

# CodeWarrior

## Development Studio

for StarCore DSP Architectures



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Quick Start for the Windows® Edition



# CodeWarrior Development Studio for StarCore DSP Architectures Quick Start for the Windows® Edition

## SYSTEM REQUIREMENTS

<b>Hardware</b>	Intel® Pentium® 4 processor, 2 GHz or faster, Intel Xeon™, Intel Core™, AMD Athlon™ 64, AMD Opteron™, or later 2 GB RAM CD-ROM drive for CD installation Microsoft Mouse compliant pointing device Internet connectivity for web downloads and update access
<b>Operating System</b>	Microsoft® Windows 7 (32/64-bit) Home Premium, Professional, Ultimate Operating System or Microsoft® Windows Vista® (SP2) (32/64-bit) Home Basic, Home Premium, Business, Enterprise, Ultimate Operating System or Windows® XP Professional (SP3) (32/64-bit)
<b>Disk Space</b>	2 GB, additional space required during installation

This Quick Start explains how to install the CodeWarrior software on a Windows PC. Also, the document explains how to use this software to create, build, and debug a simple StarCore DSP project.

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**NOTE** In the procedures that follow, advanced users can use numbered steps. Novices may use the more detailed instructions provided by substeps.

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## Section A: Installing Software

### 1. Install the CodeWarrior software

**NOTE** If you are installing from a CD, proceed directly to substep j.

- a. Start a web browser.
- b. Point the browser to <https://www.freescale.com/cgi/go/189425101> — the Freescale website's **Log-in** page appears.
- c. On this page, enter your login information.

**NOTE** If you are not a registered user, click **Register Now** and follow the on-screen instructions.

- d. Click **Log in** — the **Extranet Project: CodeWarrior StarCore v10.0** web page appears.
- e. On this page, open the folder containing the release to install — a list of files appears.
- f. In this file list, click the name of the web installer. The web installer is a file with **.exe** file extension — the **File Download** dialog box appears.
- g. Click **Save** — the **Save As** dialog box appears.
- h. Select a convenient location on your PC to save the installer.
- i. Run the installer — the install wizard appears.

**NOTE** If you are installing from a CD, insert the **Development Studio for StarCore** CD into the CD-ROM drive — auto install begins.

- j. Follow the wizard instructions to install the CodeWarrior software. When the wizard is finished, the **InstallShield Wizard Completed** page appears.
- k. Check **Check for program updates after the setup completes**.
- l. Click **Finish** — the **CodeWarrior Updater** dialog box appears.

### 2. Check for software updates

**NOTE** If **CodeWarrior Updater** already has the required Internet connection settings, proceed directly to substep h.

- a. Click **Settings** — the **CodeWarrior Updater Settings** dialog box appears.
- b. Select **Check Bi-Weekly** from the **Update Check Scheduling** drop down list.
- c. Click **Settings** — the **Internet Properties** dialog box appears.
- d. Use the dialog box to modify Internet settings, if necessary.
- e. Click **OK** — the **Internet Properties** dialog box closes.
- f. Click **OK** — the **CodeWarrior Updater Setting** dialog box closes.
- g. In the **CodeWarrior Updater** dialog box, click **Next** — the updater checks for the newer versions of CodeWarrior products.
- h. Follow the updater's on-screen instructions to download the CodeWarrior product updates to your PC.
- i. When the updater displays *Update Check Complete!* message, click **Finish** — the wizard closes.

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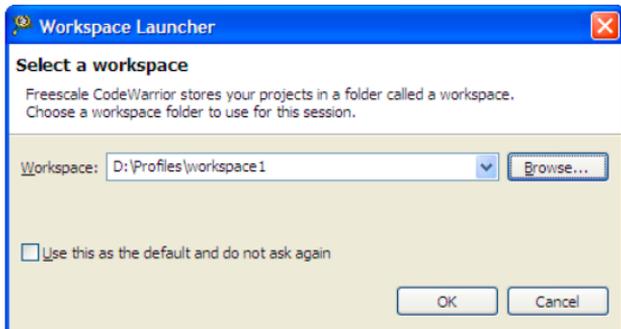
**NOTE** For licensing and activation of your CodeWarrior Development Studio for Freescale StarCore DSP Architectures, refer to the *CodeWarrior Development Suite Quick Start*. Save the license file, license.dat to the installation root folder, the default is *CWInstallDir\SC*, where *CWInstallDir* is the path to your CodeWarrior installation.

