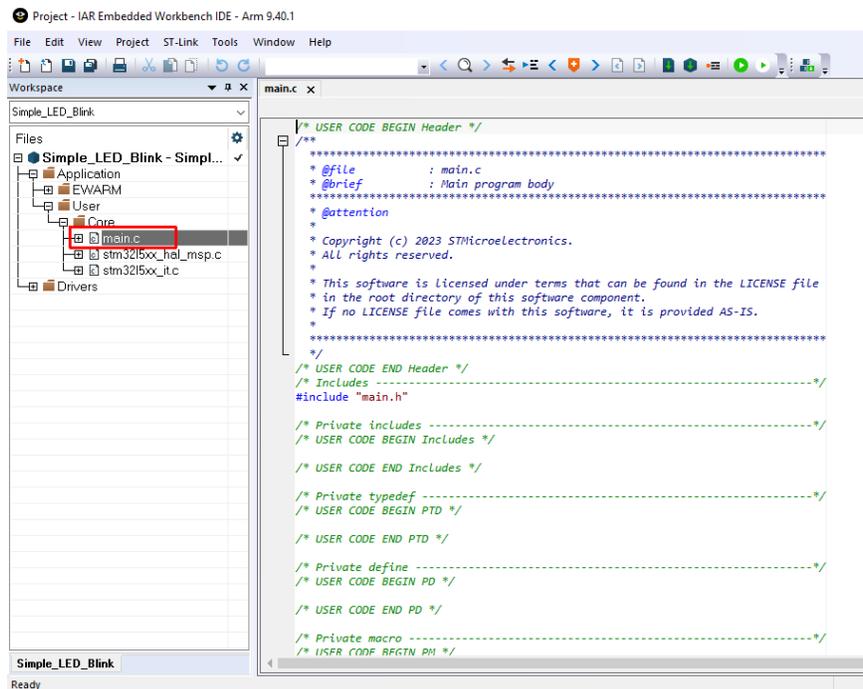


Click on the Application->User->Core to view the user files.

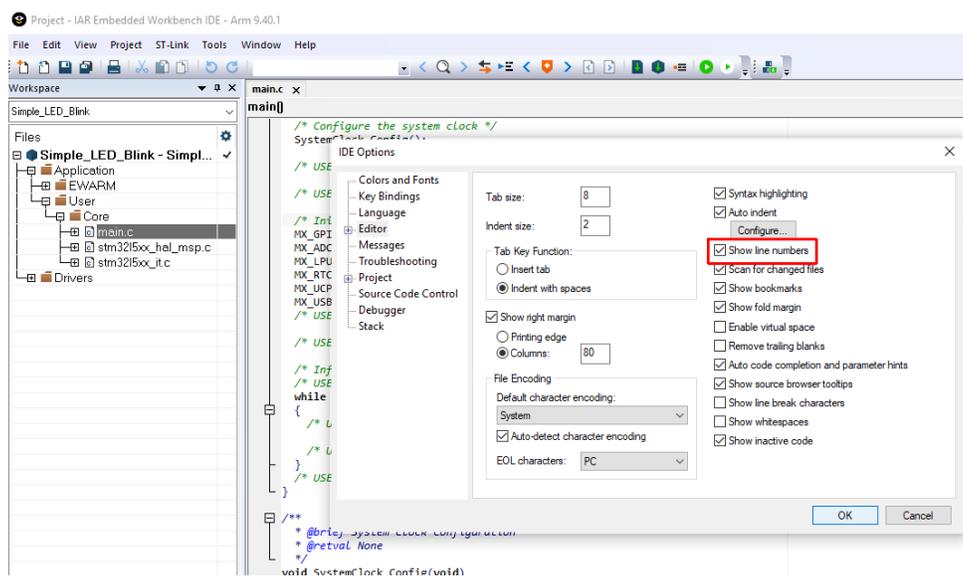


Double click on the "Main.c" file to view the main code.

MCU Programmers User Manual



Right click on the window and select options. In the editor tab, select the “Show Line Numbers” check box.





MCU Programmers User Manual

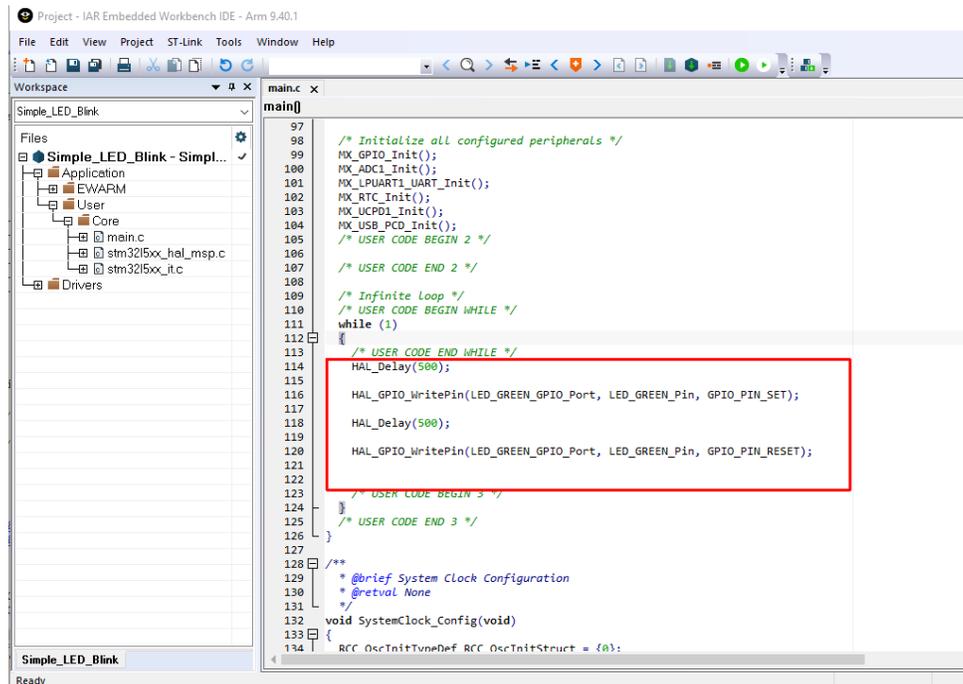
Scroll down to line number 112.

