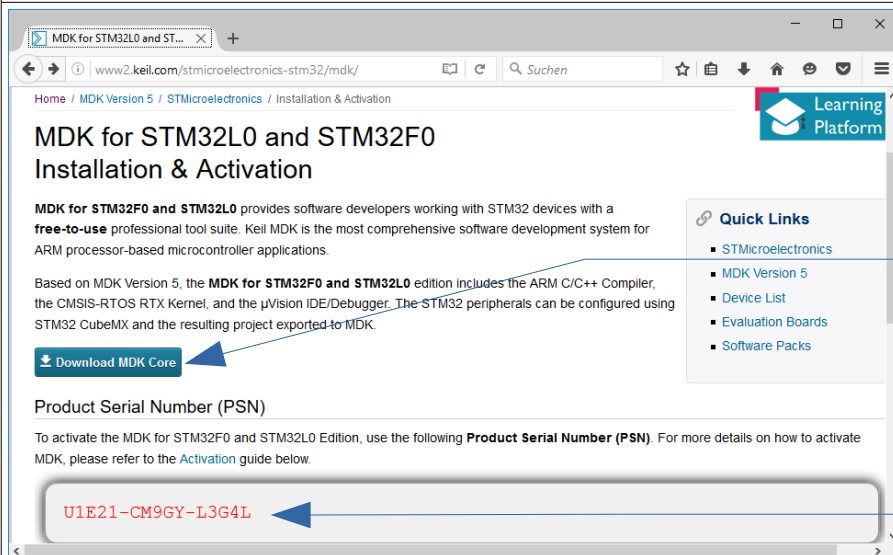


1 Download, installation and activation

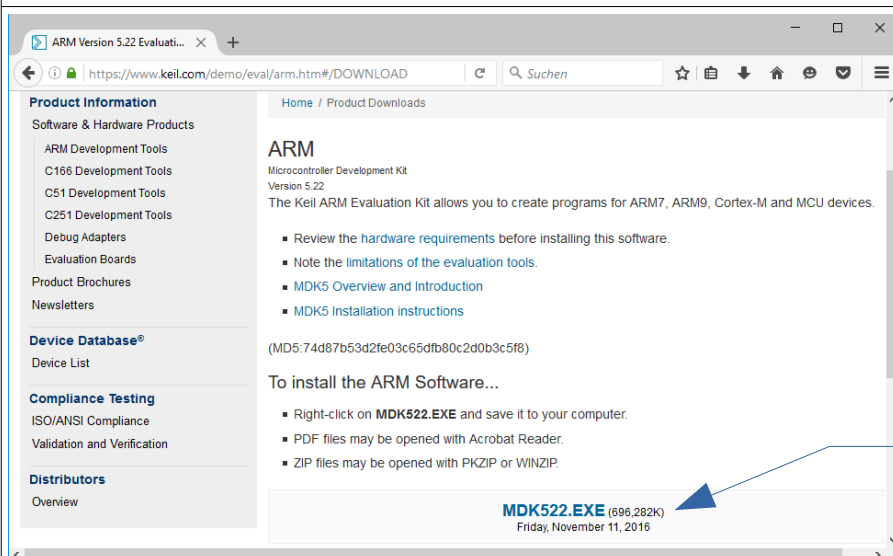
1.1 Installation of Keil MDK

Download Keil MDK from <http://www2.keil.com/stmicroelectronics-stm32/mdk>

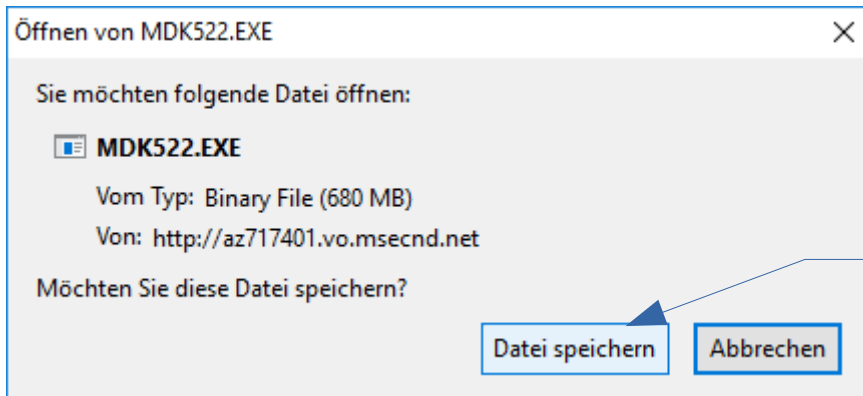


2. Click button

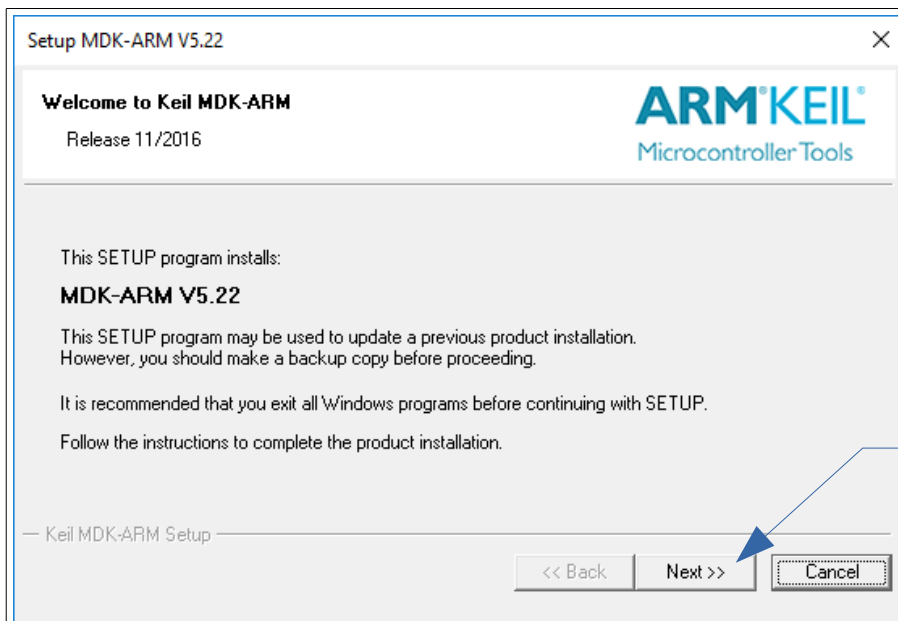
1. Notice code



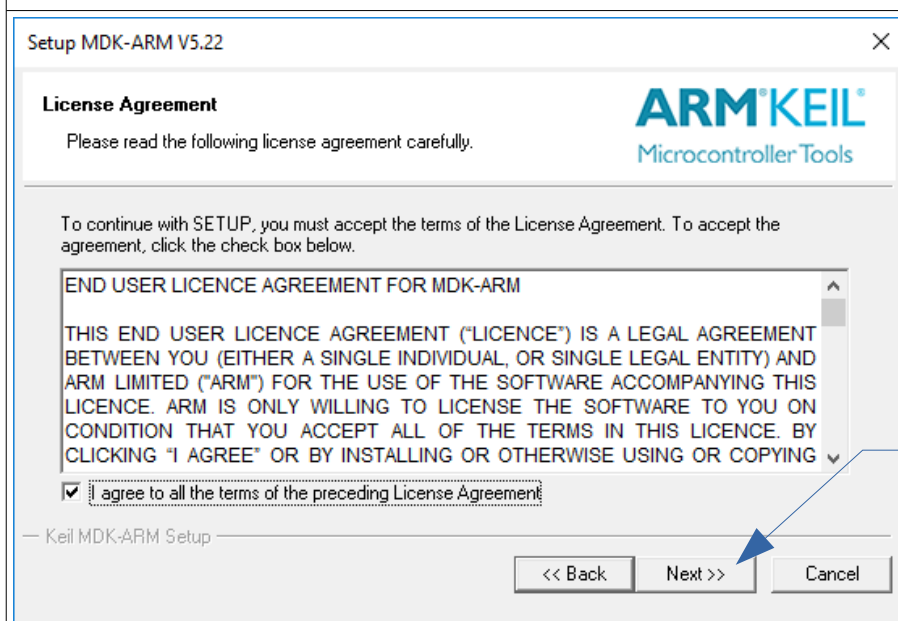
Download ex



Save and execute exe



Start installation



Accept license

Setup MDK-ARM V5.22

Folder Selection

Select the folder where SETUP will install files.

ARM[®] KEIL[®]
Microcontroller Tools

