



# BlackBerry Java Development Environment

version 4.7.0

## Release Notes and Known Issues List

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## About the BlackBerry JDE

The BlackBerry® Java® Development Environment is a fully integrated development environment and simulation tool for building Java 2 Platform, Micro Edition applications for Java-based BlackBerry® devices.

It is a Mobile Information Device Profile (MIDP) compliant J2ME™ environment for developers who wish to maintain seamless portability in their wireless applications.

Use the BlackBerry JDE to build applications that take advantage of the unique features of the BlackBerry device, such as desktop synchronization applications, GPS applications, and applications that push content proactively to BlackBerry devices in environments that use the BlackBerry Enterprise Server. The BlackBerry JDE provides ways for BlackBerry device applications to establish network connections to servers on the Internet or the corporate intranet.

Each version of the BlackBerry JDE comes with the BlackBerry Smartphone Simulators that were available when that version of the BlackBerry JDE was made public. You can download additional BlackBerry Smartphone Simulators from the BlackBerry Developer Zone web site:

<http://www.blackberry.com/developers/index.shtml>.

## Getting started with the BlackBerry JDE

You can start the BlackBerry® Java Development Environment in one of two ways:

1. From the Start menu, select:

**Programs > Research In Motion > BlackBerry JDE 4.7.0 > JDE**

2. Invoke ide.bat, located in the bin subdirectory of the BlackBerry JDE installation directory.

## Internationalization

The BlackBerry® Java Development Environment contains tools that assist with internationalization (i18n) efforts. It is important to follow naming conventions.

Note: The .rrc and .rrh files must exist in the same directory for successful compilation.

Note: You should define resource keys in uppercase letters only.

See the *BlackBerry Java Development Environment Development Guide* or the *BlackBerry Integrated Development Environment Online Help* for more information about localization.

## Code samples

A sample BlackBerry® JDE workspace exists in the samples subdirectory of the BlackBerry JDE installation directory. It contains sample programs that demonstrate how to design and build Java applications for BlackBerry devices

### Code samples with server components

The following sample applications include server components. Invoke the run.bat script in the specified folder to start the server component:

- 3.1 The httppushdemo sample includes a server component at samples/com/rim/samples/server/httppushdemo

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- 3.2 The socketdemo sample includes a server component at samples/com/rim/samples/server/socketdemo
  - 3.3 The browserpushdemo sample includes a server component at samples/com/rim/samples/server/browserpushdemo
  - 3.4 The smsdemo sample includes a server component at samples/com/rim/samples/server/smsdemo
  - 3.5 The BrowserMultipartPushDemo sample includes a server component at samples/com/rim/samples/server/browsermultipartpushdemo
  - 3.6 The GPS Demo sample includes a server component at samples/com/rim/samples/server/gpsdemo

## BlackBerry Smartphone simulators

This release of the BlackBerry® Java™ Development Environment includes the following BlackBerry Smartphone simulator(s):

- Storm Smartphone simulator

## BlackBerry JDE version 4.7.0 system requirements

Your system must meet the following requirements to support the BlackBerry® Java™ Development Environment:

- Microsoft® Vista™ or Windows XP
- Intel® Pentium® III processor or compatible (800 MHz or higher)
- 256 MB RAM
- 500 MB free hard disk space
- Java® SE Development Kit (JDK) version 5 or version 6 (download from the Sun Microsystems web site). The <bin> directory of the Java SDK must be part of the system's PATH variable.
- Java® SE Development Kit (JDK) version 6 is required for the BlackBerry MDS Simulator version 4.1.5.
- Microsoft DirectX® 8.0 or greater (for the BlackBerry Smartphone Simulators)

## Functional changes

This section lists functional changes for BlackBerry® Java Development Environment (JDE) version 4.7.0.

Determine if a BlackBerry device application is in touch compatibility mode.	<p>A BlackBerry® device application created in the BlackBerry JDE version 4.7.0 and on a BlackBerry® Storm device responds to touch events and touch gestures.</p> <p>A BlackBerry device application created in the BlackBerry JDE version 4.6.0 or earlier and on a BlackBerry Storm device runs in compatibility mode and does not respond to touch events or touch gestures.</p> <p>You can determine if a BlackBerry device application is in compatibility mode by invoking <code>net.rim.device.api.system.Application.isInTouchCompatibilityMode()</code>.</p>
Set a BlackBerry device application	<p>You can set a BlackBerry® device application created in the BlackBerry Java Development Environment version 4.6.0 or earlier to automatically respond to touch events</p>

