

# Getting Started with AURIX™ Development Studio

Installation and first steps

AURIX™ Development Studio Training  
V1.0.18



## Scope of work

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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

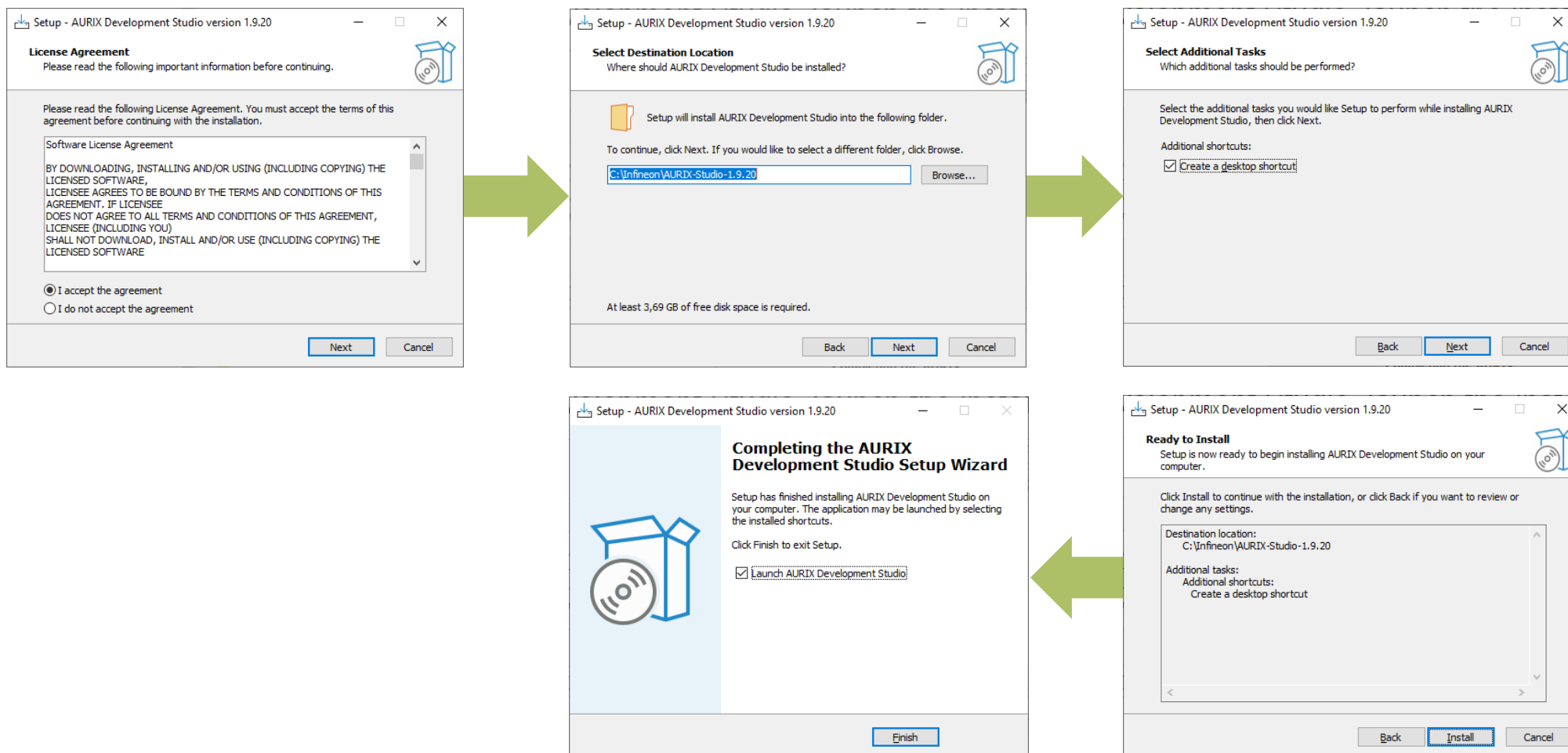
## Download

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

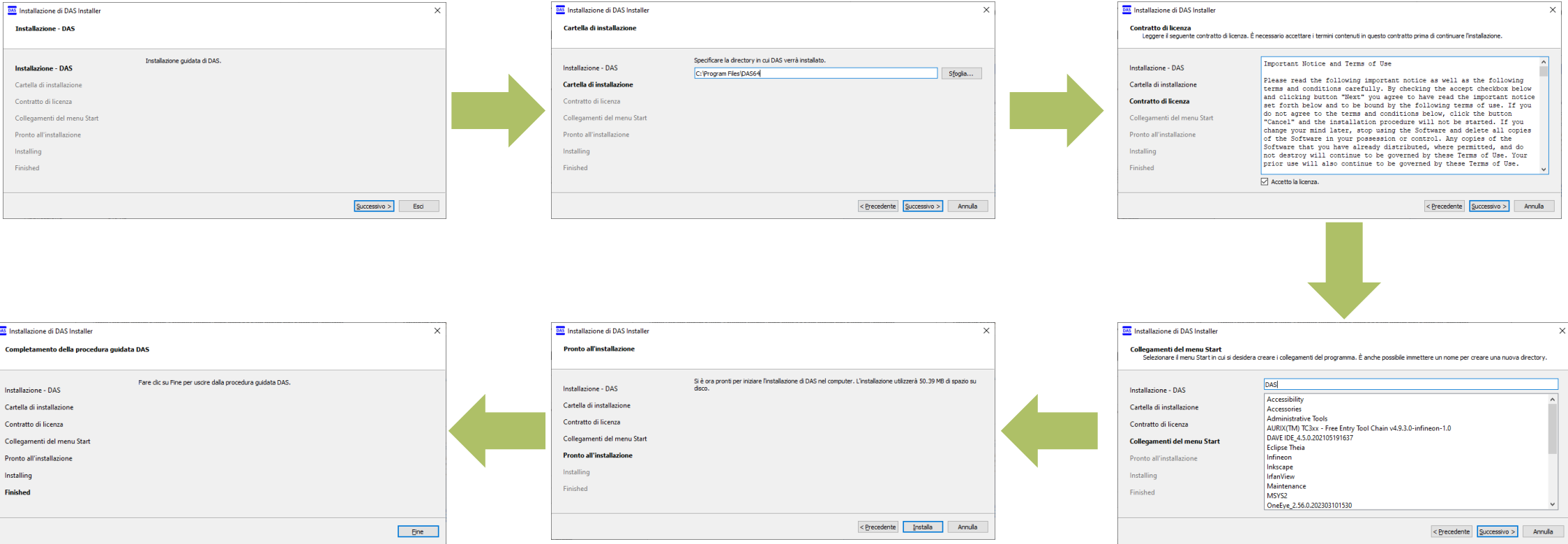
