2.4 Install Harmony 3 Dependencies

This section describes in detail on how to install the correct versions of the required Harmony 3 component dependencies. The following table summarizes the components and versions that will be installed.

Table 2-3. Harmony Components

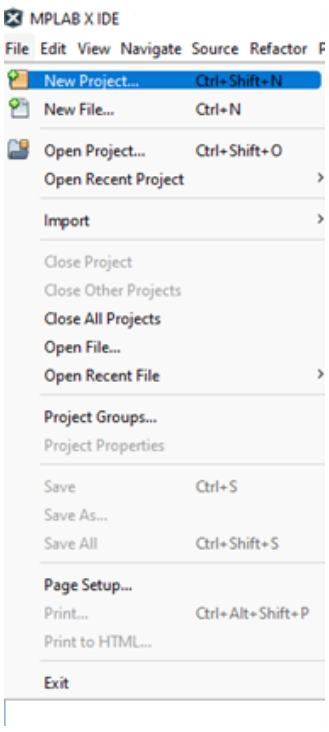
Harmony components to be cloned with MCC Content Manager	Version
csp	3.18.0
core	3.13.0
dev_packs	3.17.0
bsp	3.17.0
CMSIS-FreeRTOS	10.3.1
crypto	3.8.0
wolfssl	4.8.1
Zlib	1.2.13
wireless_ble	1.1.0
wireless_system_pic32cxbz_wbz	1.3.0
wireless_apps_pic32cxbz2_wbz45	3.0.0

Cloning Harmony Repositories using MCC Content Manager Wizard

1. Create a new “MCC Harmony” project (Create an empty project and clone the required repositories to clone the Harmony repositories)

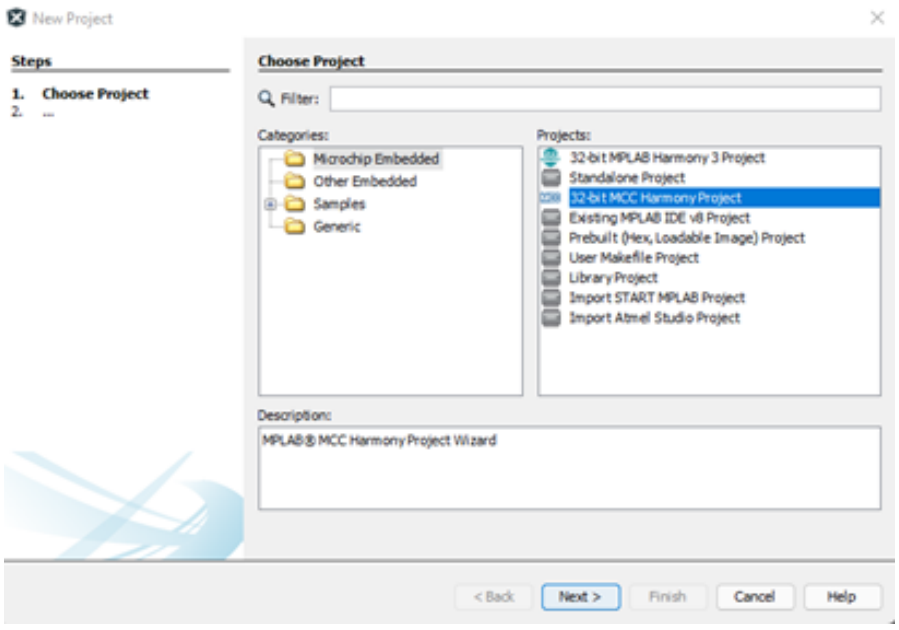
   a. In MPLAB X IDE, select *New Project*

