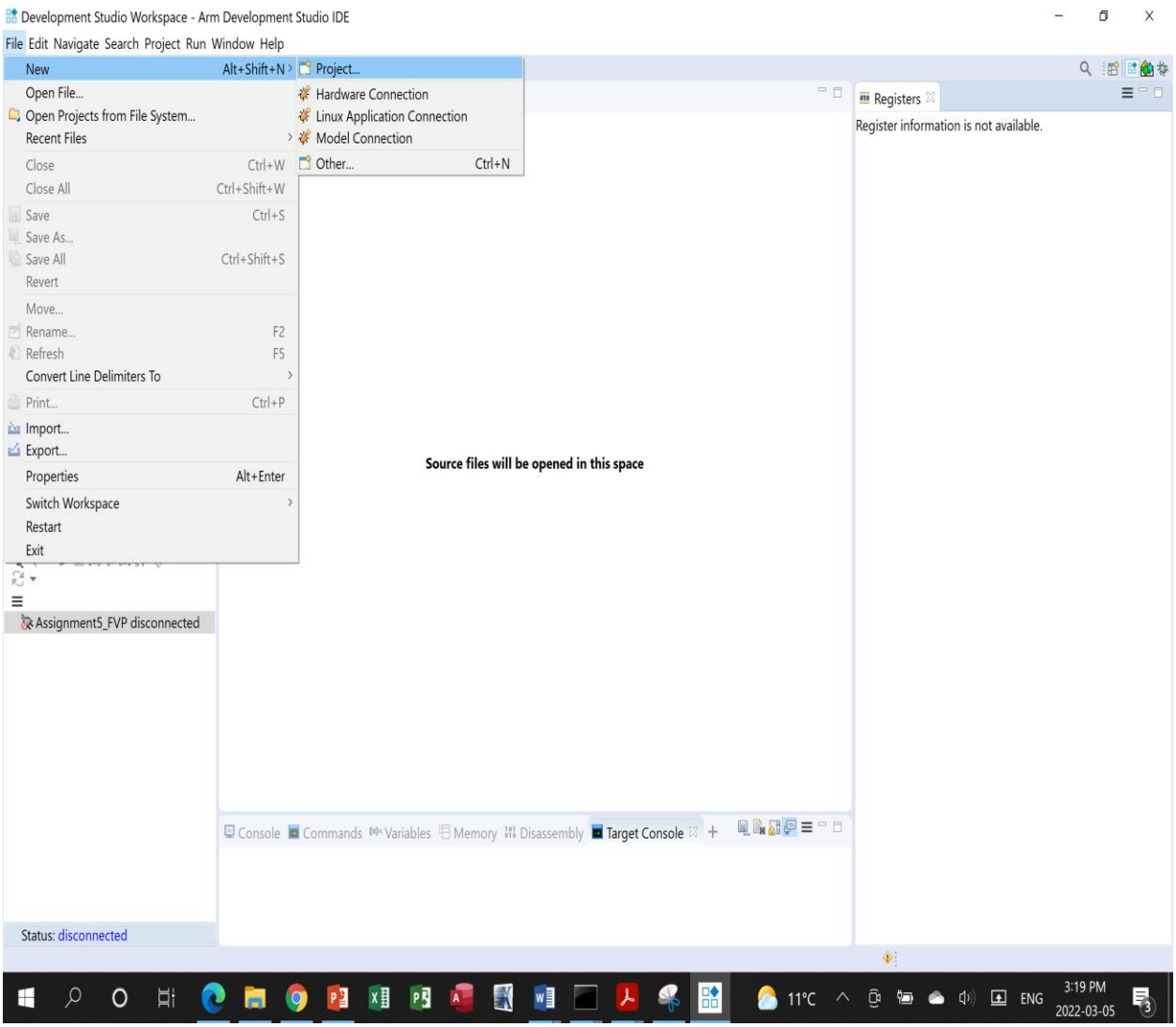
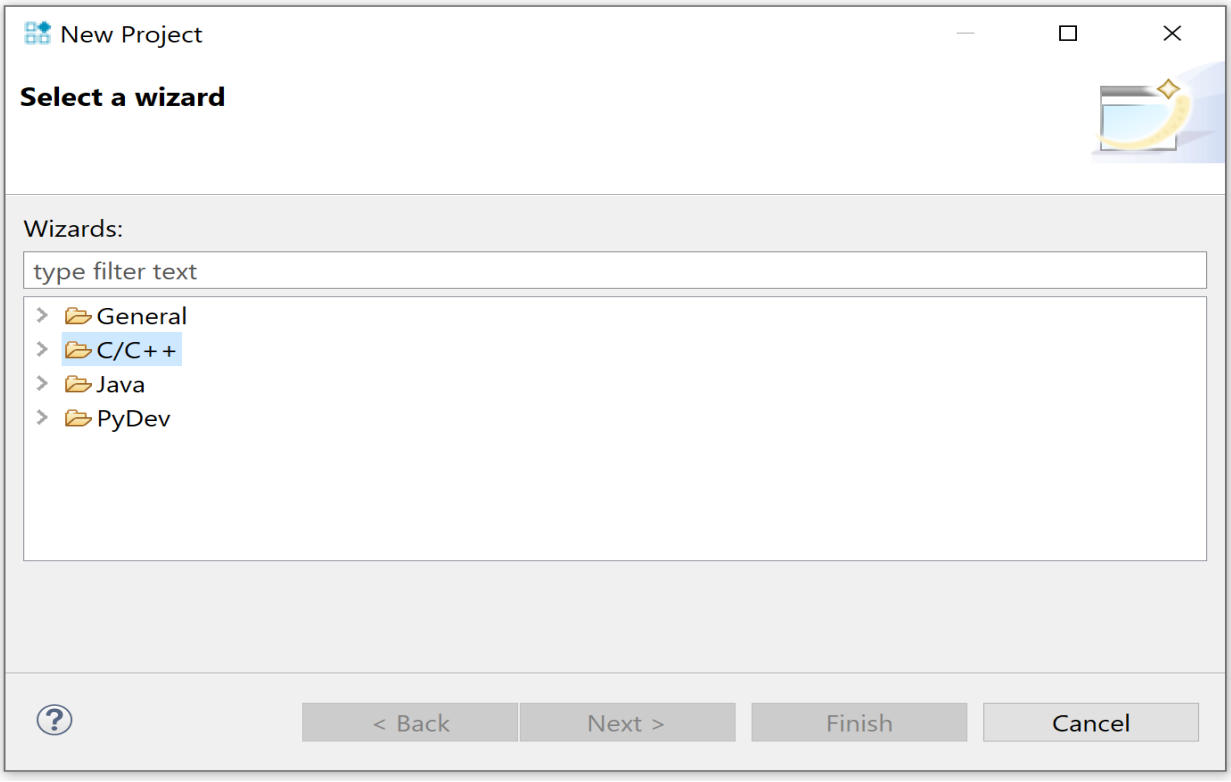
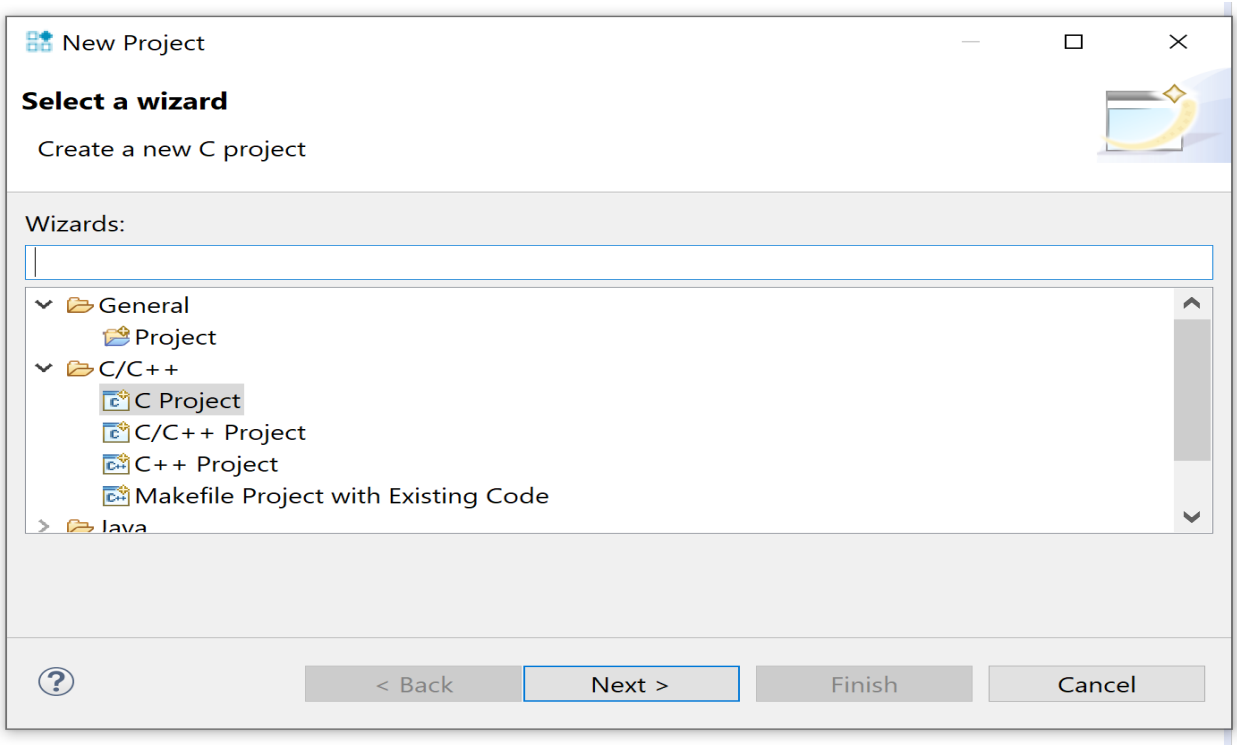
Creating, Configuring, and Running (Debug mode) a New Project in ARM DS

