

# Tutorial 02: Using the System Workbench IDE

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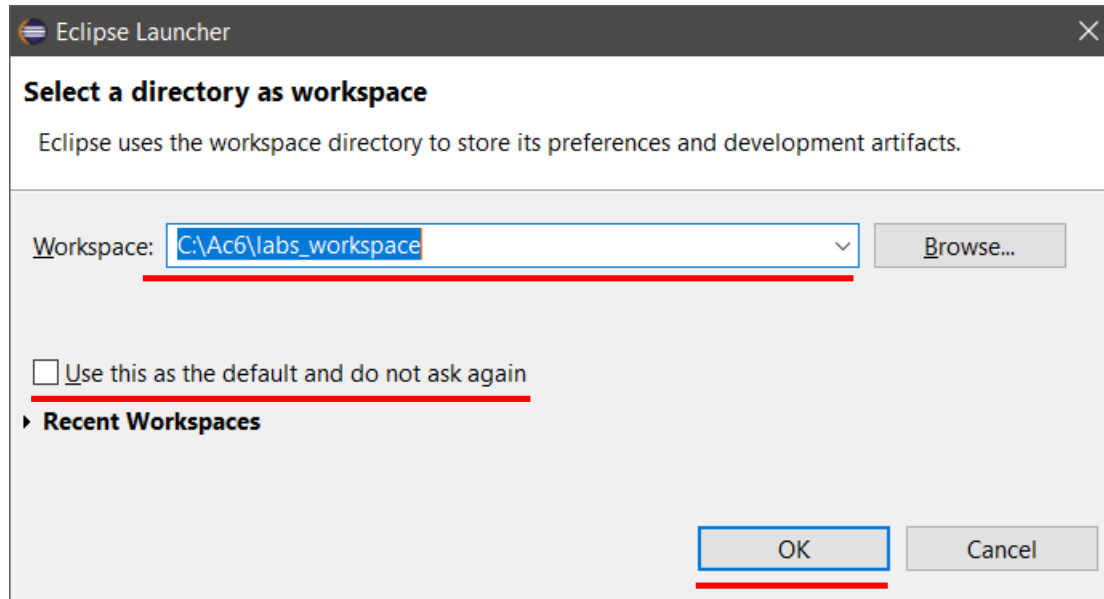
# Creating a New Project on System Workbench



- This document shows step-by-step how to create a new project on System Workbench for STM32 IDE.
- Follow the tutorial exactly as it is shown here. Otherwise, you can face compilation errors with your code.

# Creating a New Project on System Workbench

- The first time you open the System Workbench IDE, you will have to select a folder where all your projects will be located.



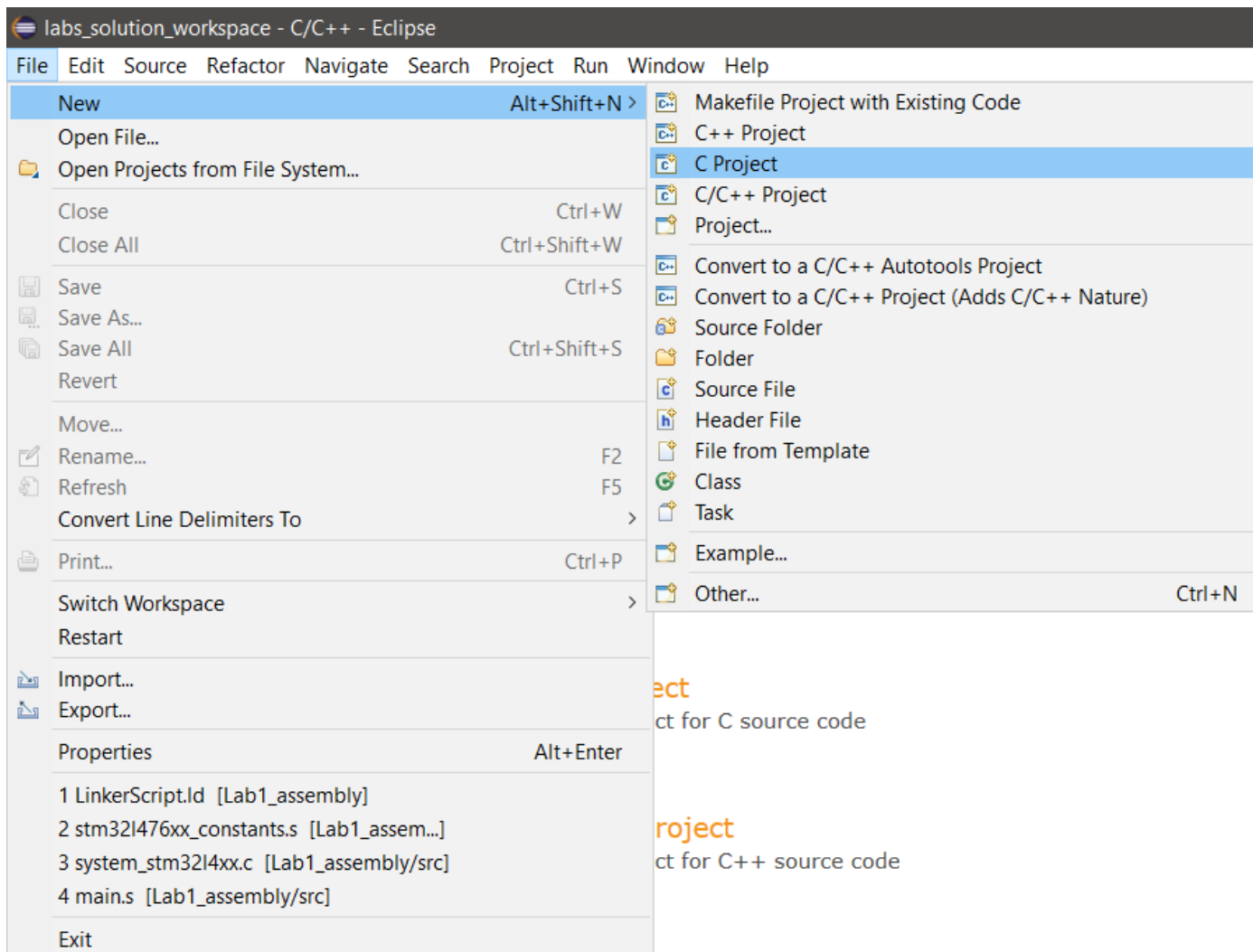
**Important:** Your workspace folder CANNOT contain any spaces in its name! Otherwise, you will face compilation errors.

