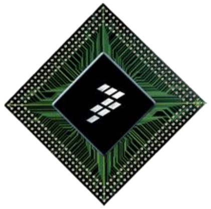
June, 2010

CodeWarrior Development Studio for Microcontrollers v10.0

FTF-ENT-F0669



Ruth Rhoades

CodeWarrior Product Management

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What is Eclipse?

- **A Java development environment**
  - Widely regarded as *the* Java development environment
- **An IDE framework**
  - Eclipse + JDT = Java IDE
  - Eclipse + CDT = C/C++ IDE
  - Eclipse + PHP = PHP IDE
  - Eclipse + JDT + CDT + PHP = Java
- **A Tools Framework**
  - Focused on developing a universal platform of frameworks and exemplary tools
- **An Open Source Project and Community**
  - All Eclipse projects are open-source and available for free download
  - Hundreds of plug-ins are provided by commercial companies, organizations, and individuals

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What is Eclipse?

An ecosystem

- Focused on nurturing the eco-system to complement and enhance the Eclipse Platform
- Many members, including major Java, Linux and Embedded vendors
- Dozens of open source projects
- Millions of downloads

A Foundation

- Independent not-for-profit foundation formed in 2004
- Created to manage and direct the ongoing development of the Eclipse open source software project
- Responsible for providing IT infrastructure required by development teams

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- **Strategic Members** – Actuate, brox, ca, Cloudsmith, Genuitec, IBM, Innoopract, itemis, Nokia, Oracle, SAP, Sonatype, Sopera
- **Enterprise Members** – Cisco, Motorola, BlackBerry
- **Solution Members** – AdaCore, Adobe, aptana, ARM, ARS, Aster Data, AvantSoft, Black Duck, BLU AGE, BREDEX, bsi, CAS Software, CollabNet, compeople, Compuware, Curl, DDC-I, Empolis, Engineering Group, Ericsson, Eteration, Excelsior, Exist Global, Express Logic, **Freescale Semiconductor**, froglogic, tni Software, Gerhardt, Google, HP, Ingres, Innovations Softwaretechnologie, Innovent Solutions, Instaniations, instinctools, Intalio, Intel, Intervoice, LynuxWorks, Mentor Graphics, Mind8, Modular Mind, NEC, nuxeo, OC Systems, Open-Xchange, OpenMake Software, Perforce, Polarion Software, Progress Software, Purple Scout, Puzzle ITC, QNX, red hat, Remain, Replay Solutions, Salesforce.com, Sony Ericsson, Soyatec, SpringSource, Sybase, Symbian, Tasktop, teamprise, tensilica, RCP Company, TIBCO, Virutech, WeigleWilczek, Wind River, Xored Software, XpoLog, Zend, Zenika, ZenSar
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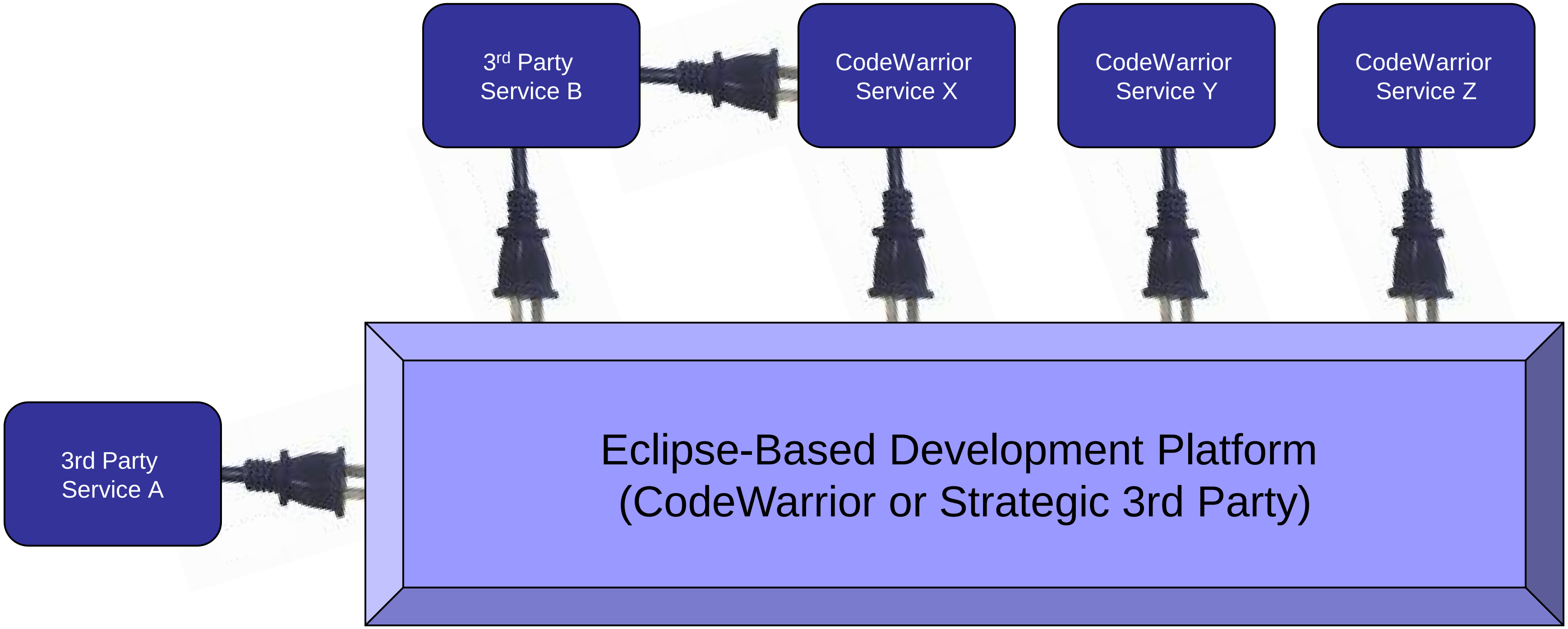
CodeWarrior Development Studio - *Eclipse Platform*

- CodeWarrior on Eclipse leverages an extensible software platform made up of core services and interoperable plug-in components.
- Components integrate with the platform and can be extended to interoperate with each other.
- The platform facilitates integration of components - both Freescale and 3rd party.



3rd Party Service B
CodeWarrior Service X
CodeWarrior Service Y
CodeWarrior Service Z
3rd Party Service A
Eclipse-Based Development Platform (CodeWarrior or Strategic 3rd Party)

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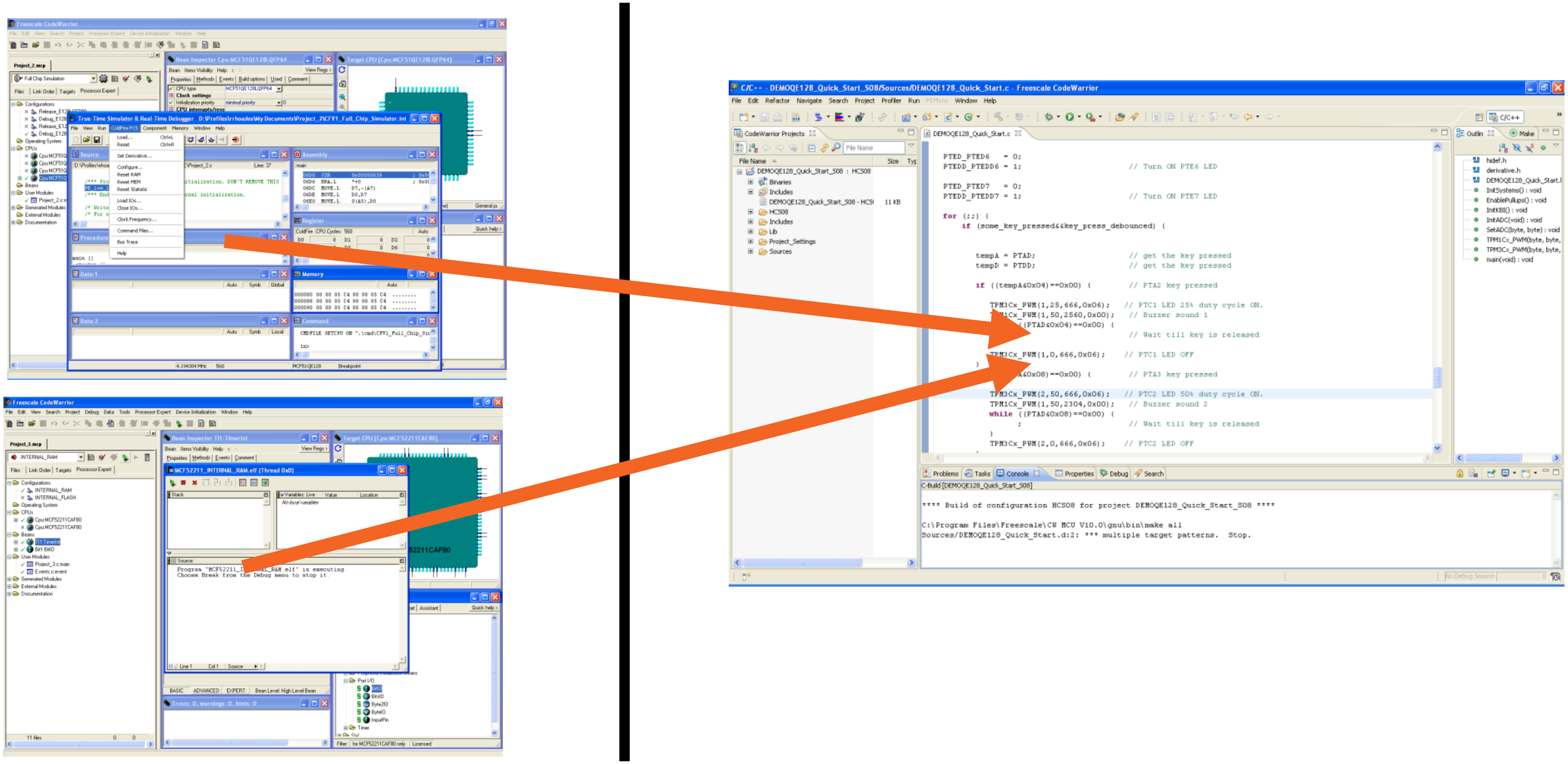
CodeWarrior for Microcontrollers 10.0

Integrates the development tools for the RS08, HCS08 and ColdFire® architectures into a single product based on the Eclipse open development platform.


Freescale CodeWarrior
True-Time Simulator & Real-Time Debugger
C/C++ - DEMOQE128_Quick_Start_S08/Sources/DEMOQE128_Quick_Start.c - Freescale CodeWarrior
DEMOQE128_Quick_Start.c
Problems
Tasks
Console
Properties
Debug
Search
C-Build [DEMOQE128_Quick_Start_S08]
No Debug Session

```
PTED_PTED6   = 0;
PTEDD_PTEDD6 = 1;                       // Turn ON PTE6 LED

PTED_PTED7   = 0;
PTEDD_PTEDD7 = 1;                       // Turn ON PTE7 LED

for (;;) {
   if (some_key_pressed&&key_press_debounced) {


      tempA = PTAD;                     // get the key pressed
      tempD = PTDD;                     // get the key pressed

      if ((tempA&0x04)==0x00) {         // PTA2 key pressed

         TPM3Cx_PWM(1,25,666,0x06);    // PTC1 LED 25% duty cycle ON.
          1Cx_PWM(1,50,2560,0x00);      // Buzzer sound 1
             ((PTAD&0x04)==0x00) {
                                        // Wait till key is released

         TPM3Cx_PWM(1,0,666,0x06);     // PTC1 LED OFF
      }
             &0x08)==0x00) {            // PTA3 key pressed

         TPM3Cx_PWM(2,50,666,0x06);    // PTC2 LED 50% duty cycle ON.
         TPM1Cx_PWM(1,50,2304,0x00);    // Buzzer sound 2
         while ((PTAD&0x08)==0x00) {
               ;                        // Wait till key is released
         }
         TPM3Cx_PWM(2,0,666,0x06);     // PTC2 LED OFF
```

```
**** Build of configuration HCS08 for project DEMOQE128_Quick_Start_S08 ****

C:\Program Files\Freescale\CW MCU V10.0\gnu\bin\make all
Sources/DEMOQE128_Quick_Start.d:2: *** multiple target patterns.  Stop.
```

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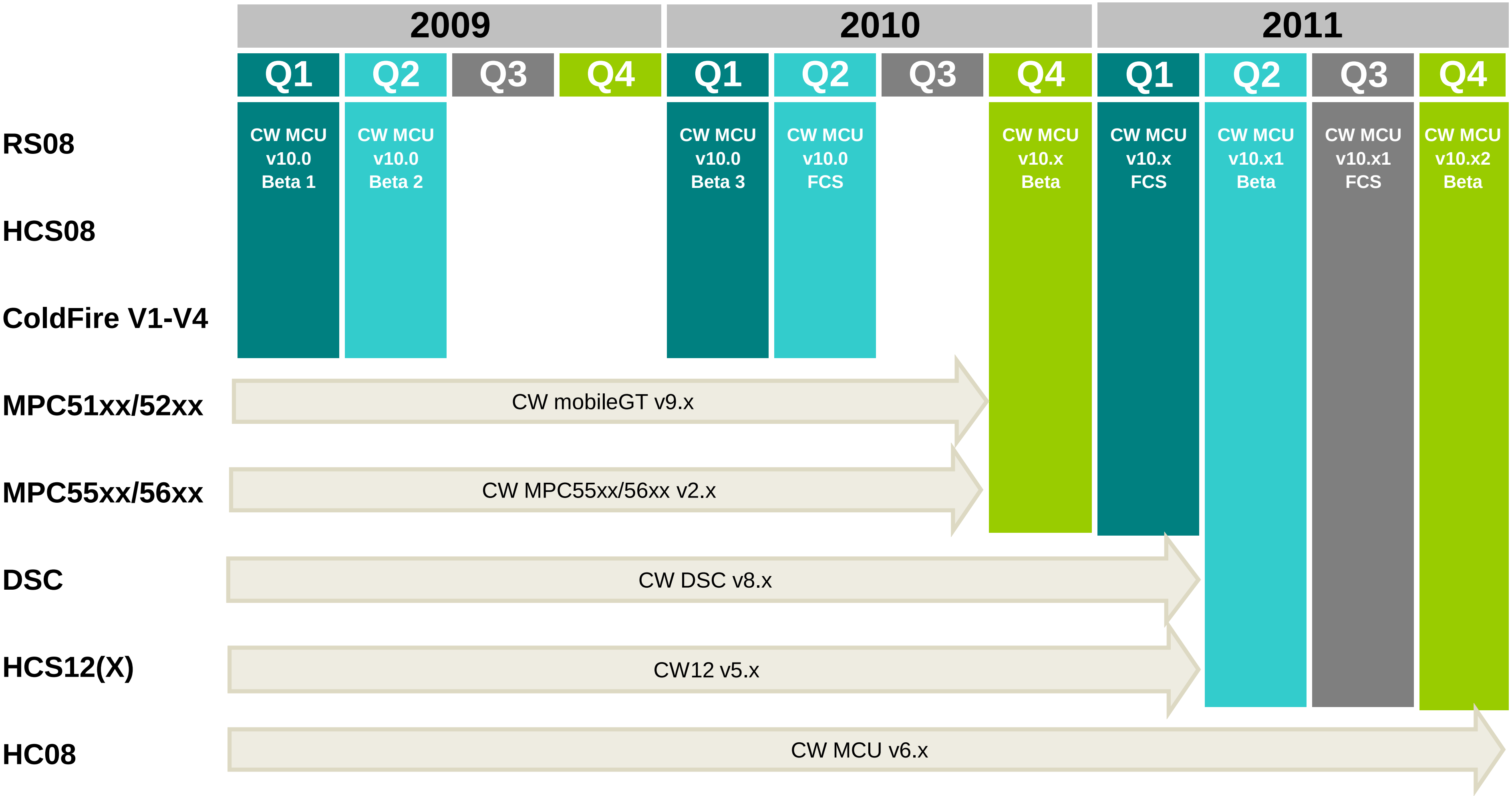
CodeWarrior Roadmap



2009				2010				2011			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
CW MCU v10.0 Beta 1	CW MCU v10.0 Beta 2			CW MCU v10.0 Beta 3	CW MCU v10.0 FCS		CW MCU v10.x Beta	CW MCU v10.x FCS	CW MCU v10.x1 Beta	CW MCU v10.x1 FCS	CW MCU v10.x2 Beta

RS08

HCS08

ColdFire V1-V4

MPC51xx/52xx
CW mobileGT v9.x

MPC55xx/56xx
CW MPC55xx/56xx v2.x

DSC
CW DSC v8.x

HCS12(X)
CW12 v5.x

HC08
CW MCU v6.x

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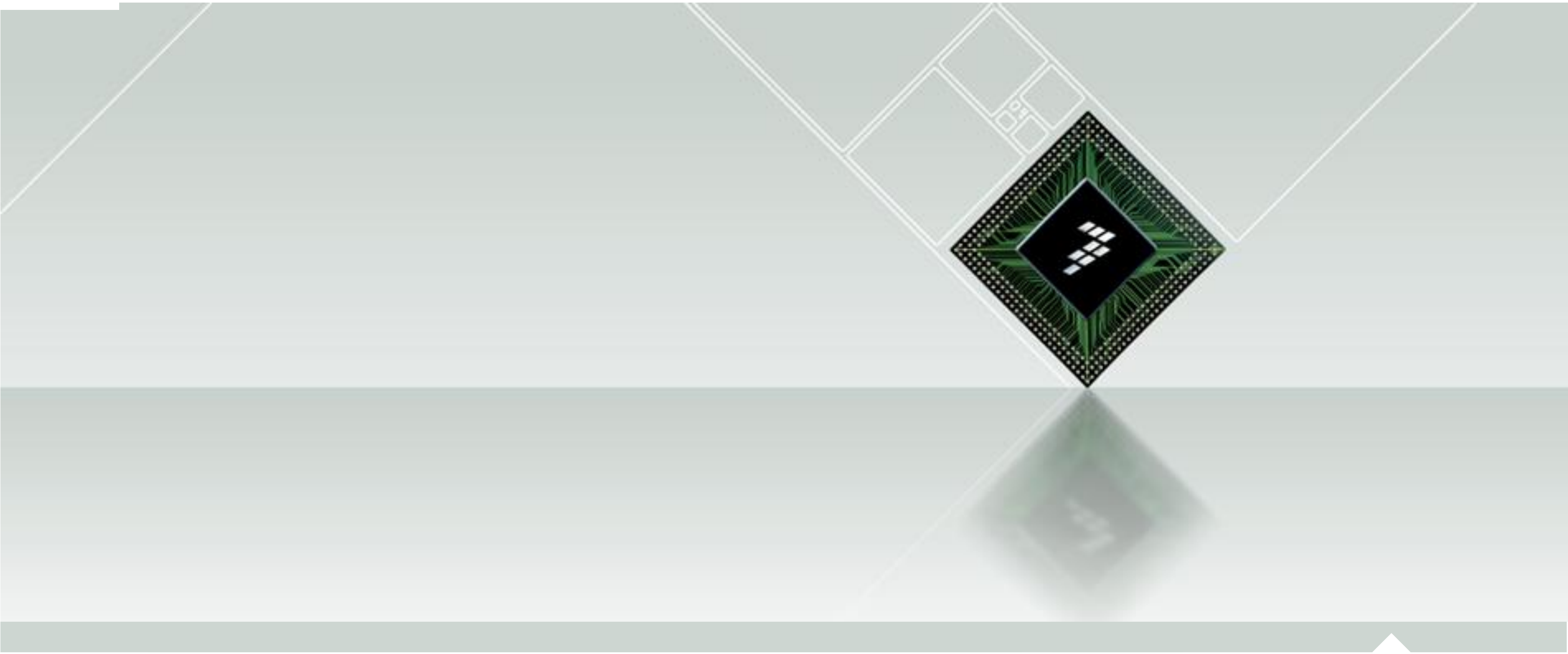

CodeWarrior Development Suite for Microcontrollers v10.0 Features

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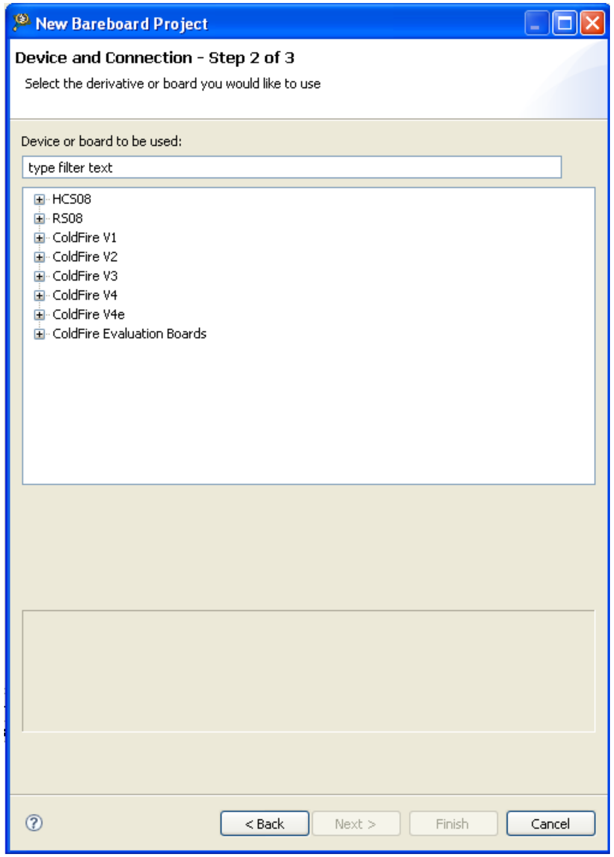
Architectures Supported

- Use CodeWarrior Development Studio for Microcontrollers v10.0 to develop RS08, HCS08, and ColdFire projects
  - RS08 derivatives
  - HCS08 derivatives
  - V1 ColdFire derivatives
  - V2 ColdFire derivatives
  - V3 ColdFire derivatives
  - V4 ColdFire derivatives
  - ColdFire evaluation boards



Device and Connection - Step 2 of 3

Select the derivative or board you would like to use

Device or board to be used:

type filter text

- HCS08
- RS08
- ColdFire V1
- ColdFire V2
- ColdFire V3
- ColdFire V4
- ColdFire V4e
- ColdFire Evaluation Boards

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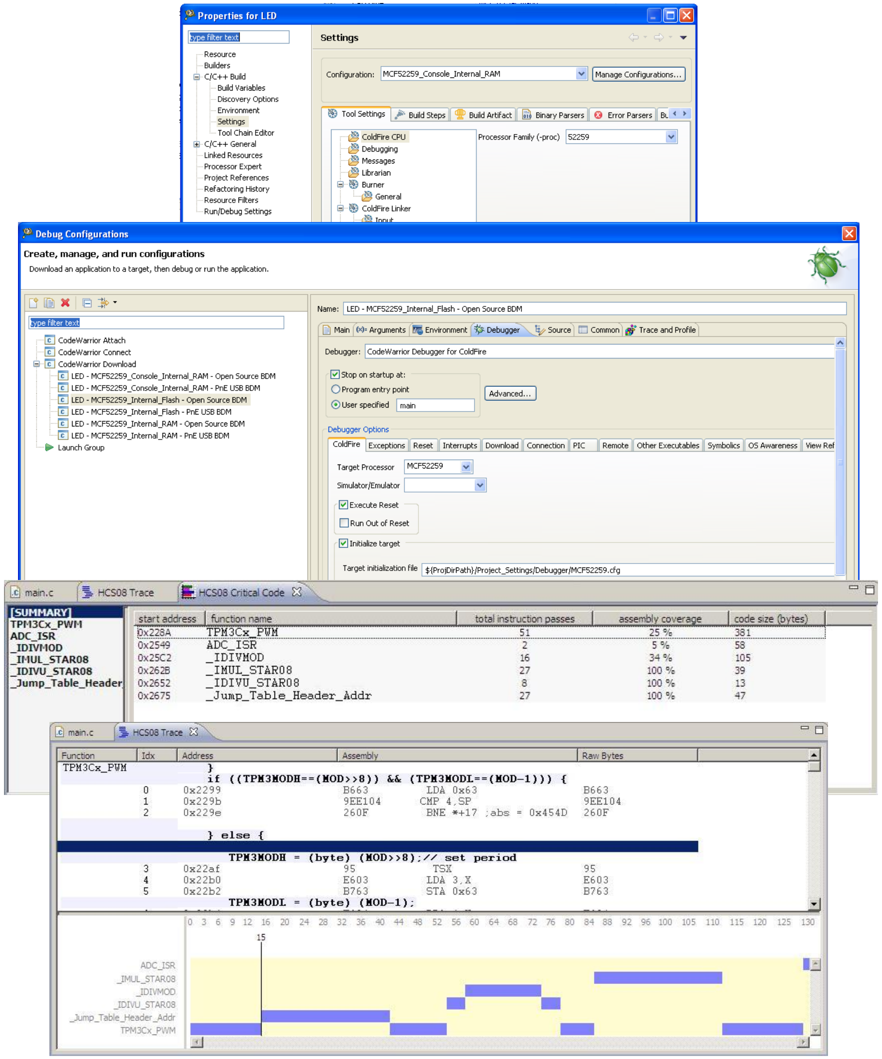
Multiple Compilers / Single Debugger

