SW requirements for do the STM Hands-On during the STDay 2016 PC must have Windows 7

For use the: **STM32L4-Discovery**

For use the: IoT - Remote your Sensors via WiFi and IBM BlueMix

NOTE:

If you have already installed the tools highlighted below, make sure to have the last version installed.

For do the hands-on n.1 please install the tools shown below

• Compiler: KEIL.

DownLoad and install it, **don't change the default path**. After the installation run KEIL and select the: **Pack Installer** (see below).

After the installation full kelle and select the. **Fack installer** (see below).

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File	Edit	View	Project	Flash	Debug	Peripherals	Tools	SVCS	Wind	low	Help			
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Projec	t					д 				8	Pack Inst	aller		
											Install or contain !	update Softw Software Com	vare Packs th ponents	at

From the window that appears select and install:

STM32F4 Series STM32L4 Series

see below.

e Packs Window Help							
Device: STMicroelectronics			_				
Devices Boards		4	4	Packs	Examples		
earch: •	×		Pa	ck		Action	Description
evice /	Summary		Ę.	Device Spec	cific	13 Packs	
🗄 🔗 Infineon	139 Devices	<u>م</u>		Clarino	c:Wireless	📀 Install	Clarinox Bluetooth Classic, Bluetooth Low Energy and Wi-Fi for Ember
🗉 🤗 Maxim	4 Devices			 Hites:C 	MSIS_RTOS_Tu	🔅 Install	An Introduction to using CMSIS RTOS for Cortex-M Microcontrollers
🗉 🔗 Microsemi	6 Devices			🕀 Keil::STI	M32F0xx_DFP	🔶 Up to date	STMicroelectronics STM32F0 Series Device Support and Examples
Nordic Semiconductor	7 Devices			■ Keil::STI	M32F1xx_DFP	🔶 Up to date	STMicroelectronics STM32F1 Series Device Support, Drivers and Exam
🗉 🔗 Nuvoton	399 Devices			Keil::STI	M32F2xx_DFP	🔶 Up to date	STMicroelectronics STM32F2 Series Device Support, Drivers and Exam
• • NXP	270 Devices			Keil::ST	M32F3xx_DFP	💠 Up to date	STMicroelectronics STM32F3 Series Device Support and Examples
🗄 🌳 Renesas	2 Devices			■ Keil::STI	M32F4xx_DFP	🔶 Up to date	STMicroelectronics STM32F4 Series Device Support, Drivers and Exan
Silicon Labs	357 Devices			Heil::STI	M32F7xx_DFP	💠 Up to date	STMicroelectronics STM32F7 Series Device Support, Drivers and Exam
🗉 🍳 SONIX	49 Devices				M32L0xx_DFP	🔶 Up to date	STMicroelectronics STM32L0 Series Device Support and Examples
- STMicroelectronics	669 Devices		Ι.		M32L1xx_DFP	🔶 Up to date	STMicroelectronics STM32L1 Series Device Support and Examples
🗄 🤧 STM32F0 Series	66 Devices			🗄 Keil::ST	M32L4xx_DFP	💠 Up to date	STMicroelectronics STM32L4 Series Device Support, Drivers and Exam
🗄 🔧 STM32F1 Series	95 Devices			Keil::STI	M32NUCLEO_B	🔶 Up to date	STMicroelectronics Nucleo Boards Support and Examples
🗉 🍕 STM32F2 Series	46 Devices			🗄 Keil::STI	M32W1xx_DFP	🔶 Up to date	STMicroelectronics STM32W1 Series Device Support and Examples
👁 🍕 STM32F3 Series	70 Devices		÷	Generic		15 Packs	
😟 🍄 STM32F4 Series	153 Devices			■ ARM::C	MSIS	💠 Up to date	CMSIS (Cortex Microcontroller Software Interface Standard)
😠 😘 STM32F7 Series	29 Devices			+ ARM::C	MSIS-Driver_Va	🕸 Install	CMSIS-Driver Validation
🛨 🍂 STM32L0 Series	90 Devices			+ ARM::m	nbedTLS	📀 Install	ARMmbed Cryptographic and SSL/TSL library for Cortex-M devices
🗉 🏤 STM32L1 Series	69 Devices			🖭 Keil::AR	M_Compiler	💠 Up to date	Keil ARM Compiler extensions
😠 🎋 STM32L4 Series	46 Devices			🗄 Keil::Jan	isson	📀 Install	Jansson is a C library for encoding, decoding and manipulating JSON
🗄 🌾 STM32W1 Series	5 Devices			😟 Keil::M	OK-Middleware	💠 Up to date	Keil MDK-ARM Professional Middleware for ARM Cortex-M based de
+ 🕈 I exas Instruments	341 Devices			🗄 Keil::M	DK-Network_DS	💠 Up to date	Keil MDK-ARM Professional Middleware Dual-Stack IPv4/IPv6 Netwo
🔹 🔗 Toshiba	85 Devices			Keil::XM	1C1000_DFP	📀 Offline	Infineon XMC1000 Series Device Support, deprecated: Use "Infineon::
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IMPORTANT:

For test KEIL installation see here.

• CUBE-MX

DownLoad and install it, don't change the default path.

CUBE-MX request JAVA installed on your PC.

Get Software		Тор		
Part Number	•	Version	Marketing Status	Order From ST
STM32CubeMX		4.13.0	Active	Download

• STM32L4 Hal Library

DownLoad and UnZip it on C:\ST2016

Get Software		Top	2
Part Number	Version	Marketing Status	Order From ST
STM32CubeL4	1.3.0	Active	Download

• <u>ST-LINK-UTILITY</u>

DownLoad and install it, **don't change the default path**.

Part Number	Version	Marketing Status	Order From ST
STSW-LINK004	3.8.0	Active	Download

• STM Virtual COM Port Driver that is <u>here</u>. DownLoad and install it.

ĺ	Part Number	Version	Marketing Status	Order From ST
	STSW-STM32102	1.4.0	Active	Download

For do the hands-on n.2 please install the tools shown below

Compiler: <u>KEIL</u>.

DownLoad and install it, **don't change the default path**. After the installation run KEIL and select the: **Pack Installer** (see below).



From the window that appears select and install:

STM32F4 Series STM32L4 Series

see below.

e Packs Window Help					
Device: STMicroelectronics					
Devices Boards		4	Packs Examples		
earch: •	×		Pack	Action	Description
evice ,	Summary		 Device Specific 	13 Packs	
🗄 🔶 Infineon	139 Devices		Clarinox::Wireless	📀 Install	Clarinox Bluetooth Classic, Bluetooth Low Energy and Wi-Fi for Embe
🗄 🔗 Maxim	4 Devices		E Hites:CMSIS_RTOS_T	u 🔅 Install	An Introduction to using CMSIS RTOS for Cortex-M Microcontrollers
 Microsemi 	6 Devices		E Keil::STM32F0xx_DFP	🔶 Up to date	STMicroelectronics STM32F0 Series Device Support and Examples
😟 🔗 Nordic Semiconductor	7 Devices		Keil::STM32F1xx_DFP	🔶 Up to date	STMicroelectronics STM32F1 Series Device Support, Drivers and Exam
Nuvoton	399 Devices		Keil::STM32F2xx_DFP	🔶 Up to date	STMicroelectronics STM32F2 Series Device Support, Drivers and Exam
• 🖌 NXP	270 Devices		Keil::STM32F3xx_DFP	🔶 Up to date	STMicroelectronics STM32F3 Series Device Support and Examples
+ 🔗 Renesas	2 Devices		Keil::STM32F4xx_DFP	🔶 Up to date	STMicroelectronics STM32F4 Series Device Support, Drivers and Exam
🔹 🄗 Silicon Labs	357 Devices		E Keil::STM32F7xx_DFP	💠 Up to date	STMicroelectronics STM32F7 Series Device Support, Drivers and Exam
🗉 🤗 SONIX	49 Devices		E Keil::STM32L0xx_DFP	🔶 Up to date	STMicroelectronics STM32L0 Series Device Support and Examples
- STMicroelectronics	669 Devices		Keil::STM32L1xx_DFP	🔶 Up to date	STMicroelectronics STM32L1 Series Device Support and Examples
🛓 🍕 STM32F0 Series	66 Devices		Keil::STM32L4xx_DFP	💠 Up to date	STMicroelectronics STM32L4 Series Device Support, Drivers and Exam
🗉 🏤 STM32F1 Series	95 Devices		Keil::STM32NUCLEO_	3 🔶 Up to date	STMicroelectronics Nucleo Boards Support and Examples
