


AURIX 2G Hands-on-BIFACES

IFCN ATV SMD GC SAE MC






Download BIFACES Installation Package

- › User can download BIFACES installation package from MyICP TC3xx document folder together with Base template projects.
- 00 AURIX TC3xx General\01 Software Document\00 Application SW Framework\


Microcontrollers / AURIX Customer Documentation ▶ Default Document Library ▶ ... 00 Application SW Framework

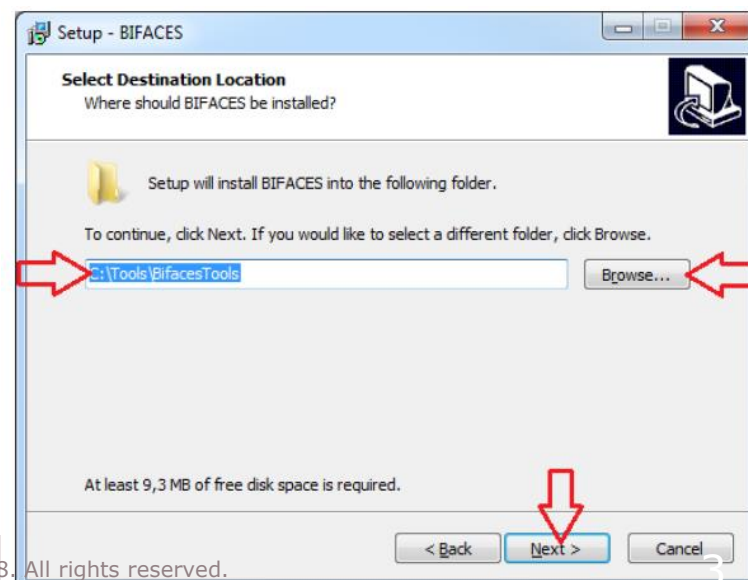
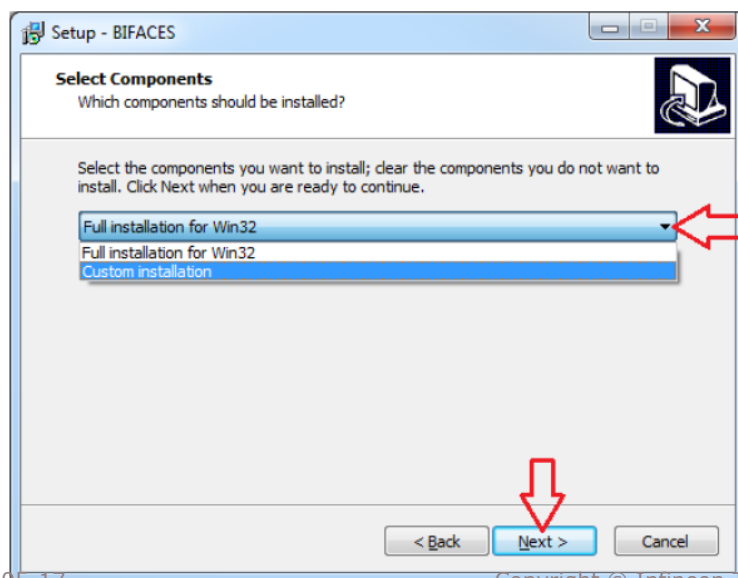
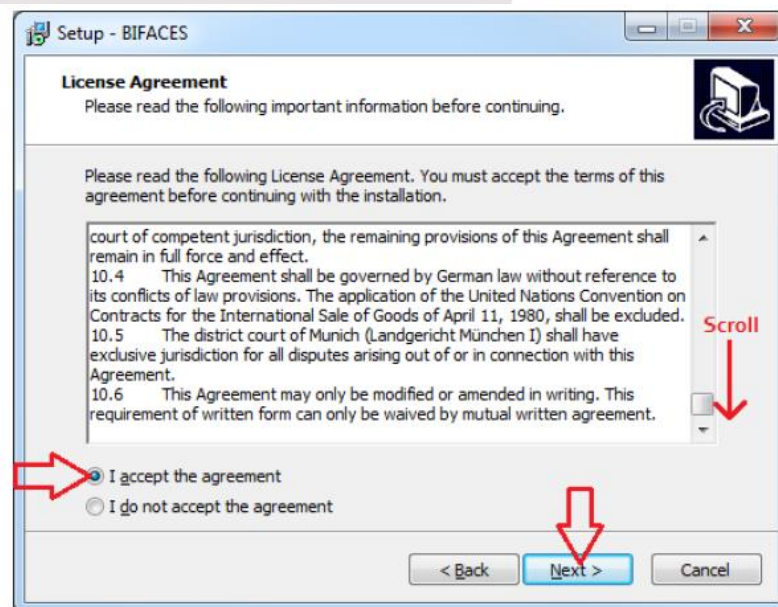
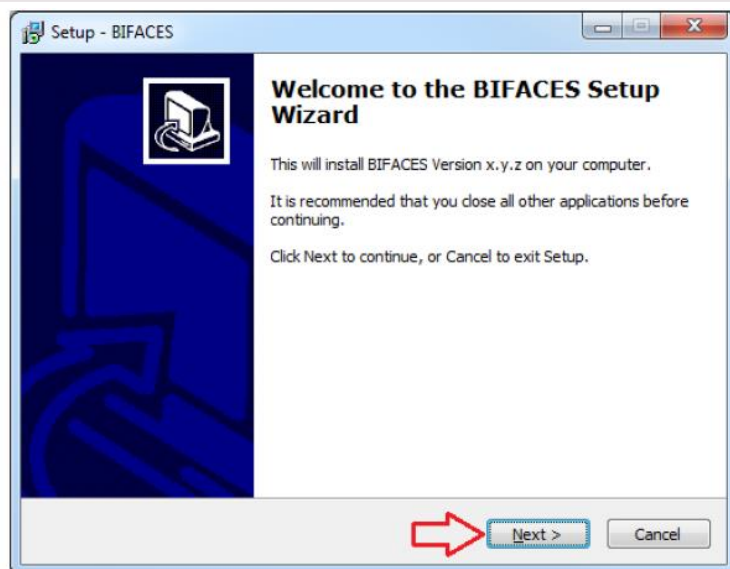
My Infineon Document Library Template