- CodeWarrior optimizing compilers
  - RS08
  - HCS08
  - V1-V4 ColdFire
- Debugger
  - Eclipse CDT
  - Extended for embedded programming
- Profile and Trace
  - HCS08 derivatives
  - V1 ColdFire derivatives


Properties for LED
type filter text
Resource
Builders
C/C++ Build
Build Variables
Discovery Options
Environment
Settings
Tool Chain Editor
C/C++ General
Linked Resources
Processor Expert
Project References
Refactoring History
Resource Filters
Run/Debug Settings
Settings
Manage Configurations...
Tool Settings
Build Steps
Build Artifact
Binary Parsers
Error Parsers
ColdFire CPU
Debugging
Messages
Librarian
Burner
General
ColdFire Linker
Input
Debug Configurations
type filter text
CodeWarrior Attach
CodeWarrior Connect
CodeWarrior Download
LED - MCF52259_Console_Internal_RAM - Open Source BDM
LED - MCF52259_Console_Internal_RAM - PnE USB BDM
LED - MCF52259_Internal_Flash - Open Source BDM
LED - MCF52259_Internal_Flash - PnE USB BDM
LED - MCF52259_Internal_RAM - Open Source BDM
LED - MCF52259_Internal_RAM - PnE USB BDM
Launch Group
Main
Arguments
Environment
Debugger
Source
Common
Trace and Profile
Advanced...
Debugger Options
ColdFire
Exceptions
Reset
Interrupts
Download
Connection
PIC
Remote
Other Executables
Symbolics
OS Awareness
View Ref
main.c
HCS08 Trace
HCS08 Critical Code
[SUMMARY]
TPM3Cx_PWM
ADC_ISR
_IDIVMOD
_IMUL_STAR08
_IDIVU_STAR08
_Jump_Table_Header
0 3 6 9 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80 84 88 92 96 100 105 110 115 120 125 130
15
ADC_ISR
_IMUL_STAR08
_IDIVMOD
_IDIVU_STAR08
_Jump_Table_Header_Addr
TPM3Cx_PWM

Configuration: MCF52259_Console_Internal_RAM

Processor Family (-proc) 52259

Create, manage, and run configurations

Download an application to a target, then debug or run the application.

Name: LED - MCF52259_Internal_Flash - Open Source BDM

Debugger: CodeWarrior Debugger for ColdFire

☑ Stop on startup at:

○ Program entry point

● User specified main

Target Processor MCF52259

Simulator/Emulator

☑ Execute Reset

☐ Run Out of Reset

☑ Initialize target

Target initialization file ${ProjDirPath}/Project_Settings/Debugger/MCF52259.cfg

start address	function name	total instruction passes	assembly coverage	code size (bytes)
0x228A	TPM3Cx_PWM	51	25 %	381
0x2549	ADC_ISR	2	5 %	58
0x25C2	_IDIVMOD	16	34 %	105
0x262B	_IMUL_STAR08	27	100 %	39
0x2652	_IDIVU_STAR08	8	100 %	13
0x2675	_Jump_Table_Header_Addr	27	100 %	47

```
Function    Idx  Address   Assembly                              Raw Bytes
TPM3Cx_PWM            }
                      if ((TPM3MODH==(MOD>>8)) && (TPM3MODL==(MOD-1))) {
            0    0x2299    B663      LDA 0x63                   B663
            1    0x229b    9EE104    CMP 4,SP                   9EE104
            2    0x229e    260F      BNE *+17 ;abs = 0x454D     260F

                      } else {

                        TPM3MODH = (byte) (MOD>>8);// set period
            3    0x22af    95        TSX                        95
            4    0x22b0    E603      LDA 3,X                    E603
            5    0x22b2    B763      STA 0x63                   B763
                        TPM3MODL = (byte) (MOD-1);
```

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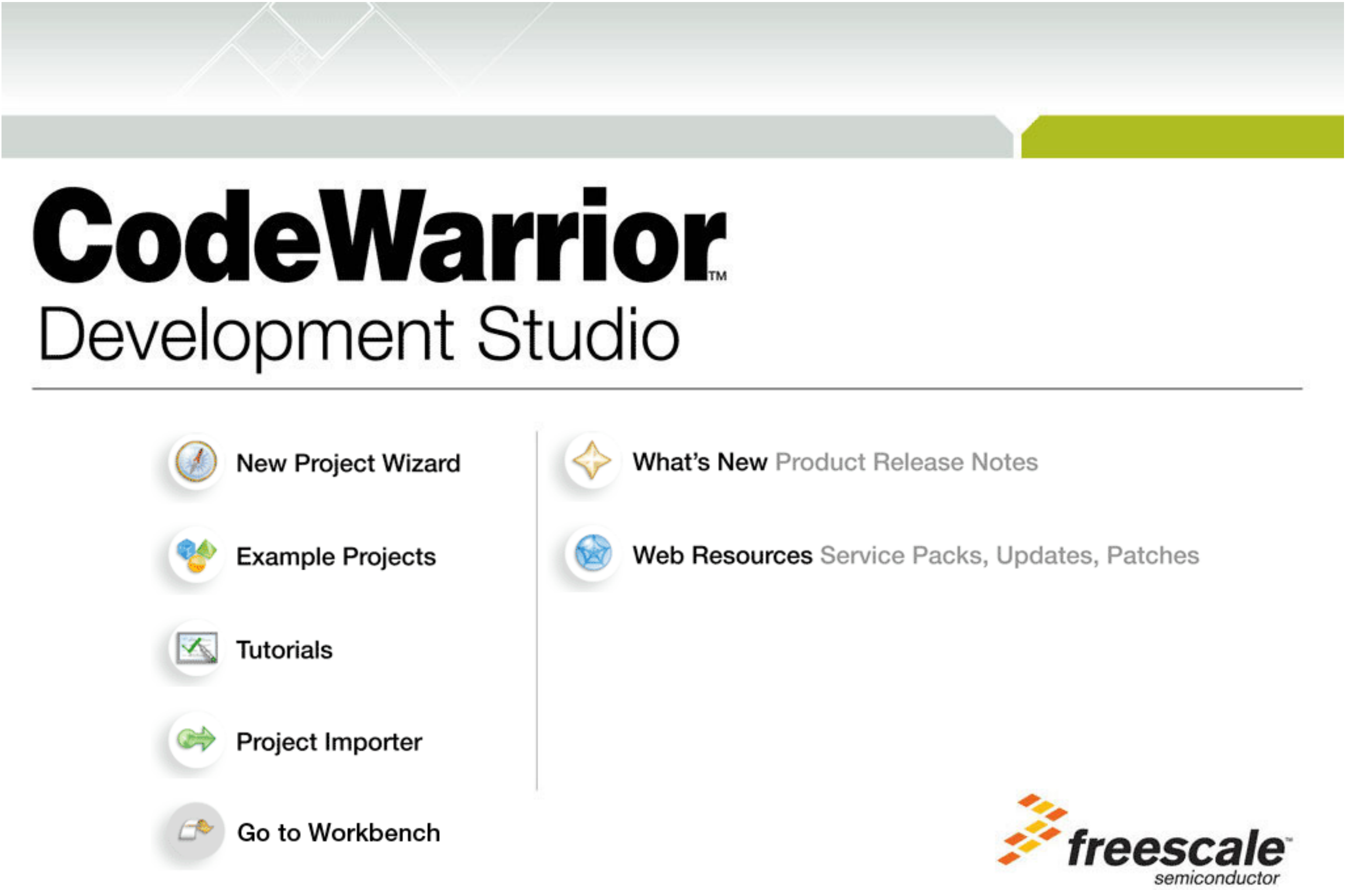
Welcome Screen



CodeWarrior™ Development Studio

New Project Wizard
Example Projects
Tutorials
Project Importer
Go to Workbench
What's New Product Release Notes
Web Resources Service Packs, Updates, Patches
freescale semiconductor

Use Welcome Screen for immediate access to development resources.

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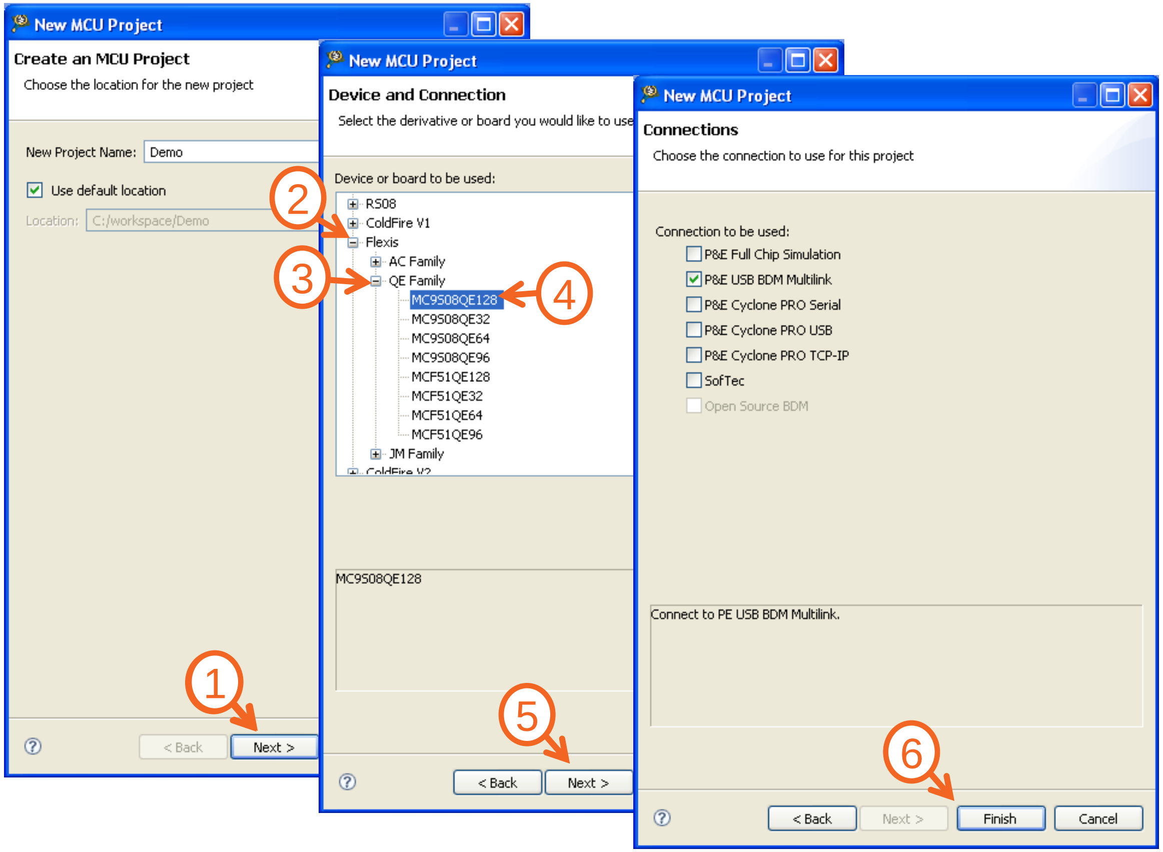
New Project Wizard



Create an MCU Project

Choose the location for the new project

New Project Name: Demo

☑ Use default location

Location: C:/workspace/Demo

Device and Connection

Select the derivative or board you would like to use

Device or board to be used:

- ⊞ RS08
- ⊞ ColdFire V1
- ⊟ Flexis
  - ⊞ AC Family
  - ⊟ QE Family
    - MC9S08QE128
    - MC9S08QE32
    - MC9S08QE64
    - MC9S08QE96
    - MCF51QE128
    - MCF51QE32
    - MCF51QE64
    - MCF51QE96
  - ⊞ JM Family
- ⊞ ColdFire V2

MC9S08QE128

Connections

Choose the connection to use for this project

Connection to be used:

- ☐ P&E Full Chip Simulation
- ☑ P&E USB BDM Multilink
- ☐ P&E Cyclone PRO Serial
- ☐ P&E Cyclone PRO USB
- ☐ P&E Cyclone PRO TCP-IP
- ☐ SofTec
- ☐ Open Source BDM

Connect to PE USB BDM Multilink.

Use New Project Wizard to create a new project in as few as 6 clicks.

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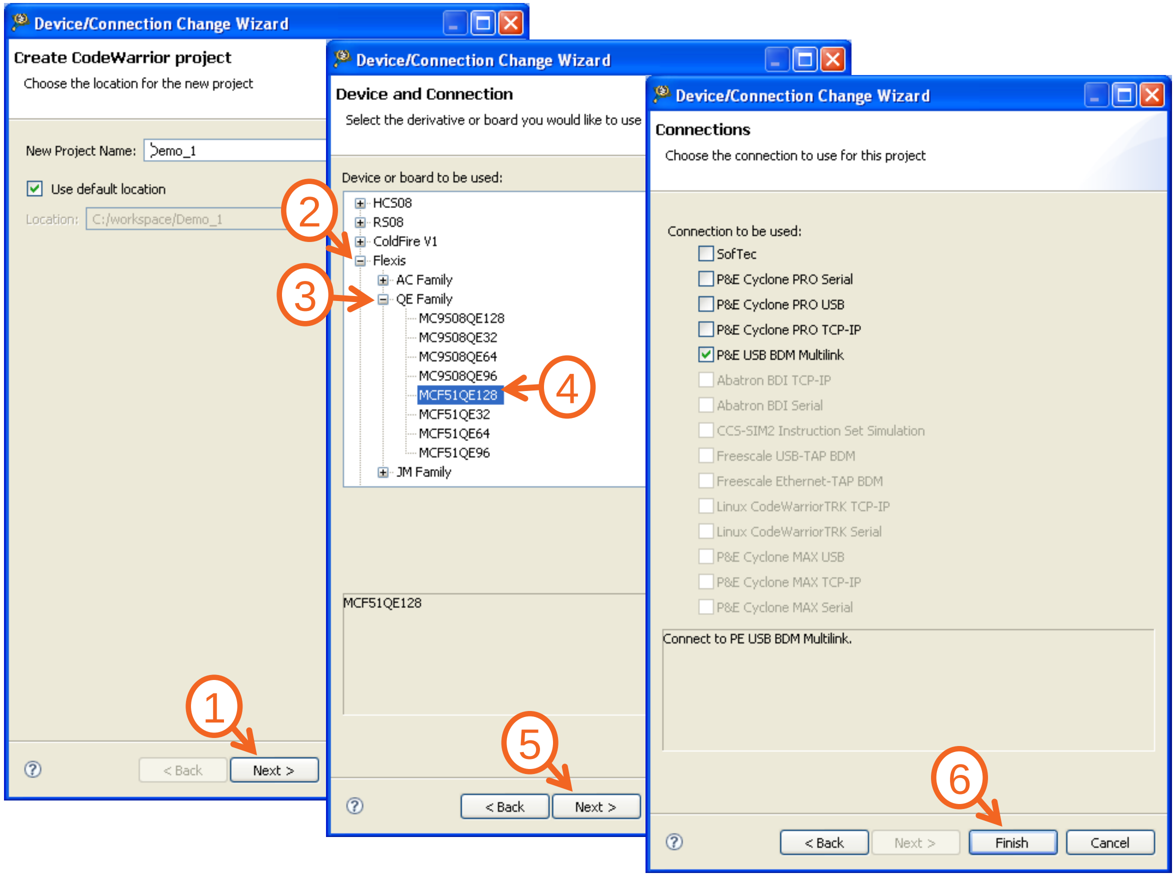
MCU Change Wizard



Create CodeWarrior project

Choose the location for the new project

New Project Name: Demo_1

☑ Use default location

Location: C:/workspace/Demo_1

Device and Connection

Select the derivative or board you would like to use

Device or board to be used:

- HCS08
- RS08
- ColdFire V1
- Flexis
  - AC Family
  - QE Family
    - MC9S08QE128
    - MC9S08QE32
    - MC9S08QE64
    - MC9S08QE96
    - MCF51QE128
    - MCF51QE32
    - MCF51QE64
    - MCF51QE96
  - JM Family

MCF51QE128

Connections

Choose the connection to use for this project

Connection to be used:

☐ SofTec
☐ P&E Cyclone PRO Serial
☐ P&E Cyclone PRO USB
☐ P&E Cyclone PRO TCP-IP
☑ P&E USB BDM Multilink
☐ Abatron BDI TCP-IP
☐ Abatron BDI Serial
☐ CCS-SIM2 Instruction Set Simulation
☐ Freescale USB-TAP BDM
☐ Freescale Ethernet-TAP BDM
☐ Linux CodeWarriorTRK TCP-IP
☐ Linux CodeWarriorTRK Serial
☐ P&E Cyclone MAX USB
☐ P&E Cyclone MAX TCP-IP
☐ P&E Cyclone MAX Serial

Connect to PE USB BDM Multilink.

Use MCU Change Wizard to port projects to a new microcontroller in as few as 6 clicks.

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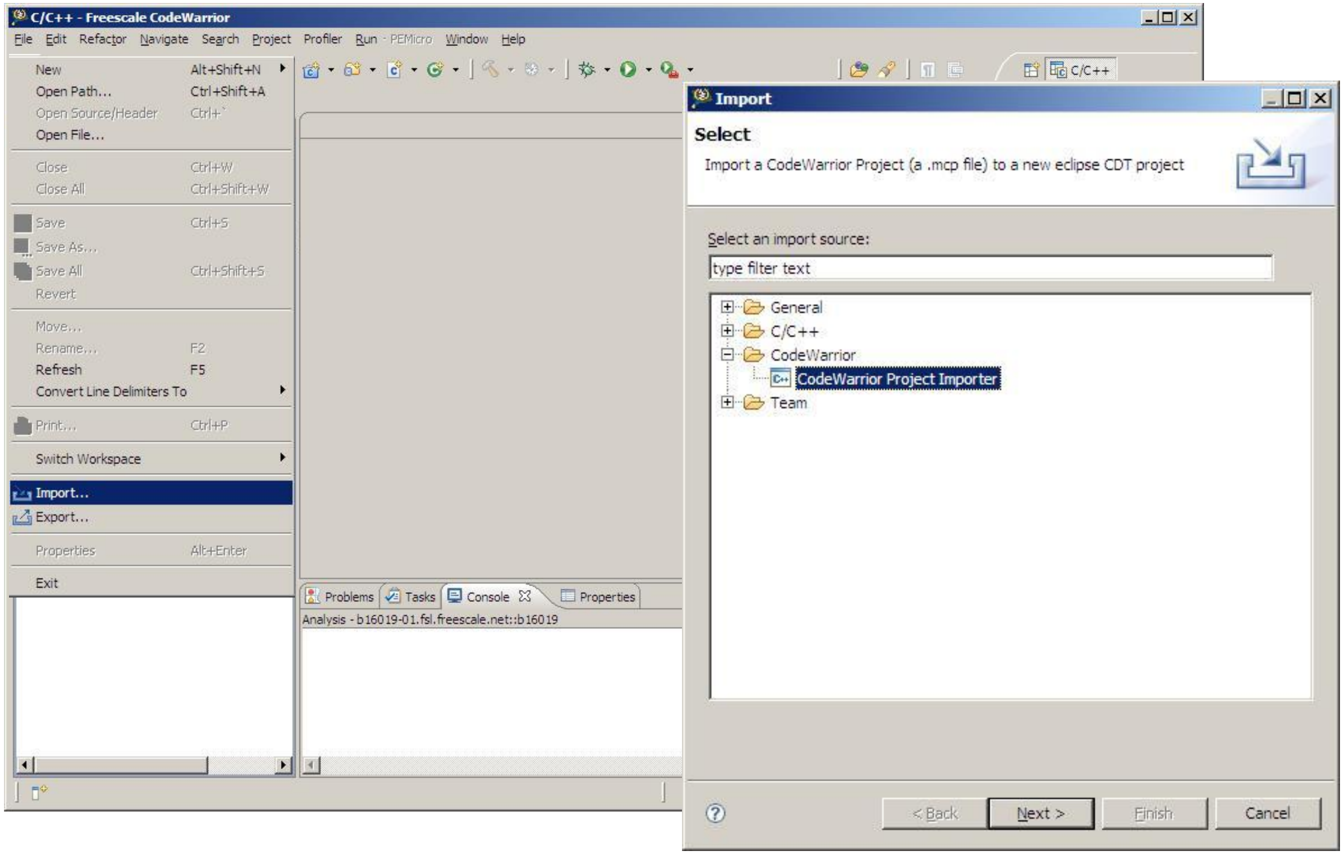
Project Importer


C/C++ - Freescale CodeWarrior
File Edit Refactor Navigate Search Project Profiler Run PEMicro Window Help
New Alt+Shift+N
Open Path... Ctrl+Shift+A
Open Source/Header Ctrl+`
Open File...
Close Ctrl+W
Close All Ctrl+Shift+W
Save Ctrl+S
Save As...
Save All Ctrl+Shift+S
Revert
Move...
Rename... F2
Refresh F5
Convert Line Delimiters To
Print... Ctrl+P
Switch Workspace
Import...
Export...
Properties Alt+Enter
Exit
Problems
Tasks
Console
Properties
C/C++
Import
Select
Select an import source:
type filter text
General
C/C++
CodeWarrior
CodeWarrior Project Importer
Team
< Back
Next >
Finish
Cancel

Import a CodeWarrior Project (a .mcp file) to a new eclipse CDT project

```
Analysis - b16019-01.fsl.freescale.net::b16019
```

- Use the Project Importer to import CodeWarrior Classic projects
  - CodeWarrior Development Studio for Microcontrollers v6.x
  - CodeWarrior Development Studio for ColdFire Architectures v7.x

