
NOKIA

Series 40 Software Developer Kit

3rd Edition

Installation and Configuration Guide

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Contents

1 Installing the Series 40 SDK 3rd Edition.....	3
What is the Series 40 SDK 3rd Edition?.....	3
What do you need to install the SDK?.....	4
Hardware requirements	5
Software requirements	5
Acquiring the Series 40 SDK 3rd Edition	5
To install the SDK for use with supporting applications.....	6
Installing the Series 40 SDK 3rd Edition for use with J2MEWTK.....	6
Installing the Series 40 SDK 3rd Edition for use with JBuilder.....	6
Installing the Series 40 SDK 3rd Edition for use with Eclipse.....	6
Using NDS for Java ME to facilitate SDK integration.....	6
Running the installation wizard	7
Registering the SDK	7
Launching Series 40 SDK 3rd Edition	7
Launching the SDK as a standalone application	7
Launching the SDK within an IDE	8
Adding additional languages for SDK menus	8
Uninstalling the Series 40 SDK 3rd Edition	8
Troubleshooting	8
If the installer freezes	8
If the installer cannot find a JRE	9
What's next?.....	10
2 Configuring for Browser and Message Content Development	11
Configuring NMIT to use the SDK.....	12
Configuring NDS for MMS to use the SDK	12
Configuring Adobe GoLive to display MMS messages on the SDK.....	12
Configuring Adobe GoLive to display WML and XHTML content on the SDK	12
What's next?.....	13
3 Configuring the SDK for MIDP Development.....	15
Configuring JBuilder to use the Series 40 SDK 3rd Edition	16
Configuring JBuilder to recognize the SDK as a JDK.....	16
Configuring a JBuilder project to use the Series 40 SDK 3rd Edition.....	16
Configuring JBuilder to use the SDK with J2ME Wireless Toolkit.....	18
Configuring the SDK with NDS for Java ME through JBuilder.....	19
Configuring the SDK with NDS for Java ME.....	19
Configuring the Series 40 SDK 3rd Edition with Sun NetBeans.....	20
What's next?.....	20



1

Installing the Series 40 SDK 3rd Edition

This document describes what you need to know and do to install the Series 40 Software Developer Kit 3rd Edition, (Series 40 SDK 3rd Edition) and to configure it for use within an integrated development environment (IDE).

What is the Series 40 SDK 3rd Edition?

The Series 40 Software Developer Kit 3rd Edition 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 Developer Platform 3.0.

The Series 40 SDK 3rd Edition supports:

Area	Specification
Java ME	JSR 75 File connection and PIM APIs
	JSR 82 Bluetooth API
	JSR 118 Mobile Information Device Profile (MIDP) 2.0
	JSR 120 v1.1 Wireless Messaging API
	JSR 135 v1.1 Mobile Media API (audio play only; no support for video, audio recording, or FM radio)
	JSR 139 Connected Limited Device Configuration 1.1 (CLDC)
	JSR 184 3D Graphics API
	JSR 185 Java Technology for Wireless Industry
Browsing	XHTML Mobile Phone Profile (MP)
	User Agent Profile (UAProf) static
Messaging	MMS with SMIL support
OMA Digital Rights Management 1.0	Digital Rights Management 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, check 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 integrated development environment (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	1.8 GHz Pentium processor
70 MB of free hard disk space	80 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 SDK 3rd Edition as a standalone:

- Windows XP Professional Service Pack 2
- Windows XP Personal Service Pack 2
- Windows XP Professional Chinese Service Pack 2
- Windows XP Personal Chinese Service Pack 2

You will also need to install a public Java Runtime Environment (JRE) 1.4.2 or higher before you install the SDK). For more information about JRE versions and public location, see [If the installer cannot find a JRE ...](#) on page 9.

Acquiring the Series 40 SDK 3rd Edition

To install the SDK, you'll need the .zip file containing the SDK. At no cost to you, you can get it directly from www.forum.nokia.com. 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.

