QuickStart Guide

IAR Embedded Workbench® for Atmel AVR32 using Atmel's EVK1100 or EVK1101

This QuickStart Guide briefly describes how to get started with IAR Embedded Workbench® for Atmel AVR32 with Atmel AVR32 JTAGICE mkII. It also describes how to get an example application up and running on the target systems EVK1100 and EVK1101 evaluation board from Atmel. Please note that a number of example applications can also be found on the Atmel CD included with the evaluation kit.

For more detailed information, see the *IAR Embedded Workbench® IDE User Guide*, which also contains C-SPY® hardware debugger documentation. This document is reached from the Help menu in the IAR Embedded Workbench IDE.

Installing IAR Embedded Workbench for Atmel AVR32 IDE

Install the products according to the following procedure:

1   Insert the IAR KickStart CD. The CD contains all the software you need to get your development project up and running. The installation program starts automatically.

2   Click **Software Installations** to see a list of all applications that can be installed.

3   Select **IAR Embedded Workbench - KickStart Edition** to start the installer and follow the instructions. We recommend that you use the default directories, and the **Full installation** option.

   Note: You must register your product via email as part of the installation process. Your license number and license key will be generated automatically and sent to you as an email. This usually takes less than 5 minutes.

4   Exit the installation program and close your IAR Embedded Workbench IDE if it is open.

Setting up the hardware and installing the debug probe

After you have installed IAR Embedded Workbench, it is time to connect the debug probe, either JTAGICE mkII or AVR ONE!; and set up the evaluation board according to these instructions:

JTAGICE mkII

1   Connect JTAGICE mkII and the EVK1100 or EVK1101 evaluation board according to the hardware documentation.

2   Connect your computer with AVR JTAGICE mkII using a USB cable or a serial port cable.

   To install the USB driver for AVR JTAGICE mkII required by C-SPY, follow this procedure:

3 Double-click the batch file `install.bat`, located in the `AVR32\drivers\jtagiceMkII` directory.

4 Turn on the power for AVR JTAGICE mkII.

Windows will automatically locate the required `inf` file and install the proper USB driver for you. If this fails, Windows will open a dialog box and ask you to browse to the directory where the driver is located `avr32\drivers\jtagiceMkII`

5 Turn off power for AVRICE mkII.

<u>**AVR ONE!**</u>

I Connect AVR ONE! and the EVK1100 or EVK1101 evaluation board according to the hardware documentation.

2 Connect your computer with AVR ONE! using a USB cable.

To install the USB driver for AVR ONE! required by C-SPY, follow this procedure:

3 Double-click the batch file `install.bat`, located in the `AVR32\drivers\AVRONE!` directory.

4 Turn on the power for AVR ONE!.

Windows will automatically locate the required `inf` file and install the proper USB driver for you. If this fails, Windows will open a dialog box and ask you to browse to the directory where the driver is located `avr32\drivers\AVRONE!`

5 Turn off power for AVR ONE!

Running example applications

When you have installed and set up all the software and hardware, it is time to try out one of the example applications provided with the IAR Embedded Workbench for Atmel AVR32.

Please note that more example applications can be found on the Atmel CD.

To run the example application included, you will benefit from having some working knowledge of the IAR Embedded Workbench IDE. For a quick introduction, see the tutorials in the *IAR Embedded Workbench® IDE User Guide*, available as an online PDF from the IDE **Help** menu.

The example described here is `EVK1100-quickstart` which is making a LED blink in a pattern.

I From the **Start** menu, start the IAR Embedded Workbench IDE by choosing **Programs>IAR Systems>IAR Embedded Workbench for AVR32 Kickstart>IAR Embedded Workbench.** The **Embedded Workbench Startup** dialog box appears.