The screenshot shows the IAR Embedded Workbench IDE interface. On the left, the 'Files' pane displays a project tree for 'Simple_LED_Blink', with 'main.c' selected under the 'Core' folder. The main editor window shows the code in 'main.c'. Line 112 is highlighted with a red box. The code includes various initialization functions and a while loop. The function 'SystemClock_Config' is defined at the bottom of the file.

```
91  /* Configure the system clock */
92  SystemClock_Config();
93
94  /* USER CODE BEGIN SysInit */
95
96  /* USER CODE END SysInit */
97
98  /* Initialize all configured peripherals */
99  MX_GPIO_Init();
100  MX_ADC1_Init();
101  MX_LPUART1_UART_Init();
102  MX_RTC_Init();
103  MX_UCPD1_Init();
104  MX_USB_PCD_Init();
105  /* USER CODE BEGIN 2 */
106
107  /* USER CODE END 2 */
108
109  /* Infinite Loop */
110  /* USER CODE BEGIN WHILE */
111  while (1)
112  {
113      /* USER CODE END WHILE */
114
115      /* USER CODE BEGIN 3 */
116  }
117  /* USER CODE END 3 */
118
119
120  /**
121   * @brief System Clock Configuration
122   * @retval None
123   */
124  void SystemClock_Config(void)
125  {
126      RCC_OscInitTypeDef RCC_OscInitStruct = {0};
127      RCC_ClkInitTypeDef RCC_ClkInitStruct = {0};
128  }
```

Add the following code at line 112.

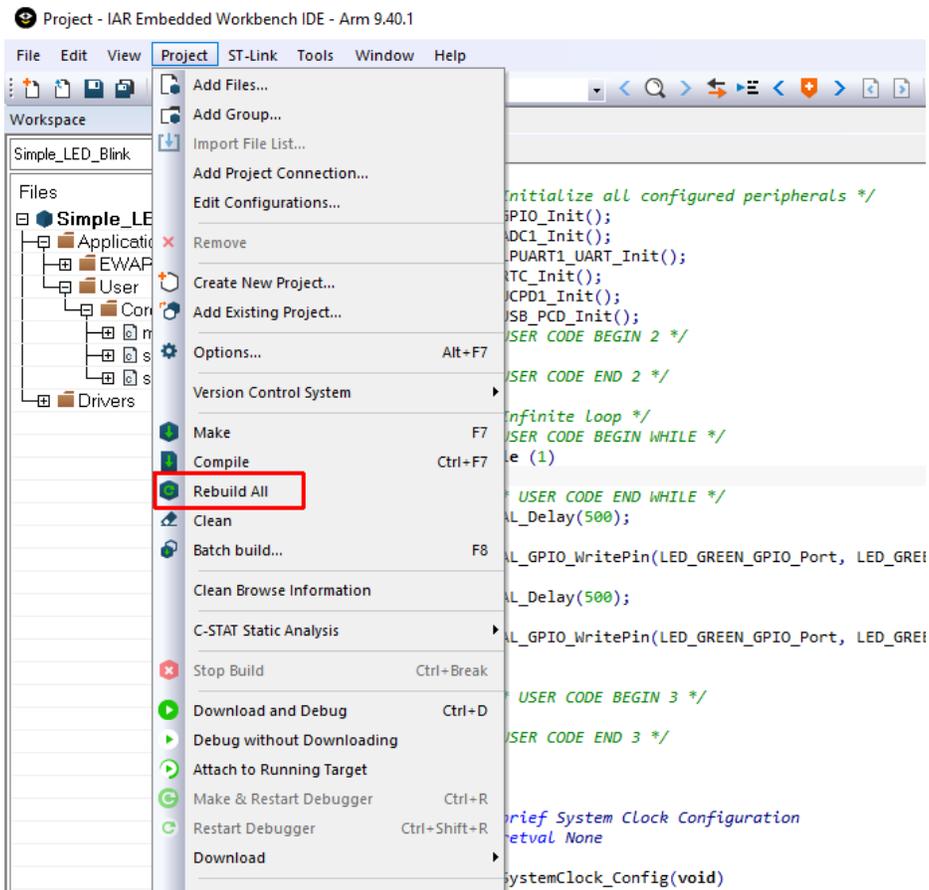
MCU Programmers User Manual



```
Project - IAR Embedded Workbench IDE - Arm 9.40.1
File Edit View Project ST-Link Tools Window Help
Workspace
Simple_LED_Blink
Files
  Simple_LED_Blink - Simpl...
    Application
    EWARM
    User
    Core
    main.c
    stm3215xx_hal_msp.c
    stm3215xx_it.c
    Drivers
main.c
main()
97
98 /* Initialize all configured peripherals */
99 MX_GPIO_Init();
100 MX_ADC1_Init();
101 MX_LP_UART1_UART_Init();
102 MX_RTC_Init();
103 MX_UCPD1_Init();
104 MX_USB_PCD_Init();
105 /* USER CODE BEGIN 2 */
106
107 /* USER CODE END 2 */
108
109 /* Infinite Loop */
110 /* USER CODE BEGIN WHILE */
111 while (1)
112 {
113 /* USER CODE END WHILE */
114 HAL_Delay(500);
115
116 HAL_GPIO_WritePin(LED_GREEN_GPIO_Port, LED_GREEN_Pin, GPIO_PIN_SET);
117
118 HAL_Delay(500);
119
120 HAL_GPIO_WritePin(LED_GREEN_GPIO_Port, LED_GREEN_Pin, GPIO_PIN_RESET);
121
122
123 /* USER CODE BEGIN 3 */
124 }
125 /* USER CODE END 3 */
126
127
128 /**
129  * @brief System Clock Configuration
130  * @retval None
131  */
132 void SystemClock_Config(void)
133 {
134   RCC_OscInitTypeDef RCC_OscInitStruct = {0};
```

Go to Projects->Rebuild All and select.

