Get started: Programming CubeX

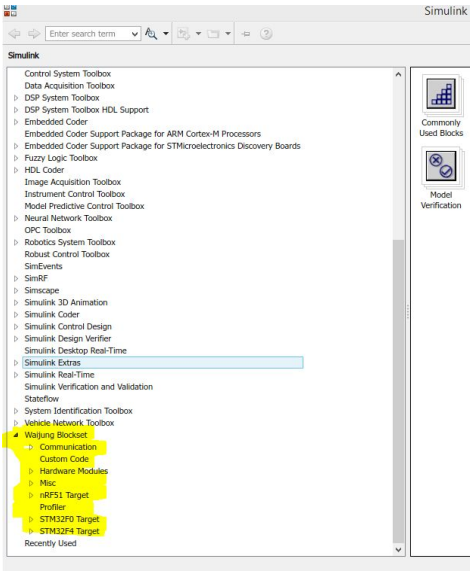
This document gives an explanation of how to program the STM32F4 Discovery board using Matlab/Simulink code generation. Additional program is needed such as Waijung blockset and U3CM.

Waijung and U3CM blocksets needs to be installed to Simulink.

Installing Waijung:

Download the files from https://www.aimagin.com/download/ and run the file "install_waijung.m". Some problem can occur that Waijung missing ST Link.

Double check if the Simulink library contain Waijung blockset :



Installing U3CM:

Download following rar file:
https://www.aimagin.com/forum/download/file.php?id=507
and following the installing instruction in the readme file.
Also install:
https://www.aimagin.com/forum/download/file.php?id=374

Embedded coder:

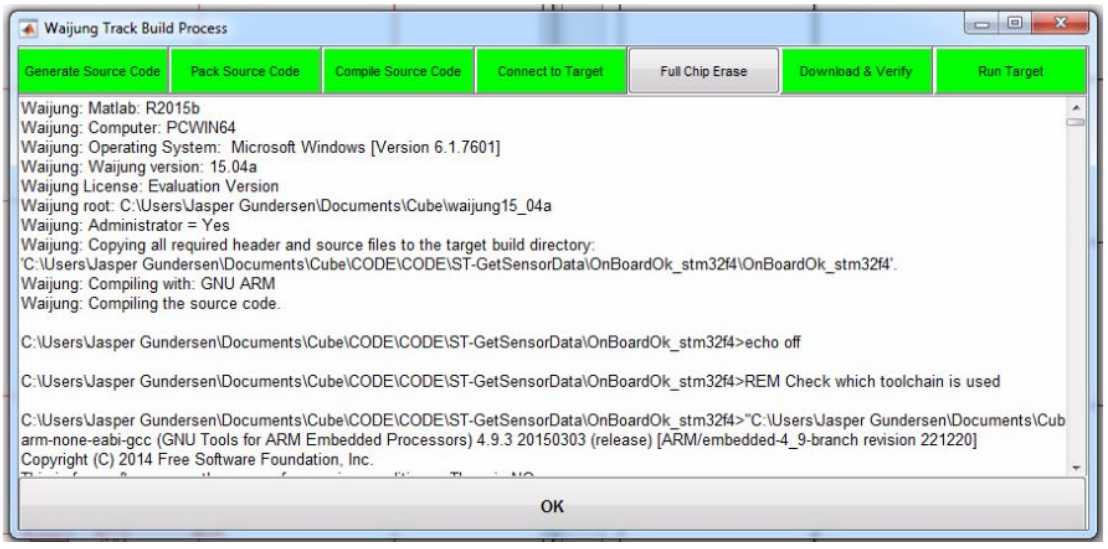
Toolbox Embedded Coder needs to program and read data from the cube. This can be installed through Matlabs ‘Add-on Explorer’.
Go to Add-on Explorer in Matlab/Simulink and search for:
“Embedded Coder Support Package for STMicroelectronics Discovery Boards”.

Running:

If all the above is installed successfully the cube can be programed on using Simulink models.

There is two USB connection on the STM32F4. One is used for program the card and the other one is used for communication between the computer and the STM32F4. Both connection is needed to be connected to program.

To run the simulink models in codegerneration on the STM32F4 Discovery board:
Open a Simulink model in codegerneartion.
Build the model (Ctrl+B) and you will see window looking as:



There is also a file called XXX_READ.slx. Those file read values from the cube using the USB communication and can be plotted or saved.

For more information see Cubli notes.docx (Swedish).