Press 'Next' to install MDK-ARM to these folders. Press 'Browse' to select different folders for installation.

Destination Folders:

Core: C:\Keil_v5 Browse ...

Pack: C:\Keil_v5\ARM\PACK Browse ...

— Keil MDK-ARM Setup —

<< Back Next >> Cancel

Select path

Setup MDK-ARM V5.22

Customer Information

Please enter your information.

ARM[®] KEIL[®]
Microcontroller Tools

Please enter your name, the name of the company for whom you work and your E-mail address.

First Name: Max

Last Name: Mustermann

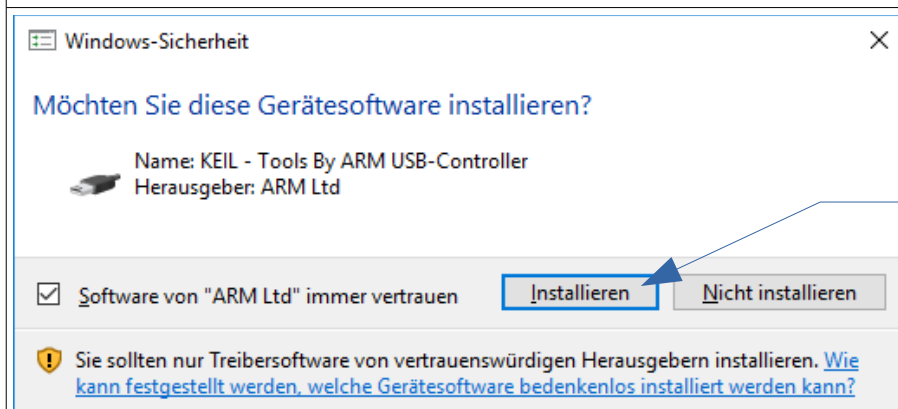
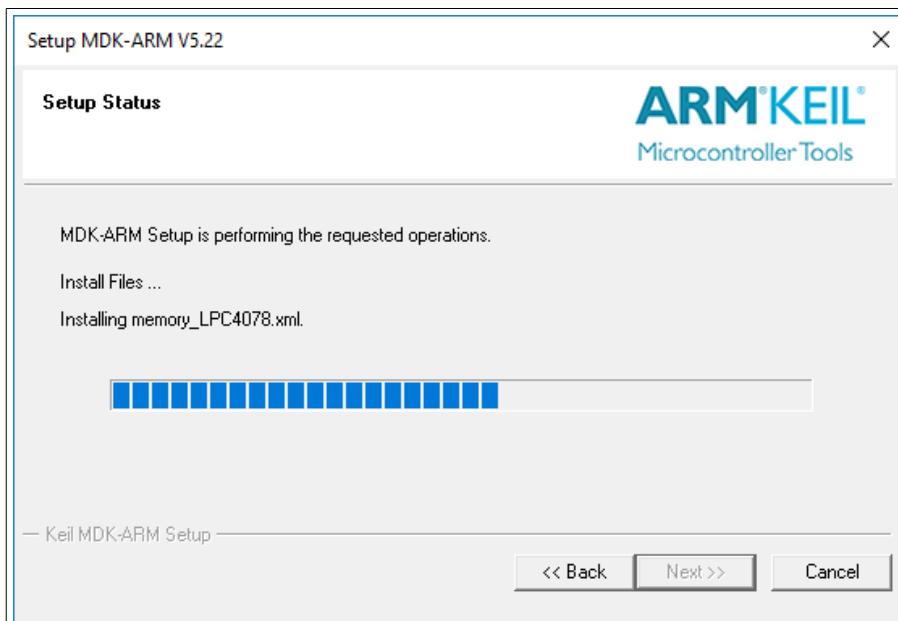
Company Name: Musterfirma