1. Click on **File** > **New** > **Project**

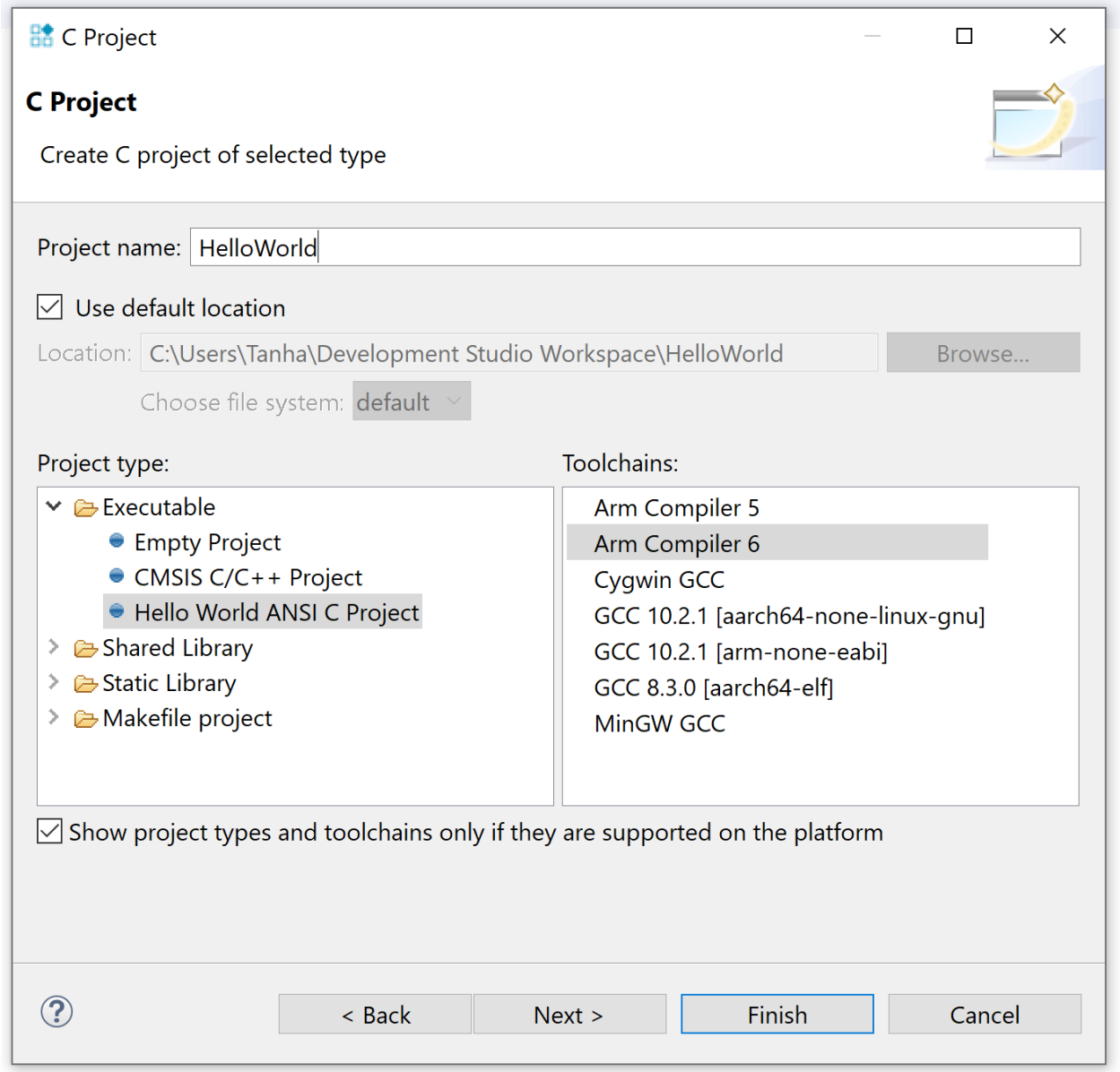


2. To **Select Wizard** for New Project expand **C/C++**

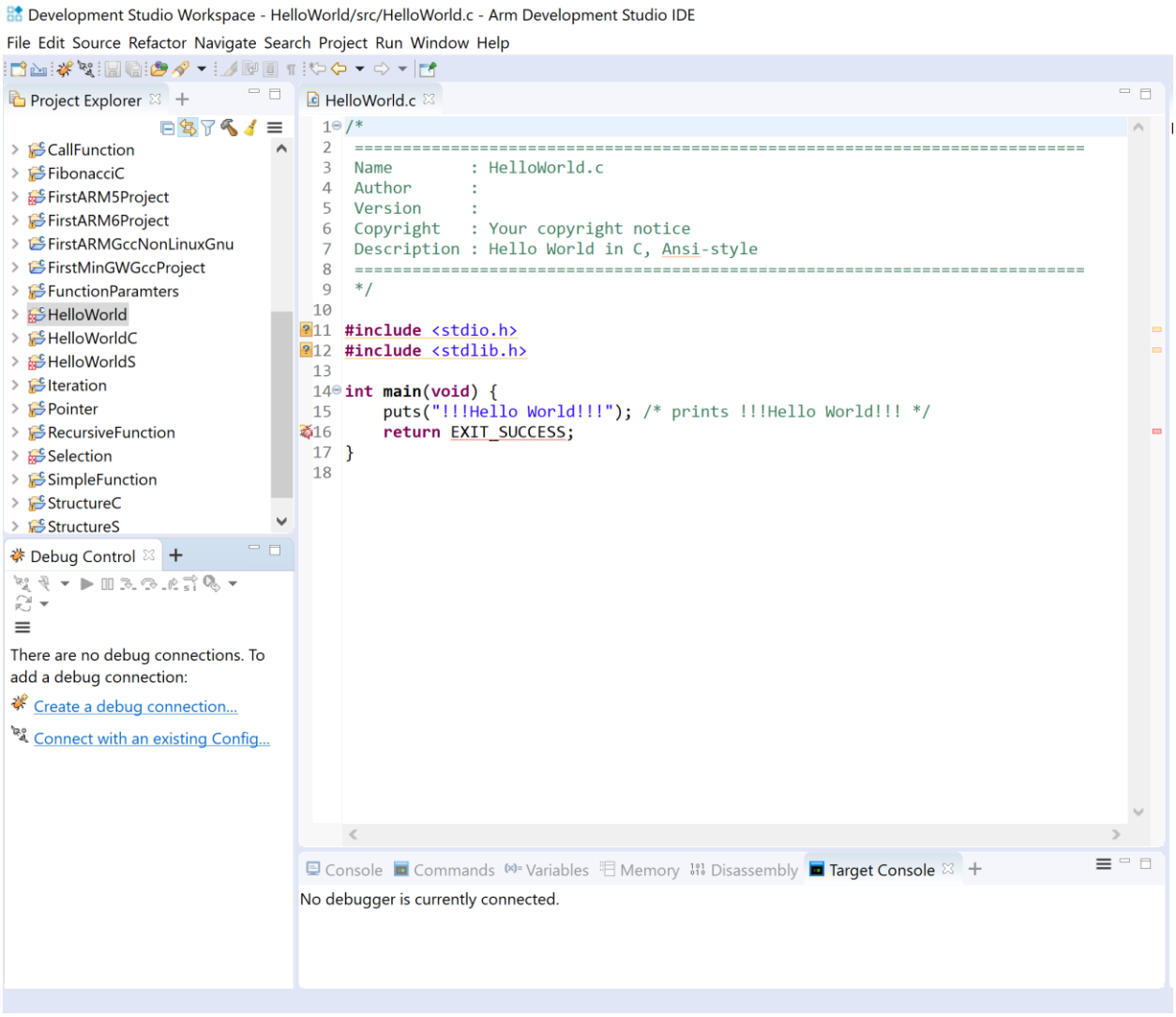




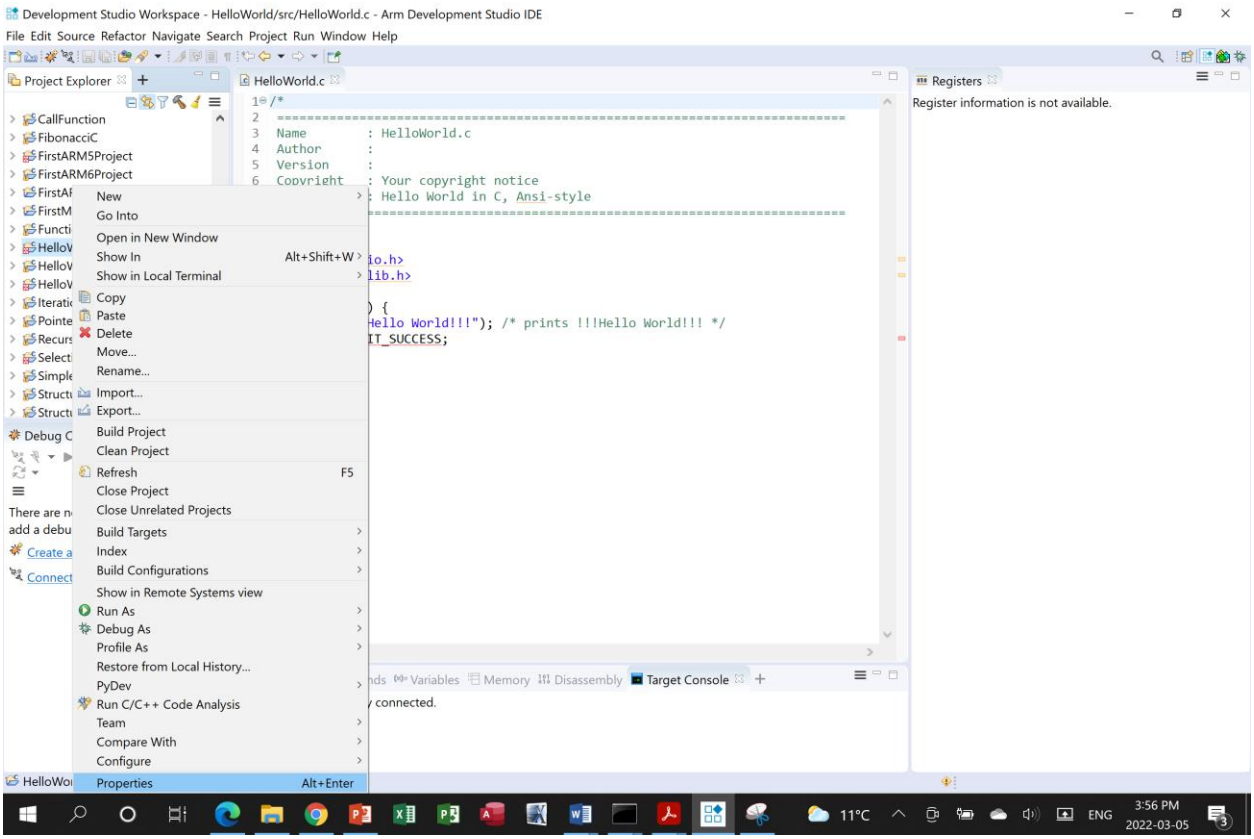
3. Choose **C Project** and click on **Next**

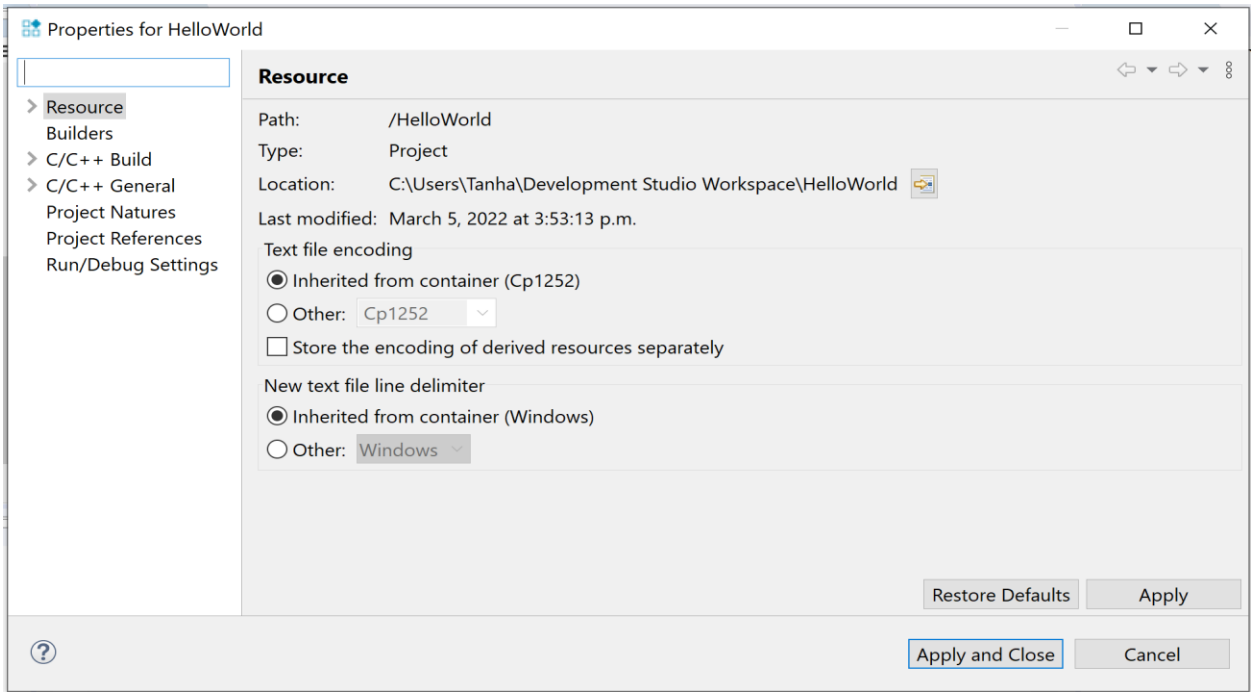


4. Type **Project Name** and keep **Use default location** checked.
5. For **Project type**, expand **Executable** and choose **Hello World ANSI C Project**
6. For **Toolchains**, choose **Arm Compiler 6**
7. Click **Finish** to create the new project.

