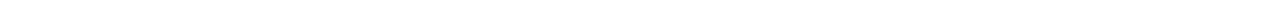




**Series 40 5th Edition SDK**

**Installation and Configuration Guide**

June 2007



Copyright © Nokia 2007. All rights reserved.

This document is for use with the Series 40 5th Edition SDK. Reproduction, transfer, distribution or storage of part or all of the contents in this document in any form without the prior written permission of Nokia is prohibited.

Nokia, Series 40 Software Developer Kit 5th Edition, and the Nokia Connecting People logo are trademarks or registered trademarks of Nokia Corporation. Other product and company names mentioned herein may be trademarks or trade names of their respective owners.



Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc.

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.OpenSSL.org/>).

Nokia operates a policy of on-going development. Nokia reserves the right to make changes and improvements to any of the products described in this document without prior notice.

UNDER NO CIRCUMSTANCES SHALL NOKIA BE RESPONSIBLE FOR ANY LOSS OF DATA OR INCOME OR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES HOWSOEVER CAUSED.

THE CONTENTS OF THIS DOCUMENT ARE PROVIDED "AS IS". EXCEPT AS REQUIRED BY APPLICABLE LAW, NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE MADE IN RELATION TO THE ACCURACY, RELIABILITY OR CONTENTS OF THIS DOCUMENT. NOKIA RESERVES THE RIGHT TO REVISE THIS DOCUMENT OR WITHDRAW IT AT ANY TIME WITHOUT PRIOR NOTICE.

The availability of particular phone products may vary by region. Please check with the Nokia dealer nearest to you.

Visit Forum Nokia (<http://www.forum.nokia.com>), the site designed for developers using technologies supported by Nokia.

---

# Contents

<b>About This Installation and Configuration Guide .....</b>	<b>3</b>
Who should read this guide?.....	3
Typographical conventions used in this guide .....	3
Other product documentation .....	4
<b>1 Installing the Series 40 5th Edition SDK.....</b>	<b>5</b>
What is the Series 40 5th Edition SDK? .....	5
What do you need to install the SDK?.....	7
Acquiring the Series 40 5th Edition SDK .....	8
Installing the SDK for use with supporting applications .....	8
Running the installation wizard .....	9
Registering the SDK .....	9
Launching Series 40 5th Edition SDK.....	9
Adding additional languages for SDK menus .....	10
Uninstalling the Series 40 5th Edition SDK.....	10
Uninstalling Nokia Connectivity Framework Lite .....	10
What's next?.....	11
<b>2 Configuring for Browser and Message Content Development .....</b>	<b>13</b>
Configuring NMIT to use the SDK.....	14
Configuring Adobe GoLive CS2 to display WML and XHTML content on the SDK .....	14
Configuring Adobe Dreamweaver to display content on the SDK.....	14
What's next?.....	15
<b>3 Configuring the SDK for MIDP Development.....</b>	<b>17</b>
Configuring Eclipse 3.2.2 to use the Series 40 5th Edition SDK .....	17
Configuring EclipseME with Series 40 5th Edition SDK .....	19
Configuring Sun NetBeans 5.5 to use the Series 40 5th Edition SDK .....	21
What's next?.....	23



---

# About This Installation and Configuration Guide

This guide describes how to install and configure the Series 40 Software Developer Kit 5th Edition (Series 40 5th Edition SDK).

## Who should read this guide?

You should read this guide if you are a developer and plan to create content for mobile phone handsets that conform to the Series 40 Platform 5th Edition.

## Typographical conventions used in this guide

This guide uses the following typographical conventions:

Convention	Explanation
<code>Courier</code>	Text that you enter (as opposed to system prompts and responses); for example, file paths, commands, and program code
<i>Italic</i>	<ul style="list-style-type: none"><li>Names of books and documents</li><li>New terminology</li></ul>
<b>Bold</b>	Names of Windows menus, commands, buttons, and icons
<a href="#">URL link</a>	Active link

---

## Other product documentation

The following documents contain additional information about the SDK:

- *Series 40 5th Edition SDK User's Guide*
- *Series 40 5th Edition SDK Release Notes*

These documents are available in the zip package when the user's downloads it from Forum Nokia. Additional documents about this product and related technologies may also be available at [www.forum.nokia.com](http://www.forum.nokia.com).

---

# 1

## Installing the Series 40 5th Edition SDK

This document describes what you need to install the Series 40 5th Edition SDK and to configure it for use within an integrated development environment (IDE).

### What is the Series 40 5th Edition SDK?

The Series 40 5th Edition SDK is a development tool that lets you preview how wireless content will look and work when it is ultimately deployed to a Nokia mobile handset that complies with the Series 40 Platform 5th Edition.