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## Section B: Creating, Building, and Debugging a Project

1. Launch the CodeWarrior IDE
  - a. Select **Start > Programs > Freescale CodeWarrior > CW for StarCore < number > > CodeWarrior**, where *number* is the version number of your product — the **Workspace Launcher** dialog box appears.

### Workspace Launcher Dialog Box



- b. If you wish to change the location of your project's Workspace, click **Browse** to select a new path — the **Select Workspace Directory** dialog box appears.

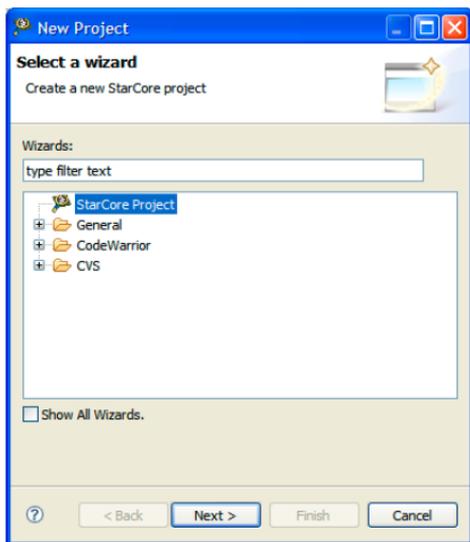
### Select Workspace Directory Dialog Box



- c. Select the required folder or click **Make New Folder** to create a new folder for storing your projects.
- d. Click **OK** — the **Select Workspace Directory** dialog box closes.
- e. Click **OK** to store the project at the specified location — CodeWarrior launches and displays the **Welcome** page.



## New Project Dialog Box



- c. Click **Next** — the **Create a StarCore Project** page appears.

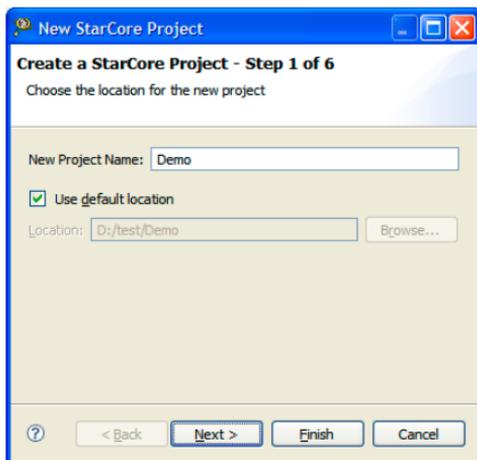
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**NOTE** You can also open the **Create a StarCore Project** page directly by selecting **File > New > StarCore Project**.