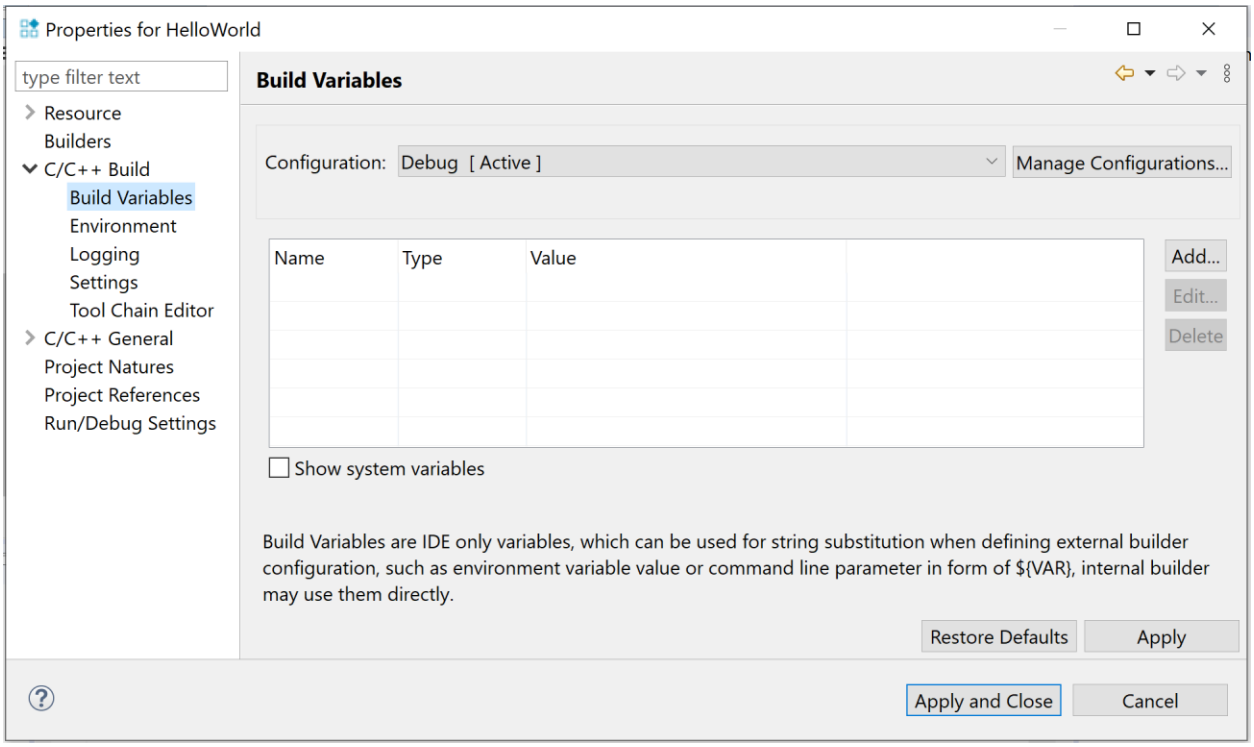

Development Studio Workspace - HelloWorld/src/HelloWorld.c - Arm Development Studio IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Project Explorer
CallFunction
FibonacciC
FirstARM5Project
FirstARM6Project
FirstARMGccNonLinuxGnu
FirstMinGWGccProject
FunctionParamters
HelloWorld
HelloWorldC
HelloWorldS
Iteration
Pointer
RecursiveFunction
Selection
SimpleFunction
StructureC
StructureS
Debug Control
There are no debug connections. To add a debug connection:
Create a debug connection...
Connect with an existing Config...
HelloWorld.c
/*
Name : HelloWorld.c
Author :
Version :
Copyright : Your copyright notice
Description : Hello World in C, Ansi-style
*/
#include <stdio.h>
#include <stdlib.h>
int main(void) {
puts("!!!Hello World!!!"); /* prints !!!Hello World!!! */
return EXIT_SUCCESS;
}
Console Commands Variables Memory Disassembly Target Console
No debugger is currently connected.

8. In the **Project Explorer view**, right-click the **HelloWorld** project and select **Properties**.

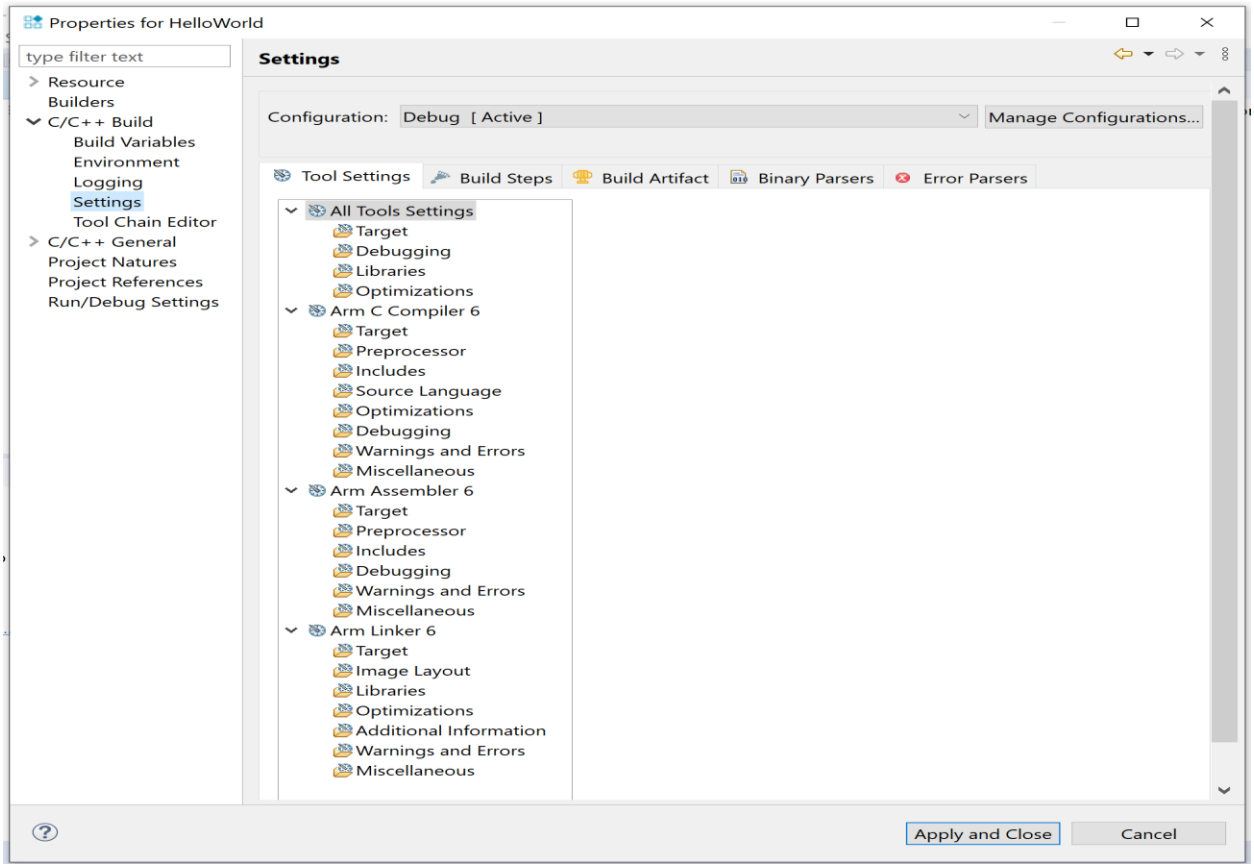




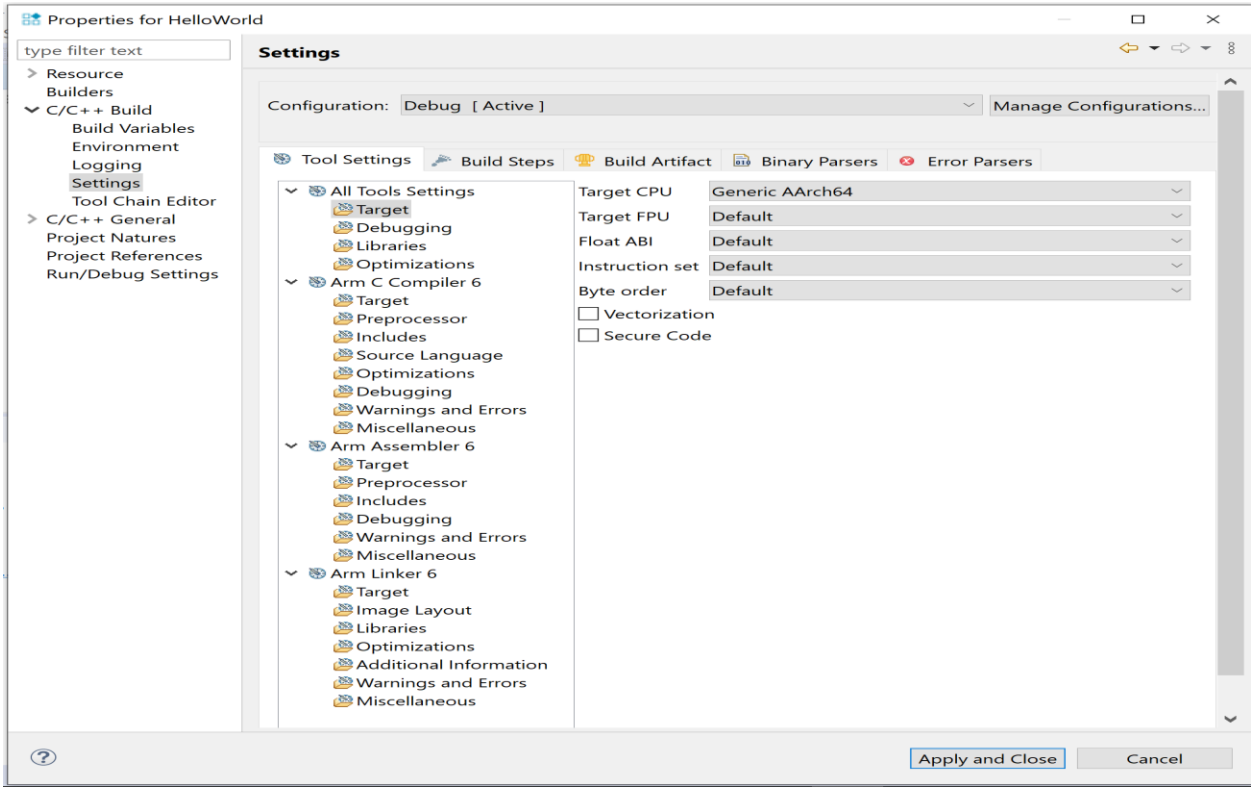
9. Expand **C/C++ Build**, and select **Build Variables**.



