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## **eSi-RISC Development Suite Installation Guide**

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## 2 Overview

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This guide describes how to install the eSi-RISC Development Suite on to your computer. The eSi-RISC Development Suite contains all you need to develop software for an eSi-RISC CPU. It features:

- C/C++ compiler
- Assembler
- Disassembler
- Linker
- Debugger
- Simulator
- IDE
- C and C++ libraries
- FreeRTOS
- lwIP TCP/IP stack
- Verilog PLIs for connecting the debugger to Verilog simulations

### 3 System Requirements

The eSi-RISC Development Suite has the following minimum system requirements:

<b>Operating System</b>	Windows XP, Windows Vista, Windows 7 (32-bit or 64-bit)
<b>Disk Space</b>	800MB
<b>RAM</b>	256MB
<b>CPU</b>	1GHz
<b>Graphics</b>	SVGA

**Table 1: System Requirements**

The eSi-RISC Development Suite requires the following free 3rd party software to be installed:

<b>Software</b>	<b>Version</b>	<b>Vendor</b>	<b>URL</b>
Acrobat Reader	5.0	Adobe	<a href="http://get.adobe.com/reader/">http://get.adobe.com/reader/</a>
Java	1.6	Sun Microsystems	<a href="http://www.java.com/">http://www.java.com/</a>
Cygwin	1.7.1	Red Hat	<a href="http://www.cygwin.com/">http://www.cygwin.com/</a>
WinPCap	4.1.1	Open source	<a href="http://www.winpcap.org/">http://www.winpcap.org/</a>

**Table 2: 3rd Party Software Requirements**

The eSi-RISC Development Suite installation program will automatically detect whether the above software is already installed and if not will download and run the respective installers.

Various Cygwin components are required that are not included in the default Cygwin installation. Therefore, even if you already have Cygwin installed, the eSi-RISC Development Suite installer may report that the required version of Cygwin is not installed, and will then run the Cygwin installer to install the required components, which will be automatically selected.

## 4 Installation Guide

### 4.1 Running the Installer

Start the eSi-RISC Development Suite installer by running `esirisc-development-suite.exe`.

If a previous version of the eSi-RISC Development Suite is already installed, the installer will automatically remove it.

### 4.2 Prerequisites

The eSi-RISC Development Suite installer will first check for the installation of the 3rd party software listed in Table 2: 3rd Party Software Requirements on page 4. If required versions of all software are found, the installer will skip straight to the main installation, described in section 4.4 on page 11.

If any prerequisites are not found Figure 1: Prerequisites Report dialog will be displayed showing the actions that need to be taken. If Download is listed for any of the actions, please ensure that the Download Folder is set to be a folder to which you have write permissions, as this is where the item will be downloaded to. The folder can be set by pressing the *Browse...* button.

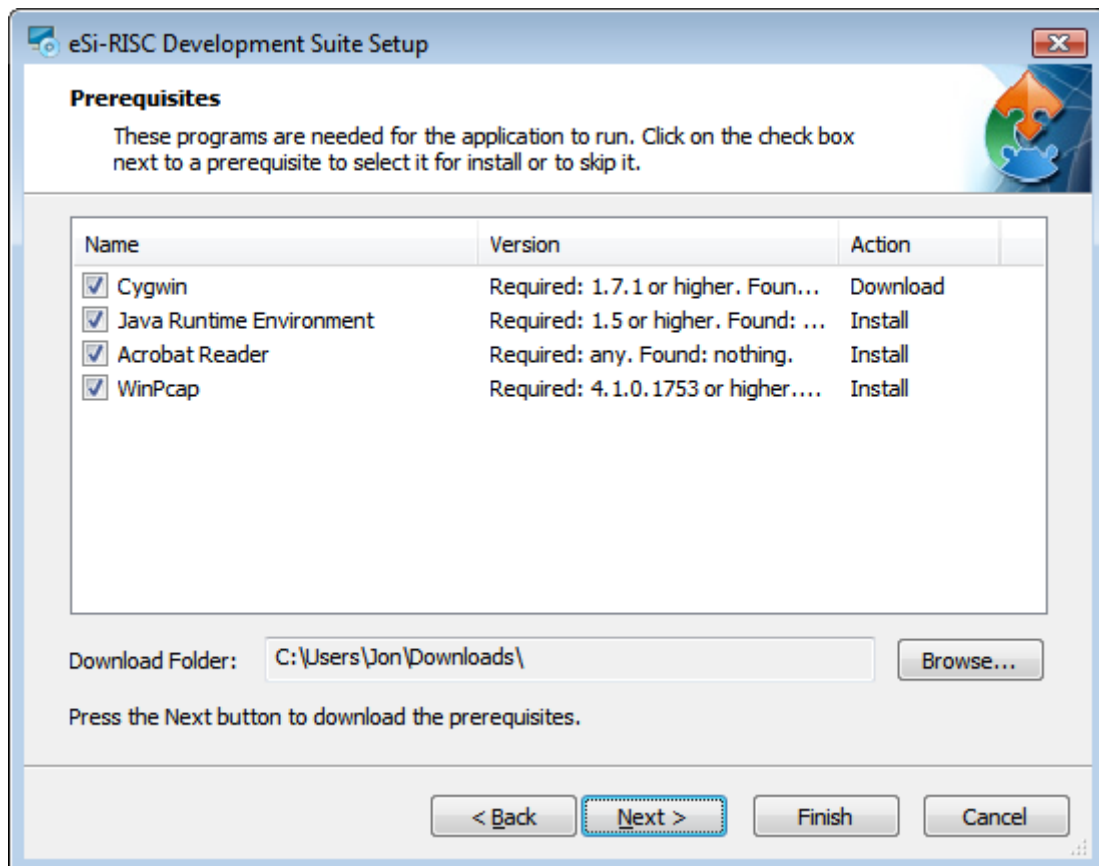
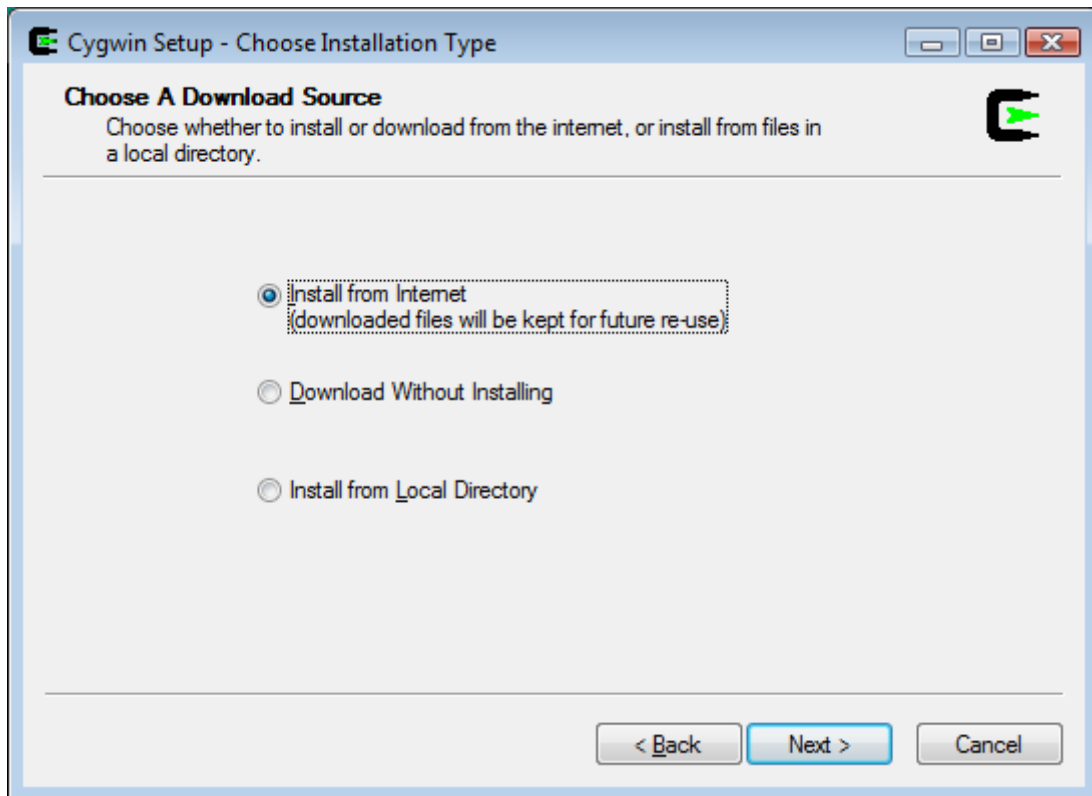