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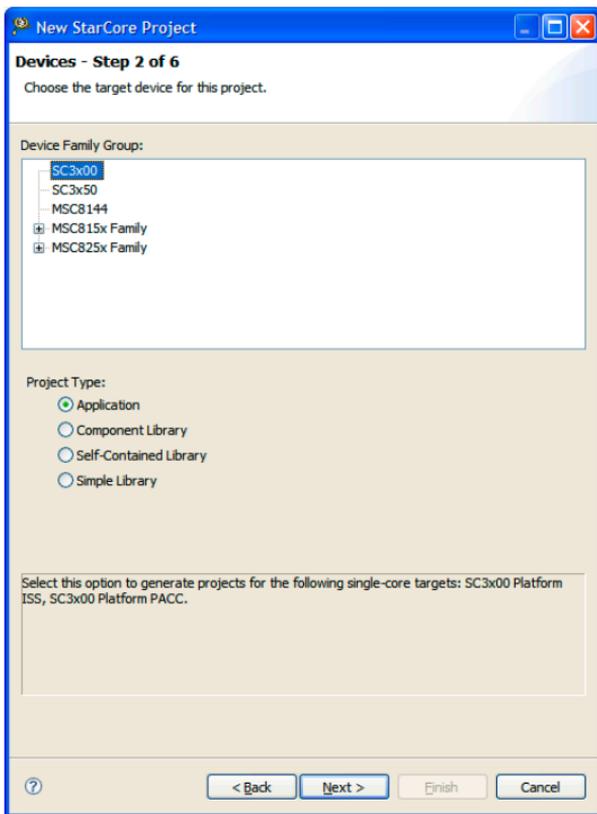
- d. In the **Project name** field, type `Demo`.

## New StarCore Project Wizard



- e. Click **Next** — the **Devices** page appears.
- f. Select the **SC3x00** option in the **Device Family Group**.
- g. Select the **Application** option from **Project Type**.

### Devices Page



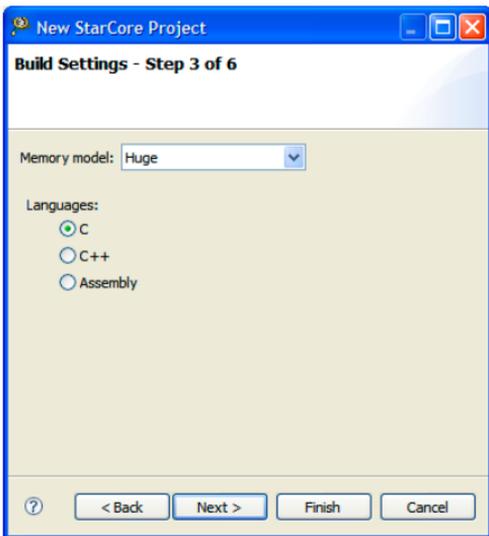
- h. Click **Next** — the **Build Settings** page appears.

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**NOTE** The **Build Settings** and **Simulators** pages appear according to target device selected from **Devices** page.

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## Build Settings Page



- i. Click **Next** — the **Launch Configurations** page appears.
- j. Check the **Disable memory verification after program download** checkbox if you do not want to verify the program download.

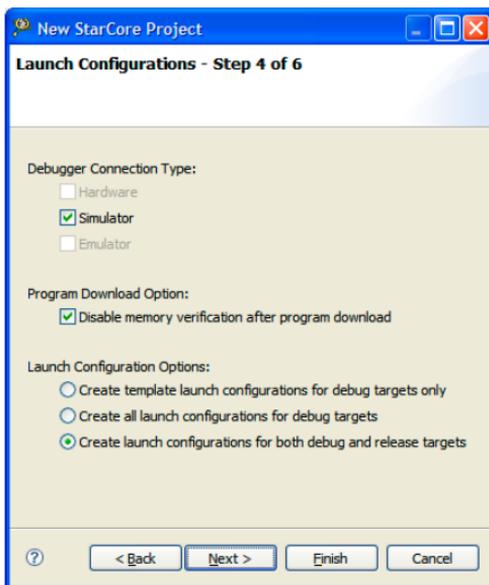
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**NOTE** For certain programs, verification of programs might prevent connection to TAP. If you can connect to a TAP, this option does not affect trace collection.

