



BlackBerry Java Development Environment

Version 4.2.0

BlackBerry Signature Tool Developer Guide

Last revised: 15 February 2007

Part number: SWD_X_JDE-003.000

Send us your comments on product documentation: <https://www.blackberry.com/DocsFeedback>.

©2006 Research In Motion Limited. All Rights Reserved. The BlackBerry and RIM families of related marks, images, and symbols are the exclusive properties of Research In Motion Limited. RIM, Research In Motion, BlackBerry, "Always On, Always Connected" and the "envelope in motion" symbol are registered with the U.S. Patent and Trademark Office and may be pending or registered in other countries. JavaScript, Java, and Javadoc is a trademark of Sun Microsystems, Inc. in the United States and other countries. All other brands, product names, company names, trademarks and service marks are the properties of their respective owners.

The BlackBerry device and/or associated software are protected by copyright, international treaties and various patents, including one or more of the following U.S. patents: 6,278,442; 6,271,605; 6,219,694; 6,075,470; 6,073,318; D445,428; D433,460; D416,256. Other patents are registered or pending in various countries around the world. Visit www.rim.com/patents.shtml for a list of RIM (as hereinafter defined) patents.

This document is provided "as is" and Research In Motion Limited and its affiliated companies ("RIM") assume no responsibility for any typographical, technical or other inaccuracies in this document. In order to protect RIM proprietary and confidential information and/or trade secrets, this document may describe some aspects of RIM technology in generalized terms. RIM reserves the right to periodically change information that is contained in this document; however, RIM makes no commitment to provide any such changes, updates, enhancements or other additions to this document to you in a timely manner or at all. RIM MAKES NO REPRESENTATIONS, WARRANTIES, CONDITIONS OR COVENANTS, EITHER EXPRESS OR IMPLIED (INCLUDING WITHOUT LIMITATION, ANY EXPRESS OR IMPLIED WARRANTIES OR CONDITIONS OF FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, MERCHANTABILITY, DURABILITY, TITLE, OR RELATED TO THE PERFORMANCE OR NON-PERFORMANCE OF ANY SOFTWARE REFERENCED HEREIN OR PERFORMANCE OF ANY SERVICES REFERENCED HEREIN). IN CONNECTION WITH YOUR USE OF THIS DOCUMENTATION, NEITHER RIM NOR ITS RESPECTIVE DIRECTORS, OFFICERS, EMPLOYEES OR CONSULTANTS SHALL BE LIABLE TO YOU FOR ANY DAMAGES WHATSOEVER BE THEY DIRECT, ECONOMIC, COMMERCIAL, SPECIAL, CONSEQUENTIAL, INCIDENTAL, EXEMPLARY OR INDIRECT DAMAGES, EVEN IF RIM HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, INCLUDING WITHOUT LIMITATION, LOSS OF BUSINESS REVENUE OR EARNINGS, LOST DATA, DAMAGES CAUSED BY DELAYS, LOST PROFITS, OR A FAILURE TO REALIZE EXPECTED SAVINGS.

This document might contain references to third party sources of information, hardware or software, products or services and/or third party web sites (collectively the "Third-Party Information"). RIM does not control, and is not responsible for, any Third-Party Information, including, without limitation the content, accuracy, copyright compliance, compatibility, performance, trustworthiness, legality, decency, links, or any other aspect of Third-Party Information. The inclusion of Third-Party Information in this document does not imply endorsement by RIM of the Third Party Information or the third party in any way. Installation and use of Third Party Information with RIM's products and services may require one or more patent, trademark or copyright licenses in order to avoid infringement of the intellectual property rights of others. Any dealings with Third Party Information, including, without limitation, compliance with applicable licenses and terms and conditions, are solely between you and the third party. You are solely responsible for determining whether such third party licenses are required and are responsible for acquiring any such licenses relating to Third Party Information. To the extent that such intellectual property licenses may be required, RIM expressly recommends that you do not install or use Third Party Information until all such applicable licenses have been acquired by you or on your behalf. Your use of Third Party Information shall be governed by and subject to you agreeing to the terms of the Third Party Information licenses. Any Third Party Information that is provided with RIM's products and services is provided "as is". RIM makes no representation, warranty or guarantee whatsoever in relation to the Third Party Information and RIM assumes no liability whatsoever in relation to the Third Party Information even if RIM has been advised of the possibility of such damages or can anticipate such damages.

Research In Motion Limited
295 Phillip Street
Waterloo, ON N2L 3W8
Canada

Research In Motion UK Limited
Centrum House, 36 Station Road
Egham, Surrey TW20 9LF
United Kingdom

Published in Canada

Contents

1	Use controlled APIs	3
	Requesting signatures using the BlackBerry Signature Tool.....	3
	Register an application.....	3
	Send a code signature request to the BlackBerry Signing Authority Tool	4
	View .cod file approval status.....	5
	Using a proxy server.....	5
	.csi file restrictions	6
	The registration key or .csk file is missing.....	6
A	Appendix: Command line code signature requests	7
	Request code signatures using the command line.....	7

Use controlled APIs

Requesting signatures using the BlackBerry Signature Tool

Requesting signatures using the BlackBerry Signature Tool

Developers can control access to their APIs by using the BlackBerry® Signing Authority Tool to manage the access other developers have to these APIs. Other developers that want to use the controlled APIs must use the BlackBerry Signature Tool to register with the BlackBerry Signing Authority Tool. After registration, these developers can request access to particular packages, classes, or methods by using the BlackBerry Signature Tool to send code signature requests to the BlackBerry Signing Authority Tool. An administrator uses the BlackBerry Signing Authority Tool to verify the requester's information. If verification succeeds, the administrator can send code signatures back to the requesting developer.