2 Click **Example applications**. This will create a copy of the chosen workspace and the associated project files. You can also open the workspace with **Open existing workspace** but then note that you will work with the original files instead of a copy of the workspace.
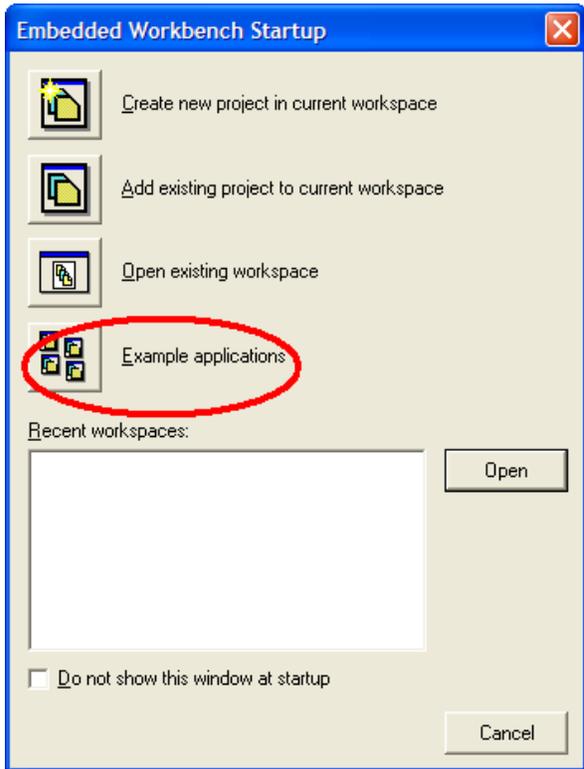
Figure 1 - Embedded Workbench Startup dialog box

3 Select the workspace made for your board, `EVK1100`. Click **Open** after making your choice.
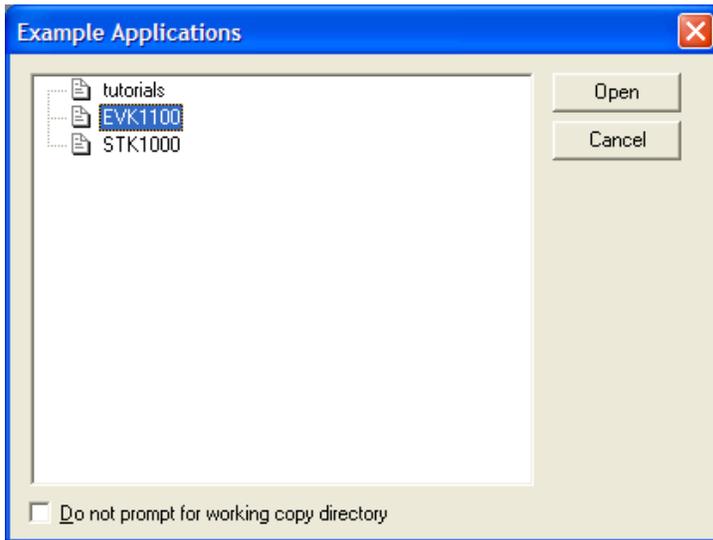
Figure 2 - Choose the Embedded Workbench workspace for your board

In the dialog box that appears, choose or create the destination folder for your project. The workspace window is displayed.