It is recommended to create a folder in your **C:\** unit.

- If you don't want to always the folder every time you open the IDE, you can check the box **Use this as the default and do not ask again.**
- Click on the OK button to open the IDE.

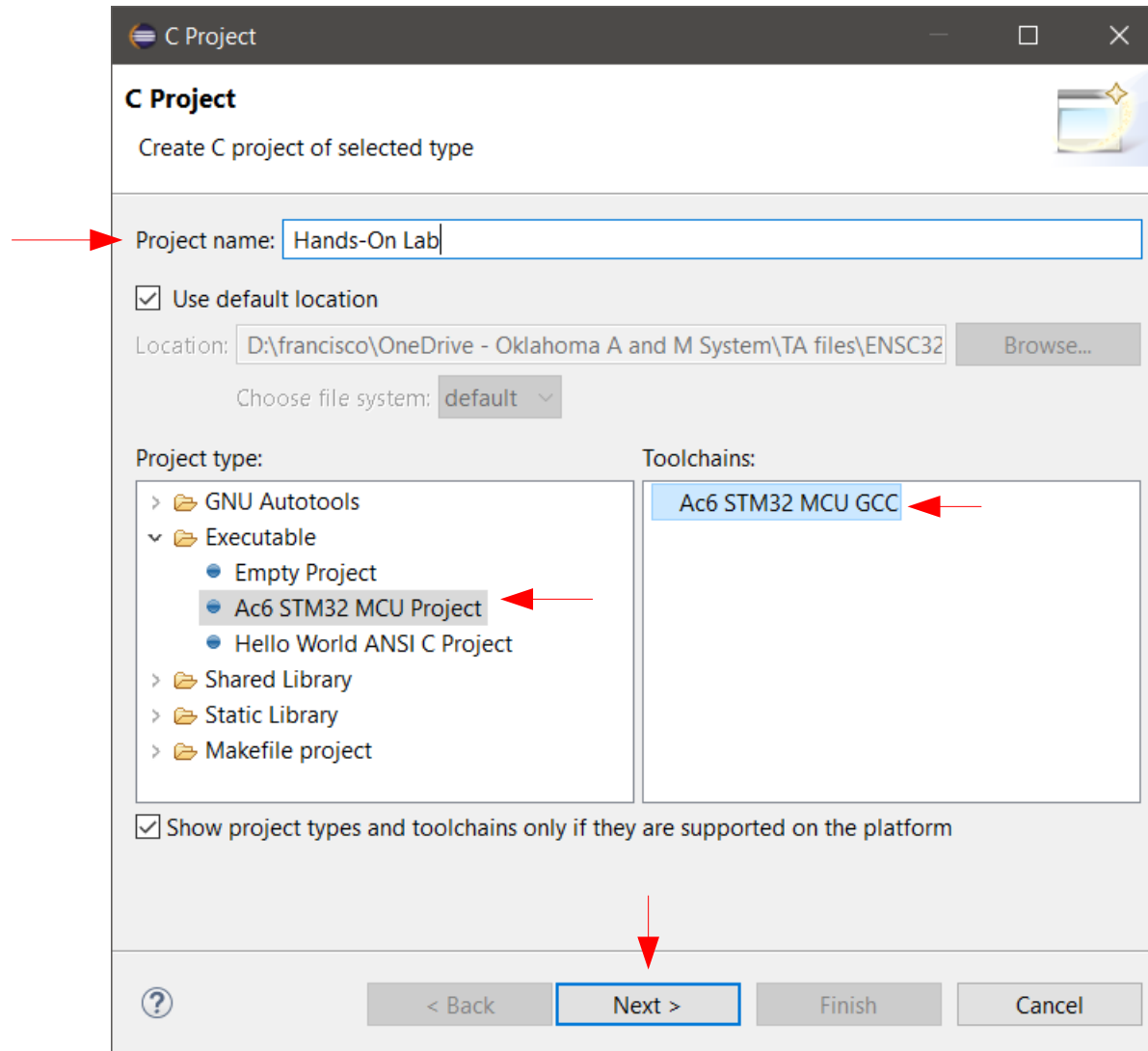
# Creating a New Project on System Workbench

- Once the IDE has opened, you need to select **File** → **New** → **C Project**.



