Getting Started with AURIX™ Development Studio

Installation and first steps

AURIX™ Development Studio Training
V1.0.18

Scope of work

This tutorial provides a guide for the user to:

- Install AURIX™ Development Studio V1.9.20
- Create new project
- Import project (Infineon Code Examples Repository)
- Build project
- Debug project
- Additional material

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Download

› The installation package of AURIX™ Development Studio can be found here: https://www.infineon.com/aurixdevelopmentstudio

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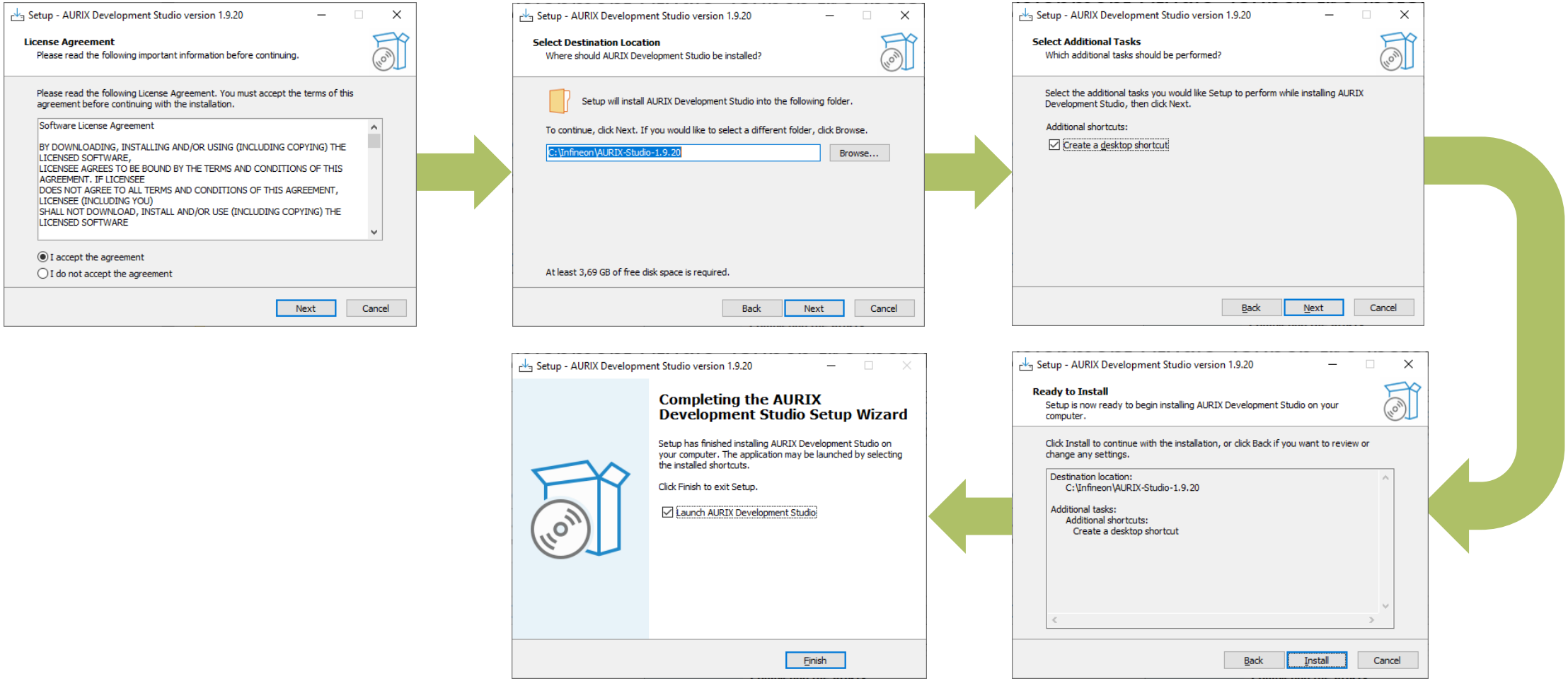
Install AURIX™ Development Studio - 1

› To install AURIX™ Development Studio, launch the installation package and follow the steps:



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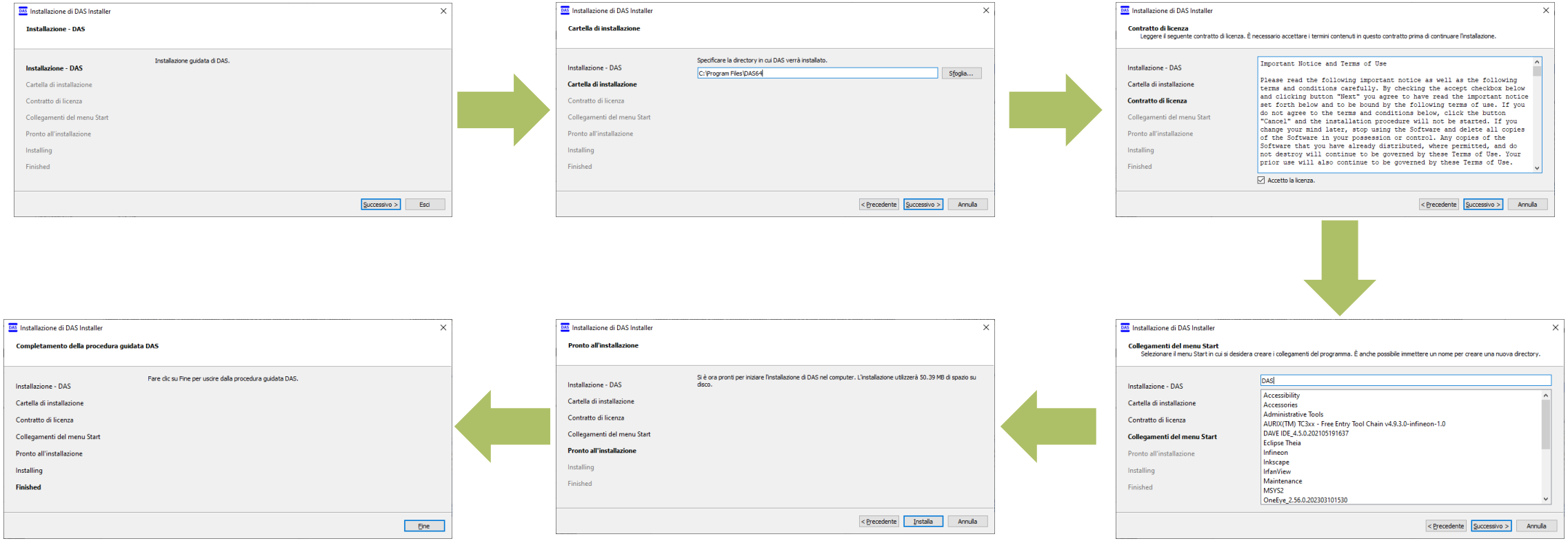
Install AURIX™ Development Studio - 2

› If DAS64 is not installed or outdated, it will be installed automatically during the AURIX™ Development Studio installation:



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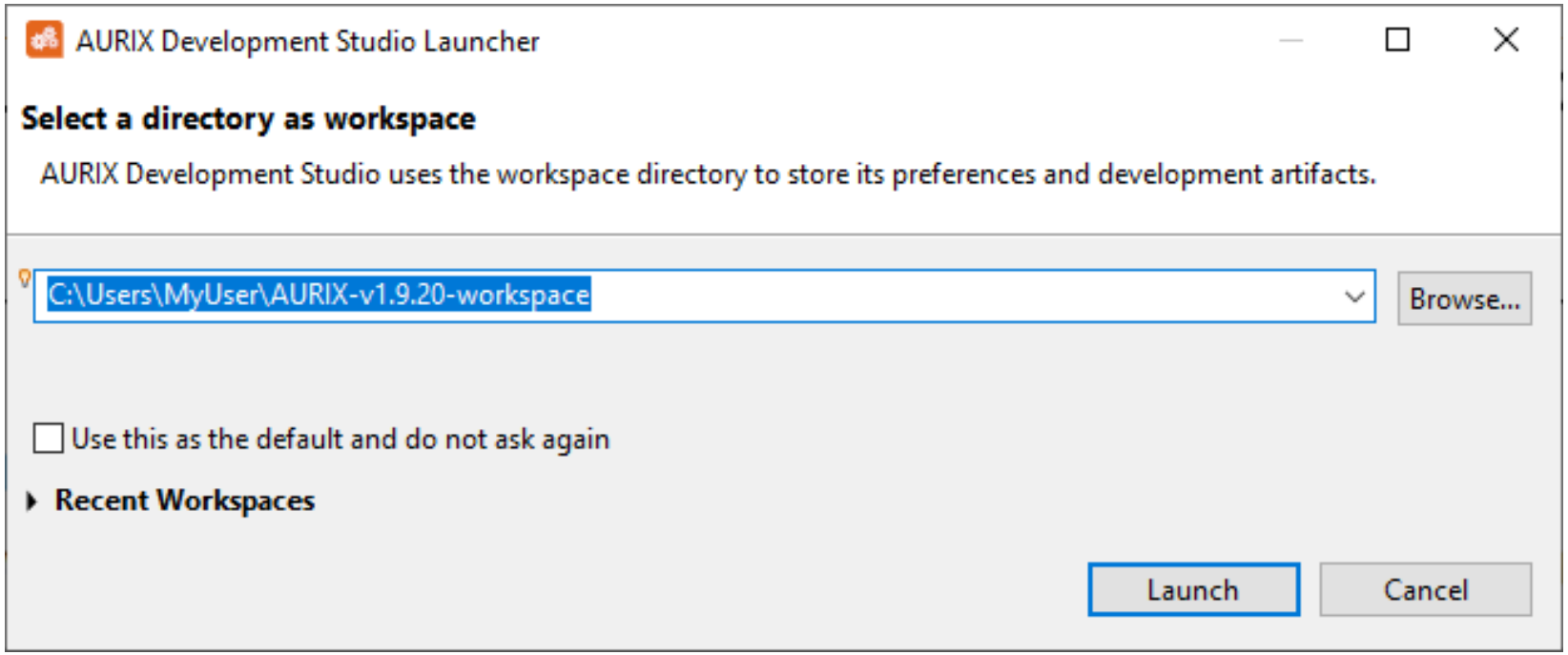
Workspace definition