E-mail: max@ de

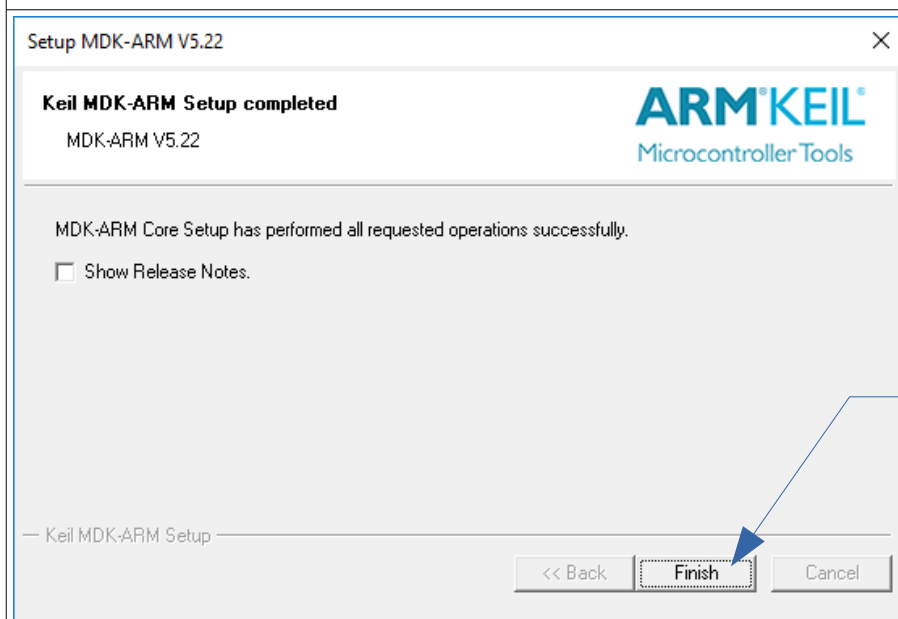
— Keil MDK-ARM Setup —

<< Back Next >> Cancel

Account settings




Driver installation



Installation complete

1.2 Installation of Keil packages

Pack Installer

 **Welcome to the Keil Pack Installer**

Pack Installer is a utility for managing Software Packs on the local computer and provides the following windows:

Devices : List supported devices. Select a device to show related Packs and examples.

Boards : List supported boards. Select a board to show related Packs and examples.

Packs : List and manage Software Packs. Install a Pack for access within µVision.

Examples : List example projects. Copy projects and launch µVision for testing examples.

Pack Installer connects to www.keil.com/pack to obtain the published Software Packs.
To install a local Software Pack use **File - Import...** from the menu.

☒ Show this dialog at startup

OK **Help**

Start Pack Installer

Pack Installer - C:\Keil_v5\ARM\PACK

File Packs Window Help

Device: stm32f091cc

Devices **Boards** **Packs** **Examples**

Search: stm32f091cc

Device

- All Devices 1 Device
- STMicroelectr... 1 Device
- STM32F0 S... 1 Device
- STM32... 1 Device
- ARM Cortex-M0, 48 MHz, 32 kB RAM, 256 kB ROM

Pack **Action** **Description**

- Device Specific 0 Packs No device selected
- Generic 16 Packs
- ARM::CMSIS Up to date CMSIS (Cortex Microcontroller)
- ARM::CMSIS-Driver_Val... Install CMSIS-Driver Validation
- ARM::CMSIS-RTOS_Val... Install CMSIS-RTOS Validation
- ARM::mbedClient Install ARM mbed Client for Cortex-M
- ARM::mbedTLS Install ARM mbed Cryptographic and
- ARM::mbed OS Scheduler for Cortex-
- ARM::miniar Install
- Keil::ARM_Compiler Up to date Keil ARM Compiler extensions
- Keil::Jansson Install Jansson is a C library for encodi
- Keil::MDK-Middleware Up to date Keil MDK-ARM Professional Mi
- lwIP:lwIP Install lwIP is a light-weight implemer
- Micrium:RTOS Install Micrium software components
- Oryx-Embedded:Midd... Install Middleware Package (CycloneT
- RealTimeLogic:SharkS... Install SharkSSL-Lite is a super small ai
- RealTimeLogic:SMQ Install Simple Message Queues (SMQ)

Output

Refresh Pack descriptions

Check for updates

Refresh Pack descriptions

Completed requested actions

ONLINE

Type in stm32f091cc and press the return button, the tree will be opened

Pack Installer - C:\Keil_v5\ARM\PACK

File Packs Window Help

Device: STMicroelectronics - STM32F091CC

Devices **Boards** **Packs** **Examples**

Search: stm32f091cc

Device

- All Devices / Summary
- STMicroelectr... 1 Device
- STM32F0 S... 1 Device
- STM32... 1 Device
- ARM Cortex-M0, 48 MHz, 32 kB RAM, 256 kB ROM