Microcontrollers / AURIX Customer Documentation		Help					
Libraries	Type	Title	Document	Document Type	Version	Date Created	File Size
Default Document Library		AURIX TC3xx BIFACES Based Projects	Download	Firmware & Software	v1.0.1.2.0	9/11/2017 12:00 AM	2594 KB
Lists		BIFACES Framework Package	Download	Firmware & Software	v1.0.0	8/4/2017 12:00 AM	1 KB
Discussions		BIFACES Framework Package Release Notes	Download	Firmware & Software	v1.0.0	9/11/2017 12:00 AM	268 KB

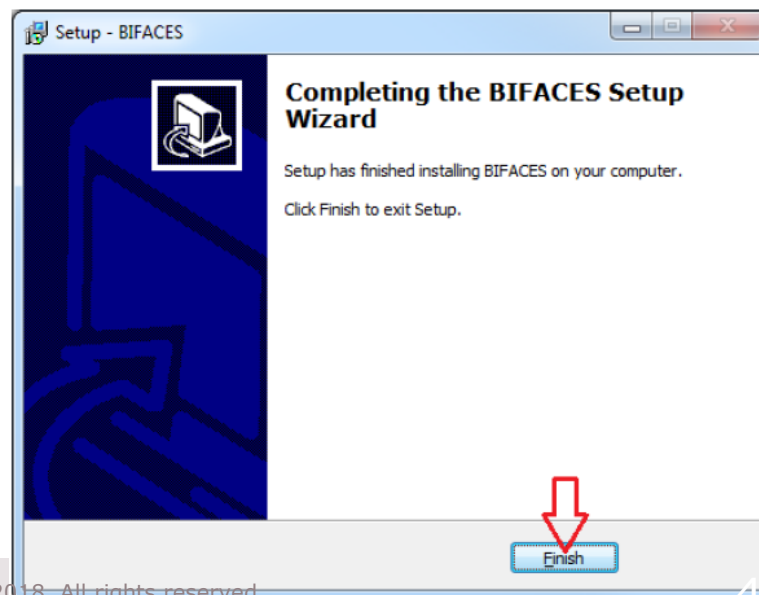
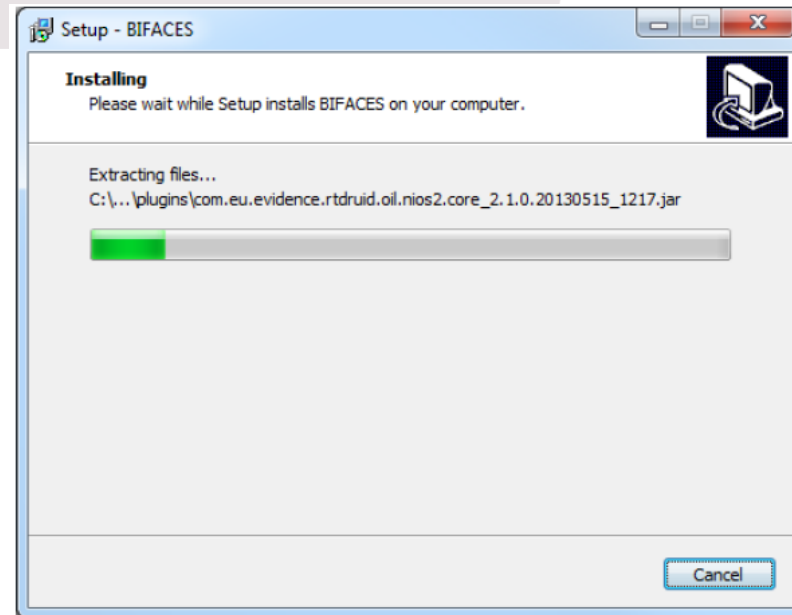
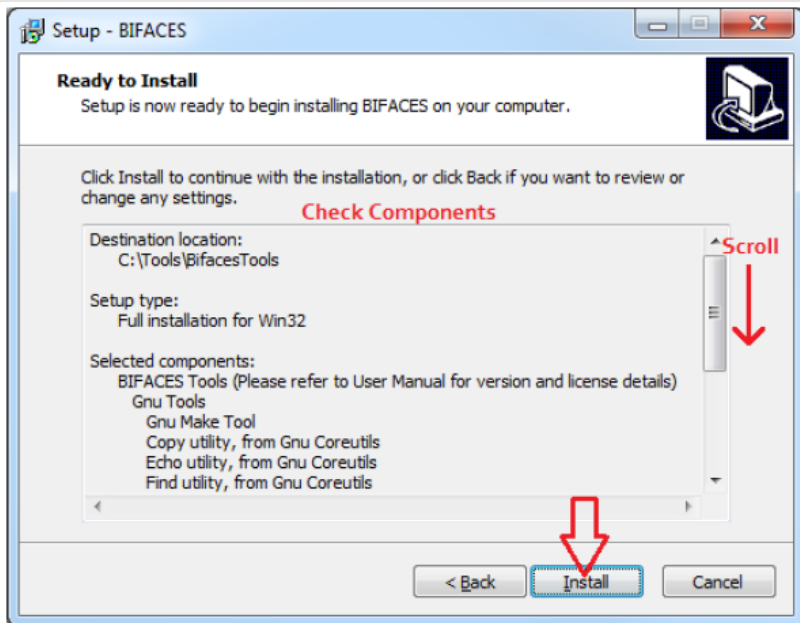
Site Content

