Oracle® Java Micro Edition Software Development Kit

Release Notes

Release 3.0.5 for Windows

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Release Highlights

This release has the following highlights, as summarized in this section.

- **All Java ME tools are implemented as NetBeans plugins.**

  As of April 2012 the plugin integrates Java ME utilities into the standard NetBeans menus. For example, the Tools > Java ME menu is the place to launch the WMA console, Device Database Search, the LWUIT Resource Editor, the Java ME SDK Update Center, the Active Device Manager, and the Device Selector. Profile > Java ME is the place to work with the Network Monitor and import a CPU Profiler snapshot.

- **Java ME SDK Update Center.** Oracle Java ME SDK can be updated or extended by new components. The Update Center can download, install, and uninstall plugins specific to the Java ME SDK. A plugin consists of runtime components and skins.

- For a description of LWUIT 1.5 features, see: `http://www.oracle.com/technetwork/java/javame/javamobile/download/lwuit/index.html`

  - The Resource Editor is available from the Tools > Java ME menu to help your design and organize resources for LWUIT applications.

  - 6 new demos added for LWUIT.

- **Profiling and the Network Monitoring are integrated with the NetBeans profiling tools.** New network monitoring protocols are supported in this release: WMA, SIP, Bluetooth and OBEX, SATSA APDU and JCRMI, and server sockets.

- **The CPU Profiler uses standard NetBeans profiling facilities to view snapshots.** Profiling of VM classes can be toggled on or off.

- **Tracing include CLDC VM events.** Tracing monitors events such as exceptions, class loading, garbage collection, and methods invocation.

- **WURFL Device Database.** The device database has been updated with more than 1000 new devices.
- **New or updated JSR support.**
  - JSR 234: AdvancedMultimediaSupplements demo added
  - JSR 253: Mobile Telephony API (MTA)
  - JSR 257: Contactless Communication API
  - JSR 258: Mobile User Interface Customization API
  - JSR 293: XML API for Java ME
- **Multiple device managers (Oracle Java ME SDK installations) support.** Note, although multiple device managers can be installed, they cannot be run simultaneously. Use Tools > Java ME > Active Device Manager > Device Managers to select the manager you want to use.
- **300+ bug fixes and enhancements.**

Prerequisites

A minimal environment system configuration is:

- Microsoft Windows XP 32-bit and Windows 7 32-bit and 64-bit with recent service packs.
- Java Platform, Standard Edition Software Development Kit (Java SE SDK) version 1.6 or higher.
- NetBeans version 6.9.1 through 7.0.1 or NetBeans 7.1.1, "All" bundle. The NetBeans Mobility plugin is required for all versions. Note that the plugin integration is different in NetBeans 7.1.1 than in NetBeans 6.9.1 - 7.0.1, as discussed below. NetBeans 7.1 users must upgrade to NetBeans 7.1.1. See Installation.

  To download the latest IDE, go to: `http://netbeans.org`

Installation

The plugin integration mechanism changed as of NetBeans 7.1.1, so 7.1.1 is the recommended version for the plugin released in April 2012.

> **Note:** This plugin does not work with NetBeans 7.1, nor does updating 7.1 to 7.1.1 provide the proper environment for the new plugin. You must uninstall 7.1 and install a clean version of 7.1.1.

If you are using NetBeans 6.9.1 - 7.0.1 the older plugin integration mechanism can support the April 2012 plugin. See NetBeans 6.9.1 - 7.0.1 below.

NetBeans 7.1.1

In 7.1.1 the Java ME SDK version 3.0.5 is integrated into the NetBeans Mobility pack. ***You do not need to download and install the Java ME SDK separately***.

Note: This assumes a clean installation of 7.1.1. Upgrading from 7.1 to 7.1.1 does not work.

1. Start the NetBeans Plugins manager (Tools > Plugins).

   On the Available tab, locate updates in the Java ME and Java ME SDK Tools category and place a check in the Install column, then click the Install button.

   You must install Mobility and the Java ME SDK tools. The LWUIT Resource Editor and the Java ME SDK demos are recommended, but optional.

2. In the Installed tab, check Show details (above the plugin list) and sort by category to easily find the Java ME SDK Tools plugins. Make sure the plugins you installed are activated.

   After this update you can find the Java ME SDK installed in the NetBeans `/mobility` directory.