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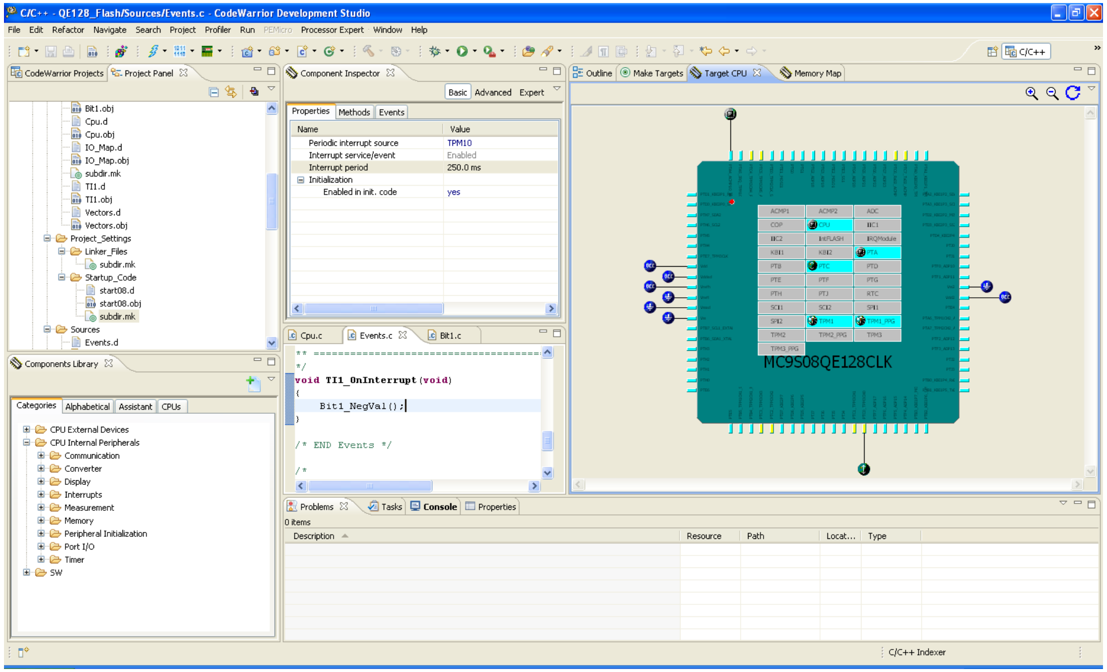
Processor Expert

- A rapid application design tool with …
  - **Graphical User Interface** which allows an application to be specified by the functionality needed
  - **Automatic code generator** which creates tested, optimized C code tuned to the application needs and selected Freescale MCU
  - **Built-in knowledgebase**, which immediately flags resource conflicts and incorrect settings
- Architectures supported
  - RS08 derivatives
  - HCS08 derivatives
  - ColdFire derivatives



C/C++ - QE128_Flash/Sources/Events.c - CodeWarrior Development Studio

Name	Value
Periodic interrupt source	TPM10
Interrupt service/event	Enabled
Interrupt period	250.0 ms
Initialization	
Enabled in init. code	yes

```
** =====================================
*/
void TI1_OnInterrupt(void)
{
    Bit1_NegVal();
}

/* END Events */

/*
```

0 items

File Edit Refactor Navigate Search Project Profiler Run PEMicro Processor Expert Window Help
CodeWarrior Projects
Project Panel
Bit1.obj
Cpu.d
Cpu.obj
IO_Map.d
IO_Map.obj
subdir.mk
TI1.d
TI1.obj
Vectors.d
Vectors.obj
Project_Settings
Linker_Files
subdir.mk
Startup_Code
start08.d
start08.obj
subdir.mk
Sources
Events.d
Components Library
Categories
Alphabetical
Assistant
CPUs
CPU External Devices
CPU Internal Peripherals
Communication
Converter
Display
Interrupts
Measurement
Memory
Peripheral Initialization
Port I/O
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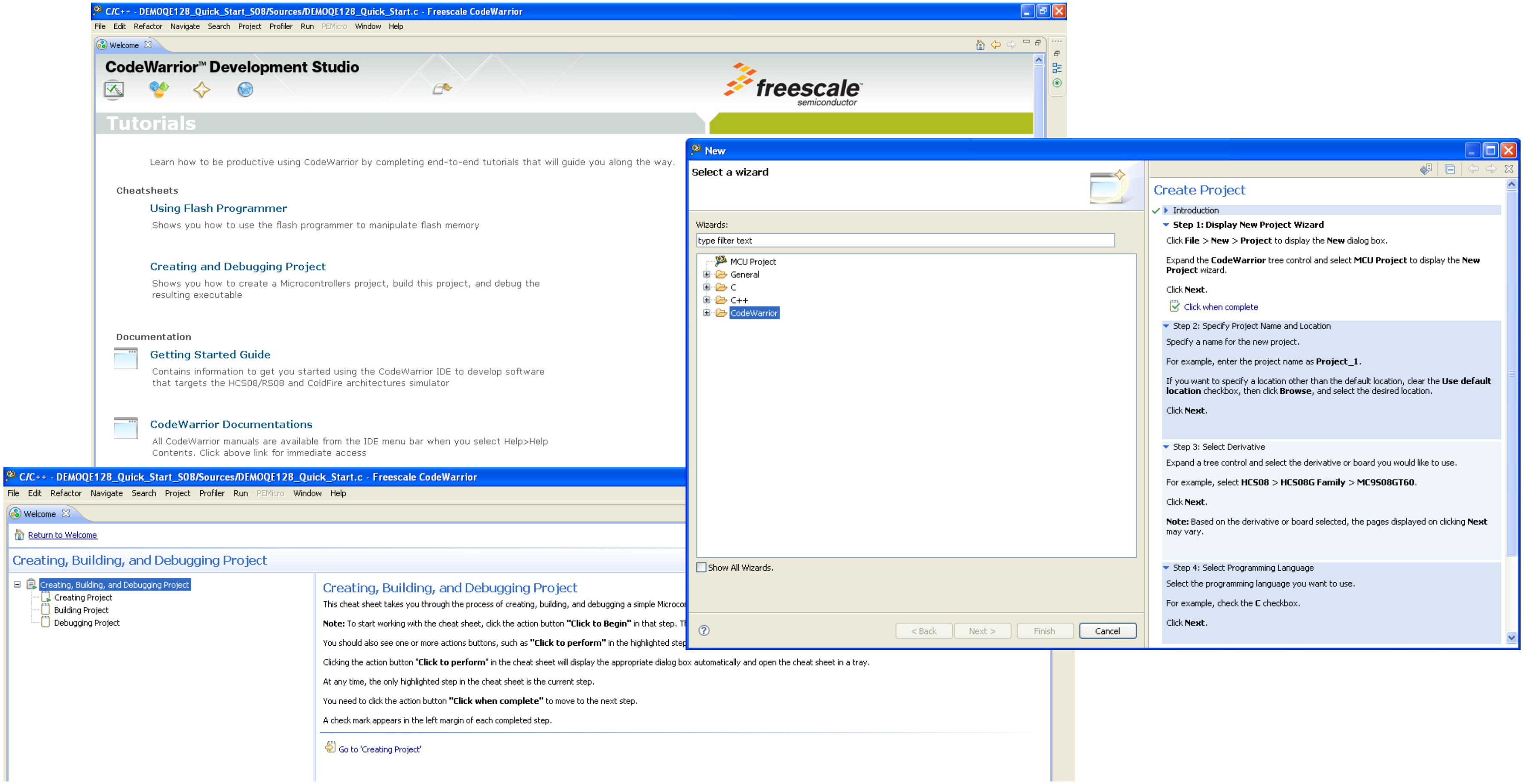
Tutorials


C/C++ - DEMOQE128_Quick_Start_S08/Sources/DEMOQE128_Quick_Start.c - Freescale CodeWarrior
File Edit Refactor Navigate Search Project Profiler Run PEMicro Window Help
Welcome
freescale semiconductor

CodeWarrior™ Development Studio

Tutorials

Learn how to be productive using CodeWarrior by completing end-to-end tutorials that will guide you along the way.

Cheatsheets

Using Flash Programmer

Shows you how to use the flash programmer to manipulate flash memory

Creating and Debugging Project

Shows you how to create a Microcontrollers project, build this project, and debug the resulting executable

Documentation

Getting Started Guide

Contains information to get you started using the CodeWarrior IDE to develop software that targets the HCS08/RS08 and ColdFire architectures simulator

CodeWarrior Documentations

All CodeWarrior manuals are available from the IDE menu bar when you select Help>Help Contents. Click above link for immediate access

C/C++ - DEMOQE128_Quick_Start_S08/Sources/DEMOQE128_Quick_Start.c - Freescale CodeWarrior
File Edit Refactor Navigate Search Project Profiler Run PEMicro Window Help
Welcome
Return to Welcome

Creating, Building, and Debugging Project

- Creating, Building, and Debugging Project
  - Creating Project
  - Building Project
  - Debugging Project

Creating, Building, and Debugging Project

This cheat sheet takes you through the process of creating, building, and debugging a simple Microco

Note: To start working with the cheat sheet, click the action button **"Click to Begin"** in that step. Th

You should also see one or more actions buttons, such as **"Click to perform"** in the highlighted step

Clicking the action button **"Click to perform"** in the cheat sheet will display the appropriate dialog box automatically and open the cheat sheet in a tray.

At any time, the only highlighted step in the cheat sheet is the current step.

You need to click the action button **"Click when complete"** to move to the next step.

A check mark appears in the left margin of each completed step.

Go to 'Creating Project'

New
Select a wizard
Wizards:
type filter text
MCU Project
General
C
C++
CodeWarrior
☐ Show All Wizards.
< Back
Next >
Finish
Cancel

Create Project

Introduction

Step 1: Display New Project Wizard

Click **File** > **New** > **Project** to display the **New** dialog box.

Expand the **CodeWarrior** tree control and select **MCU Project** to display the **New Project** wizard.

Click **Next**.

Click when complete

Step 2: Specify Project Name and Location

Specify a name for the new project.

For example, enter the project name as **Project_1**.

If you want to specify a location other than the default location, clear the **Use default location** checkbox, then click **Browse**, and select the desired location.

Click **Next**.

Step 3: Select Derivative

Expand a tree control and select the derivative or board you would like to use.

For example, select **HCS08** > **HCS08G Family** > **MC9S08GT60**.

Click **Next**.

Note: Based on the derivative or board selected, the pages displayed on clicking **Next** may vary.

Step 4: Select Programming Language

Select the programming language you want to use.

For example, check the **C** checkbox.

Click **Next**.

Step by step tutorials – known as cheat sheets in Eclipse – are available for standard tasks

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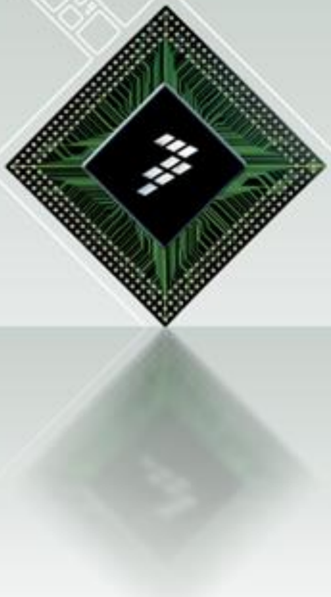

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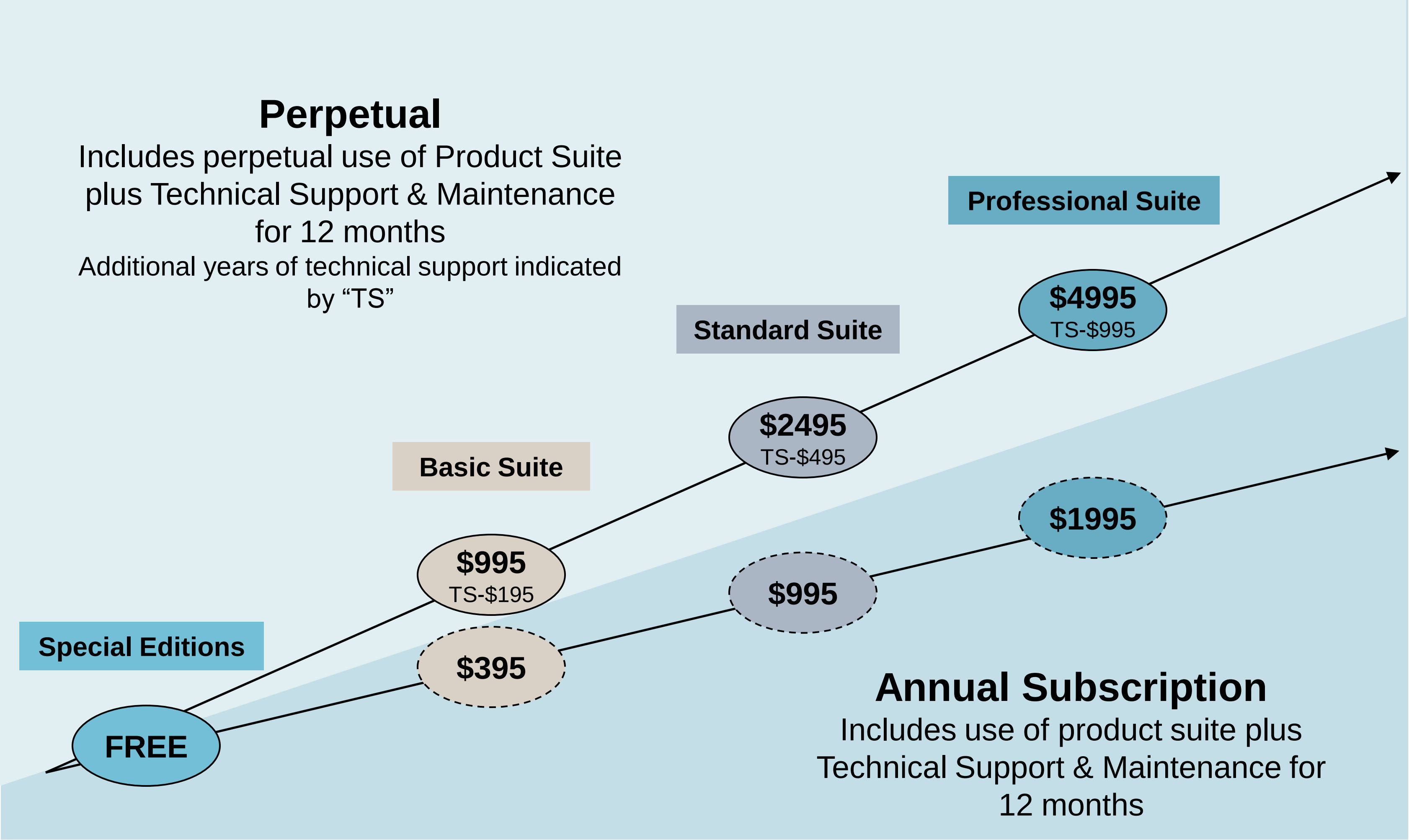
CodeWarrior Pricing and Packaging Model



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- CWX-MCF-SE
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- CWX-H12-PROED-EX
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- CWX-MGT-EX
- CWX-MPC-5XX-EX
- CWX-MPC-5500B-EX
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- CWX-PPC-LLPLT-EX
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- CodeWarrior for ColdFire ISA, Linux Application Edition (Windows hosted) (CWS-MCF-WLAPP-CX/LX)
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  - Professional Suite: $1,995

► Perpetual License

- If you purchased a perpetual license within the last 12 months, you can download CW MCU v10.0 at no cost
- If you have an active technical support agreement (after the first 12 months), you can download CW MCU v10.0 at no cost
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  - Basic Suite: $195
  - Standard Suite: $495
  - Professional Suite: $995

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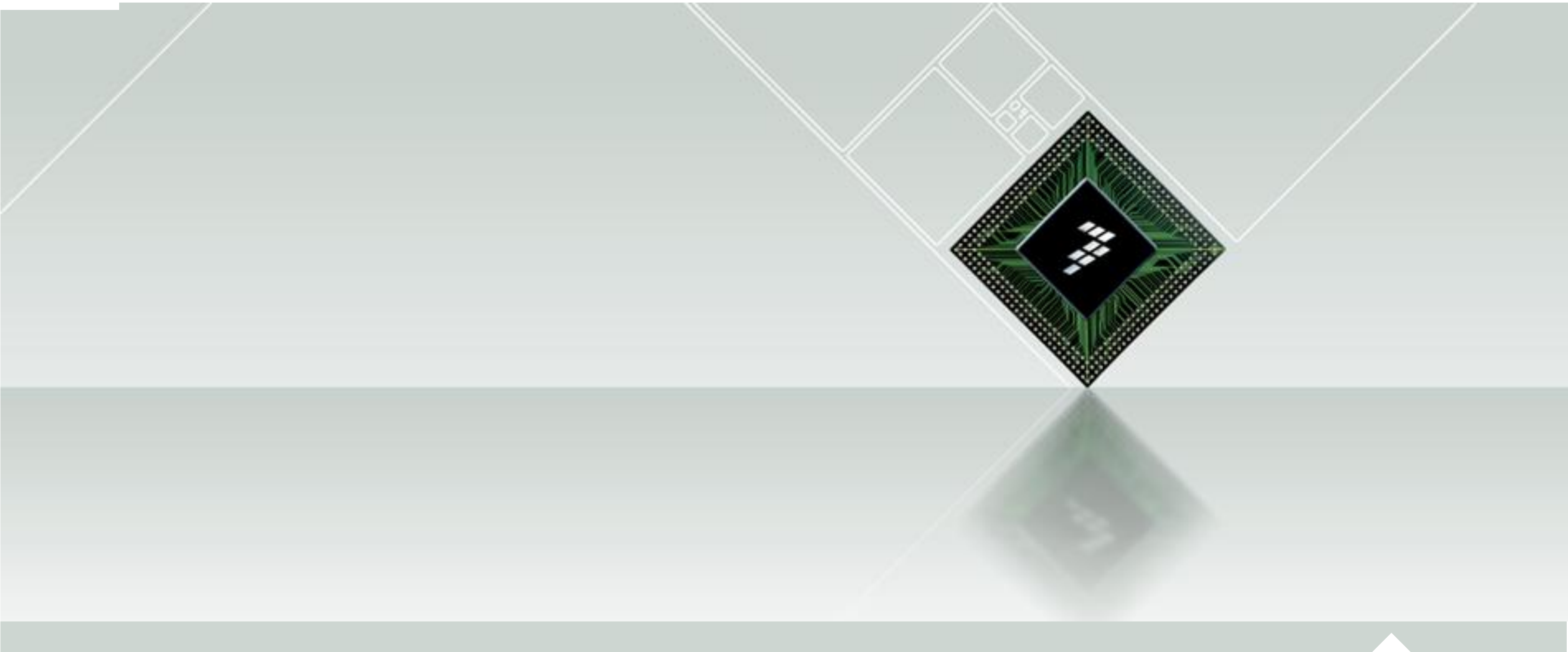

Basic Eclipse Terms

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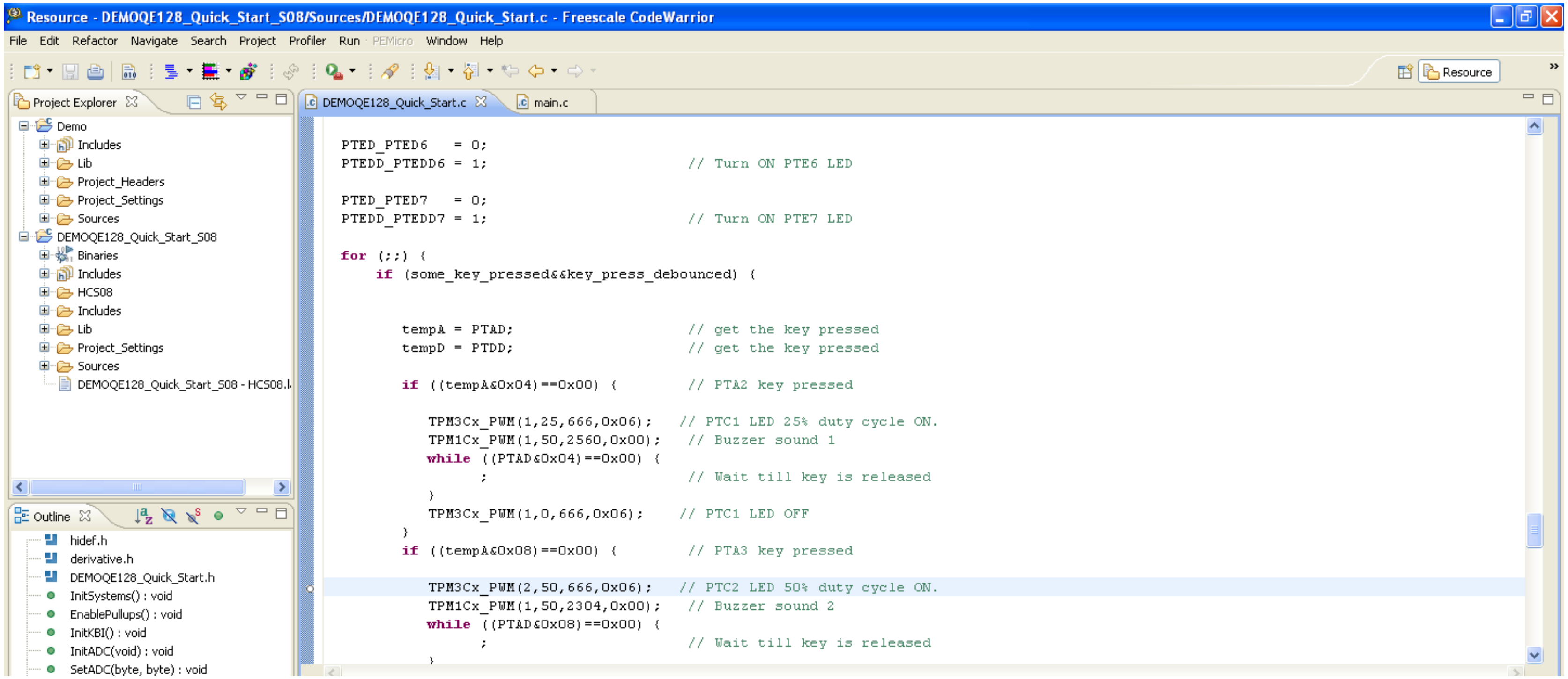
Workbench

- **Workbench** = desktop development environment
  - Contains all C/C++ development-related tools.
  - Shows different perspectives of the working environment.
  - Main window that appears when Eclipse starts.


Resource - DEMOQE128_Quick_Start_S08/Sources/DEMOQE128_Quick_Start.c - Freescale CodeWarrior
File Edit Refactor Navigate Search Project Profiler Run PEMicro Window Help
Resource
Project Explorer
Demo
Includes
Lib
Project_Headers
Project_Settings
Sources
DEMOQE128_Quick_Start_S08
Binaries
Includes
HCS08
Includes
Lib
Project_Settings
Sources
DEMOQE128_Quick_Start_S08 - HCS08.l
Outline
hidef.h
derivative.h
DEMOQE128_Quick_Start.h
InitSystems() : void
EnablePullups() : void
InitKBI() : void
InitADC(void) : void
SetADC(byte, byte) : void
DEMOQE128_Quick_Start.c
main.c

```
PTED_PTED6   = 0;
PTEDD_PTEDD6 = 1;                       // Turn ON PTE6 LED

PTED_PTED7   = 0;
PTEDD_PTEDD7 = 1;                       // Turn ON PTE7 LED

for (;;) {
    if (some_key_pressed&&key_press_debounced) {


       tempA = PTAD;                    // get the key pressed
       tempD = PTDD;                    // get the key pressed

       if ((tempA&0x04)==0x00) {        // PTA2 key pressed

          TPM3Cx_PWM(1,25,666,0x06);   // PTC1 LED 25% duty cycle ON.
          TPM1Cx_PWM(1,50,2560,0x00);   // Buzzer sound 1
          while ((PTAD&0x04)==0x00) {
                ;                       // Wait till key is released
          }
          TPM3Cx_PWM(1,0,666,0x06);    // PTC1 LED OFF
       }
       if ((tempA&0x08)==0x00) {        // PTA3 key pressed

          TPM3Cx_PWM(2,50,666,0x06);   // PTC2 LED 50% duty cycle ON.
          TPM1Cx_PWM(1,50,2304,0x00);   // Buzzer sound 2
          while ((PTAD&0x08)==0x00) {
                ;                       // Wait till key is released
          }
```

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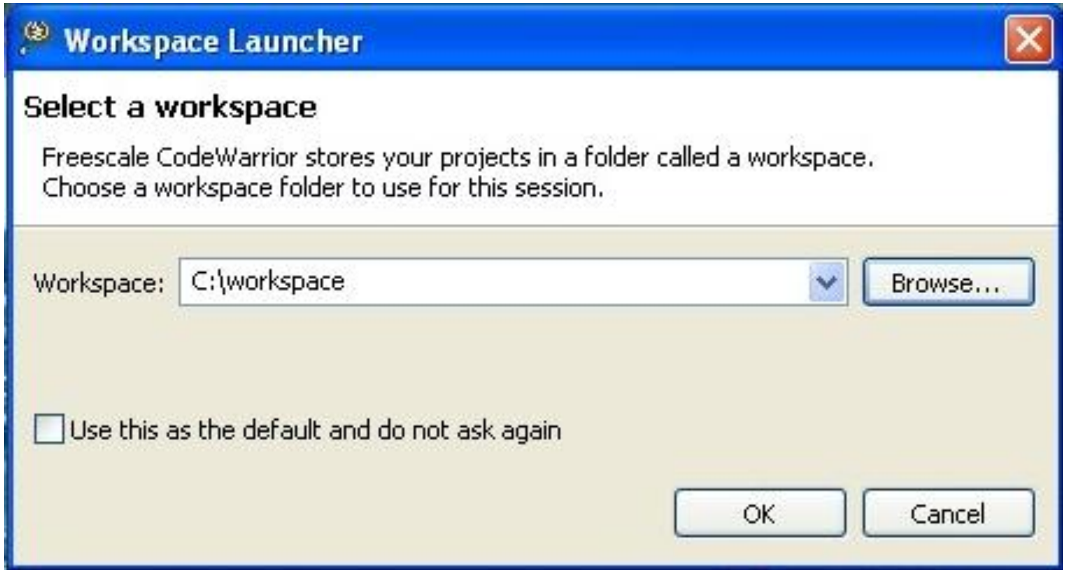
Workspace

- **Workspace** = directory that stores the source code, files and settings related to your work.
  - Specify the workspace on startup
  - More than one project can be in a workspace
  - To switch workspaces select **File > Switch Workspace**



Select a workspace

Freescale CodeWarrior stores your projects in a folder called a workspace.
Choose a workspace folder to use for this session.