- 00 AURIX TC3xx Gene ^
- 00 Hardware Docun
- 01 Software Docum
- 00 Application SW
- 01 iLLD
- 02 SafetyDocument

Install BIFACES Package - 1

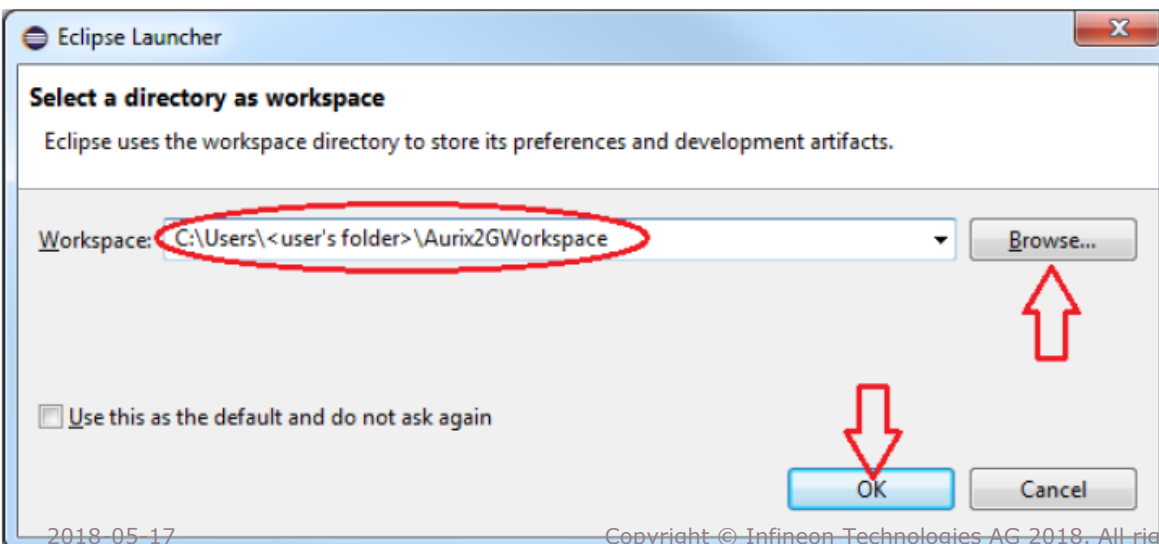
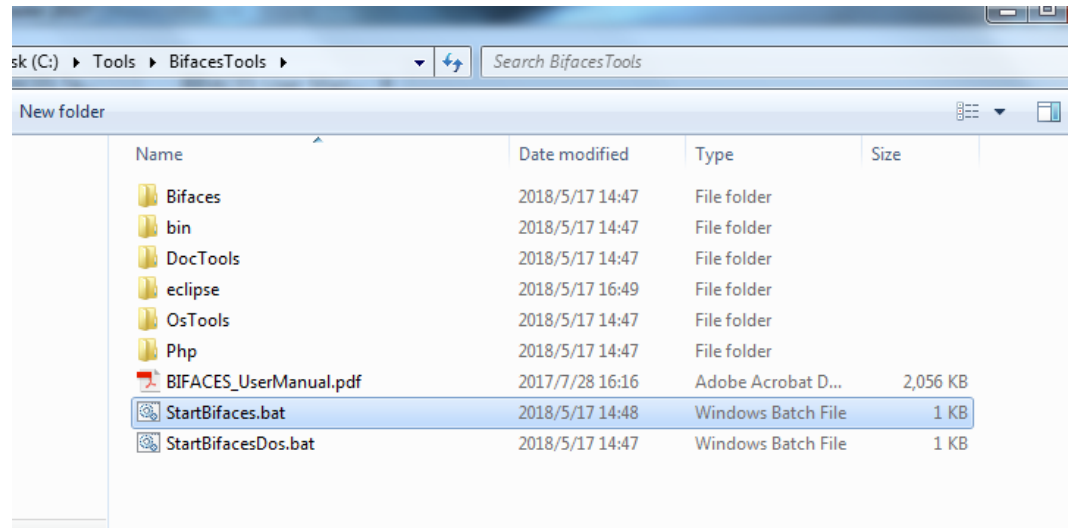


