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STM32WL workshop prerequisites

Prerequisites

1. Please, be familiar with STM32WL workshop theory part as online courses (subfolder MOOCs):
 - LoRaWAN theory: <https://www.youtube.com/playlist?list=PLnMKNibPkDnFyehmihirJ1fLeXpvNkdoY>
 - STM32WL security: https://youtube.com/playlist?list=PLnMKNibPkDnGg0wpC1_s4ACq5PuELBds5
2. Install STM32CubeIDE v1.5.1, see "STM32CubeIDE – configuration" slides
https://www.st.com/content/st_com/en/products/development-tools/software-development-tools/stm32-software-development-tools/stm32-ides/stm32cubeide.html
3. Install STM32CubeWL v1.0.0 software package, see "STM32CubeIDE – configuration" slides
https://www.st.com/content/st_com/en/products/embedded-software/mcu-mpu-embedded-software/stm32-embedded-software/stm32cube-mcu-mpu-packages/stm32cubewl.html
4. Install STM32CubeProgrammer v2.5.0
https://www.st.com/content/st_com/en/products/development-tools/software-development-tools/stm32-software-development-tools/stm32-programmers/stm32cubeprog.html
5. Install terminal sw (i.e. TeraTerm) in order to see Virtual Com Port application debug trace
6. NUCLEO-STM32WL55JC board and microUSB cable
7. P-NUCLEO-LRWAN2, microUSB cable and 5V/2A power supply including micoUSB cable (supply of RF part of gateway), Ethernet cable, see also UM2587
https://www.st.com/resource/en/user_manual/dm00620948-getting-started-with-the-pnucleolrwan2-and-pnucleolrwan3-starter-packs-stmicroelectronics.pdf

Prerequisites

8. LoRaWAN infrastructure, gateway / network server / application server:

- **Recommended:** P-NUCLEO-LRWAN2 gateway + external service provider, configuration procedure in ...Tutorials/**Loriot_server_setup...**
- Option 1: P-NUCLEO-LRWAN2 gateway + local NS/AS, configuration procedure in ...Tutorials/LoRaWAN_Server_tutorial... , related Node-RED flow file: *flows_nodered.json*
- Option 2: Multitech Conduit LoRaWAN gateway/NS/AS, configuration procedure in .../Tutorials/STM-WL Instruction for Trainers... , related Node-RED flow file: *Flow_Multitech.txt*

Node-RED flows and related test binary files can be found in ...Hands-on/Attendee_resources

9. **Check your setup** implementing the first STM32WL project described in **1_STM32WL_WS_Led_Blinking.pdf** .

Please, **do not skip this point** and save both your and other participant time during workshop facilitation.

10. It would be practical to use 2 screens in order to follow the slides presented by trainer and modify the hands-on source code accordingly.

11. Options or trainer only

11.1. X-NUCLEO-LPM01A in order to monitor current consumption profile,

https://www.st.com/content/st_com/en/products/evaluation-tools/product-evaluation-tools/stm32-nucleo-expansion-boards/x-nucleo-lpm01a.html