Workspace: C:\workspace

☐ Use this as the default and do not ask again

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Project

- **Project** = container for organizing files and folders
  - All C/C++ work is done in the context of projects
  - CodeWarrior creates projects in new folders by default
  - New files and folders can be added to a project
    - **File > New > File**: creates a new file in project directory within the workspace directory
    - **File > New > Folder**: creates a new directory in project directory within the workspace directory.
    - Files dragged into a project are physically copied into the project directory.
  - Files outside the project folder (or outside the workspace) can be linked to a project
    - **File > New > File > Advanced > Link to File System**: creates new link in project directory within the workspace, which refers to a file in the file system
    - **File > New > Folder > Advanced > Link to File System**: creates new link to a directory in project folder within the workspace. The link points to a directory in the user's file system. Creating this link will pull the directory and all sub-components into the CodeWarrior project.

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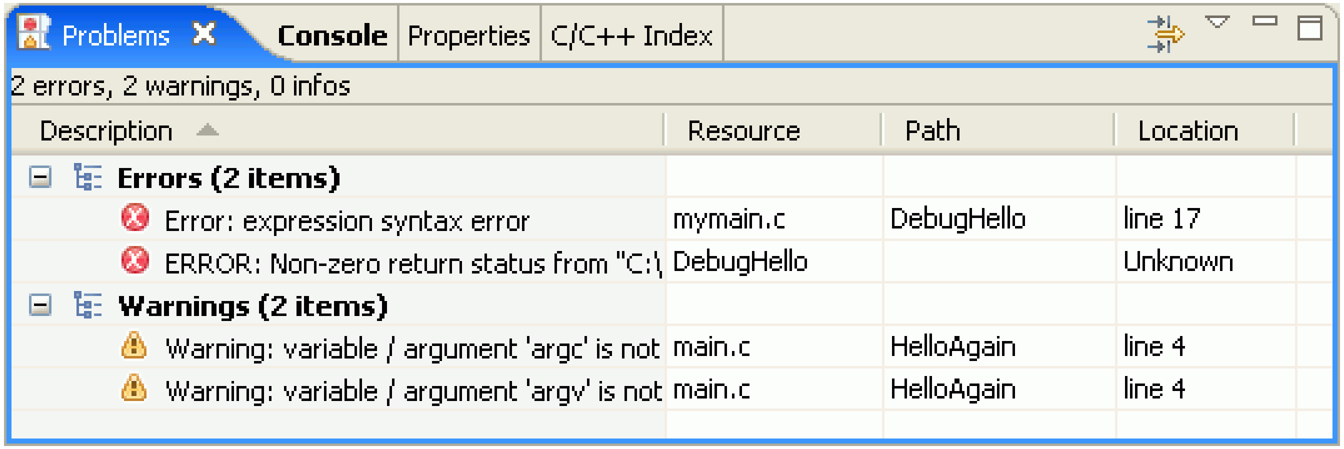
View

- **View** = a “visual” panel in the Workbench.
  - Displays information about the contents of your workbench.
  - Different views are provided for different tasks
    - Problems – compile or other problems.
    - Console – standard run window console.
    - C/C++ Projects – view of projects in workspace.
    - Breakpoints – debugging breakpoints in open projects.
  - Editors are special “views” for editing files.



2 errors, 2 warnings, 0 infos

Description	Resource	Path	Location
Errors (2 items)			
Error: expression syntax error	mymain.c	DebugHello	line 17
ERROR: Non-zero return status from "C:\	DebugHello		Unknown
Warnings (2 items)			
Warning: variable / argument 'argc' is not	main.c	HelloAgain	line 4
Warning: variable / argument 'argv' is not	main.c	HelloAgain	line 4

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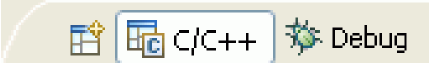
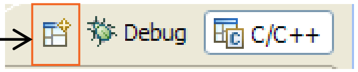
Perspectives

- **Perspective** = collection of Eclipse views and action sets organized into a layout that suits an assigned task
  - Current perspective is highlighted at the top of the perspective window
  - Perspectives are shown on perspective shortcut bar (top right)



  - Click the perspective icon to switch among open perspectives
  - To open a perspective:
    - Select **Window > Open Perspective > [select** *-or-* **Other]**
    - On the perspective view, choose **Open Perspective > [select** *-or-* **Other]**



Open Perspective Icon

  - To close a perspective:
    - Select **Window > Close Perspective**

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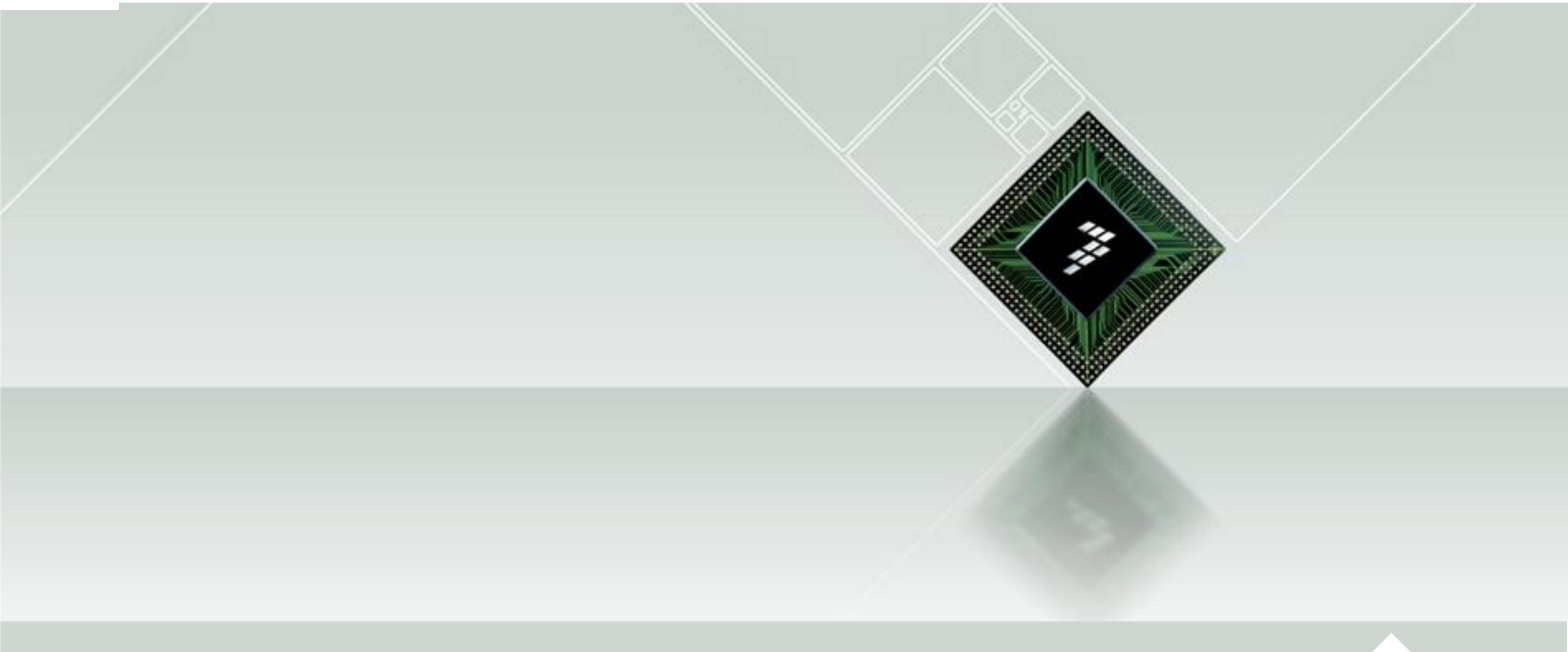

Demonstration

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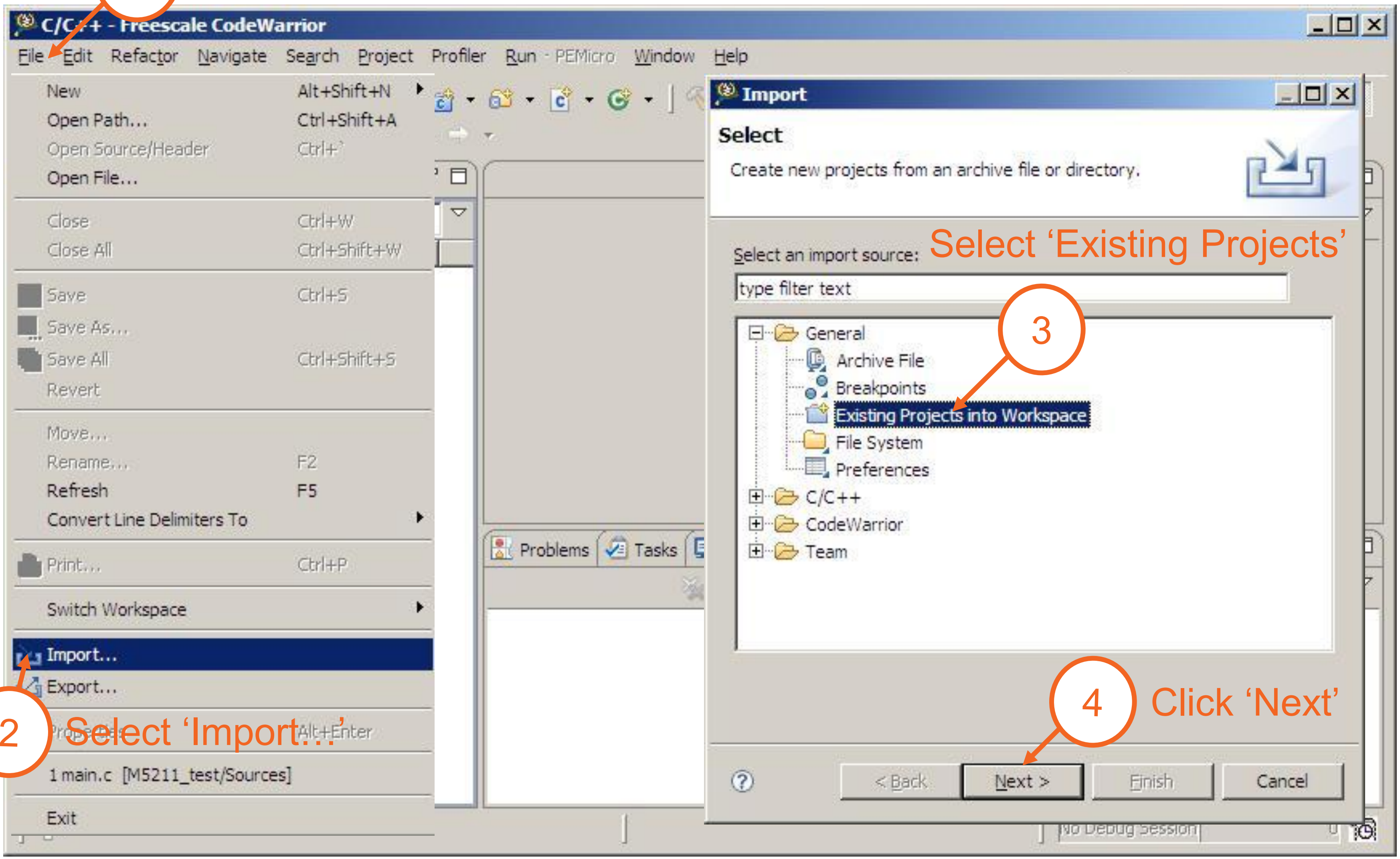
Open existing project - 1



1 Click 'File'

2 Select 'Import...'

3 Select 'Existing Projects'

4 Click 'Next'

Select

Create new projects from an archive file or directory.

Select an import source:

type filter text

C/C++ - Freescale CodeWarrior
File
Edit
Refactor
Navigate
Search
Project
Profiler
Run
PEMicro
Window
Help
New Alt+Shift+N
Open Path... Ctrl+Shift+A
Open Source/Header Ctrl+`
Open File...
Close Ctrl+W
Close All Ctrl+Shift+W
Save Ctrl+S
Save As...
Save All Ctrl+Shift+S
Revert
Move...
Rename... F2
Refresh F5
Convert Line Delimiters To
Print... Ctrl+P
Switch Workspace
Import...
Export...
Properties Alt+Enter
1 main.c [M5211_test/Sources]
Exit
Problems
Tasks
Import
General
Archive File
Breakpoints
Existing Projects into Workspace
File System
Preferences
C/C++
CodeWarrior
Team
< Back
Next >
Finish
Cancel
No Debug Session

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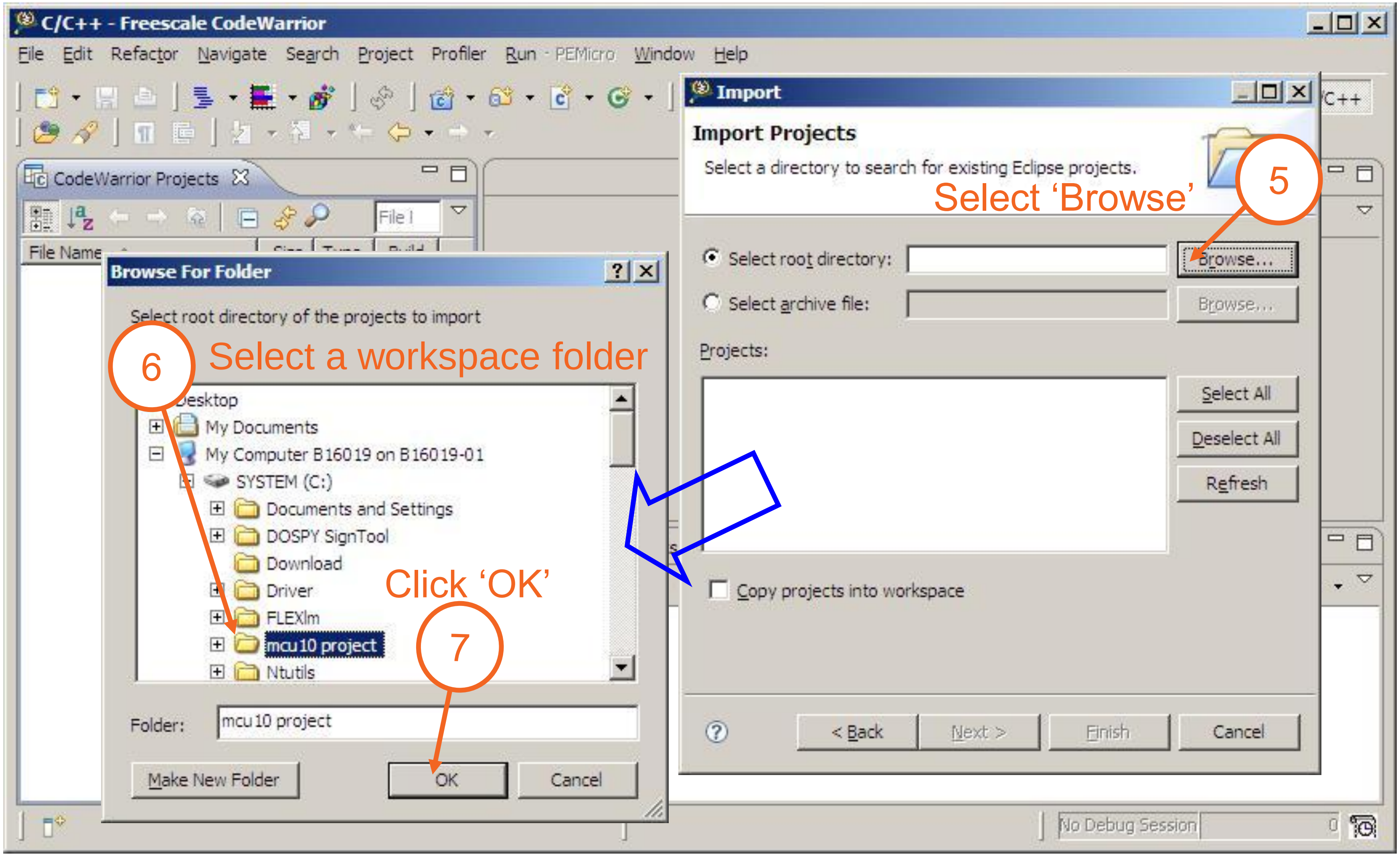
Open existing project - 2


C/C++ - Freescale CodeWarrior
File Edit Refactor Navigate Search Project Profiler Run PEMicro Window Help
CodeWarrior Projects
File Name
Import
Browse For Folder
Desktop
My Documents
My Computer B16019 on B16019-01
SYSTEM (C:)
Documents and Settings
DOSPY SignTool
Download
Driver
FLEXlm
mcu10 project
Ntutils
Make New Folder
OK
Cancel
Browse...
Projects:
Select All
Deselect All
Refresh
< Back
Next >
Finish
Cancel
No Debug Session
5
6
7

Import Projects

Select a directory to search for existing Eclipse projects.

● Select root directory:

○ Select archive file:

☐ Copy projects into workspace

Select root directory of the projects to import

Folder: mcu10 project

Select 'Browse'

Select a workspace folder

Click 'OK'

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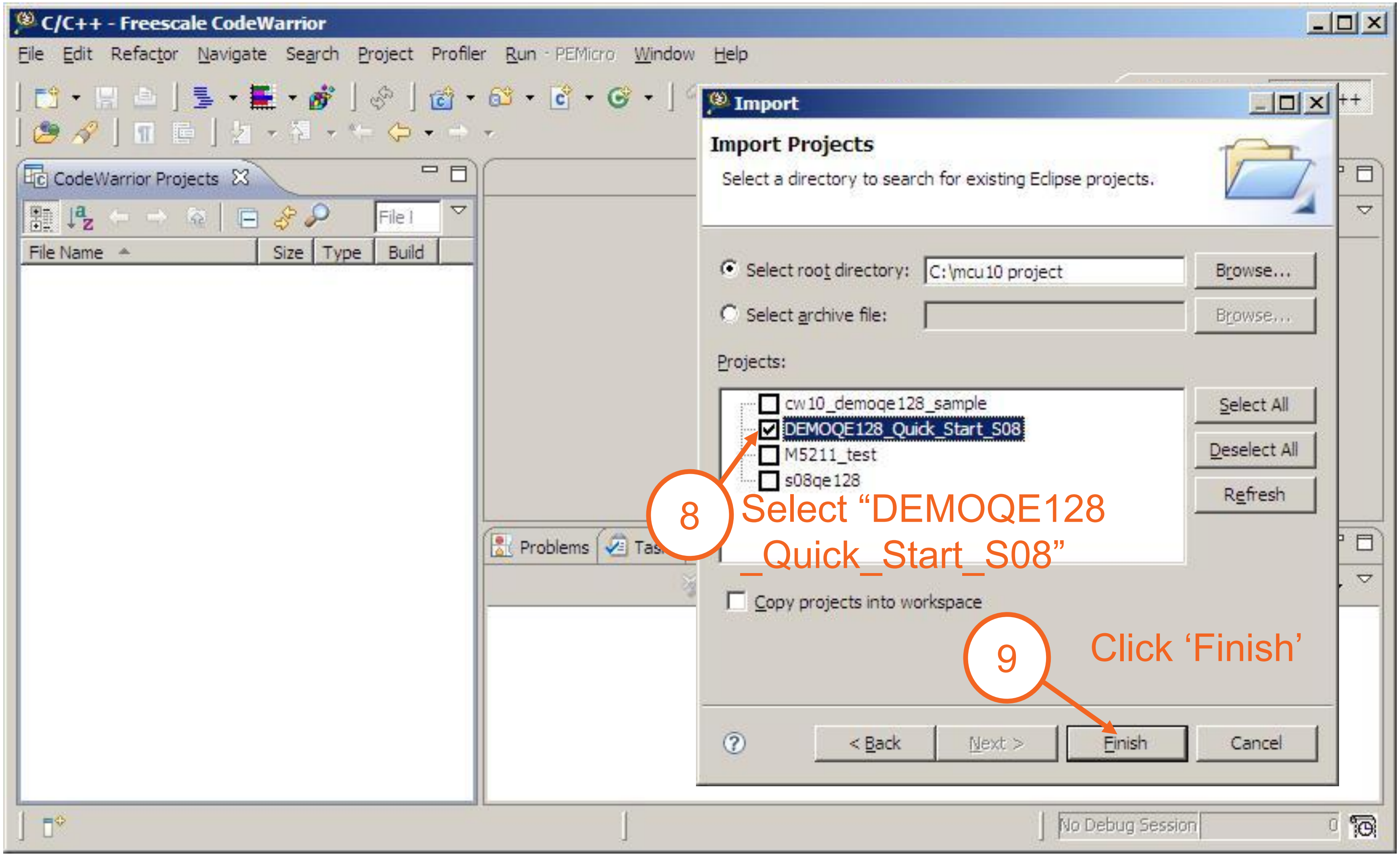
Open existing project - 3


C/C++ - Freescale CodeWarrior
File Edit Refactor Navigate Search Project Profiler Run PEMicro Window Help
CodeWarrior Projects
File Name
Size
Type
Build
Problems
Import
Browse...
Select All
Deselect All
Refresh
< Back
Next >
Finish
Cancel
No Debug Session

Import Projects

Select a directory to search for existing Eclipse projects.