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to respond to touch events and gestures on the BlackBerry Storm device.	and touch gestures when the application starts. In the .jad file for a BlackBerry device application, set the the <code>RIM-TouchCompatibilityMode</code> property to 'false'.
Allow a user to set the run mode for a BlackBerry device application on the BlackBerry Storm device.	You can allow a BlackBerry® device user to manually set a BlackBerry device application to run in compatibility mode. The BlackBerry device user sets the mode through the Options screen on the BlackBerry device. In the .jad file for a BlackBerry device application, set the the <code>RIM-TouchCompatibilityMode-UserChangeable</code> property to "true".
Allow a BlackBerry device application to respond to touch screen input.	A BlackBerry® device application can use the <code>net.rim.device.api.ui.TouchEvent</code> class, the <code>net.rim.device.api.ui.TouchGesture</code> class, or both to support and respond to touch screen input events such as taps, swipes, and gestures from a BlackBerry device user.
Allow a MIDlet to respond to touch screen input.	A MIDlet can override the <code>Canvas.pointerPressed()</code> , <code>Canvas.pointerReleased()</code> , and <code>Canvas.pointerDragged()</code> methods to respond to touch screen input events. A MIDlet can also override the public void <code>touchEvent(TouchEvent message)</code> method in any of the BlackBerry® specific MIDP classes: <code>BlackBerryCanvas</code> , <code>BlackBerryGameCanvas</code> and <code>BlackBerryCustomItem</code> , to respond to touch screen input events.
Use the touch screen keyboard.	A BlackBerry® device application can use the <code>net.rim.device.api.ui.container.MainScreen.getVirtualKeyboard()</code> method with the methods of the <code>net.rim.device.api.ui.VirtualKeyboard</code> class to display or hide the touch screen keyboard. Use the touch screen keyboard APIs to allow a BlackBerry device application to make the touch screen keyboard available to BlackBerry device users when they wish to provide keyboard input.
Work with screen orientation.	A BlackBerry® device application can use the <code>net.rim.device.api.ui.Display.getOrientation()</code> method to retrieve the orientation of the screen. A BlackBerry device application can also use the <code>net.rim.device.api.ui.UiEngineInstance.setAcceptableDirections(byte flags)</code> method to set the screen direction that the application supports.
Respond to the orientation of the BlackBerry device.	A BlackBerry® device application can use the <code>net.rim.device.api.system.AccelerometerSensor</code> class to retrieve information from the accelerometer of a BlackBerry device. Use the <code>AccelerometerSensor</code> class to allow a BlackBerry device application to respond to changes in the orientation of the BlackBerry device.
Setting the background image of the Home screen.	A BlackBerry® application can invoke <code>net.rim.blackberry.api.homescreen.HomeScreen.setBackgroundImage(String uri)</code> to set the background image of the Home screen on a BlackBerry smartphone. The image file must be located in the flash memory of the BlackBerry smartphone or the microSD card. For example, <code>uri = "file:///store/home/user/pictures/file.jpg"</code> .
Sending and handling a camera image.	A BlackBerry® application can now register to handle images that a BlackBerry smartphone user sends from the camera application. After registration, when a BlackBerry Smartphone user takes a picture, a menu item appears in the menu of the camera application that allows a user to send an image to the BlackBerry application.
Invoking the video	A BlackBerry® application can invoke <code>net.rim.blackberry.api.invoke.Invoke.invokeApplication(Invoke.APP_TYPE_CAMERA, new</code>

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recorder.	CameraArguments (CameraArguments.ARG_VIDEO_RECORDER) to start the video recorder application.
Audio and video support on the BlackBerry Storm device.	<p>The BlackBerry® Storm device supports audio recording and the playback of audio and video.</p> <p>Support for audio recording</p> <ul style="list-style-type: none"> <li>• GSM 6.10</li> <li>• QCELP</li> <li>• AMR-NB</li> </ul> <p>Support for audio playback</p> <ul style="list-style-type: none"> <li>• PCM, uLaw/aLaw and GSM 6.10 in WAV format</li> <li>• AAC/AAC+/eAAC+ in M4A and AAC formats</li> <li>• MP3</li> <li>• MIDI</li> <li>• WMA</li> <li>• AMR-NB</li> </ul> <p>Support for Video playback</p> <ul style="list-style-type: none"> <li>• MPEG 4-SP in an AVI format</li> <li>• MPEG 4-SP and H.263 in MP4, 3GP and MOV formats</li> <li>• WMV</li> </ul>
Displaying the music library in the media player.	<p>A BlackBerry® device application can use the <code>javax.microedition.content.Invocation</code> class and the <code>net.rim.device.api.content.BlackBerryContentHandler</code> class to start the media application and view the music library.</p> <p>For example:</p> <pre>Invocation invocation = new Invocation(); invocation.setID( BlackBerryContentHandler.ID_MEDIA_CONTENT_HANDLER ); invocation.setArgs( new String[] {BlackBerryContentHandler.MEDIA_ARGUMENT_VIEW_MUSIC} ); Registry.invoke( invocation );</pre>
Launching a BlackBerry device application from the Music player or the Music library Screen.	<p>A BlackBerry® device application can use the <code>net.rim.blackberry.api.menuitem.ApplicationMenuItem</code> and <code>net.rim.blackberry.api.menuitem.ApplicationMenuItemRepository</code> classes to add links to the music player and the music library. A BlackBerry device user can select the links to launch the BlackBerry device application.</p> <p>For example:</p> <pre>ApplicationMenuItemRepository repository = ApplicationMenuItemRepository.getInstance(); repository.addItem( ApplicationMenuItemRepository.MENUITEM_MUSIC_SERVICE_LIST_ITEM, new MusicServiceListItem());</pre>
Retrieve the browser user agent.	<p>A BlackBerry® device application can invoke <code>java.lang.System.getProperty("browser.useragent")</code> to retrieve the browser user agent from the Browser.</p>
BlackBerry Storm	On the BlackBerry® Storm device, the content store memory that a BlackBerry device