Pack **Action** **Description**

- Device Specific 2 Packs STM32F091CC selected
- Keil::STM32F0xx_DFP Install STMicroelectronics STM32F0 S
- Keil::STM32NUCLEO_B... Install STMicroelectronics Nucleo Boa
- Generic 16 Packs
- ARM::CMSIS Up to date CMSIS (Cortex Microcontroller)
- ARM::CMSIS-Driver_Val... Install CMSIS-Driver Validation
- ARM::CMSIS-RTOS_Val... Install CMSIS-RTOS Validation
- ARM::mbedClient Install ARM mbed Client for Cortex-M
- ARM::mbedTLS Install ARM mbed Cryptographic and
- ARM::mbed OS Scheduler for Cortex-
- ARM::miniar Install
- Keil::ARM_Compiler Up to date Keil ARM Compiler extensions
- Keil::Jansson Install Jansson is a C library for encodi
- Keil::MDK-Middleware Up to date Keil MDK-ARM Professional Mi
- lwIP:lwIP Install lwIP is a light-weight implemer
- Micrium:RTOS Install Micrium software components
- Oryx-Embedded:Midd... Install Middleware Package (CycloneT

Output

Refresh Pack descriptions

Check for updates

Refresh Pack descriptions

Read Pack descriptions...

100% ONLINE

2. click Install

1. Select the device

Installation complete

1.3 Get license

Start MDK

Start license management

License Management

Single-User License | Floating License | Floating License Administrator | FlexLM License

Customer Information

Name: Max Mustermann
Company: Musterfirma
Email: max@muster.de

Computer ID
CID: C9Q18-YK0IF

Get LIC via Internet...

Product	License ID Code...	Support Period
MDK-Lite	Evaluation Version	

New License ID Code (LIC): T0D58-3C...VZY4-PS1SI

Add LIC Uninstall...

Evaluate MDK Professional Close Help

1. Copy LIC from received email

Add LIC to the MDK

License Management

Single-User License | Floating License | Floating License Administrator | FlexLM License

Customer Information

Name: Max Mustermann
Company: Musterfirma
Email: max@muster.de

Computer ID
CID: C9Q18-YK0IF

Get LIC via Internet...

Product	License ID Code (LIC)/Product variant	Support Period
MDK-ARM Cortex-M0/M0+ 256K for ST	T0D58-39GY2-ZMSRR-YXCNK-WVZY4-PS1SI	Expires: Feb 2018

New License ID Code (LIC): T0D58-3C...VZY4-PS1SI

Add LIC Uninstall...

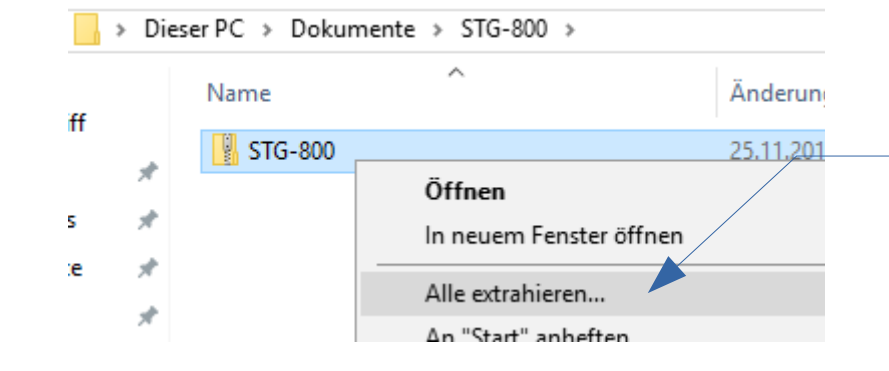
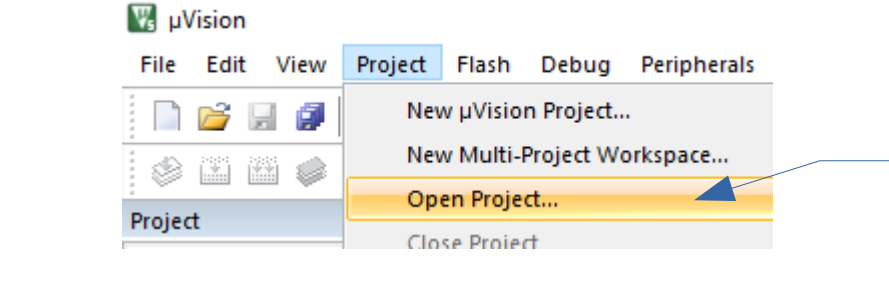
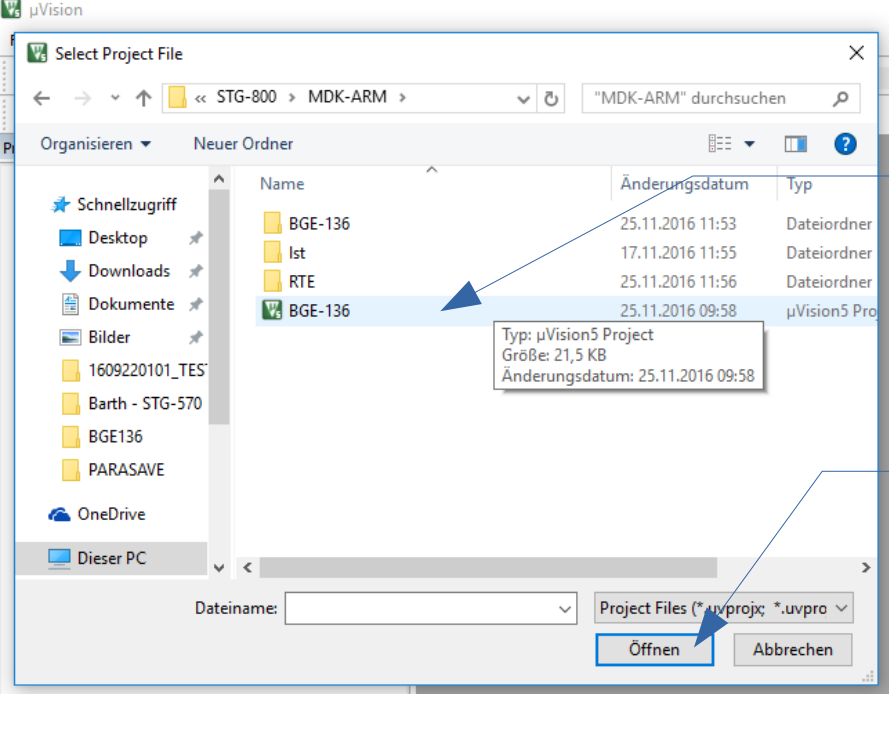
*** LIC Added Sucessfully ***