   Figure 2-5. New Project Creation



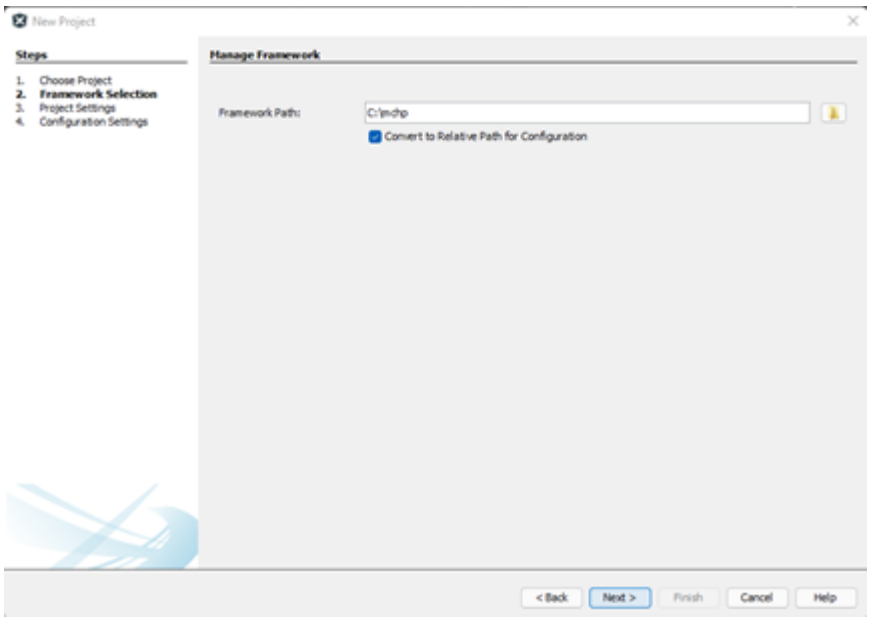
   b. In the New Project tab, select *32-bit MCC Harmony Project*

   Figure 2-6. MCC Harmony Project option.



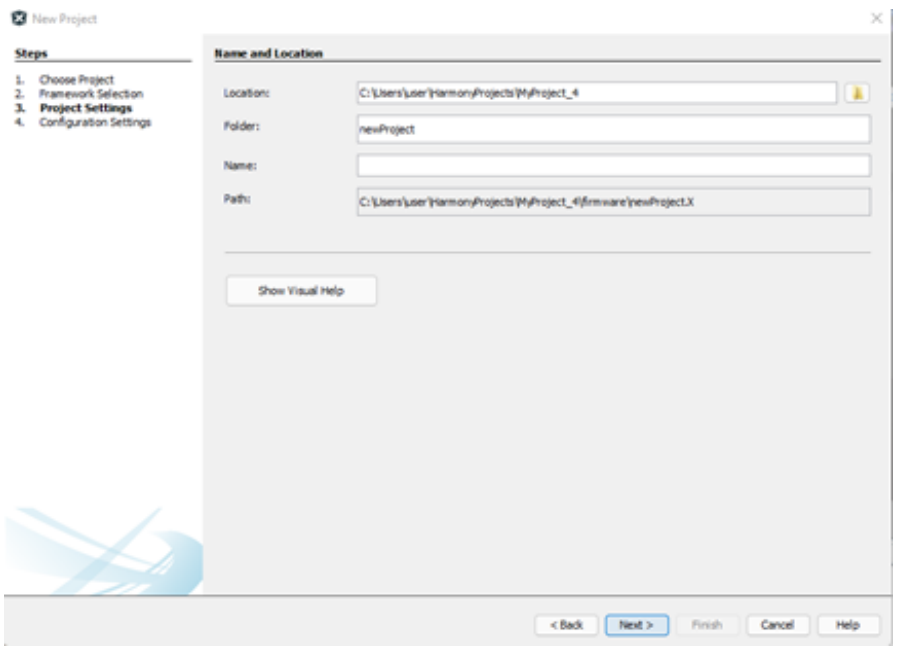
c. Framework Selection (Local PC directory where cloned repos are placed)