11.2. STM32CubeMonPwr

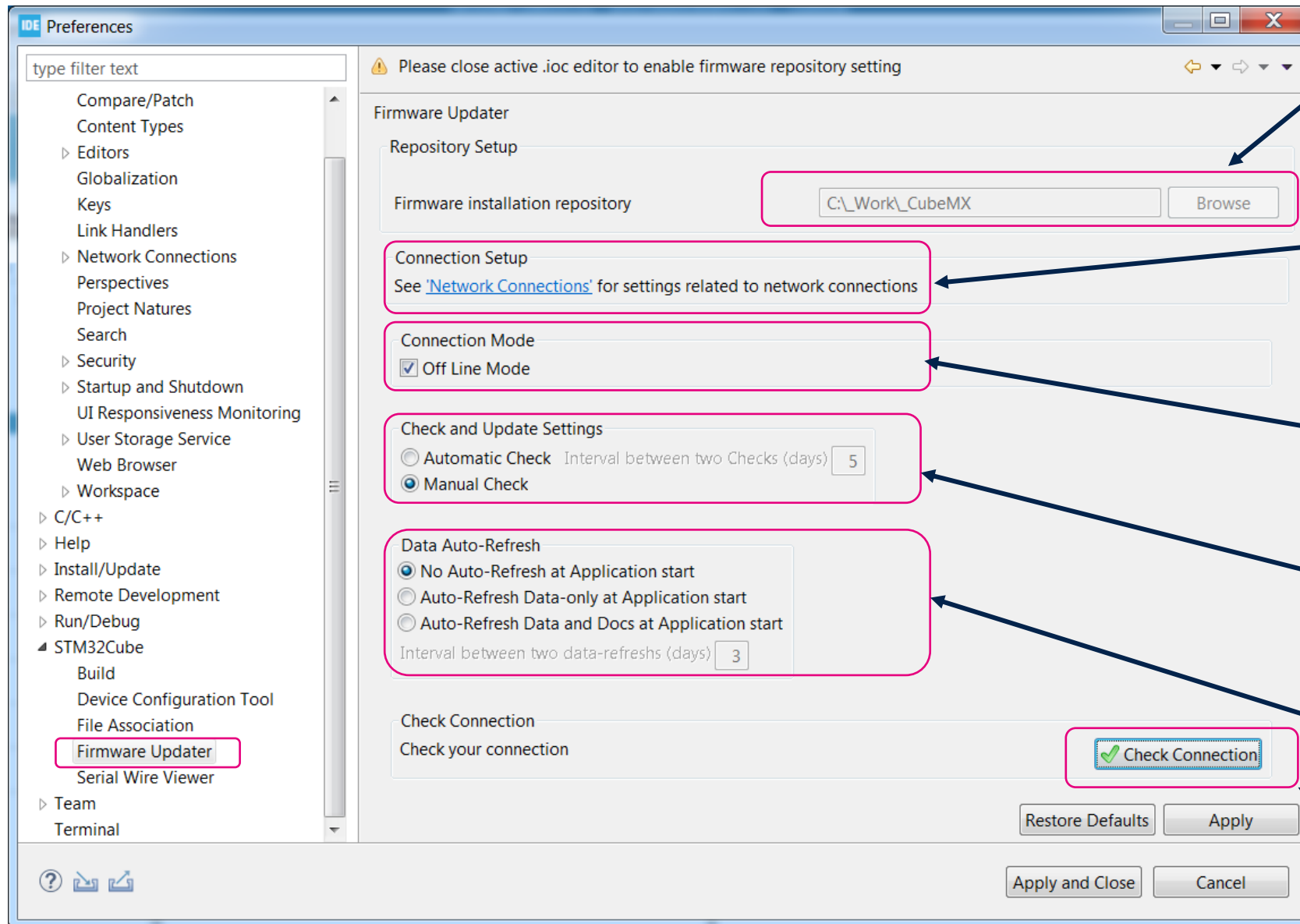
https://www.st.com/content/st_com/en/products/development-tools/software-development-tools/stm32-software-development-tools/stm32-performance-and-debuggers/stm32cubemonpwr.html

STM32CubeIDE - configuration



Firmware updater configuration

Window->Preferences



Libraries installation location
(active only if **there is no open project** in current workspace)

Connection setup (redirection
to General->Network
Connection preferences)

Connection mode (on or off-
line)