# Install AURIX™ Development Studio - 1

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



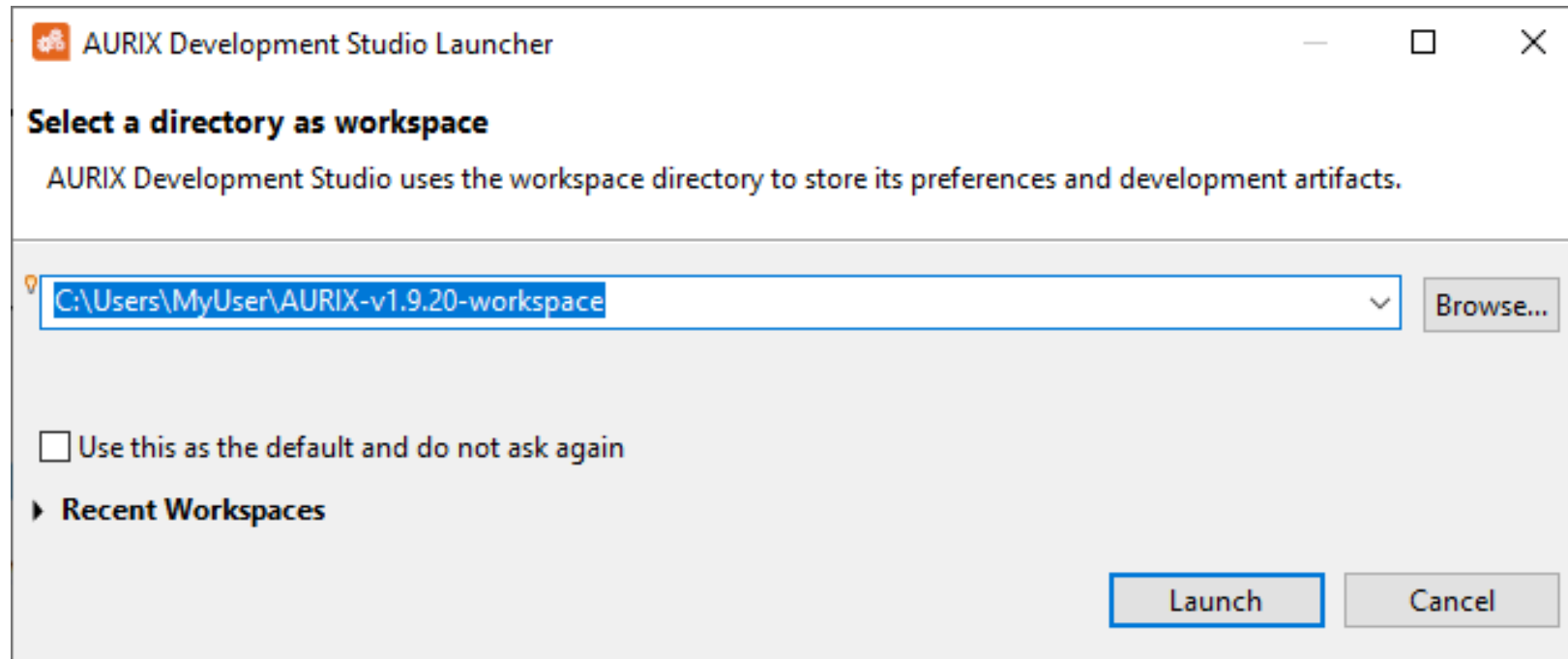
# Install AURIX™ Development Studio - 2

› If DAS64 is not installed or outdated, it will be installed automatically during the AURIX™ Development Studio installation:



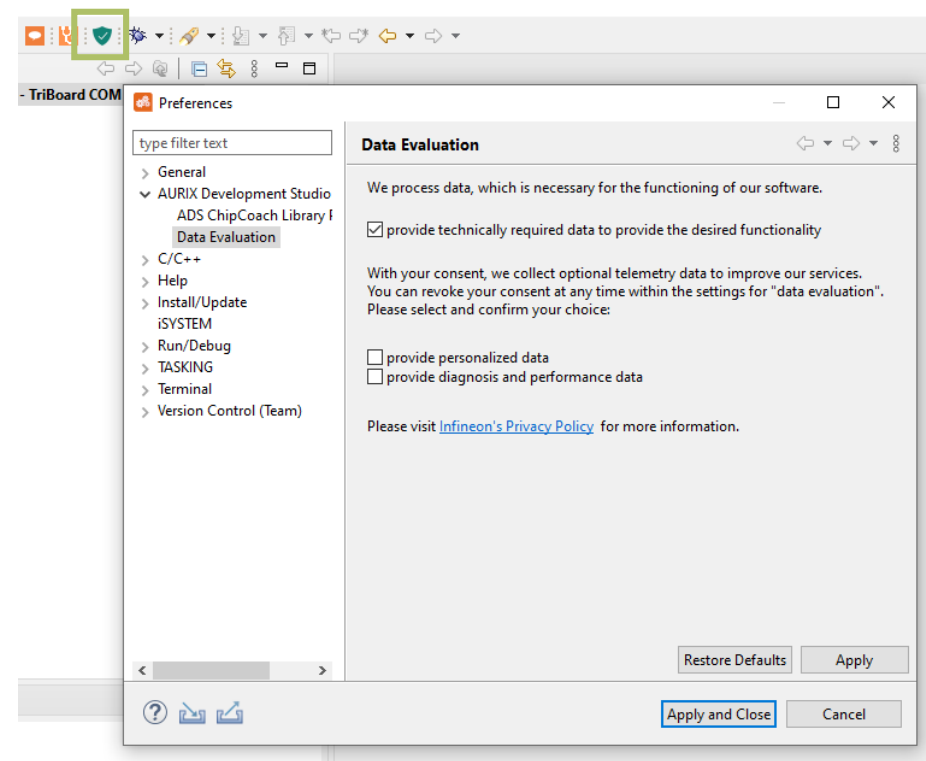
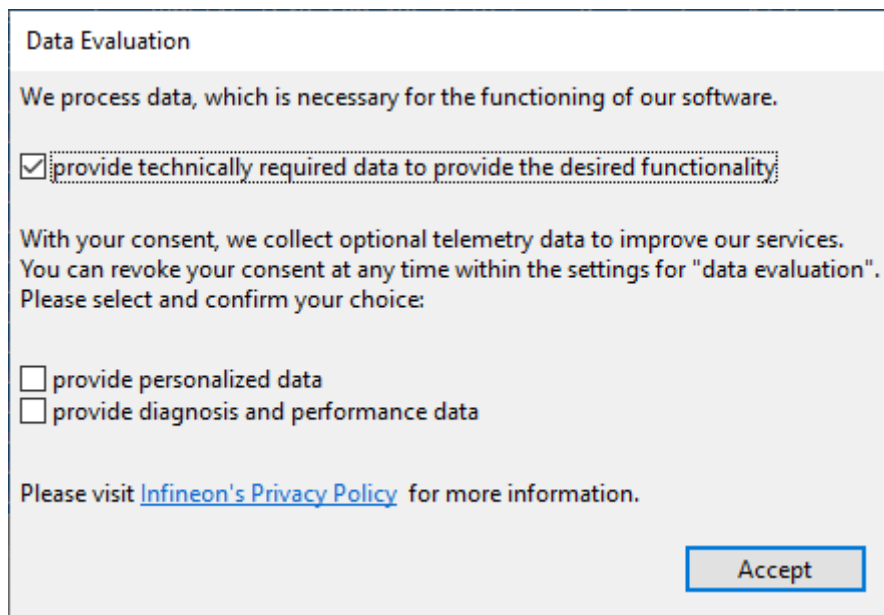
## Workspace definition