Figure 2-7. Framework Selection



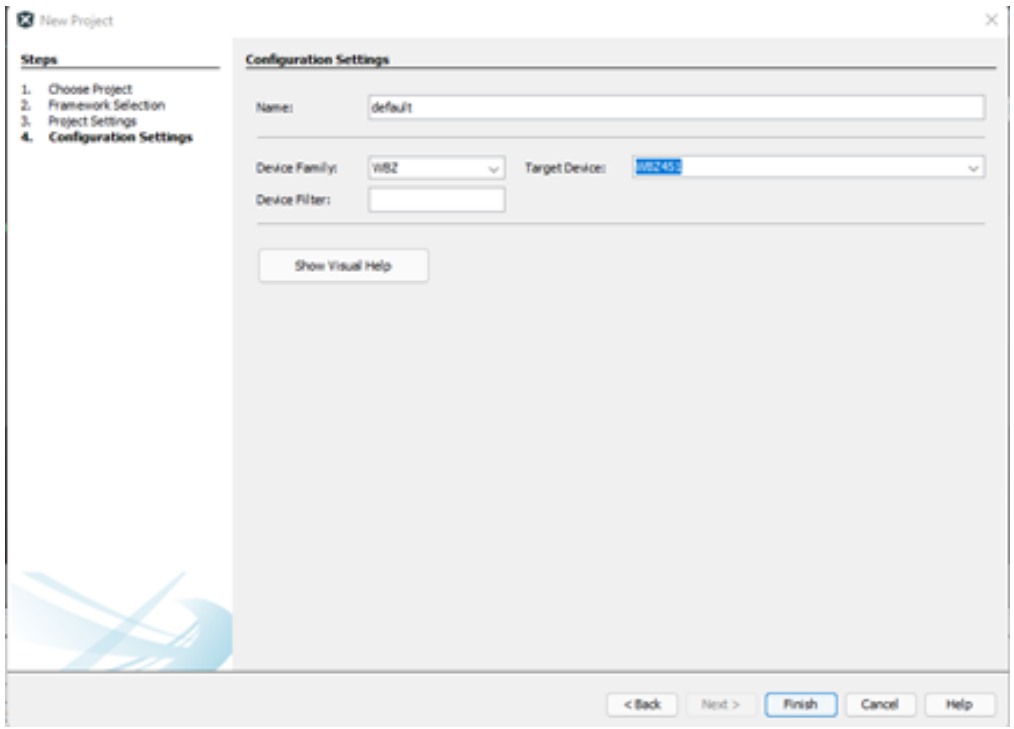
d. In the **New Project** tab, select the project settings and the correct Project Folder Path and Name Selection.

Figure 2-8. Project Settings



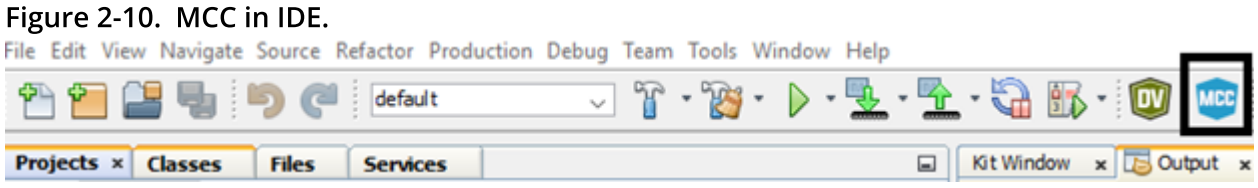
e. In **Configuration Settings,** select the device WBZ451.