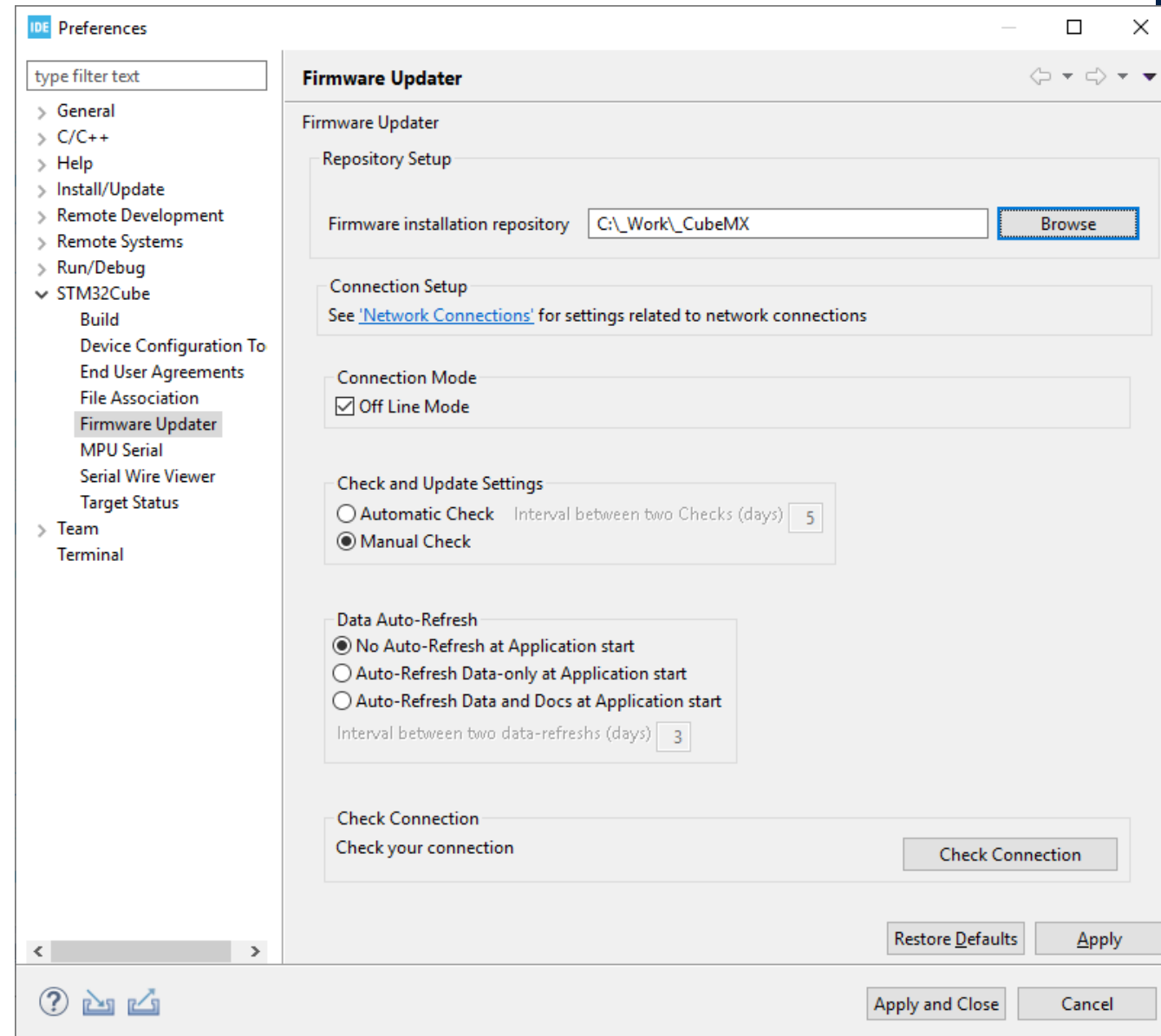
Check for updates settings
(automatic or manual)