› After launching the AURIX™ Development Studio, it is necessary to select a workspace



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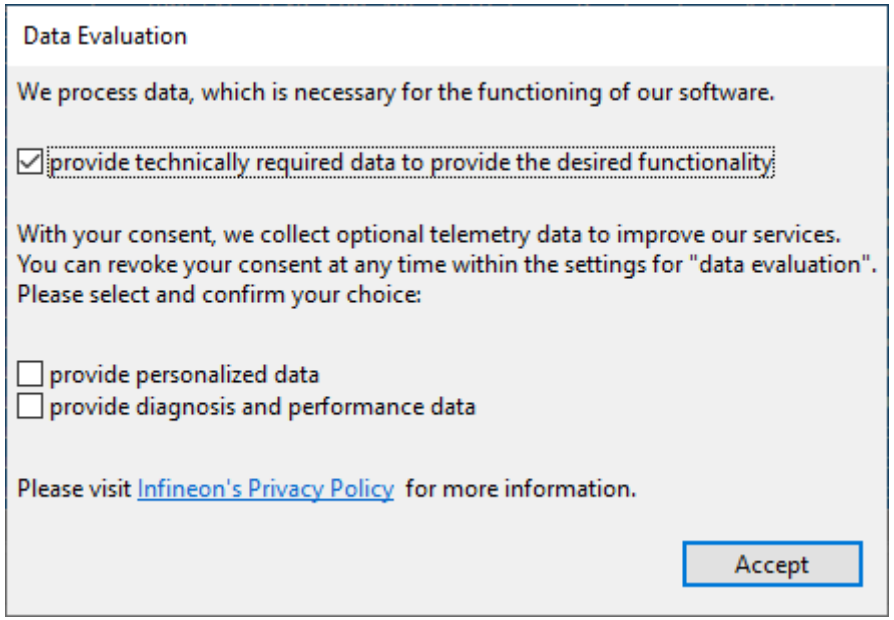
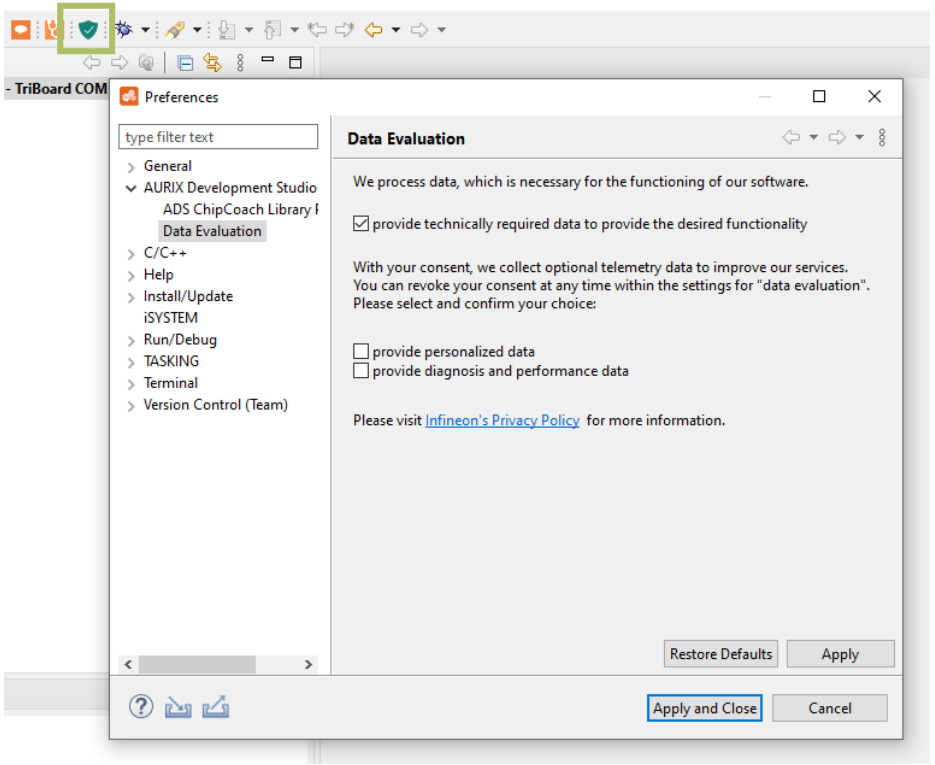
Data evaluation consent

- On the first start you are asked for the consent to send data to Infineon for evaluation purposes.
- You can choose which data to send.



- You can later decide to modify your consent by clicking on “Open Data Evaluation Settings” on the toolbar



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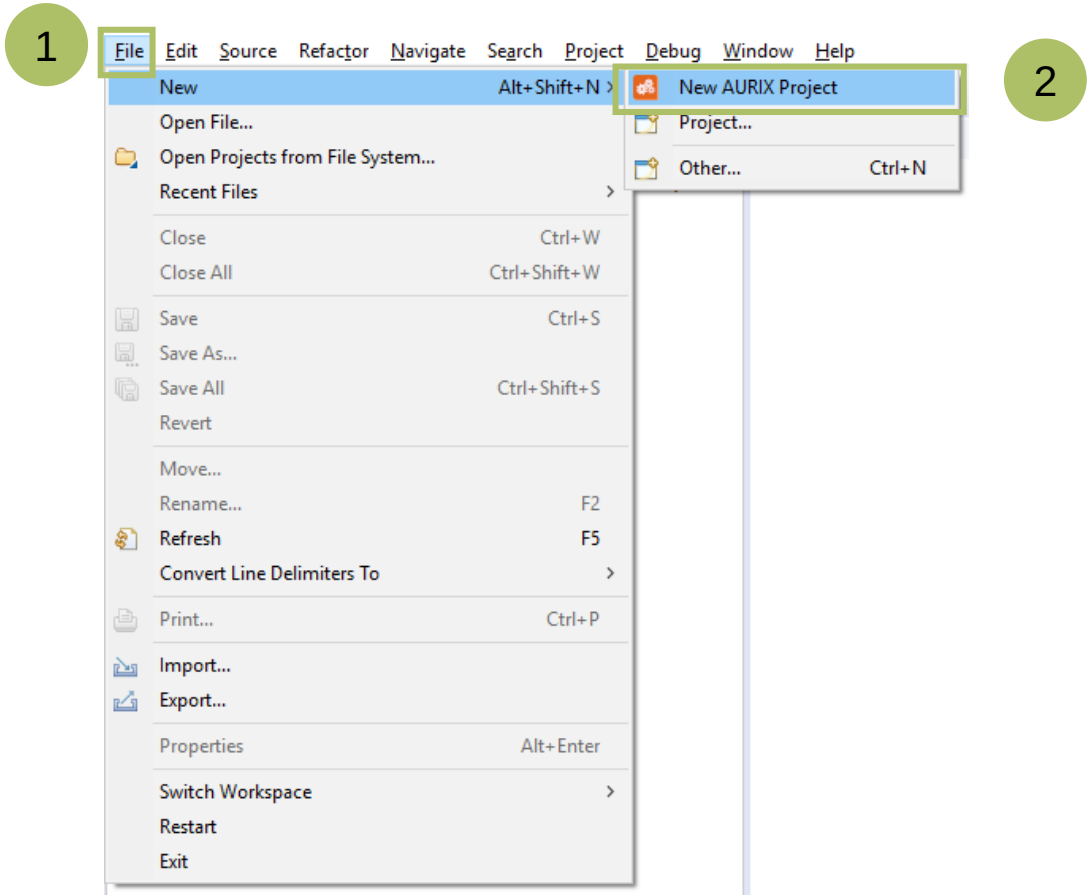
Create new project - 1