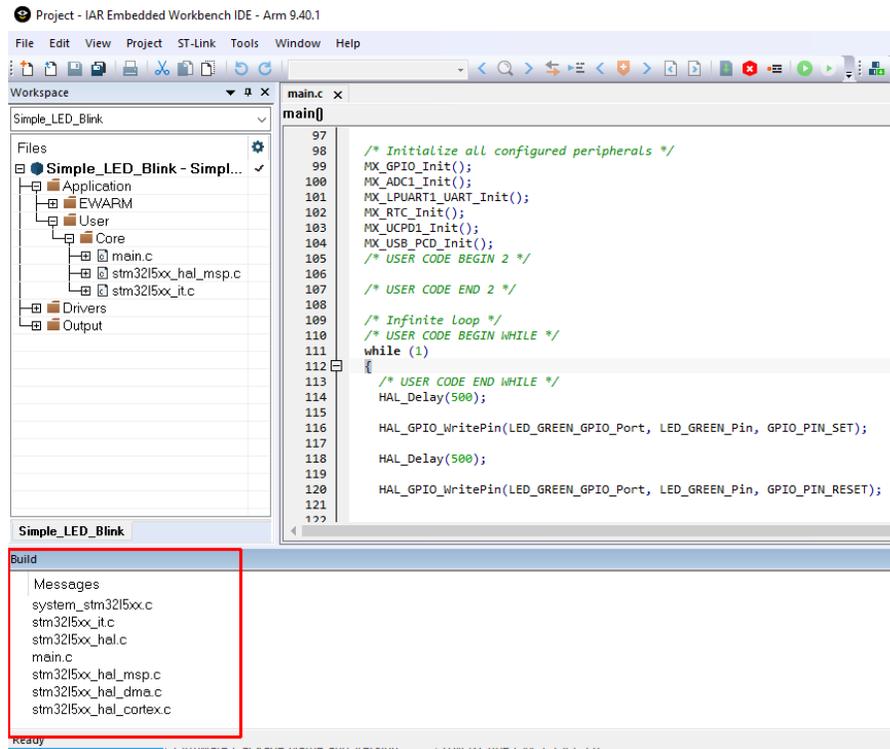
MCU Programmers User Manual



The compile process will start.

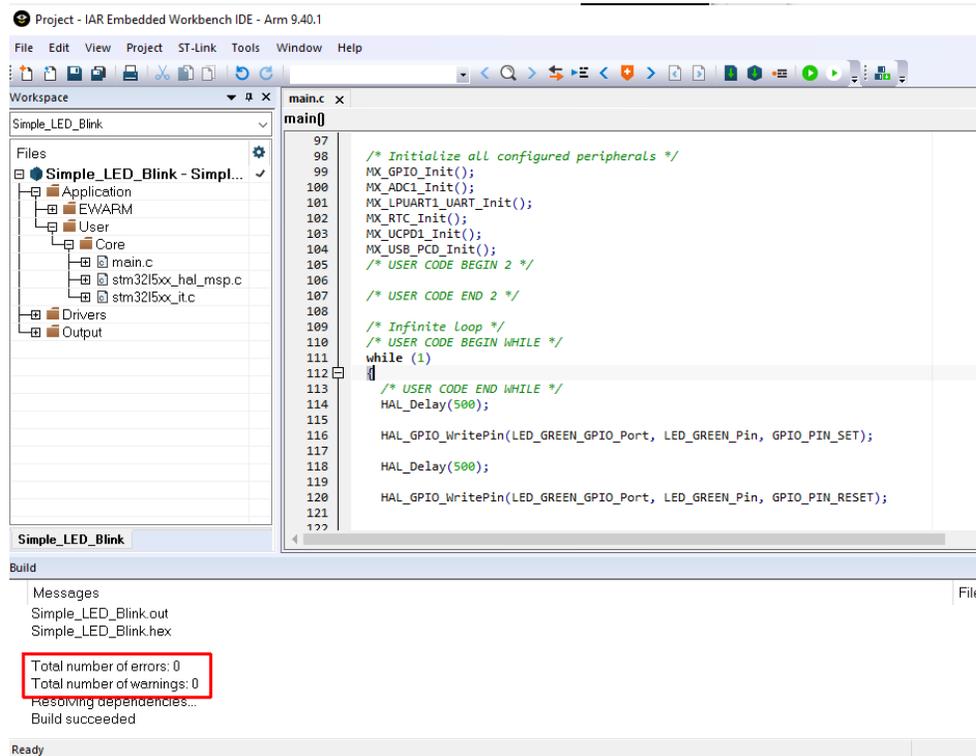


MCU Programmers User Manual



If the compile is successful, you will see the following message.

MCU Programmers User Manual



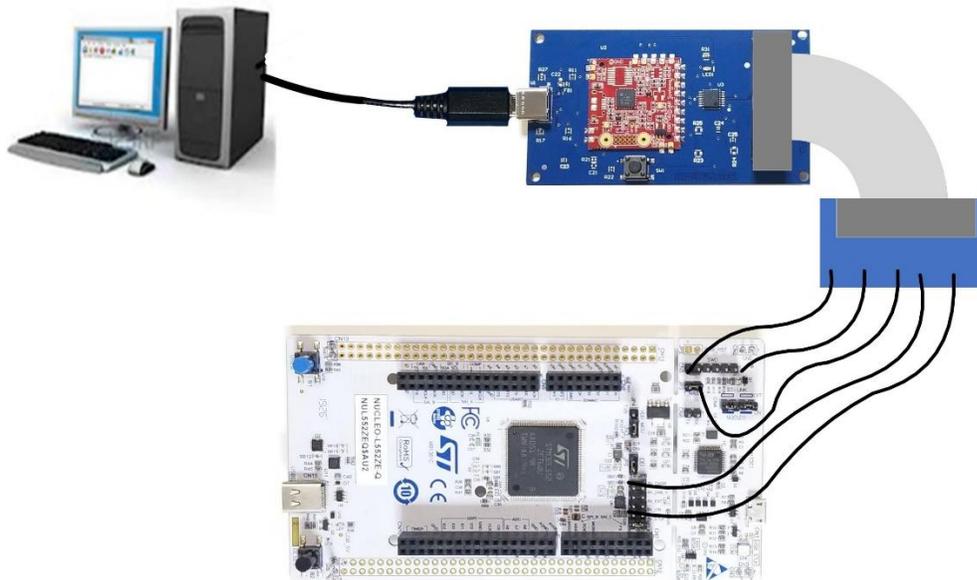
The screenshot shows the IAR Embedded Workbench IDE interface. The main window displays the source code for `main.c` in the `main()` function. The code includes initialization for various peripherals and an infinite loop that toggles an LED. The build output window at the bottom shows the following messages:

```
Messages
Simple_LED_Blink.out
Simple_LED_Blink.hex
Total number of errors: 0
Total number of warnings: 0
Resolving dependencies...
Build succeeded
```

The status bar at the bottom indicates the IDE is **Ready**.