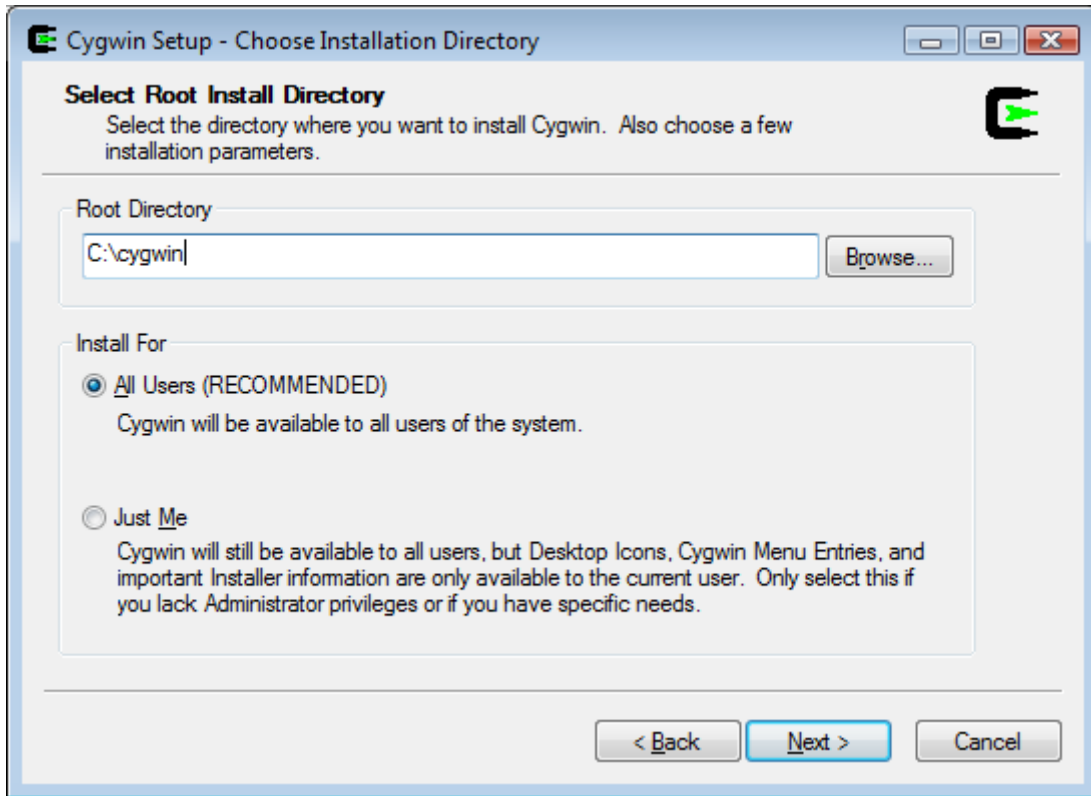
Figure 1: Prerequisites Report

### 4.3 Cygwin Installation

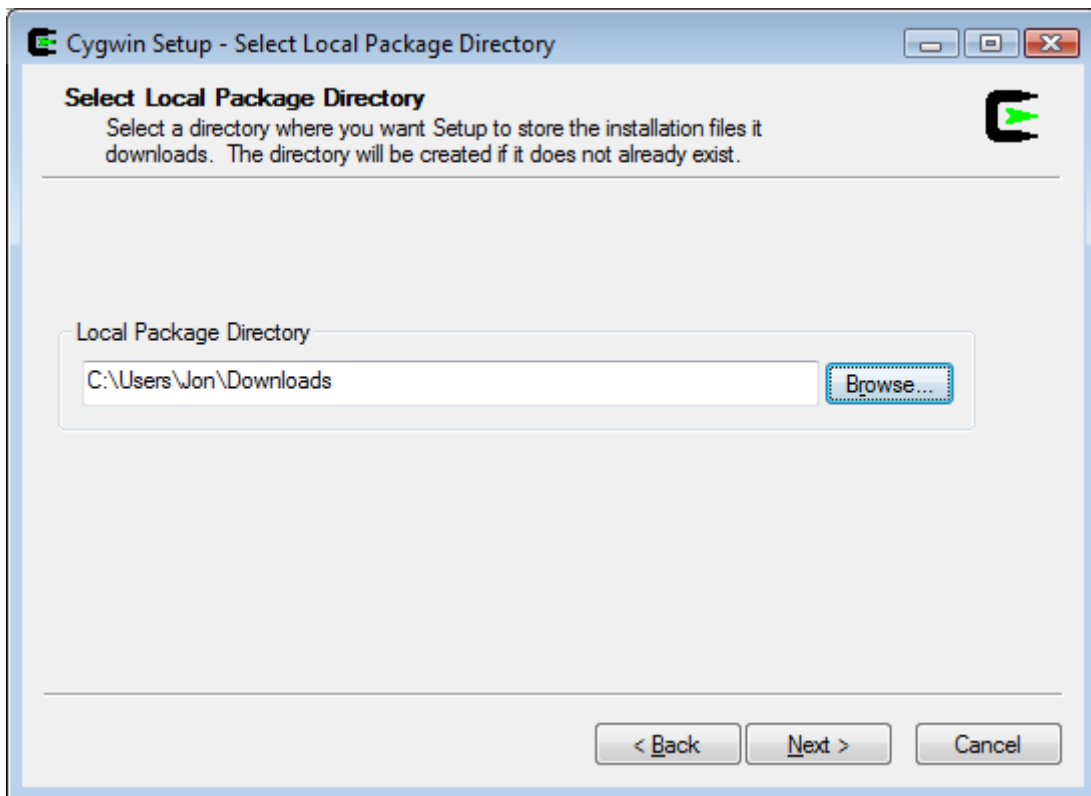
Cygwin is a Linux-like environment for Windows. The following screenshots show which options to select when presented by the Cygwin installer.