3. (optional) If you downloaded and installed the Java ME SDK before April 2012, you can uninstall the standalone version.

   a. In the Windows system tray, right-click the Device Manager and choose Exit from the context menu.

   b. In Windows, select Programs > Java ME Platform SDK 3.0.5 > Uninstall, and follow the prompts.

NetBeans 6.9.1 - 7.0.1

In versions *lower than* 7.1 the Mobility pack includes Java ME SDK version 3.0, so version 3.0.5 must be downloaded and installed separately, then integrated with NetBeans. You do not have to uninstall the 3.0 version. It can coexist with Java ME SDK 3.0.5.

What's the difference? In plugins before April, the Java ME SDK had its own Java ME menu in the NetBeans IDE. In the updated plugin, the Java ME menu is gone and Java ME tools are integrated into standard NetBeans menus, as described in "Release Highlights".

Plugin Update

If you already installed and integrated 3.0.5 before April 2012, then you already have a "standalone" Java ME SDK installation and all you have to do is update the plugin.

1. Start the NetBeans Plugins manager (Tools > Plugins).

   On the Available tab, locate updates in the Java ME SDK Tools category and place a check in the Install column, then click the Install button.

   You must install Mobility and the Java ME SDK tools. The LWUIT Resource Editor and the Java ME SDK demos are recommended, but optional.

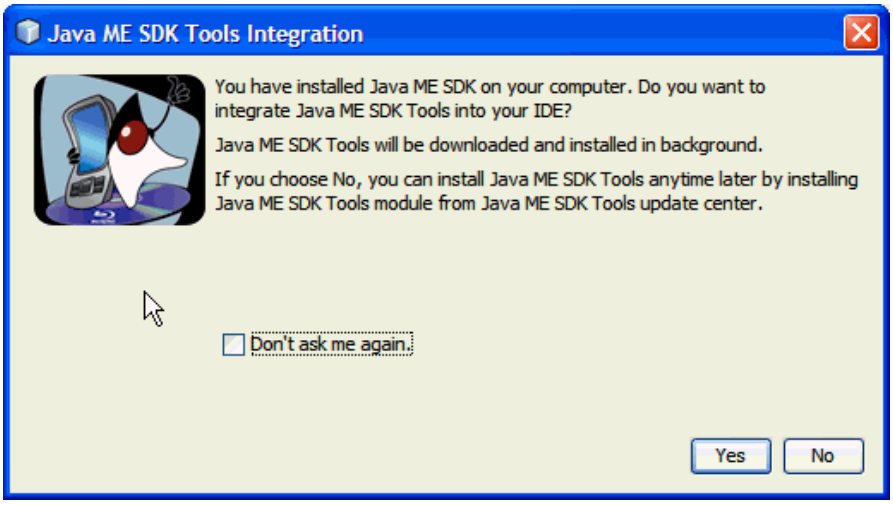
2. In the Installed tab, check Show details (above the plugin list) and sort by category to easily find the Java ME SDK Tools plugins. Make sure the plugins you installed are activated.

New Integration with NetBeans 6.9.1 - 7.0.1

If you have never installed Java ME SDK 3.0.5 and you want to use NetBeans 6.9.1 - 7.0.1, follow these steps.

Note: Do not manually install the Java ME SDK using the NetBeans Plugins Manager. With these NetBeans versions, manual installation causes a known problem with the Java Debugger.

1. Close NetBeans.
2. Download the SDK from http://www.oracle.com/technetwork/java/javame/javamobile/download/sdk/index.html, and double-click the file to launch the installer.
   Follow the installation prompts.
3. Launch the NetBeans IDE.
4. You are asked if you want to integrate the Java ME SDK plugin. Choose Yes.



   The Plugin is installed. At completion you will see the Java ME SDK 3.0.5 Device Manager running in the Windows system tray.
5. Restart the NetBeans IDE.
6. At this point you can update the plugin as described in "Plugin Update".

Installation and Runtime Security Guidelines

The Java ME SDK requires an execution model that makes certain networked resources available for emulator execution. These required resources might include, but are not limited to, a variety of communication capabilities between the Java ME SDK components. It is extremely important to note that the Java ME SDK installation and runtime system is fundamentally a developer system that is not specifically designed to guard against any malicious attacks from outside intruders. Given this, the Java ME SDK architecture can present an insecure operating environment to the Java ME SDK installation file system itself, as well as its runtime environment, during execution. For this reason, it is critically important to observe the precautions outlined in the following security guidelines when installing and running the Java ME SDK.