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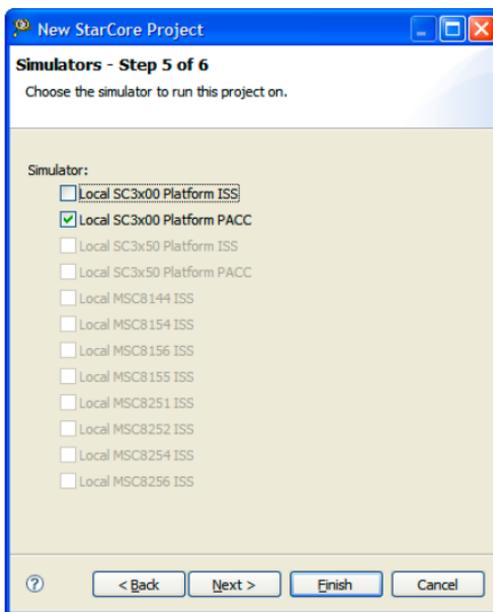
- k. In the **Launch Configuration Options**, select the **Create launch configurations for both debug and release targets** option to generate both debug and release launch configurations.

## Launch Configurations Page



1. Click **Next** — the **Simulators** page appears.

## Simulators Page



- m. If target device is SC3x00, check **Local SC3x00 Platform ISS** or **Local SC3x00 Platform PACC** checkbox to use Instruction Set simulator or Platform Accurate simulator respectively.

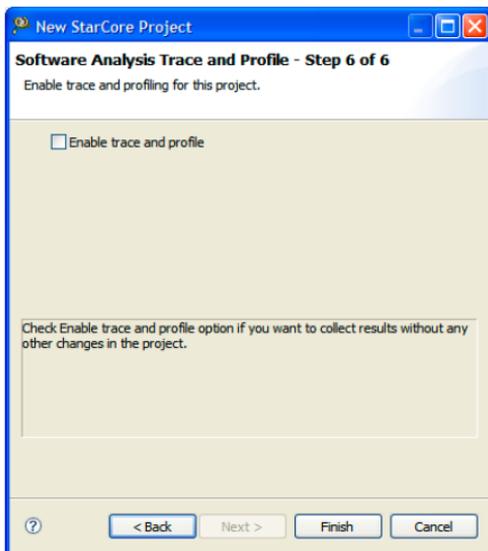
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**NOTE** For other target devices check appropriate checkbox from the available simulators.

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- n. Click **Next** — the **Software Analysis Trace and Profile** page appears.

### Software Analysis Trace and Profile Page



- o. Check the **Enable trace and profile** checkbox to collect trace and profiling data.

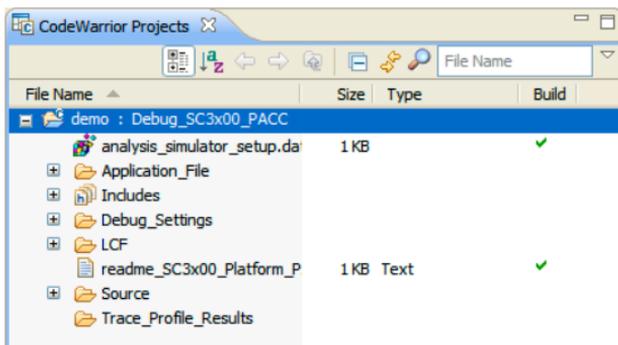
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**NOTE** If you selected the **Local SC3x00 Platform ISS** checkbox on the **Simulators** page, the **Enable trace and profile** checkbox appears disabled.

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- p. Click **Finish** — the IDE creates the project. You can view the newly created project in the **CodeWarrior Projects** view in the IDE.