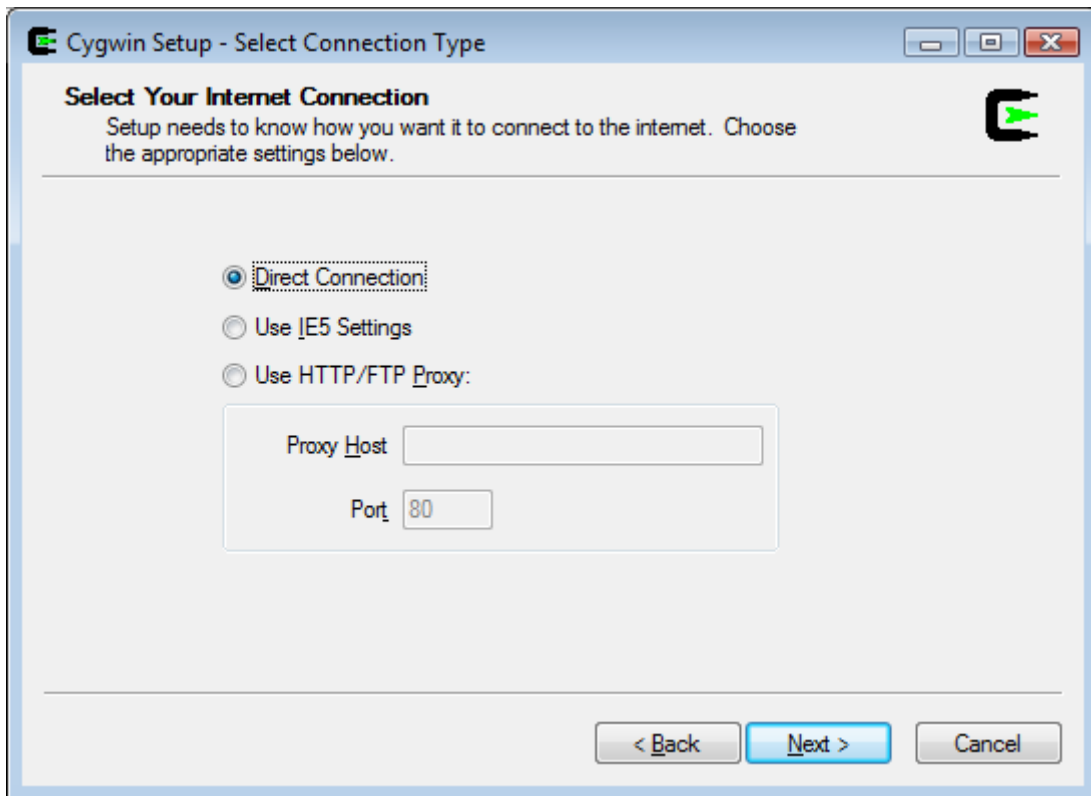
**Figure 2: Select Install from Internet**



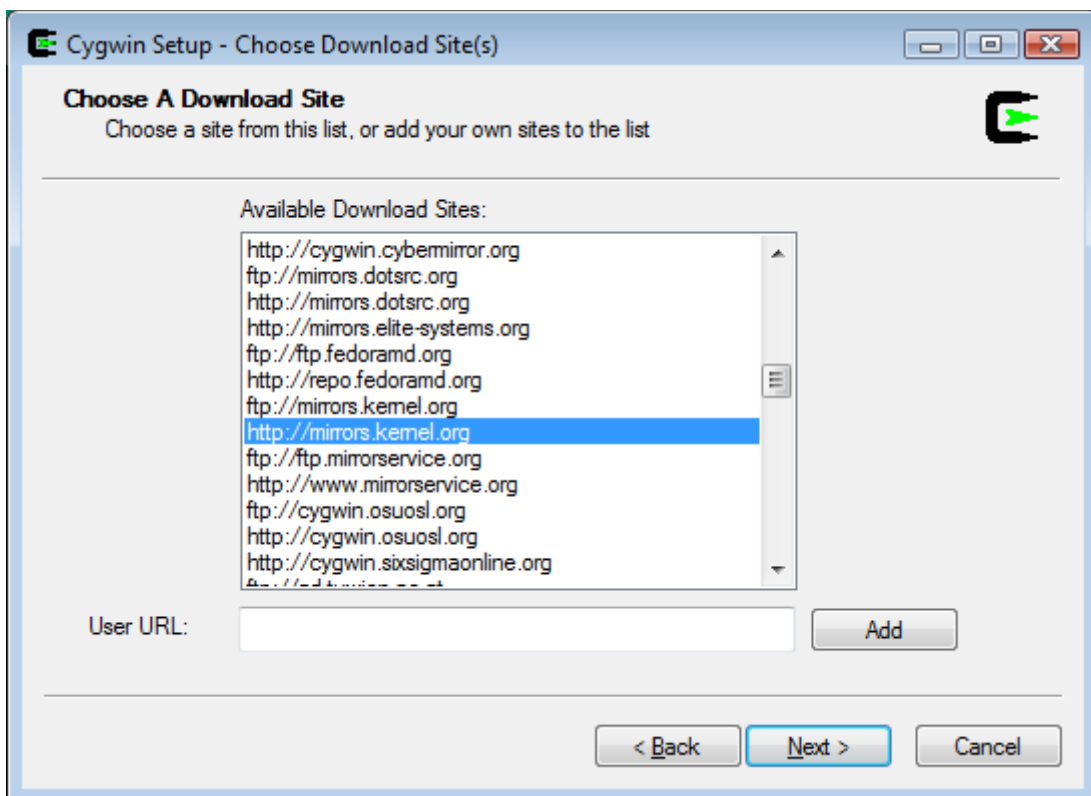
**Figure 3: Select a Root Directory with no spaces in the path name.**



**Figure 4: Select a directory where the downloaded installation files will be held**

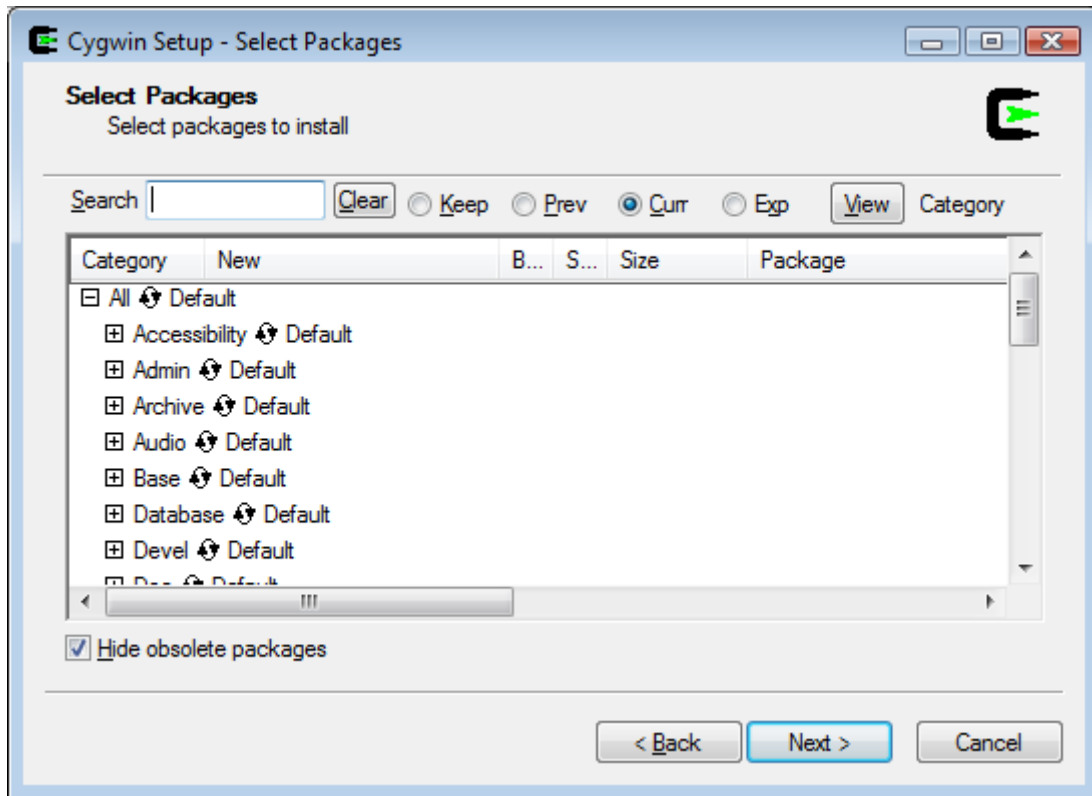


**Figure 5: Select the settings required to connect to the Internet**



**Figure 6: Select a local mirror site for the fastest download**

If no download sites are listed, press *Back* and try using different Internet connection settings.