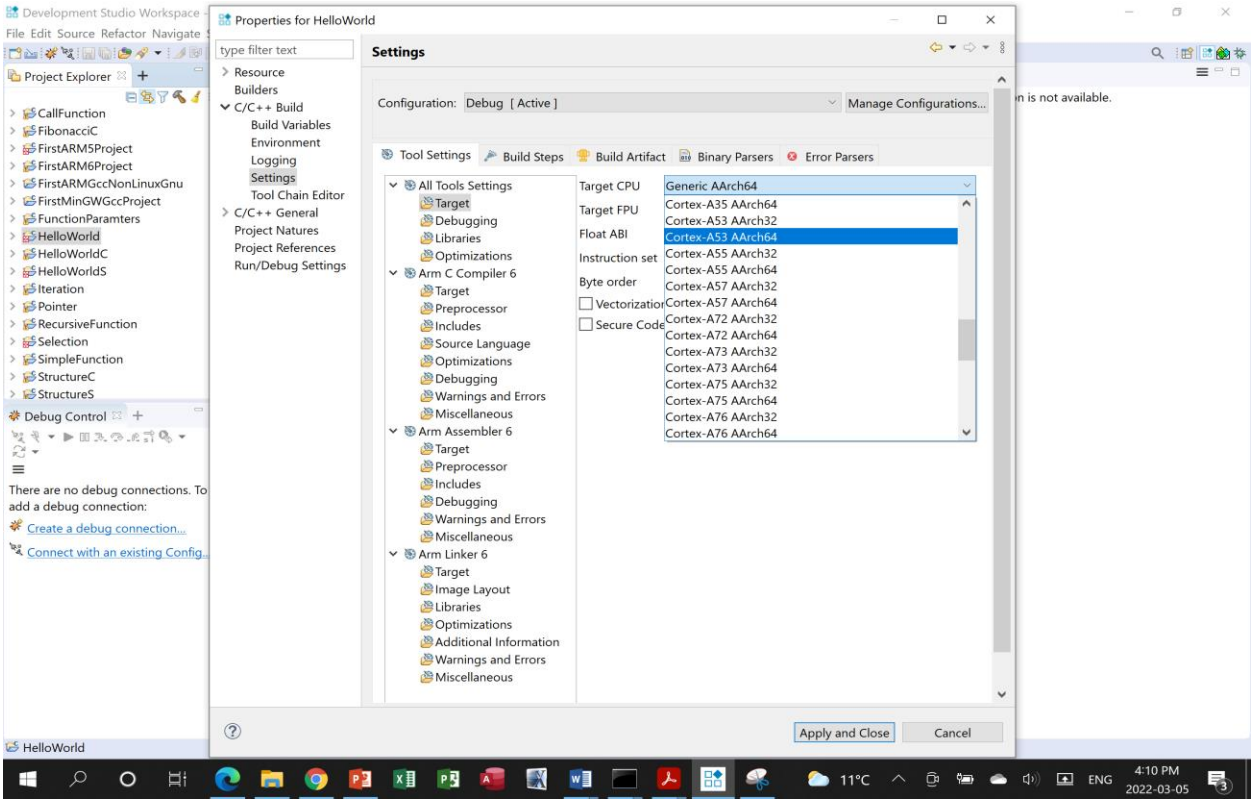
10. Set **Configuration** to **Debug [Active]**.
11. Select **Settings** under **C/C++ Build** to set target CPU and linker base RAM address.



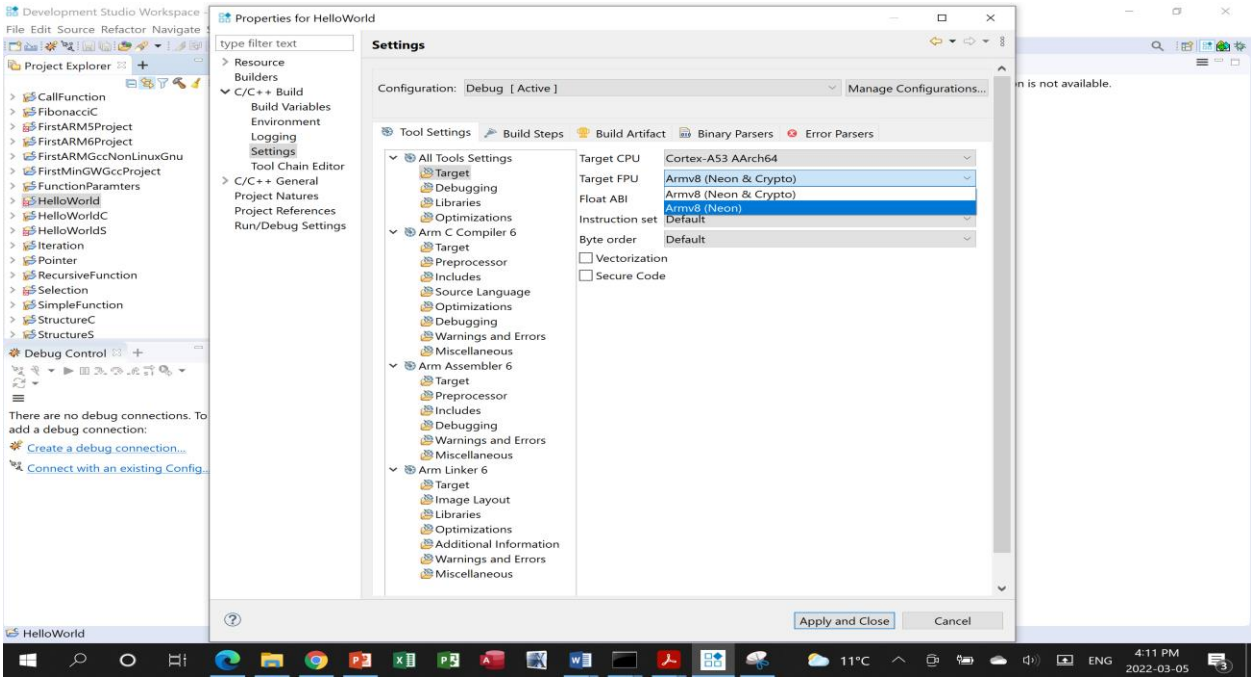
12. In the **Tool Settings** tab, select **All Tools Settings** > **Target**



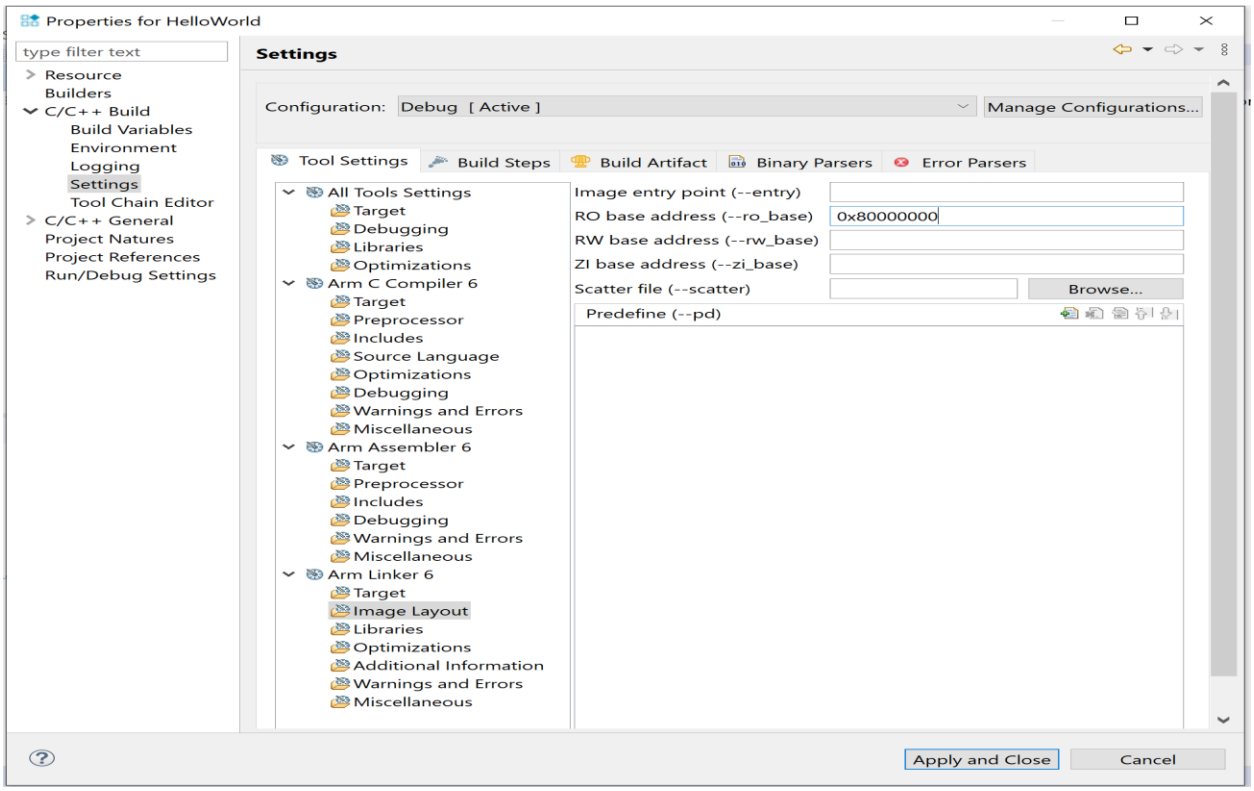
13. From the **Target CPU** dropdown, select **Cortex-A53 AArch64**.