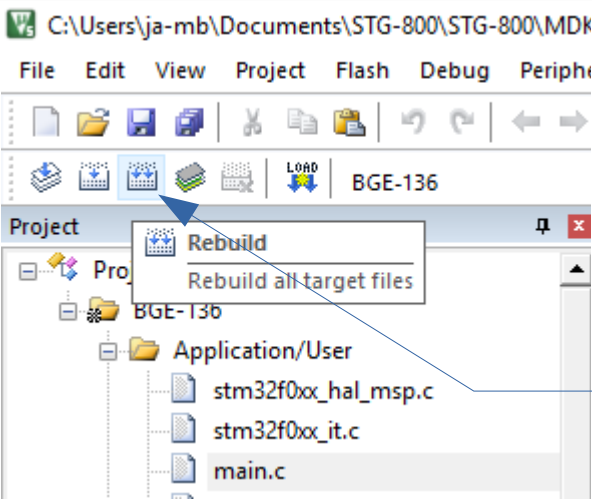
Evaluate MDK Professional Close Help

License valid

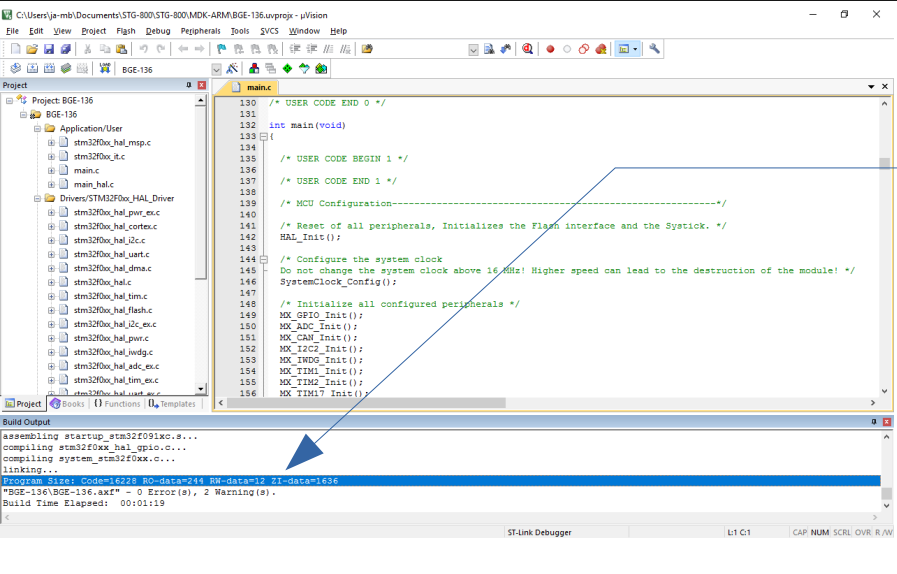
Close dialog

2 Load sample project

	<p>Unzip sample project</p>
	<p>Click open project</p>
	<p>1. Select sample project file</p> <p>2. Click open</p>



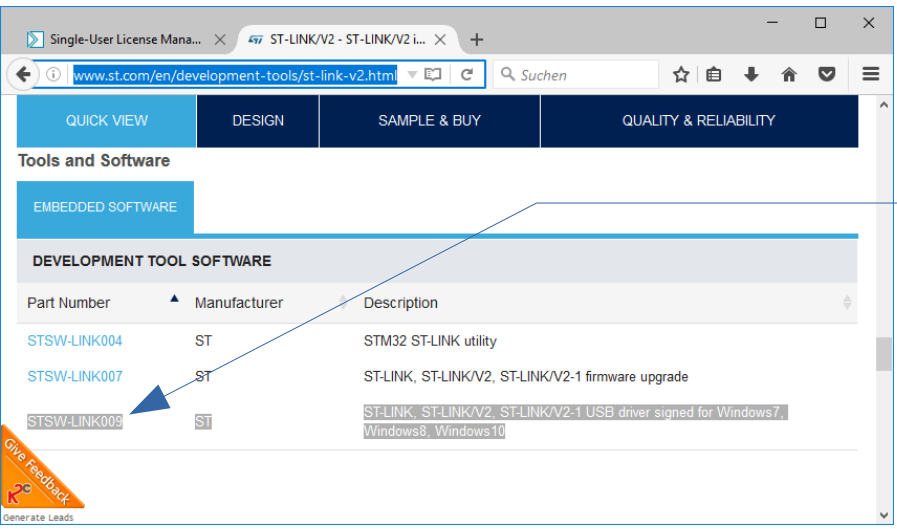
Rebuild project



Rebuild done

3 Install ST-Link driver

Open <http://www.st.com/en/development-tools/st-link-v2.html>



Open USB driver

Single-User License Mana... x ST-LINK/V2 - ST-LINK/V2 ... x STSW-LINK009 - ST-LINK...

www.st.com/content/st_com/en/products/embedded-s Suchen

QUICK VIEW DESIGN GET SOFTWARE

GET SOFTWARE

Part Number	Software Version	Marketing Status	Supplier	Order from ST
STSW-LINK009	1.02	Active	ST	Get Software

Support & Community

GIVE FEEDBACK RED VIDEOS See All

www.st.com/content/st_com/en/products/embedded-software/development-tool-software/stsw-link009.html#quickview-scroll