**Figure 7: Select packages to install (See below)**

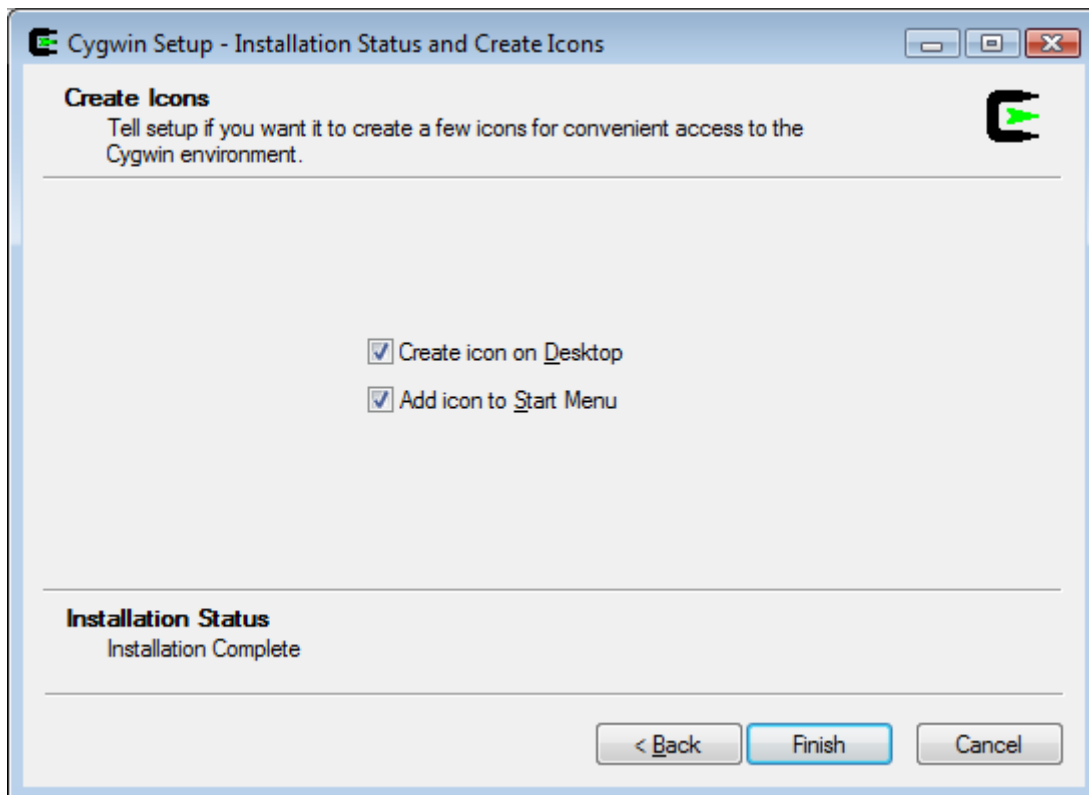
If the Cygwin installer is launched automatically from the eSi-RISC Development Suite installer, then the packages required by the eSi-RISC Development Suite will be automatically selected by default. You may choose additional packages, if needed. If you have run the Cygwin installation program manually, then please make sure the following packages are selected, that are not installed by default.

**Cygwin Package**

Libs/gmp
Libs/libelf0
Libs/libexpat1
Libs/libgcc1
Libs/libgmp3
Libs/libgmpxx4
Libs/libgmp-devel
Libs/libgomp1
Libs/libiconv2
Libs/libintl8
Libs/libmpfr1
Libs/libmpfr-devel
Libs/libmpc1
Libs/libmpc-devel
Libs/libncurses10
Libs/mpfr
Libs/zlib0
Devel/autoconf
Devel/automake
Devel/gcc-core