The Series 40 5th Edition SDK supports:

Area	Specification
Java APIs	JSR 75 File connection 1.0 and PIM 1.0 APIs
	JSR 82 APIs for Bluetooth 1.1
	JSR 118 Mobile Information Device Profile (MIDP) 2.1
	JSR 120 Wireless Messaging API 1.1
	JSR 135 Mobile Media API 1.1 (audio and video play and audio capture only; does not support Real Time Streaming Protocol (RTSP), video capture, camera control, or FM radio)
	JSR 139 Connected Limited Device Configuration (CLDC) 1.1
	JSR 172 JAX-XML Web Services API (XML parsing) and JAX-RPC API
	JSR 177 Security and Trust Services API SATSA-APDU and SATSA-CRYPTO
	JSR 184 Mobile Graphics API 1.1
	JSR 185 Java Technology for Wireless Industry 1.0
	JSR 205 Wireless Messaging API 2.0
	JSR 226 Scalable 2D Vector Graphics API 1.0
	JSR 234 Advanced Multimedia Supplements (3D Audio and Music)
	JSR 248 Mobile Service Architecture Subset API 1.0
Browsing	XHTML Mobile Phone (MP) Profile
	User Agent Profile (UAProf) static
	Macromedia Flash Lite 2.1
Messaging	Multimedia Messaging Service (MMS) with SMIL support
Digital Rights Management	Open Mobile Alliance (OMA) Digital Rights Management (DRM) 1.0 (not for MIDlets)
Device Management	OMA Client Provisioning 1.1
	WAP/OMA Bootstrapping



## What do you need to install the SDK?

Before installing the SDK, verify that you have the minimum hardware and software requirements listed in this section. With these minimum requirements, you can run the SDK as a standalone application. If you plan to use the SDK within an IDE, make sure you also have the requirements mandated by the IDE.

To install the SDK properly, you must have administrator privileges on your computer. Also, be sure to use your normal logon ID (the one you will use to run the SDK). If this ID is not set up as an administrator, contact your system administrator. At a minimum, you need administrator privileges assigned temporarily for the installation.

### Hardware requirements

The hardware requirements to install and run the SDK as a standalone tool are:

Minimum	Recommended
667 MHz Pentium processor	2.8 GHz Pentium processor
100 MB of free hard disk space	140 MB of free hard disk space
256 MB RAM	512 MB RAM
16-bit color	24-bit color or more
1024x768 pixel display	1024x768 pixel display or more
Keyboard and mouse	Keyboard and mouse

If you plan to work with sound (from MIDlets, for instance), you'll also want to have a sound card that has one channel for every SDK instance you run. If you do not have enough channels, SDK instances that you start after you run out of channels will not have sound.

### Software requirements

Use one of these operating systems as a minimum software requirement to run the Series 40 5th Edition SDK as a standalone:

- Windows XP Professional Service Pack 2
- Windows XP Home Edition Service Pack 2
- Windows XP Professional Chinese Service Pack 2

You will also need to install a public Java SE Runtime Environment (JRE) 5 or higher before you install the SDK.

## Acquiring the Series 40 5th Edition SDK

To install the SDK, you'll need the .zip file containing the SDK. You can get it directly from [www.forum.nokia.com](http://www.forum.nokia.com), at no cost to you. If you are not a registered member of Forum Nokia, you will need to register (also at no cost) before you can download the SDK. Registration involves providing a user name, password, and email address.

## Installing the SDK for use with supporting applications

In addition to using the SDK as a standalone tool, you can use the SDK within an IDE. Series 40 5th Edition SDK has been tested with the following IDEs but may work with other IDEs as well:

- Nokia Mobile Internet Toolkit (NMIT) 4.1 with the patch for JRE 5
- Adobe GoLive CS2
- Adobe Dreamweaver 8
- Eclipse 3.2.2 with EclipseME 1.6.6
- Sun NetBeans 5.5 with NetBeans Mobility Pack 5.5

## Installing the Series 40 5th Edition SDK for use with Eclipse 3.2.2

To use Eclipse 3.2.2 with the SDK, you'll have to install these applications in the following order:

- Java SE Development Kit (JDK)
- Eclipse 3.2.2
- EclipseME 1.6.6
- Series 40 5th Edition SDK

## Running the installation wizard

To install the Series 40 5th Edition SDK:

- 1 Verify that:
  - Your system meets the hardware and software requirements. See [What do you need to install the SDK?](#) on page 7.
  - You have installed supported applications in the correct order so the applications can find the SDK. See [Installing the SDK for use with supporting applications](#) on page 8.
- 2 Double-click the .zip file you downloaded to unzip it.
- 3 Double-click S40\_5th\_Edition\_SDK\_em.exe. The installation wizard starts the installation process.
- 4 During installation, select the SDK's installation directory. The default directory is:  
C:\Nokia\Devices\S40\_5th\_Edition\_SDK  
You need to know the installation directory to integrate with other products.