To install the SDK for use with supporting applications

In addition to using the SDK as a standalone tool, you can use the SDK within an integrated development environment (IDE). Series 40 SDK 3rd Edition has been tested with these IDEs but may work with other IDEs as well:

- Nokia Mobile Internet Toolkit 4.1. (NMIT 4.1)
- Nokia Developer's Suite for the Java™ Platform, Micro Edition 3.0.1 (NDS for Java ME) tool, standalone installation
- Nokia Developer's Suite for MMS 1.1 (NDS for MMS 1.1)
- Adobe GoLive CS, directly and through NDS for MMS 1.1
- Adobe GoLive CS2, directly and through NDS for MMS 1.1
- Eclipse 3.1, with NDS for Java ME integration
- JBuilder 2005 Developer edition, with or without NDS for Java ME
- Sun J2ME Wireless Toolkit 2.2 application environment
- Sun NetBeans 4.1

Installing the Series 40 SDK 3rd Edition for use with J2MEWTK

If you plan to use the SDK with J2ME Wireless Toolkit, install the SDK after you install J2MEWTK. Optionally, to facilitate the integration of the SDK with J2MEWTK, you can first install NDS for Java ME and then the SDK.

Installing the Series 40 SDK 3rd Edition for use with JBuilder

You can install the SDK before or after you install JBuilder.

Installing the Series 40 SDK 3rd Edition for use with Eclipse

To use Eclipse with the SDK you'll have to install these applications in this order: Java Developer Kit (JDK), Eclipse, NDS for Java ME 3.0.1, and then Series 40 SDK 3rd Edition. When you install NDS for Java ME, make sure you select the option to integrate NDS for Java ME with Eclipse, or the two applications will not work together correctly.

Using NDS for Java ME to facilitate SDK integration

Optionally, you may install NDS for Java ME to facilitate the integration of JBuilder or Sun NetBeans with the Series 40 SDK 3rd Edition. If you do, install NDS for Java ME before installing the Series 40 SDK 3rd Edition.

Running the installation wizard

To install the Series 40 SDK 3rd Edition:

1 Make sure:

- Your system meets the hardware and software requirements. See [What do you need to install the SDK?](#) on page 4.
- You have installed supported applications in the correct order so the applications can find the SDK. See [To install the SDK for use with supporting applications](#) on page 6.

2 Double-click the .zip file you downloaded to unzip it.

3 Double-click the file `S40_SDK_3rd_Edition_installer.exe`. The installation wizard begins to run.

Caution: Do not cancel the wizard after you click **Install**. If you decide you do not want to install the product, let the installation complete and then uninstall the product. This approach prevents the product from being partially installed in a way that an uninstaller cannot automatically remove.

Registering the SDK

You can run the SDK for a fixed period (usually 14 days) before you will need to register it with a serial number. If you do not register the SDK, you will not be able to use it after the trial time elapses. Registration is free. Just follow the directions in the registration wizard that appears when your trial period is over.

You can always check how many days are left of the trial period by selecting **Help>About**.

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

Launching Series 40 SDK 3rd Edition

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 the Windows GUI, select:

Start menu>Programs>Nokia Developer Tools>SDKs>Series 40>Series 40 SDK 3rd 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:

- The documentation for your IDE
- [Configuring for Browser and Message Content Development](#) on page 11
- [Configuring the SDK for MIDP Development](#) on page 15

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 on the same page from which you download the SDK.

Install the World Languages after you install the SDK by unpacking the World Languages ZIP file and double-clicking `S40_SDK_3rd_Edition_WorldLang_installer.exe`.

Uninstalling the Series 40 SDK 3rd Edition

To uninstall the SDK, go to the Control Panel and select **Add/Remove Programs**. Then select **Series 40 SDK 3rd Edition**.

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

Troubleshooting

Under some conditions, the installation process might stop. This section covers some solutions should this happen.

If the installer freezes ...

On some personal computers, the installer might freeze and prevent the installation from being completed. To work around this problem, adjust the hardware acceleration setting:

- 1 Right-click on the desktop and select **Properties**.
- 2 Select **Settings>Advanced>Troubleshooting**.
- 3 Set the acceleration to **Disable** all but basic accelerations.
- 4 Install the SDK.

- 5 Reset the acceleration setting to their previous settings.

If the installer cannot find a JRE ...

If the installer does not find the Java Runtime Environment (JRE) it requires, it stops the installation and posts a message. At this time, check the version number and location of the JRE you are using. Make sure that:

- The JRE version you have is 1.4.2 or higher.
- The JRE is public - that is, the location of the JRE is in a directory outside the private Java 2 SDK. The Nokia SDK will not run without the public JRE.

By default, the Java 2 SDK installs both a private and a public JRE. Make sure you accept this default because the Nokia SDK requires the public JRE.