Install BIFACES Package - 2



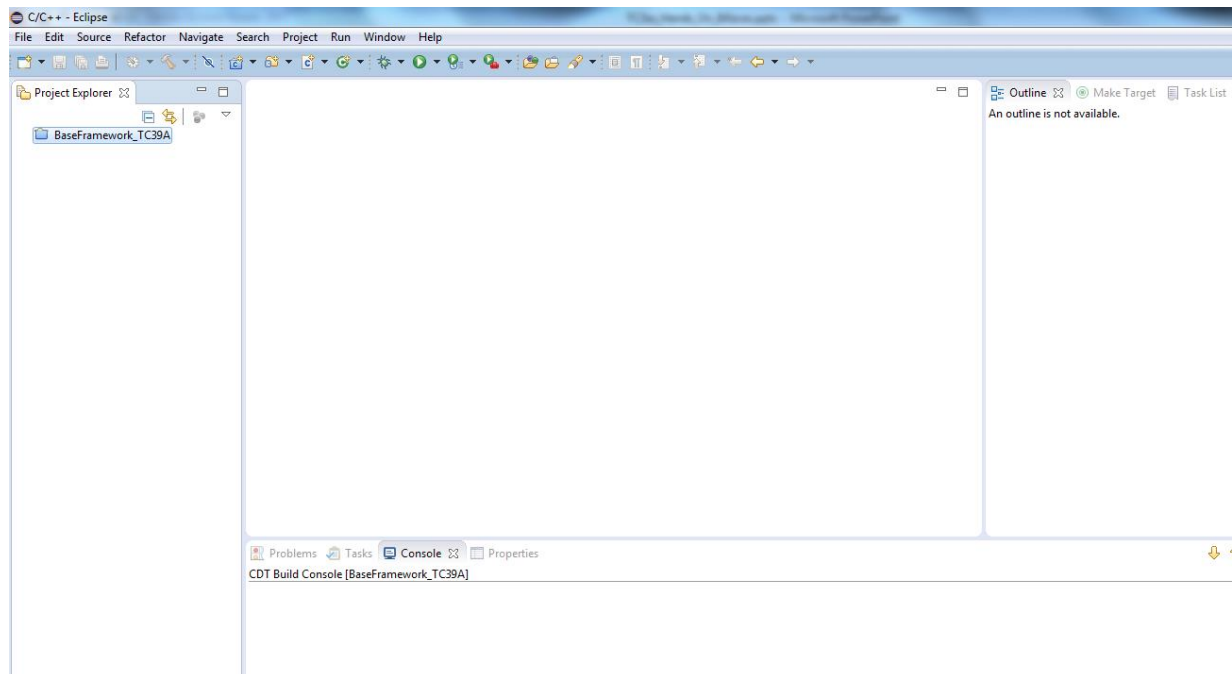
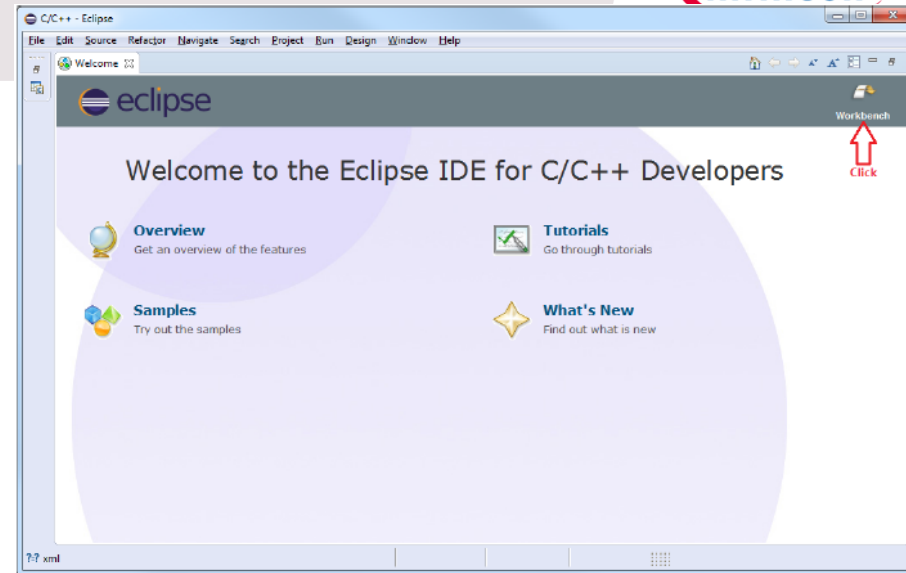
Start BIFACES