## Registering the SDK

You can run the SDK for a fixed period (usually 14 days) before the SDK prompts you to register it with a serial number. If you do not register the SDK, the registration prompt appears each time you start the SDK, after the trial time elapses.

Follow the directions in the registration wizard that appear when your trial period is over. Registration is free.

To check the number of days that are left in the trial period, select **Help>About**.

To register the product at any time, select **Help>Register Now**, which opens the Registration wizard.

## Launching Series 40 5th Edition SDK

You can launch the SDK as a standalone application or within an IDE.

### Launching the SDK as a standalone application

To launch the SDK standalone from Windows, select **Start>Programs>Nokia Developer Tools>SDKs>Series 40>Series 40 SDK 5th Edition**.

### Launching the SDK within an IDE

You'll need to configure some IDEs to recognize the SDK as a supported device before you can launch the SDK from within the IDE interface. For this information, see:

- Documentation for your IDE.
- [Configuring for Browser and Message Content Development](#) on page 13.
- [Configuring the SDK for MIDP Development](#) on page 17.

## Adding additional languages for SDK menus

The SDK is installed with the capability to display its menus in several languages. These languages are listed in **Tools>Preferences>General** tab.

You can display the SDK menus in additional languages by adding World Languages to the SDK. The World Languages are freely available from [www.forum.nokia.com](http://www.forum.nokia.com). In the **Tools>Preferences>General** tab, select **Download languages**. This takes you straight to the download page in Forum Nokia for S40 SDK World Languages package.

To install the World languages after you install the SDK:

- 1 Unpack the **World Languages** zip file.
- 2 Double-click **S40\_5th\_Edition\_SDK\_WorldLang\_installer.exe**.

## Uninstalling the Series 40 5th Edition SDK

To uninstall the SDK:

- 1 Select **Start>Settings>Control Panel>Add or Remove Programs**.
- 2 Select **Series 40 5th Edition SDK** and select **Remove**.

Uninstalling the SDK automatically uninstalls the World Languages, if you added them. You cannot uninstall the World Languages separately.

## Uninstalling Nokia Connectivity Framework Lite

The Series 40 5th Edition SDK simulates wireless connectivity technology between SDKs with Nokia Connectivity Framework (NCF) Lite, a supporting application that enables Short Message Service (SMS) and Bluetooth connectivity between SDKs. NCF Lite is installed when you install the SDK. Because more than one SDK can use NCF Lite for connectivity, NCF Lite is not uninstalled when you uninstall the SDK.

To uninstall NCF Lite:

- 1 Select **Start>Settings >Control Panel>Add or Remove Programs**.
- 2 Select **Nokia Connectivity Framework** and select **Remove**.

Be aware that without NCF Lite, you cannot send SMS messages between Series 40 5th Edition SDK and other SDKs or simulate Bluetooth connectivity between SDKs.

## What's next?

If you plan to work within an IDE, you'll need to configure some of the supporting applications to work with the SDK. To prepare an IDE in which to create:

- Browser and message content - Web content designed to be displayed on a mobile phone, such as DRM, MMS, WML, and XHTML content. See [Configuring for Browser and Message Content Development](#) on page 13.
- MIDlets (Java Application Descriptor (JAD) and Java ARchive (JAR) files) - Games or applications that can be downloaded from the Internet and used on a mobile phone. See [Configuring the SDK for MIDP Development](#) on page 17.

Or, for information about using the SDK, see *Series 40 5th Edition SDK User Guide*.



---

# 2

## Configuring for Browser and Message Content Development

You can work more efficiently by creating an IDE where you can develop content in an application and directly display it on the SDK. Some applications automatically detect the SDK as a device. You'll need to configure other applications to recognize the SDK before you can use the SDK from within the application's interface.

This chapter provides a general overview of what you need to configure the following content authoring applications for use with the Series 40 5th Edition SDK:

- Adobe GoLive CS2 with the WML module for WML and XHTML browsing
- Adobe Dreamweaver for content (typically, WML and XHTML) browsing

For more information on installation, see documentation of the supporting application.

## Configuring NMIT to use the SDK

NMIT 4.1 automatically finds the SDK and configures itself to use it.