Next, connect the SWD Blaster to the PC. Then connect the SWDIO, SWDCLK, nRESET, VTREF and GROUND signals to the NUCLEO-L552ZE-Q board.

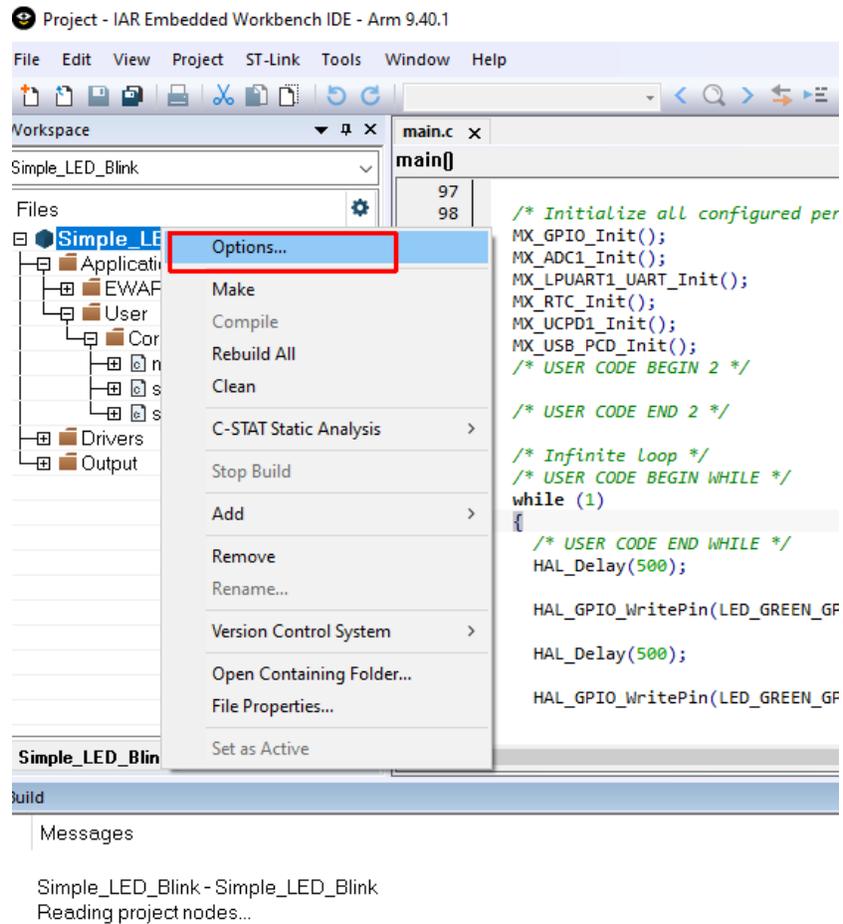
MCU Programmers User Manual



Right click on the “Simple_LED_Blink” Project. Select “Options”