› Once the program is started, a new project can be created by selecting File >> New >> “New AURIX Project”



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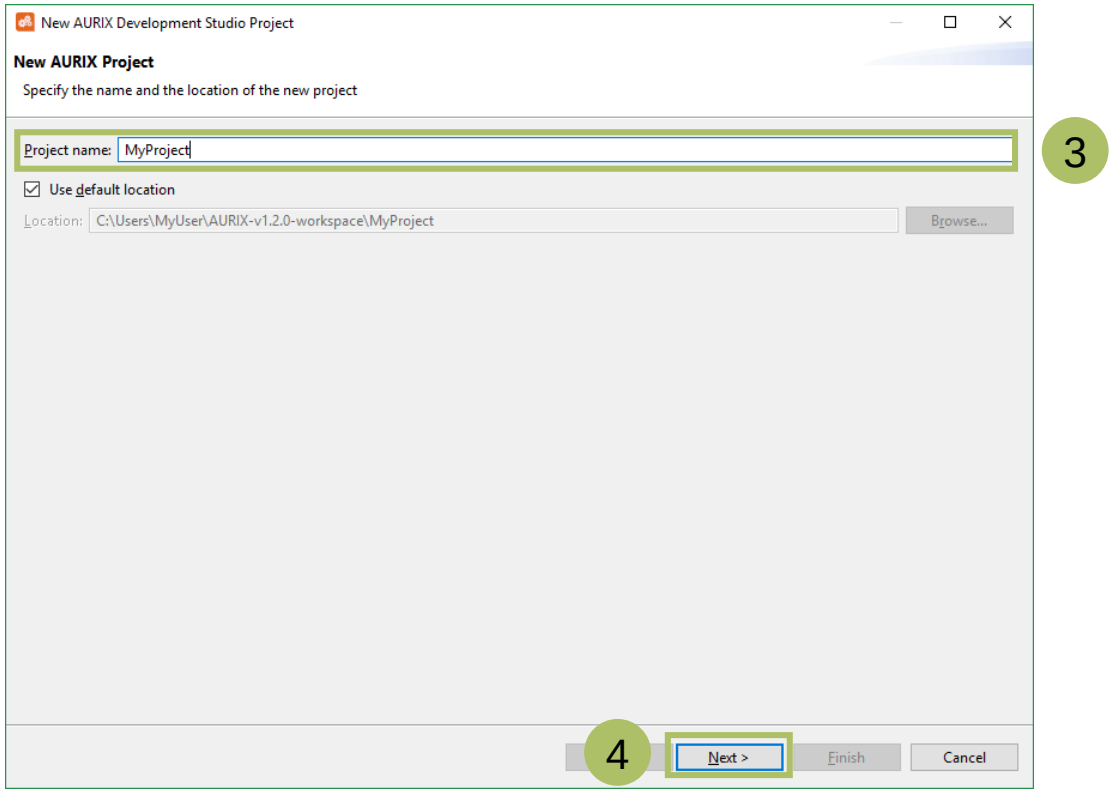
Create new project - 2

- From the “New AURIX Development Studio Project” window, choose a name for the new project (3)
- The “Use default location” checkbox should be set in order to create the project inside the current selected workspace



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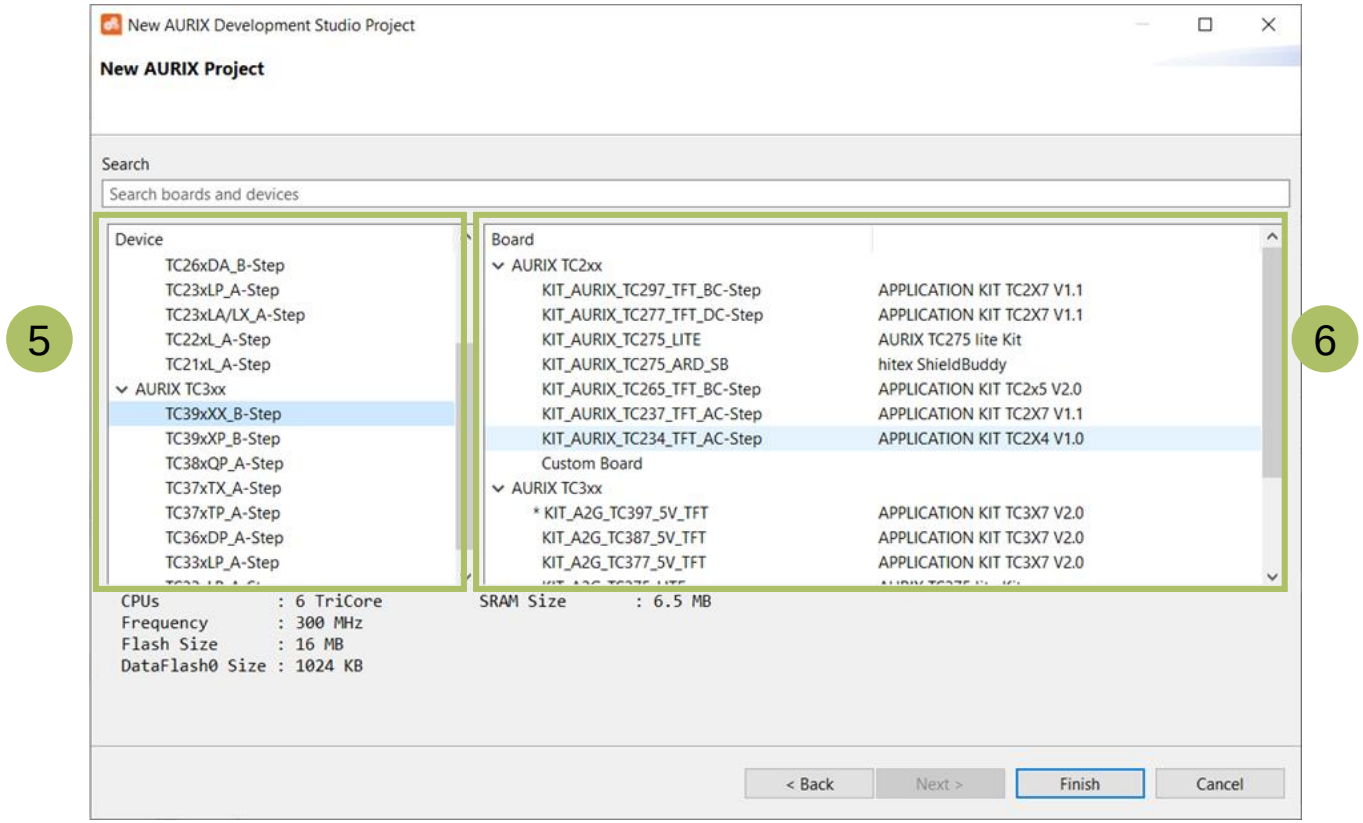
Create new project - 3

› From the “New AURIX Development Studio Project” window, choose the device or the board. A specific device (5) or board (6) can be chosen from the left or right list. Furthermore, while selecting a board, the tool highlights the supported devices for that board and vice versa