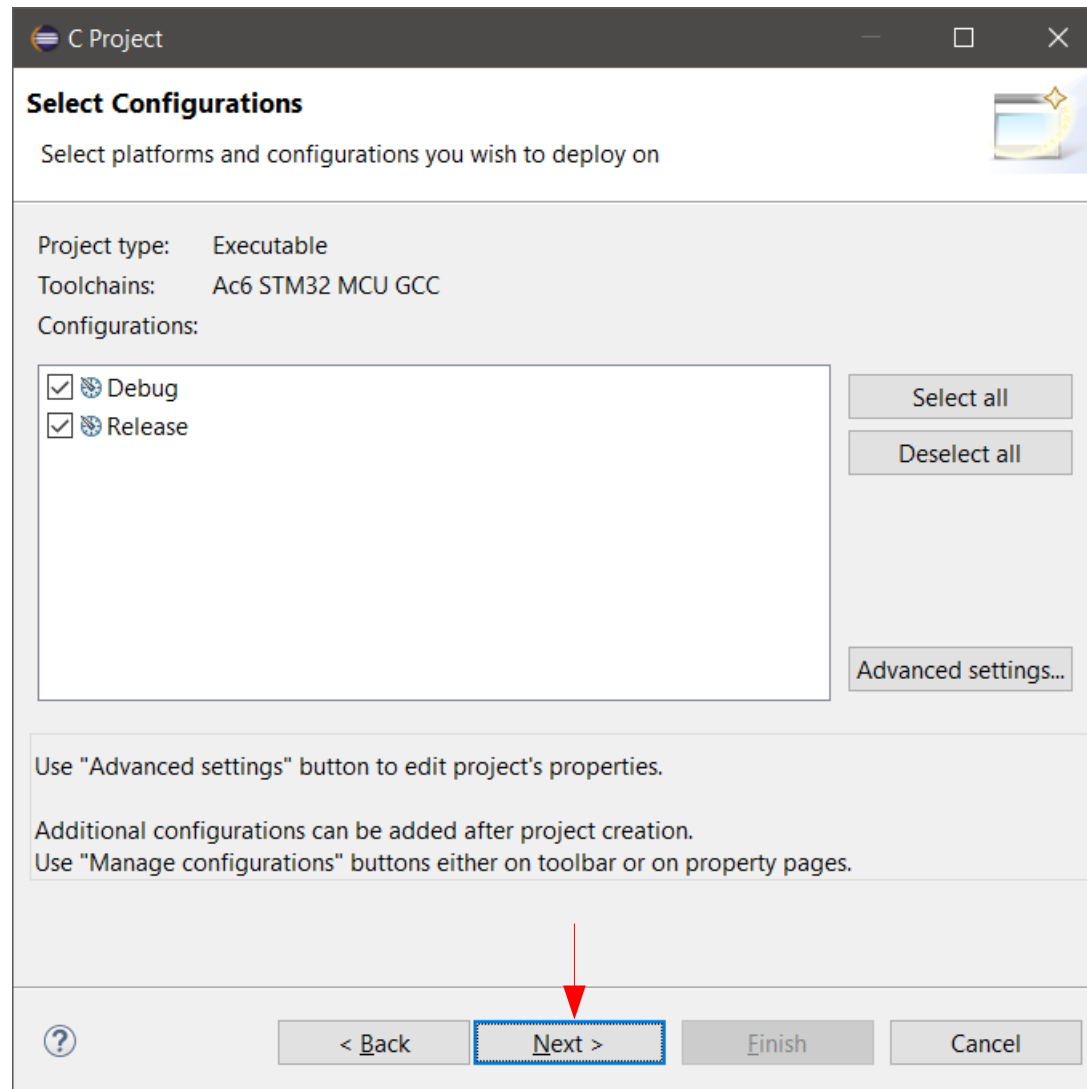
# Creating a New Project on System Workbench

- On the new window, give a name for your project, select **Ac6 STM32 MCU Project** → **Ac6 STM32 MCU GCC**, and click on **Next**.



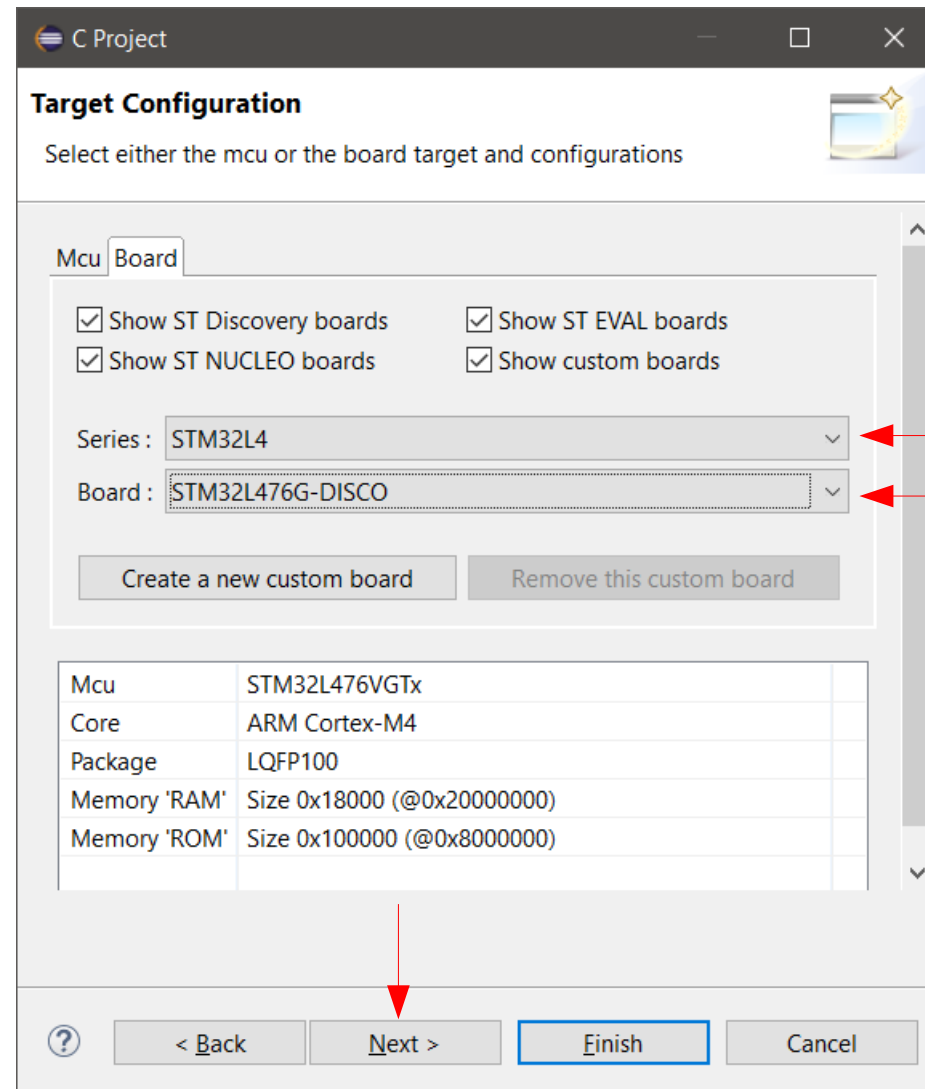
# Creating a New Project on System Workbench

- On the window called **Select Configurations**, do not change anything, and just click on the **Next** button.