## Configuring Adobe GoLive CS2 to display WML and XHTML content on the SDK

By default, the WML module for content authoring is not accessible. You must add the module in Adobe GoLive CS2 preferences before you configure Adobe GoLive CS2 to recognize the SDK as a browser.

To configure Adobe GoLive CS2 so you can create a new WML file using a standard WML template:

- 1 Select **Edit>Preferences**.
- 2 On the right panel, select **Modules**.
- 3 On the left panel, navigate to the bottom of the list to the **Extend Scripts** folder and check **WML**.
- 4 Click **OK**.

To create a new WML file, select **File>New Special>WML Deck**.

To add Series 40 5th Edition SDK as a recognized browser to Adobe GoLive CS2:

- 1 Select **Edit>Preferences**.
- 2 On the right panel, select **Browser**.
- 3 Click **Add**. The **Choose Browser** dialog box appears.
- 4 In the **Choose Browser** dialog box, navigate to the location of the SDK executable file (`<SDK installation directory>\bin\emulator.exe`) and click **OK**.

To display a WML or XHTML file within GoLive's content editor on the SDK, select **File>Preview In>emulator.exe**.

## Configuring Adobe Dreamweaver to display content on the SDK

To configure Adobe Dreamweaver to display content on the SDK:

- 1 From the Dreamweaver main window, select **Edit/Preferences**. The **Preferences** window appears.
- 2 On the **Category** column of the **Preferences** window, click **Preview in Browser**. Click the plus sign (+) to add a browser.
- 3 From the **Add Browser** window, enter **Series 40 5th Edition SDK** as the name.



- 4 Click **Browse**. In the **Select Browser** dialog box, navigate to the location of the SDK executable file (<SDK installation directory>\bin\emulator.exe).
- 5 Optionally, select the **Primary browser** checkbox to set the SDK as the primary browser. Click **OK**.
- 6 From the **Add Browser** window, click **OK**.
- 7 From the **Preferences** window, click **OK**.

You can develop content on Dreamweaver and display it on the SDK by selecting the SDK as the browser. The content type must be supported both by Dreamweaver and the SDK. For more information, see Adobe Dreamweaver documentation.

## What's next?

You can begin to use the Series 40 5th Edition SDK. For information about using the SDK, see *Series 40 5th Edition SDK User's Guide*. For late-breaking information, review the release notes. Both documents are located in the **doc** directory under the SDK installation directory. You can also download the documents from [www.forum.nokia.com](http://www.forum.nokia.com).



---

# 3

## Configuring the SDK for MIDP Development

You can work more efficiently by creating an IDE where you can develop a MIDlet in an application and directly test it on the SDK. Some applications automatically detect the SDK as a device. You'll need to configure other applications to recognize the SDK before you can start the SDK from within the application's interface.

This chapter provides only a general overview of what you need to configure the following MIDP development applications to use the Series 40 5th Edition SDK:

- Eclipse 3.2.2 with EclipseME 1.6.6
- Sun NetBeans 5.5 with NetBeans Mobility Pack 5.5

For more information on installation, see IDE documentation.