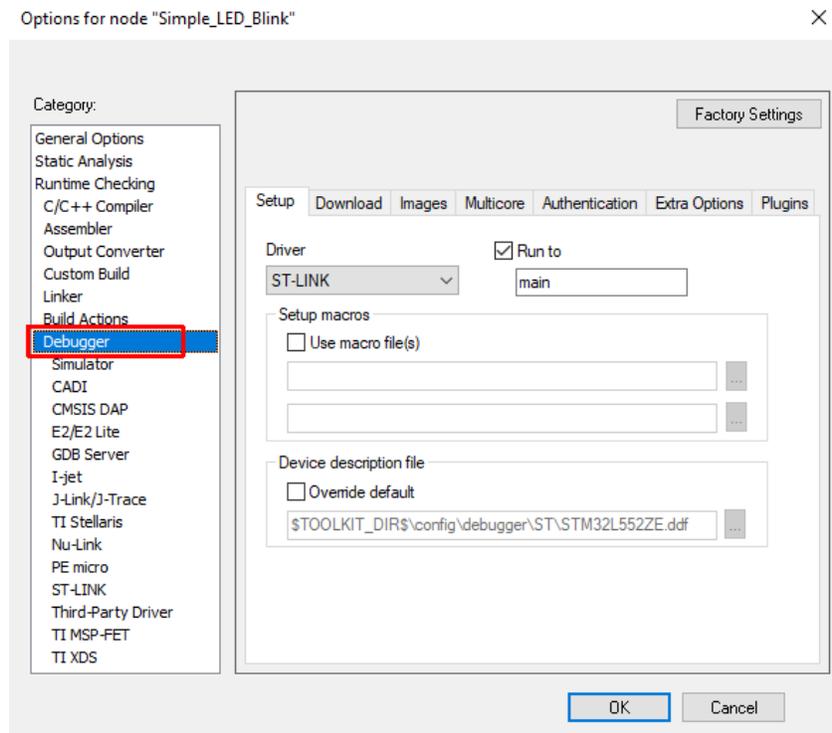


MCU Programmers User Manual



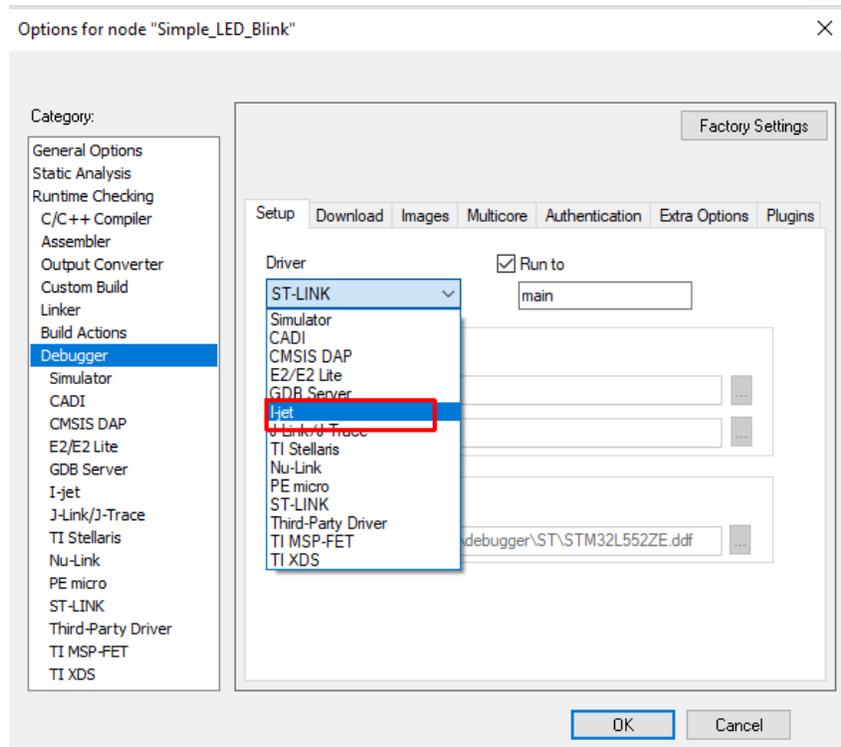
Select the “Debugger” tab.

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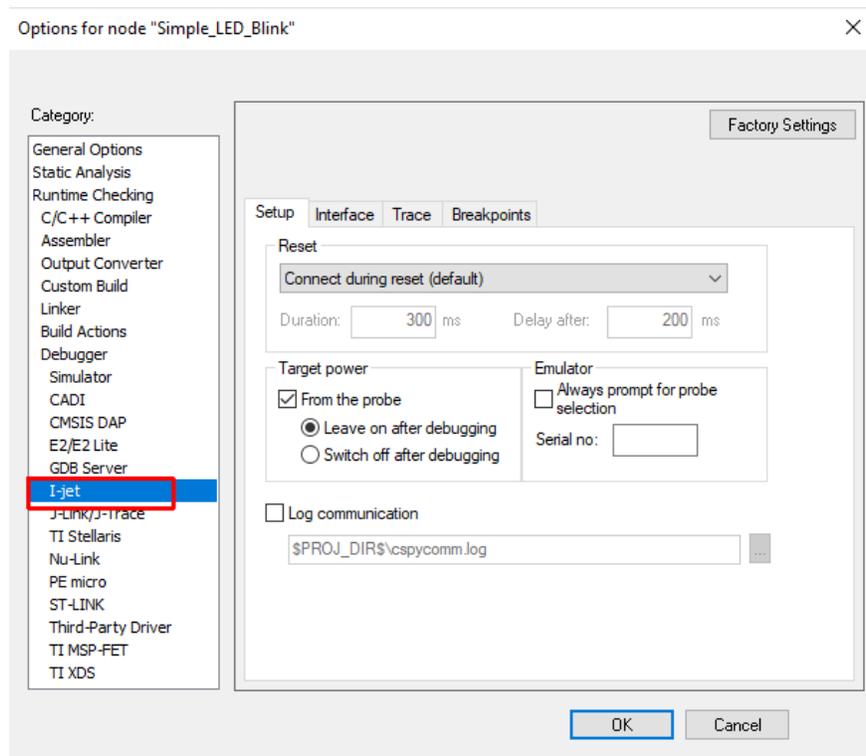
Under the “Driver” drop down box, find “I-jet” and select it.

MCU Programmers User Manual



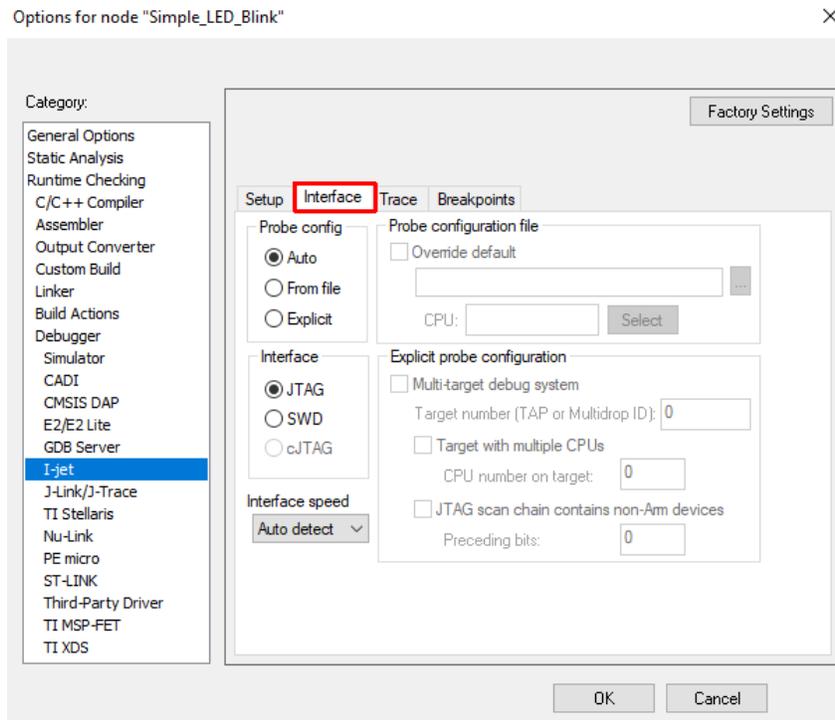
Next, click on the "I-jet" under Category.