Figure 2-9. Configuration Settings



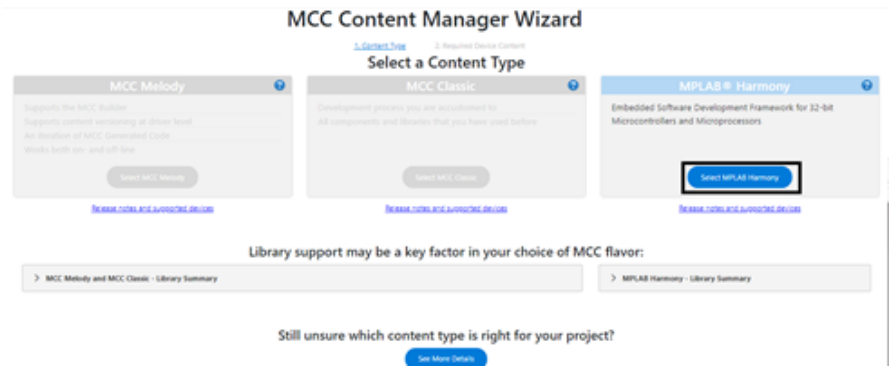
2. Open **MPLAB Code Configurator** after creating the project. MCC Content Manager window appears in IDE.

Figure 2-10. MCC in IDE.



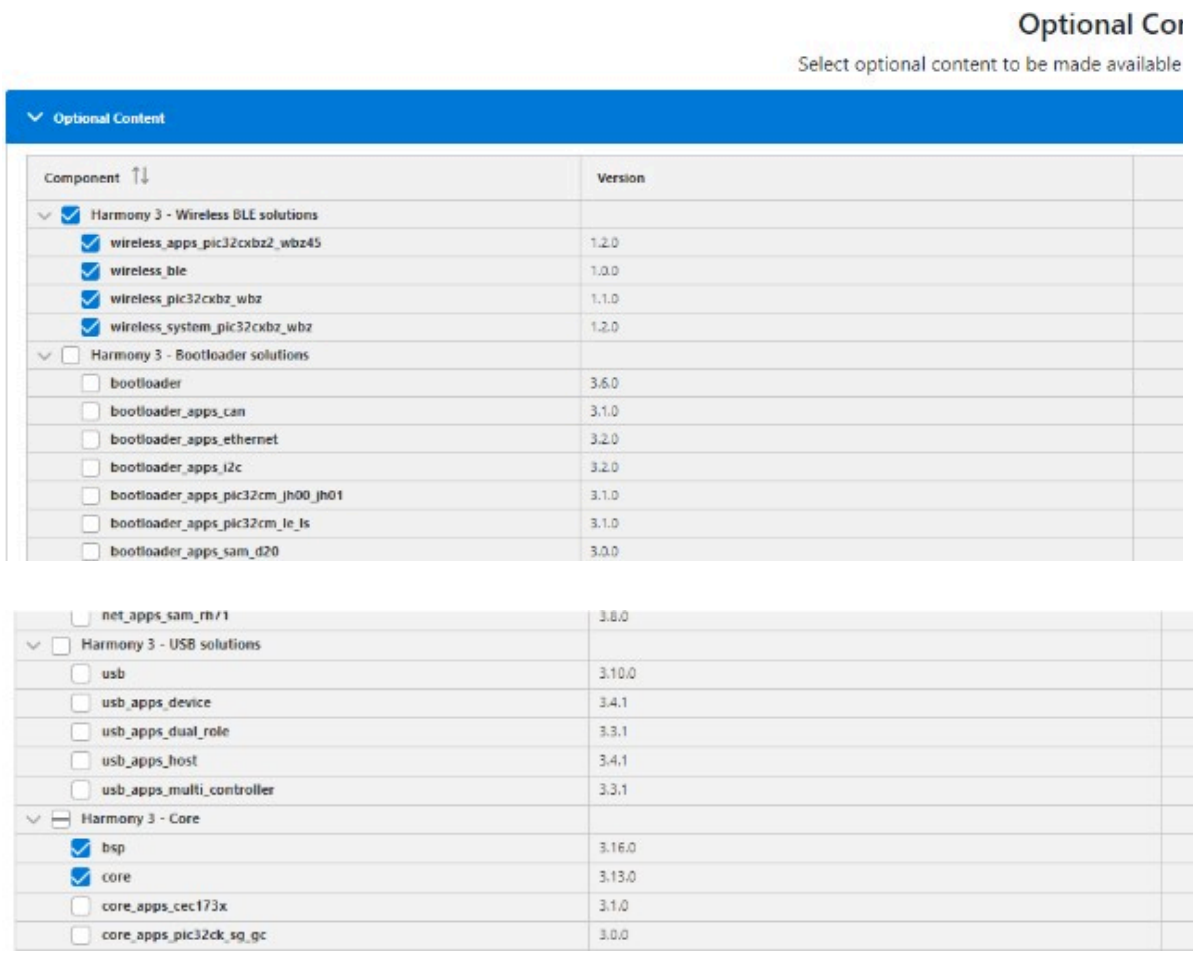
3. In the **Content Manager Wizard Window**, select *MPLAB Harmony*.