Data auto-refresh settings

Checking the connection

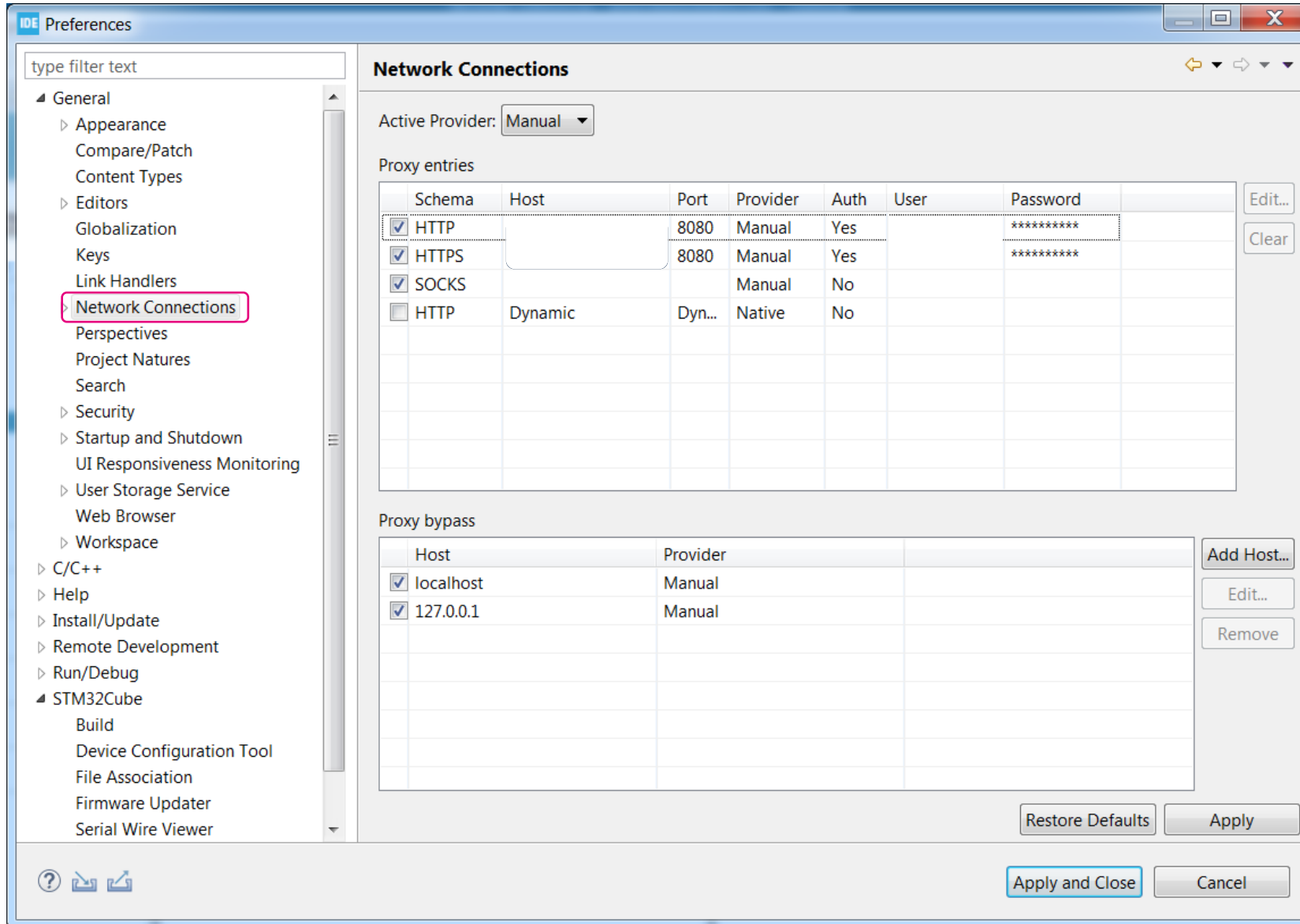
Updater configuration – fastest startup

- Those settings will allow you fastest start of new project within current workspace
- Unfortunately, those settings will be set to default values on new workspace creation