● Select root directory: C:\mcu10 project

○ Select archive file:

Projects:

- ☐ cw10_demoqe128_sample
- ☑ DEMOQE128_Quick_Start_S08
- ☐ M5211_test
- ☐ s08qe128

☐ Copy projects into workspace

8 Select “DEMOQE128 _Quick_Start_S08”

9 Click ‘Finish’

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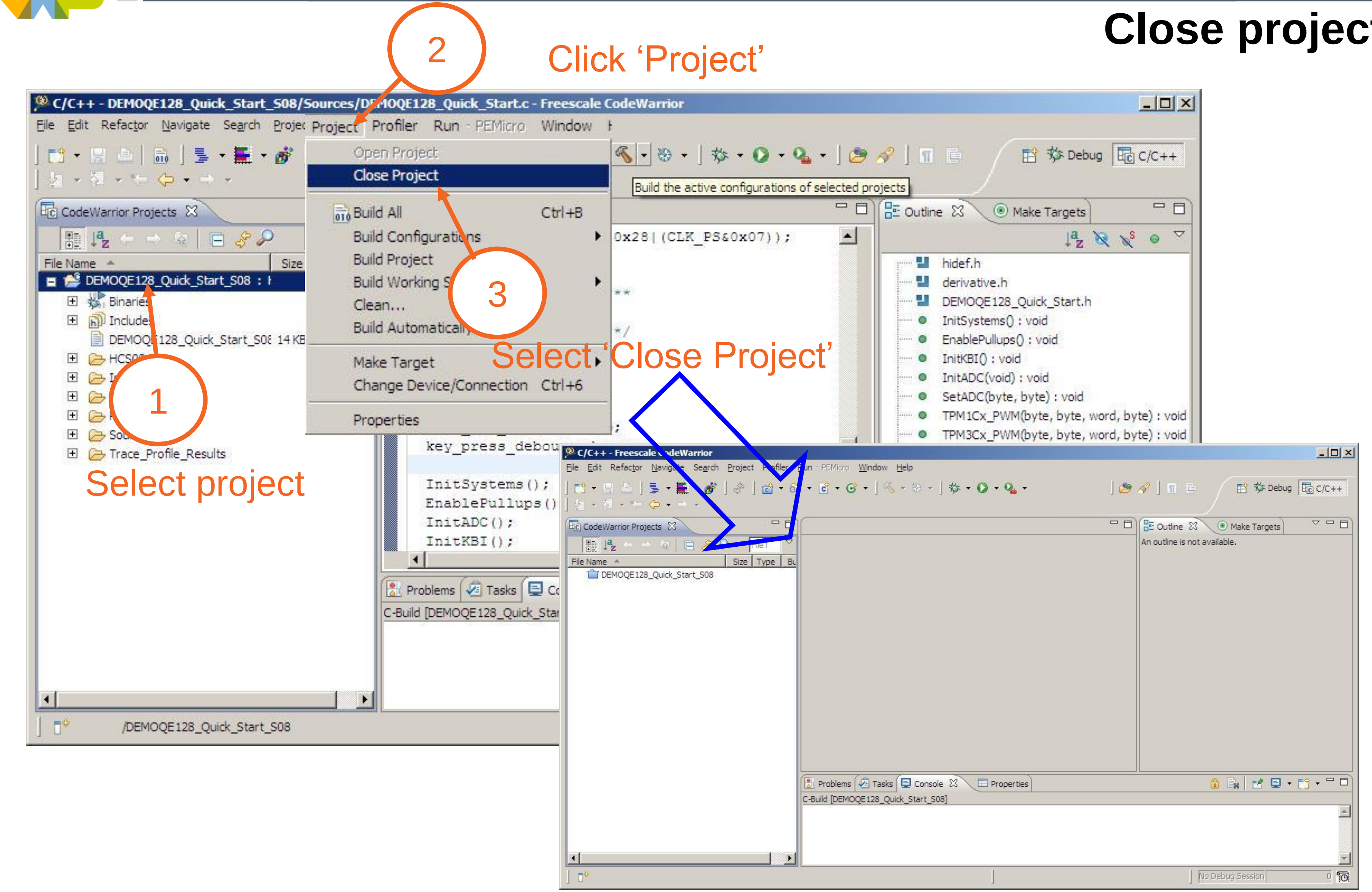
Close project


2
1
3
C/C++ - DEMOQE128_Quick_Start_S08/Sources/DEMOQE128_Quick_Start.c - Freescale CodeWarrior
File Edit Refactor Navigate Search Project Profiler Run PEMicro Window
Open Project
Close Project
Build All Ctrl+B
Build Configurations
Build Project
Build Working Set
Clean...
Build Automatically
Make Target
Change Device/Connection Ctrl+6
Properties
Build the active configurations of selected projects
CodeWarrior Projects
File Name
Size
DEMOQE128_Quick_Start_S08
Binaries
Includes
DEMOQE128_Quick_Start_S08 14 KB
Trace_Profile_Results
/DEMOQE128_Quick_Start_S08
Outline
Make Targets
hidef.h
derivative.h
DEMOQE128_Quick_Start.h
InitSystems() : void
EnablePullups() : void
InitKBI() : void
InitADC(void) : void
SetADC(byte, byte) : void
TPM1Cx_PWM(byte, byte, word, byte) : void
TPM3Cx_PWM(byte, byte, word, byte) : void
Debug
C/C++
Problems
Tasks
C-Build [DEMOQE128_Quick_Start_S08]
C/C++ - Freescale CodeWarrior
File Edit Refactor Navigate Search Project Profiler Run PEMicro Window Help
An outline is not available.
Console
Properties
Type
No Debug Session

```
0x28|(CLK_PS&0x07));
key_press_debou
InitSystems();
EnablePullups();
InitADC();
InitKBI();
```

Click ‘Project’

Select ‘Close Project’

Select project

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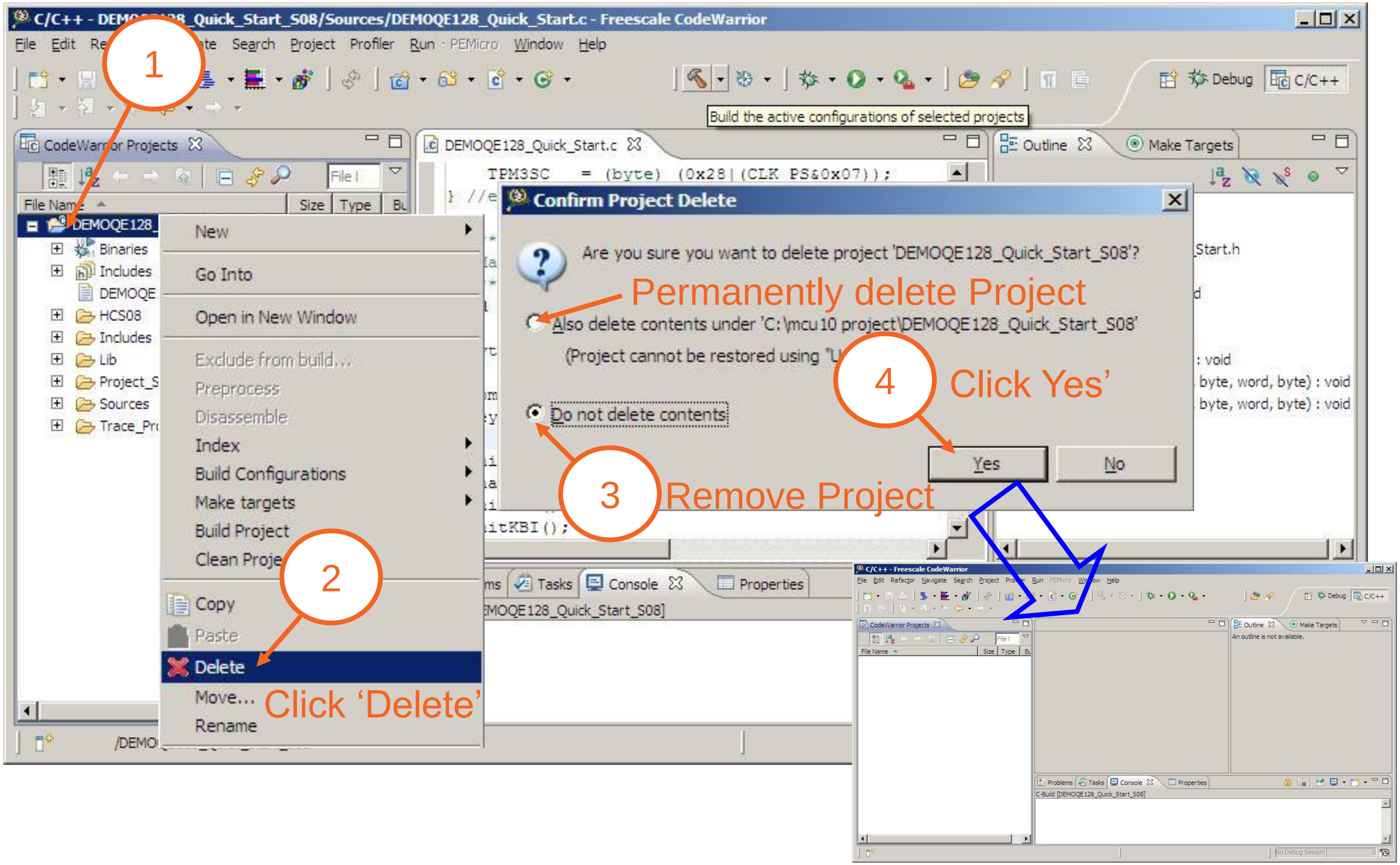
Remove project from workspace

Right click project



Confirm Project Delete

Are you sure you want to delete project 'DEMOQE128_Quick_Start_S08'?

○ Also delete contents under 'C:\mcu10 project\DEMOQE128_Quick_Start_S08'

(Project cannot be restored using "U

● Do not delete contents

C/C++ - DEMOQE128_Quick_Start_S08/Sources/DEMOQE128_Quick_Start.c - Freescale CodeWarrior
File Edit Refactor Navigate Search Project Profiler Run PEMicro Window Help
Build the active configurations of selected projects
Debug C/C++
CodeWarrior Projects
DEMOQE128_Quick_Start.c
Outline Make Targets
File Name Size Type
DEMOQE128_
Binaries
Includes
DEMOQE
HCS08
Includes
Lib
Project_S
Sources
Trace_Pr
New
Go Into
Open in New Window
Exclude from build...
Preprocess
Disassemble
Index
Build Configurations
Make targets
Build Project
Clean Project
Copy
Paste
Delete
Move...
Rename
TPM3SC = (byte) (0x28|(CLK_PS&0x07));
Start.h
: void
byte, word, byte) : void
byte, word, byte) : void
itKBI();
Problems Tasks Console Properties
DEMOQE128_Quick_Start_S08]
Yes
No
C/C++ - Freescale CodeWarrior
An outline is not available.
C-Build [DEMOQE128_Quick_Start_S08]
No Debug Session
1
2
3
4

Permanently delete Project

Click Yes'

Remove Project

Click 'Delete'

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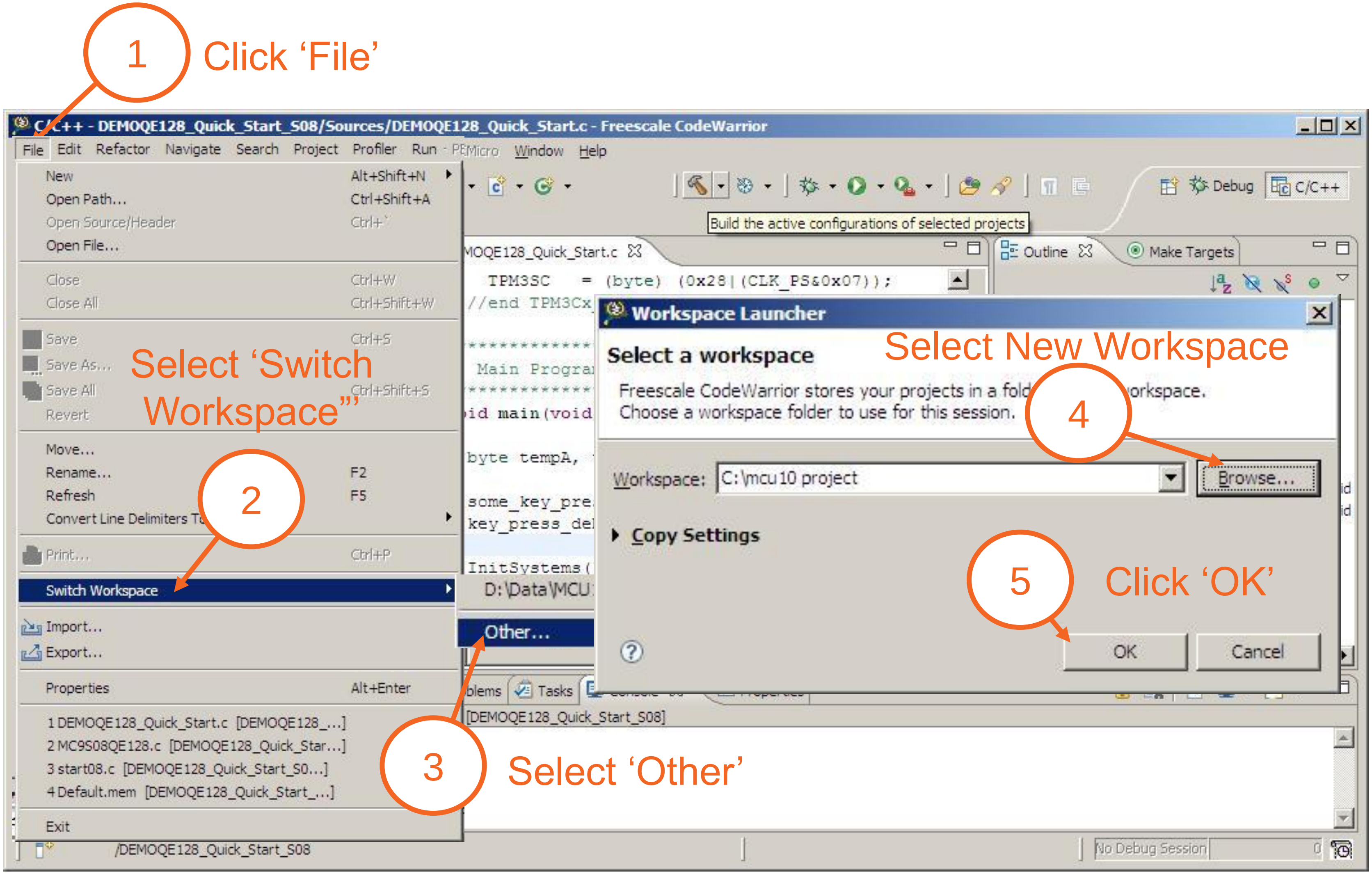
Change workspace


C/C++ - DEMOQE128_Quick_Start_S08/Sources/DEMOQE128_Quick_Start.c - Freescale CodeWarrior
File Edit Refactor Navigate Search Project Profiler Run PEMicro Window Help
New Alt+Shift+N
Open Path... Ctrl+Shift+A
Open Source/Header Ctrl+`
Open File...
Close Ctrl+W
Close All Ctrl+Shift+W
Save Ctrl+S
Save As...
Save All Ctrl+Shift+S
Revert
Move...
Rename... F2
Refresh F5
Convert Line Delimiters To
Print... Ctrl+P
Switch Workspace
Import...
Export...
Properties Alt+Enter
1 DEMOQE128_Quick_Start.c [DEMOQE128_...]
2 MC9S08QE128.c [DEMOQE128_Quick_Star...]
3 start08.c [DEMOQE128_Quick_Start_S0...]
4 Default.mem [DEMOQE128_Quick_Start_...]
Exit
D:\Data\MCU
Other...
Build the active configurations of selected projects
Debug
C/C++
Outline
Make Targets
Tasks
[DEMOQE128_Quick_Start_S08]
/DEMOQE128_Quick_Start_S08
No Debug Session
Workspace Launcher
Browse...
Copy Settings
OK
Cancel

1 Click ‘File’

2 Select ‘Switch Workspace”’

3 Select ‘Other’

4 Select New Workspace

5 Click ‘OK’

Select a workspace

Freescale CodeWarrior stores your projects in a fold orkspace.
Choose a workspace folder to use for this session.

Workspace: C:\mcu10 project

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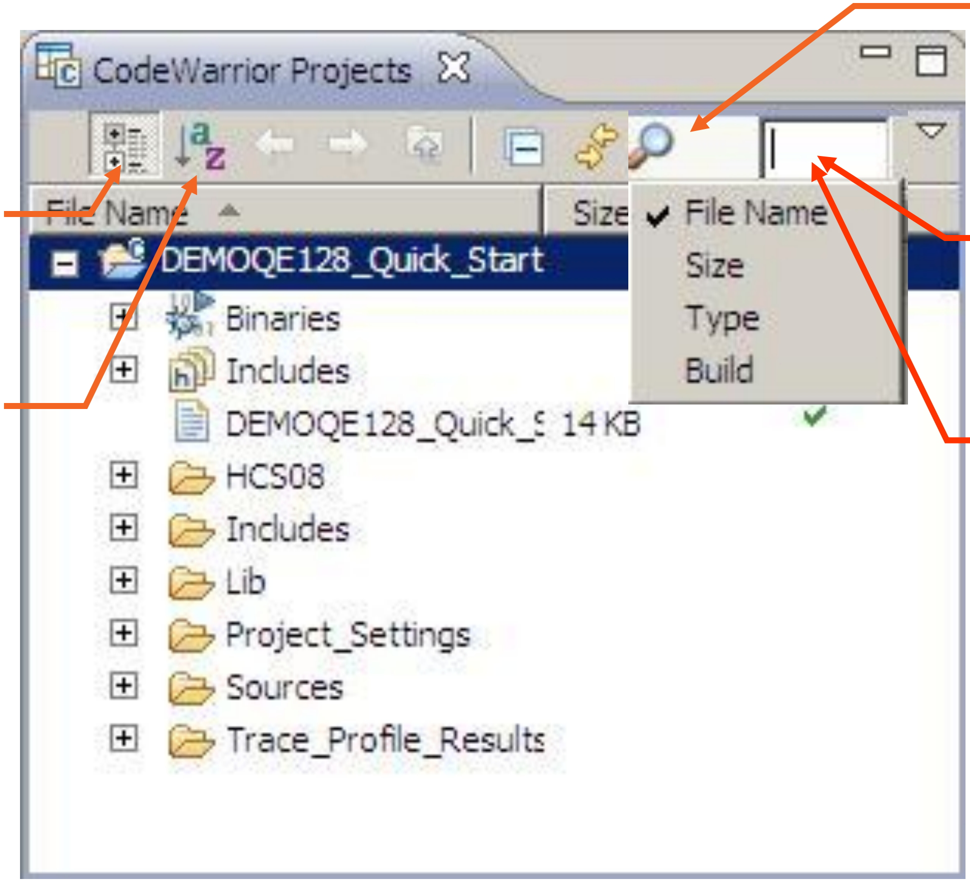
“CodeWarrior Projects” panel


CodeWarrior Projects
File Name
Size
DEMOQE128_Quick_Start
Binaries
Includes
DEMOQE128_Quick_S 14 KB
HCS08
Includes
Lib
Project_Settings
Sources
Trace_Profile_Results
✓ File Name
Size
Type
Build

Hierarchical view

Alphabetical view

Search view

Search C file Input “*.c”

Search head file Input “*.h”

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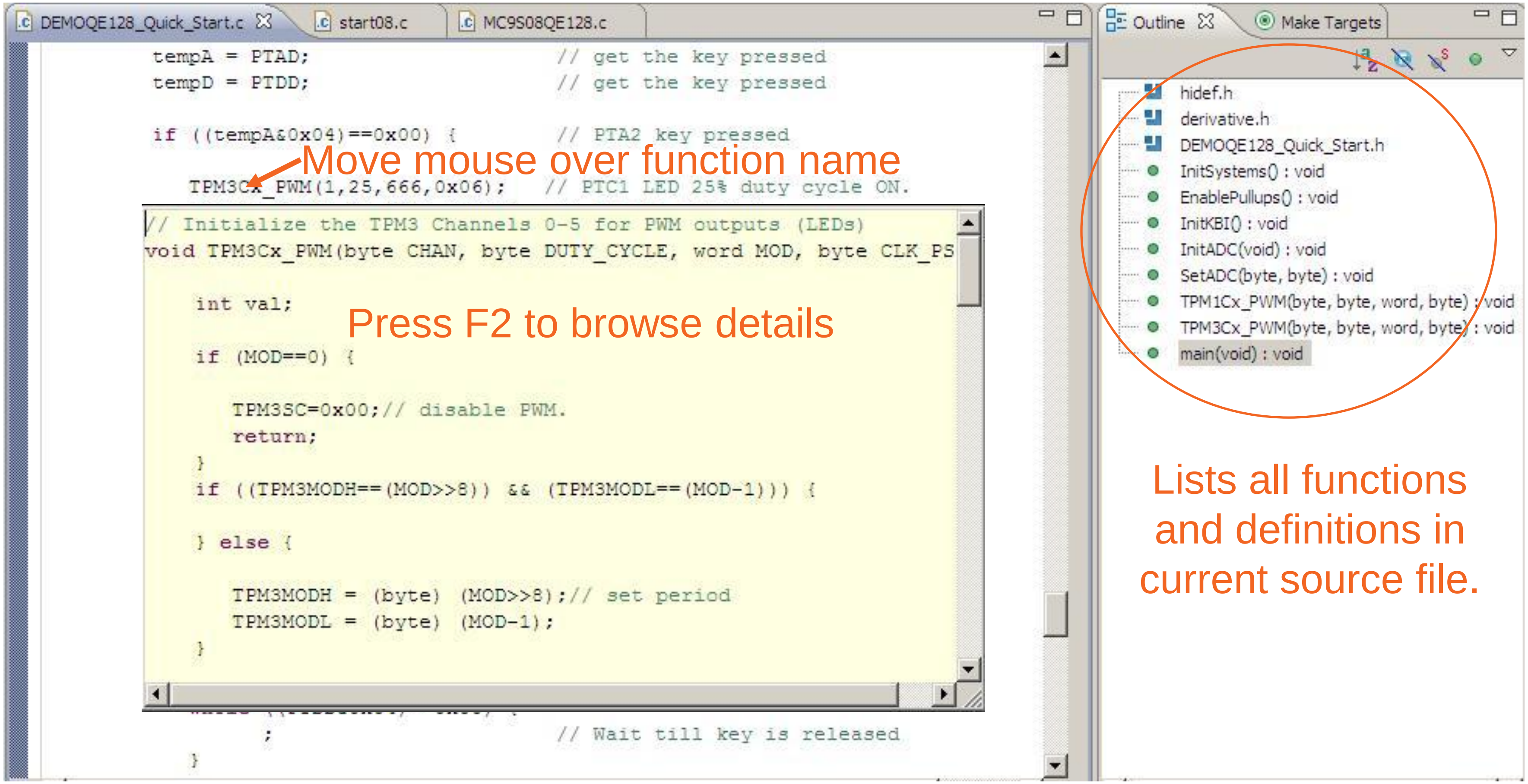
Source Code Editor and Outline

Source Code Editor Tabs

Outline Tab


DEMOQE128_Quick_Start.c
start08.c
MC9S08QE128.c
Outline
Make Targets
hidef.h
derivative.h
DEMOQE128_Quick_Start.h
InitSystems() : void
EnablePullups() : void
InitKBI() : void
InitADC(void) : void
SetADC(byte, byte) : void
TPM1Cx_PWM(byte, byte, word, byte) : void
TPM3Cx_PWM(byte, byte, word, byte) : void
main(void) : void

```
tempA = PTAD;                    // get the key pressed
tempD = PTDD;                    // get the key pressed

if ((tempA&0x04)==0x00) {        // PTA2 key pressed

   TPM3Cx_PWM(1,25,666,0x06);   // PTC1 LED 25% duty cycle ON.
```

```
// Initialize the TPM3 Channels 0-5 for PWM outputs (LEDs)
void TPM3Cx_PWM(byte CHAN, byte DUTY_CYCLE, word MOD, byte CLK_PS

    int val;

    if (MOD==0) {

       TPM3SC=0x00;// disable PWM.
       return;
    }
    if ((TPM3MODH==(MOD>>8)) && (TPM3MODL==(MOD-1))) {

    } else {

       TPM3MODH = (byte) (MOD>>8);// set period
       TPM3MODL = (byte) (MOD-1);
    }
```

```
         ;                       // Wait till key is released
    }
```

Move mouse over function name

Press F2 to browse details

Lists all functions and definitions in current source file.