# Creating a New Project on System Workbench

- On the window called **Target Configuration**, make sure everything is identical to the picture below, and click on **Next**:



**C Project**

**Target Configuration**

Select either the mcu or the board target and configurations

Mcu Board

☒ Show ST Discovery boards ☒ Show ST EVAL boards  
☒ Show ST NUCLEO boards ☒ Show custom boards

Series : STM32L4  
Board : STM32L476G-DISCO

Create a new custom board Remove this custom board

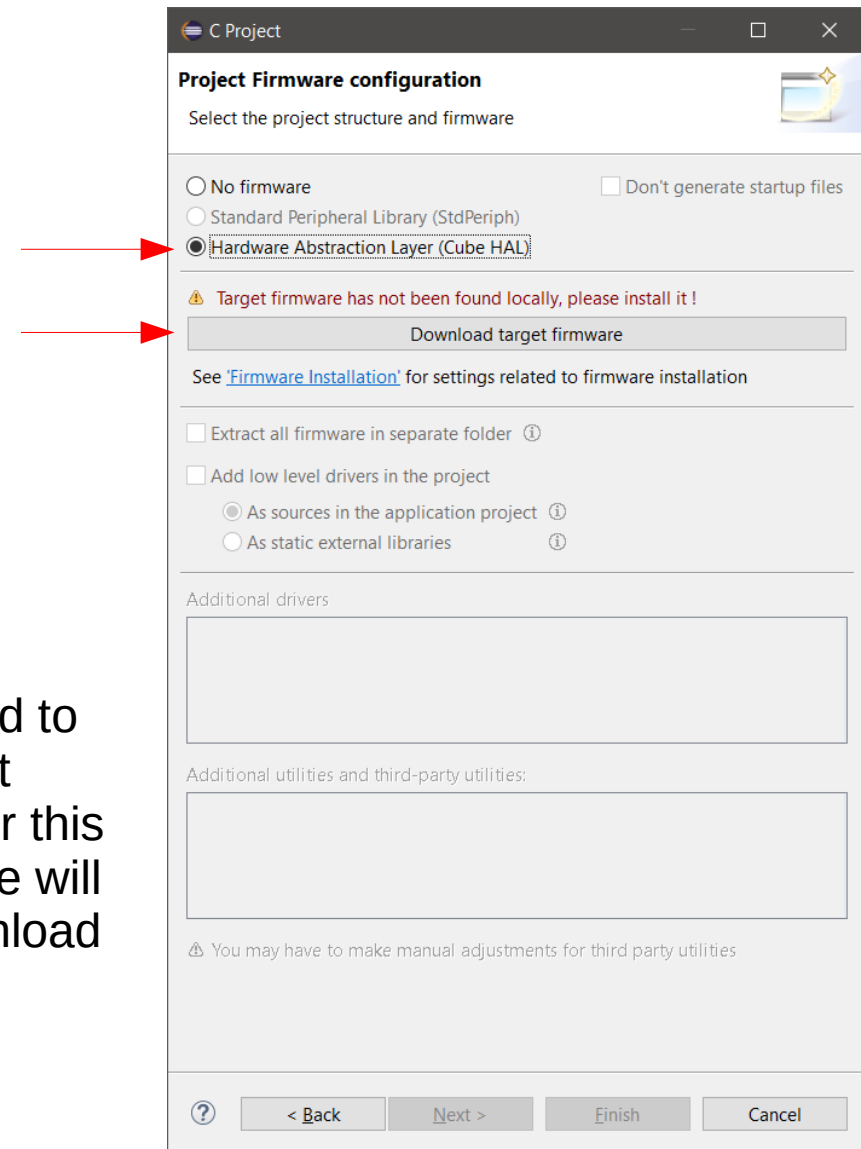
Mcu	STM32L476VGTx
Core	ARM Cortex-M4
Package	LQFP100
Memory 'RAM'	Size 0x18000 (@0x20000000)
Memory 'ROM'	Size 0x100000 (@0x8000000)

? < Back **Next >** Finish Cancel

DON'T click on  
Finish at this  
point!

# Creating a New Project on System Workbench

- On Project Firmware Configuration, select Hardware Abstraction Layer (Cube HAL), and click on Download target firmware.

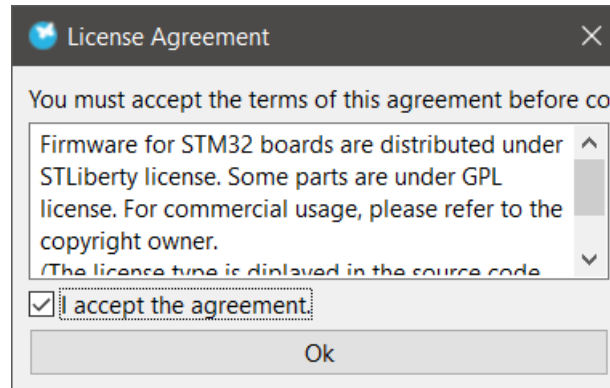


**Note:** you only need to download the target firmware once. After this first download, there will be no need to download again.