- › Run 'StartBifaces.bat' file under the installation folder and select workspace directory.



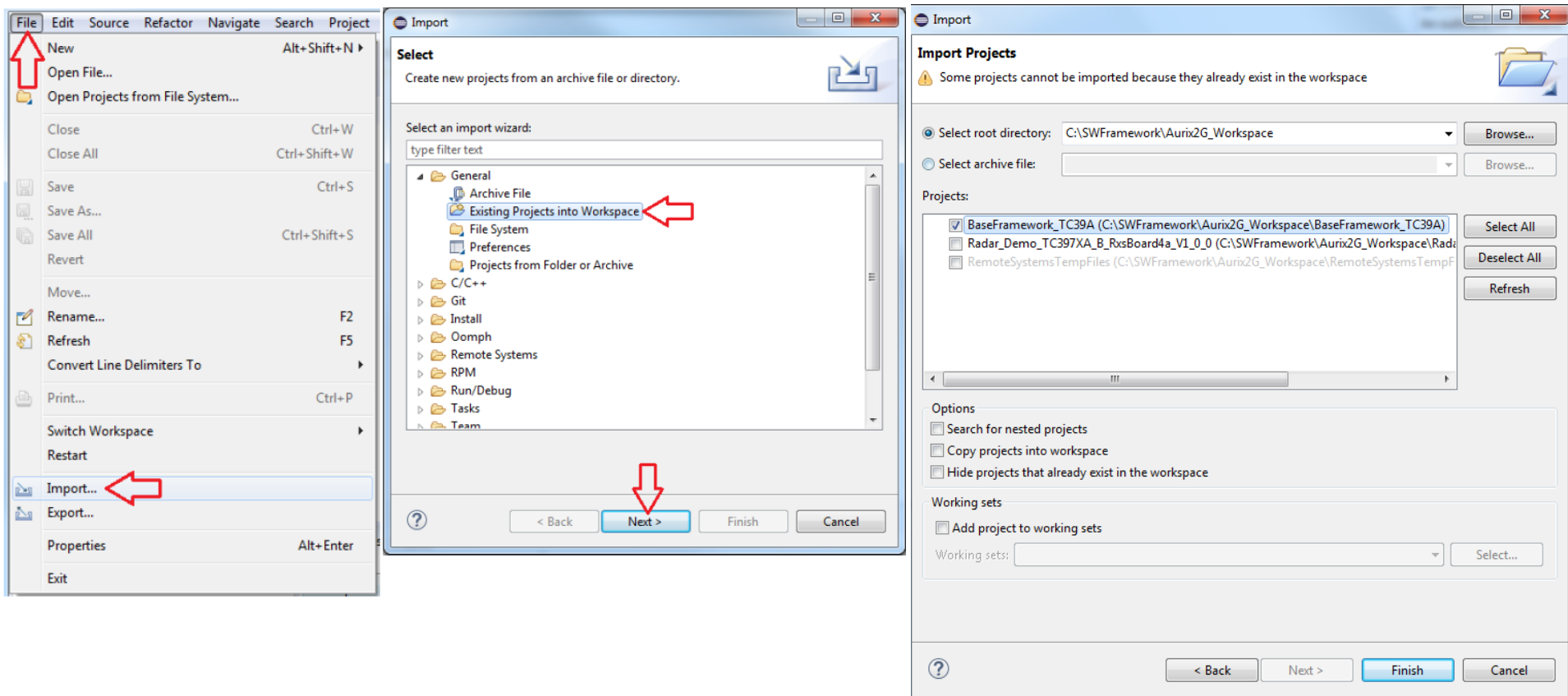
Open Workbench

- › Click workbench to open the development environment



Import a Base template project

- › If you download and extract Aurix2G base template projects, you can import them into the workspace.