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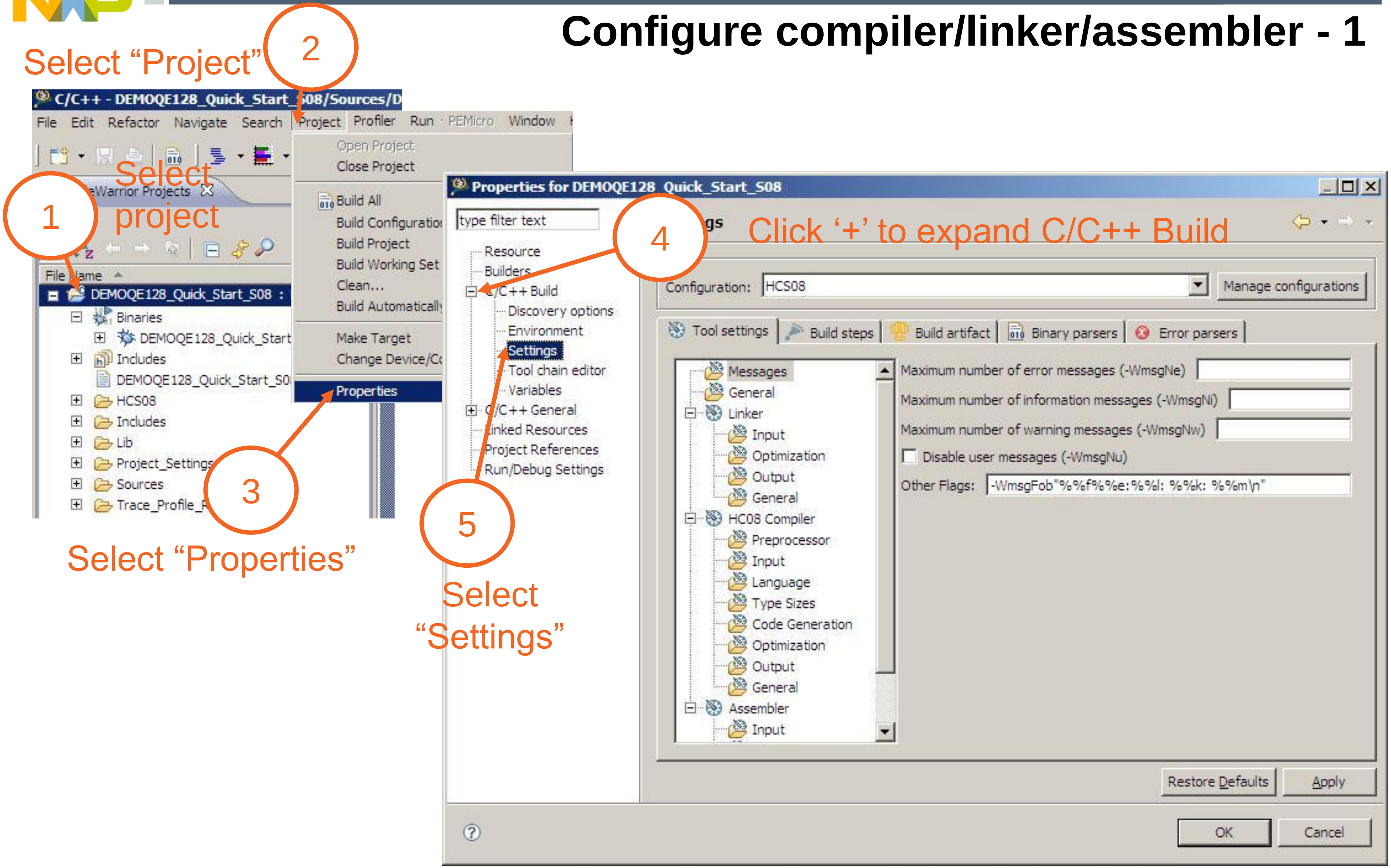
Configure compiler/linker/assembler - 1


C/C++ - DEMOQE128_Quick_Start_S08/Sources/D
File Edit Refactor Navigate Search Project Profiler Run PEMicro Window
CodeWarrior Projects
File Name
DEMOQE128_Quick_Start_S08
Binaries
DEMOQE128_Quick_Start
Includes
DEMOQE128_Quick_Start_S0
HCS08
Includes
Lib
Project_Settings
Sources
Trace_Profile_
Open Project
Close Project
Build All
Build Configuration
Build Project
Build Working Set
Clean...
Build Automatically
Make Target
Change Device/C
Properties
Properties for DEMOQE128_Quick_Start_S08
type filter text
Resource
Builders
C/C++ Build
Discovery options
Environment
Settings
Tool chain editor
Variables
C/C++ General
Linked Resources
Project References
Run/Debug Settings
Manage configurations
Tool settings
Build steps
Build artifact
Binary parsers
Error parsers
Messages
General
Linker
Input
Optimization
Output
General
HC08 Compiler
Preprocessor
Input
Language
Type Sizes
Code Generation
Optimization
Output
General
Assembler
Input
Restore Defaults
Apply
OK
Cancel
1
2
3
4
5

Configuration: HCS08

Maximum number of error messages (-WmsgNe)

Maximum number of information messages (-WmsgNi)

Maximum number of warning messages (-WmsgNw)

☐ Disable user messages (-WmsgNu)

Other Flags: -WmsgFob"%%f%%e:%%l: %%k: %%m\n"

1. Select project
2. Select "Project"
3. Select "Properties"
4. Click '+' to expand C/C++ Build
5. Select "Settings"

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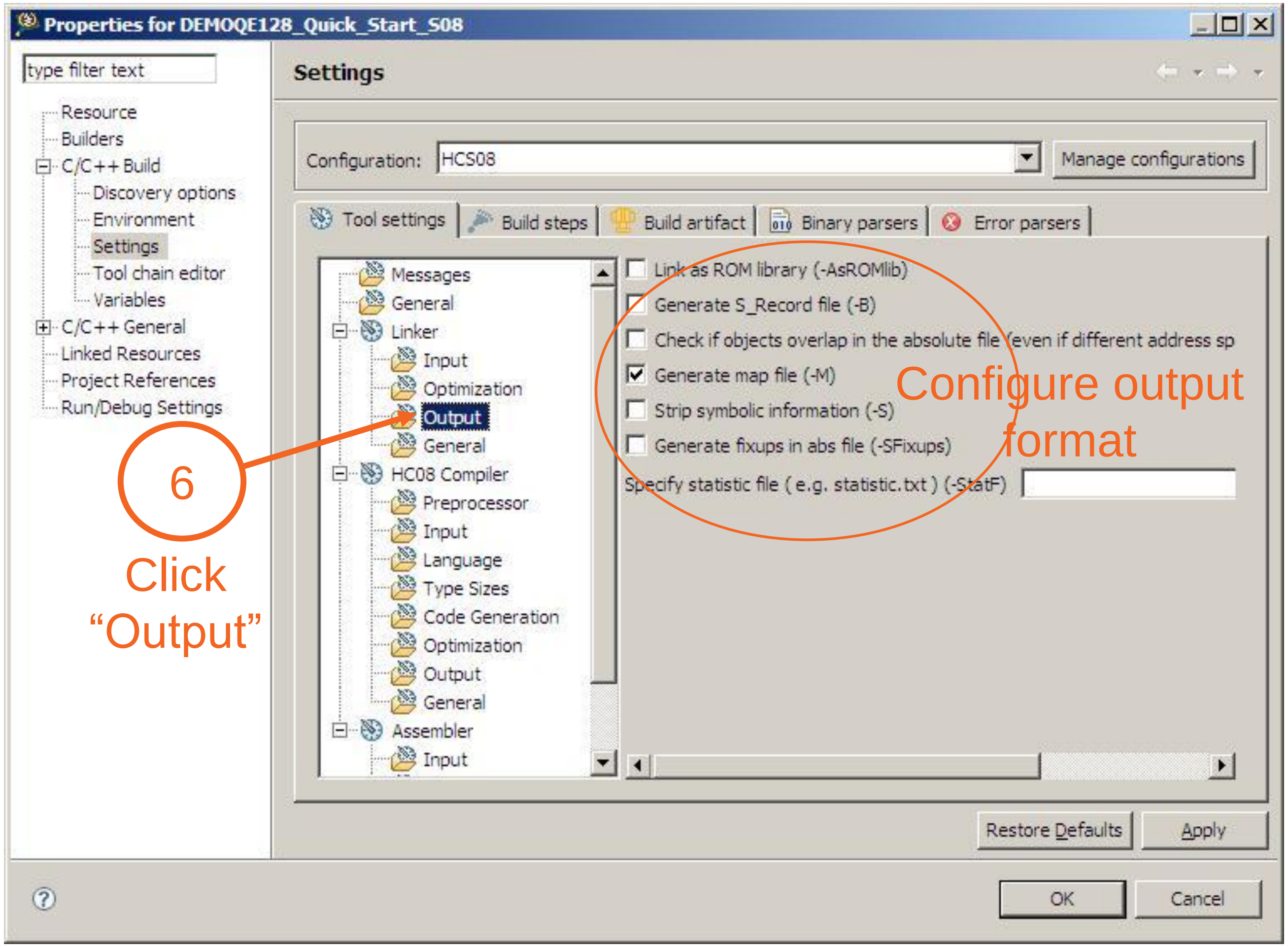
Configure compiler/linker/assembler - 2



Properties for DEMOQE128_Quick_Start_S08

Settings

Configuration: HCS08

- Resource
- Builders
- C/C++ Build
  - Discovery options
  - Environment
  - Settings
  - Tool chain editor
  - Variables
- C/C++ General
- Linked Resources
- Project References
- Run/Debug Settings

Tool settings | Build steps | Build artifact | Binary parsers | Error parsers

- Messages
- General
- Linker
  - Input
  - Optimization
  - Output
  - General
- HC08 Compiler
  - Preprocessor
  - Input
  - Language
  - Type Sizes
  - Code Generation
  - Optimization
  - Output
  - General
- Assembler
  - Input

☐ Link as ROM library (-AsROMlib)

☐ Generate S_Record file (-B)

☐ Check if objects overlap in the absolute file (even if different address sp

☑ Generate map file (-M)

☐ Strip symbolic information (-S)

☐ Generate fixups in abs file (-SFixups)

Specify statistic file (e.g. statistic.txt) (-StatF)

6

Click “Output”

Configure output format

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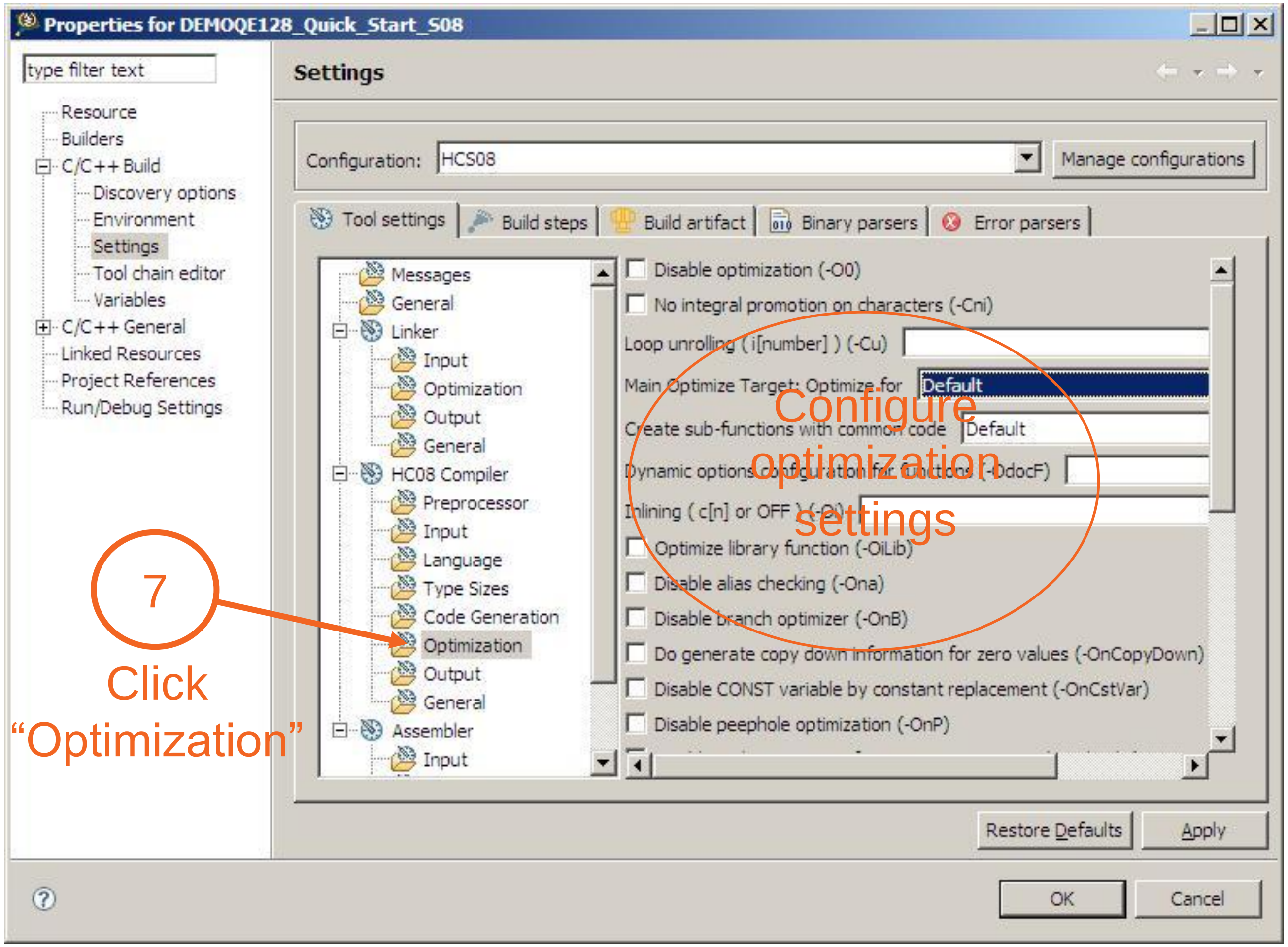
Configure compiler/linker/assembler - 3


Properties for DEMOQE128_Quick_Start_S08
type filter text
Resource
Builders
C/C++ Build
Discovery options
Environment
Settings
Tool chain editor
Variables
C/C++ General
Linked Resources
Project References
Run/Debug Settings
Settings
Manage configurations
Tool settings
Build steps
Build artifact
Binary parsers
Error parsers
Messages
General
Linker
Input
Optimization
Output
General
HC08 Compiler
Preprocessor
Input
Language
Type Sizes
Code Generation
Optimization
Output
General
Assembler
Input
Restore Defaults
Apply
OK
Cancel

Configuration: HCS08

- ☐ Disable optimization (-O0)
- ☐ No integral promotion on characters (-Cni)
- Loop unrolling (i[number]) (-Cu)
- Main Optimize Target: Optimize for: Default
- Create sub-functions with common code: Default
- Dynamic options configuration for functions (-OdocF)
- Inlining (c[n] or OFF) (-Oi)
- ☐ Optimize library function (-OiLib)
- ☐ Disable alias checking (-Ona)
- ☐ Disable branch optimizer (-OnB)
- ☐ Do generate copy down information for zero values (-OnCopyDown)
- ☐ Disable CONST variable by constant replacement (-OnCstVar)
- ☐ Disable peephole optimization (-OnP)

7

Click “Optimization”

Configure optimization settings

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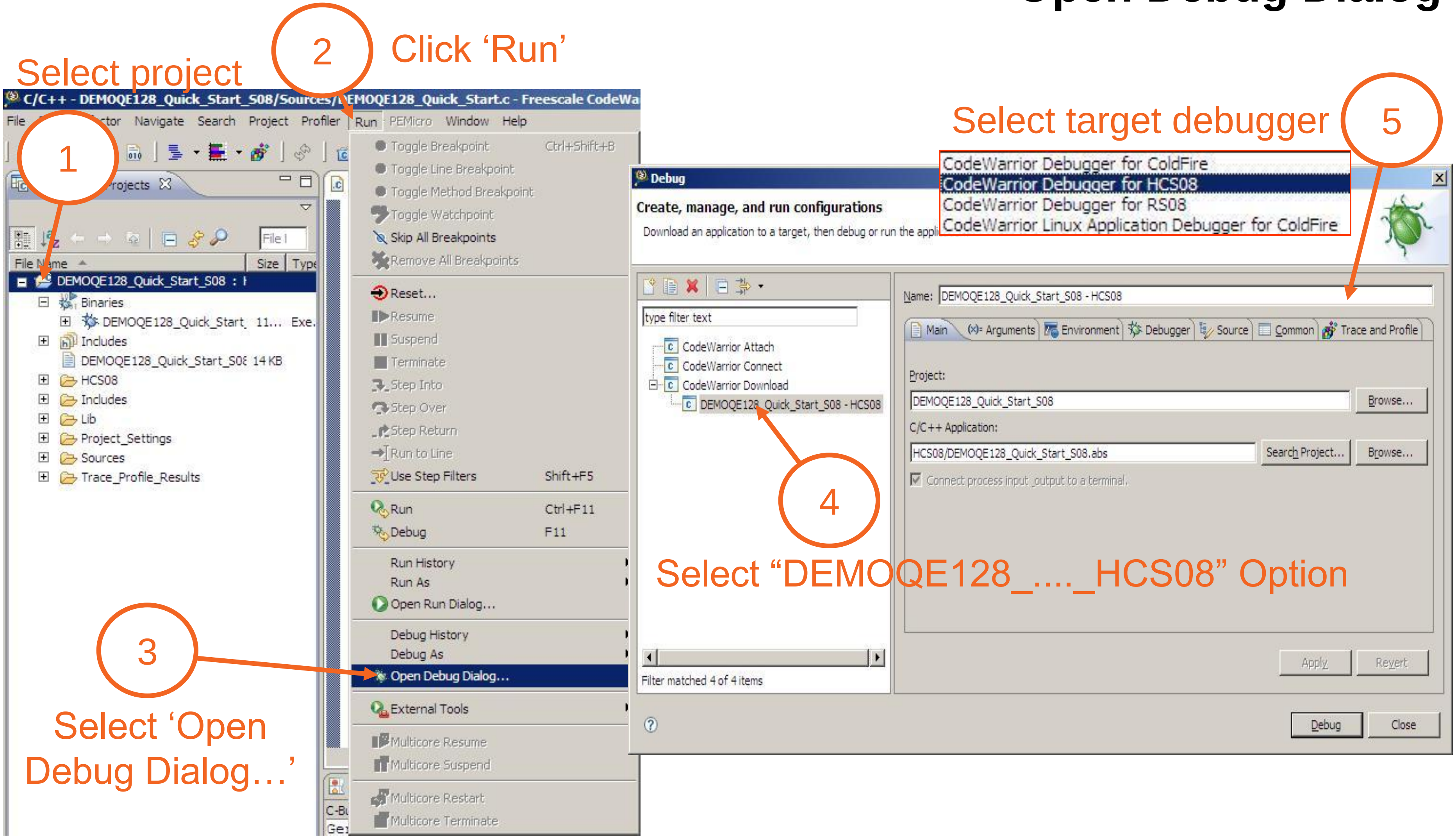
Open Debug Dialog



1 Select project

2 Click 'Run'

3 Select 'Open Debug Dialog…'

4 Select "DEMOQE128_...._HCS08" Option

5 Select target debugger

C/C++ - DEMOQE128_Quick_Start_S08/Sources/DEMOQE128_Quick_Start.c - Freescale CodeWa

Debug

Create, manage, and run configurations

Download an application to a target, then debug or run the appli

Name: DEMOQE128_Quick_Start_S08 - HCS08

Project: DEMOQE128_Quick_Start_S08

C/C++ Application: HCS08/DEMOQE128_Quick_Start_S08.abs

☑ Connect process input_output to a terminal.

Filter matched 4 of 4 items

File
Navigate
Search
Project
Profiler
Run
PEMicro
Window
Help
Projects
File Name
Size
Type
DEMOQE128_Quick_Start_S08
Binaries
DEMOQE128_Quick_Start_ 11… Exe.
Includes
DEMOQE128_Quick_Start_S08 14 KB
HCS08
Includes
Lib
Project_Settings
Sources
Trace_Profile_Results
Toggle Breakpoint Ctrl+Shift+B
Toggle Line Breakpoint
Toggle Method Breakpoint
Toggle Watchpoint
Skip All Breakpoints
Remove All Breakpoints
Reset…
Resume
Suspend
Terminate
Step Into
Step Over
Step Return
Run to Line
Use Step Filters Shift+F5
Run Ctrl+F11
Debug F11
Run History
Run As
Open Run Dialog…
Debug History
Debug As
Open Debug Dialog…
External Tools
Multicore Resume
Multicore Suspend
Multicore Restart
Multicore Terminate
CodeWarrior Debugger for ColdFire
CodeWarrior Debugger for HCS08
CodeWarrior Debugger for RS08
CodeWarrior Linux Application Debugger for ColdFire
type filter text
CodeWarrior Attach
CodeWarrior Connect
CodeWarrior Download
DEMOQE128_Quick_Start_S08 - HCS08
Main
Arguments
Environment
Debugger
Source
Common
Trace and Profile
Browse…
Search Project…
Browse…
Apply
Revert
Debug
Close

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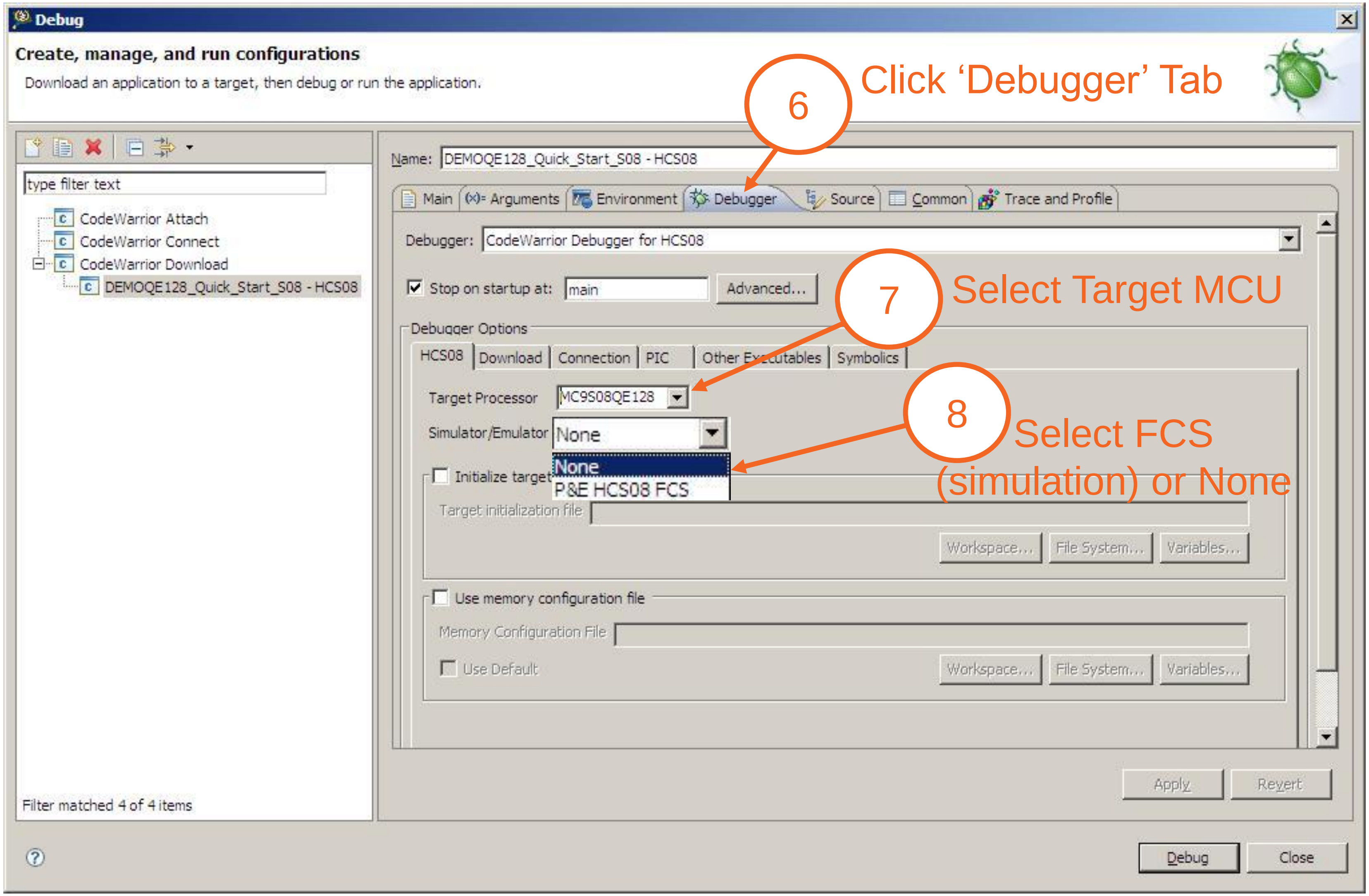
Select debugger configuration – Target MCU



Debug

Create, manage, and run configurations

Download an application to a target, then debug or run the application.