To maintain optimum network security, Java ME SDK can be installed and run in a "closed" network operating environment, meaning the Java ME SDK system is not connected directly to the Internet, or to a company Intranet environment that could introduce unwanted exposure to malicious intrusion. This is the ideal secure operating

environment when it is possible. Java ME SDK does not require an "Intranet" connection that supports network connections to systems outside the Java ME SDK architecture to intra-company resources.

An example of a requirement for an Internet connection is Java ME SDK running wireless functionality that requires a connection to the Internet to support the communications with the wireless network infrastructure that is part of the Java ME application execution process. Whether or not an Internet connection is required depends on the particular Java ME application running on Java ME SDK. For example, some Java ME applications can use an HTTP connection. In any case, if the Java ME SDK is open to any network access you must observe the following precautions to protect valuable resources from malicious intrusion:

- Install the Java ME SDK behind a secure firewall that strictly limits unauthorized network access to the Java ME SDK file system and services. Limit access privileges to those that are required for Java ME SDK usage while allowing all the I-directional local network communications that are necessary for Java ME SDK functionality. The firewall configuration must support these requirements to run the Java ME SDK while also addressing them from a security standpoint.
- Follow the principle of "least privilege" by assigning the minimum set of system access permissions required for installation and execution of the Java ME SDK.
- Do not store any data sensitive information on the same file system that is hosting the Java ME SDK.
- To maintain the maximum level of security, make sure the operating system patches are up-to-date on the Java ME SDK host machine.

Known Problems

- **ME SDK 3.0.5 might not run on JDK 7 if a proxy is used to connect to the internet.**

  In JDK 7 handling of network proxies was re-designed and as a result ME SDK 3.0.5 might not start when installed with JDK 7.

  If you use a proxy to connect to the internet, explicitly add "localhost" and "127.0.0.1" as exceptions for the Windows internet connections proxy settings.

- **In rare cases you might have more than one instance of the Java ME SDK 3.0.5 in NetBeans.**

  This can happen if:

  - You are running 7.1.1 and you installed the updated plugin before April 2012.
  - You are running 7.1.1 and you circumvented NetBeans autoupdate and manually downloaded and installed a version 3.0.5 plugin.

  To avoid problems with device manager conflicts you must set the Device Manager to use the version installed with 7.1.1.

  1. Select Tools > Java ME > Active Device Manager and choose the version installed in the `/mobility` directory as the default.
  2. In your Windows System tray, right click on the Device Manager Icon and choose Exit.
  3. Wait for the Device Manager to restart (the icon reappears in the System tray).

- **If both Java ME SDK 3.0 and Java ME SDK 3.0.5 are installed two versions of each emulator are listed when you use the keystore manager to export a keystore file to an emulator. You cannot differentiate which emulator belongs to 3.0 and which belongs to 3.0.5.**

  You can export the keystores to both emulators.

- **The Java ME SDK uninstaller does not uninstall plugins from NetBeans.**

  In NetBeans, select Tools > Plugins to open the plugins manager and manually uninstall the plugins.

  In the Installed tab, check the "Show details" box and select the plugins in the category "Java ME SDK Tools", then click the Uninstall button.

- **When using MMAPI you see the message "Unable to create native player".**

  Java ME SDK has been pretested with DirectShow filters from the K-Lite Mega Codec Pack version 4.8.0. If creation of an MMAPI player for a particular content type fails, install the corresponding DirectShow filter on the system.

- **Network Monitor seems to hang instead of attaching.**

  1. Close the Network Monitor view.
  2. Exit the Device Manager and wait until it is restarted by NetBeans.
  3. To start the Network Monitor for a particular project, right-click the project and select Profile, choose Network Monitor, and select Run.

Documentation Accessibility

This release includes PDF documentation in the binary download. For an HTML version of the documentation that is suitable for screen readers, please visit the Java ME Developer Tools documentation page at `http://download.oracle.com/javame/developer.html` and choose this version of Oracle Java ME SDK.

When using NetBeans, see the online help topic "About Accessibility" for a complete list of keyboard shortcuts. Java ME SDK online help in keyboard shortcuts are summarized in the online help topic "Help Viewer Shortcuts".

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at: `http://www.oracle.com/us/corporate/accessibility/index.html`.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit `http://www.oracle.com/support/contact.html` or visit `http://www.oracle.com/accessibility/support.html` if you are hearing impaired.

Java ME SDK Developer's Guide, Release 3.0.5 for Windows
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