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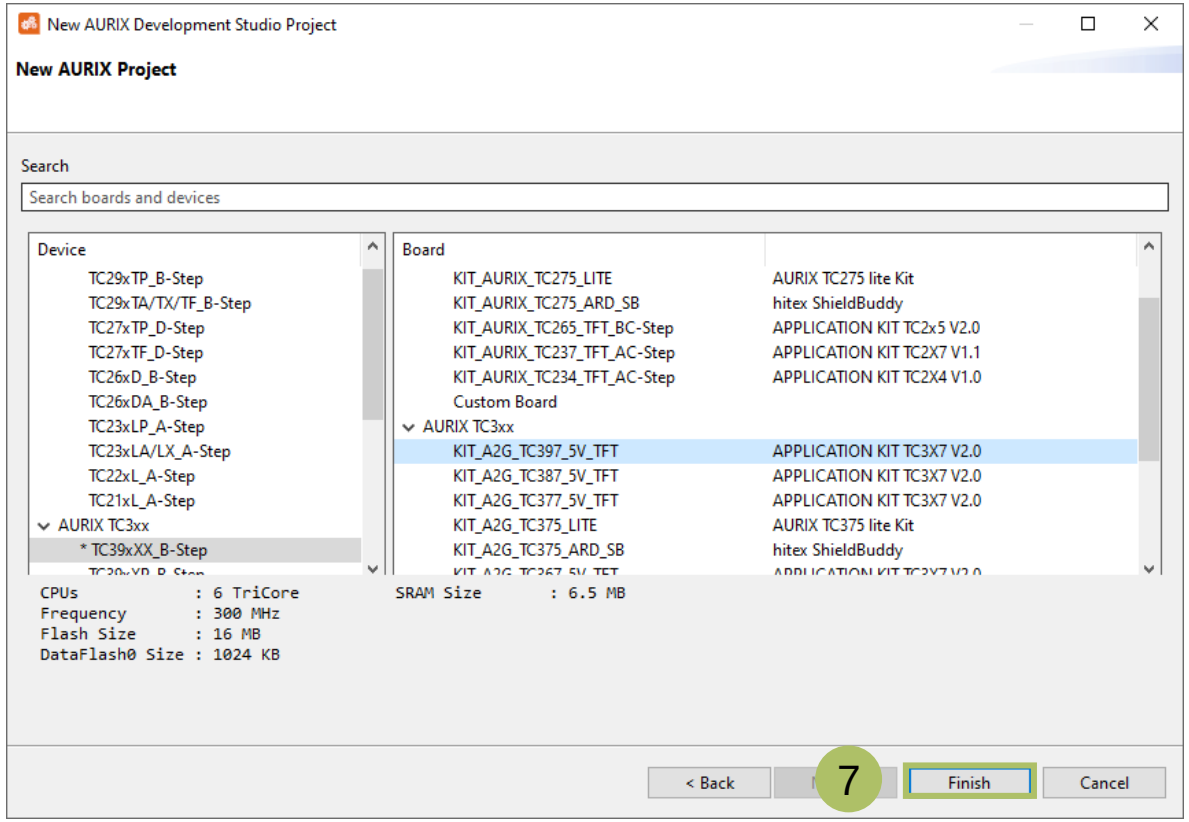
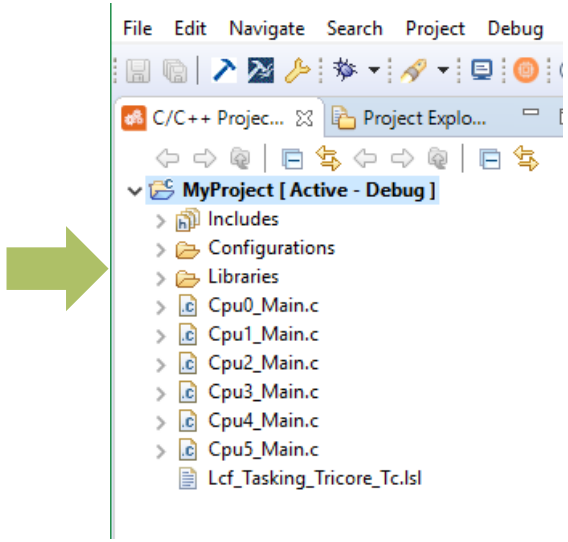
Create new project - 4

› By pressing “Finish” (7), a new project is created





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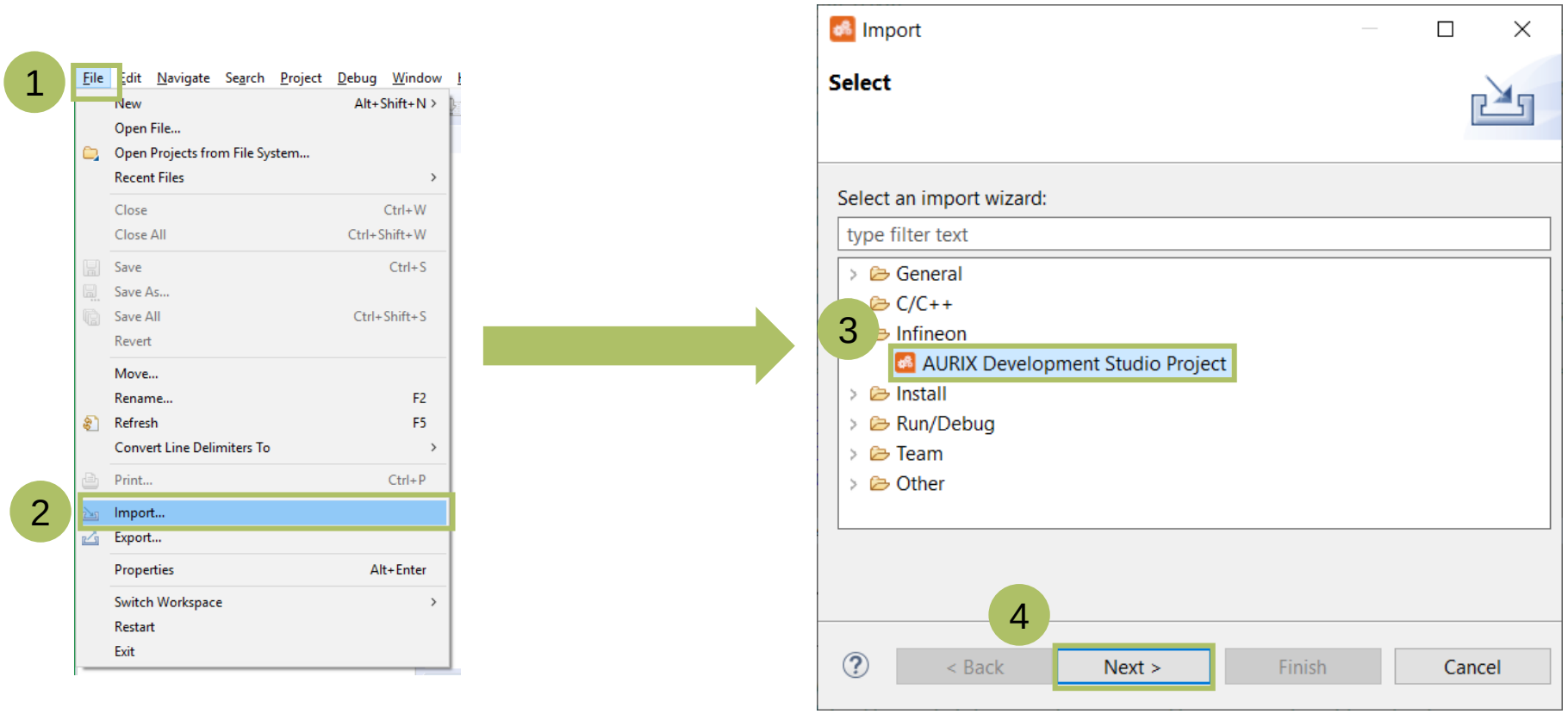
Import project (Infineon Code Examples Repository) - 1

- Alternatively, it is possible to import an example project using File >> “Import…” utility (1-2) and selecting Infineon >> “AURIX Development Studio Project” type (3)
- At the end, press “Next” (4)



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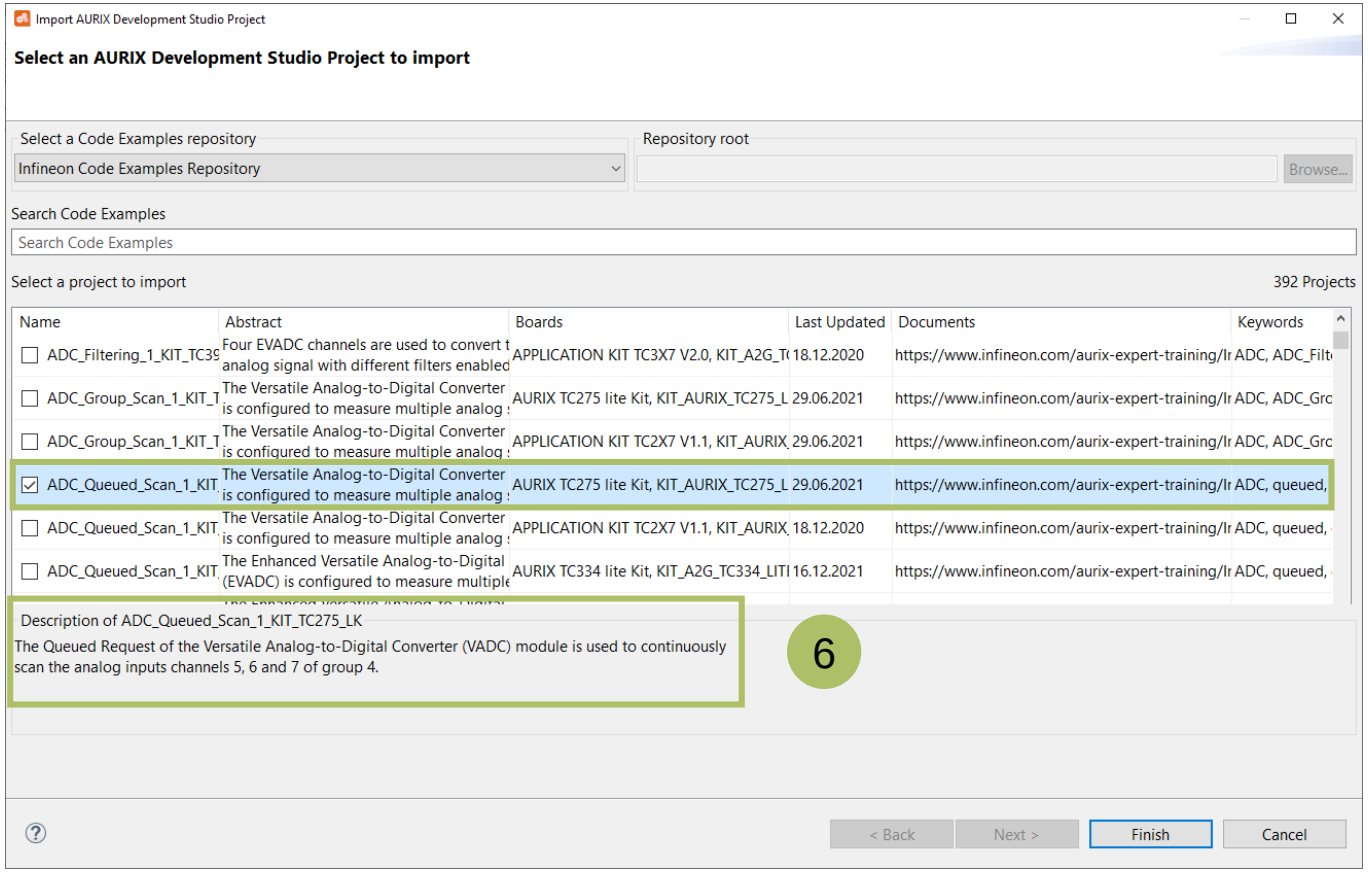
Import project (Infineon Code Examples Repository) - 2