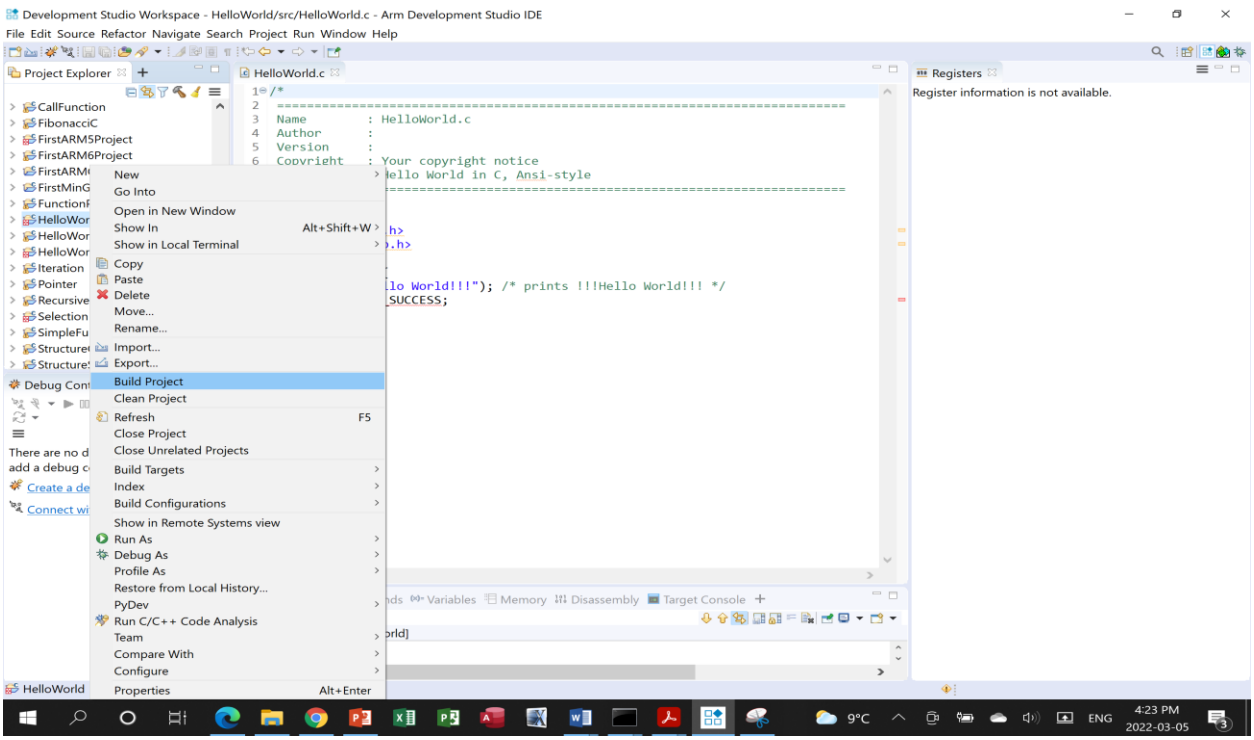
14. From the **Target FPU** dropdown, select **Armv8 (Neon)**.



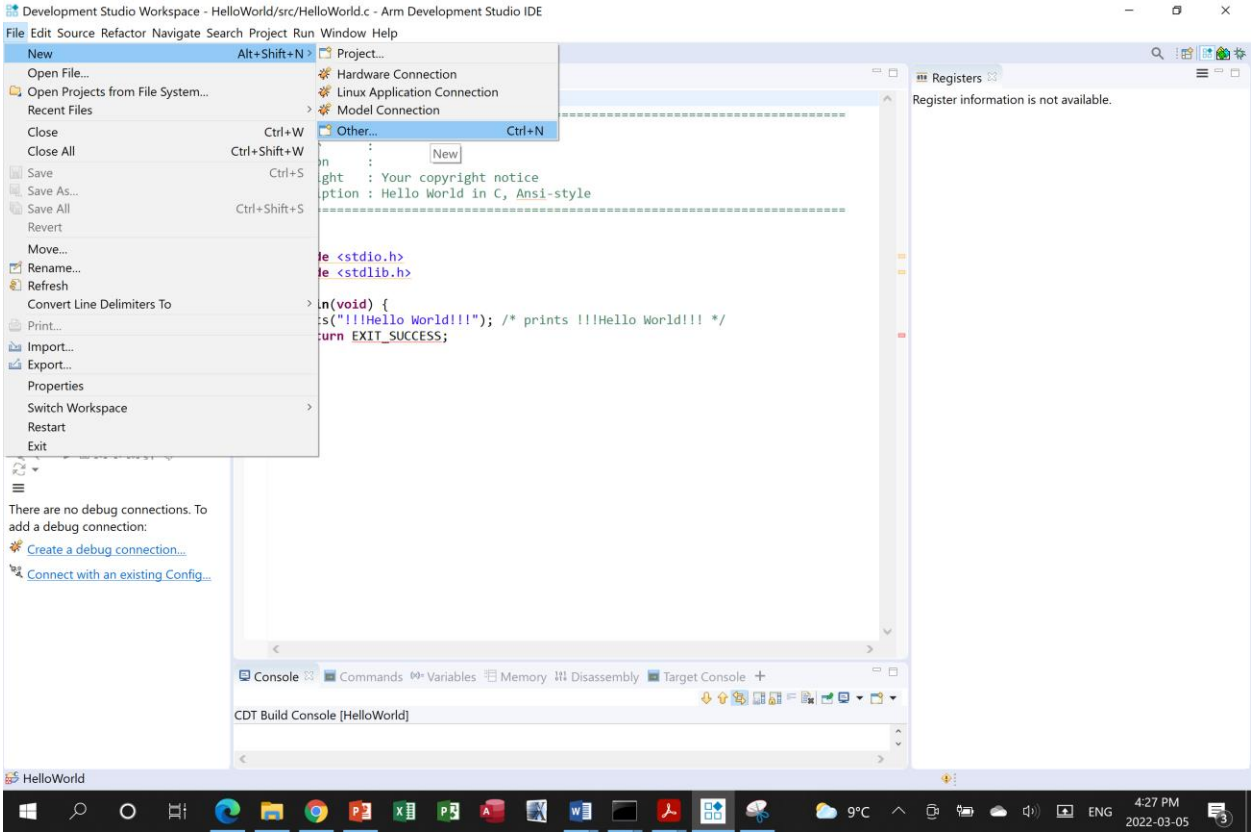
15. Select **Arm Linker 6** > **Image Layout**.



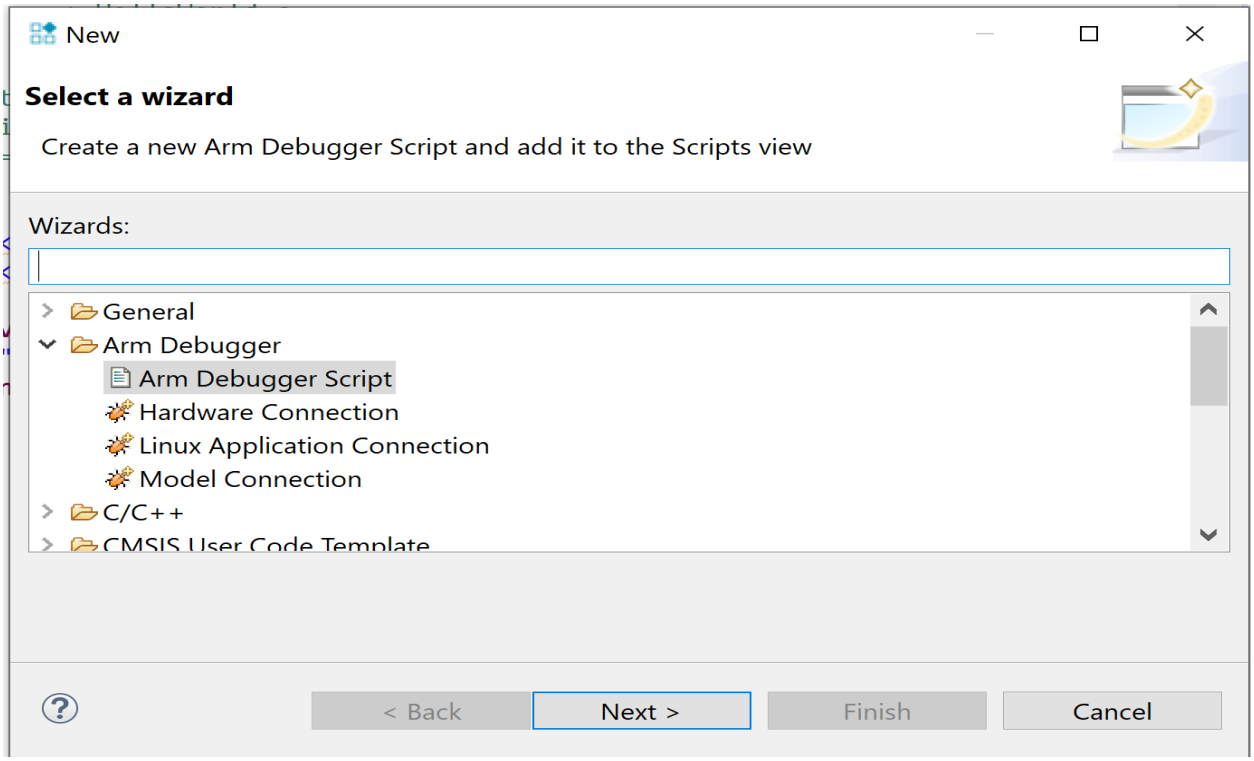
16. In the **RO base address** field, enter **0x80000000**.
17. Click **Apply and Close**.
18. If you are prompted to rebuild the index, click **Yes**.



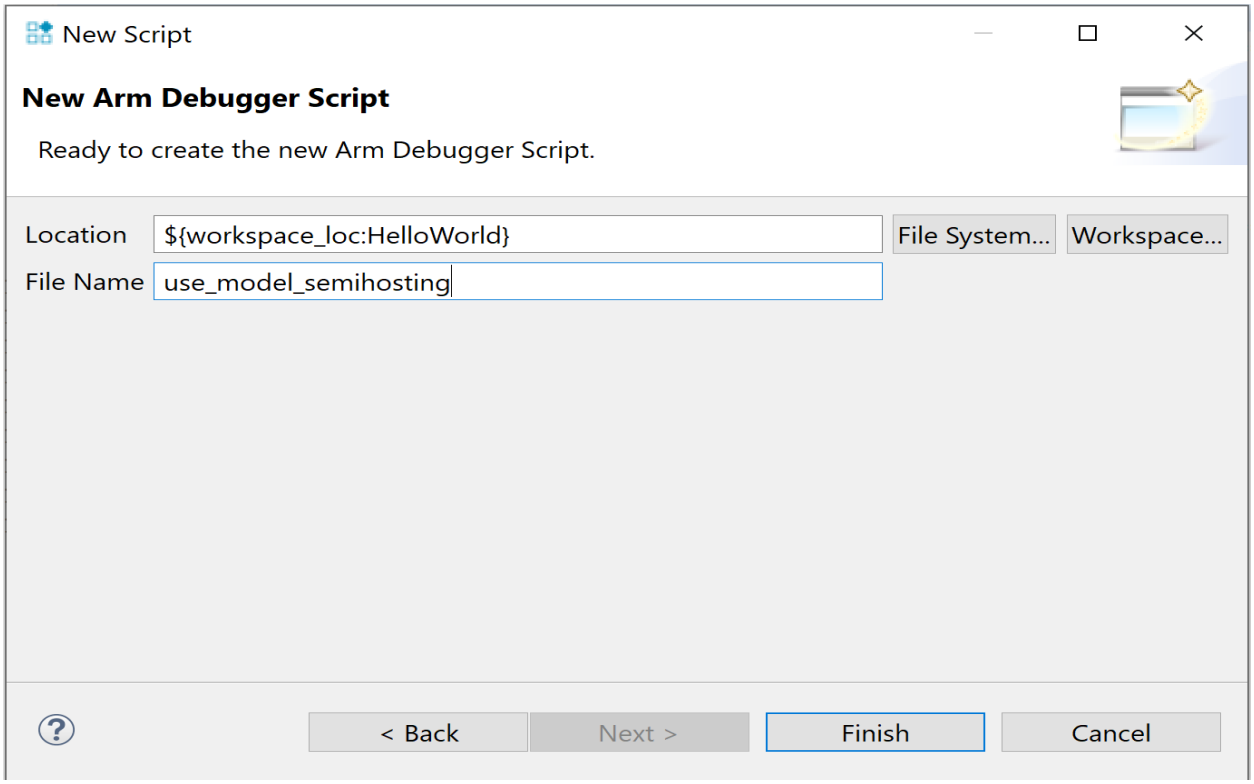
19. In the **Project Explorer** view first right click on your project and then click on **Build Project.**