Configure compiler - 1

- › In the file `Config.xml`, change `primaryToolchain` as `Gnuc`.

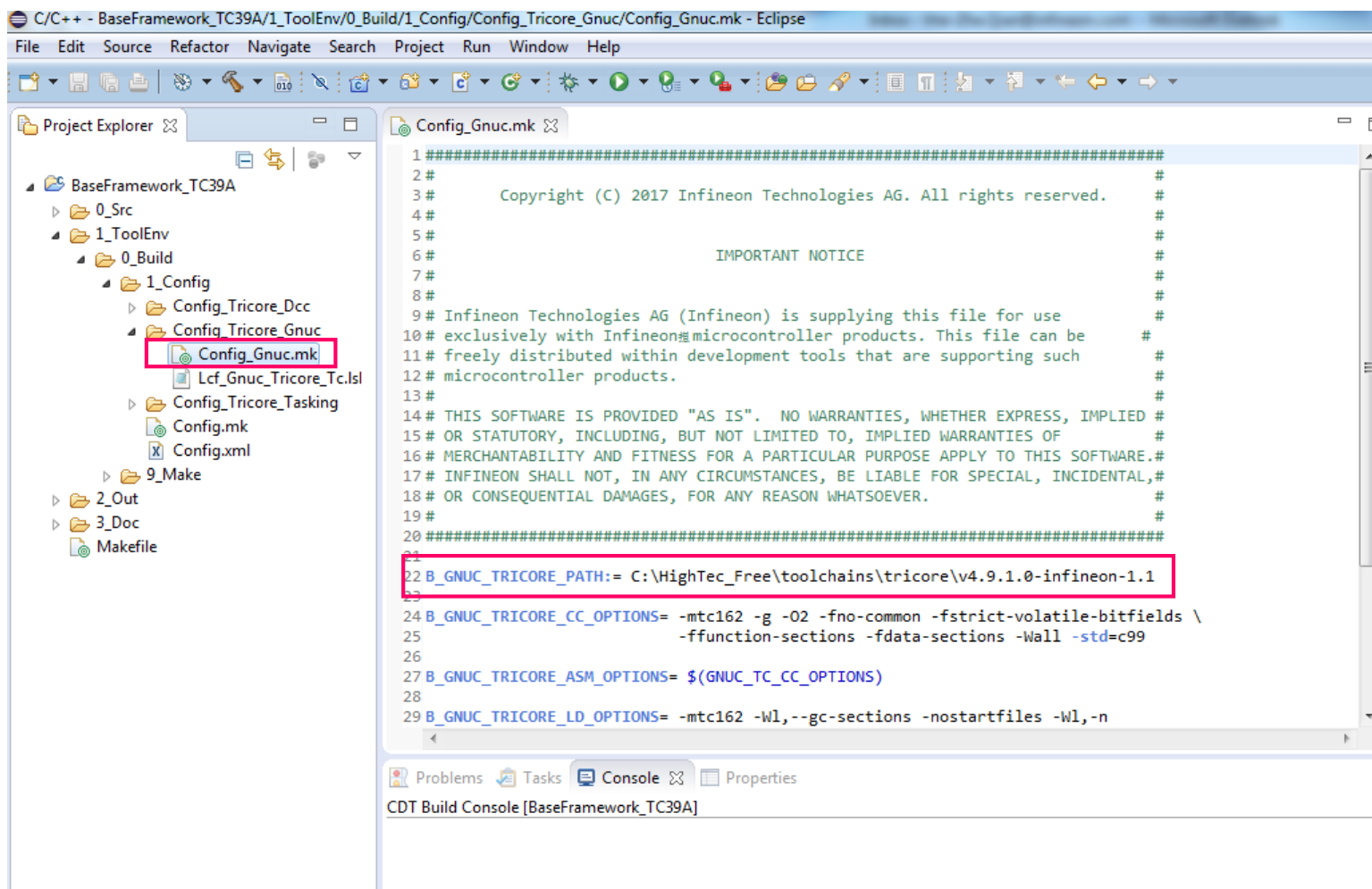
The screenshot shows the Eclipse IDE with the following components:

- Project Explorer:** Shows the project structure for BaseFramework_TC39A, including folders like 0_Src, 1_ToolEnv, 0_Build, 1_Config, and 9_Make. The file Config.xml is selected under 1_Config.
- Editor:** Displays the XML content of Config.xml. The 'primaryToolchain' node is highlighted, and its value is set to 'Gnuc'.
- Console:** Shows the CDT Build Console output for BaseFramework_TC39A, indicating the building of source files for Tricore.