Devel/make  
Python/python

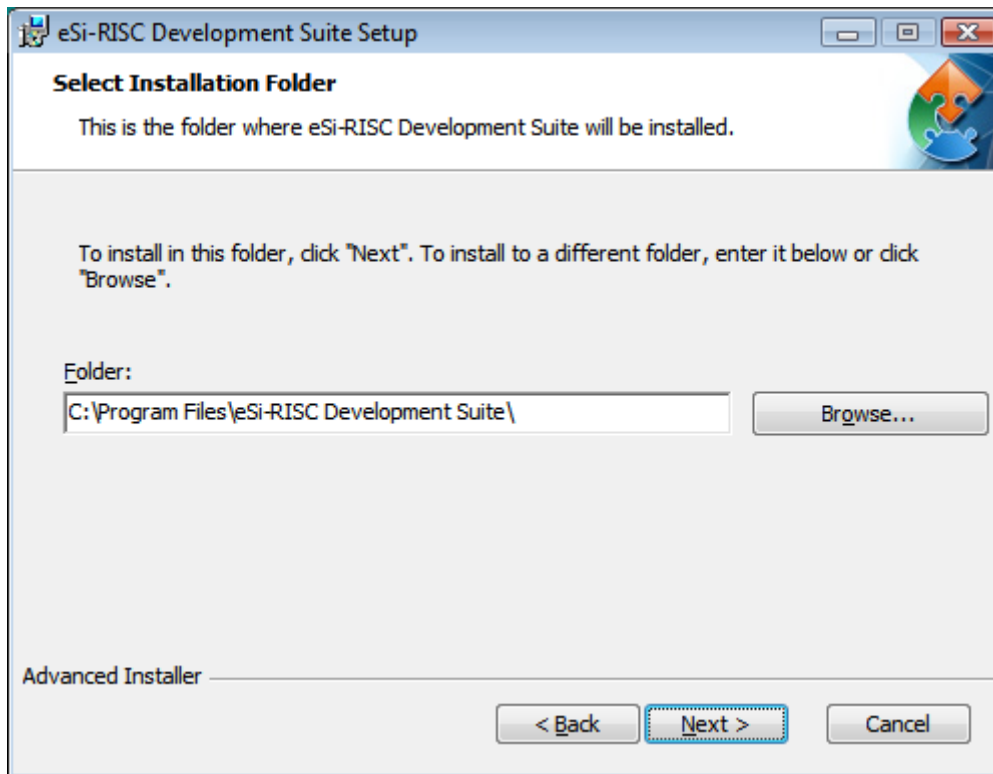
**Table 3: Required Cygwin Packages**



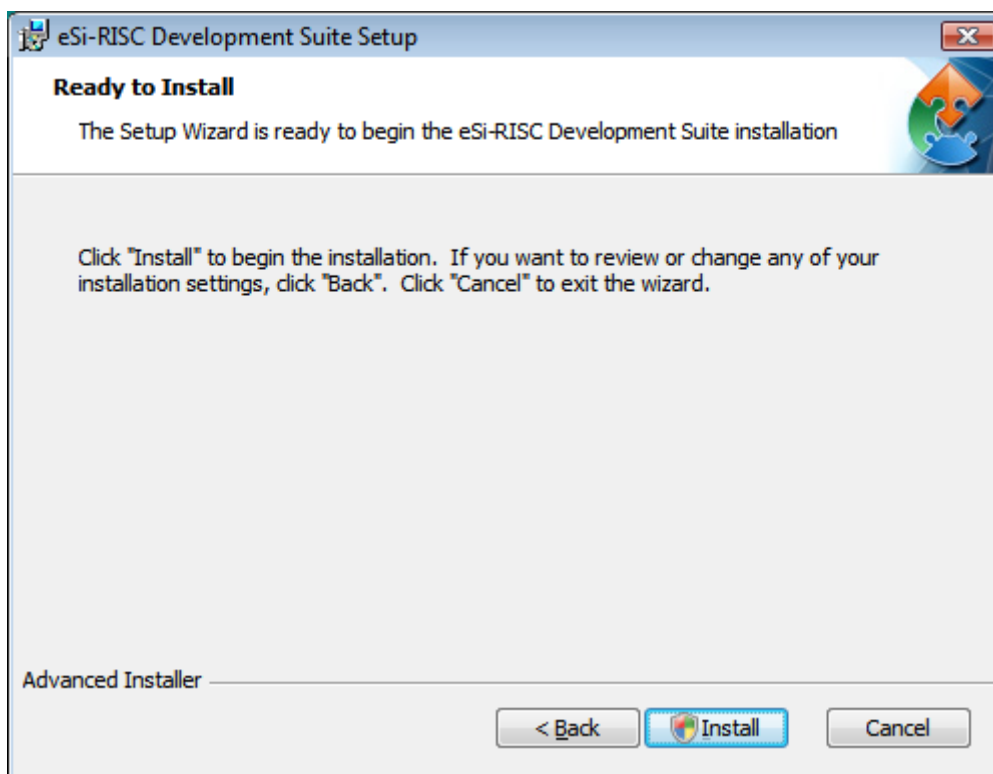
**Figure 8: Select whether you wish for any icons to be created**

## 4.4 eSi-RISC Development Suite Installation

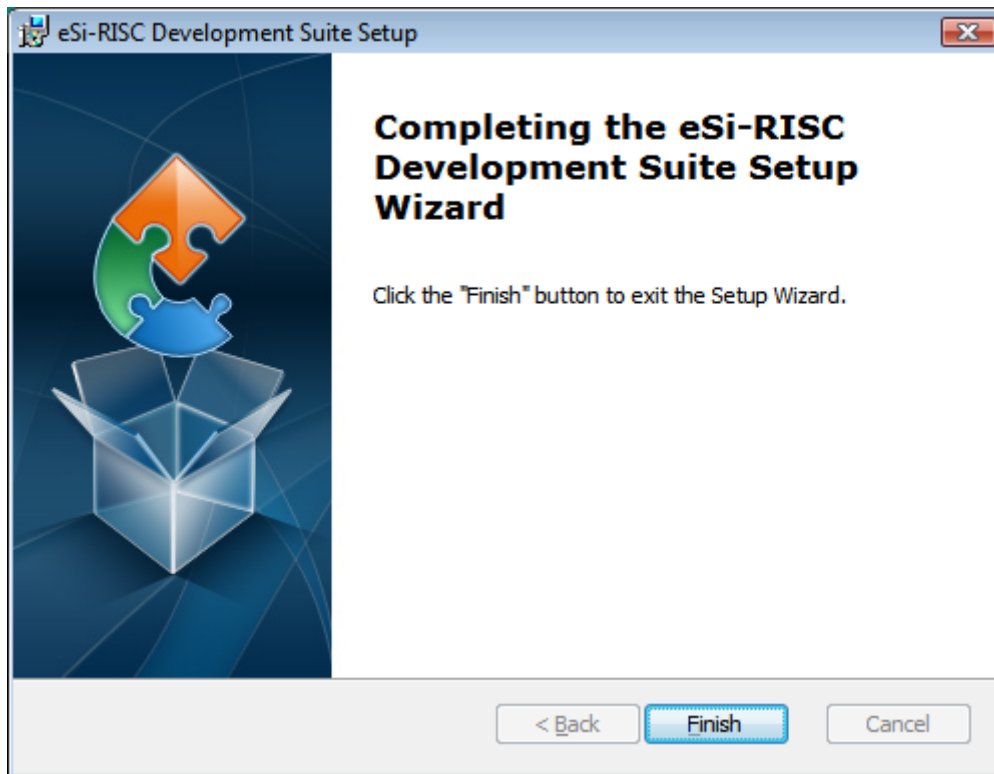
The eSi-RISC Development Suite installation is very simple, as illustrated in the following steps:



**Figure 9: Select the folder to install the eSi-RISC Development Suite into**



**Figure 10: Press Install to begin the installation**



**Figure 11: Installation of the eSi-RISC Development Suite is complete**

## 5 JTAG Driver Installation

The eSi-RISC Development Suite currently supports two JTAG interfaces:

- IEEE 1149.1 JTAG interface
- Altera virtual JTAG interface

For targets using the IEEE 1149.1 JTAG interface, a USB-to-JTAG dongle such as the Amontec JTAGkey2 is required to connect the debug host (your computer) to the target.

The Altera virtual JTAG interface is only supported for Altera FPGAs and uses the Altera ByteBlaster II Hardware. In order to use this interface, the Altera Quartus II or Quartus II Programmer software must be installed. This is freely available from <http://www.altera.com>.

### 5.1 Amontec USB to JTAG Dongle Driver Installation

The eSi-RISC Development Suite includes support for the low-cost Amontec JTAGkey and JTAGkey2 USB to JTAG dongles, available from <http://www.amontec.com/>.

To install the driver, after installation of the eSi-RISC Development Suite, simply connect the Amontec supplied USB cable to a free USB port. Windows will automatically detect the dongle and start the New Hardware Wizard.