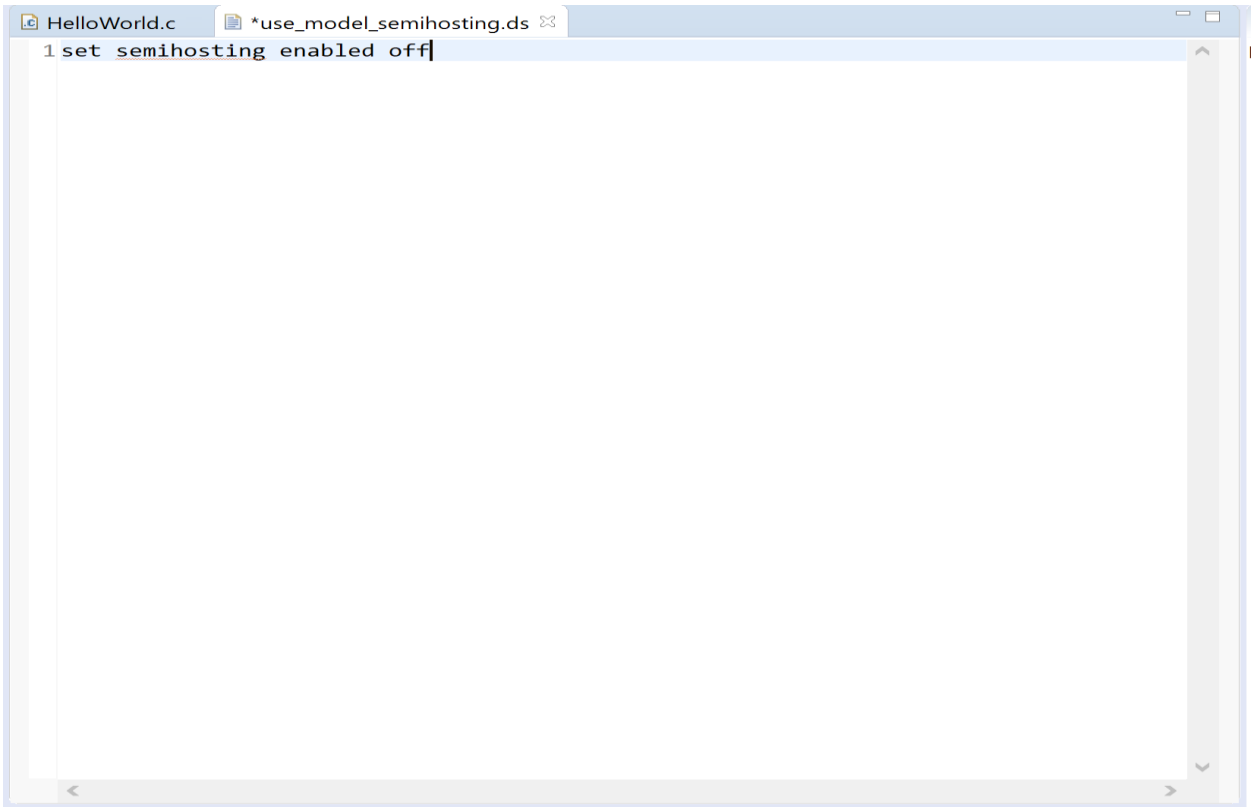
20. Select **File** >**New** >**Other**



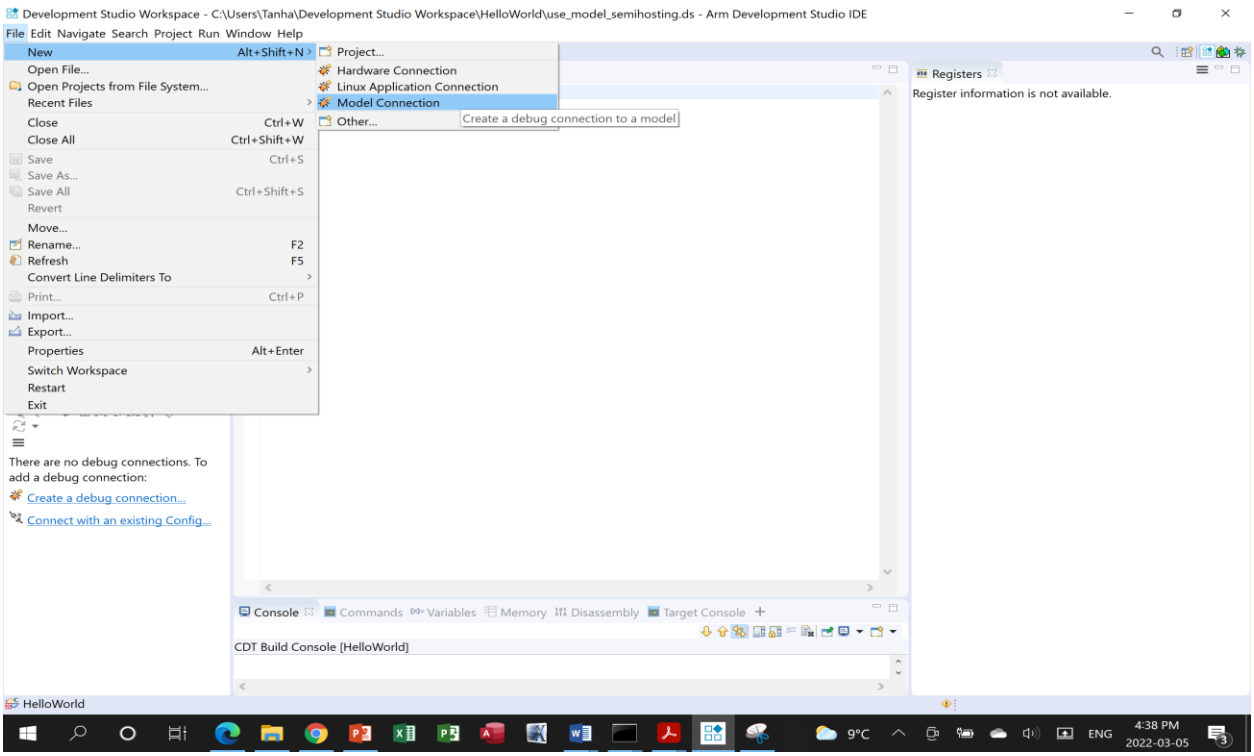
21. **Select Arm Debugger > Arm Debugger Script** and click **Next.**



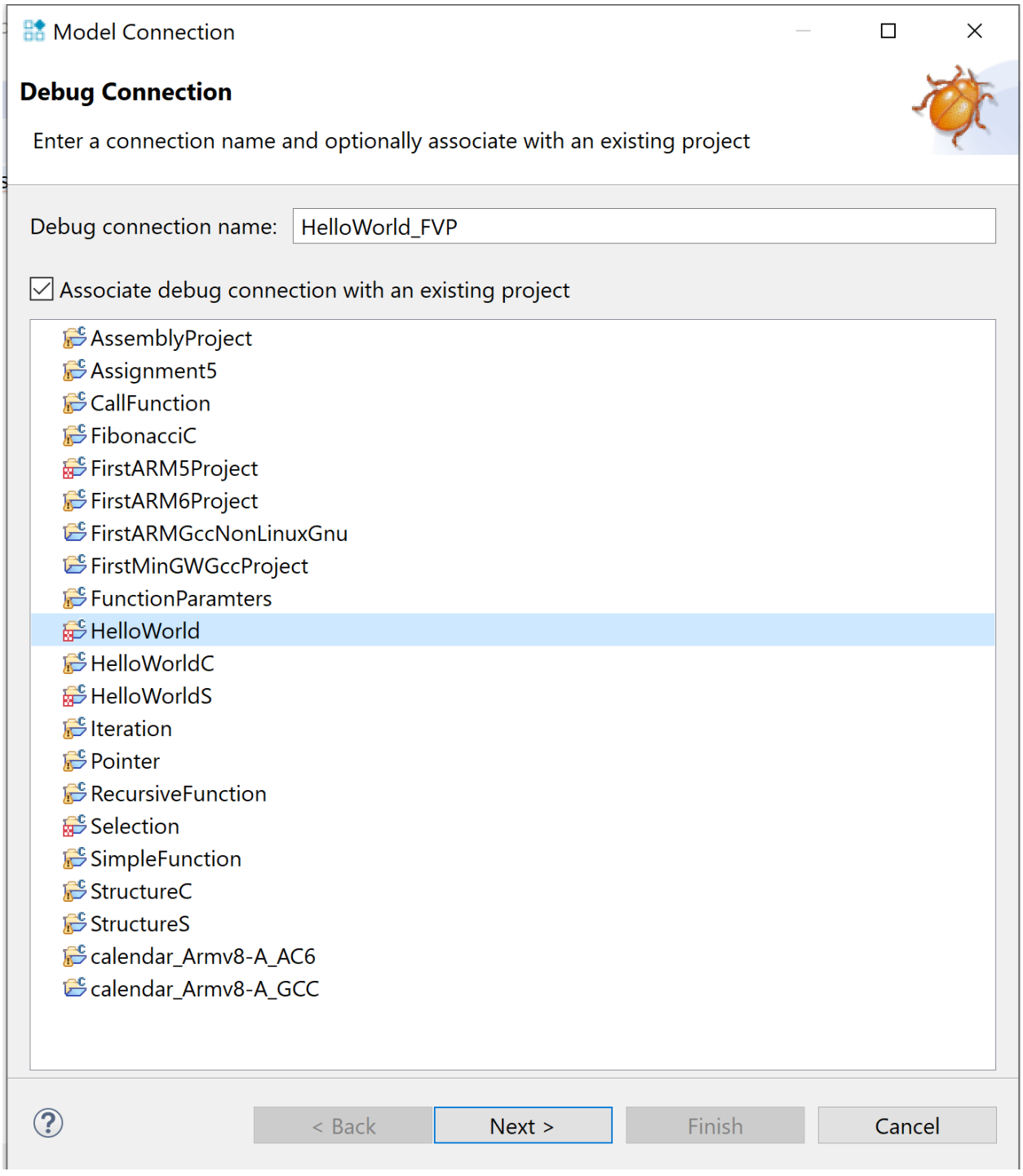
22. In the **File Name** field, name this script **use_model_semihosting** and click **Finish**. The empty script opens in the **Editor window.**