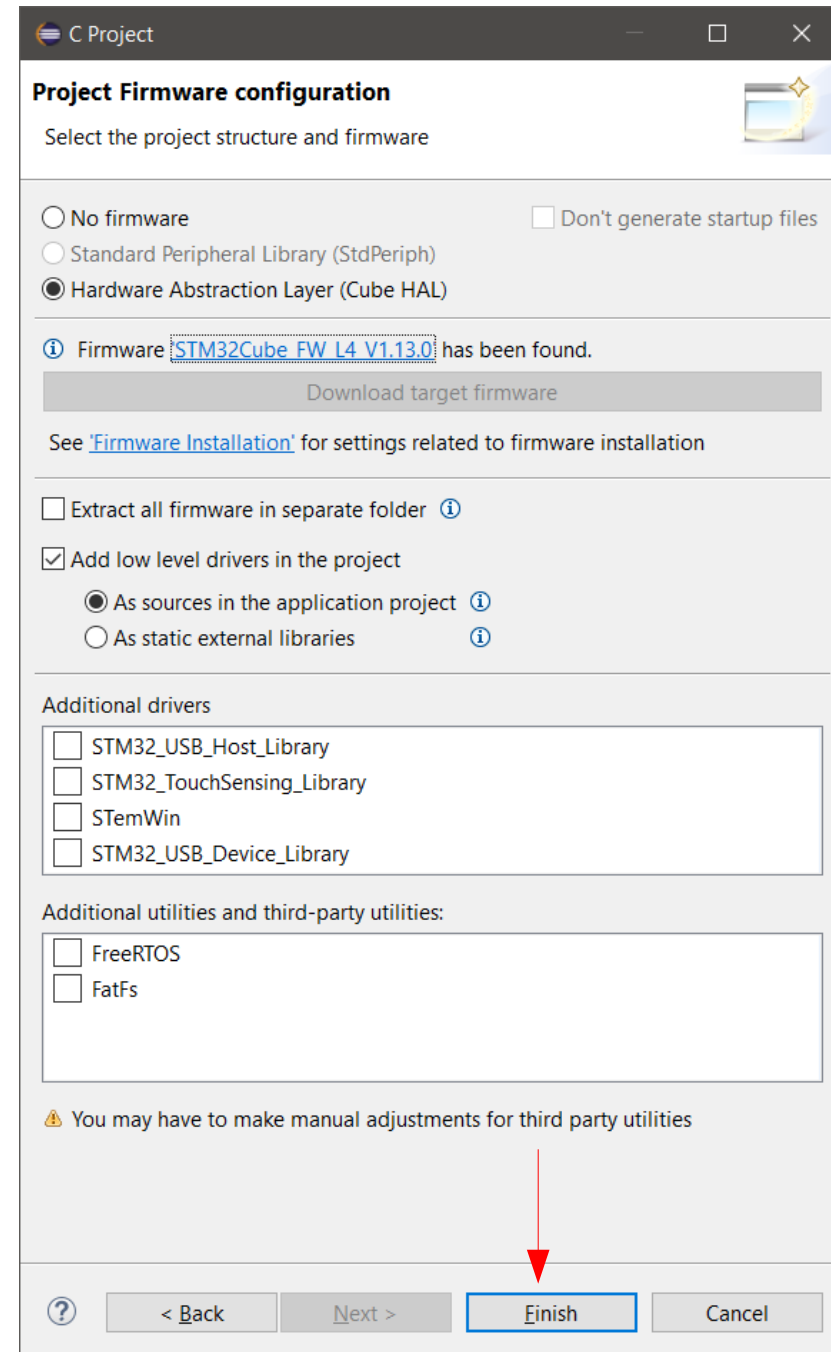
# Creating a New Project on System Workbench

- A **License Agreement** will pop-up, check **I accept the agreement**, and click on **OK**.



# Creating a New Project on System Workbench

- Once the download is completed, you can click on **Finish**.
- Do not change the other configurations!



**C Project**

**Project Firmware configuration**

Select the project structure and firmware

☐ No firmware ☐ Don't generate startup files

☐ Standard Peripheral Library (StdPeriph)

☒ Hardware Abstraction Layer (Cube HAL)

**i** Firmware STM32Cube\_FW\_L4\_V1.13.0 has been found.

[Download target firmware](#)