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device memory. application accesses through the File Connection API has no limit for individual file sizes.

Default menu now includes system menu items. The default menu for an application Screen now includes system menu items.

## Known issues

This section lists known issues for the BlackBerry Java Development Environment (JDE) version 4.7.0.

### APIs

**Receiving event notification from a Player** A BlackBerry® device application that uses a `javax.microedition.media.PlayerListener` for a `javax.microedition.media.Player` does not receive events until the `javax.microedition.media.Player` is in the STARTED state.

**Impact:** A BlackBerry device application may not be notified of certain `javax.microedition.media.Player` events.

**Workaround:** To begin receiving events from the `javax.microedition.media.Player`, put the `javax.microedition.media.Player` in to the STARTED state.

**Using the Accessibility APIs** The BlackBerry® JDE version 4.7.0 does not support the Accessibility APIs. If you run an application that uses the Accessibility APIs on the BlackBerry Storm device or in the simulator for the BlackBerry® Storm device, an `UnsupportedOperationException` is thrown.

### BlackBerry Storm simulator

**Performing a scrolling action.** On the simulator for the BlackBerry® Storm device, scroll actions may not work as expected.

**Impact:** You may not be able to perform scroll actions on the simulator for the BlackBerry Storm device.

**Workaround:** Use the arrow keys on the computer keyboard to scroll in the Home screen.

**Simulating device rotation in the BlackBerry Storm simulator** On the simulator for the BlackBerry® Storm device, when you simulate a rotation, the following methods return data for the previous orientation:

- `Channel.getLastAccelerationData(short[])`
- `AccelerometerData.getLastXAcceleration()`
- `AccelerometerData.getLastYAcceleration()`
- `AccelerometerData.getLastZAcceleration()`
- `AccelerometerData.getXAccHistory()`
- `AccelerometerData.getYAccHistory()`
- `AccelerometerData.getZAccHistory()`

**Impact:** When you simulate a rotation, incorrect orientation readings will result.

**Workaround:** On the simulator for the BlackBerry Storm device, simulate the same orientation or rotation event twice in a row.

**Running the maps sample application** On the simulator for the BlackBerry® Storm device, if you run the `BlackBerryMapsDemo` sample application, the BlackBerry Smartphone Simulator displays an error message if

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you select the following options from the application menu:

- **Invoke Location Document > View Single Location > View Map**
- **Invoke Location Document > View Multiple Locations > View Map**
- **Invoke Location Document > View Route > View Map**
- **Invoke Map View > View Map**

**Impact:** You cannot view a map for a single location, multiple locations, a route, or view a map using map view.

**Workaround:** None.

#### **Running the camera sample application**

On the simulator for the BlackBerry® Storm device, if you run the CameraDemo sample application, the BlackBerry Smartphone Simulator displays an error message and stops functioning.

**Impact:** You cannot successfully run the CameraDemo sample application on the BlackBerry Storm Simulator.

**Workaround:** None.

#### **Using the virtual keyboard**

Screen classes only contain one method for the touch screen keyboard. The `getVirtualKeyboard()` method returns a `net.rim.device.api.ui.VirtualKeyboard` object that contains methods for setting and getting the state of the virtual keyboard.

#### **Launching a MIDlet in the BlackBerry Storm simulator**

On the simulator for the BlackBerry® Storm device, when you launch a MIDlet that uses commands of type SCREEN, the commands appear as Toolbar buttons on the bottom of the screen.

**Impact:** MIDlet commands of type SCREEN display as Toolbar buttons on the screen of a MIDlet.

**Workaround:** Commands of type ITEM.

#### **Launching the menu of a MIDlet**

On the simulator for the BlackBerry® Storm device, if you set the portrait keyboard to the 12 key, you cannot open the menu in a MIDlet application.

**Impact:** You cannot open a menu in a MIDlet application if you have set the 12 key as the portrait keyboard.

**Workaround:** Set a different key as the portrait keyboard.