› Hint: Clicking on an example project (5) in the list shows the example description (6)



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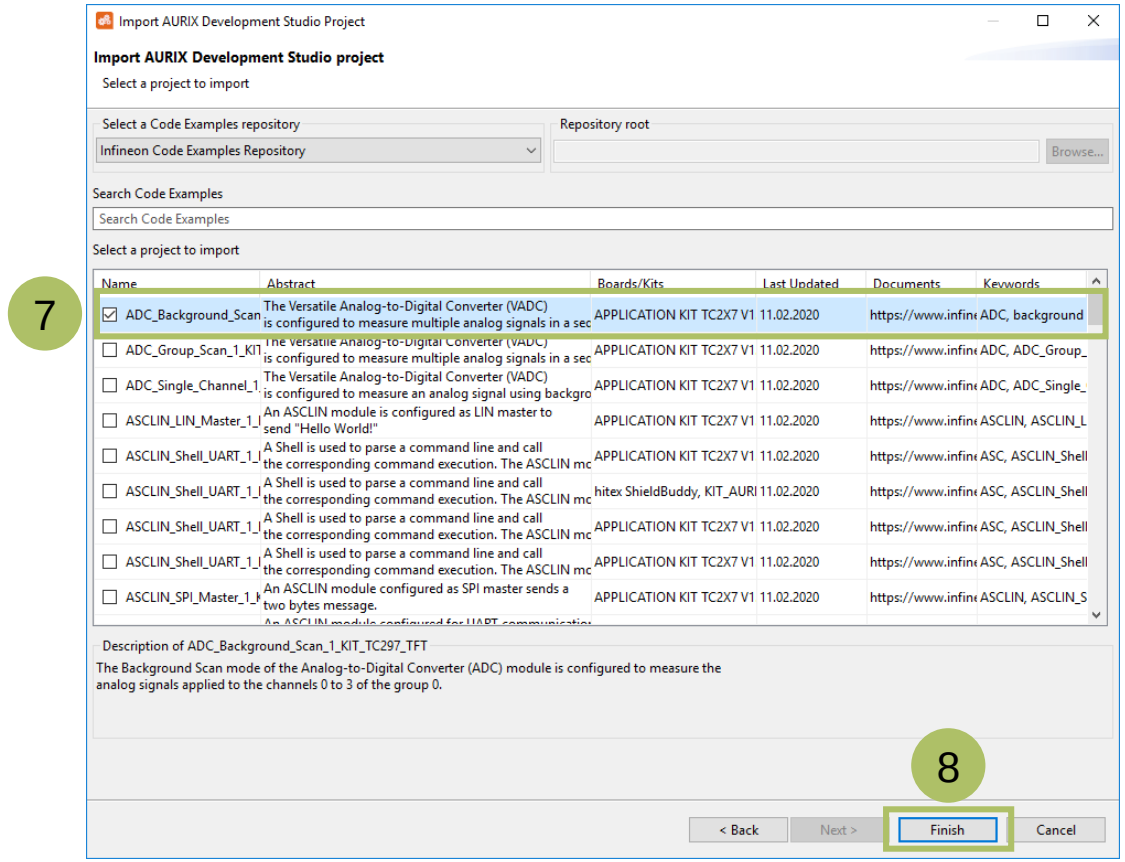
Import project (Infineon Code Examples Repository) - 3

› Select (double-click) an example project (7) from the list and press “Finish” (8). This creates a local copy of the example in your workspace directory and opens the project



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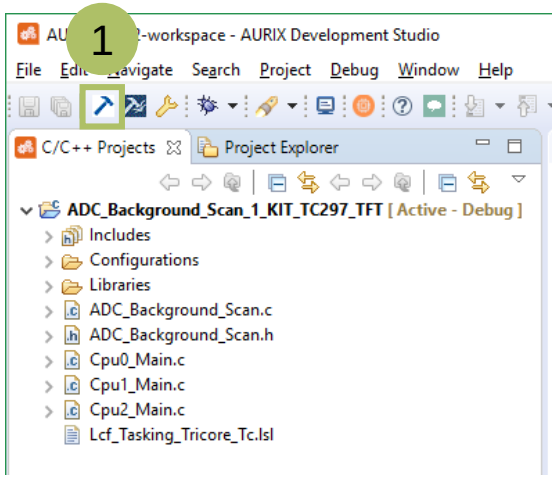
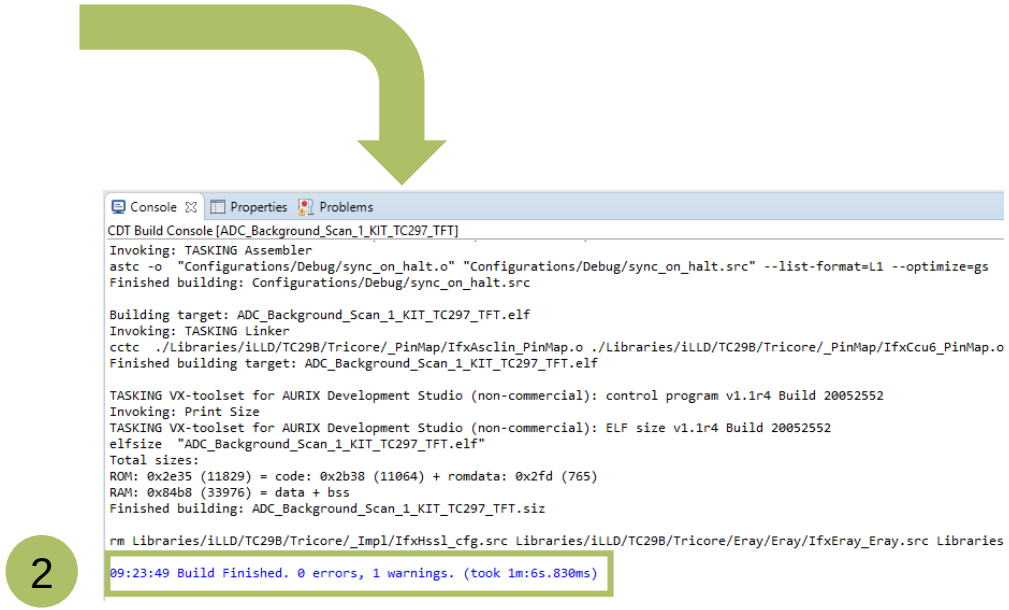
Build project

› Before debugging, it is necessary to build the project. Press the “Build Active Project” icon (1) and when the build is finished, check that there are no compiling errors (2)