Node	Content
xml	version="1.0" encoding="UTF-8" standalone="yes"
root	
xmlns	http://www.infineon.com/BifacesConfig
xmlns:xsi	http://www.w3.org/2001/XMLSchema-instance
xsi:schemaLocation	http://www.infineon.com/BifacesConfig BifacesConfig.xsd
primaryArchitecture	Tricore
architecture	Tricore
primaryToolchain	Gnuc
target	Tricore
toolchain	Tricore
toolchain	Tricore
toolchain	Tricore
specificInclude	Tricore

Configure compiler - 2

- › Change compiler path to your own installation directory



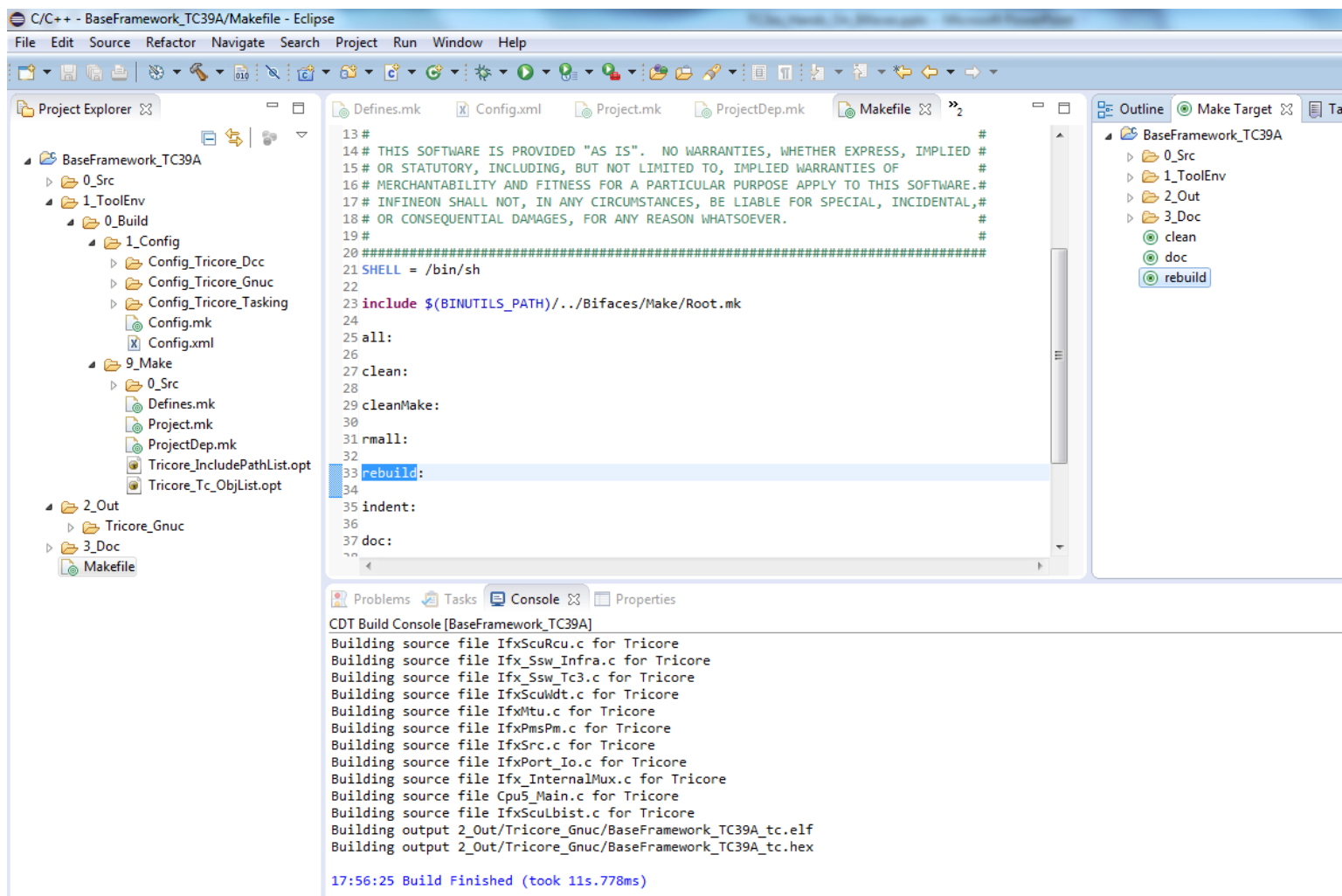
The screenshot shows the Eclipse IDE interface. The Project Explorer on the left displays the project structure for 'BaseFramework_TC39A', with the file 'Config_Gnuc.mk' highlighted under the '1_Config' directory. The main editor window shows the contents of 'Config_Gnuc.mk'. The file contains a copyright notice and a section for compiler options. The line 'B_GNUC_TRICORE_PATH:= C:\HighTec_Free\toolchains\tricore\v4.9.1.0-infinion-1.1' is highlighted with a red box. Below this, other compiler options are defined, including 'B_GNUC_TRICORE_CC_OPTIONS', 'B_GNUC_TRICORE_ASM_OPTIONS', and 'B_GNUC_TRICORE_LD_OPTIONS'.

```

1 #####
2 #
3 #   Copyright (C) 2017 Infineon Technologies AG. All rights reserved.
4 #
5 #
6 #   IMPORTANT NOTICE
7 #
8 #
9 # Infineon Technologies AG (Infineon) is supplying this file for use
10 # exclusively with Infineon microcontroller products. This file can be
11 # freely distributed within development tools that are supporting such
12 # microcontroller products.
13 #
14 # THIS SOFTWARE IS PROVIDED "AS IS". NO WARRANTIES, WHETHER EXPRESS, IMPLIED
15 # OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF
16 # MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE APPLY TO THIS SOFTWARE.
17 # INFINEON SHALL NOT, IN ANY CIRCUMSTANCES, BE LIABLE FOR SPECIAL, INCIDENTAL,
18 # OR CONSEQUENTIAL DAMAGES, FOR ANY REASON WHATSOEVER.
19 #
20 #####
21
22 B_GNUC_TRICORE_PATH:= C:\HighTec_Free\toolchains\tricore\v4.9.1.0-infinion-1.1
23
24 B_GNUC_TRICORE_CC_OPTIONS= -mtc162 -g -O2 -fno-common -fstrict-volatile-bitfields \
25                             -ffunction-sections -fdata-sections -Wall -std=c99
26
27 B_GNUC_TRICORE_ASM_OPTIONS= $(GNUC_TC_CC_OPTIONS)
28
29 B_GNUC_TRICORE_LD_OPTIONS= -mtc162 -Wl,--gc-sections -nostartfiles -Wl,-n
  