#### 5.1.1 Windows XP Driver Installation



Figure 12: Do not use Windows Update to search for a driver

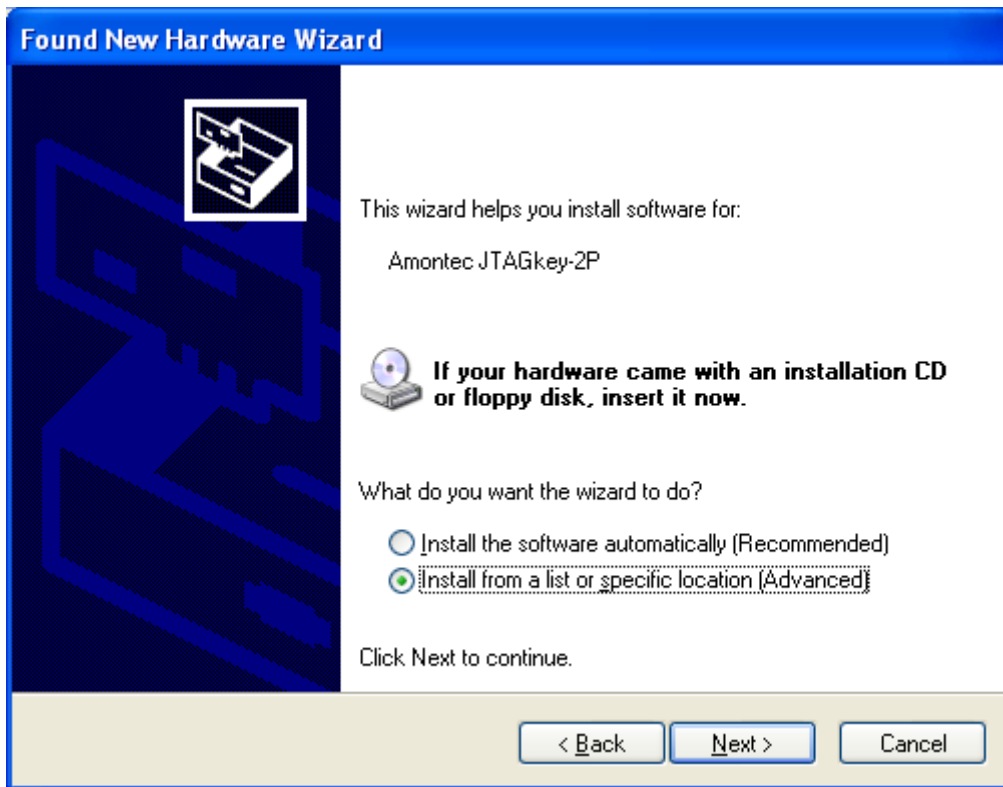


Figure 13: Select Install from a specific location

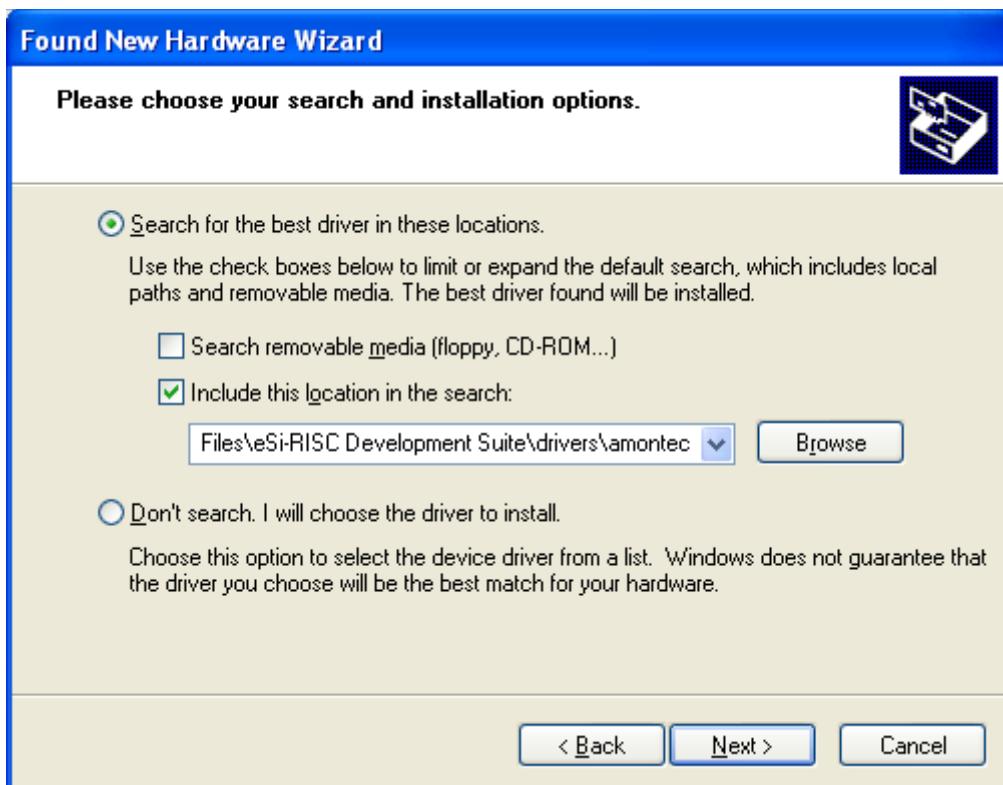


Figure 14: The drivers can be found in eSi-RISC Development Suite/drivers/amontec

5.1.2 Windows Vista / 7 Driver Installation

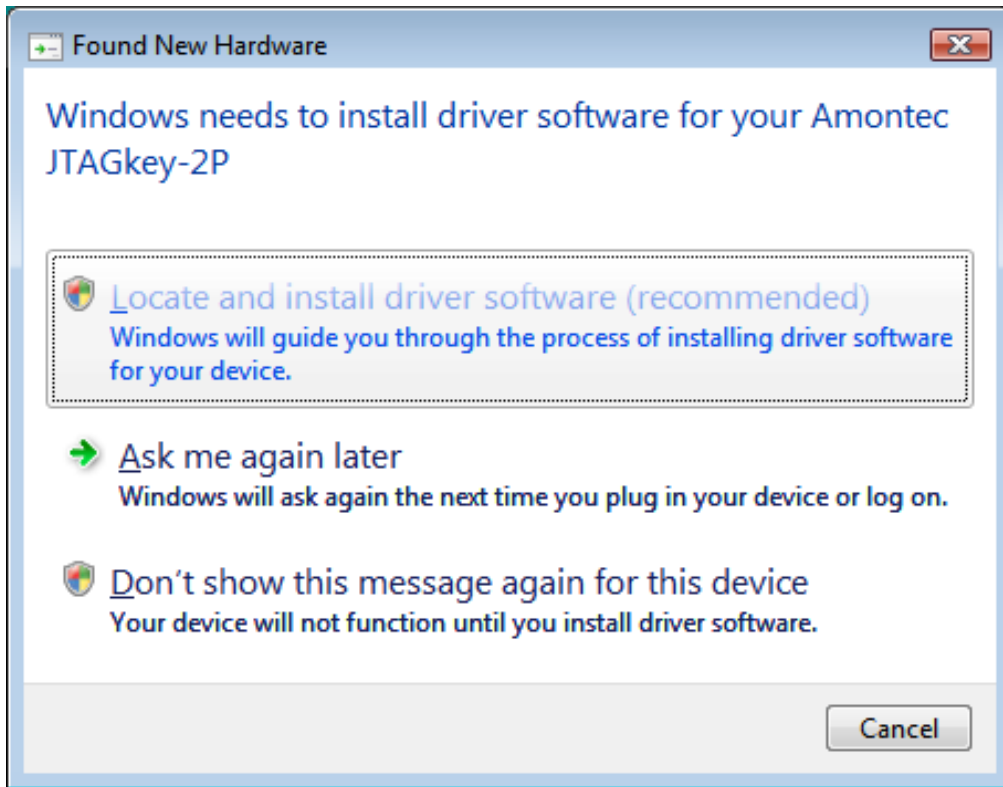


Figure 15: Select "Locate and install driver software"

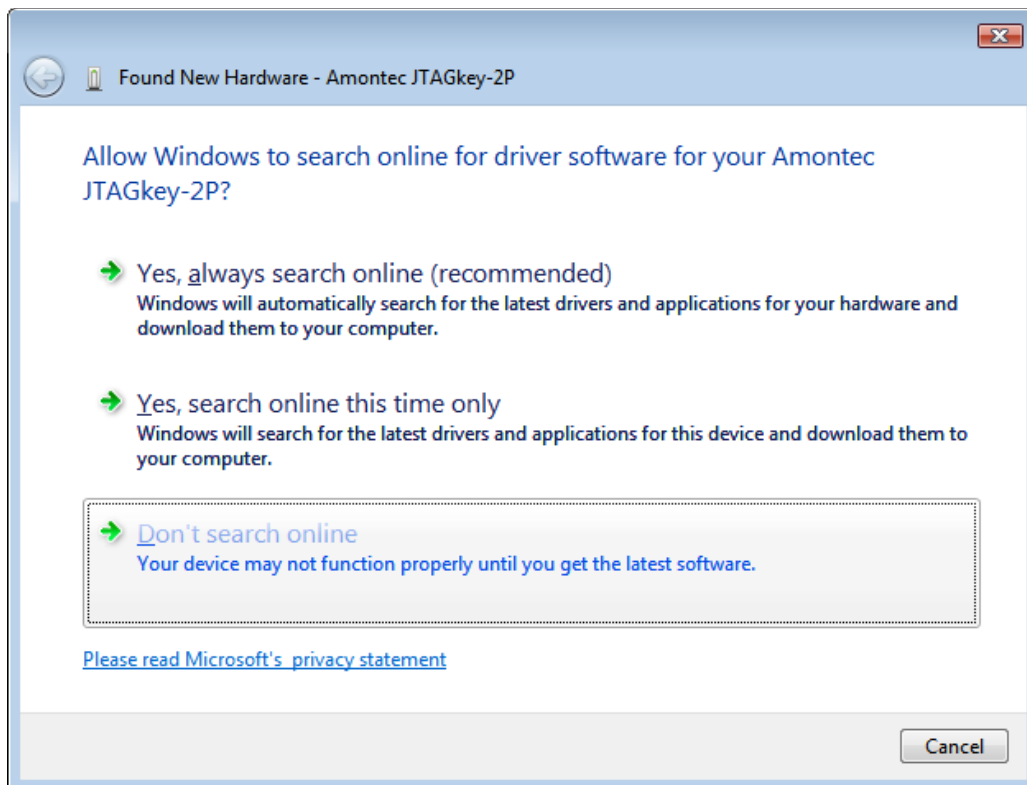


Figure 16: Select "Don't search online"