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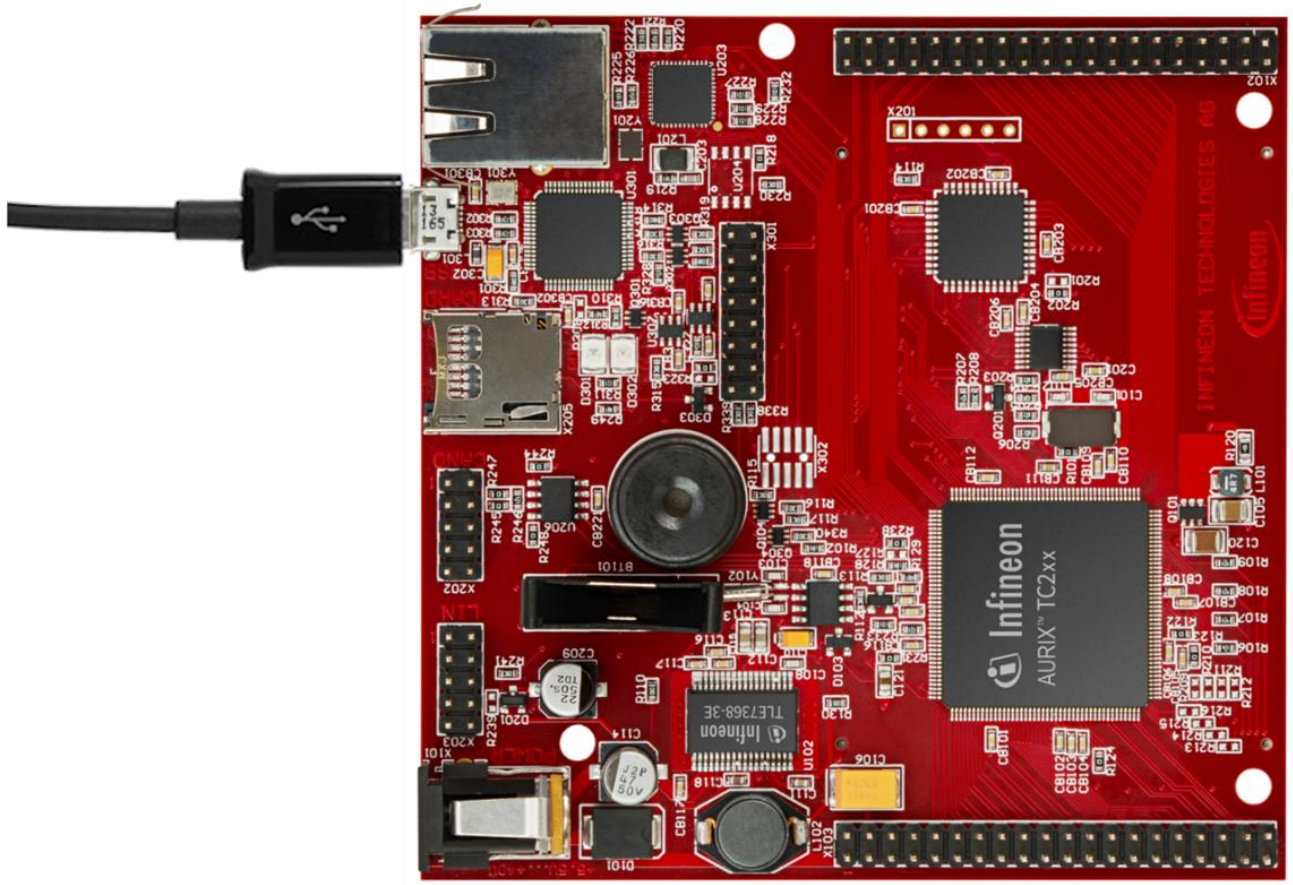
Debug project - 1

› Connect your device via an USB cable to the PC



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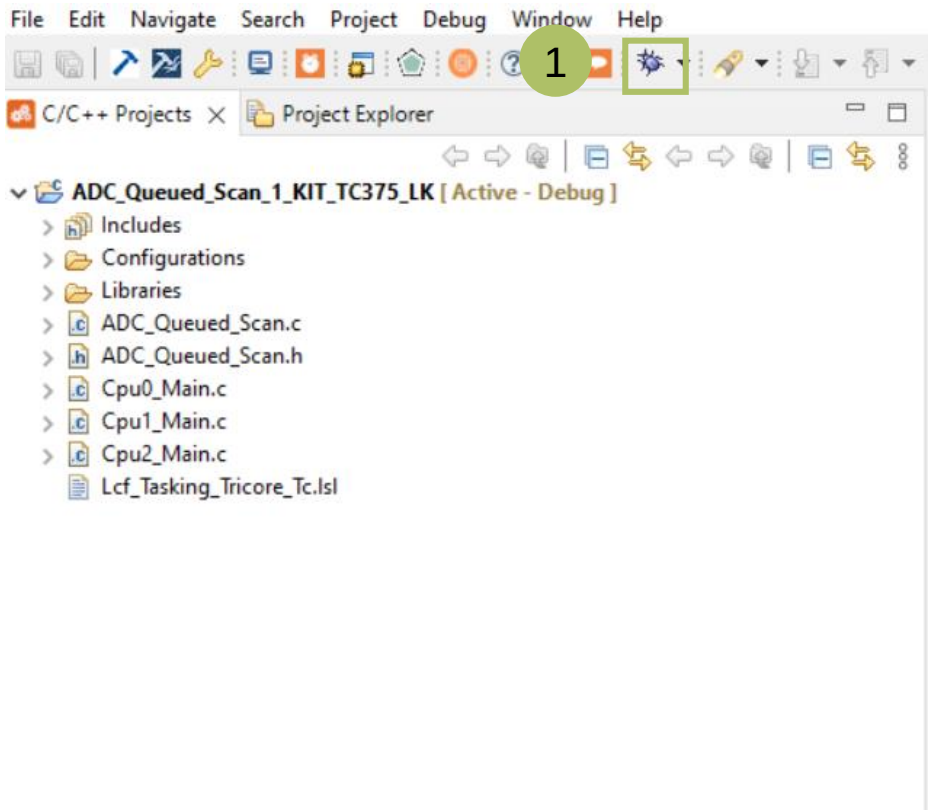
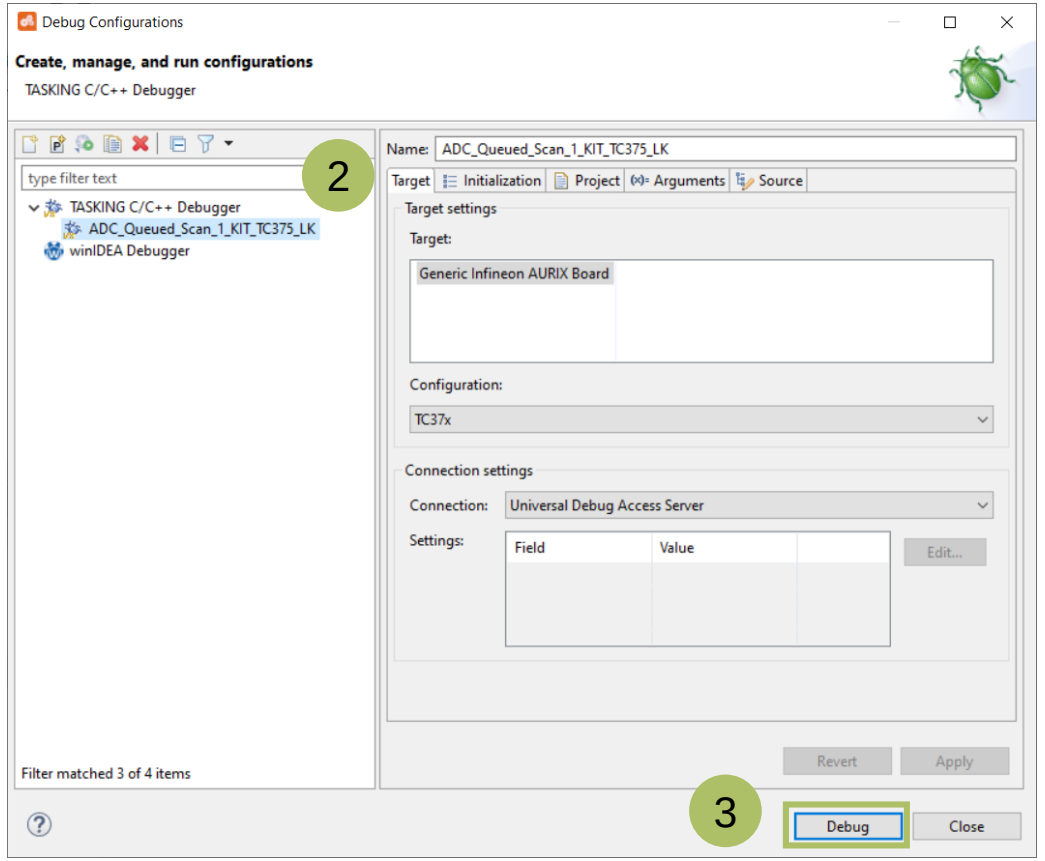
Debug project - 2

› In order to flash and debug the code, press the “Debug Active Project” icon (1), chose a debugger (2) and then press the “Debug” button on the “Debug Configurations” window (3)