Figure 2-11. MCC Content Manager Window



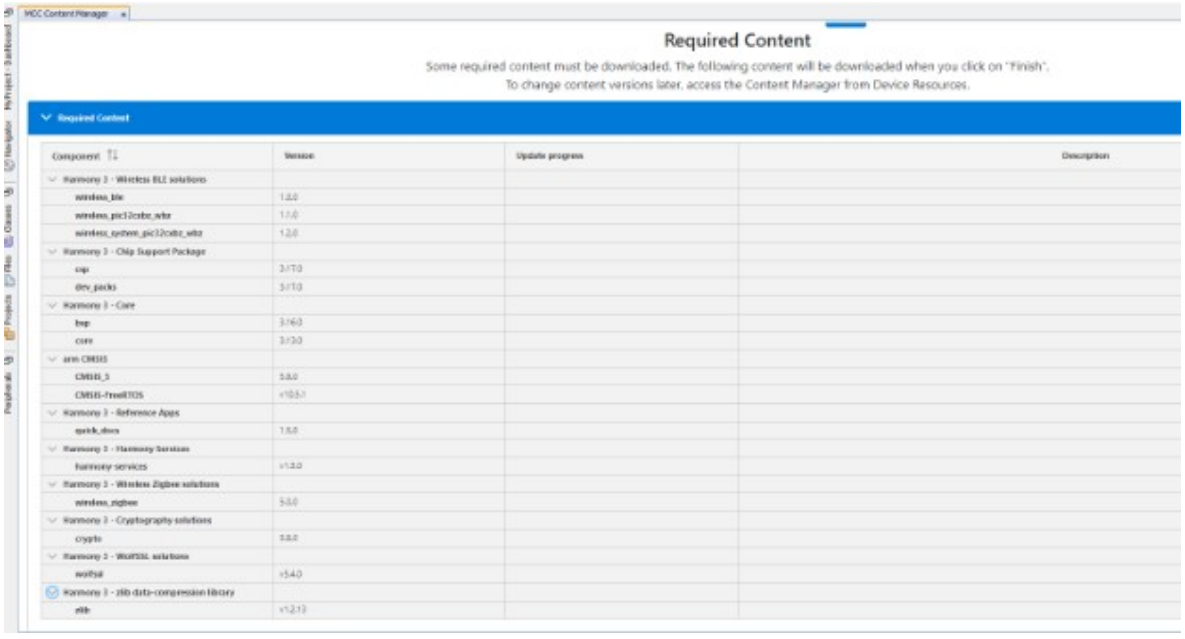
Select *Optional Content* as illustrated in the following figure.