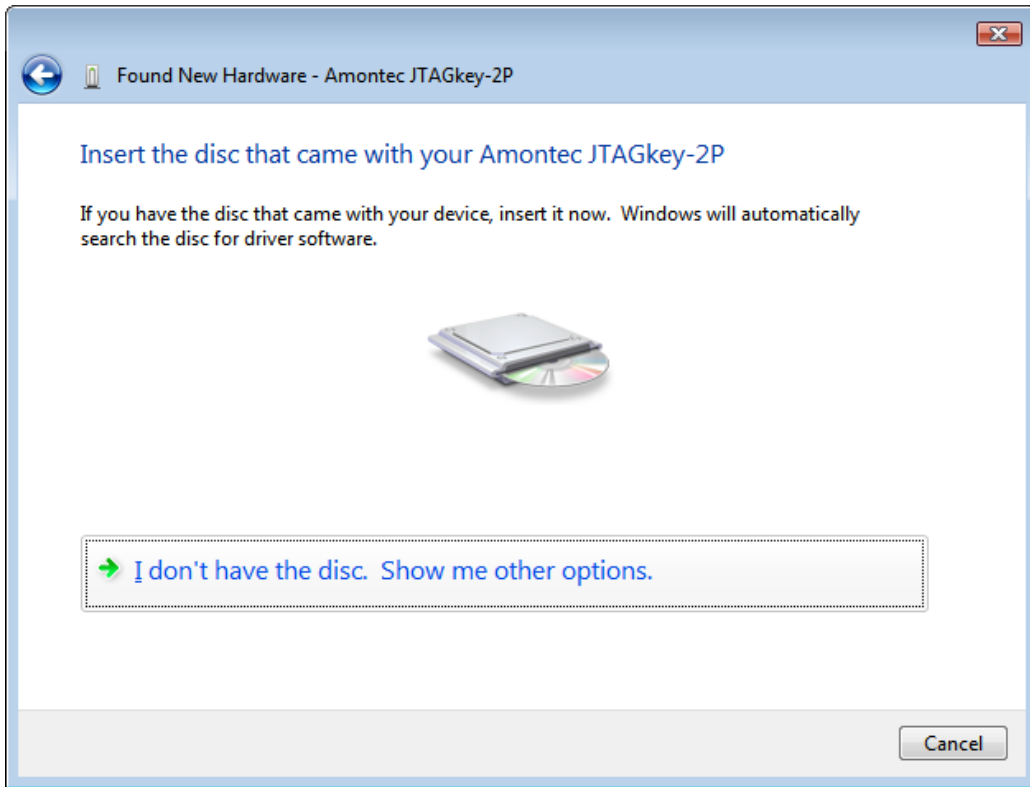


Figure 17: Select "I don't have the disc"