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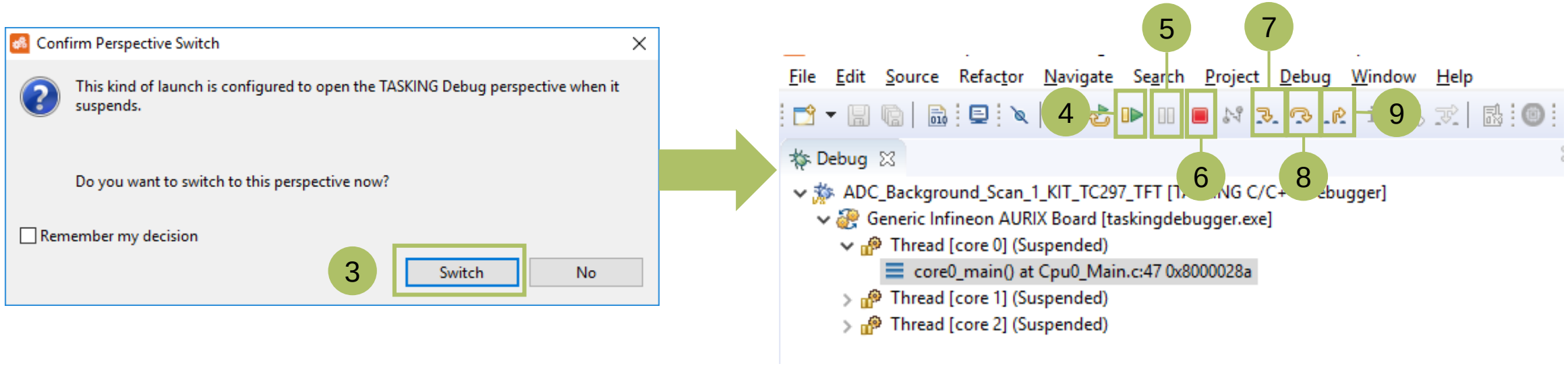
Debug project - 3

When using TASKING C/C++ Debugger:

- Switch the perspective when asked (3) and press “Resume” (4) to run the code
- While running, the code can be stopped with the “Suspend” button (5)
- To terminate the debug session, press the “Terminate” button (6)
- Additionally, in the Debug perspective, it is also possible to run the code in single or multiple steps with the buttons “Step Into” (7), “Step Over” (8) and “Step Return” (9)



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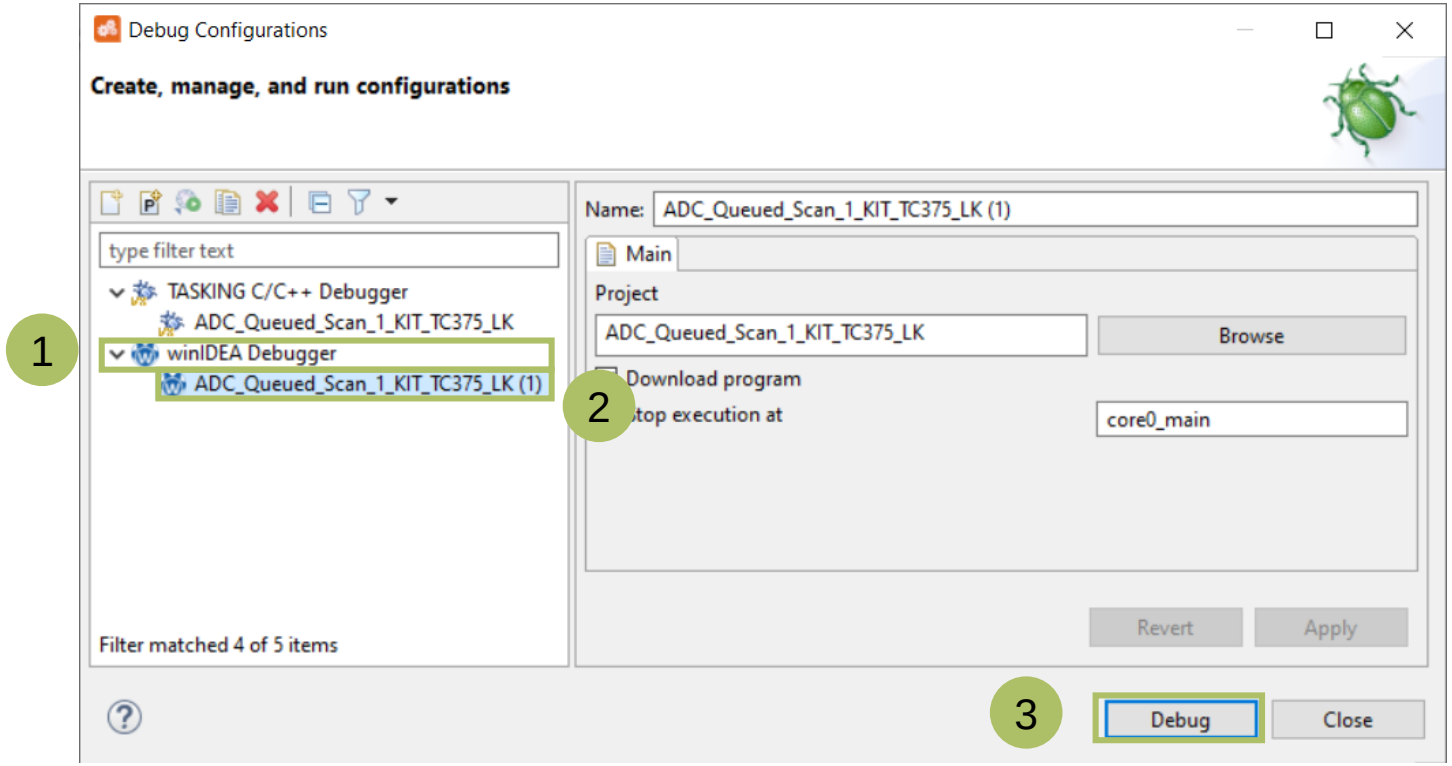
Debug project - 4

› To select winIDEA as debugger:
  – Double click on “winIDEA Debugger” to create a configuration (1)
  – Select the configuration (2)
  – Press the Debug button (3)



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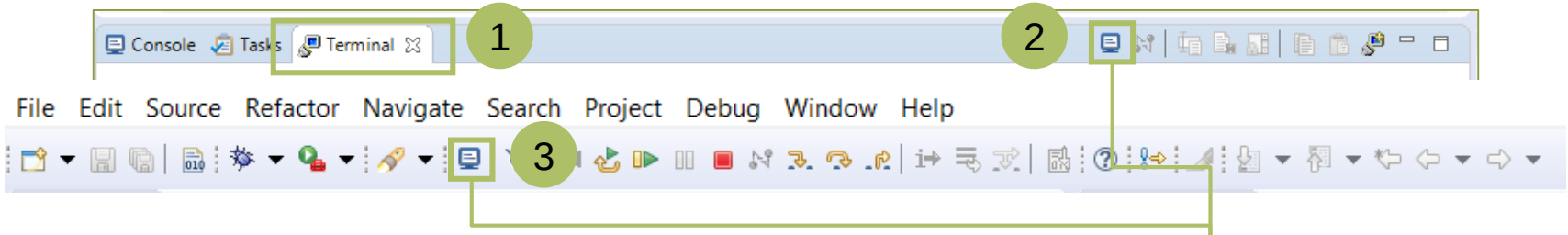
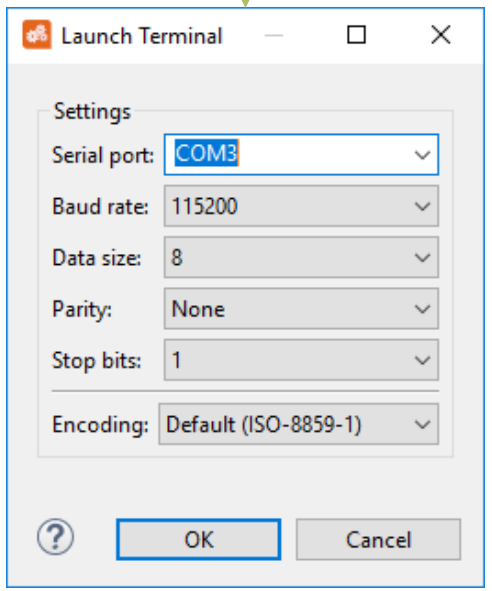
Serial Monitor View

› A serial monitor is open by default (1) in the Debug Perspective inside the AURIX™ Development Studio, or it can be open manually from the terminal icon (3)



› The serial monitor must be configured (2-3) with the following parameters to enable the communication between the board and the PC:
  - Serial port number
  - Speed (baud rate)
  - Data size
  - Parity
  - Stop bits