See ['Firmware Installation'](#) for settings related to firmware installation

☐ Extract all firmware in separate folder **i**

☒ Add low level drivers in the project

☒ As sources in the application project **i**

☐ As static external libraries **i**

**Additional drivers**

☐ STM32\_USB\_Host\_Library

☐ STM32\_TouchSensing\_Library

☐ STemWin

☐ STM32\_USB\_Device\_Library

**Additional utilities and third-party utilities:**

☐ FreeRTOS

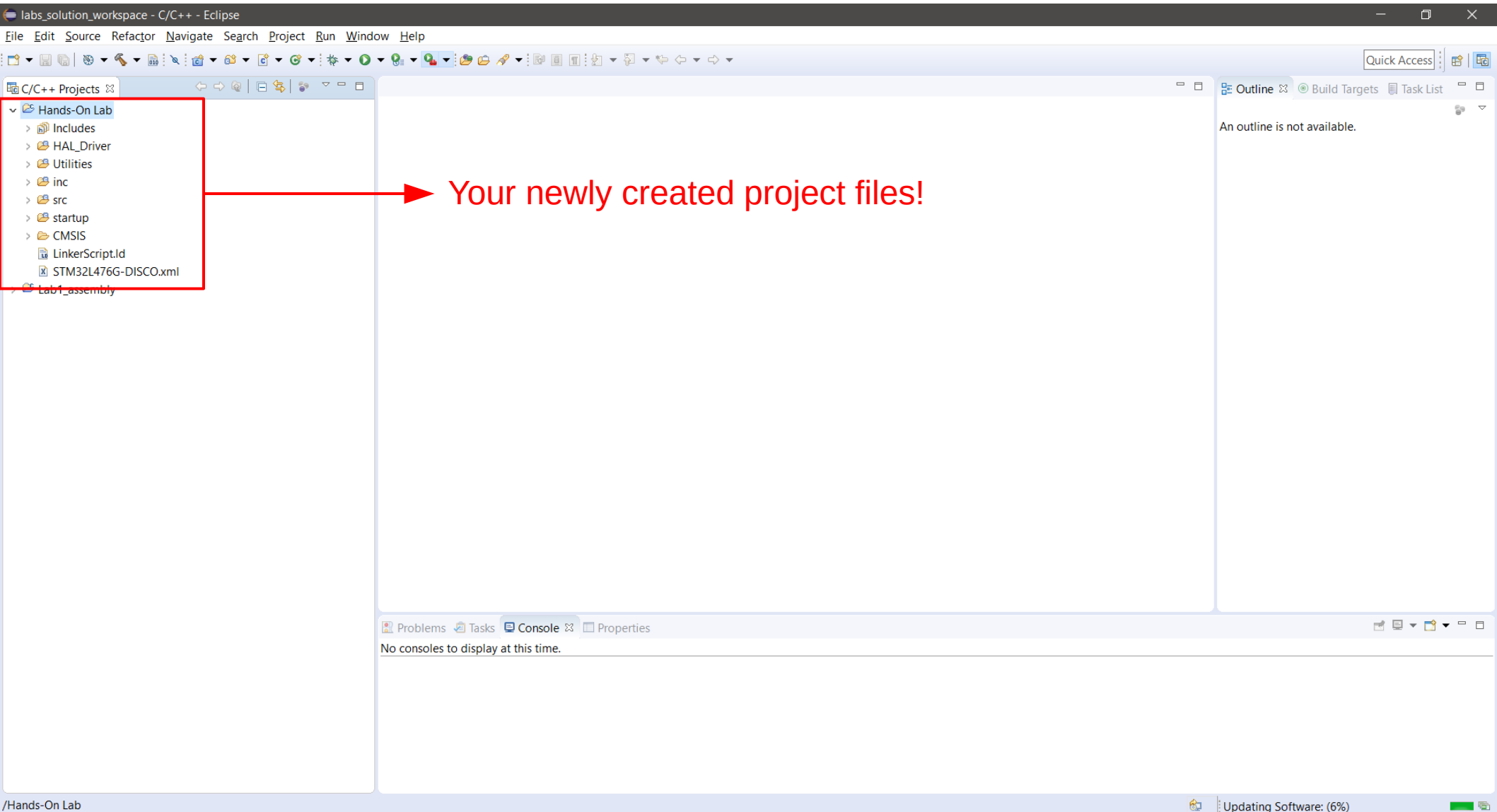
☐ FatFs

**w** You may have to make manual adjustments for third party utilities

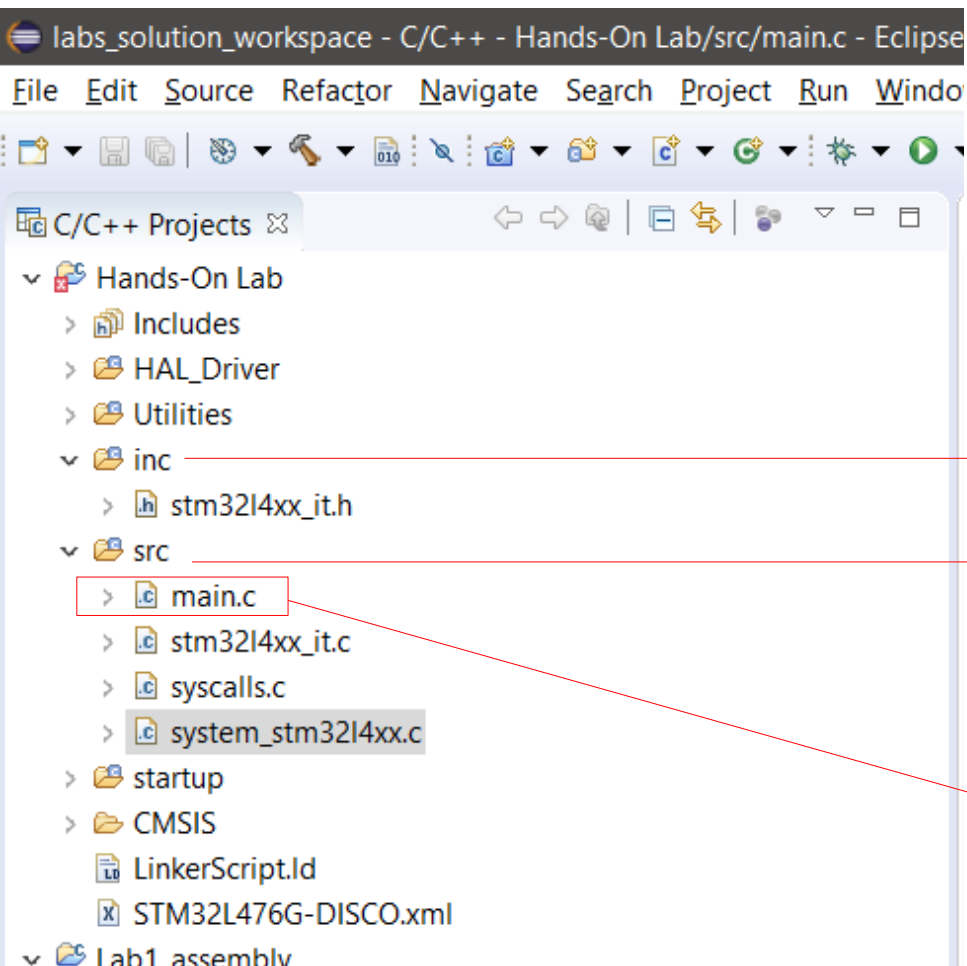
**? < Back Next > Finish Cancel**

# Creating a New Project on System Workbench

- Now, your project is created and you will have access to all code files on the panel on the left in the IDE.