4 Make sure that the compilation target on the top of the workspace window is set to **Debug.**

Figure 3 – Choose compilation target

5 Choose **Project>Options** and select the device you will be using in the **Device** drop-down list in the **General Options** category.
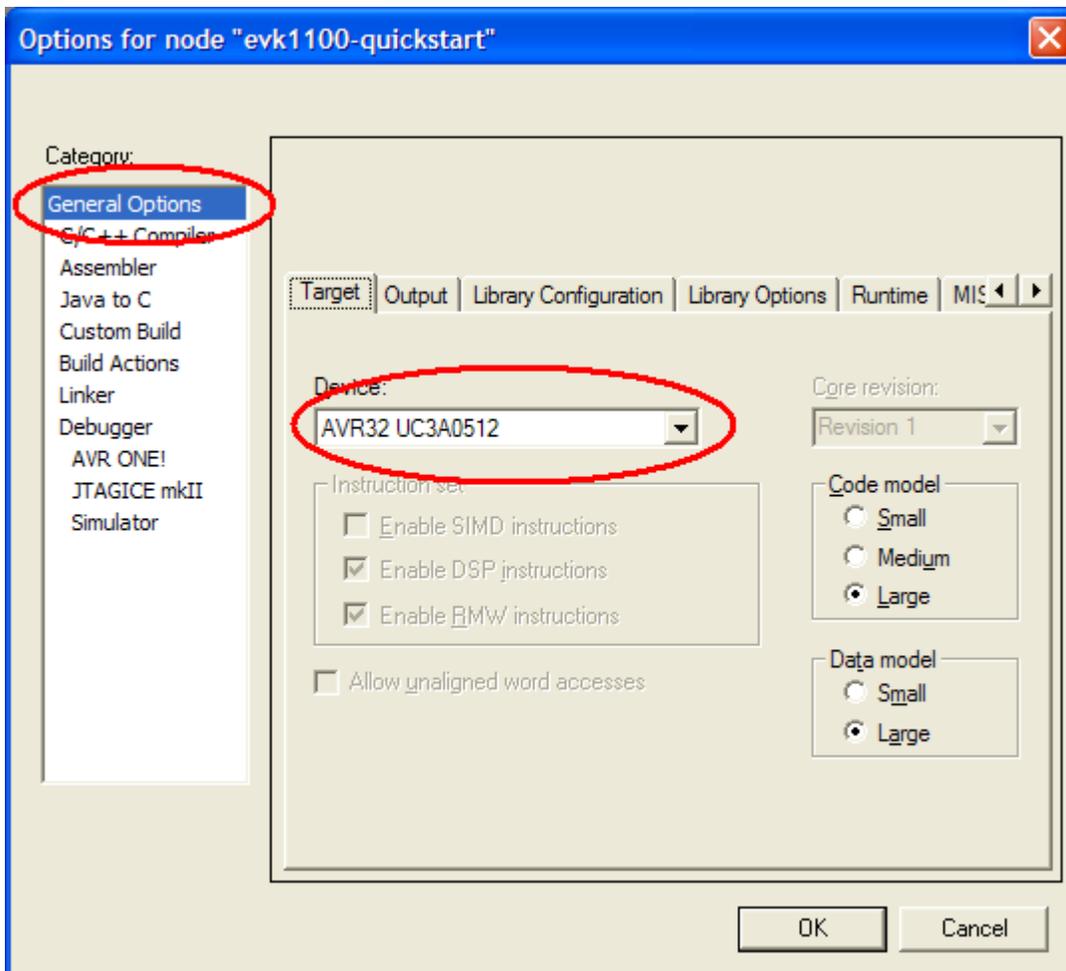
Figure 4 - Choose the device used

6 In the **Debugger** category, make sure that **Driver** is set to your debug probe (**JTAGICE mkII** or **AVR ONE!**).
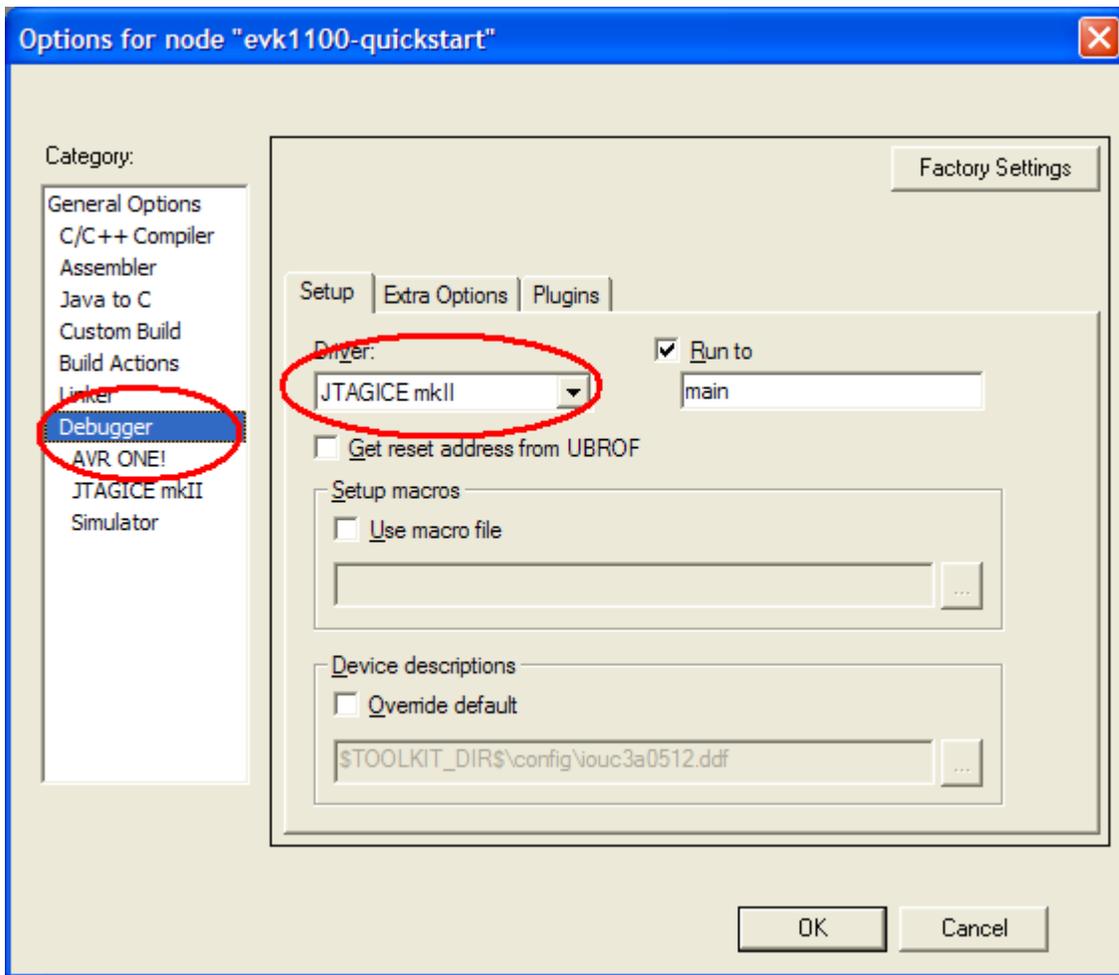
Figure 5 - select debugger hardware