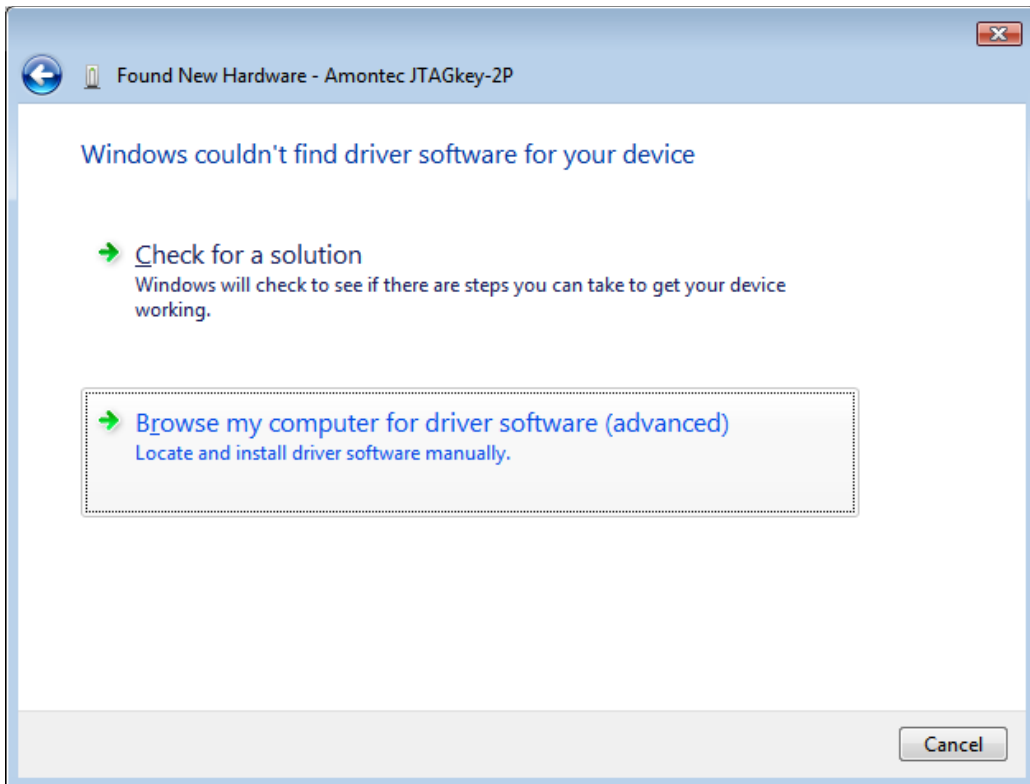
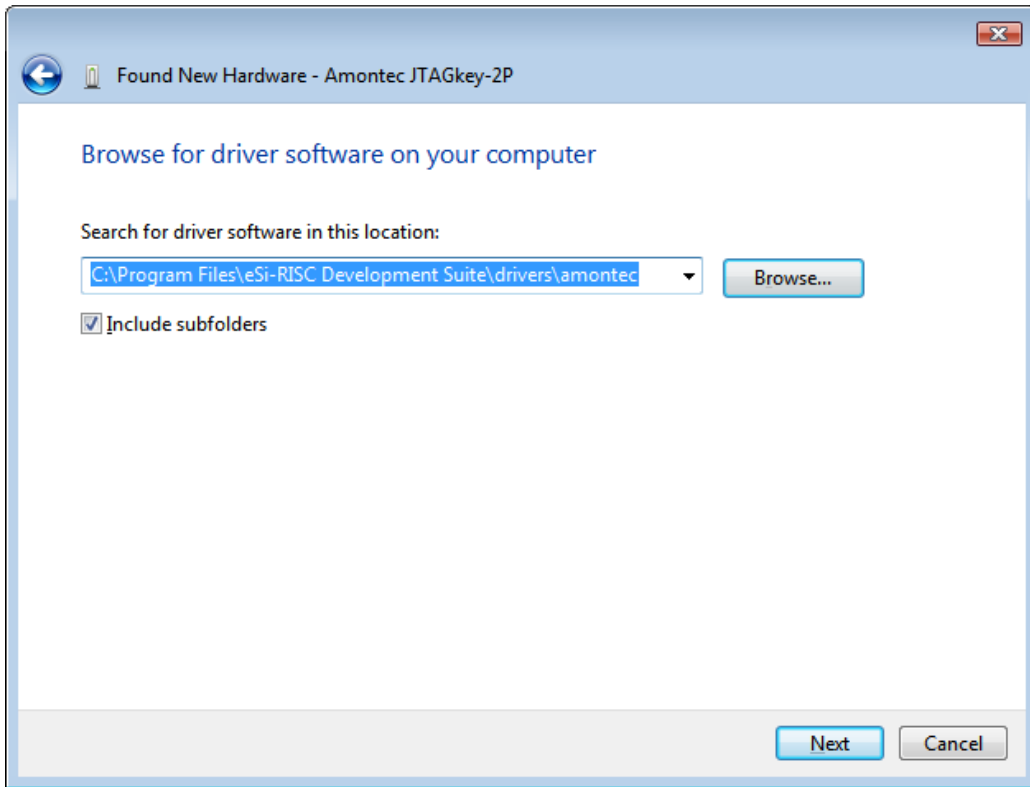
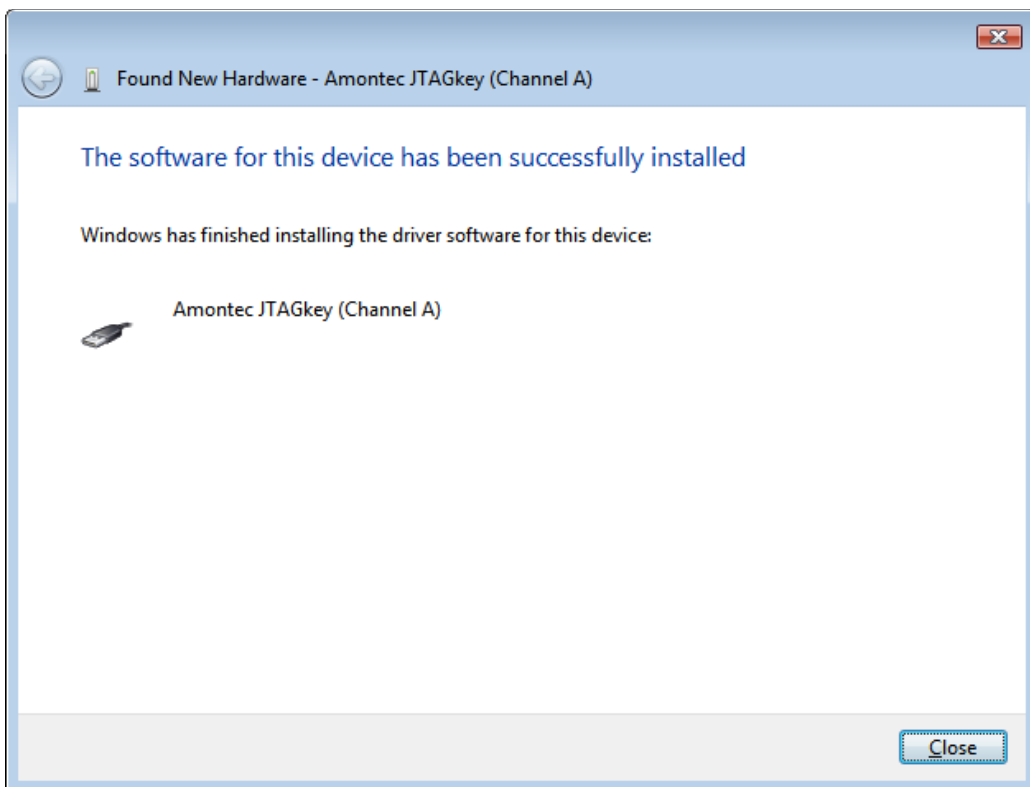


Figure 18: Select "Browse my computer for driver software"



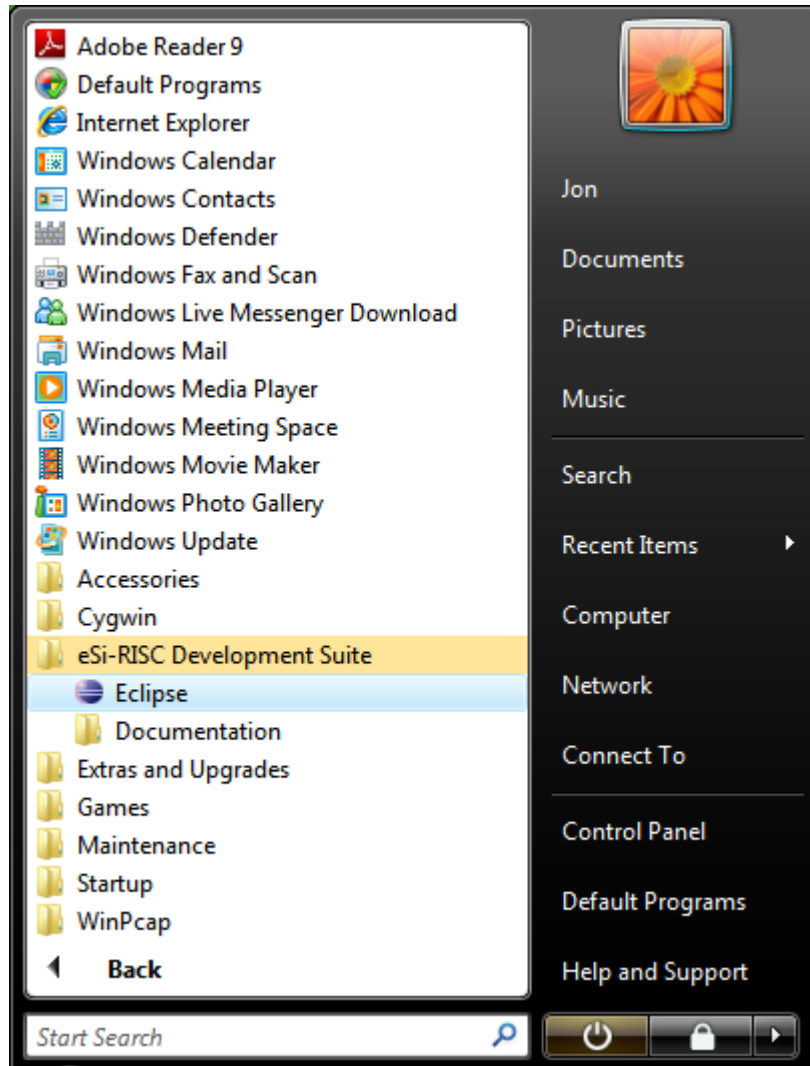
**Figure 19: Browse to “eSi-RISC Development Suite/drivers/amontec” and press “Next”**



**Figure 20: The driver has been successfully installed**

## 6 Starting the Integrated Development Environment

After the eSi-RISC Development Suite has been installed, the Eclipse Integrated Development Environment can be started, by selecting: Start / All Programs / eSi-RISC Development Suite / Eclipse.



**Figure 21: Start the Eclipse IDE**

Further details on using the eSi-RISC Development Suite can be found in the eSi-RISC Development Suite Getting Started Guide.

## 7 Support

For support installing the eSi-RISC Development Suite, please contact EnSilica support:

<b>e-mail</b>	support@ensilica.com
<b>Telephone</b>	+44 (0)118 3217 310

**Table 4: Support Contact Details**