# Creating a New Project on System Workbench



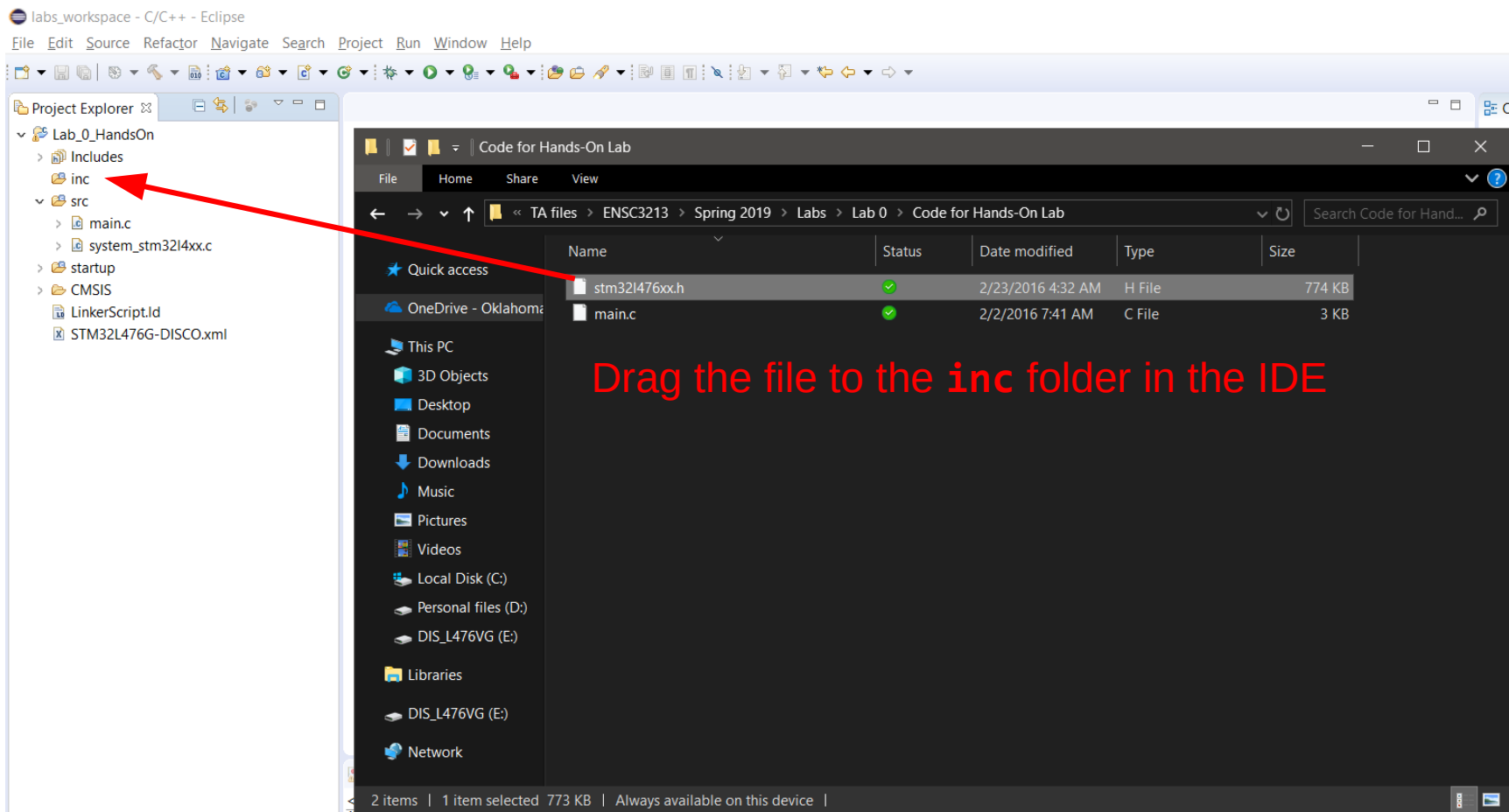
The **inc** folder will contain all our **.h** files.

The **src** folder will contain all our **.c** files and **.s** files.

Our **main.c** will be created inside the **src** folder.

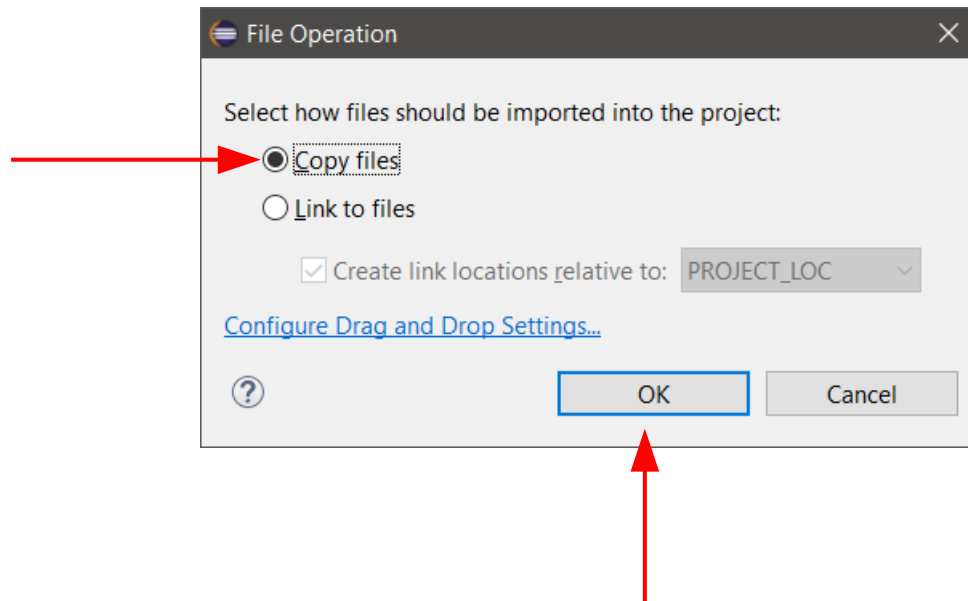
# Creating a New Project on System Workbench

- The final step is to move the given file **stm32l476xx.h** to the **inc** folder. You can do this by clicking and dragging the file.



# Creating a New Project on System Workbench

- The IDE will ask if you want to copy or link the file. Click on **Copy files** and, then, on **OK**.