### Configuring Eclipse 3.2.2 to use the Series 40 5th Edition SDK

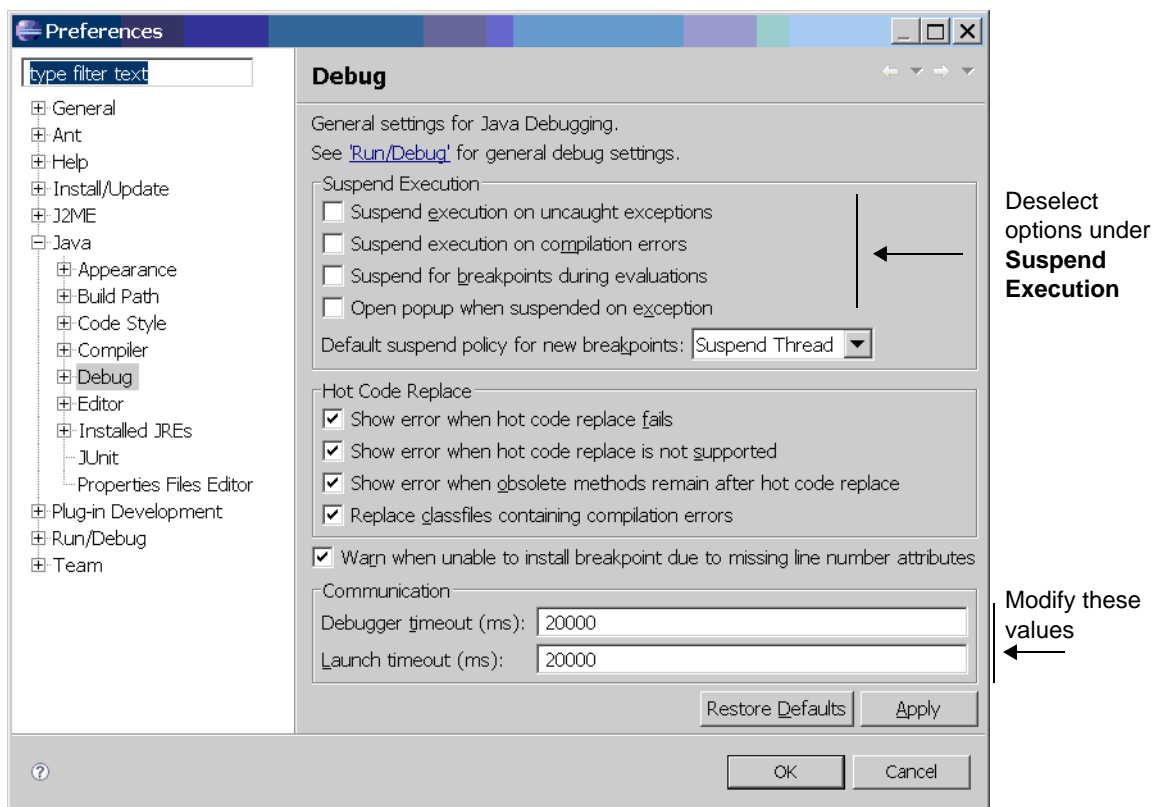
To configure Eclipse 3.2.2 to recognize the SDK:

- 1 Run `eclipse.exe`.
- 2 From the Eclipse main window, select **Window>Preferences...**. The Preference window appears.
- 3 On the left column of the **Preference** window, click **Java** to expand it. Click **Debug** to highlight it.
- 4 On the right side of the panel, deselect all the options under **Suspend Execution**.
- 5 On the right side of the panel under the **Communication** section, complete the following fields:

Field	Enter
Debugger timeout (ms)	20000
Launch timeout (ms)	20000

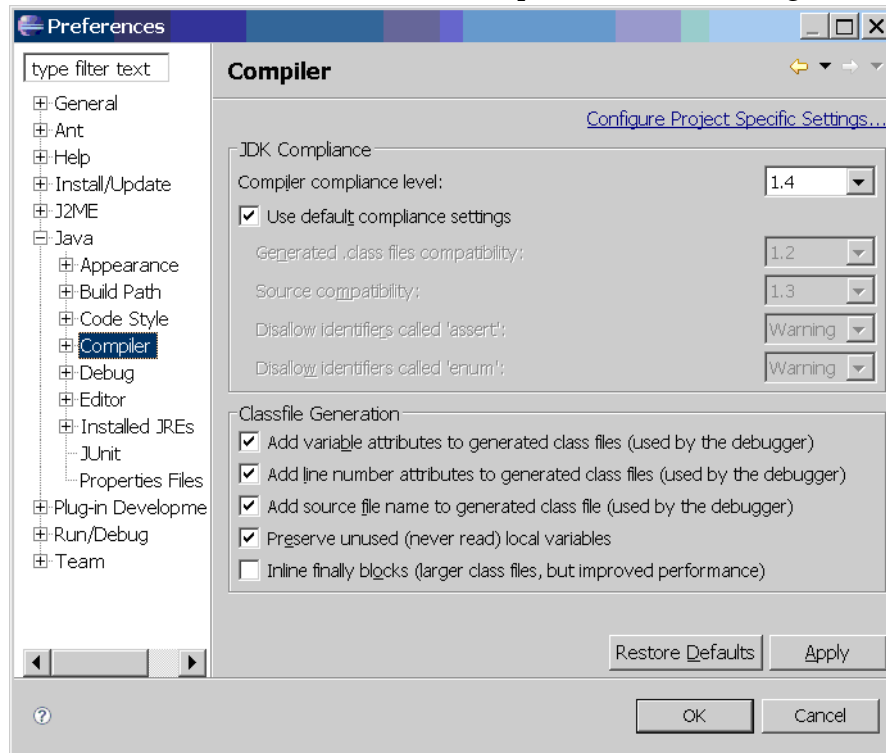
The values you enter can be greater or smaller, depending on the speed of your computer. You may want to try different values. When the values are too small, the SDK freezes when you try to debug a MIDlet.