🗉 🏤 STM32F2 Series	46 Devices		E Keil::STM32W1xx_DFP	🔶 Up to date	STMicroelectronics STM32W1 Series Device Support and Examples
😠 🏤 STM32F3 Series	70 Devices		Generic	15 Packs	
😟 🍄 STM32F4 Series	153 Devices		ARM::CMSIS	🔶 Up to date	CMSIS (Cortex Microcontroller Software Interface Standard)
💿 🛠 STM32F7 Series	29 Devices		ARM::CMSIS-Driver_V	a 🧇 Install	CMSIS-Driver Validation
🗄 🎋 STM32L0 Series	90 Devices		ARM::mbedTLS	📀 Install	ARMmbed Cryptographic and SSL/TSL library for Cortex-M devices
😐 🍫 STM32L1 Series	69 Devices		Keil::ARM_Compiler	🔶 Up to date	Keil ARM Compiler extensions
😠 쓚 STM32L4 Series	46 Devices		Keil::Jansson	📀 Install	Jansson is a C library for encoding, decoding and manipulating JSON
🗄 🌾 STM32W1 Series	5 Devices		Keil::MDK-Middleware	🔹 🔶 Up to date	Keil MDK-ARM Professional Middleware for ARM Cortex-M based de
+ 👻 l exas Instruments	341 Devices		Keil::MDK-Network_D	S 🚸 Up to date	Keil MDK-ARM Professional Middleware Dual-Stack IPv4/IPv6 Netwo
🔹 🔗 Toshiba	85 Devices		Keil::XMC1000_DFP	🚸 Offline	Infineon XMC1000 Series Device Support, deprecated: Use "Infineon::
		•			

IMPORTANT:

For test KEIL installation see here.

- Serial line monitor (e.g. <u>Termite</u> or <u>TeraTerm</u>).
 DownLoad and install it.
- Modern web browser (e.g. <u>Chrome</u>).
 DownLoad and install it.

• STM32 Software for this demo is <u>here</u> (FP-CLD-BLUEMIX1).

Get Software		Τοι	9
Part Number	Version	Marketing Status	Order From ST
FP-CLD-BLUEMIX1	1.0.0	Active	Download

- UnZip it on C:\ST2016
- Documentation of this software is <u>here</u>.

• STM Virtual COM Port Driver that is here.

DownLoad and install it.

Part N	umber 🔺	Version	Marketing Status	Order From ST
STSW-STM32102		1.4.0	Active	Download

Test KEIL installation

For testing your KEIL installation download this examples and test both.

<u>L4.7z</u>

Unzip into C:\ST2016\L4

Go in the directory: C:\ST2016\L4\MDK-ARM and double click on: L4.uvprojx

Compile clicking on the icon: (rebuild) You must see something like below.

Tou must see something like below.

```
Build Output

assembling startup_stm321476xx.s...

compiling stm3214xx_hal_rcc_ex.c...

linking...

Program Size: Code=5004 RO-data=488 RW-data=8 ZI-data=512

"L4\L4.axf" - 0 Error(s), 0 Warning(s).

Build Time Elapsed: 00:00:28
```

<u>F4.7z</u>

Unzip into C:\ST2016\F4 Go in the directory: C:\ST2016\F4\MDK-ARM and double click on: F4.uvprojx

Compile clicking on the icon: (rebuild) You must see something like below.

```
Build Output

assembling startup_stm32f401xe.s...

compiling system_stm32f4xx.c...

compiling stm32f4xx_hal_msp.c...

linking...

Program Size: Code=3800 RO-data=452 RW-data=8 ZI-data=512

"F4\F4.axf" - 0 Error(s), 0 Warning(s).

Build Time Elapsed: 00:00:15
```