6 Click ‘Debugger’ Tab

7 Select Target MCU

8 Select FCS (simulation) or None

Name: DEMOQE128_Quick_Start_S08 - HCS08

Debugger: CodeWarrior Debugger for HCS08

☑ Stop on startup at: main

Target Processor: MC9S08QE128

Simulator/Emulator: None

☐ Initialize target

☐ Use memory configuration file

☐ Use Default

Filter matched 4 of 4 items

type filter text
CodeWarrior Attach
CodeWarrior Connect
CodeWarrior Download
DEMOQE128_Quick_Start_S08 - HCS08
Main
Arguments
Environment
Debugger
Source
Common
Trace and Profile
Advanced...
Debugger Options
HCS08
Download
Connection
PIC
Other Executables
Symbolics
None
P&E HCS08 FCS
Target initialization file
Workspace...
File System...
Variables...
Memory Configuration File
Workspace...
File System...
Variables...
Apply
Revert
Debug
Close

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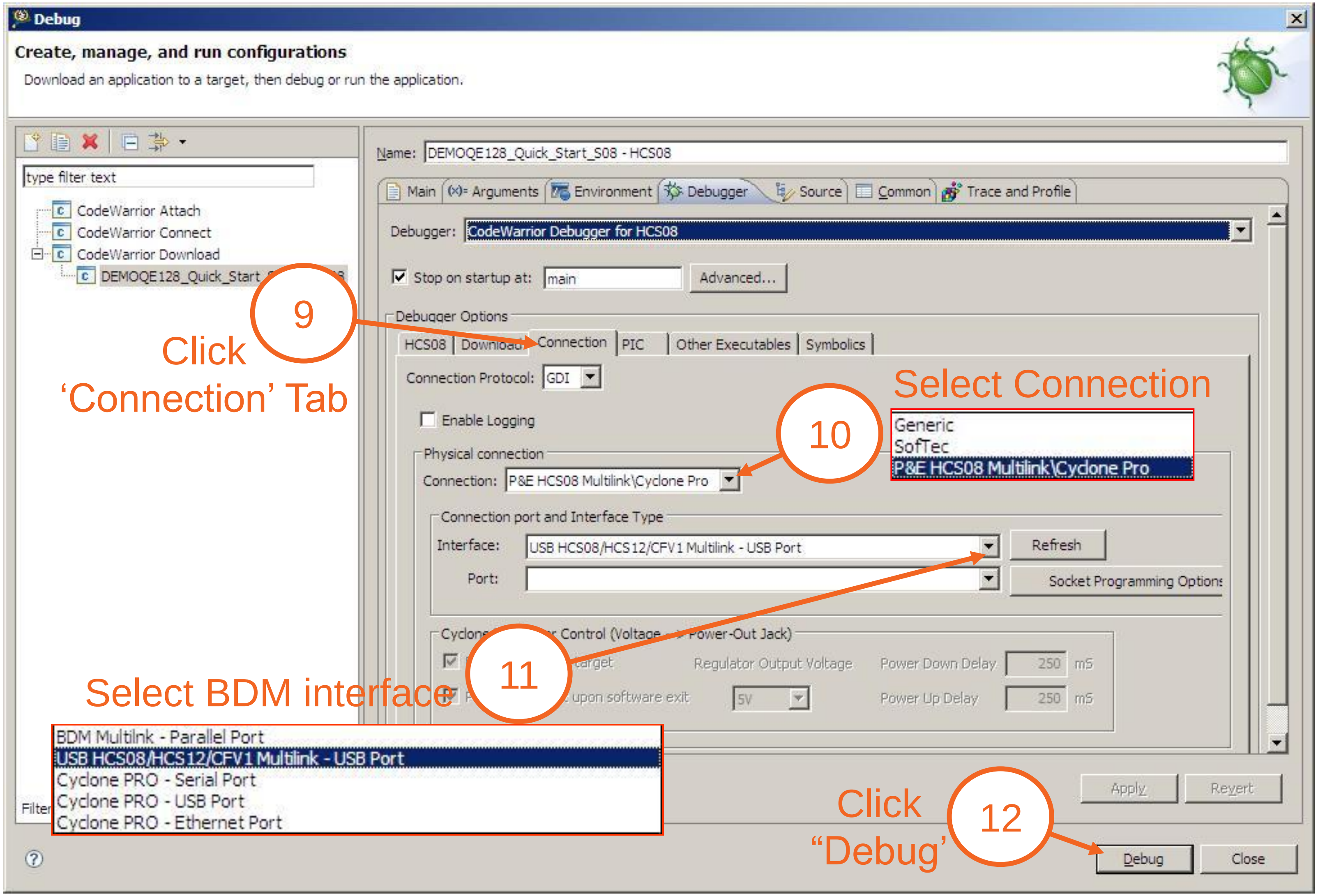
Select debugger configuration – BDM Type



Debug

Create, manage, and run configurations

Download an application to a target, then debug or run the application.

type filter text

- CodeWarrior Attach
- CodeWarrior Connect
- CodeWarrior Download
  - DEMOQE128_Quick_Start_S08

Name: DEMOQE128_Quick_Start_S08 - HCS08

Debugger: CodeWarrior Debugger for HCS08

☑ Stop on startup at: main

Debugger Options

Connection Protocol: GDI

☐ Enable Logging

Physical connection

Connection: P&E HCS08 Multilink\Cyclone Pro

Connection port and Interface Type

Interface: USB HCS08/HCS12/CFV1 Multilink - USB Port

Port:

Regulator Output Voltage: 5V

Power Down Delay: 250 mS

Power Up Delay: 250 mS

9 Click ‘Connection’ Tab

10 Select Connection

- Generic
- SofTec
- P&E HCS08 Multilink\Cyclone Pro

11 Select BDM interface

- BDM Multilnk - Parallel Port
- USB HCS08/HCS12/CFV1 Multilink - USB Port
- Cyclone PRO - Serial Port
- Cyclone PRO - USB Port
- Cyclone PRO - Ethernet Port

12 Click “Debug”

Main
Arguments
Environment
Debugger
Source
Common
Trace and Profile
Advanced...
HCS08
Download
Connection
PIC
Other Executables
Symbolics
Refresh
Socket Programming Options
upon software exit
Filter
Apply
Revert
Debug
Close

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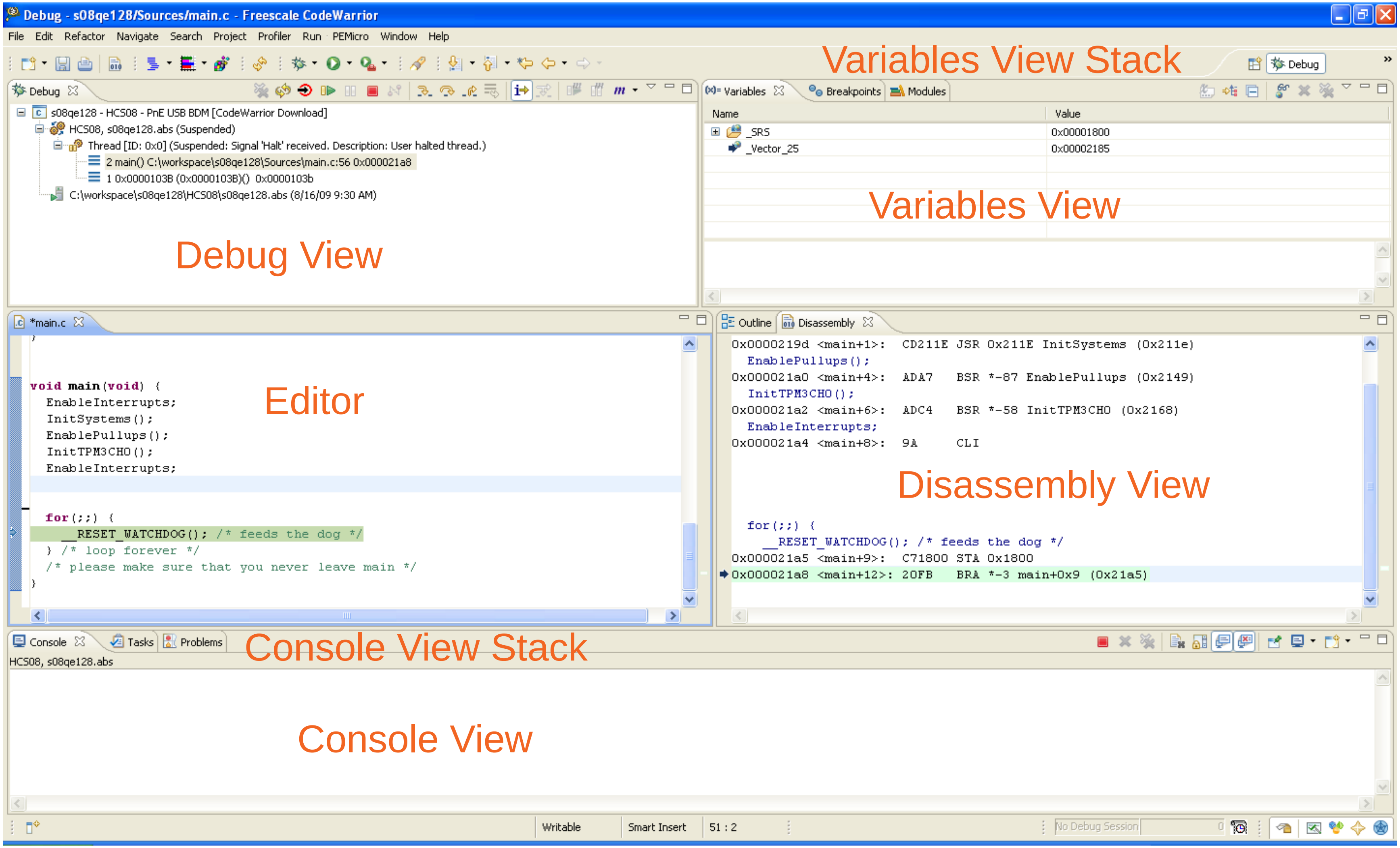
Debugger Perspective


Debug - s08qe128/Sources/main.c - Freescale CodeWarrior
File Edit Refactor Navigate Search Project Profiler Run PEMicro Window Help
Debug
Debug
Variables
Breakpoints
Modules
*main.c
Outline
Disassembly
Console
Tasks
Problems
Writable
Smart Insert
51 : 2
No Debug Session

Variables View Stack

s08qe128 - HCS08 - PnE USB BDM [CodeWarrior Download]
HCS08, s08qe128.abs (Suspended)
Thread [ID: 0x0] (Suspended: Signal 'Halt' received. Description: User halted thread.)
2 main() C:\workspace\s08qe128\Sources\main.c:56 0x000021a8
1 0x0000103B (0x0000103B)() 0x0000103b
C:\workspace\s08qe128\HCS08\s08qe128.abs (8/16/09 9:30 AM)

Debug View

Name	Value
_SRS	0x00001800
_Vector_25	0x00002185

Variables View

```
}

void main(void) {
  EnableInterrupts;
  InitSystems();
  EnablePullups();
  InitTPM3CH0();
  EnableInterrupts;

  for(;;) {
    __RESET_WATCHDOG(); /* feeds the dog */
  } /* loop forever */
  /* please make sure that you never leave main */
}
```

Editor

```
0x0000219d <main+1>:  CD211E JSR 0x211E InitSystems (0x211e)
  EnablePullups();
0x000021a0 <main+4>:  ADA7   BSR *-87 EnablePullups (0x2149)
  InitTPM3CH0();
0x000021a2 <main+6>:  ADC4   BSR *-58 InitTPM3CH0 (0x2168)
  EnableInterrupts;
0x000021a4 <main+8>:  9A     CLI

  for(;;) {
    __RESET_WATCHDOG(); /* feeds the dog */
0x000021a5 <main+9>:  C71800 STA 0x1800
0x000021a8 <main+12>: 20FB   BRA *-3 main+0x9 (0x21a5)
```

Disassembly View

Console View Stack

HCS08, s08qe128.abs

Console View

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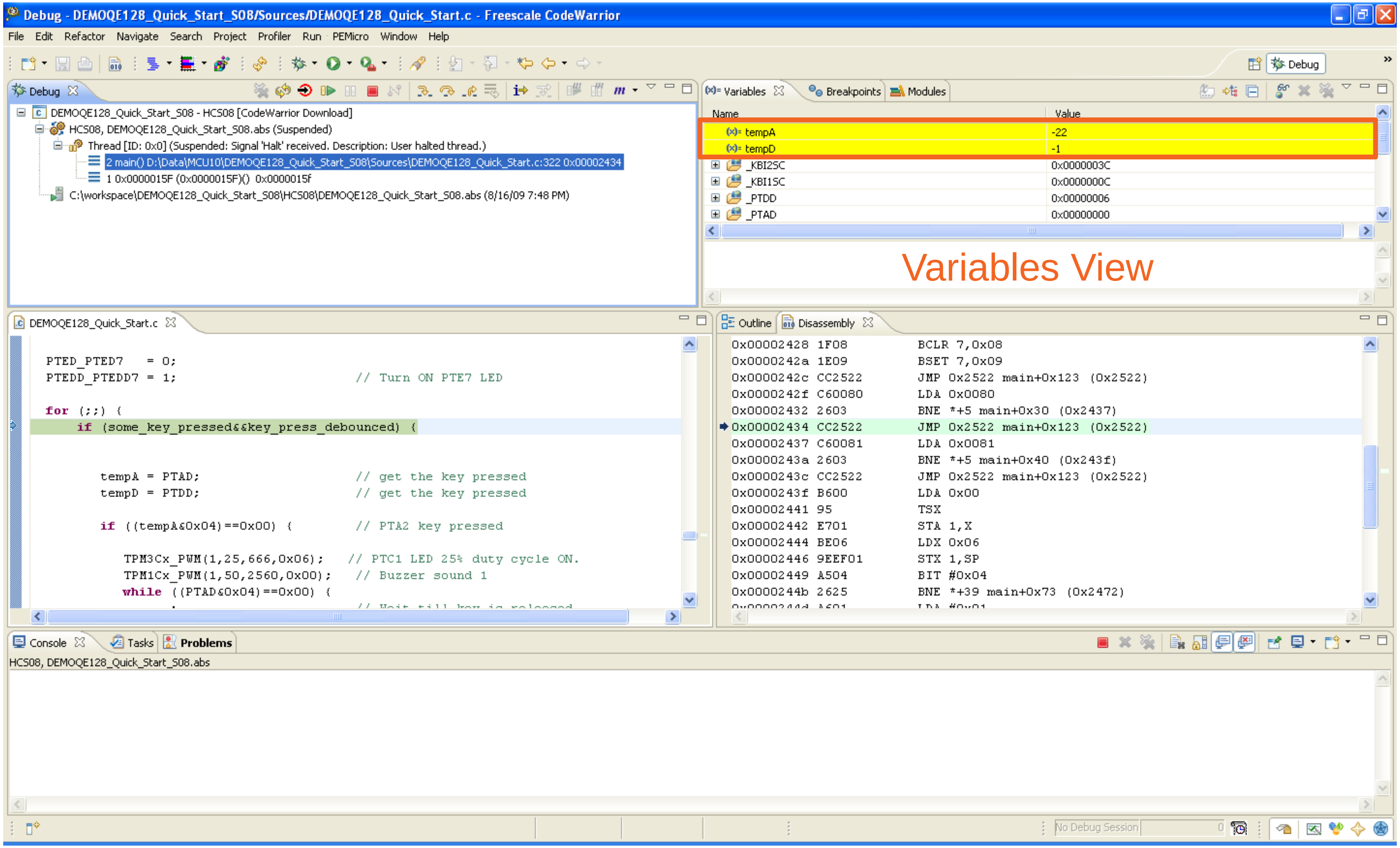
Changed variables are highlighted



Debug - DEMOQE128_Quick_Start_S08/Sources/DEMOQE128_Quick_Start.c - Freescale CodeWarrior

```
DEMOQE128_Quick_Start_S08 - HCS08 [CodeWarrior Download]
  HCS08, DEMOQE128_Quick_Start_S08.abs (Suspended)
    Thread [ID: 0x0] (Suspended: Signal 'Halt' received. Description: User halted thread.)
      2 main() D:\Data\MCU10\DEMOQE128_Quick_Start_S08\Sources\DEMOQE128_Quick_Start.c:322 0x00002434
      1 0x0000015F (0x0000015F)() 0x0000015f
  C:\workspace\DEMOQE128_Quick_Start_S08\HCS08\DEMOQE128_Quick_Start_S08.abs (8/16/09 7:48 PM)
```

Name	Value
tempA	-22
tempD	-1
_KBI2SC	0x0000003C
_KBI1SC	0x0000000C
_PTDD	0x00000006
_PTAD	0x00000000

Variables View

DEMOQE128_Quick_Start.c

```
  PTED_PTED7   = 0;
  PTEDD_PTEDD7 = 1;                      // Turn ON PTE7 LED

  for (;;) {
      if (some_key_pressed&&key_press_debounced) {

         tempA = PTAD;                   // get the key pressed
         tempD = PTDD;                   // get the key pressed

         if ((tempA&0x04)==0x00) {       // PTA2 key pressed

            TPM3Cx_PWM(1,25,666,0x06);  // PTC1 LED 25% duty cycle ON.
            TPM1Cx_PWM(1,50,2560,0x00); // Buzzer sound 1
            while ((PTAD&0x04)==0x00) {
```

Disassembly

```
0x00002428 1F08       BCLR 7,0x08
0x0000242a 1E09       BSET 7,0x09
0x0000242c CC2522     JMP 0x2522 main+0x123 (0x2522)
0x0000242f C60080     LDA 0x0080
0x00002432 2603       BNE *+5 main+0x30 (0x2437)
0x00002434 CC2522     JMP 0x2522 main+0x123 (0x2522)
0x00002437 C60081     LDA 0x0081
0x0000243a 2603       BNE *+5 main+0x40 (0x243f)
0x0000243c CC2522     JMP 0x2522 main+0x123 (0x2522)
0x0000243f B600       LDA 0x00
0x00002441 95         TSX
0x00002442 E701       STA 1,X
0x00002444 BE06       LDX 0x06
0x00002446 9EEF01     STX 1,SP
0x00002449 A504       BIT #0x04
0x0000244b 2625       BNE *+39 main+0x73 (0x2472)
```

Console — HCS08, DEMOQE128_Quick_Start_S08.abs

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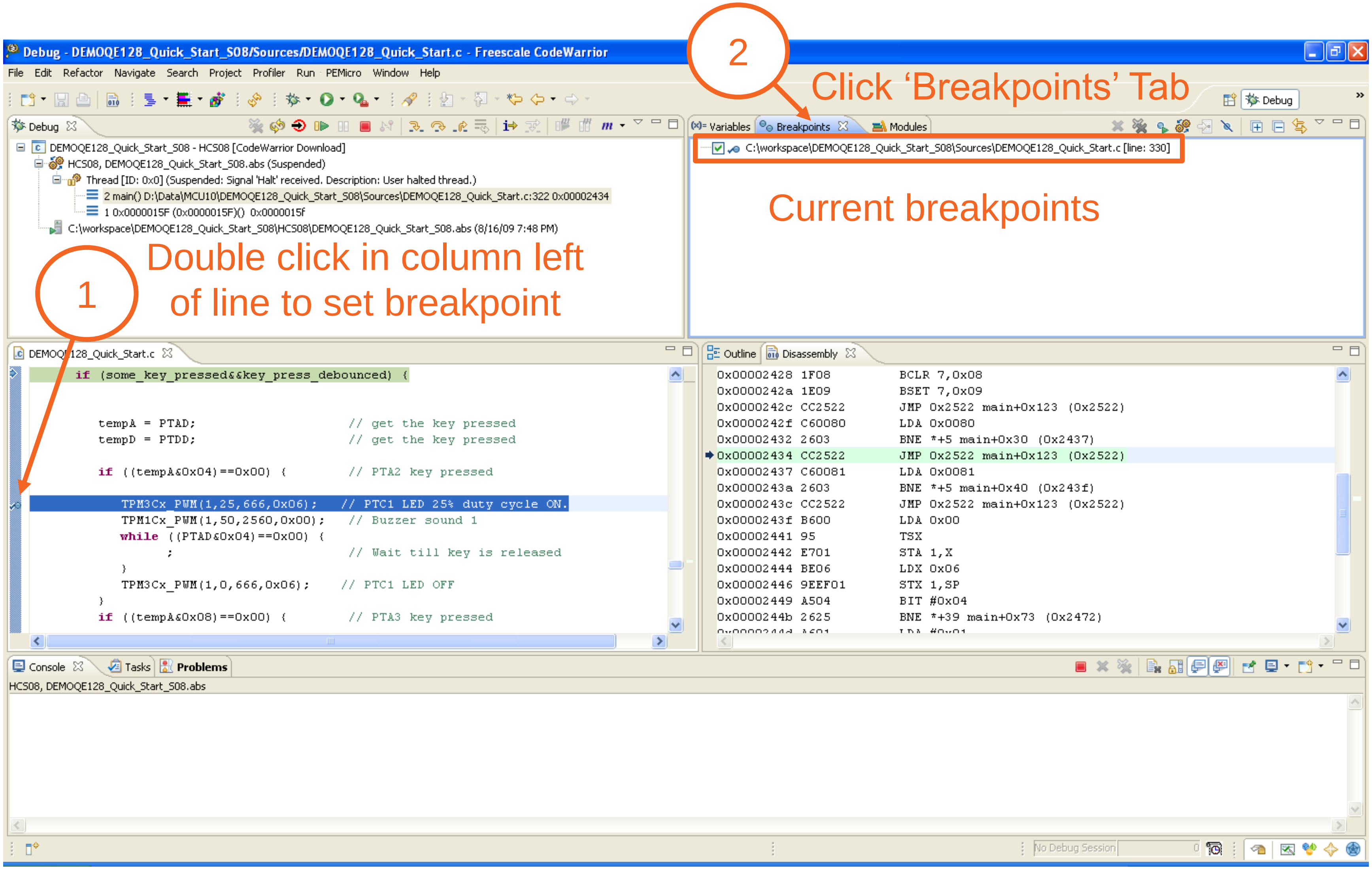
To set breakpoints


Debug - DEMOQE128_Quick_Start_S08/Sources/DEMOQE128_Quick_Start.c - Freescale CodeWarrior
File Edit Refactor Navigate Search Project Profiler Run PEMicro Window Help
Debug
Debug
Variables
Breakpoints
Modules
DEMOQE128_Quick_Start.c
Outline
Disassembly
Console
Tasks
Problems
No Debug Session
2
1