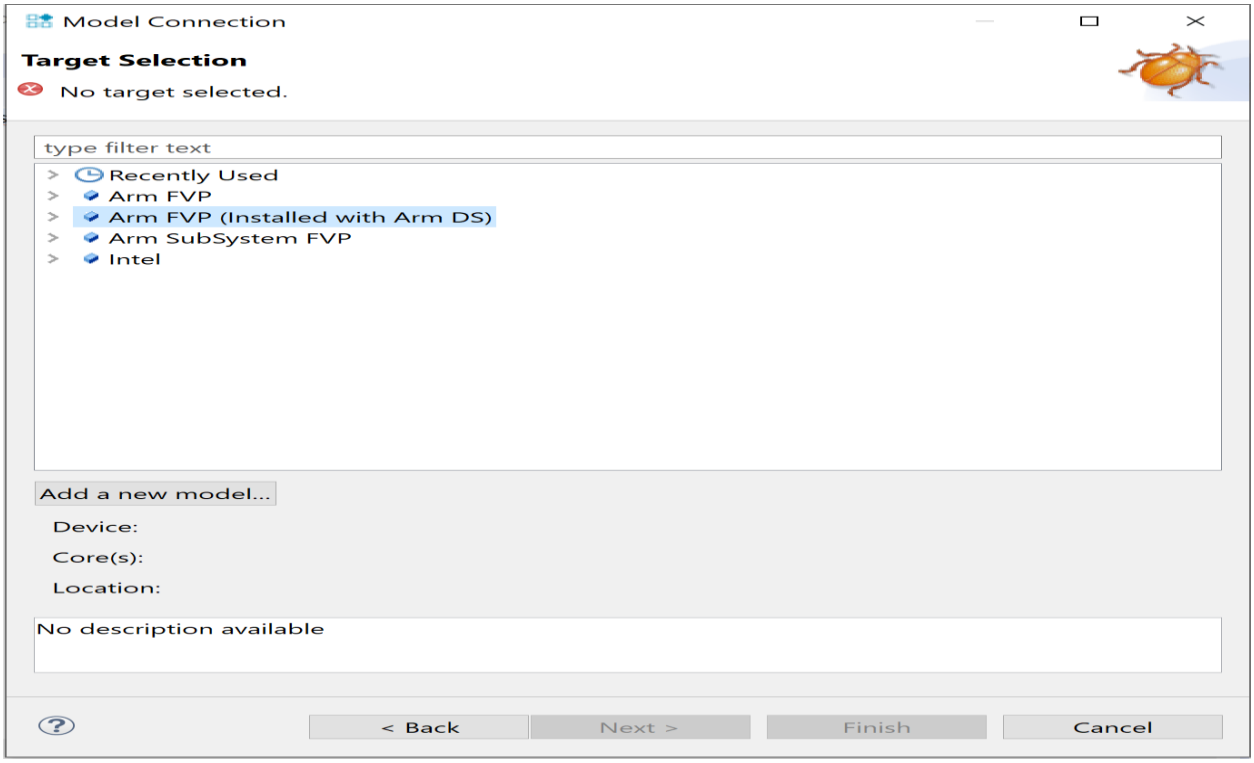
23. Add the following code ***set semihosting enabled off*** to the script and press **Ctrl + S** to save.



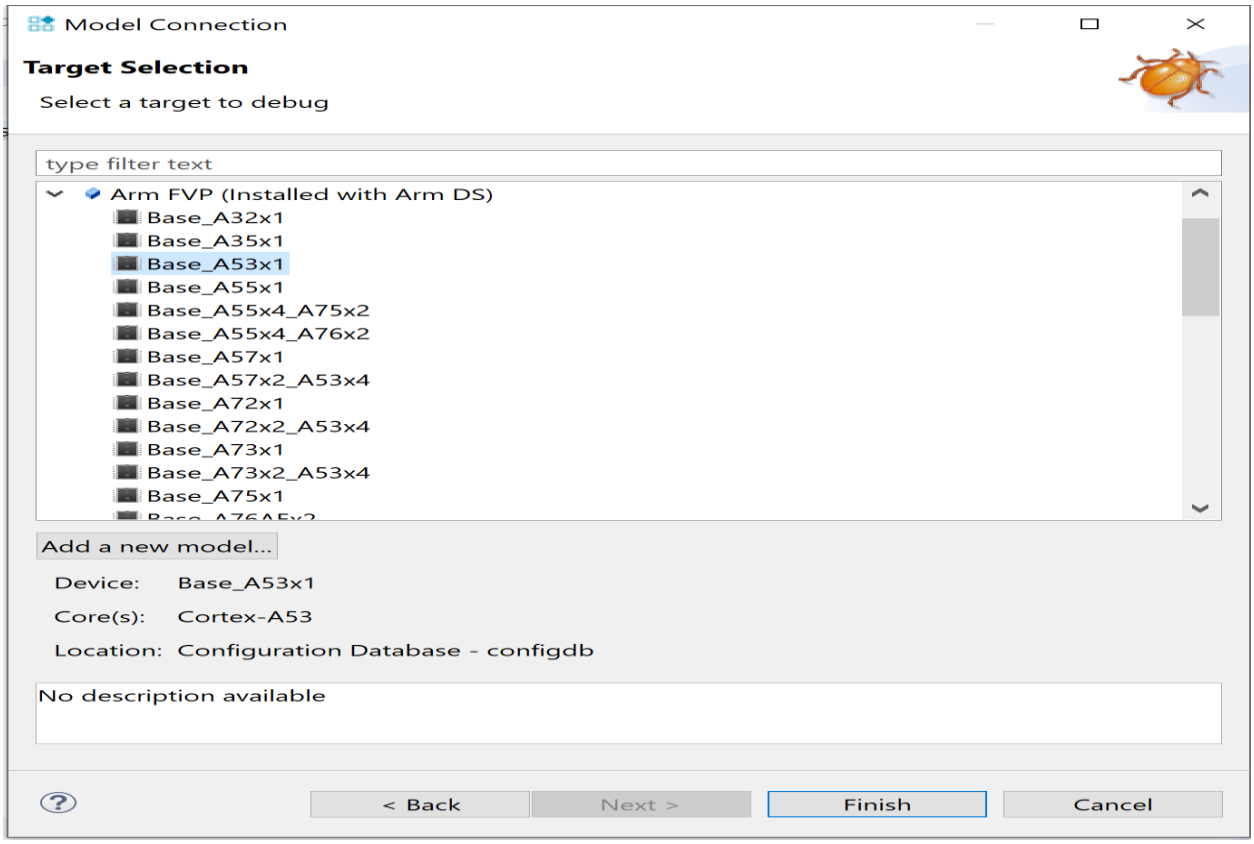
24. From the main menu, select **File** > **New** > **Model Connection**.



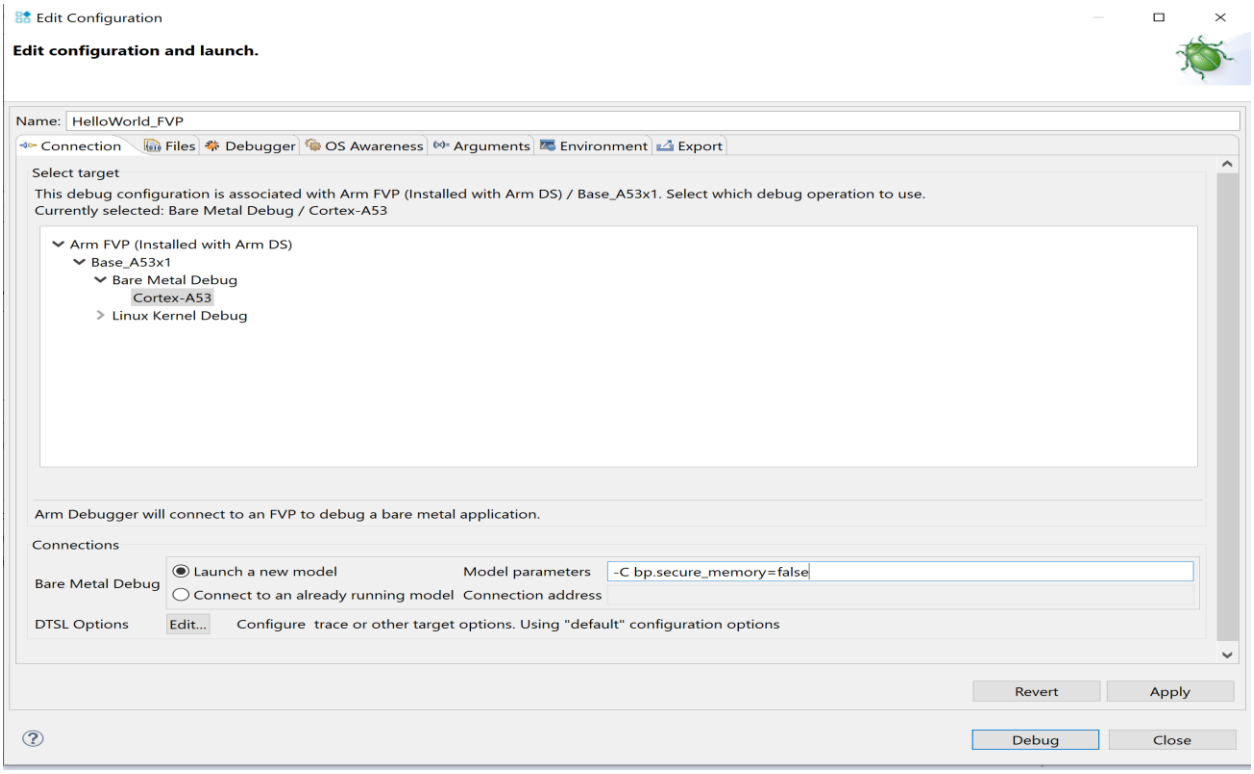
25. Enter **a name** for the **debug connection**, for example **HelloWorld_FVP**.
26. Select **Associate debug connection with an existing project**, and select the project that you created and built and click **Next**.



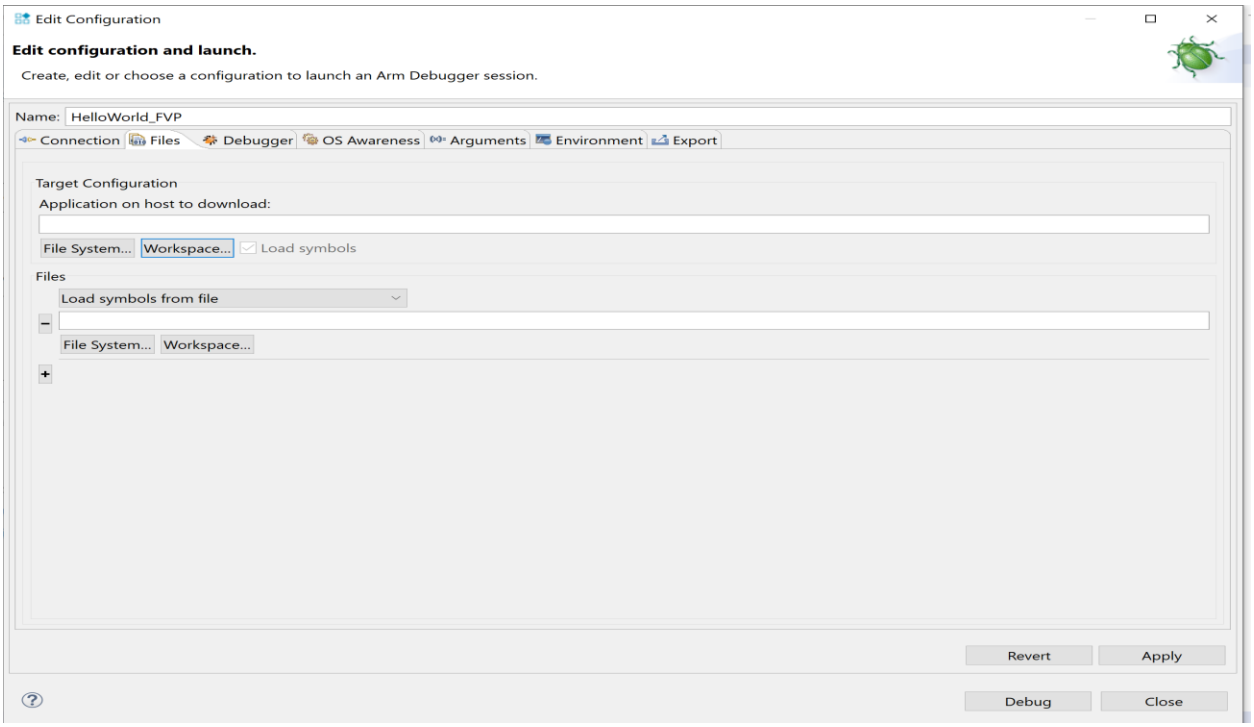
27. In the **Target Selection** dialog box, specify the details of the target: a. Select **Arm FVP (Installed with Arm DS)**