The Java 2 SDK requires the private JRE to run the tools included with the Java 2 SDK. The private copy of the JRE has no registry settings and is contained entirely in a JRE directory whose location is known only to the Java 2 SDK.

The public JRE:

- Can be used by other Java applications, such as a Nokia SDK
- Is contained outside the Java 2 SDK (typically `C:\Program Files\Java\j2re1.4.2`)
- Is registered in the Windows registry (`HKEY_LOCAL_MACHINE\SOFTWARE\JavaSoft`)
- Can be removed using Add/Remove Programs
- Might (or not) be registered with browsers
- Has `java.exe` and `javaw.exe` copied to the Windows system directory, making the JRE the default system Java platform

Most of the time, the JRE is routinely installed publicly and privately. Occasionally, an application or a user will install only the private JRE. If the public JRE was suppressed during an installation, you can install a public JRE by doing the following on Windows XP (Service Pack 2):

- 1 Select **Start>Settings>Control Panel** and double-click **Add/Remove Programs**.
- 2 Select **Java 2 SDK, SE v1.4.2** and click **Change**.
- 3 In the wizard that appears, select **Modify**.
- 4 In the Custom Setup wizard page, set **Public Java Runtime Environment** to **This feature will be installed on local hard drive**.
- 5 Follow the rest of the steps in the wizard.

What's next?

If you plan to work within an integrated development environment (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, Push SI 0messages, WML, and XHTML content - see [Configuring for Browser and Message Content Development](#) on page 11.
- MIDP MIDlets - (JAD and 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 15.

Or you can see the *Series 40 Software Developer Kit 3rd Edition User's Guide* for information about using the SDK. This manual is located in the installation directory of the SDK. It's in PDF format, so you'll need Adobe Acrobat Reader to open it. Adobe Acrobat reader is freely available from www.adobe.com.

2

Configuring for Browser and Message Content Development

You can work more efficiently by creating an integrated development environment (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.

For detailed information about step-by-step installation instructions, see the documentation of the supporting application. This chapter provides only a general overview of what you need to do about configuring these content authoring applications for use with the Series 40 SDK 3rd Edition:

- Adobe GoLive with Nokia Developer's Suite for MMS (NDS for MMS) for message development

- Adobe GoLive with the WML module for WML and XHTML browsing.

Configuring NMIT to use the SDK

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

Configuring NDS for MMS to use the SDK

NDS for MMS 1.1 automatically finds the SDK and configures itself to use it.

Configuring Adobe GoLive to display MMS messages on the SDK

If you are planning to send MMS messages to the SDK while using Adobe GoLive, you'll need to install Nokia Developer's Suite for MMS (NDS for MMS) after you install Adobe GoLive. NDS for MMS is automatically configured to run with the SDK within Adobe GoLive. You do not need to configure it manually. NDS for MMS adds a **Nokia Tools** menu to the Adobe GoLive menu bar. Under this menu, you'll see the option, **Create/Send MMS Messages**, which starts NDS for MMS.

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

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

To configure Adobe GoLive 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**.

Now you can create a new WML file by selecting **File>New Special>WML Deck**.

To add Series 40 SDK 3rd Edition as a recognized browser to Adobe GoLive:

- 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 (C:\Nokia\Devices\S40_SDK_3rd_Edition\bin\sdk.exe) and click **OK**.

Now you can display a WML or XHTML file within GoLive's content editor on the SDK by selecting **File>Preview In>sdk.exe**.

What's next?

You can begin to use the Series 40 SDK 3rd Edition. See the *Series 40 Software Developer Kit 3rd Edition User's Guide* for information about using the SDK. For late-breaking information, see 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. The manual is in PDF format, so you'll need Adobe Acrobat Reader to open it. Adobe Acrobat reader is freely available from www.adobe.com.

3

Configuring the SDK for MIDP Development

You can work more efficiently by creating an integrated development environment (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.