The window now looks like this:



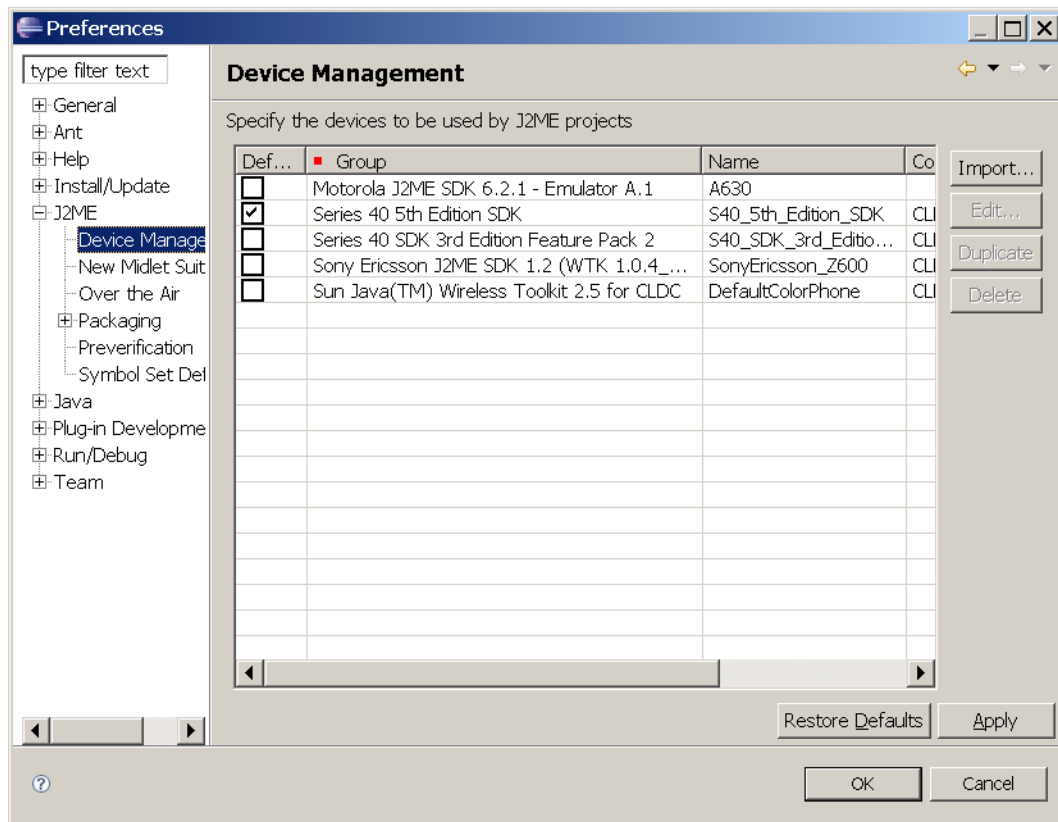
- 6 On the left-side pane of the **Preferences** window, click **Compiler**.
- 7 Select **Use default compliance settings**.

8 In **Classfile Generation** section, select the options as shown in figure below.



## Configuring EclipseME with Series 40 5th Edition SDK

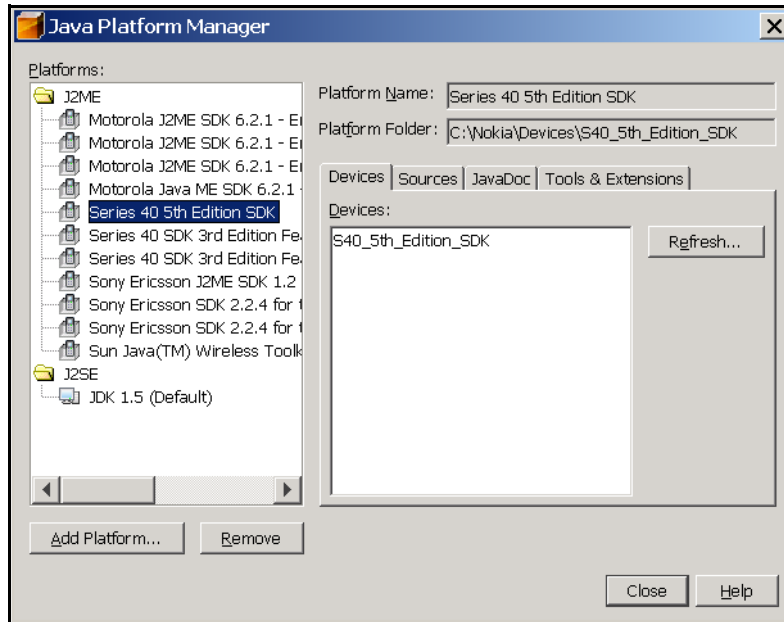
- 1 From the Eclipse main window, select **Window>Preferences...**. The Preference window appears.
- 2 On the left column of the Preference window, click **J2ME** to expand it. Click **Device Management** to highlight it.
- 3 Select **Import**, and in the dialog that results, select the root directory to be searched to find known devices' definitions.
- 4 All the devices that are successfully added, are displayed.
- 5 Select **Series 40 5th Edition SDK**.
- 6 To save the definitions, click **OK** as shown in the figure below.