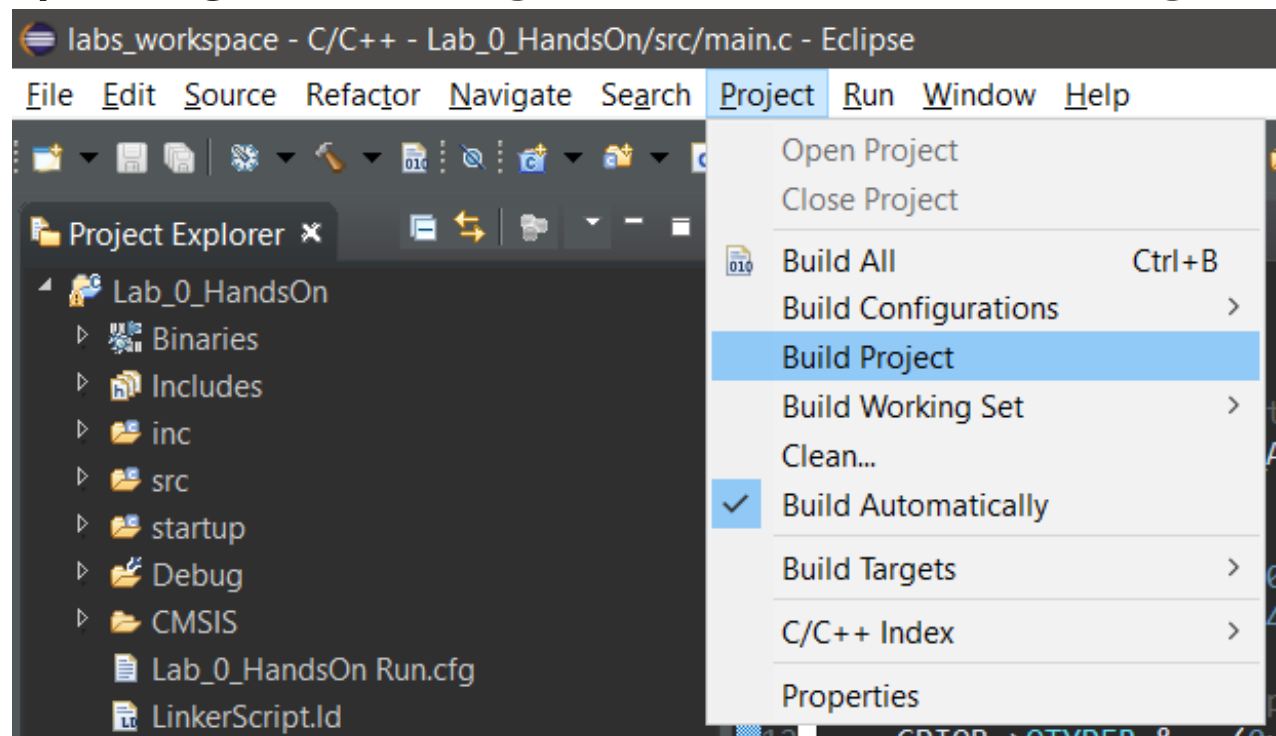


# Creating a New Project on System Workbench

- Now, you can double click on the file `main.c` and start writing your code! Finally!

# Compiling your code on System Workbench

- After you're done writing your code, you will need to **compile** it, and **upload** it to the development kit.
  - To compile, go to **Project** → **Build Project**.

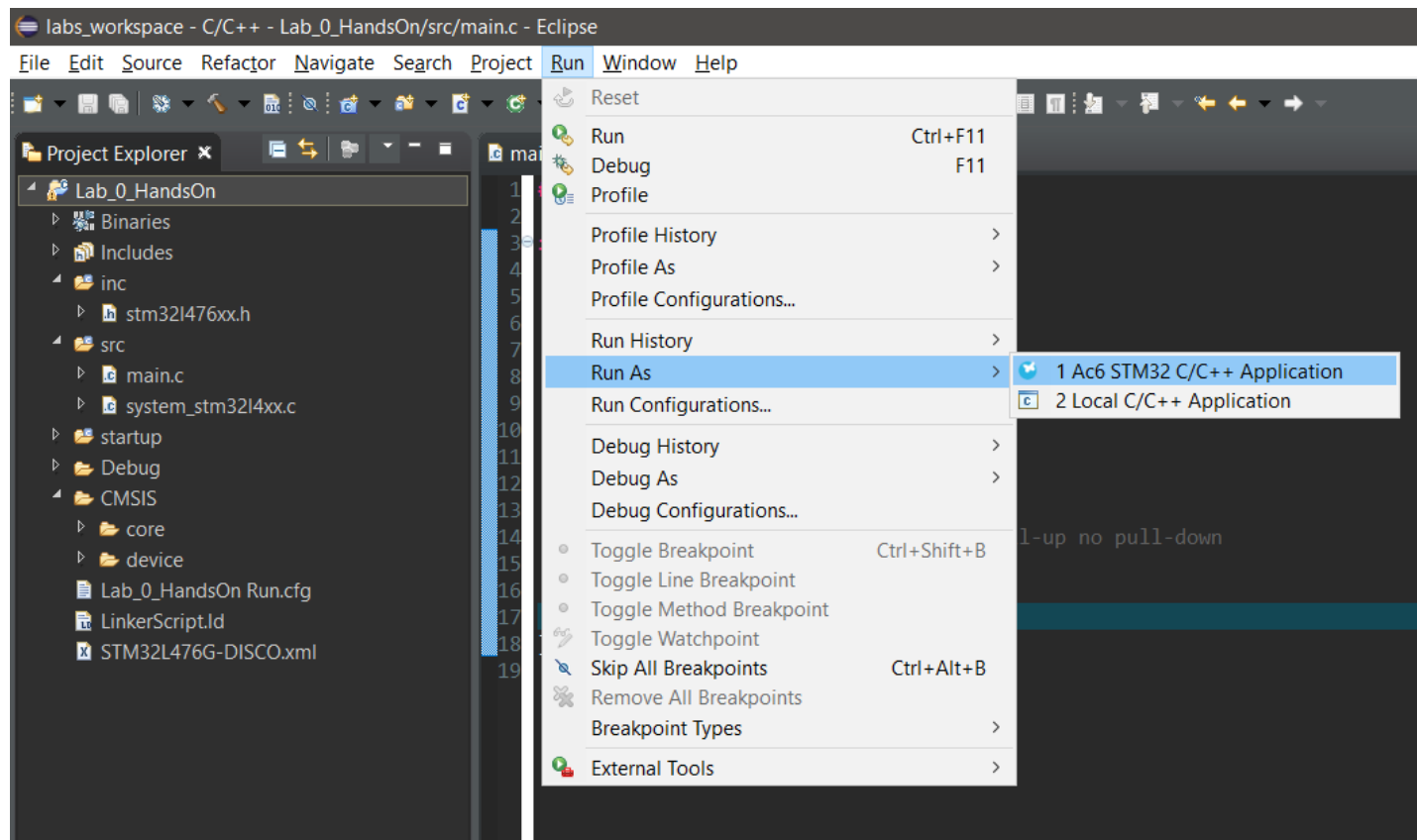


- If everything is correct with your code, you will see the message **Build Finished** and no errors in the **Console** window.



# Uploading your code using System Workbench

- To upload your newly compiled code, go to **Run** → **Run As** → **Ac6 STM32 C/C++ Application**.
- This will upload your compiled code and reset the development kit.



# Uploading your code using System Workbench

- When uploading, the application may ask for permission to use the network. Make sure you allow access.