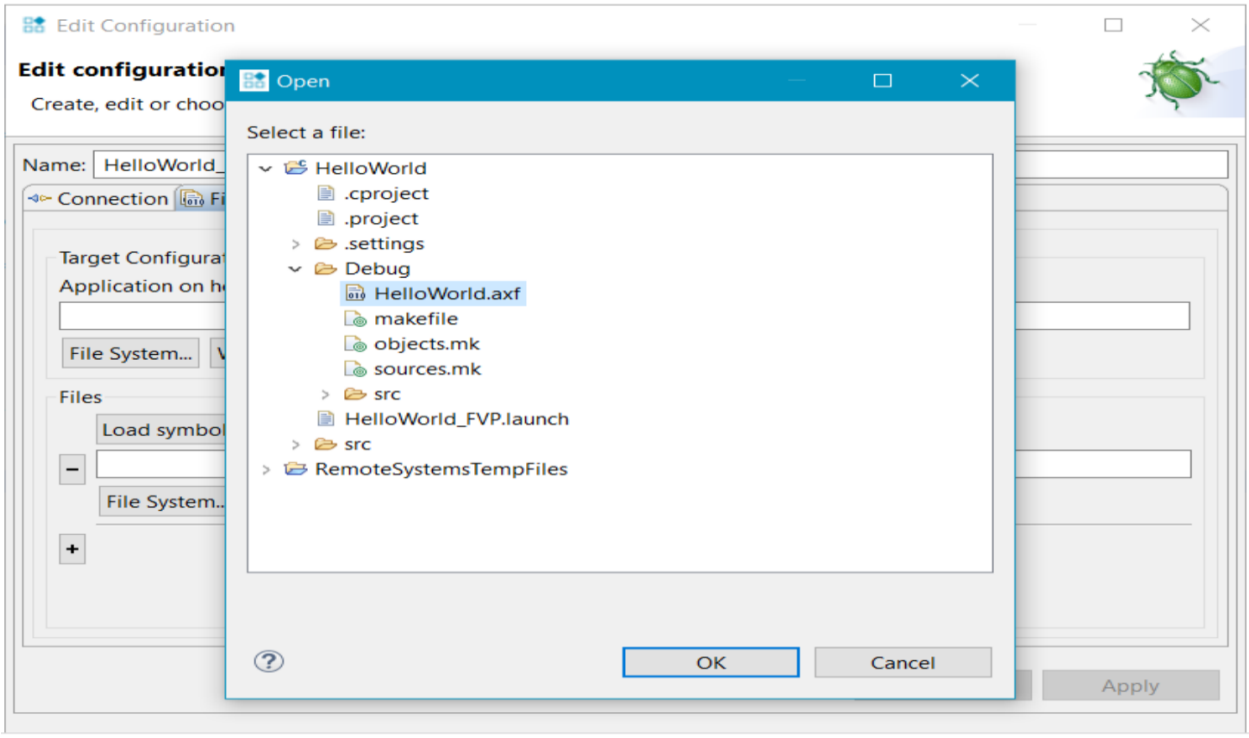
28. Select **Base_A53x1** and click **Finish**.



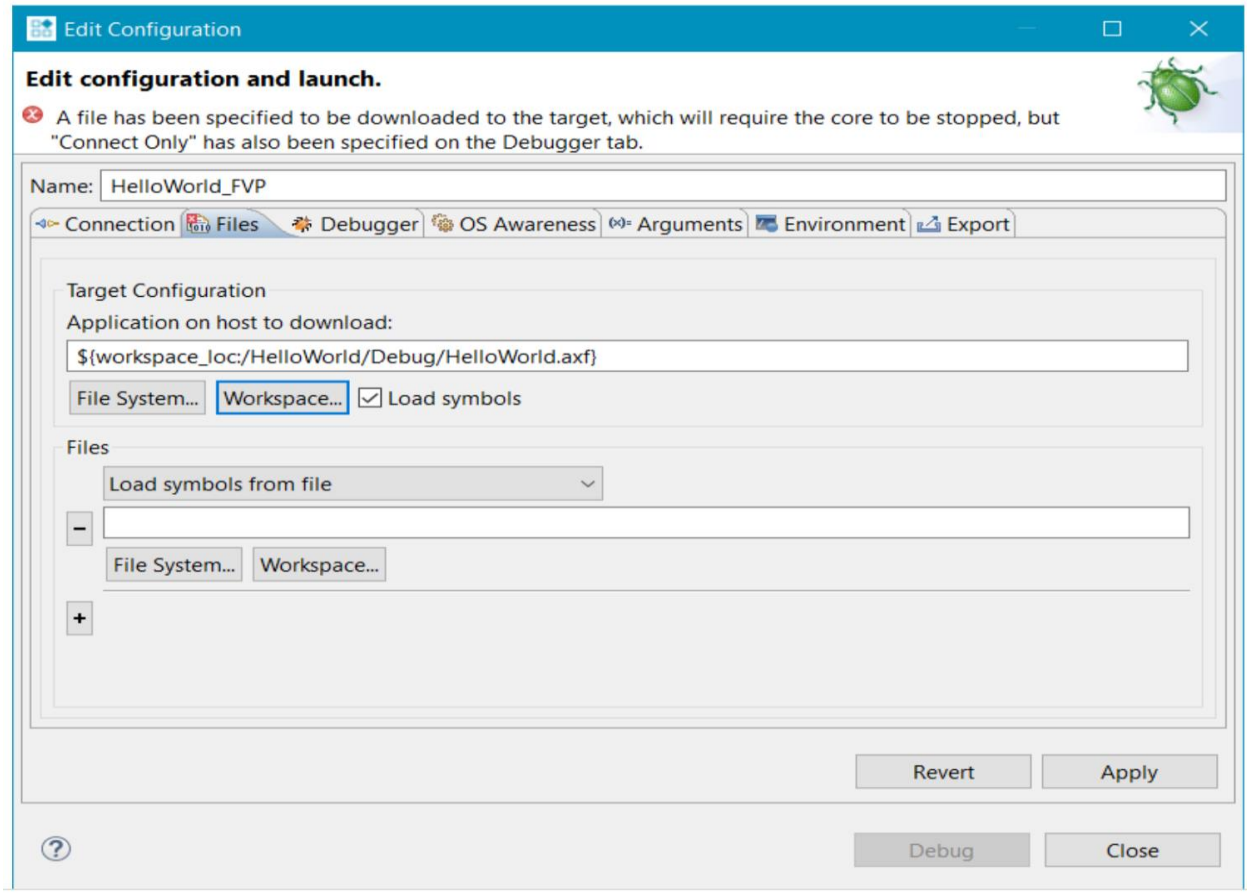
29. In the **Edit Configuration** dialog box under the **Connection tab**, ensure that **Arm FVP (Installed with Arm DS)** > **Base_A53x1** > **Bare Metal Debug** > **Cortex-A53** is selected.
30. Under **Bare Metal Debug**, in the **Model parameters** field, add ***-C bp.secure_memory=false***

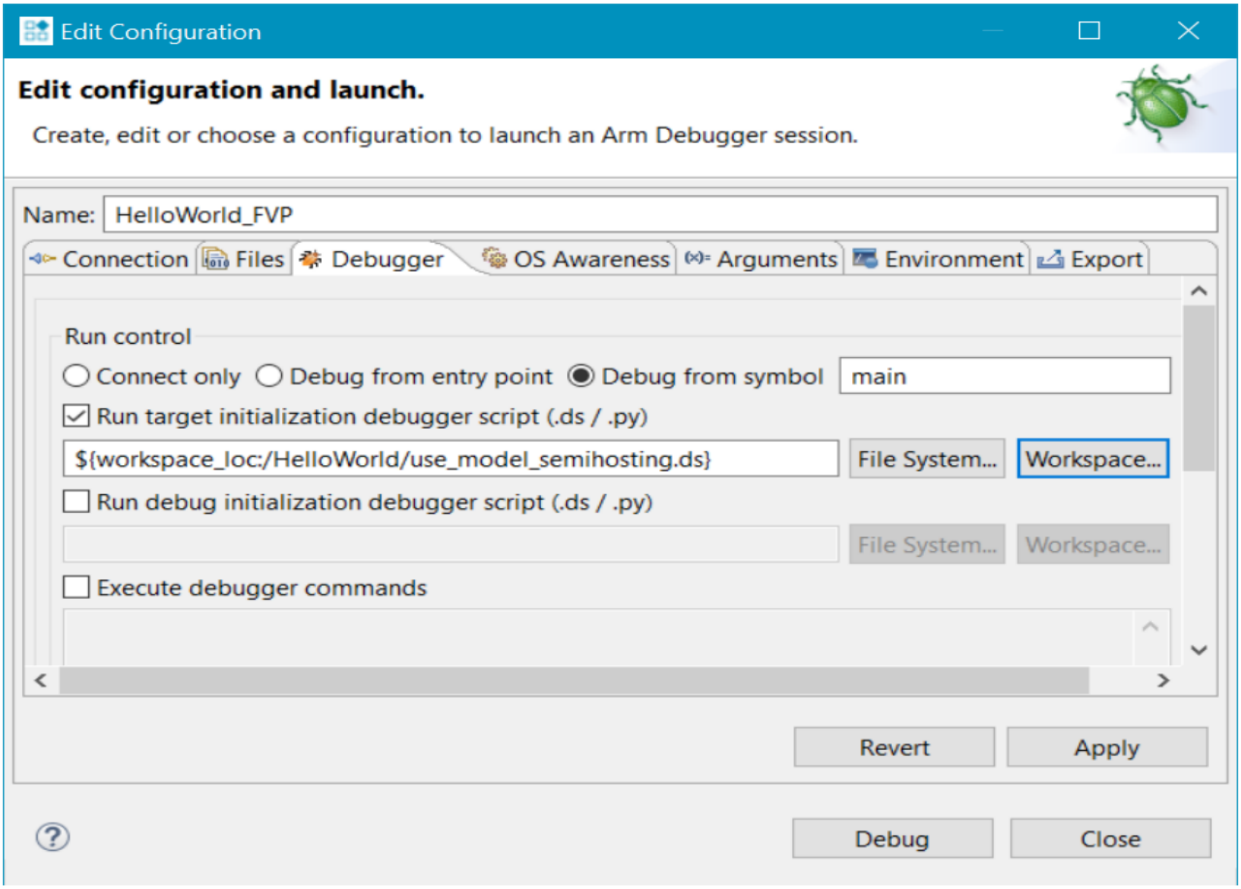


31. In the **Files tab**, select **Target Configuration** > **Application on host to download** > **Workspace**.



32. Click and expand the **HelloWorld** project and from the **Debug folder**, select **HelloWorld.axf** and click **OK.**





33. In the **Debugger** tab, select **Debug from symbol**.
34. Enable **Run target initialization debugger script (.ds/.py)** and click **Workspace**.
35. Select the **use_model_semihosting.ds** script and click **OK.**
36. Click **Debug** to load the application on the target, and load the debug information into the debugger.