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



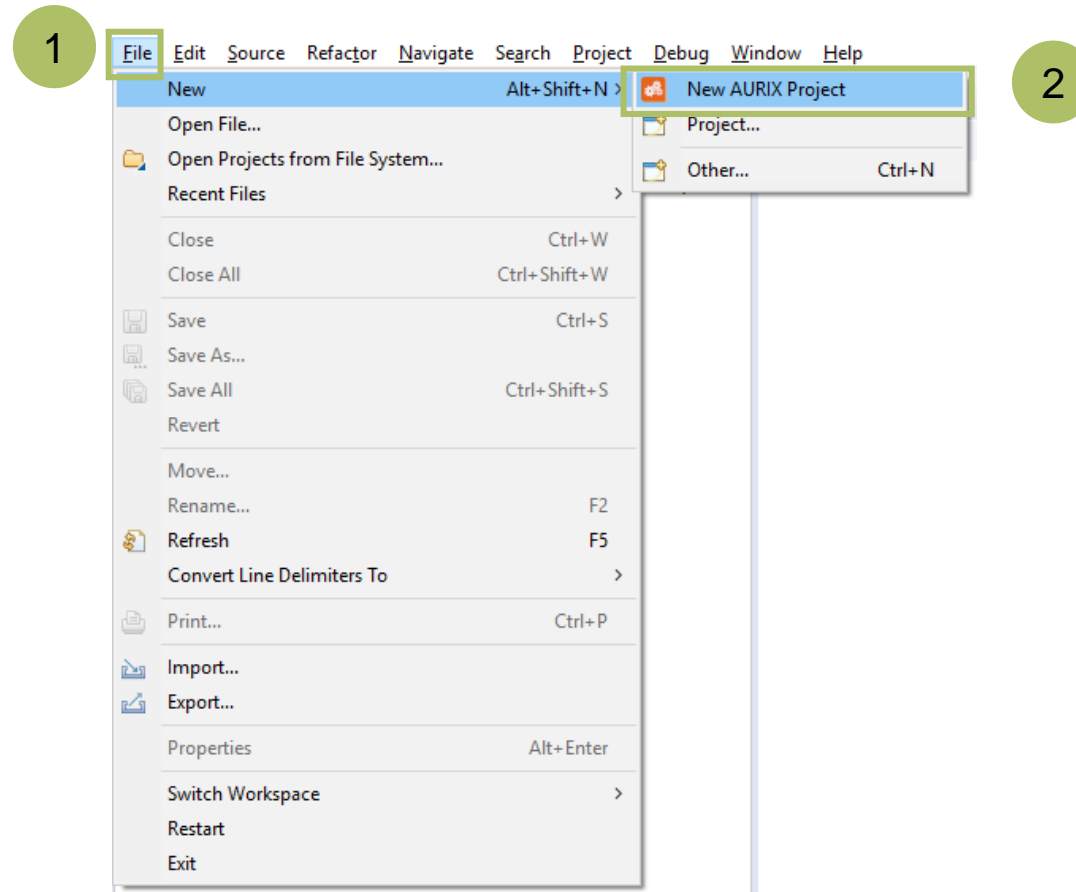
# Data evaluation consent

- › 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



# Create new project - 1

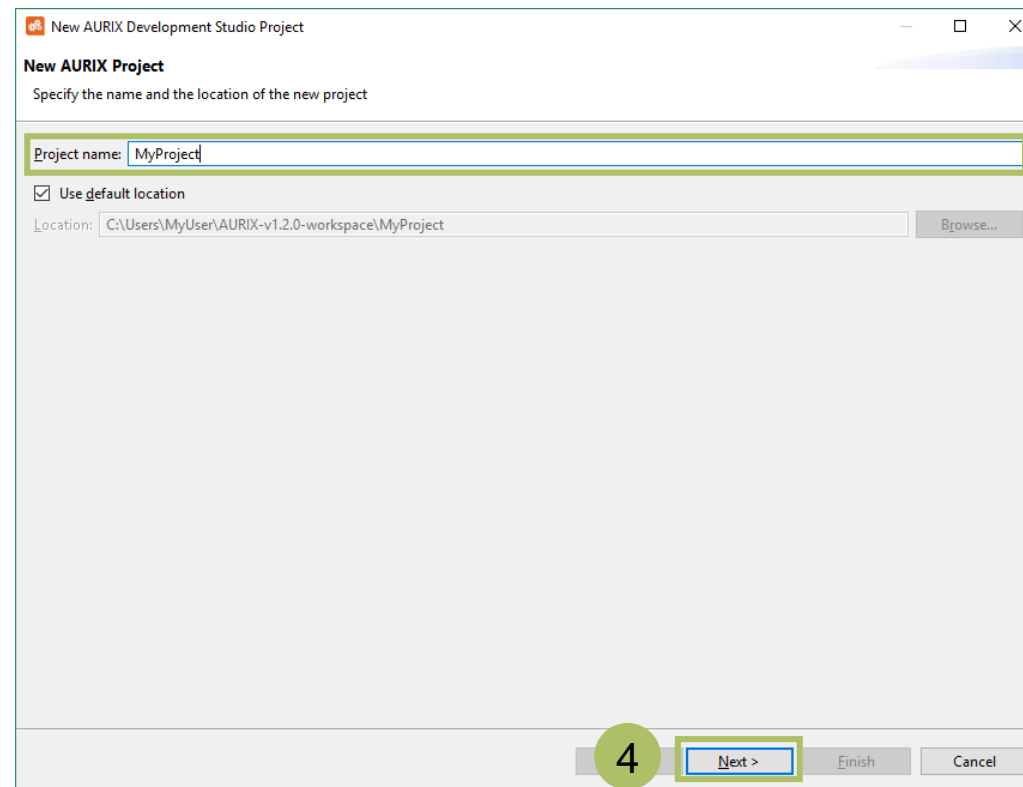
- › Once the program is started, a new project can be created by selecting File >> New >> “New AURIX Project”