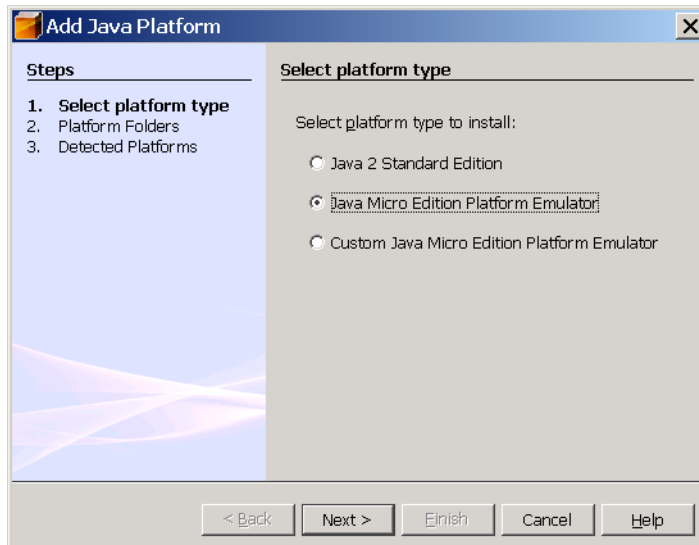
## Configuring Sun NetBeans 5.5 to use the Series 40 5th Edition SDK

To configure the Series 40 5th Edition SDK with NetBeans 5.5:

- 1 In the NetBeans main window, select **Tools>Java Platform Manager**. The following **Java Platform Manager** window appears:

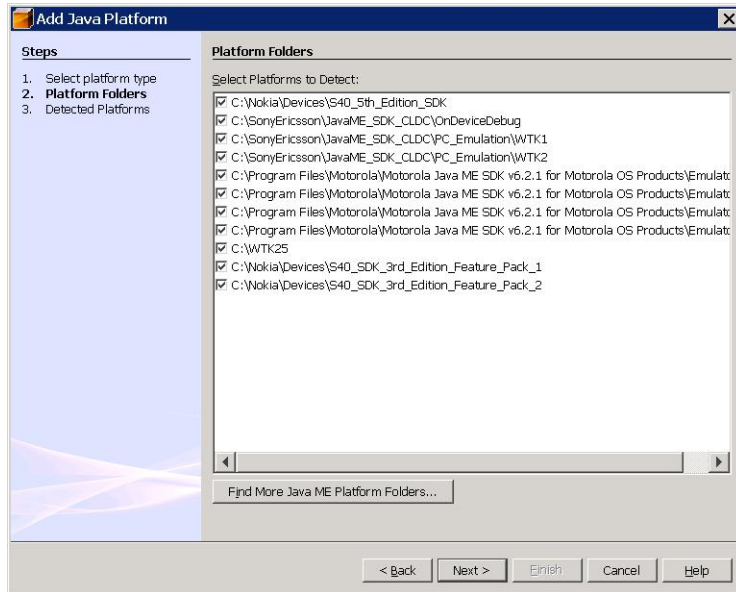


- 2 Click **Add Platform ...**. The **Add Java Platform** window appears:

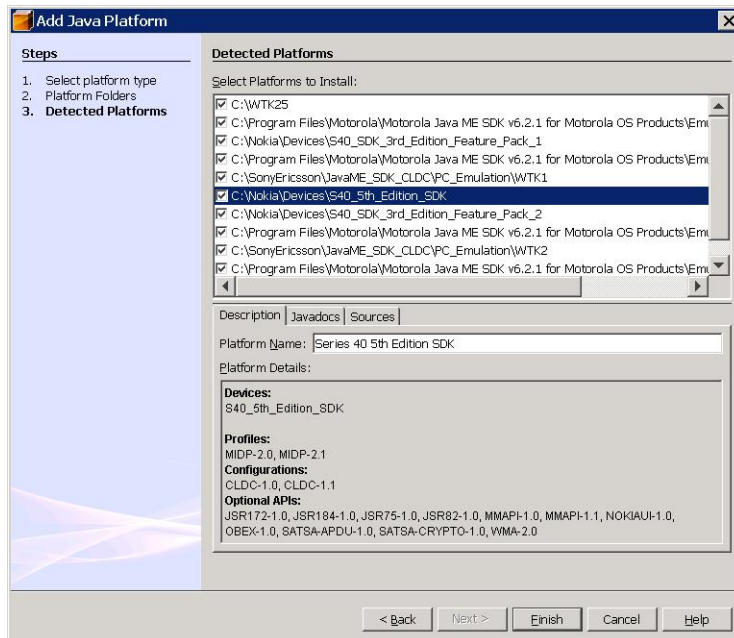


Select the **Java Micro Edition Platform Emulator** button.