MCU Programmers User Manual



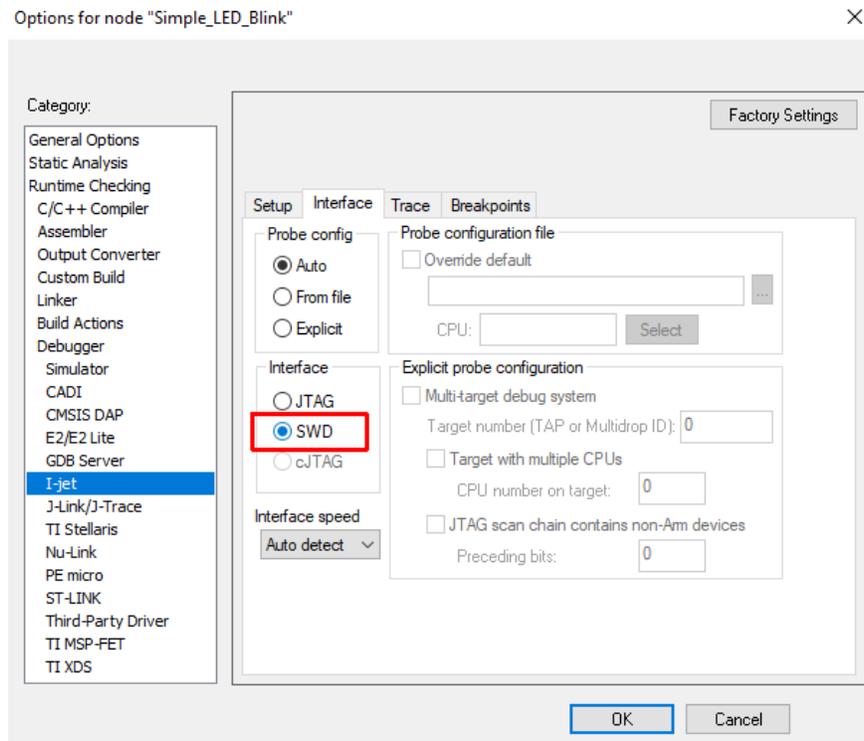
Click on the "Interface" tab.

MCU Programmers User Manual



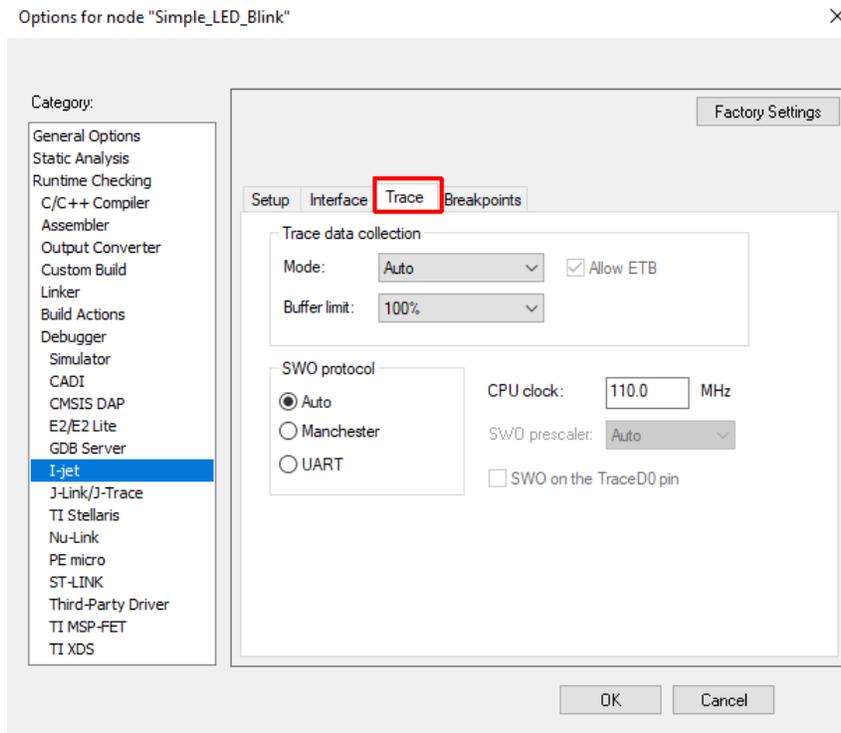
Under “Interface” select the “SWD” radio button.

MCU Programmers User Manual



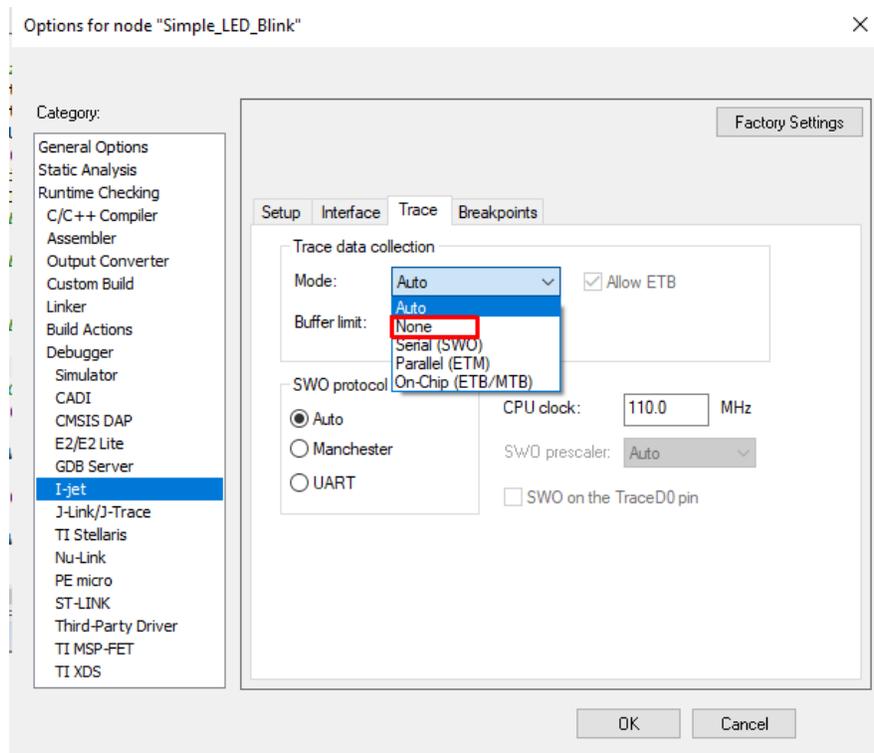
Click on the "Trace" tab.