For detailed information about step-by-step installation instructions, see the documentation of the IDE. This chapter provides only a general overview of what you need to do to configure these MIDP development applications to use the Series 40 SDK 3rd Edition:

- Borland JBuilder
- Nokia Developer's Suite for the Java™ Platform, Micro Edition (NDS for Java ME)
- Sun NetBeans
- Eclipse

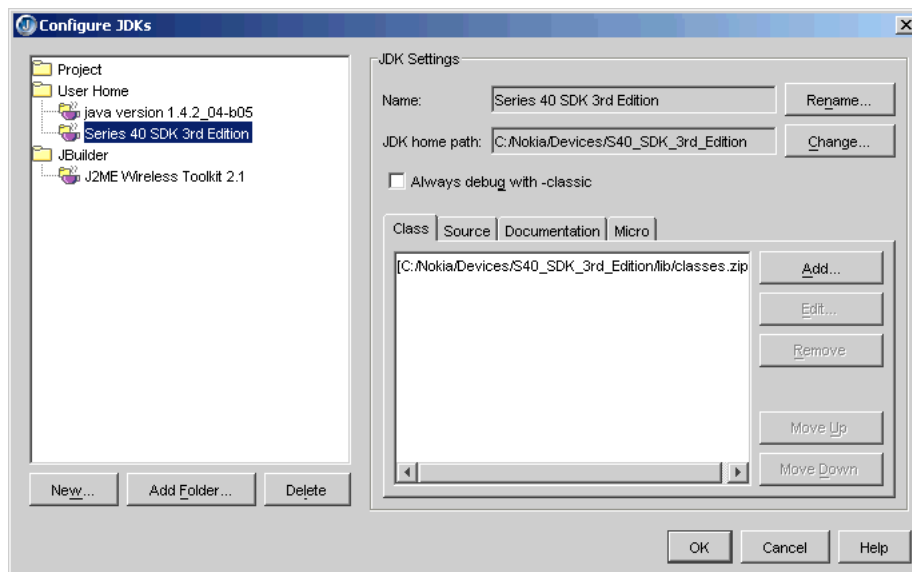
Configuring JBuilder to use the Series 40 SDK 3rd Edition

You can use the Series 40 SDK 3rd Edition as a Java Developer's Kit (JDK) and as the default device in a JBuilder project. You might notice differences in the look of the JBuilder interface, depending on the version of JBuilder you are using, but the procedure works identically.

Configuring JBuilder to recognize the SDK as a JDK

To configure JBuilder to recognize the SDK as an installed JDK:

- 1 In the JBuilder main window, choose **Tools>Configure JDKs**. The Configure JDKs window appears.
- 2 Click **New** in the Configure JDKs window to start the New JDK Wizard.
- 3 In the New JDK Wizard, do this:
 - In **Existing JDK home path**, enter the SDK's root installation directory.
 - In **Name for this JDK**, enter a name by which you want JBuilder to refer to the SDK, such as Series 40 SDK 3rd Edition.
 - Click **OK** to close the New JDK Wizard.
- 4 The Configure JDKs window now lists the SDK on the left panel:

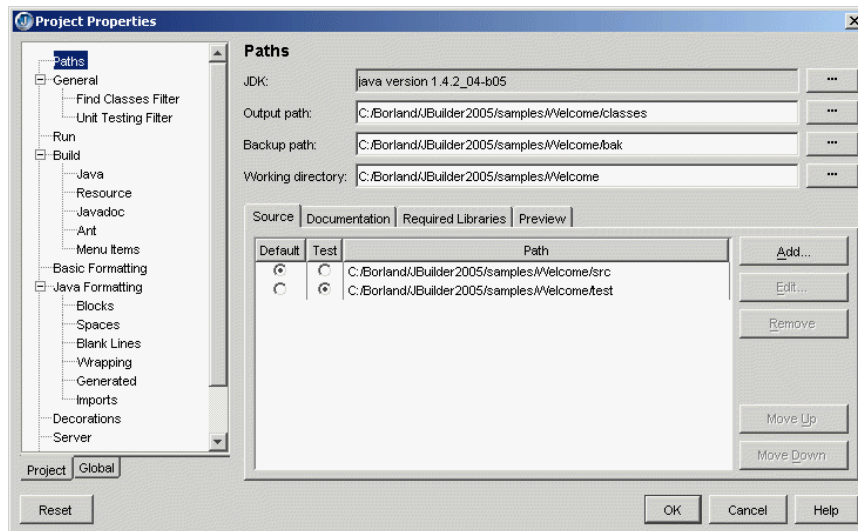


- 5 Click **OK** to close the window.