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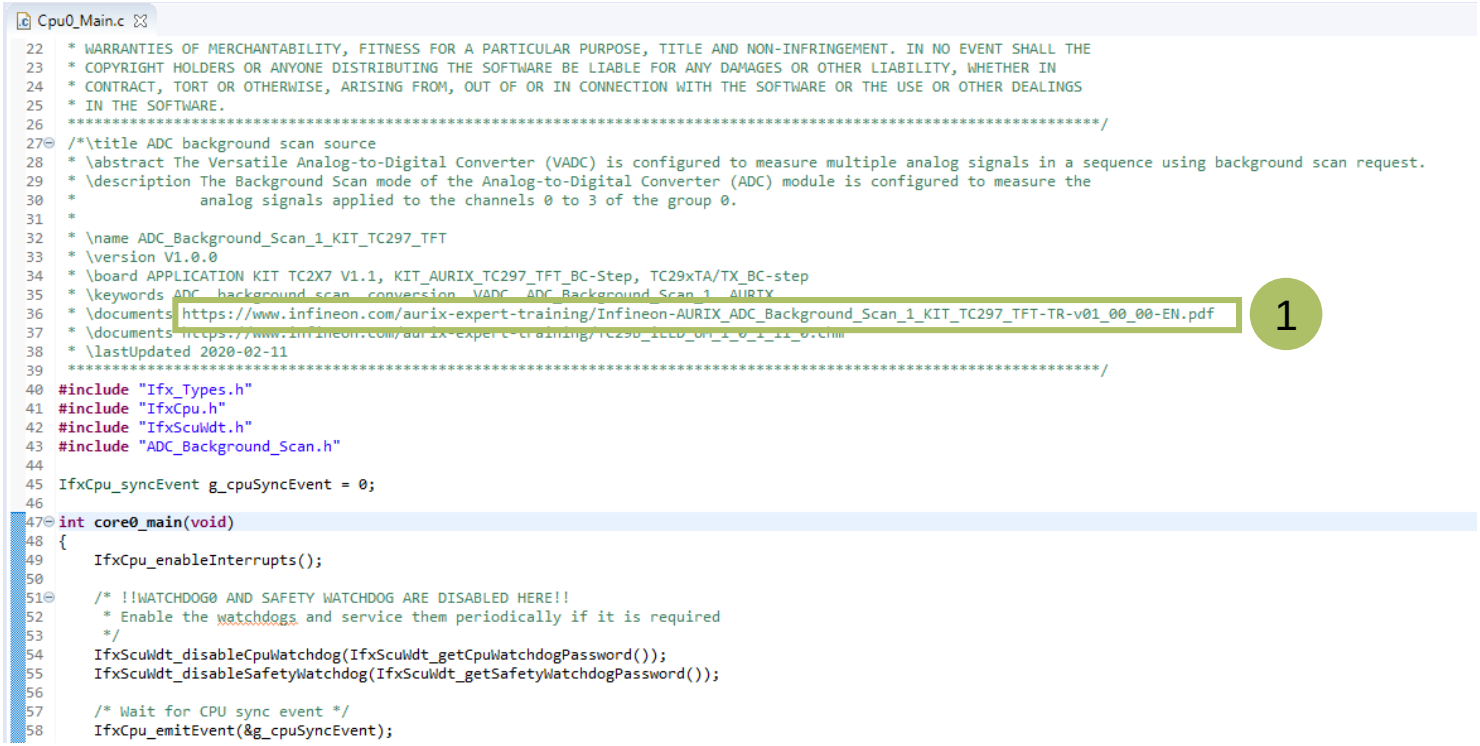
Additional material - 1

- All the imported examples from Infineon come with a tutorial explaining the needed HW/SW setup, the code and how to run and test the example
- The tutorial is accessible from the AURIX™ Development Studio by Ctrl + click on the link (1) in the Cpu0_Main.c file



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Additional material - 2

› From the same Cpu0_Main.c file, it is possible to download the Infineon Low Level Drivers documentation (2) for the specific device used in the example

Cpu0_Main.c

```
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 * COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN
 * CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS
 * IN THE SOFTWARE.
 *********************************************************************************************************************/
/*\title ADC background scan source
 * \abstract The Versatile Analog-to-Digital Converter (VADC) is configured to measure multiple analog signals in a sequence using background scan request.
 * \description The Background Scan mode of the Analog-to-Digital Converter (ADC) module is configured to measure the
 *              analog signals applied to the channels 0 to 3 of the group 0.
 *
 * \name ADC_Background_Scan_1_KIT_TC297_TFT
 * \version V1.0.0
 * \board APPLICATION KIT TC2X7 V1.1, KIT_AURIX_TC297_TFT_BC-Step, TC29xTA/TX_BC-step
 * \keywords ADC, background scan, conversion, VADC, ADC_Background_Scan_1, AURIX
 * \documents https://www.infineon.com/aurix-expert-training/Infineon-AURIX_ADC_Background_Sca...T_TC297_TFT-TR-v01_00_00-EN.pdf
 * \documents https://www.infineon.com/aurix-expert-training/TC29B_iLLD_UM_1_0_1_11_0.chm
 * \lastUpdated 2020-02-11
 *********************************************************************************************************************/
#include "Ifx_Types.h"
#include "IfxCpu.h"
#include "IfxScuWdt.h"
#include "ADC_Background_Scan.h"

IfxCpu_syncEvent g_cpuSyncEvent = 0;

int core0_main(void)
{
    IfxCpu_enableInterrupts();

    /* !!WATCHDOG0 AND SAFETY WATCHDOG ARE DISABLED HERE!!
     * Enable the watchdogs and service them periodically if it is required
     */
    IfxScuWdt_disableCpuWatchdog(IfxScuWdt_getCpuWatchdogPassword());
    IfxScuWdt_disableSafetyWatchdog(IfxScuWdt_getSafetyWatchdogPassword());

    /* Wait for CPU sync event */
    IfxCpu_emitEvent(&g_cpuSyncEvent);
```

2

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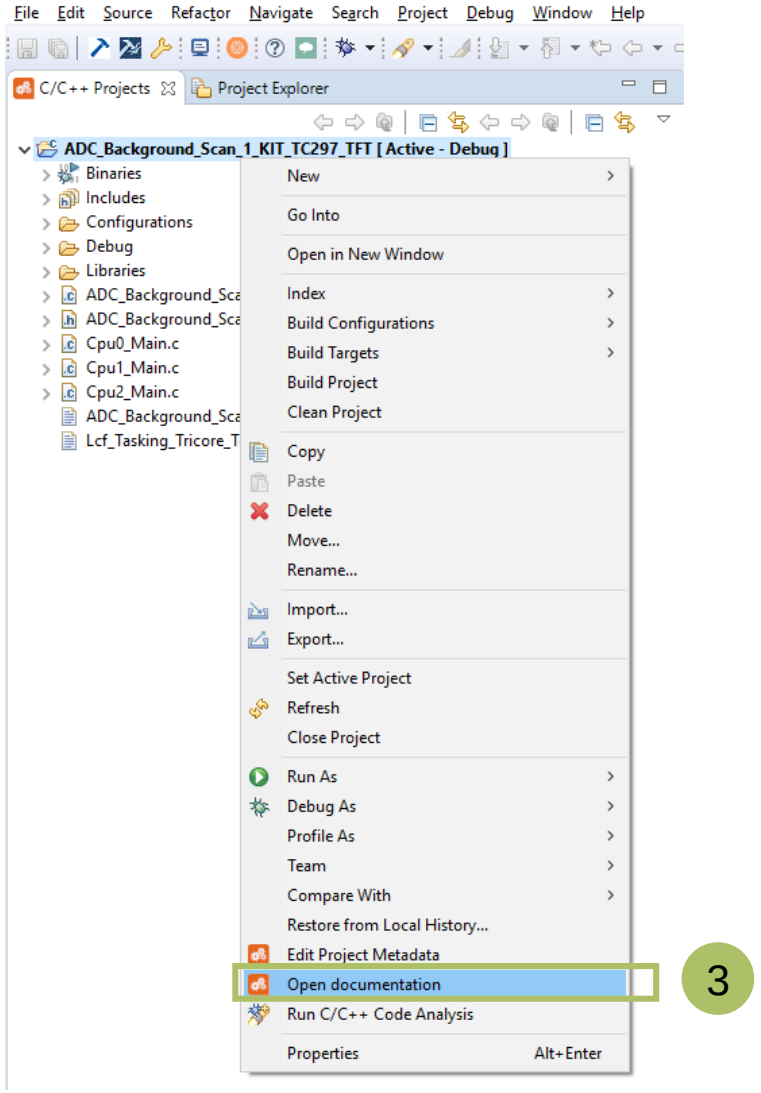
Additional material - 3

› Hint: both the example's tutorial and the iLLD documentation can be opened by Right clicking on the project name and pressing the "Open documentation" utility (3)



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