Figure 2-12. Optional Content Window MCC

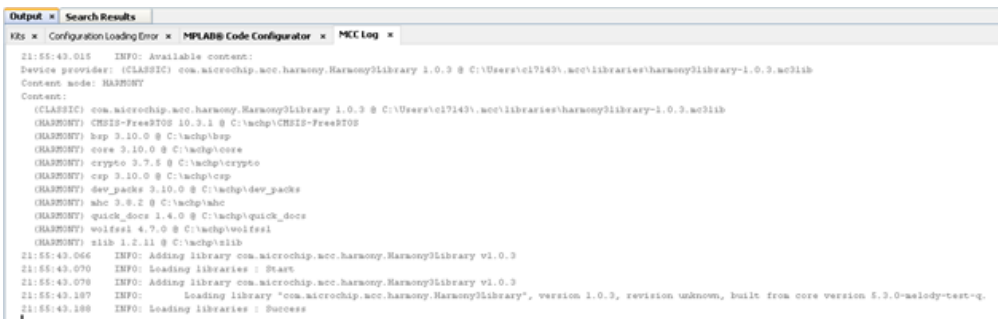


Harmony 3 - Aerospace solutions	
aerospace	3.4.0
aerospace_apps_sam_rh707	3.0.0
aerospace_apps_sam_rh71	3.0.0
Harmony 3 - SPI UHF Transceiver solutions	
spi_uhf_transceiver	1.0.0
spi_uhf_transceiver_apps	1.0.0
arm CMSIS	
CMSIS-DSP	v1.14.4
CMSIS-FreeRTOS	v10.5.1
CMSIS-NN	23.02
CMSIS-View	1.1.0
Harmony 3 - Azure RTOS solutions	
azure_rtos	1.0.0
filex	v6.2.1_rel
netxduo	v6.2.1_rel
threadx	v6.2.1_rel
Harmony 3 - Amazon FreeRTOS solutions	
amazon-freertos	202107.00
Harmony 3 - Micrium uCOS III port	
micrium_ucos3	3.1.0
Harmony 3 - TensorFlow Lite for Microcontroller (TFLM) Solutions	
tflite-micro	v1.0.0
tflite-micro-apps	1.0.2
Harmony 3 - Reference Apps	
reference_apps	1.5.0
Harmony 3 - Cryptography solutions	
crypto	3.8.0
crypto_apps_encrypt_decrypt	3.7.1
crypto_apps_large_hash	3.7.1
crypto_apps_speed_test	3.8.0
Harmony 3 - Smart Energy solutions	
smartenergy	1.1.0
smartenergy_g3_apps	1.0.0
smartenergy_prime_apps	1.0.0
Harmony 3 - Wireless Zigbee solutions	
wireless_zigbee	5.0.0
Harmony 3 - CryptoAuthLib solutions	
cryptoauthlib	3.5.1
cryptoauthlib_apps	3.2.1
arm Mbed OS	
mbed-os	mbed_lib_rev165
Harmony 3 - Capacitive Touch solutions	
touch	3.13.1
touch_apps	3.5.0
touch_host_driver	1.0.0
Harmony 3 - littlefs solutions	
littlefs	v2.7.0
Harmony 3 - AWS solution	
aws_cloud	3.2.0
Harmony 3 - WolfSSL solutions	
wolfMQTT	v1.11.1
wolfssh	v1.4.1
wolfssl	v5.4.0
Harmony 3 - Soteria secureboot solution library	
cec173x_soteria_lib	3.2.1
Harmony 3 - zlib data-compression library	
zlib	v1.2.13
Harmony 3 - Wireless 802.15.4 Transceiver PHY solutions	
wireless_15_4_phy	1.0.0

4. Ensure all components are selected as displayed in the following image. Ignore version selection for now, as it will be taken care at a later stage.
   Figure 2-13. Required Content



5. Select *Finish*. The downloading of selected components from harmony repositories will take some minutes. If all the selected components are cloned successfully, MCC logs in IDE will display the following information.
   a. **Figure 2-14. MCC Logs Snapshot when all selected components are cloned successfully**