```

Build the project

- › Build the project, and elf and hex files will be generated.



C/C++ - BaseFramework_TC39A/Makefile - Eclipse

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer

- BaseFramework_TC39A
 - 0_Src
 - 1_ToolEnv
 - 0_Build
 - 1_Config
 - Config_Tricore_Dcc
 - Config_Tricore_Gnuc
 - Config_Tricore_Tasking
 - Config.mk
 - Config.xml
 - 9_Make
 - 0_Src
 - Defines.mk
 - Project.mk
 - ProjectDep.mk
 - Tricore_IncludePathList.opt
 - Tricore_Tc_ObjList.opt
 - 2_Out
 - Tricore_Gnuc
 - 3_Doc
 - Makefile

Defines.mk

```

13 #
14 # THIS SOFTWARE IS PROVIDED "AS IS". NO WARRANTIES, WHETHER EXPRESS, IMPLIED #
15 # OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF #
16 # MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE APPLY TO THIS SOFTWARE.#
17 # INFINEON SHALL NOT, IN ANY CIRCUMSTANCES, BE LIABLE FOR SPECIAL, INCIDENTAL,#
18 # OR CONSEQUENTIAL DAMAGES, FOR ANY REASON WHATSOEVER. #
19 #
20 #####
21 SHELL = /bin/sh
22
23 include $(BINUTILS_PATH)/../Bifaces/Make/Root.mk
24
25 all:
26
27 clean:
28
29 cleanMake:
30
31 rmall:
32
33 rebuild:
34
35 indent:
36
37 doc:
38

```

Outline

- BaseFramework_TC39A
 - 0_Src
 - 1_ToolEnv
 - 2_Out
 - 3_Doc
 - clean
 - doc
 - rebuild

Problems Tasks Console Properties

CDT Build Console [BaseFramework_TC39A]

```

Building source file IfxScuRcu.c for Tricore
Building source file Ifx_Ssw_Infra.c for Tricore
Building source file Ifx_Ssw_Tc3.c for Tricore
Building source file IfxScuWdt.c for Tricore
Building source file IfxMtu.c for Tricore
Building source file IfxPmsPm.c for Tricore
Building source file IfxSrc.c for Tricore
Building source file IfxPort_Io.c for Tricore
Building source file Ifx_InternalMux.c for Tricore
Building source file Cpu5_Main.c for Tricore
Building source file IfxScuLbist.c for Tricore
Building output 2_Out/Tricore_Gnuc/BaseFramework_TC39A_tc.elf
Building output 2_Out/Tricore_Gnuc/BaseFramework_TC39A_tc.hex

17:56:25 Build Finished (took 11s.778ms)

```



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