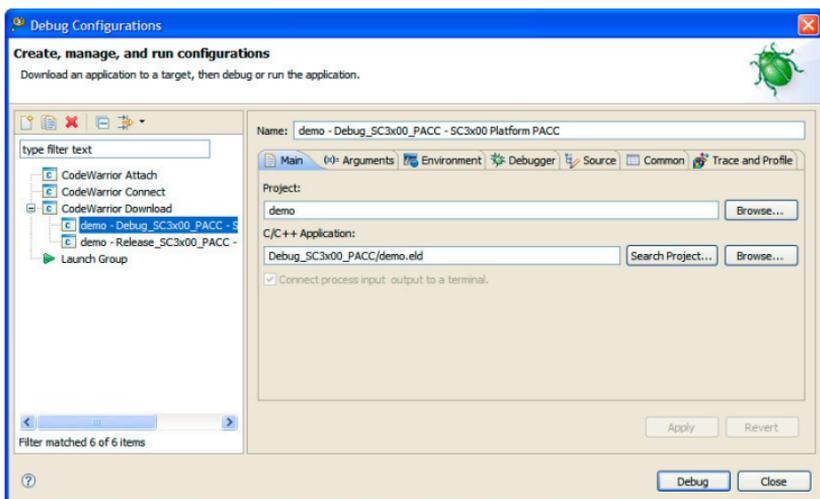
## CodeWarrior Projects View



### 3. Build and debug program

- Select the project in the **CodeWarrior Projects** view.
- Select **Project > Build Project** to build the project. Alternatively, you can right-click on the project in the **CodeWarrior Projects** view and select **Build Project** from the context menu.
- From the CodeWarrior IDE menu bar, select **Run > Debug Configurations** — the **Debug Configurations** dialog box appears.
- Select **CodeWarrior Download > demo - Debug\_SC3x00\_PACC - SC3x00 Platform PACC** in the left pane.

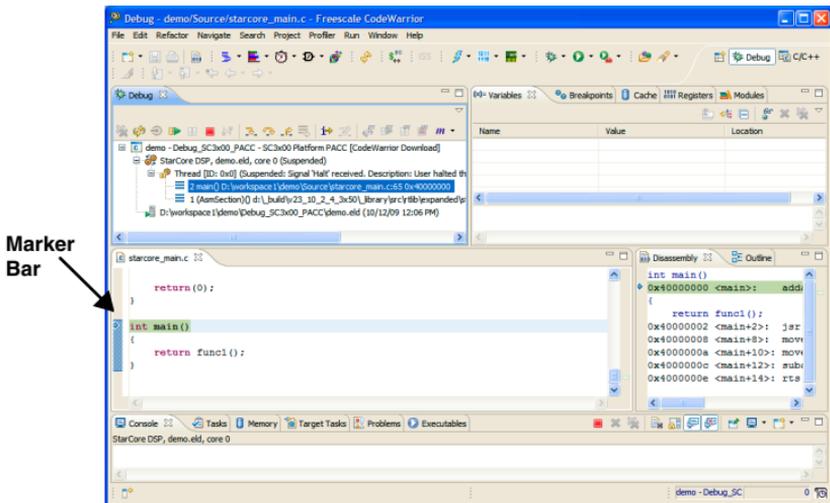
### Debug Configurations Dialog Box



- Click **Debug** — program downloads to simulator.

- f. Click **Yes** — the **Debug** perspective appears and the execution halts at the first statement of `main()`.

## Debug Perspective



- g. Click on the thread in the **Debug** view — the program counter icon on the marker bar points to the next statement to be executed.
  - h. In the **Debug** view, click **Step Over**  — the debugger executes the current statement and halts at next statement.
4. Set breakpoint and execute program to breakpoint.
    - a. In the editor area, scroll to this statement:  
`for ( i = 0; i < DataBlockSize/2; i++ )`
    - b. Double-click on the marker bar next to the statement — the breakpoint indicator (blue dot) appears next to the statement.
    - c. In the **Debug** view, click **Resume**  — the debugger executes all statements up to but not including the breakpoint statement.
  5. Control program
    - a. In the **Debug** view, click **Step Over**  — the debugger executes the breakpoint statement and halts at the next statement.
    - b. In the **Debug** view, click **Resume**  — the program outputs to the **Console** window at the bottom.
    - c. In the **Debug** view, click **Terminate**  — the debug session ends.

6. Close the Console window
7. Select **File > Exit** — the CodeWarrior IDE window closes.

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## **Congratulations!**

**You have created, built, and debugged a StarCore DSP Simulator project using CodeWarrior!**

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Revised: 13 April 2010





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926-77760 Rev D