Click 'Breakpoints' Tab

Current breakpoints

Double click in column left of line to set breakpoint

```
DEMOQE128_Quick_Start_S08 - HCS08 [CodeWarrior Download]
  HCS08, DEMOQE128_Quick_Start_S08.abs (Suspended)
    Thread [ID: 0x0] (Suspended: Signal 'Halt' received. Description: User halted thread.)
      2 main() D:\Data\MCU10\DEMOQE128_Quick_Start_S08\Sources\DEMOQE128_Quick_Start.c:322 0x00002434
      1 0x0000015F (0x0000015F)() 0x0000015f
  C:\workspace\DEMOQE128_Quick_Start_S08\HCS08\DEMOQE128_Quick_Start_S08.abs (8/16/09 7:48 PM)
```

☑ C:\workspace\DEMOQE128_Quick_Start_S08\Sources\DEMOQE128_Quick_Start.c [line: 330]

```c
if (some_key_pressed&&key_press_debounced) {


   tempA = PTAD;                     // get the key pressed
   tempD = PTDD;                     // get the key pressed

   if ((tempA&0x04)==0x00) {         // PTA2 key pressed

      TPM3Cx_PWM(1,25,666,0x06);    // PTC1 LED 25% duty cycle ON.
      TPM1Cx_PWM(1,50,2560,0x00);    // Buzzer sound 1
      while ((PTAD&0x04)==0x00) {
            ;                        // Wait till key is released
      }
      TPM3Cx_PWM(1,0,666,0x06);     // PTC1 LED OFF
   }
   if ((tempA&0x08)==0x00) {         // PTA3 key pressed
```

```
0x00002428 1F08          BCLR 7,0x08
0x0000242a 1E09          BSET 7,0x09
0x0000242c CC2522        JMP 0x2522 main+0x123 (0x2522)
0x0000242f C60080        LDA 0x0080
0x00002432 2603          BNE *+5 main+0x30 (0x2437)
0x00002434 CC2522        JMP 0x2522 main+0x123 (0x2522)
0x00002437 C60081        LDA 0x0081
0x0000243a 2603          BNE *+5 main+0x40 (0x243f)
0x0000243c CC2522        JMP 0x2522 main+0x123 (0x2522)
0x0000243f B600          LDA 0x00
0x00002441 95            TSX
0x00002442 E701          STA 1,X
0x00002444 BE06          LDX 0x06
0x00002446 9EEF01        STX 1,SP
0x00002449 A504          BIT #0x04
0x0000244b 2625          BNE *+39 main+0x73 (0x2472)
```

HCS08, DEMOQE128_Quick_Start_S08.abs

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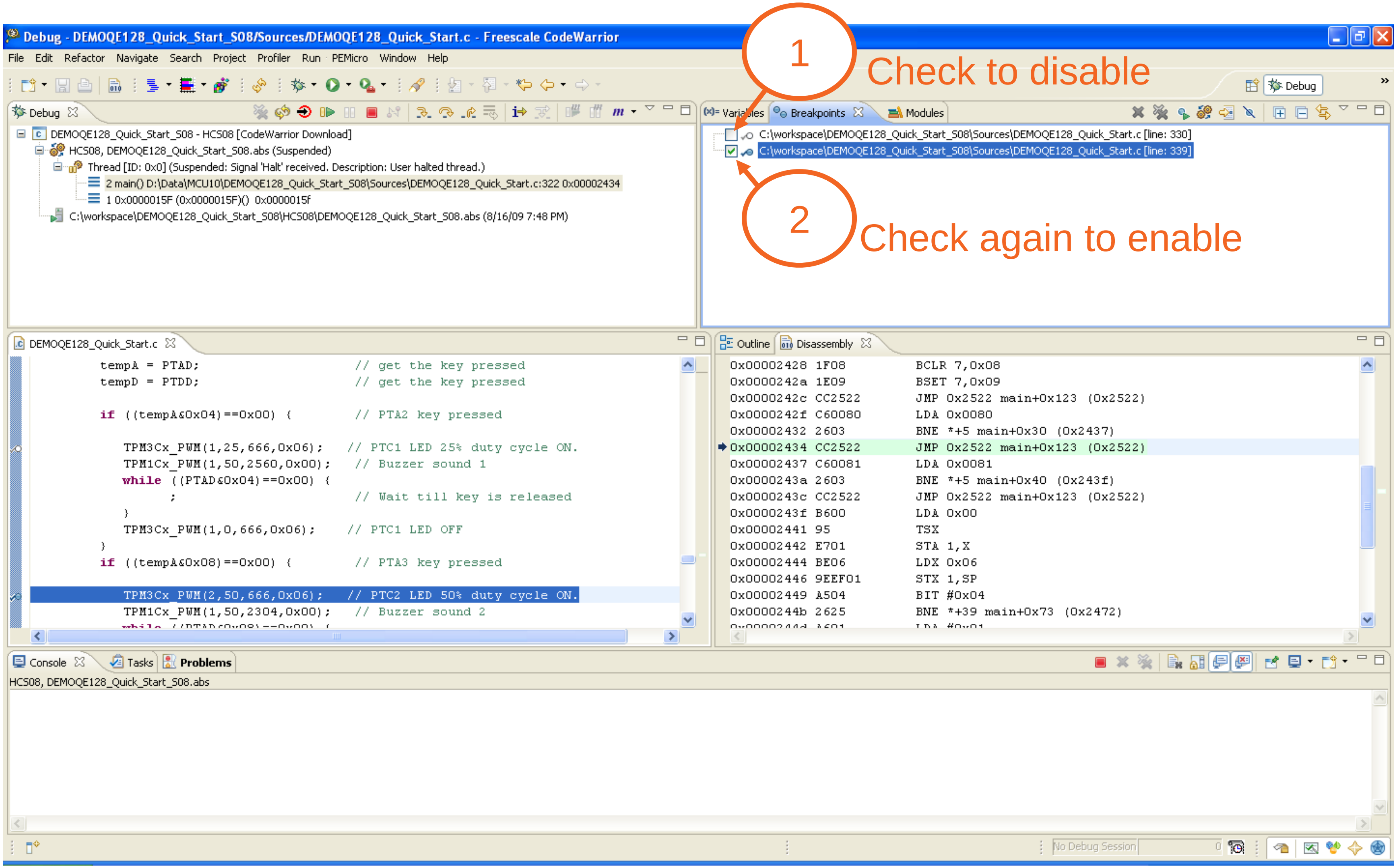
Enable/disable breakpoints



1 Check to disable

2 Check again to enable

Debug - DEMOQE128_Quick_Start_S08/Sources/DEMOQE128_Quick_Start.c - Freescale CodeWarrior

DEMOQE128_Quick_Start_S08 - HCS08 [CodeWarrior Download]
HCS08, DEMOQE128_Quick_Start_S08.abs (Suspended)
Thread [ID: 0x0] (Suspended: Signal 'Halt' received. Description: User halted thread.)
2 main() D:\Data\MCU10\DEMOQE128_Quick_Start_S08\Sources\DEMOQE128_Quick_Start.c:322 0x00002434
1 0x0000015F (0x0000015F)() 0x0000015f
C:\workspace\DEMOQE128_Quick_Start_S08\HCS08\DEMOQE128_Quick_Start_S08.abs (8/16/09 7:48 PM)

☐ C:\workspace\DEMOQE128_Quick_Start_S08\Sources\DEMOQE128_Quick_Start.c [line: 330]
☑ C:\workspace\DEMOQE128_Quick_Start_S08\Sources\DEMOQE128_Quick_Start.c [line: 339]

DEMOQE128_Quick_Start.c

```
        tempA = PTAD;                      // get the key pressed
        tempD = PTDD;                      // get the key pressed

        if ((tempA&0x04)==0x00) {          // PTA2 key pressed

           TPM3Cx_PWM(1,25,666,0x06);     // PTC1 LED 25% duty cycle ON.
           TPM1Cx_PWM(1,50,2560,0x00);    // Buzzer sound 1
           while ((PTAD&0x04)==0x00) {
                 ;                         // Wait till key is released
           }
           TPM3Cx_PWM(1,0,666,0x06);      // PTC1 LED OFF
        }
        if ((tempA&0x08)==0x00) {          // PTA3 key pressed

           TPM3Cx_PWM(2,50,666,0x06);     // PTC2 LED 50% duty cycle ON.
           TPM1Cx_PWM(1,50,2304,0x00);    // Buzzer sound 2
```

```
0x00002428 1F08        BCLR 7,0x08
0x0000242a 1E09        BSET 7,0x09
0x0000242c CC2522      JMP 0x2522 main+0x123 (0x2522)
0x0000242f C60080      LDA 0x0080
0x00002432 2603        BNE *+5 main+0x30 (0x2437)
0x00002434 CC2522      JMP 0x2522 main+0x123 (0x2522)
0x00002437 C60081      LDA 0x0081
0x0000243a 2603        BNE *+5 main+0x40 (0x243f)
0x0000243c CC2522      JMP 0x2522 main+0x123 (0x2522)
0x0000243f B600        LDA 0x00
0x00002441 95          TSX
0x00002442 E701        STA 1,X
0x00002444 BE06        LDX 0x06
0x00002446 9EEF01      STX 1,SP
0x00002449 A504        BIT #0x04
0x0000244b 2625        BNE *+39 main+0x73 (0x2472)
```

HCS08, DEMOQE128_Quick_Start_S08.abs

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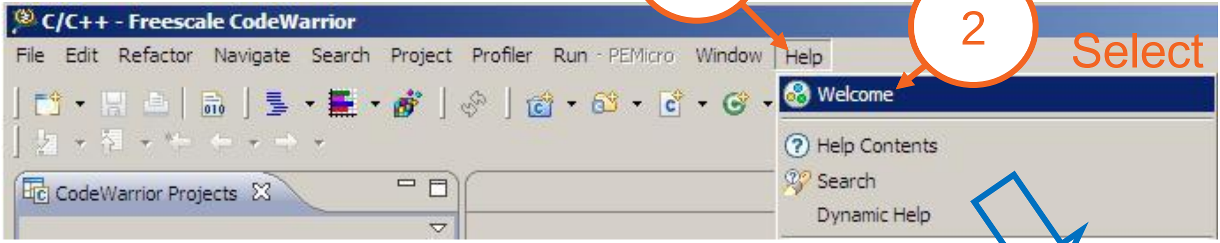
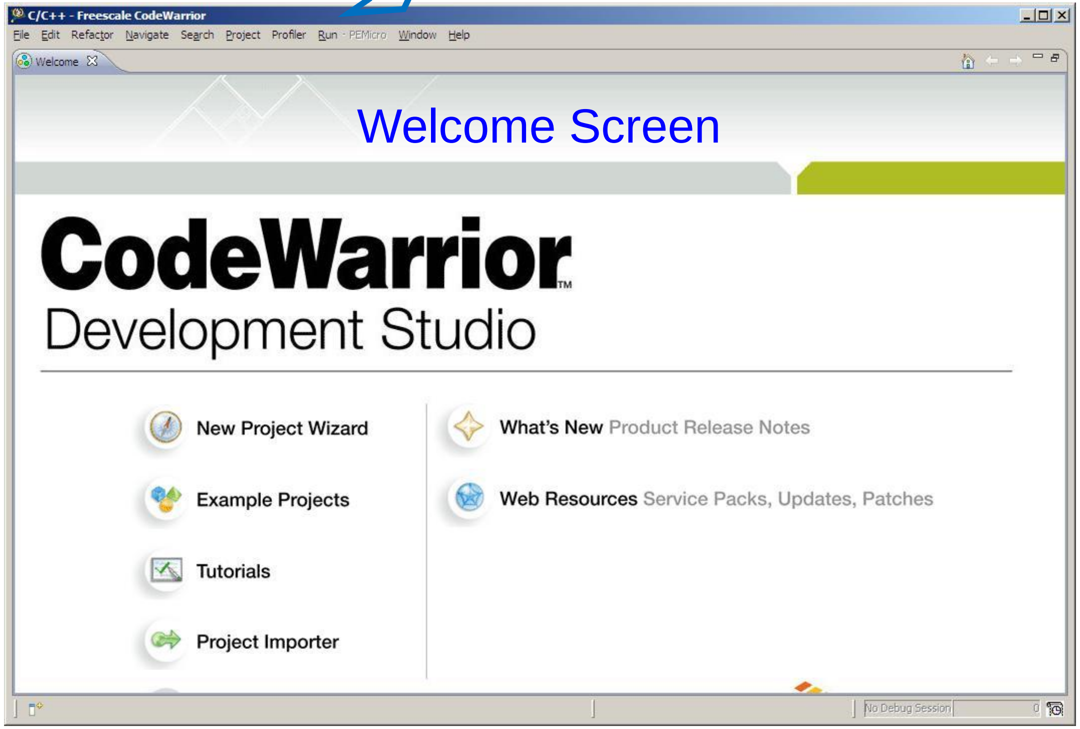
Open Welcome Screen

Click 'Help' ①

Select 'Welcome' ②


C/C++ - Freescale CodeWarrior
File
Edit
Refactor
Navigate
Search
Project
Profiler
Run
PEMicro
Window
Help
Welcome
Help Contents
Search
Dynamic Help
CodeWarrior Projects


Welcome Screen

C/C++ - Freescale CodeWarrior
File
Edit
Refactor
Navigate
Search
Project
Profiler
Run
PEMicro
Window
Help
Welcome
CodeWarrior™
Development Studio
New Project Wizard
Example Projects
Tutorials
Project Importer
What's New Product Release Notes
Web Resources Service Packs, Updates, Patches
No Debug Session

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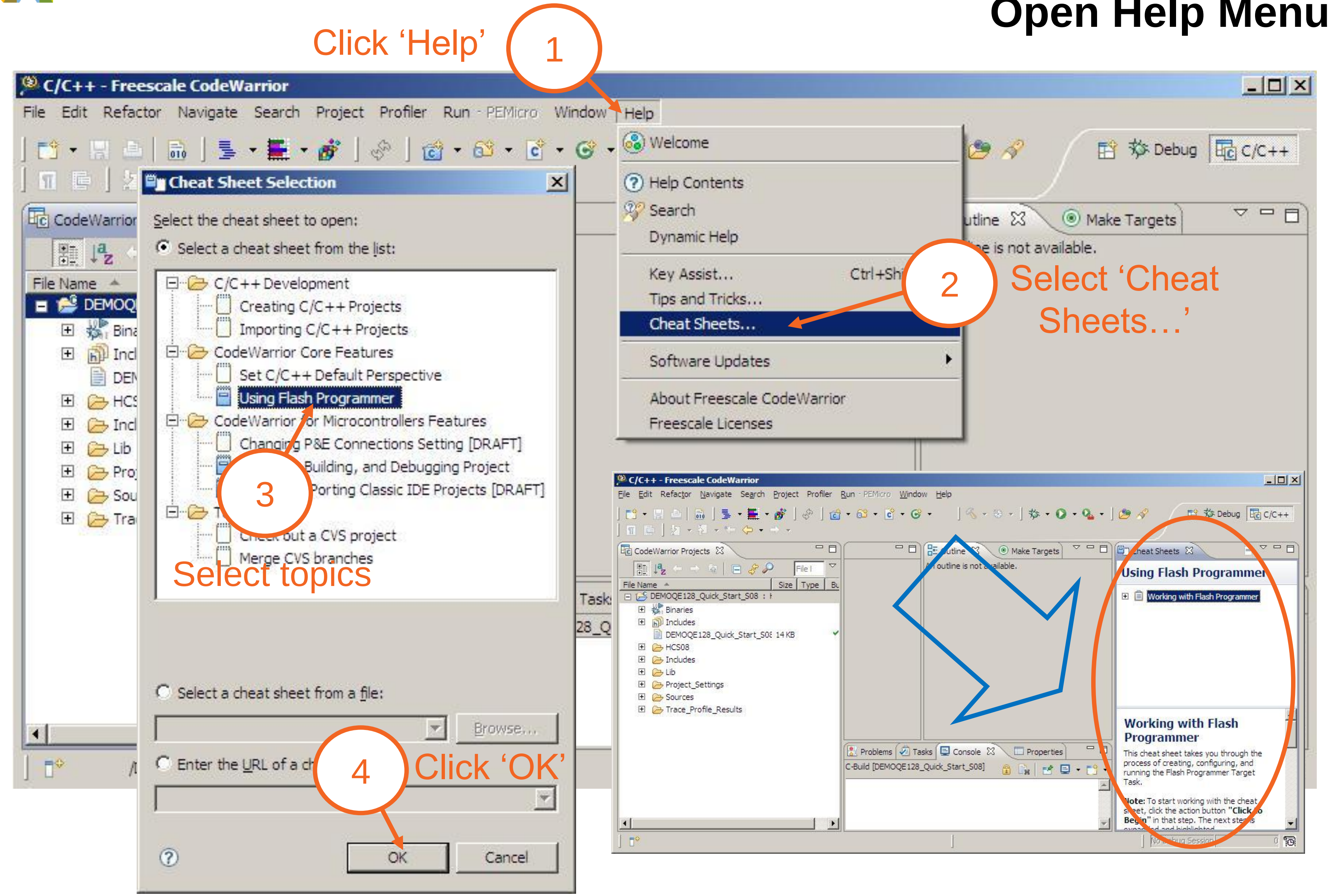
Open Help Menu



Click 'Help' ①

Select 'Cheat Sheets…' ②

Select topics ③

Click 'OK' ④

C/C++ - Freescale CodeWarrior
File
Edit
Refactor
Navigate
Search
Project
Profiler
Run
PEMicro
Window
Help
Welcome
Help Contents
Search
Dynamic Help
Key Assist… Ctrl+Shi
Tips and Tricks…
Cheat Sheets…
Software Updates
About Freescale CodeWarrior
Freescale Licenses
Debug
C/C++
Make Targets
CodeWarrior Projects
File Name
Size
Type
DEMOQE128_Quick_Start_S08
Binaries
Includes
HCS08
Lib
Project_Settings
Sources
Trace_Profile_Results
Problems
Tasks
Console
Properties
Cheat Sheets
No Debug Session

Cheat Sheet Selection

Select the cheat sheet to open:

● Select a cheat sheet from the list:

- C/C++ Development
  - Creating C/C++ Projects
  - Importing C/C++ Projects
- CodeWarrior Core Features
  - Set C/C++ Default Perspective
  - Using Flash Programmer
- CodeWarrior for Microcontrollers Features
  - Changing P&E Connections Setting [DRAFT]
  - Building, and Debugging Project
  - Porting Classic IDE Projects [DRAFT]
- T
  - Check out a CVS project
  - Merge CVS branches

○ Select a cheat sheet from a file:

Browse…

○ Enter the URL of a ch

OK Cancel

The outline is not available.

C-Build [DEMOQE128_Quick_Start_S08]

DEMOQE128_Quick_Start_S08 14 KB

Using Flash Programmer

Working with Flash Programmer

Working with Flash Programmer

This cheat sheet takes you through the process of creating, configuring, and running the Flash Programmer Target Task.

Note: To start working with the cheat sheet, click the action button **"Click to Begin"** in that step. The next step is expanded and highlighted.

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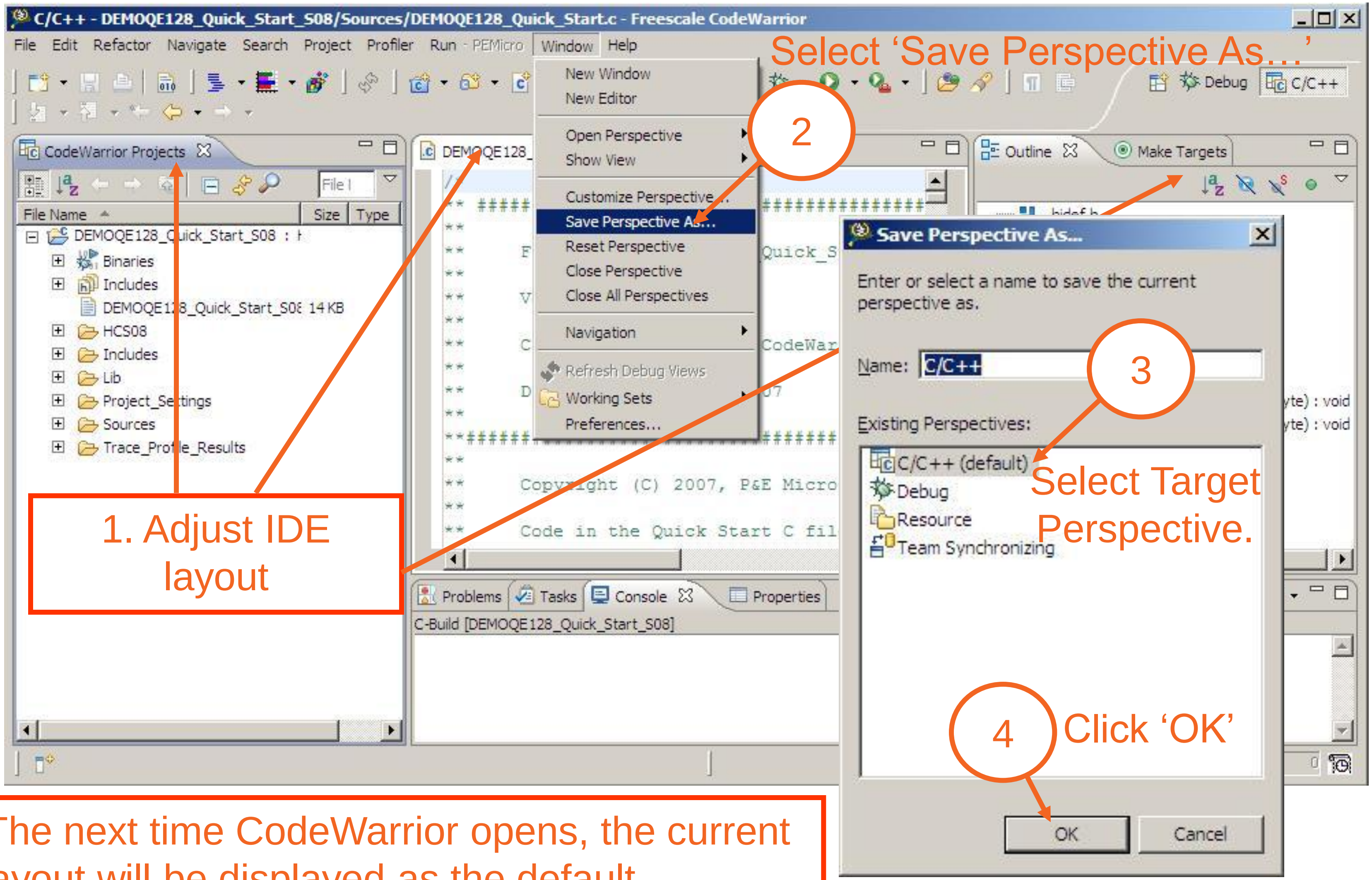
Save current layout as default


C/C++ - DEMOQE128_Quick_Start_S08/Sources/DEMOQE128_Quick_Start.c - Freescale CodeWarrior
File
Edit
Refactor
Navigate
Search
Project
Profiler
Run
PEMicro
Window
Help
New Window
New Editor
Open Perspective
Show View
Customize Perspective...
Save Perspective As...
Reset Perspective
Close Perspective
Close All Perspectives
Navigation
Refresh Debug Views
Working Sets
Preferences...
CodeWarrior Projects
Outline
Make Targets
Problems
Tasks
Console
Properties
Debug
C/C++

Select 'Save Perspective As…'

2

1. Adjust IDE layout

Save Perspective As...

Enter or select a name to save the current perspective as.

Name: C/C++

Existing Perspectives:

- C/C++ (default)
- Debug
- Resource
- Team Synchronizing

3

Select Target Perspective.

4

Click 'OK'

OK Cancel

5. The next time CodeWarrior opens, the current layout will be displayed as the default.

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