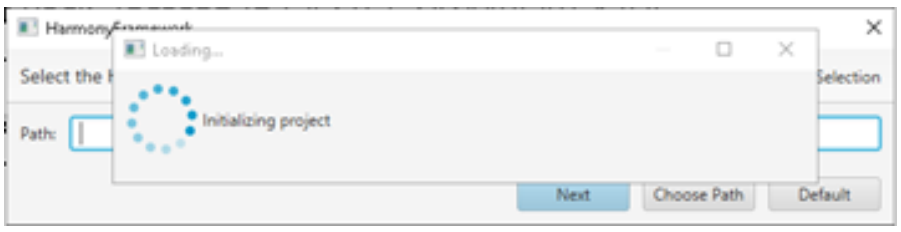


ATTENTION

<u>If in the process a failure to download a particular component appears, try redownloading again only the component that failed to download. For example, if user received a prompt from MCC saying “dev_packs” was not download</u>
close the MCC reopen MCC again and start from step 3 in this section, with the “dev_packs” as the only missing component for downloading and select “Finish”

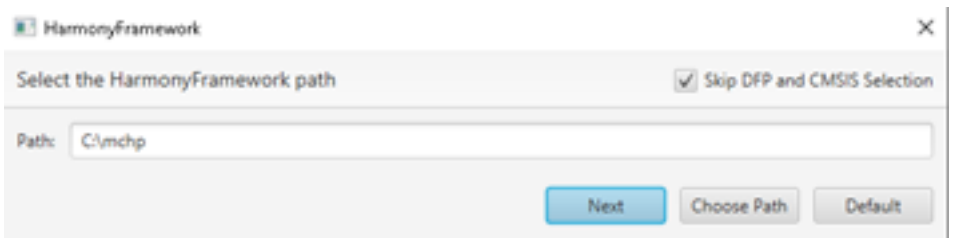
Figure 2-15. redownloading "dev_packs" .

6. Select/Confirm the Harmony Framework Path.
   Figure 2-16. Harmony Framework Path Selection

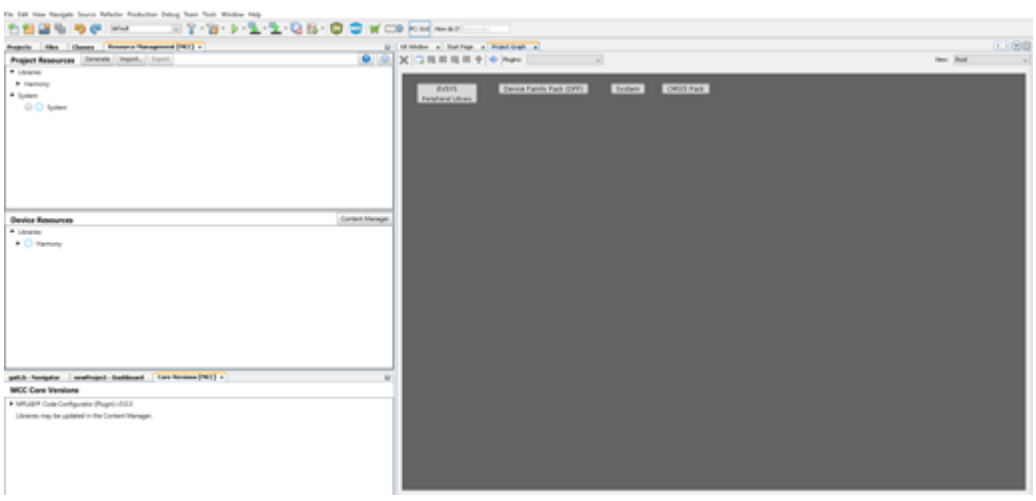


Note: Framework Path selection window appears beneath the Initializing Project pop-up. Choose *<C:\mchp>* in the Path field.