Network connections configuration

Window->Preferences

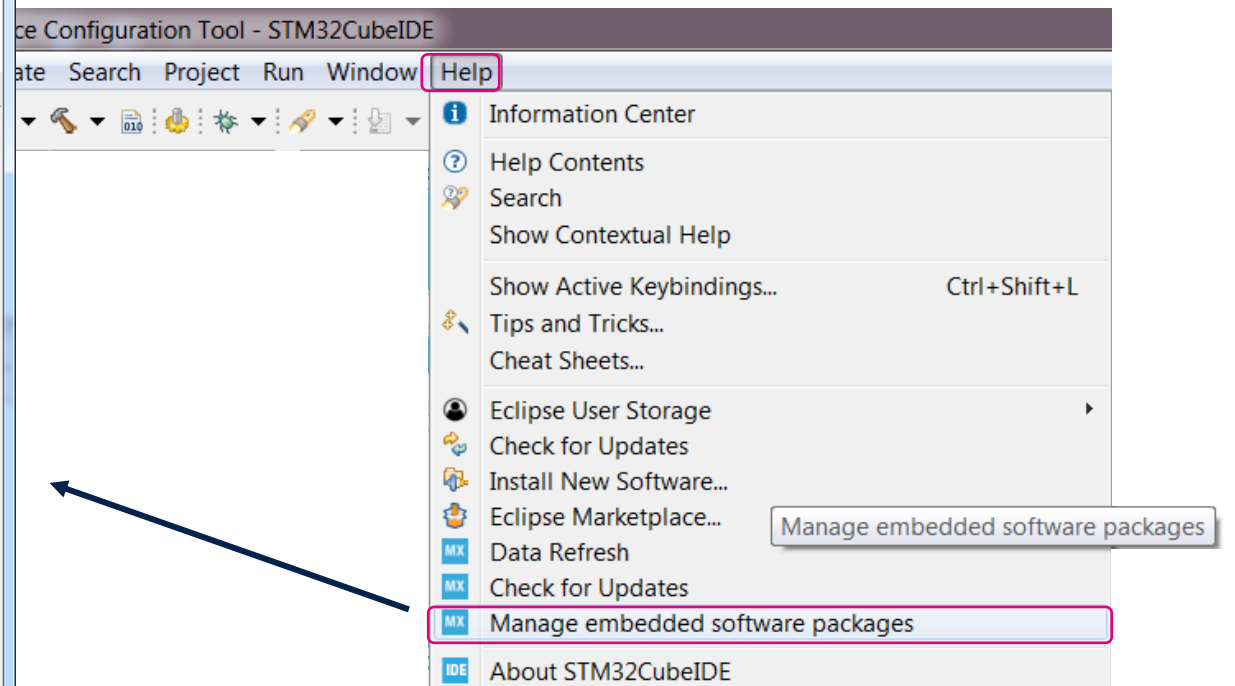
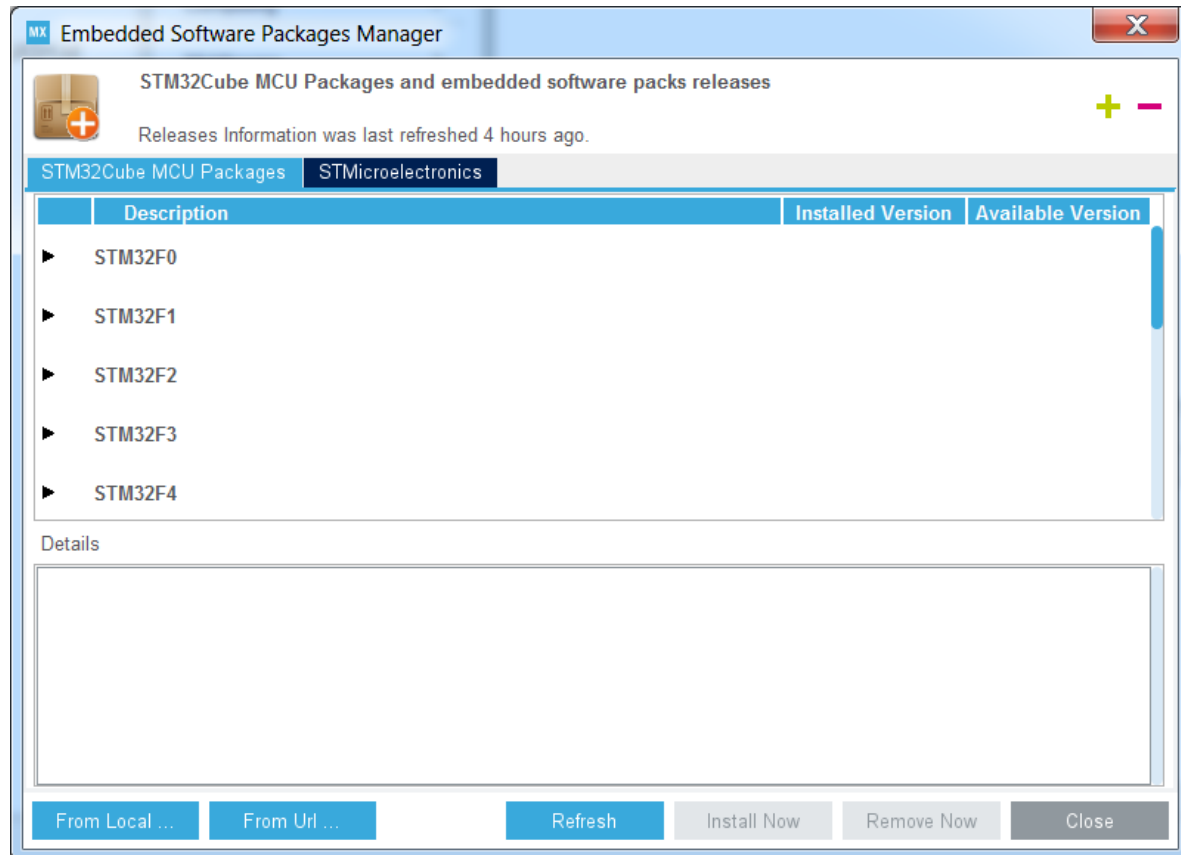