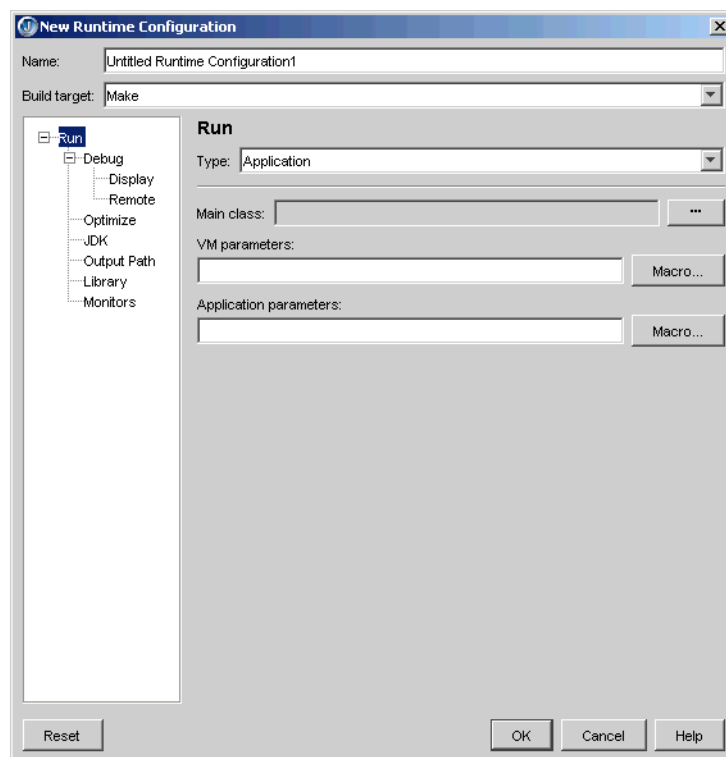
Configuring a JBuilder project to use the Series 40 SDK 3rd Edition

To configure a JBuilder project to use the SDK:

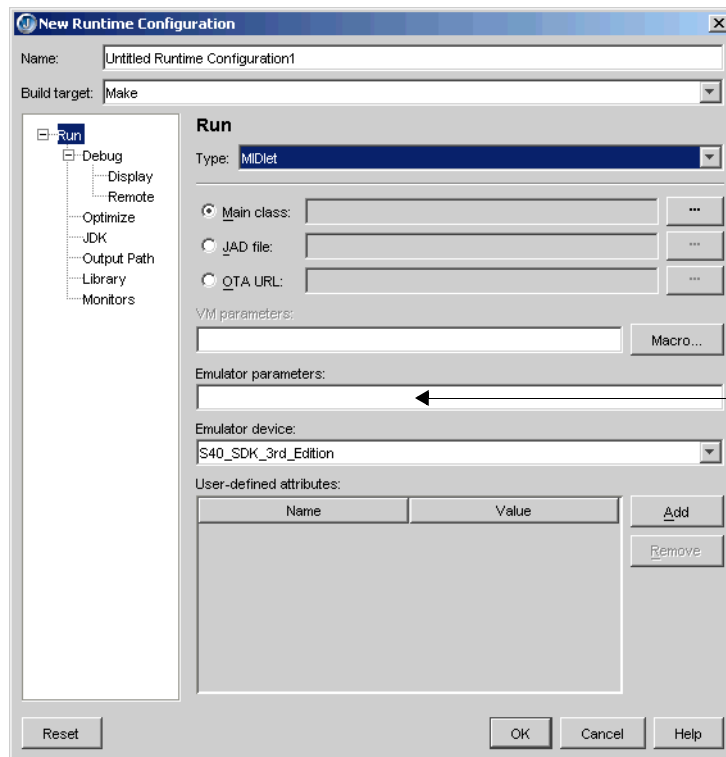
- 1 From the left panel of the JBuilder main window, choose the project you created and select **Projects>Project Properties** to display its properties. The Project Properties window appears:



- 2 Click **Paths** in the left panel. Then click the button to the right of the **JDK** field, and select the Nokia SDK as the SDK to be used for this project.
- 3 Click **Run** in the left panel to create a runtime configuration for the project.
- 4 Click **New**. The New Runtime Configuration window appears:



- For **Type**, select **MIDlet** to configure the runtime parameters you want to use when a MIDlet runs on the Series 40 SDK 3rd Edition. The window changes to look like this:



You can enter command line options here. See *Running the SDK from a Command Line* in the *Series 40 Software Developer Kit 3rd Edition User's Guide*.