7 If you are using JTAGICE mkII; choose **JTAGICE mkII** category, set up the **Connection** according to how AVR JTAGICE mkII is connected to your PC; either using the USB or the serial port cable.
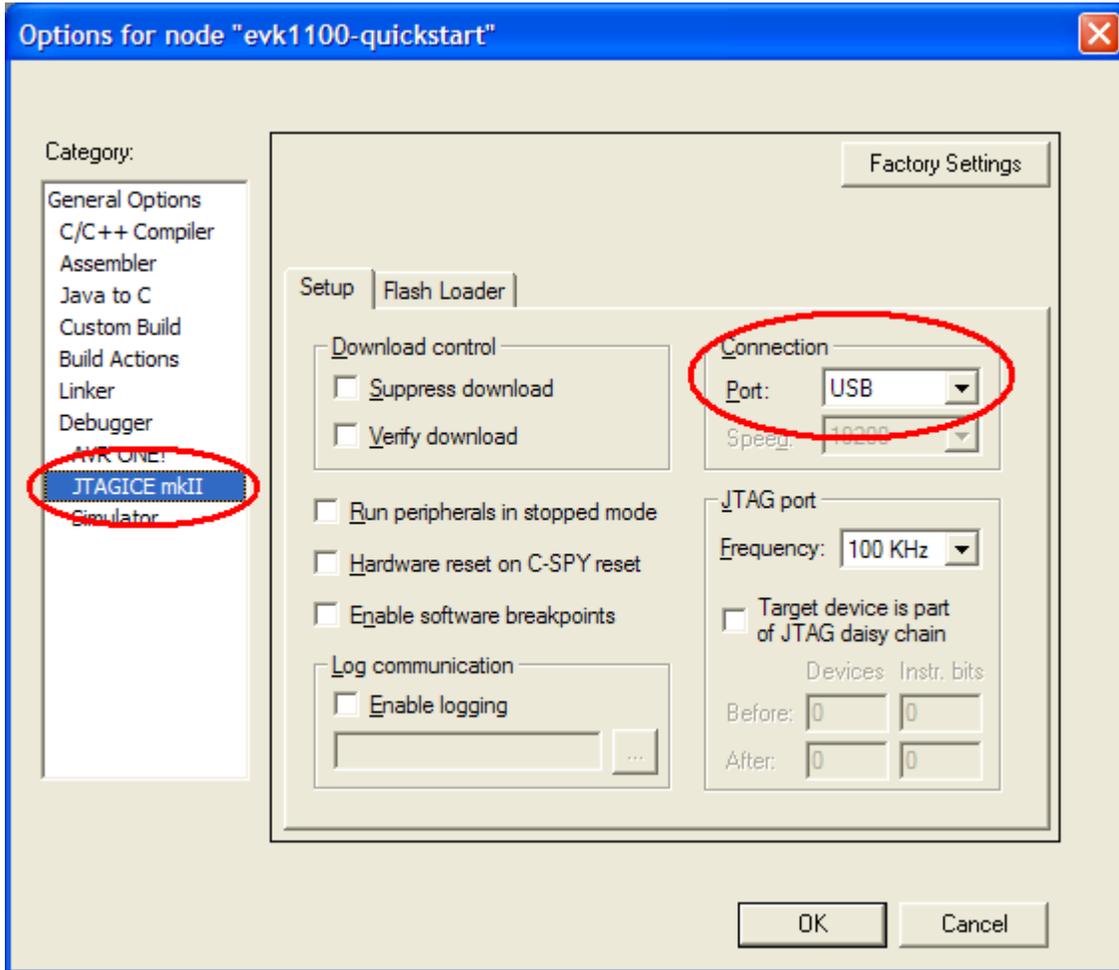
Figure 6 - Set up connection type for AVRICE mkII