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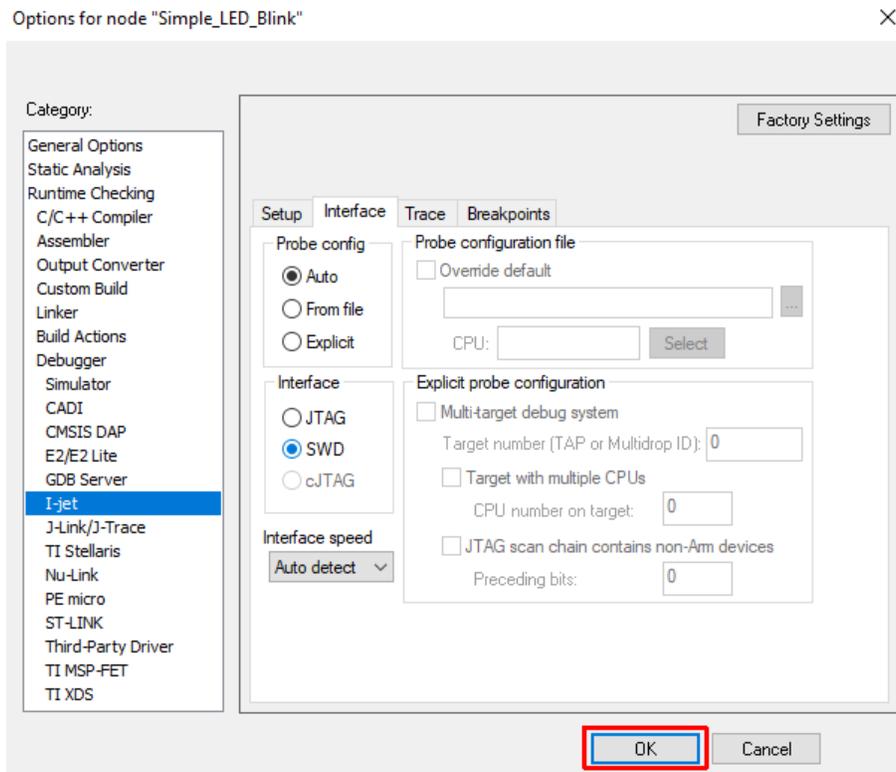
Under the "Mode:" drop down box, select "None"

MCU Programmers User Manual



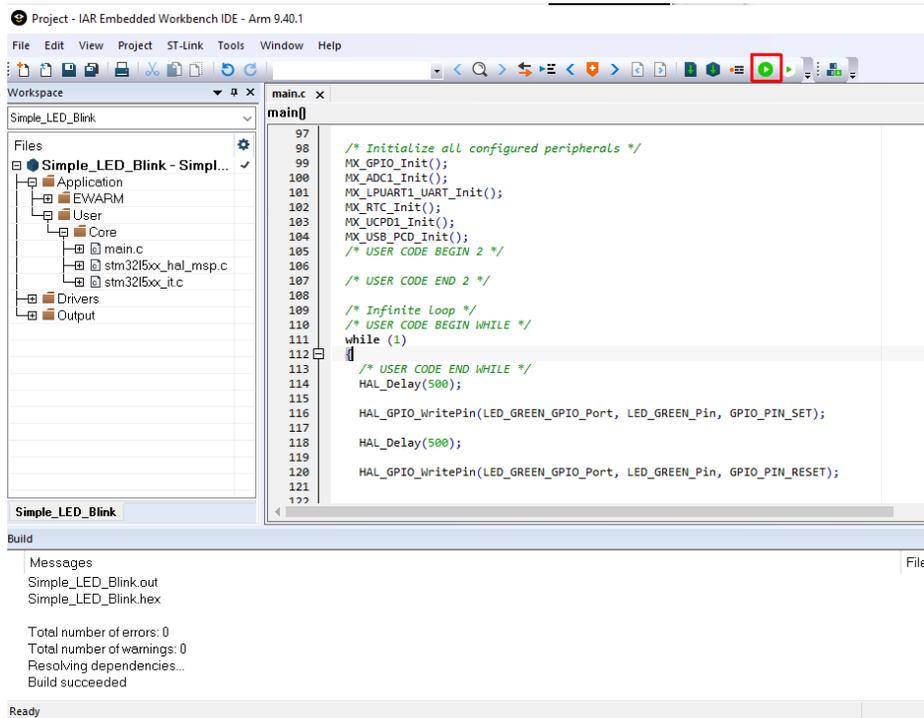
Click on the “Ok” button at the bottom of the window.

MCU Programmers User Manual

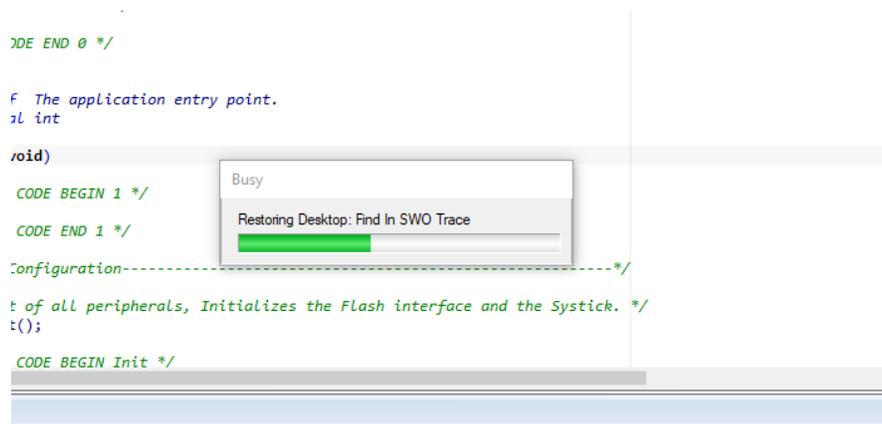


Next, click on the Green "Download and Debug" button.