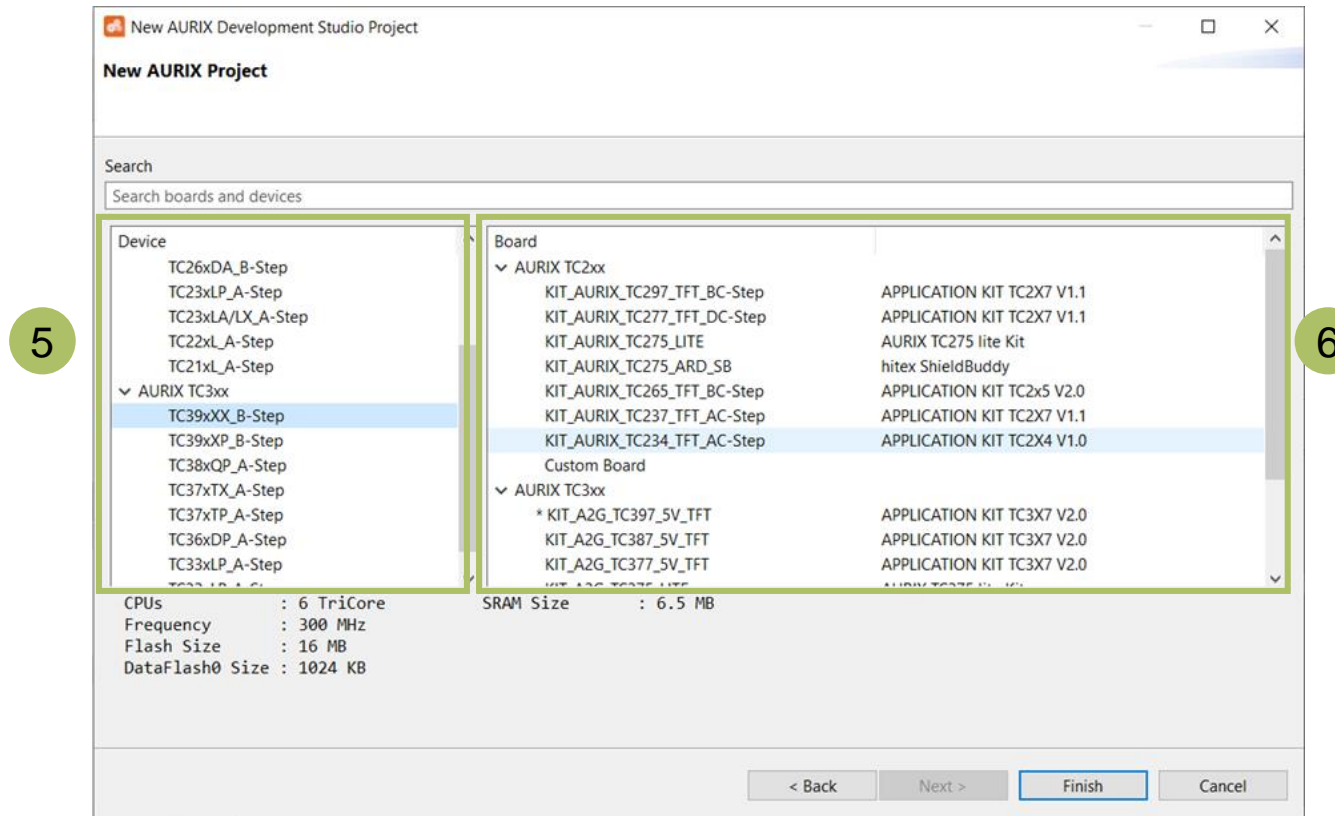
## Create new project - 2

- › 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



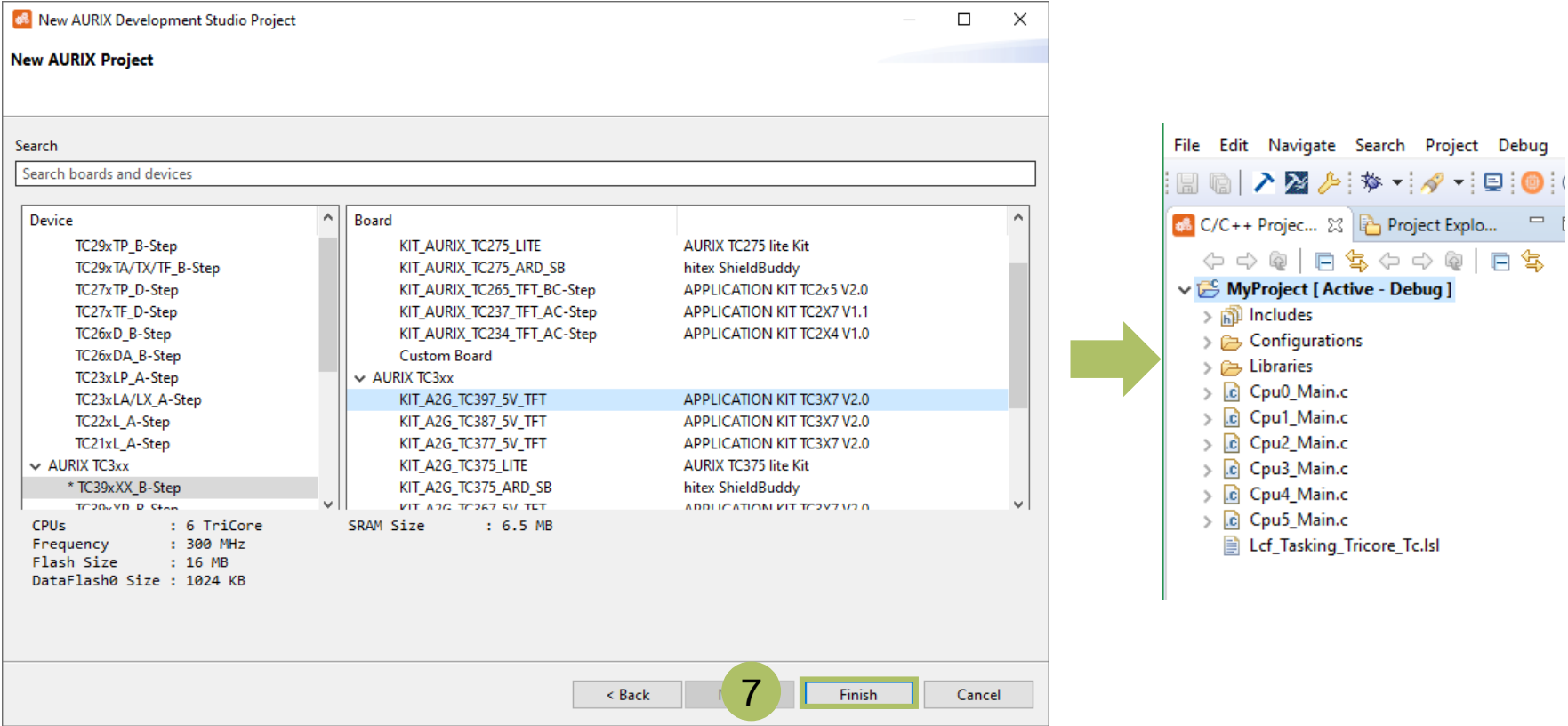
## Create new project - 3

- 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



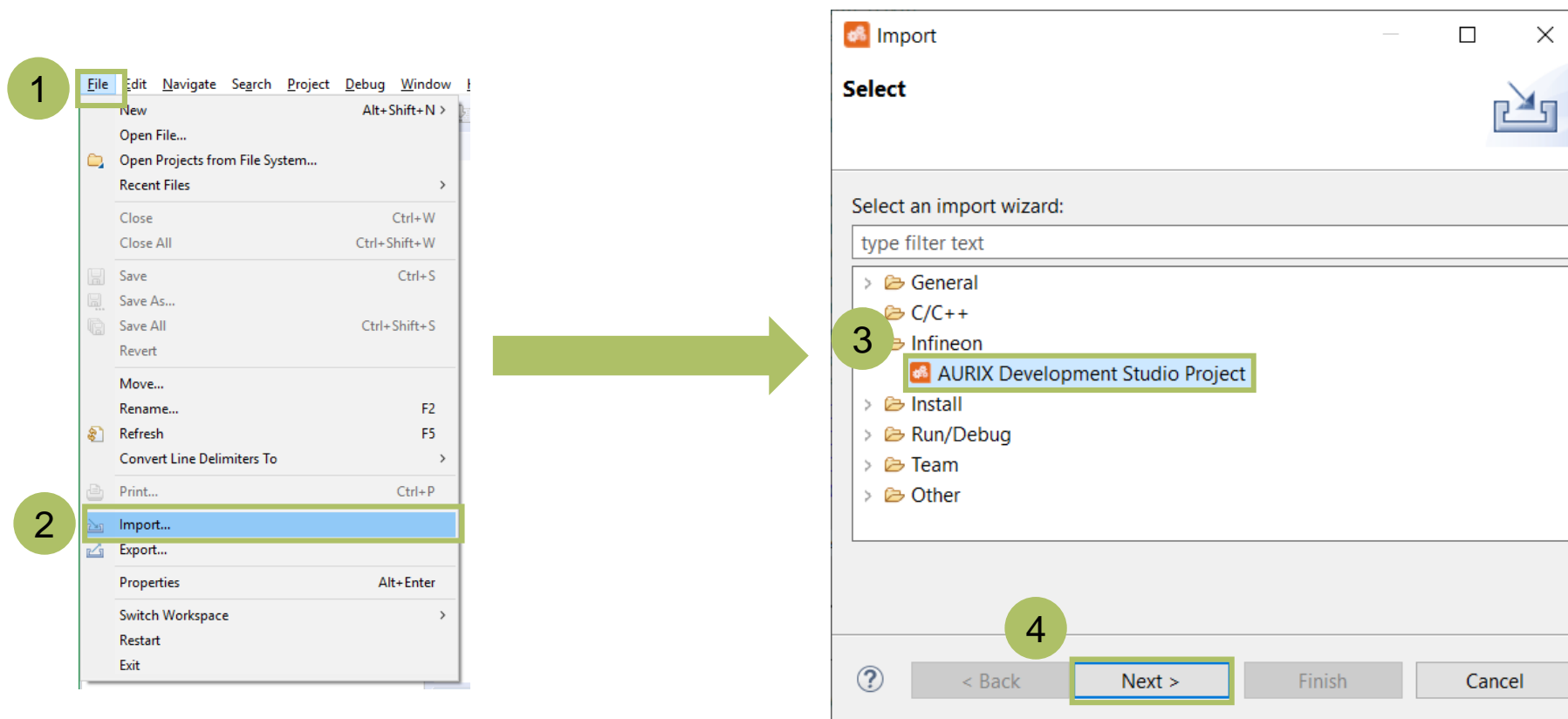
# Create new project - 4

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



# 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)



The image illustrates the steps to import a project in the IDE. On the left, the 'File' menu is open, with 'File' (1) and 'Import...' (2) highlighted. A green arrow points to the 'Import' dialog box on the right. In the dialog, the 'Select' tab is active, showing a list of import wizards. 'Infineon' (3) is expanded, and 'AURIX Development Studio Project' is selected. At the bottom of the dialog, the 'Next >' button (4) is highlighted.

# Import project (Infineon Code Examples Repository) - 2

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

**Select an AURIX Development Studio Project to import**

Select a Code Examples repository: Infineon Code Examples Repository

Repository root:  Browse...

Search Code Examples:

Select a project to import 392 Projects

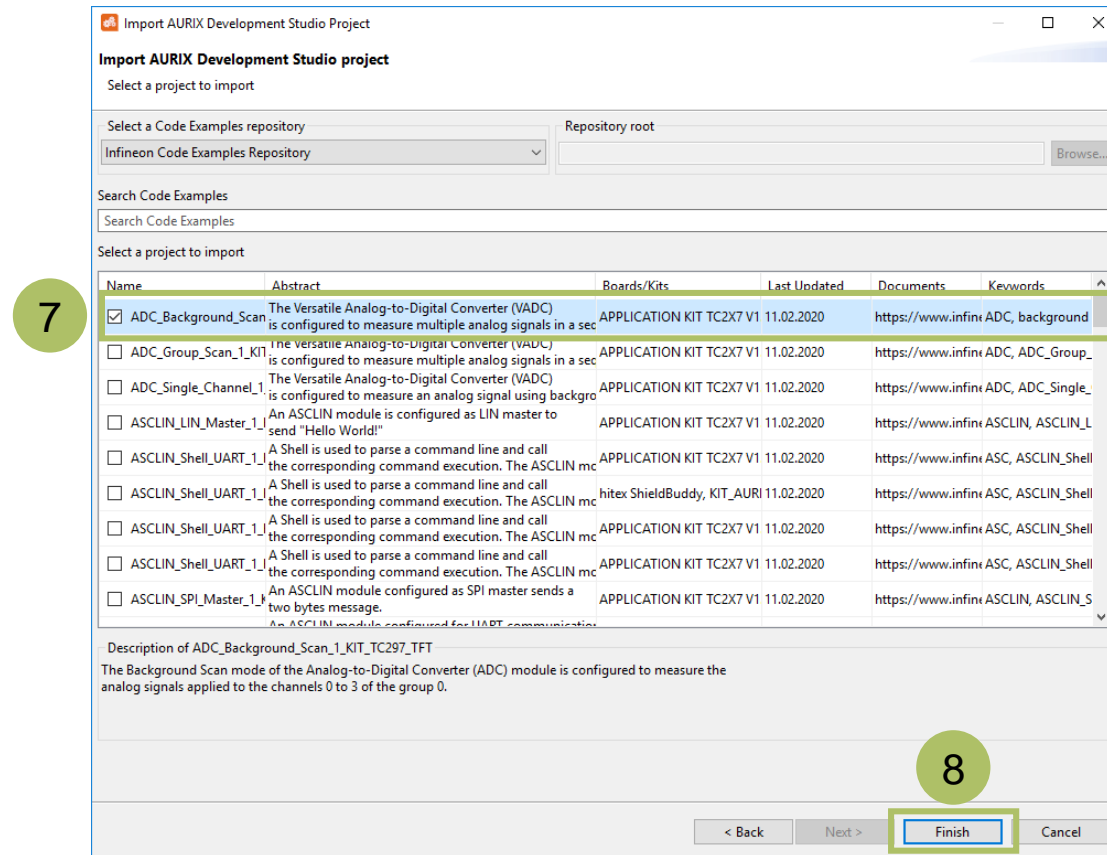
| Name   | Abstract   | Boards                                  | Last Updated | Documents   | Keywords      |
|--|--|---|--------------|---|---------------|
| <input type="checkbox"/> ADC_Filtering_1_KIT_TC378                 | Four EVADC channels are used to convert t analog signal with different filters enabled | APPLICATION KIT TC3X7 V2.0, KIT_A2G_T   | 18.12.2020   | <a href="https://www.infineon.com/aurix-expert-training/lr">https://www.infineon.com/aurix-expert-training/lr</a> | ADC, ADC_Filt |
| <input type="checkbox"/> ADC_Group_Scan_1_KIT_TC275_LK             | The Versatile Analog-to-Digital Converter is configured to measure multiple analog     | AURIX TC275 lite Kit, KIT_AURIX_TC275_L | 29.06.2021   | <a href="https://www.infineon.com/aurix-expert-training/lr">https://www.infineon.com/aurix-expert-training/lr</a> | ADC, ADC_Grc  |
| <input type="checkbox"/> ADC_Group_Scan_1_KIT_TC2X7_V1.1           | The Versatile Analog-to-Digital Converter is configured to measure multiple analog     | APPLICATION KIT TC2X7 V1.1, KIT_AURIX   | 29.06.2021   | <a href="https://www.infineon.com/aurix-expert-training/lr">https://www.infineon.com/aurix-expert-training/lr</a> | ADC, ADC_Grc  |
| <input checked="" type="checkbox"/> ADC_Queued_Scan_1_KIT_TC275_LK | The Versatile Analog-to-Digital Converter is configured to measure multiple analog     | AURIX TC275 lite Kit, KIT_AURIX_TC275_L | 29.06.2021   | <a href="https://www.infineon.com/aurix-expert-training/lr">https://www.infineon.com/aurix-expert-training/lr</a> | ADC, queued,  |
| <input type="checkbox"/> ADC_Queued_Scan_1_KIT_TC2X7_V1.1          | The Versatile Analog-to-Digital Converter is configured to measure multiple analog     | APPLICATION KIT TC2X7 V1.1, KIT_AURIX   | 18.12.2020   | <a href="https://www.infineon.com/aurix-expert-training/lr">https://www.infineon.com/aurix-expert-training/lr</a> | ADC, queued,  |
| <input type="checkbox"/> ADC_Queued_Scan_1_KIT_TC334_LITE          | The Enhanced Versatile Analog-to-Digital (EVADC) is configured to measure multiple     | AURIX TC334 lite Kit, KIT_A2G_TC334_LIT | 16.12.2021   | <a href="https://www.infineon.com/aurix-expert-training/lr">https://www.infineon.com/aurix-expert-training/lr</a> | ADC, queued,  |

Description of ADC\_Queued\_Scan\_1\_KIT\_TC275\_LK  
The Queued Request of the Versatile Analog-to-Digital Converter (VADC) module is used to continuously scan the analog inputs channels 5, 6 and 7 of group 4.

< Back   Next >   **Finish**   Cancel

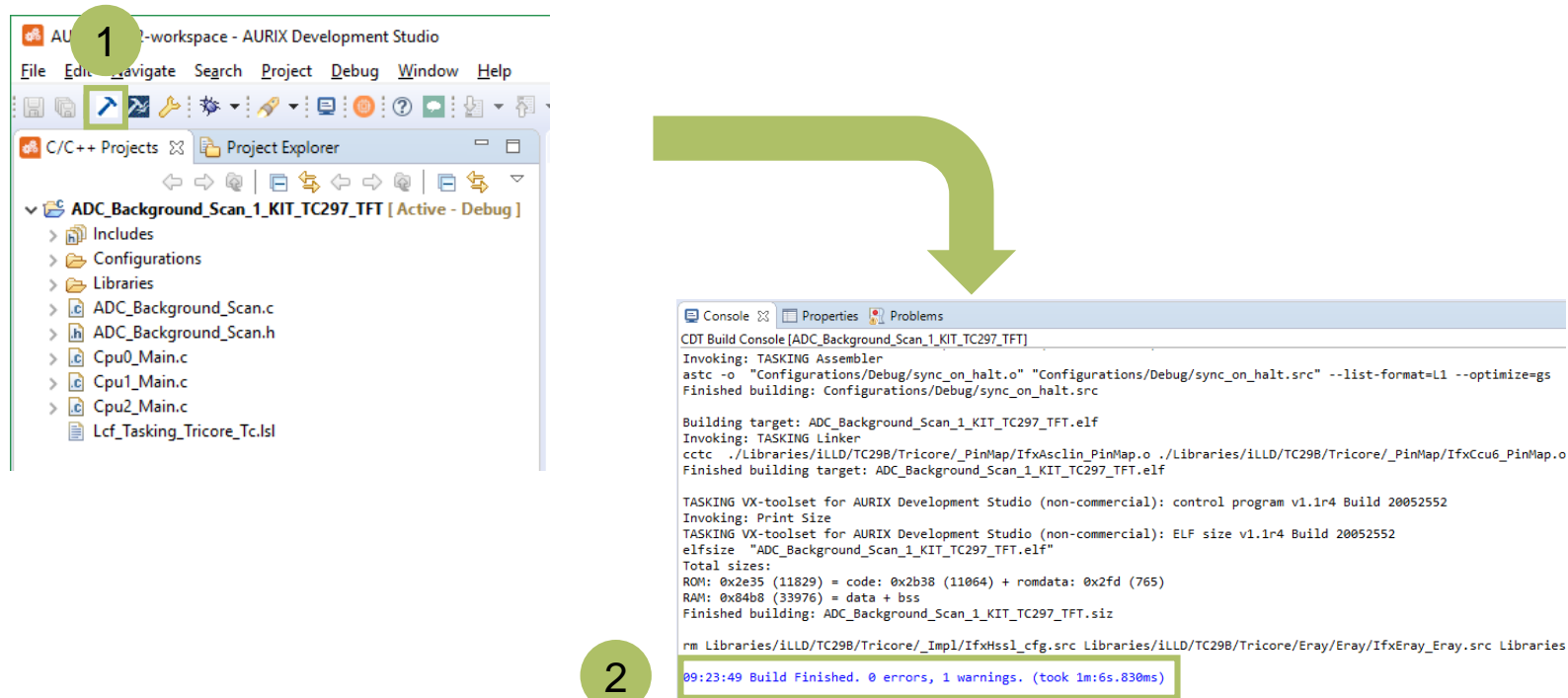
# Import project (Infineon Code Examples Repository) - 3

