

How to use the Eclipse IDE for Java Application Development

Java application development is supported by many different tools. One of the most powerful and helpful tool is the free *Eclipse* IDE (IDE = Integrated Development Environment). To download the *Eclipse* IDE, go to <u>http://www.eclipse.org</u>. Click on *Downloads* and then select the most recent stable or release version of the *Eclipse* SDK for your PC platform.

Eclipse requires Java to run, so if you don't already have Java installed on your machine, first install a Java 6 SDK. Please note: The DIL/NetPC DNP/2486 MAX-Linux comes with a Java 6 runtime environment. Your PC as a development system needs the same Java version. You can download Java SDKs from <u>http://java.sun.com</u>. Look for the Java 6 J2SE SDK (Software Development Kit).

• **1. Step**: Download the *Eclipse* SDK file to a temporary directory. The download file comes as a .ZIP (e.g. *eclipse-SDK-3.4.1-win32.zip*). Use your archive program to unpack *Eclipse* into a permanent directory (e.g. *C:\Program Files\eclipse*). Then run the *Eclipse* launcher program (e.g. *C:\Program Files\eclipse.exe*) to bring up the IDE.



Eclipse comes up with a Welcome screen. This screen provides information for new users, examples and tutorials.

• 2. Step: Click to the Workbench icon within the *Eclipse* Welcome screen. After that you see the *Eclipse* main window, also called the *workbench*.

Please note: The first time you start *Eclipse*, you will prompted for the location of your workspace. The workspace is the location where your files and settings will be stored.



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• 3. Step: Open the *Eclipse File* menu. Then select *New* to create a new Java project. After that click to the item *Java Project* within the project menu item list. This opens the *New Java Project* dialog box.

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• **4. Step**: In the *New Java Project* dialog box, first please enter a project name (e.g. *JavaApp1*). Then select the Java 6 Run Time Environment (JRE) for this project (see *Use a project specific JRE*). Finally press *Finish*.

Please note: The DIL/NetPC DNP/2486 MAX-Linux comes with a Java 6 runtime environment. It is necessary to tell *Eclipse* that this new project is for Java 6.



🗧 New Java Project
Create a Java Project Create a Java project in the workspace or in an external location.
Project name: JavaApp1 Contents Create new project in workspace Create project from existing source Directory: C:\Dokumente und Einstellungen\kDW\workspace\JavaApp1 Browse JRE Use default JRE (Currently 'jre1.5.0_01') Configure JREs Use a project specific JRE: jre1.6.0_01 Volue a project specific JRE: jre1.6.0_01 Project layout Use an execution environment JRE: jre1.6.0_01 Project layout Use project folder as root for sources and class files Configure default Working sets Add project to working sets Working sets: Select
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• 5. Step: Please open the *Eclipse File* menu again. Then select *Class* to add a new Java class. This opens the *New Java Class* dialog box.

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• 6. Step: In the *New Java Class* dialog box first select the source folder for the class. Then enter the name *HelloWorld* for the new class. Make sure that in the *Which method stubs would you like to create*? area the *public static void main(String[] args)* check box is checked. Finally press *Finish* to create the new class.

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Source folder:	JavaApp1/src	Browse					
Package:	(default)	Browse					
Enclosing type:		Browse					
Name: Modifiers:	HelloWorld public default private protected abstract final static						
Superclass:	java.lang.Object	Browse					
Interfaces:		Add Remove					
Which method stubs	would you like to create? public static void main(String[] args) Constructors from superclass Inherited abstract methods						
Do you want to add	comments? (Configure templates and default value <u>here</u>) Generate comments						
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• **7. Step**: The *Eclipse* workbench now contains an editor window with the Java source code template for the new *HelloWorld* class.

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Within the Eclipse editor window please replace the following Java source code line

// TODO Auto-generated method stub

with

System.out.println("Hello World!");

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8. Step: Please choose the *Project => Properties* menu item and select the compiler compliance level 1.6 (this compiler level belongs to Java 6) within the *Properties for JavaApp1* dialog box (see *JDK Compliance*).

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Resource Builders	Enable project specific settings	Configure Workspace Settings
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• 9. Step: Now choose the *Run* => *Run* menu item. This starts the execution of your Java application within the *Eclipse* IDE. Watch the *Hello World!* output within the console window.



Please note: The Java source code of this sample is stored within the file *HelloWorld.java*. It is not necessary to compile the source code to the class file *HelloWorld.class* over a menu item or a shortcut. The *Eclipse* IDE compiles automatically after each file save operation or before a run.

The executable *HelloWorld.class* class file is located in the *bin* directory of your project (in this sample the directory ...*workspace\JavaApp1\bin*). Please transfer this new class file to the DNP/2486.

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• **10. Step**: Use TFTP and a Telnet session for transferring the class file. Run the class file on the DNP/2486. Use the following command sequence for this job:

cd /home/user tftp 192.168.0.1



binary get HelloWorld.class quit java HelloWorld

Image: Tellet 192.168.0.126
Debian GNU/Linux 4.0
emblinux login: root
Password:
Last login: Mon Jun 16 09:16:33 2008 from 192.168.0.1 on pts/0
emblinux:// cd // home/user
emblinux:// cd // home/user
emblinux:// home/user# tftp 192.168.0.1
tftp> binary
tftp> get HelloWorld.class
Received 534 bytes in 0.0 seconds
tftp> quit
emblinux:// home/user# 1s -a1
total 8
drwxr-xr-x 2 user user 1024 Jun 16 09:17 .
drwxr-xr-x 3 root root 1024 Jun 16 00:08 .
-rw-r--r-- 1 user user 220 Apr 4 10:24 .bash_logout
-rw-r--r-- 1 user user 220 Apr 4 10:24 .bash_profile
-rw-r--r-- 1 user user 227 Apr 4 10:24 .bash_profile
emblinux:// home/user# java HelloWorld.class
emblinux:// home/user# java HelloWorld

That is all.