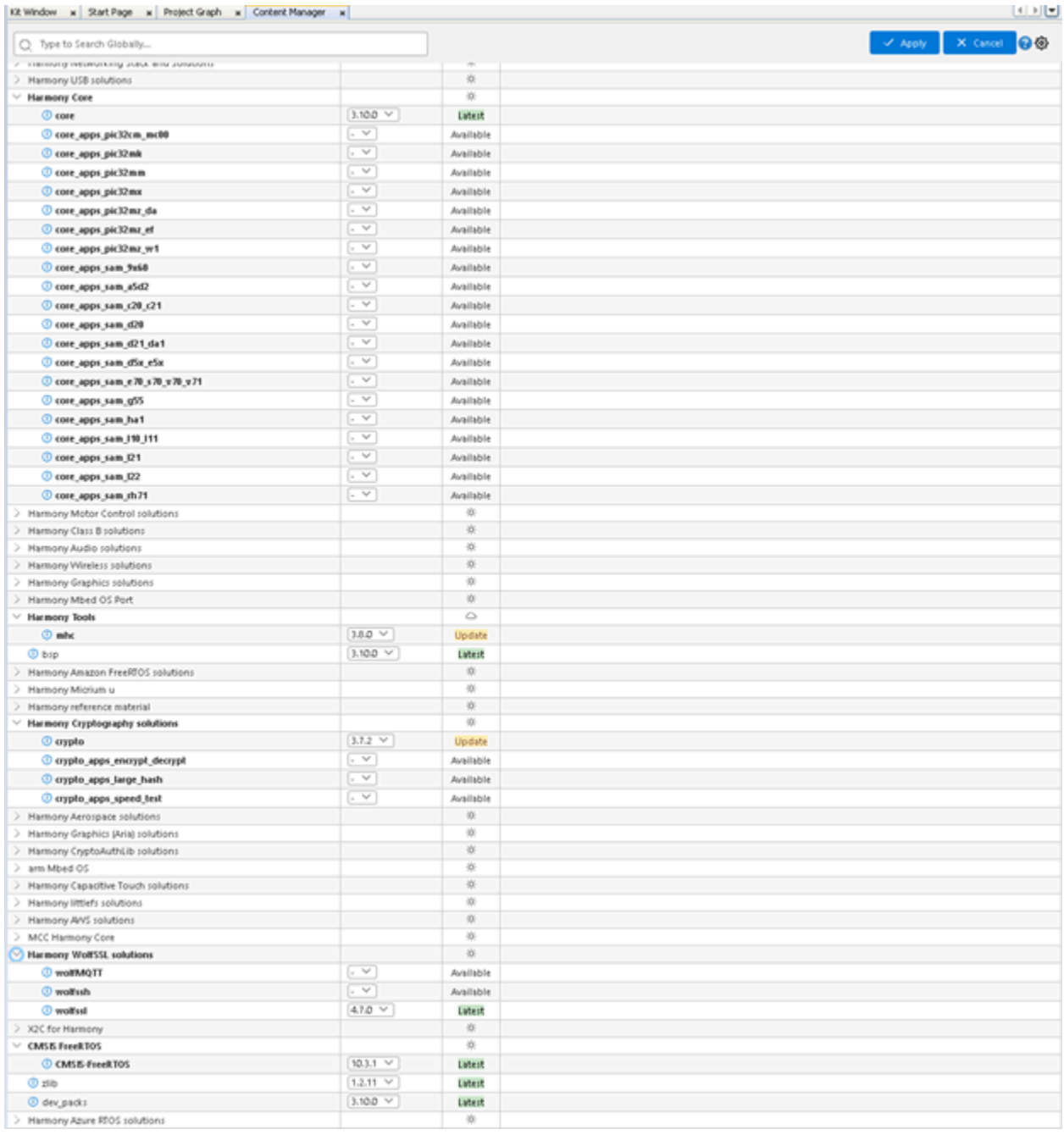
Figure 2-17. Framework Selection Path



Project Graph Window appears after choosing the framework path and successful initialization of the project.
Figure 2-18. Project Graph



7. Change to content versions recommended for use during development in the table. In the **Content Manager** tab, of the Device Resources, select *Apply*. This step is important and must be followed by the user as every wireless stack and app example release is tested with certain version of dependent component.
   Figure 2-19. Changing content versions



After successfully checking out the right version of content/components, for more details on developing an application, refer to start developing application examples.