Download and unzip the USB driver

Eigenschaften von STM32 STLink

Allgemein Treiber Details Ereignisse

STM32 STLink

Gerätetyp: Andere Geräte

Hersteller: Unbekannt

Speicherort: Port_#0001.Hub_#0004

Gerätestatus

Die Treiber für dieses Gerät wurden nicht installiert. (Code 28)

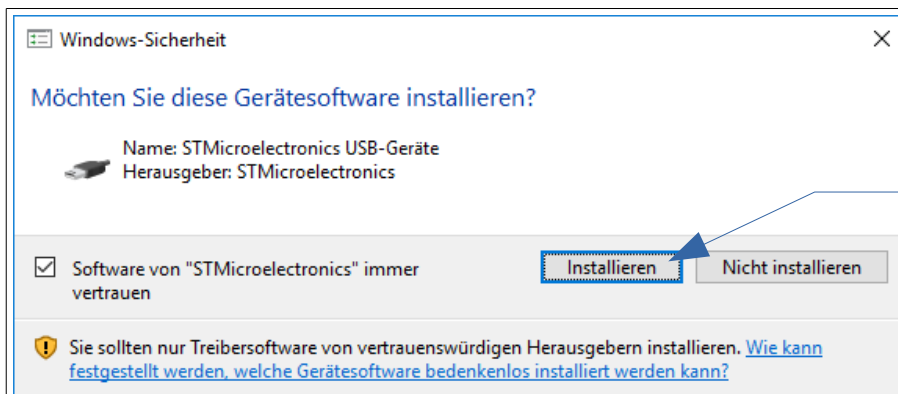
Es sind keine kompatiblen Treiber für dieses Gerät vorhanden.

Klicken Sie auf "Treiber aktualisieren", um einen Treiber für dieses Gerät zu finden.

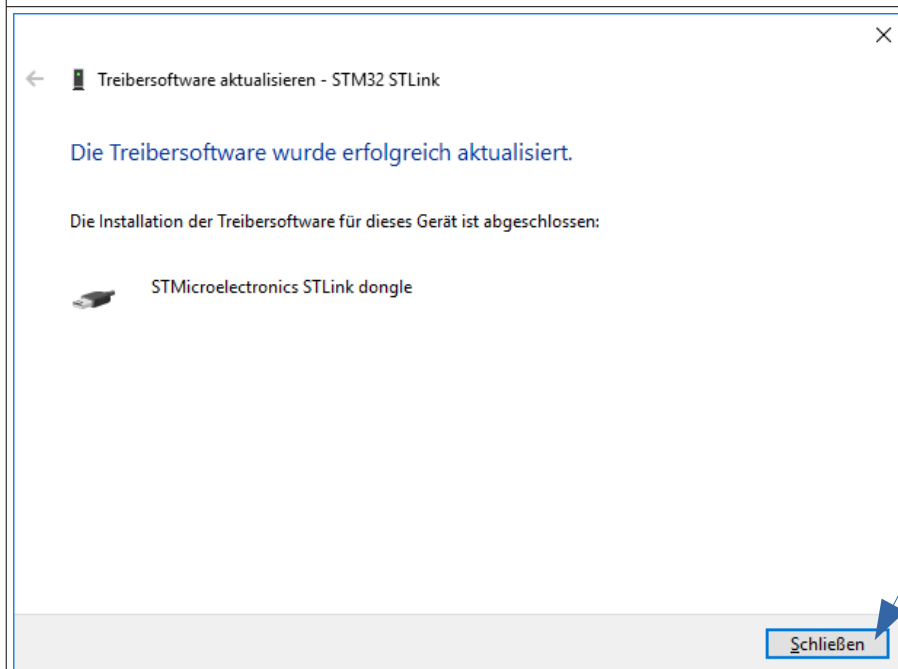
Treiber aktualisieren...

OK Abbrechen

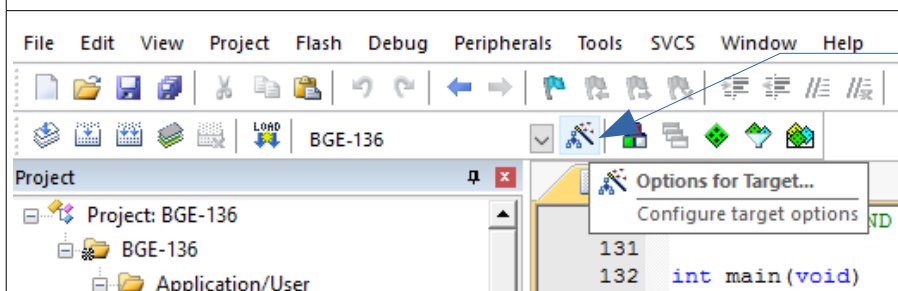
Connect Debugger with the PC and open STM32 STLink property from Device Manager and click update driver