- With the window set to MIDlets, do one of the following:
 - Click the button adjacent to **Main class** to display the **Choose Main class to run** window. In this window, navigate to the location of the files of your main class. Click **OK**.
 - Click the button adjacent to **JAD file** to display the **Choose JAD file to run** window. In this window, navigate to the location of the JAD file for your MIDlet. Click **OK**.
- Click **OK** to close the New Runtime Configuration window.
- Click **OK** to close the Project Properties window.
- In the JBuilder main window, select **Run>Project** to load and execute the MIDlet on the SDK.

Configuring JBuilder to use the SDK with J2ME Wireless Toolkit

J2ME Wireless Toolkit (J2MEWTK) is automatically installed when you install JBuilder.

To configure the SDK with J2MEWTK so the SDK will appear in J2MEWTK's list of supplied emulators:

- Install JBuilder before you install the SDK.

2 Install the SDK. During installation, do not click the button labeled **integrated with Sun J2ME WTK**.

3 After the SDK is installed, copy the entire SDK installation directory structure into:
`<JBuilder-install-directory>\J2mewtk\wtllib\devices`

The SDK installation directory is the `S40_SDK_3rd_Edition` directory, which is located by default in `C:\Nokia\Devices`.

To make the SDK the active device emulator within J2ME Wireless Toolkit:

- 1 In the JBuilder main window, select **Tools>Configure JDKs**.
- 2 Select **J2ME Wireless Toolkit** in the left panel and click the **Micro** tab in the right panel. The SDK appears as an option under **Target Device**:
- 3 Select the SDK from **Target Device** to make it active.
- 4 Click **OK**.

Configuring the SDK with NDS for Java ME through JBuilder

Make sure you chose the **Borland JBuilder Integration** option when you installed NDS for Java ME.

To configure the SDK with NDS for Java ME through JBuilder:

- 1 In the JBuilder main window, select **Tools>Nokia Developer's Suite for J2ME(TM)>Configure Emulators**.
- 2 Click **Add**.
- 3 In the **Open** dialog box that appears, navigate to the SDK's configuration file and select the home directory of the SDK.
- 4 Click **Open**.
- 5 In the **Configure Emulators** window, check that the SDK name appears in the **Emulator** list.
- 6 Click **Close**.

Configuring the SDK with NDS for Java ME

To configure the SDK with NDS for Java ME:

- 1 In the NDS for Java ME main window, select **Emulators > Configure Emulators**.
- 2 Click **Add**.
- 3 In the **Open** dialog box that appears:
 - Under **File Name**, enter the home directory of the SDK
 - Under **Files of Type**, select **UEI emulator root directory**
- 4 Click **Open**.

- 5 In the **Configure Emulators** window, check that the SDK name appears in the Emulator list.
- 6 Click **Close**.

Configuring the Series 40 SDK 3rd Edition with Sun NetBeans

To configure the Series 40 SDK 3rd Edition for use with Sun NetBeans:

- 1 In Sun NetBeans, click the **Runtime** tab at the bottom of the Explorer panel.
- 2 Right click on the **Device Emulator Registry** node and choose **Add Emulator**.
- 3 The Add Emulator window appears. Click **Browse** and navigate to the SDK's home directory (typically, `C:\Nokia\Devices\S40_SDK_3rd_Edition`) and click **Open**.
- 4 In the **Detected Emulator Type** field, make sure **Standard UEI Emulator** is selected, and click **Next**. The window is updated with read-only SDK configuration information.
- 5 Click **Next**. The window is updated with Emulator Details.
- 6 Select the Series 40 SDK 3rd Edition as an emulator device by checking its box.
- 7 Click **Finish**. The Add Emulator window closes. You have added the SDK to the IDE.

To select the Series 40 SDK 3rd Edition as the default SDK:

- 1 Click on **Device Emulator Registry** to open it.
- 2 Select the Series 40 SDK 3rd Edition from the list of installed emulators.
- 3 Right-click on the Series 40 SDK 3rd Edition and select **Set As Default**.

What's next?

You can begin to use the Series 40 SDK 3rd Edition. See the *Series 40 SDK 3rd Edition User's Guide* for information about using the SDK. For late-breaking information, see 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. The manual is in PDF format, so you'll need Adobe Acrobat Reader to open it. Adobe Acrobat reader is freely available from www.adobe.com.

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