- › 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



# 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)



1

2

```

CDT Build Console [ADC_Background_Scan_1_KIT_TC297_TFT]
Invoking: TASKING Assembler
astc -o "Configurations/Debug/sync_on_halt.o" "Configurations/Debug/sync_on_halt.src" --list-format=L1 --optimize=gs
Finished building: Configurations/Debug/sync_on_halt.src

Building target: ADC_Background_Scan_1_KIT_TC297_TFT.elf
Invoking: TASKING Linker
cctc ./Libraries/iLLD/TC298/Tricore/_PinMap/IfxAsclin_PinMap.o ./Libraries/iLLD/TC298/Tricore/_PinMap/IfxCcu6_PinMap.o
Finished building target: ADC_Background_Scan_1_KIT_TC297_TFT.elf

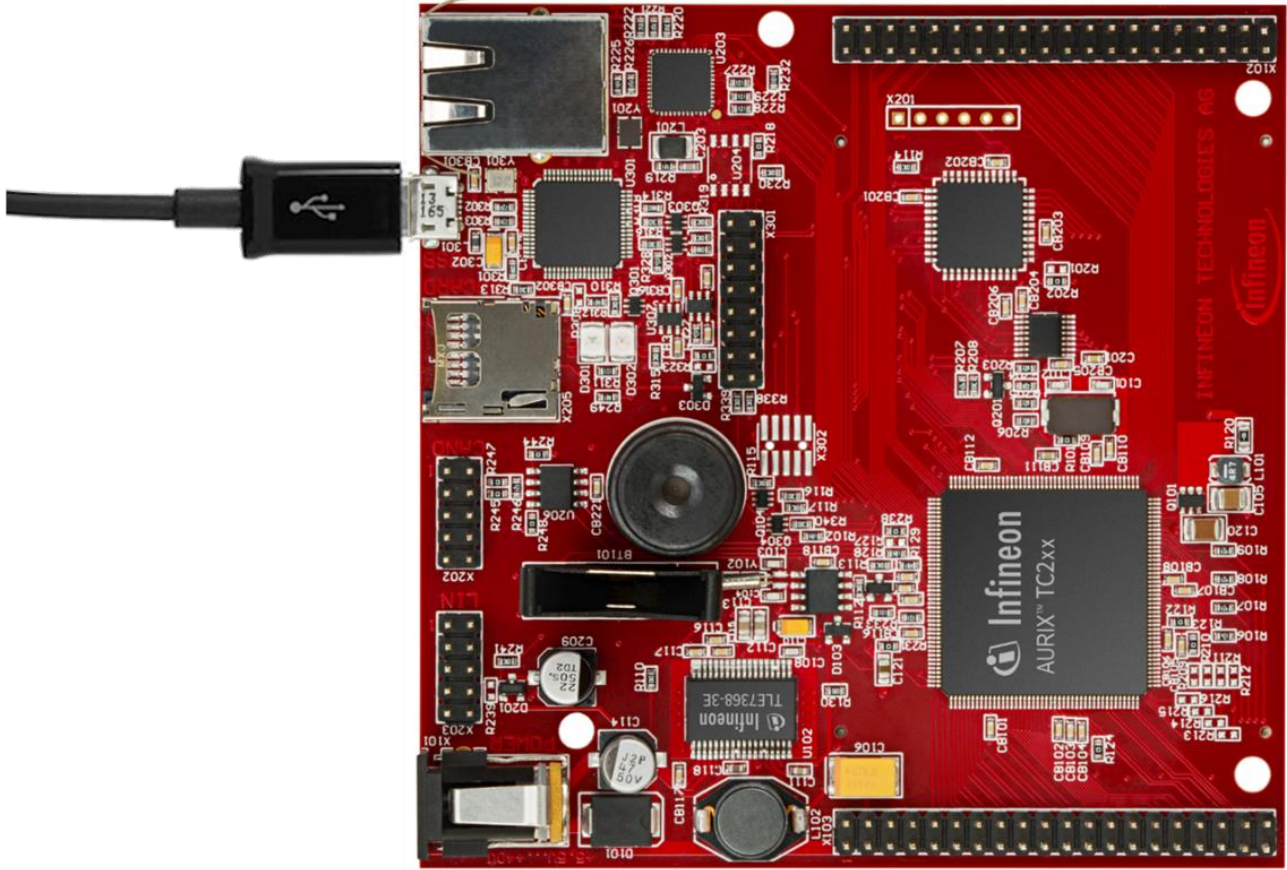
TASKING VX-toolset for AURIX Development Studio (non-commercial): control program v1.1r4 Build 20052552
Invoking: Print Size
TASKING VX-toolset for AURIX Development Studio (non-commercial): ELF size v1.1r4 Build 20052552
elfsize "ADC_Background_Scan_1_KIT_TC297_TFT.elf"
Total sizes:
ROM: 0x2e35 (11829) = code: 0x2b38 (11064) + romdata: 0x2fd (765)
RAM: 0x84b8 (33976) = data + bss
Finished building: ADC_Background_Scan_1_KIT_TC297_TFT.siz

rm Libraries/iLLD/TC298/Tricore/_Impl/IfxHssl_cfg.src Libraries/iLLD/TC298/Tricore/Erax/Erax/IfxEray_Eray.src Libraries
09:23:49 Build Finished. 0 errors, 1 warnings. (took 1m:6s.830ms)
    
```

Check

# Debug project - 1

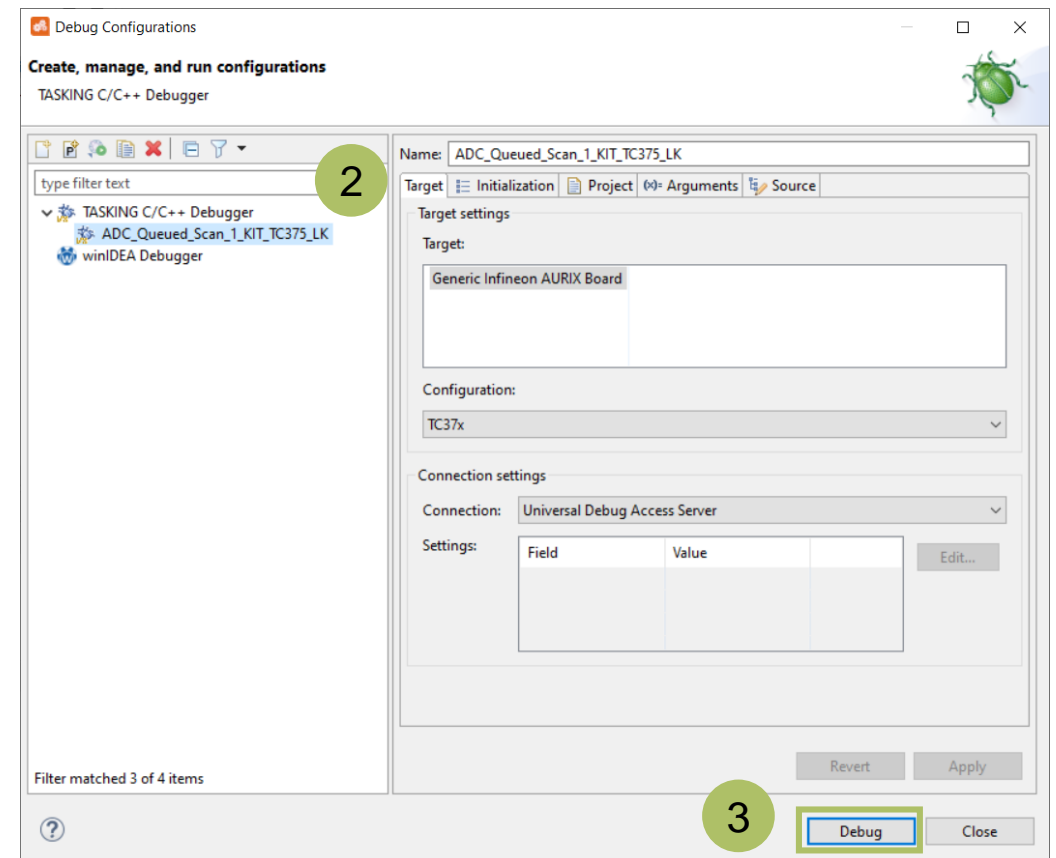
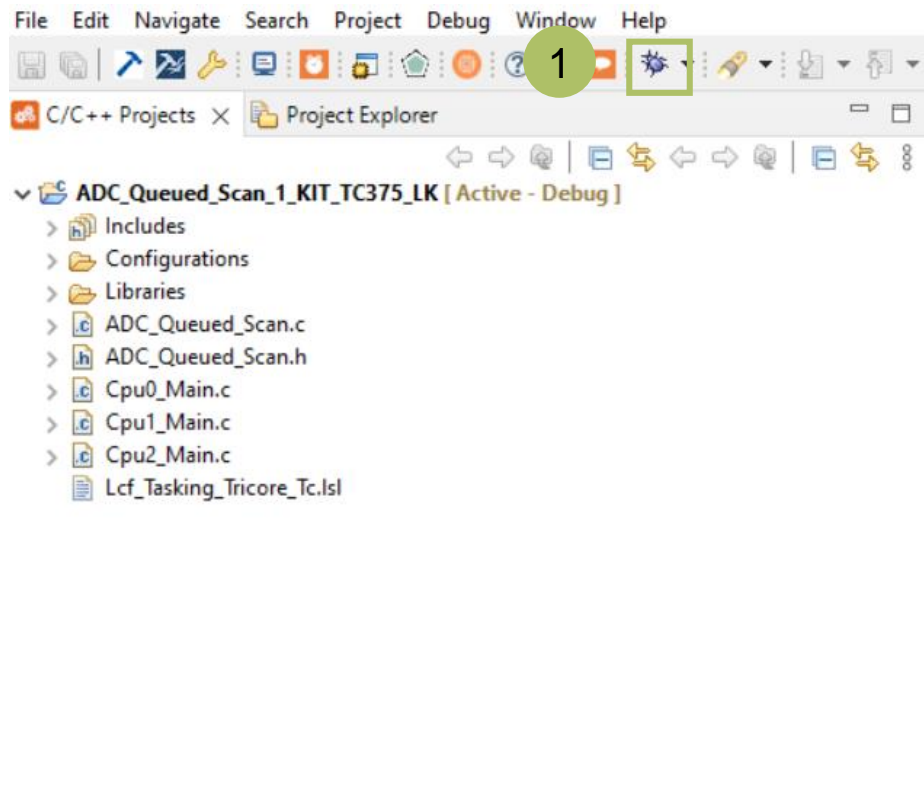
› Connect your device via an USB cable to the PC