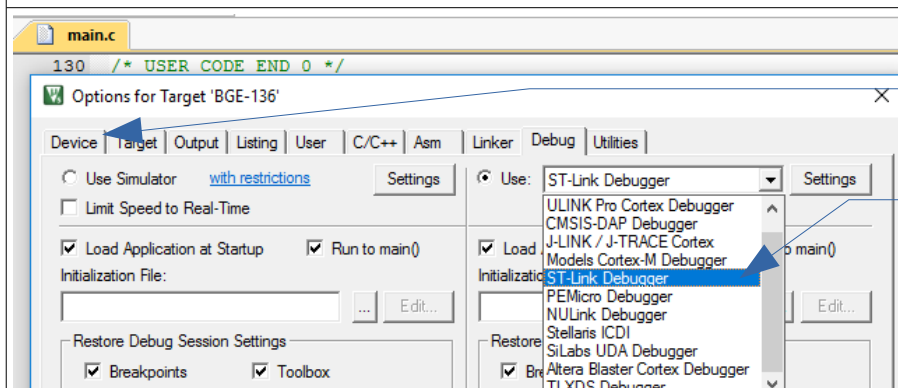
Open unzipped USB driver and install it



USB driver installation done

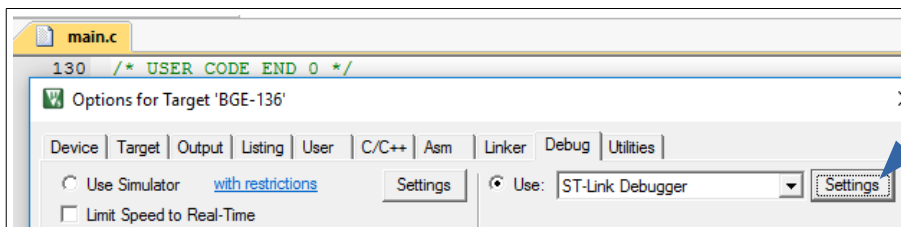


Target options

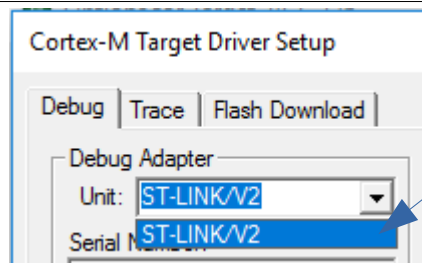


1. Select device

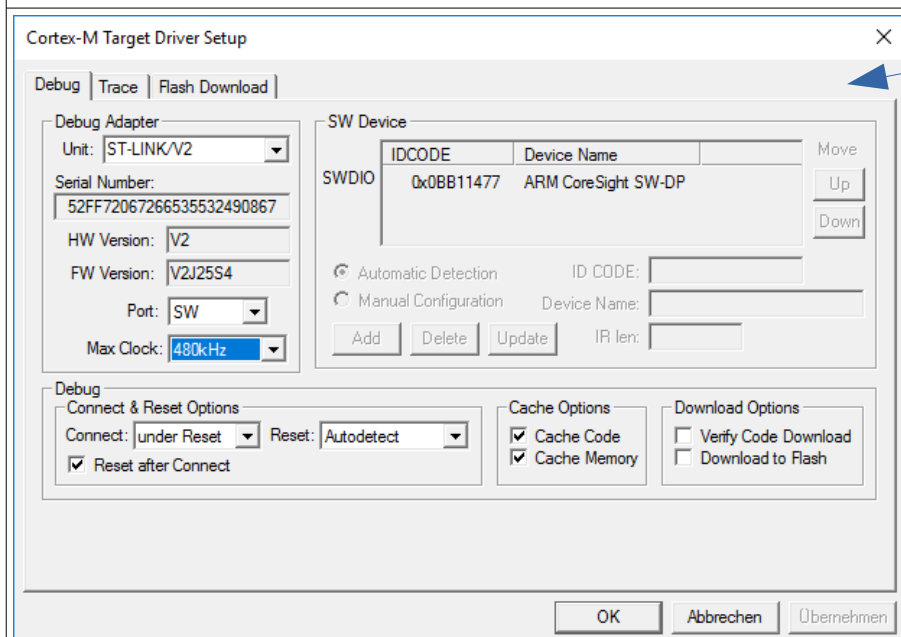
2. select ST-Link Debugger



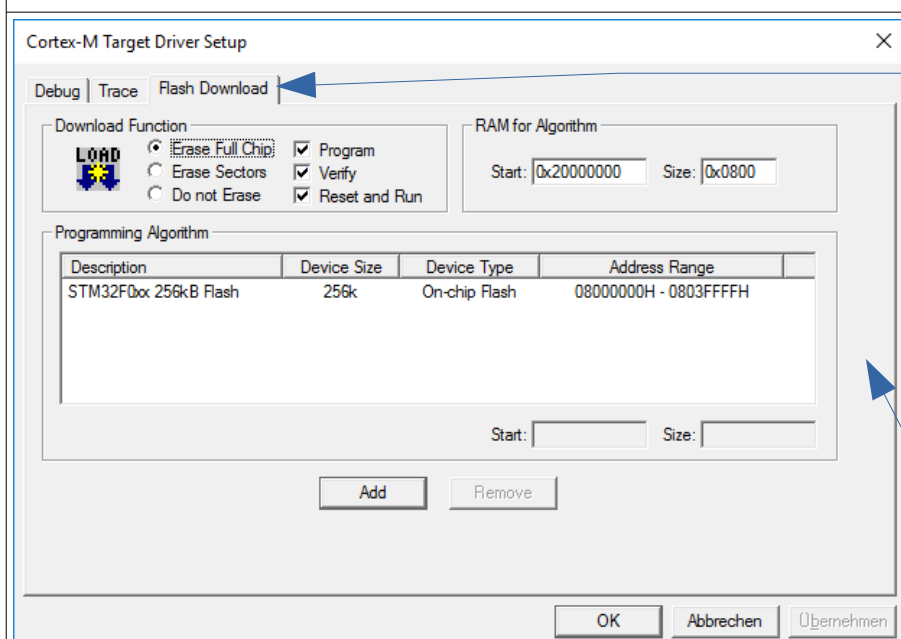
Open settings



Select ST-LINK/V2



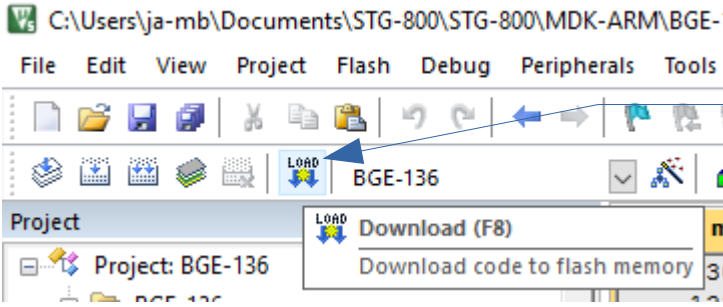
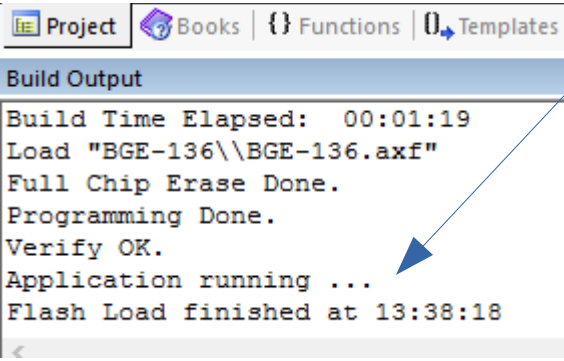
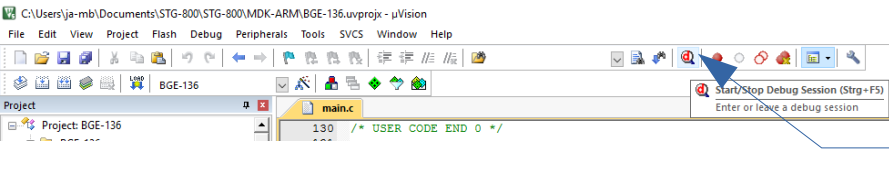
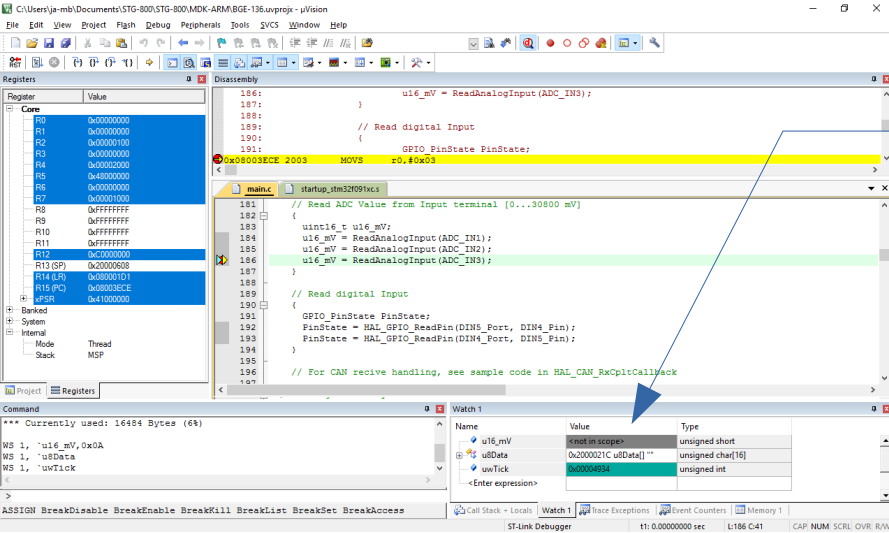
Verify all settings

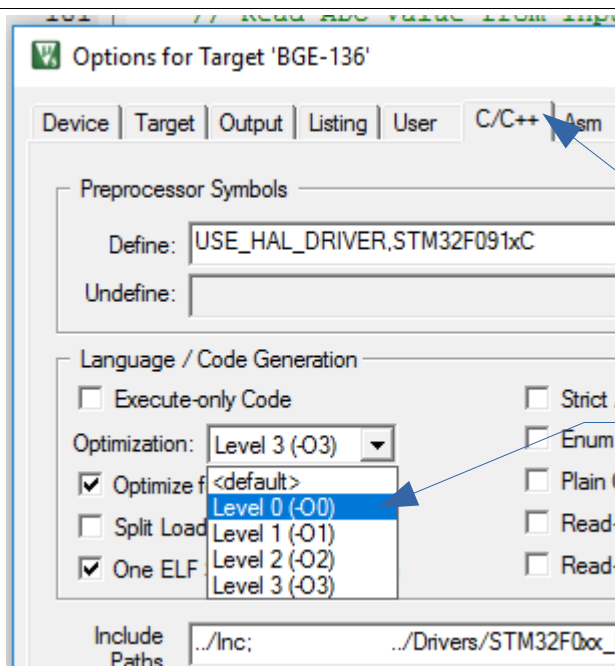


1. Open Flash download page

2. Verify all settings
For new devices, the function Erase Full Chip should be selected

4 Download to the device and debugging

	<p>Download application to the device</p>
 <pre>Build Time Elapsed: 00:01:19 Load "BGE-136\BGE-136.axf" Full Chip Erase Done. Programming Done. Verify OK. Application running ... Flash Load finished at 13:38:18</pre>	<p>Download done and application started</p>
	<p>Start debugging</p>
 <pre>186: u16_mV = ReadAnalogInput(ADC_IN3); 187: } 188: // Read digital Input 189: { 190: GPIO_PinState PinState; 191: MOVSW r0,#0x05 192: } 193: // Read ADC Value from Input terminal [0...30800 mV] 194: { 195: u16_mV = ReadAnalogInput(ADC_IN1); 196: u16_mV = ReadAnalogInput(ADC_IN2); 197: u16_mV = ReadAnalogInput(ADC_IN3); 198: } 199: // Read digital Input 200: { 201: GPIO_PinState PinState; 202: PinState = HAL_GPIO_ReadPin(DIN4_Port, DIN4_Pin); 203: PinState = HAL_GPIO_ReadPin(DIN4_Port, DIN4_Pin); 204: } 205: // For CAN receive handling, see sample code in HAL_CAN_RxCpltCallback 206: }</pre>	<p>Depending from optimization level, some content are not visible</p>



Open target options and the C/C++ page

Disable optimization by select Level 0, rebuild the project and start debugging