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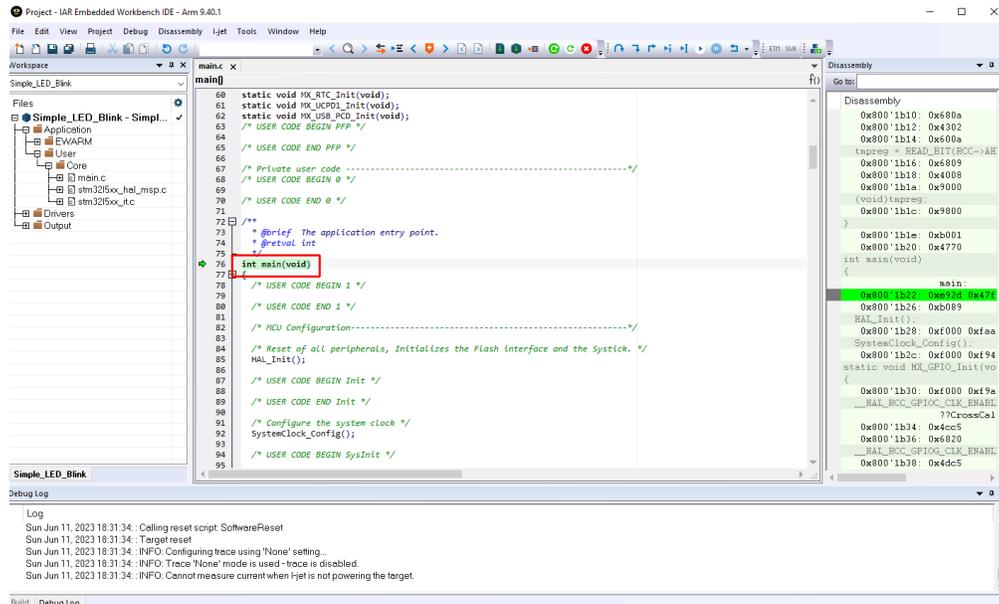
The compile and download to the target board will begin.



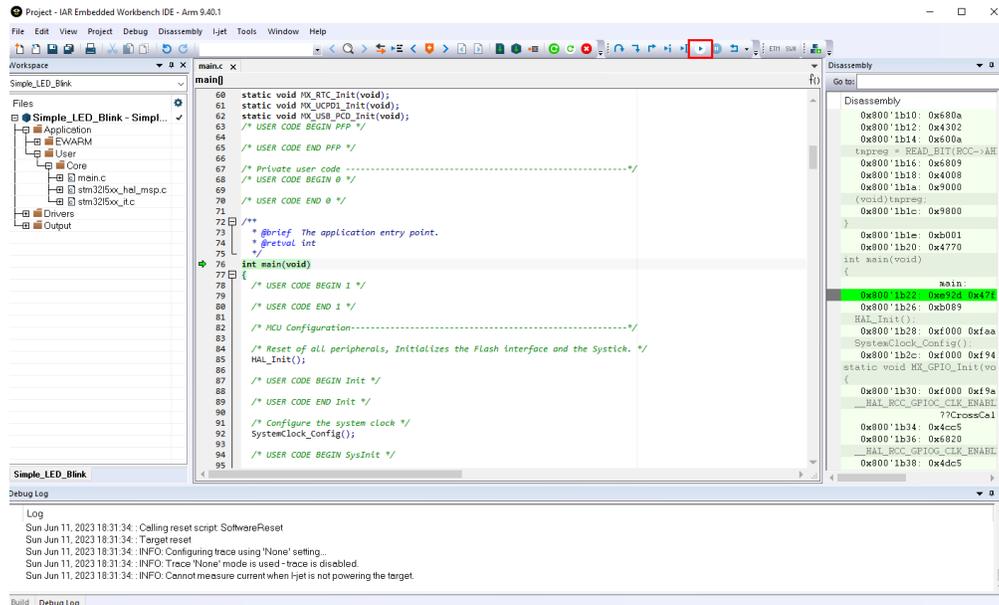
Once the download has been successful, the EW software is ready to begin the debug process.



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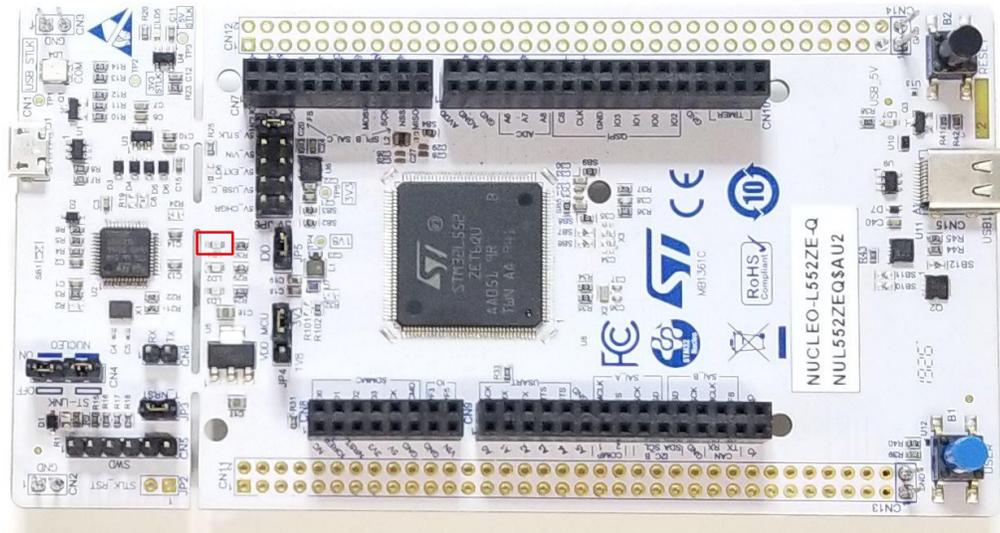


Here, click on the White “Go” button.



Once the code is running, the Green LED, LD1 will blink on and off with 500 ms between state changes.

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Once you see the LED blink on and off, you have successfully completed your first project using IAR EW and the SWD Blaster.

Congratulations!

It is now time to create more advanced projects. Try adding the Red LED blink on and off at LD2.

2.4 Using NXP Board Support Package

TBD

2.5 Using Texas Instruments Board Support Package

TBD

3 IAR Embedded Workbench Tools

TBD



MCU Programmers User Manual