# Debug project - 2

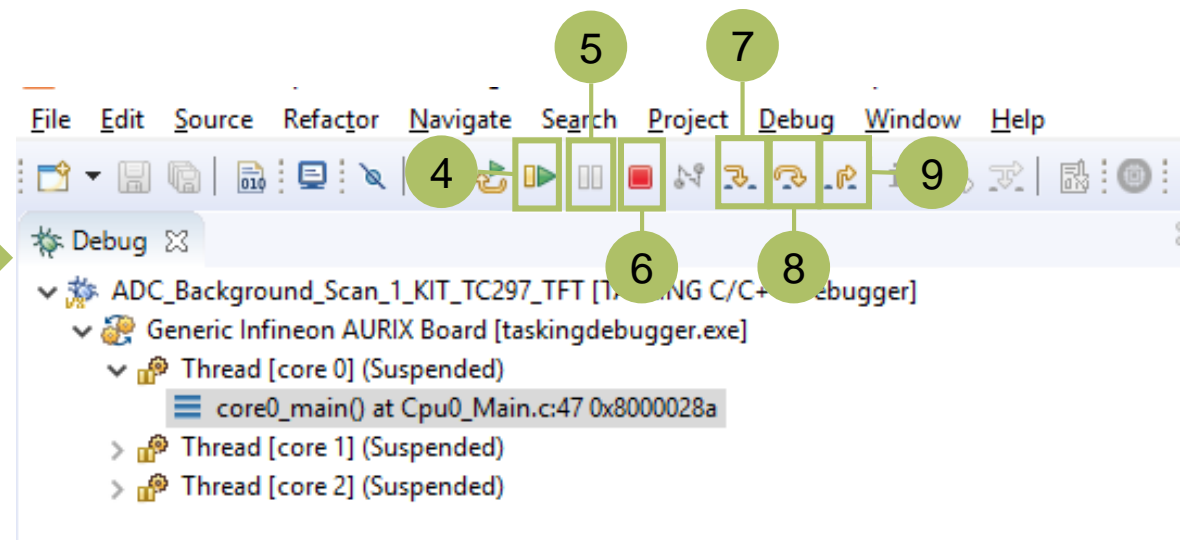
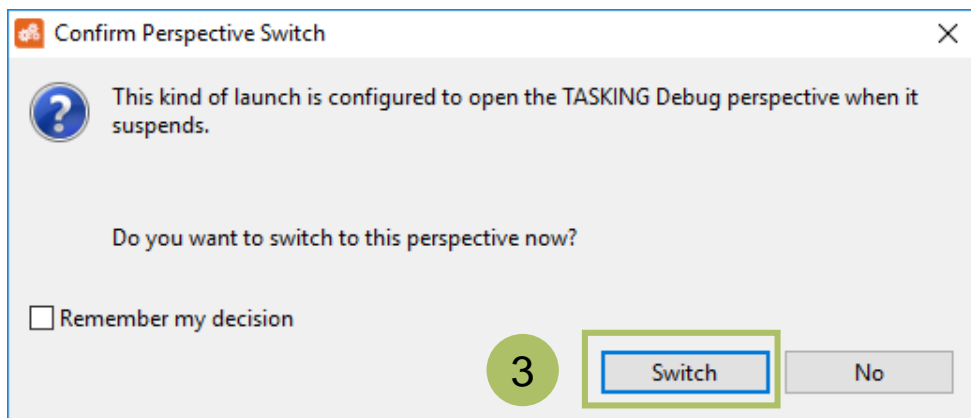
- > In order to flash and debug the code, press the “Debug Active Project” icon (1), chose a debugger (2) and then press the “Debug” button on the “Debug Configurations” window (3)



## Debug project - 3

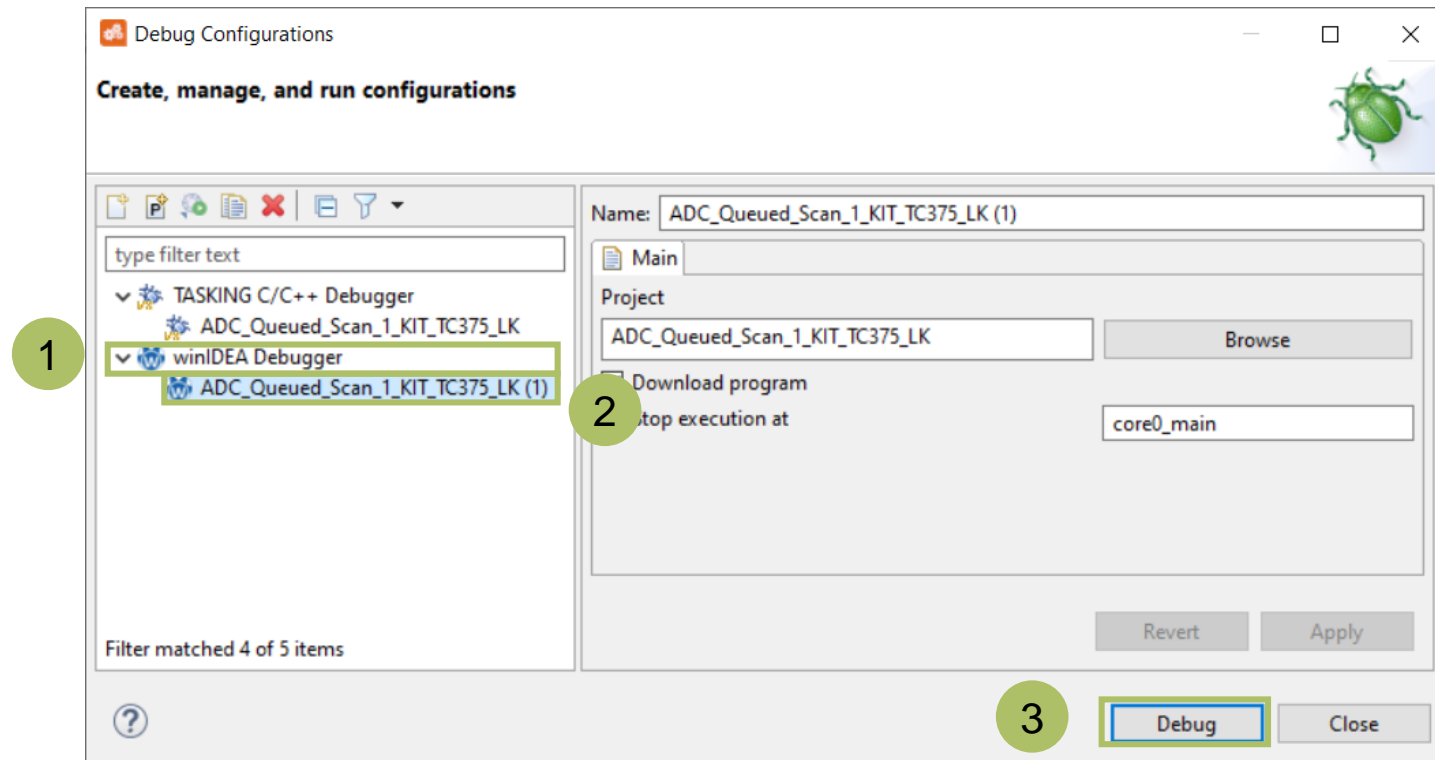
When using TASKING C/C++ Debugger:

- › 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)