8 Click OK.

9 Turn on the power on the debug probe and the AVR32 EVK1100 board.

10 Choose **Project>Make** or click the **Make** button on the toolbar. The project should compile with no errors.

Figure 7 – The Make button

11 Choose **Project>Download and debug** or click the **Download and debug** button on the toolbar. This will cause your application to be downloaded to the evaluation board.
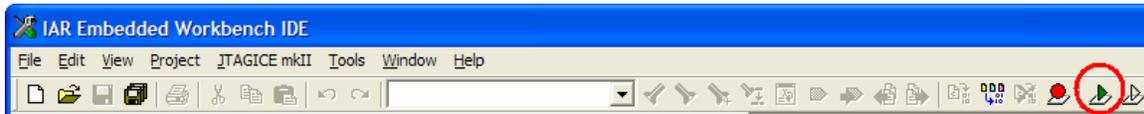
Figure 8 – The Download and debug button

12 Choose **Debug>Go** or click the **Go** button on the debug bar to start the application.
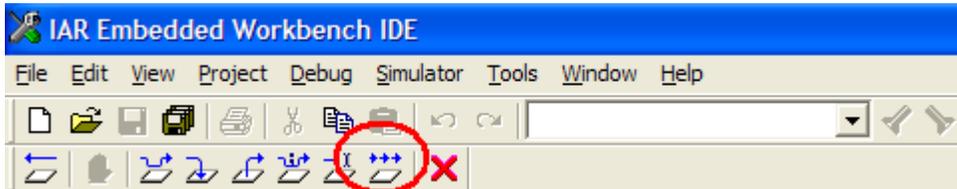
Figure 9 – The Go button

13 The application is using the user LED on the AVR EVK1100 evaluation board, to blink in a pattern.

14 To stop the execution, choose **Debug>Break** or click the **Break** button on the debug bar.

15 To exit C-SPY, choose **Debug>Stop Debugging** or click the **Stop Debugging** button on the toolbar.
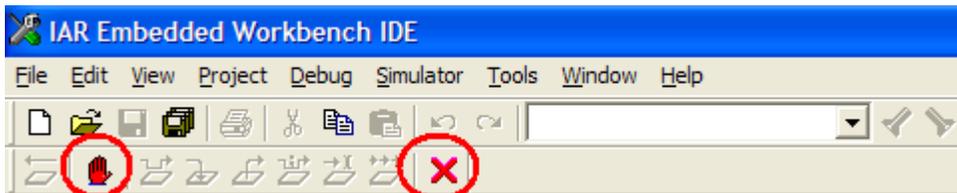
Figure 10 – The Break and Stop Debugging buttons

Troubleshooting
If you are unable to find the cause of a problem, try resetting the evaluation board by using the reset button on the board. Then restart C-SPY in the IAR Embedded Workbench IDE. You can also try disconnecting and reconnecting the power to the evaluation board, pressing the reset button and then restarting C-SPY.