- Click **Next**. The IDE detects the available platforms. The available platforms are displayed in the right-side pane:

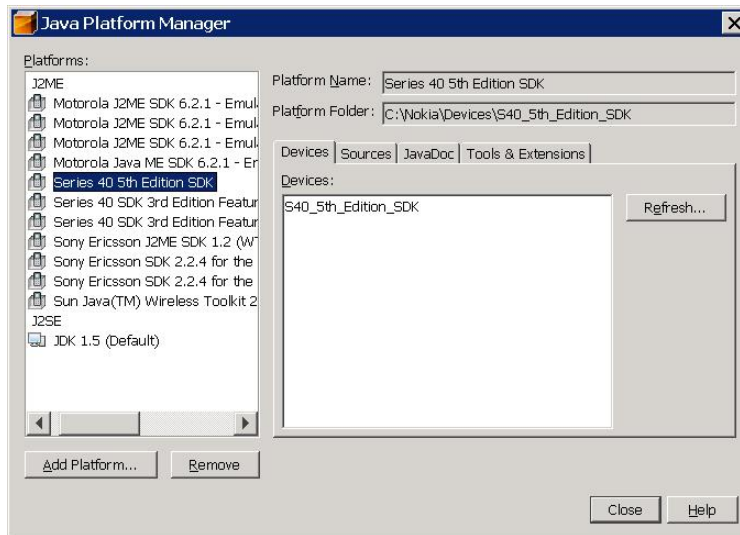


- Confirm that the box next to Series 40 5th Edition SDK is checked and uncheck the boxes next to other SDKs.
- Click **Next**. The chosen SDK and its details are displayed in the right-side pane at the bottom:





- 6 Click **Finish**. The SDK is added to the **Platforms** field in the Java Platform Manager window:



- 7 Click **Close** to close the **Java Platform Manager** window.

To configure a NetBeans project to use the SDK, see *Series 40 Software Developer Kit 5th Edition User's Guide*.

## What's next?

You can begin to use the Series 40 5th Edition SDK. For information about using the SDK, see *Series 40 5th Edition SDK User's Guide*. For late-breaking information, review the release notes. Both documents are located in the installation directory of the SDK. You can also download the documents from [www.forum.nokia.com](http://www.forum.nokia.com).



---

# Index

## Numerics

2D Vector Graphics API **6**

## A

Adobe Dreamweaver **14**

Adobe GoLive

display WML and XHTML  
content **14**

## B

Bluetooth APIs **6**

Bluetooth connectivity **10**

## C

CLDC **6**

Connected Limited Device

Configuration **6**

## D

Digital Rights Management **6**

## E

Eclipse **17**

configure for SDK **17**

## F

File connection API **6**

## G

General tab, preferences **10**

## H

hardware requirements **7**

## I

install SDK **9**

## J

Java Technology for Wireless  
Industry **6**

## L

languages

add **10**

launch SDK **9**

within an IDE **9**

## M

Macromedia

Flash Lite **6**

MIDP **6**

MMS message **6**

Mobile Information Device Profile  
**6**

Mobile Media API **6**

Multimedia Messaging Service **6**

## N

NCF

uninstall **10**

NMIT

configure for SDK **14**

## O

OMA

Client Provisioning **6**

DRM **6**

## P

PIM APIs **6**

preferences

General tab **10**

## R

registration, SDK **9**

## S

SDK

configure

Adobe GoLive

WML and XHTML  
content **14**

Eclipse **17**

NMIT **14**

Sun NetBeans **20**

install **5, 9**

launch **9**

within IDE **9**

menu

add languages **10**

overview of **5**

register **9**

uninstall **10**

Security and Trust Services API **6**

software requirements **7**

Sun NetBeans **17**

configure for SDK **20**

## U

UAPProf **6**

uninstall SDK **10**

User Agent Profile **6**

## W

Web Services API **6**

Wireless Messaging API **6**

## X

XHTML Mobile Phone Profile **6**



---

**NOKIA**

---

**NOKIA**