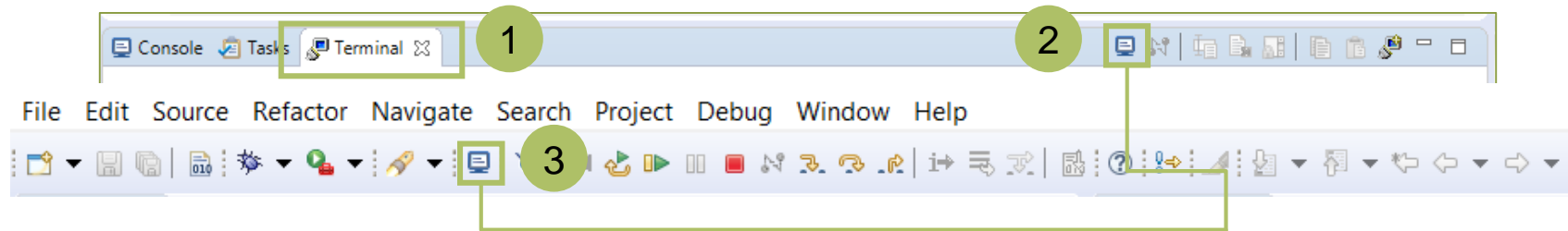
## Debug project - 4

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



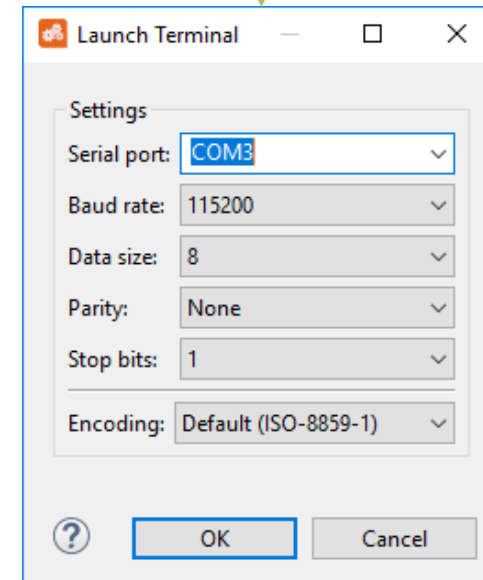
# Serial Monitor View

- › 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



## 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

```

Cpu0_Main.c
22 * WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE
23 * COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN
24 * CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS
25 * IN THE SOFTWARE.
26 *****/
27@ /*\title ADC background scan source
28 * \abstract The Versatile Analog-to-Digital Converter (VADC) is configured to measure multiple analog signals in a sequence using background scan request.
29 * \description The Background Scan mode of the Analog-to-Digital Converter (ADC) module is configured to measure the
30 *     analog signals applied to the channels 0 to 3 of the group 0.
31 *
32 * \name ADC_Background_Scan_1_KIT_TC297_TFT
33 * \version V1.0.0
34 * \board APPLICATION KIT TC2X7 V1.1, KIT_AURIX_TC297_TFT_BC-Step, TC29xTA/TX_BC-step
35 * \keywords ADC_background_scan_conversion_VADC_ADC_Background_Scan_1_AURIX
36 * \documents https://www.infineon.com/aurix-expert-training/Infineon-AURIX\_ADC\_Background\_Scan\_1\_KIT\_TC297\_TFT-TR-v01\_00\_00-EN.pdf
37 * \documents https://www.infineon.com/aurix-expert-training/TC297\_ICCD\_01\_0\_1\_1\_0.html
38 * \lastUpdated 2020-02-11
39 *****/
40 #include "Ifx_Types.h"
41 #include "IfxCpu.h"
42 #include "IfxScuWdt.h"
43 #include "ADC_Background_Scan.h"
44
45 IfxCpu_syncEvent g_cpuSyncEvent = 0;
46
47@ int core0_main(void)
48 {
49     IfxCpu_enableInterrupts();
50
51@ /* !!WATCHDOG0 AND SAFETY WATCHDOG ARE DISABLED HERE!!
52 * Enable the watchdogs and service them periodically if it is required
53 */
54 IfxScuWdt_disableCpuWatchdog(IfxScuWdt_getCpuWatchdogPassword());
55 IfxScuWdt_disableSafetyWatchdog(IfxScuWdt_getSafetyWatchdogPassword());
56
57 /* Wait for CPU sync event */
58 IfxCpu_emitEvent(&g_cpuSyncEvent);

```

1

## 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

```

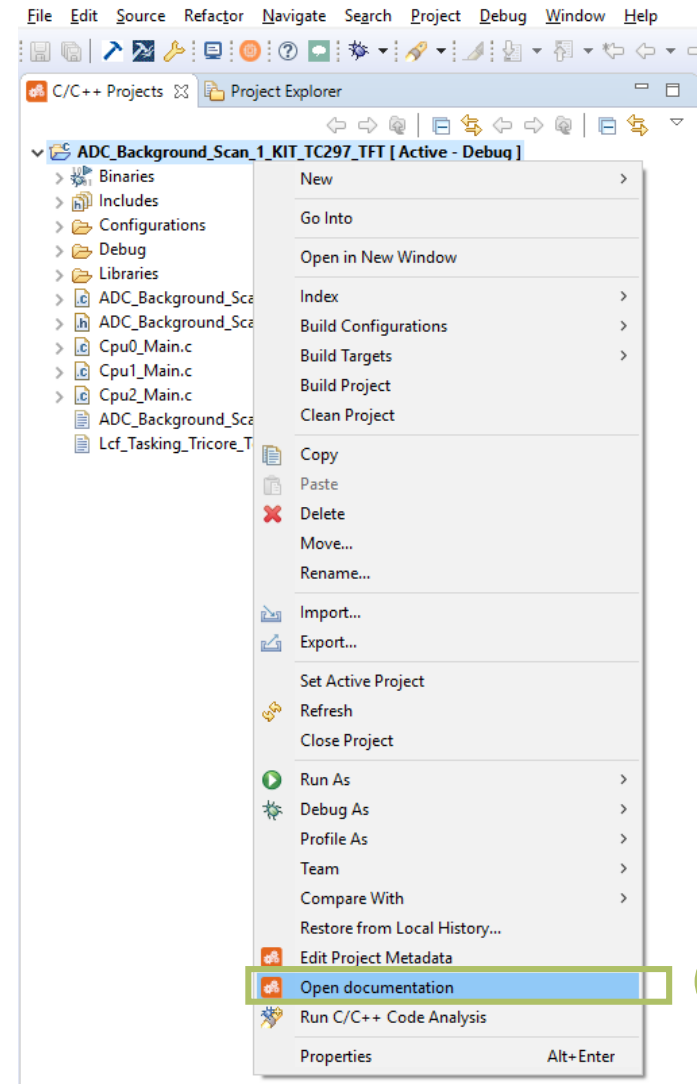
Cpu0_Main.c
22 * WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE
23 * COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN
24 * CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS
25 * IN THE SOFTWARE.
26 *****/
27@ /*\title ADC background scan source
28 * \abstract The Versatile Analog-to-Digital Converter (VADC) is configured to measure multiple analog signals in a sequence using background scan request.
29 * \description The Background Scan mode of the Analog-to-Digital Converter (ADC) module is configured to measure the
30 *     analog signals applied to the channels 0 to 3 of the group 0.
31 *
32 * \name ADC_Background_Scan_1_KIT_TC297_TFT
33 * \version V1.0.0
34 * \board APPLICATION KIT TC2X7 V1.1, KIT_AURIX_TC297_TFT_BC-Step, TC29xTA/TX_BC-step
35 * \keywords ADC, background scan, conversion, VADC, ADC_Background_Scan_1, AURIX
36 * \documents https://www.infineon.com/aurix-expert-training/Infineon-AURIX\_ADC\_Background\_Scan\_1\_KIT\_TC297\_TFT-TR-v01\_00\_00-EN.pdf
37 * \documents https://www.infineon.com/aurix-expert-training/TC29B\_ILLD\_UM\_1\_0\_1\_11\_0.chm
38 * \lastUpdated 2020_02_11
39 *****/
40 #include "Ifx_Types.h"
41 #include "IfxCpu.h"
42 #include "IfxScuWdt.h"
43 #include "ADC_Background_Scan.h"
44
45 IfxCpu_syncEvent g_cpuSyncEvent = 0;
46
47@ int core0_main(void)
48 {
49     IfxCpu_enableInterrupts();
50
51@ /* !WATCHDOG0 AND SAFETY WATCHDOG ARE DISABLED HERE!!
52 * Enable the watchdogs and service them periodically if it is required
53 */
54 IfxScuWdt_disableCpuWatchdog(IfxScuWdt_getCpuWatchdogPassword());
55 IfxScuWdt_disableSafetyWatchdog(IfxScuWdt_getSafetyWatchdogPassword());
56
57 /* Wait for CPU sync event */
58 IfxCpu_emitEvent(&g_cpuSyncEvent);

```

2

## 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)



3

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**Document reference**  
**Getting Started with**  
**AURIX™ Development Studio**  
**V1.0.18**

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