- Proxy entries for HTTP, HTTPS, SOCKS
- Proxy bypass settings

Manage installed libraries

- To run configuration:

Help-> Manage embedded software packages



Manage installed libraries

Installed library

Install library from local file
(already downloaded library
pack)

The screenshot shows the 'Embedded Software Packages Manager' window. At the top, it says 'STM32Cube MCU Packages and embedded software packs releases' and 'Releases Information was last refreshed 2 days ago.' Below this, there are tabs for 'STM32Cube MCU Packages', 'STMicroelectronics', and 'ARM'. The main table lists packages with columns for 'Description', 'Installed Version', and 'Available Version'. The 'STM32WL' package is expanded, showing 'STM32Cube MCU Package for STM32WL Series' with both installed and available versions set to '1.0.0'. Below the table, there is a 'Details' section for the 'STM32CubeWL Firmware Package V1.0.0 / 28-October-2020', listing 'Main Changes' such as 'CMSIS/LL/HAL Drivers with full Quality criteria (MISRA-C® 2012 & CodeSonar)', 'All Middlewares Legacy (FatFS, FreeRTOS)', 'All Middlewares RF (LoRaWAN, Sigfox, SubGhz_Phy)', 'All Middlewares Security (STM32_Secure_Engine, STM32_Key_Management_Services, mbed-crypto)', and 'All Utilities'. At the bottom, there are buttons for 'From Local ...', 'From Url ...', 'Refresh', 'Install Now', 'Remove Now', and 'Close'.

Description	Installed Version	Available Version
STM32MP1		
STM32WB		
STM32WL		
STM32Cube MCU Package for STM32WL Series	1.0.0	1.0.0

Details

[STM32CubeWL Firmware Package V1.0.0 / 28-October-2020](#)

Main Changes

- CMSIS/LL/HAL Drivers with full Quality criteria (MISRA-C® 2012 & CodeSonar)
- All Middlewares Legacy (FatFS, FreeRTOS)
- All Middlewares RF (LoRaWAN, Sigfox, SubGhz_Phy)
- All Middlewares Security (STM32_Secure_Engine, STM32_Key_Management_Services, mbed-crypto)
- All Utilities

Buttons: From Local ... From Url ... Refresh Install Now Remove Now Close

Install marked new
libraries

Remove marked
libraries

Thank you