To use a controlled package, class, or method, use the BlackBerry Signature Tool to send code signature requests to the BlackBerry Signing Authority Tool.

The BlackBerry Signature Tool is part of the BlackBerry® Java® Development Environment (JDE) installation. Both the BlackBerry JDE and the BlackBerry Signing Authority Tool are available for download from the BlackBerry Developer Zone.

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

To request code signatures, perform the following actions:

1. Register an application with the BlackBerry Signing Authority Tool.
2. Send a code signature request to the BlackBerry Signing Authority Tool.
3. Verify the .cod files approval status.

Register an application

Applications that use controlled classes or methods require signatures from the BlackBerry® Signing Authority tool. Use the BlackBerry Signature Tool to request and receive signatures that you need in order to use the code.



Note: If the BlackBerry Signing Authority Tool administrator does not provide you with the .csi file or the Client PIN number, and you are an ISV partner, contact your ISV Technical Partnership Manager. If you are not an ISV partner, email jde@rim.com.

Register for a RIM Signing Authority account

You must have HTTP access to the Internet to register for code signing.

1. Complete the registration form on the BlackBerry® Developer Zone at <http://www.blackberry.com/developers>.

2. Save the .csi file that RIM e-mails you. The .csi file contains a list of signatures and your registration information.
3. Double-click the .csi file.

If a dialog box appears that states that a private key cannot be found, complete steps 4 through 7 before you continue. Otherwise, proceed to step 8.

4. Click **Yes** to create a new key pair file.



Note: When you create a key pair, make sure to store the private key on a computer that is located in a secure restricted area. Take steps to protect the security of the computer: install the newest security patches, use a firewall, install antivirus application. If possible, do not install the BlackBerry Signature Tool on a general purpose computer.

5. Type a password for your private key, and type it again to confirm.
6. Click **OK**.
7. Move your mouse to generate data for a new private key.
8. In the **Registration PIN** field, type the PIN that RIM provided.
9. In the **Private Key Password** field, type a password of at least eight characters. This is your private key password, which protects your private key.



Note: Protect your private key password. If you lose this password, you must register again with RIM. If this password is stolen, contact RIM immediately.

10. Click **Register**.
11. Click **Exit**.

Send a code signature request to the BlackBerry Signing Authority Tool

To request code signatures for .cod files, add the .cod files to the signature list. The signature list contains information on the .cod files that you want permission to access.

1. In the BlackBerry® Integrated Development Environment, on the **Build** menu, click **Build All**. The BlackBerry IDE creates the following three files, located in the same folder as the project .jdp file, for each project:

File extension	Description
.cod	the compiled project that is loaded on the BlackBerry® Device
.csi	a list of required linktime signatures
.cso	a list of signatures that might be required at runtime if the application invokes controlled methods

2. In Microsoft® Windows® Explorer, locate the .cod file you want to add to the signature list.
3. Make sure that a .csi file with the same name as the .cod file exists in the same folder as the .cod file.



Note: When you use the BlackBerry IDE to compile your application, the BlackBerry IDE automatically generates the .csi file.

4. Double-click the .cod file.
5. Repeat steps 1 through 3 for each .cod file you want to add to the signature list.

6. On the BlackBerry Signature Tool menu, click **Request**.
7. In the dialog box, type your private key password.
8. Click **OK**.

The BlackBerry Signature Tool uses the private key password to append the signature to the request, and sends the signature list of .cod files for verification.



Tip: You can request code signatures using the command prompt. See "Appendix: Command line code signature requests" on page 7 for more information.

View .cod file approval status

1. Start the BlackBerry® Signature Tool.
2. Select a .cod file.
3. View the **Status** column.

For files that are signed, the **Status** column contains **Signed**. For files that are not signed, the **Status** column contains **Failed**. A .cod file might be rejected because you typed an incorrect private key password.

Using a proxy server

If you are attempting to register signature keys or sign an application using a proxy server, the BlackBerry® Signature Tool might be unable to contact the BlackBerry Signing Authority Tool.

Register an application using a proxy server

1. At the command prompt, browse to the BlackBerry® Signature Tool bin directory, for example:

```
C:\Program Files\Research In Motion\BlackBerry JDE 4.2.0\bin
```

2. Type the following command:

```
Java -jar -Dhttp.proxyHost=<myproxy.com> -Dhttp.proxyPort=80 SignatureTool.jar
<SigKey>.csi
```

Option	Description
SigKey	The name of each signature key (.csi) file. Use the following naming convention for the keys: <ul style="list-style-type: none"> • client-RRT-*.csi • client-RBB-*.csi • client-RCR-*.csi where <ul style="list-style-type: none"> • client-RRT- represents a RIM Runtime API • client-RBB- represents a RIM BlackBerry API • client-RCR- represents a RIM Crypto Runtime API
Dhttp.proxyHost	The name or IP address of the proxy server.
Dhttp.proxyPort	The proxy server port number if you do not specify 80 as the default port number.

3. Repeat step 2 for each .csi file you want to register.

Only register each .csi file once. For security reasons, the BlackBerry Signature Tool prevents multiple registrations of the same .csi file.

Sign a code signature request using a proxy server

1. At the command prompt, browse to the BlackBerry® Signature Tool bin directory, for example,
C:\Program Files\Research In Motion\BlackBerry JDE 4.2.0\bin
2. Type the following command:
Java -jar -Dhttp.proxyHost=<myproxy>.com -Dhttp.proxyPort=80 SignatureTool.jar
3. In the File Selection window, select the .cod file(s) to sign.
4. Click **Open**.

.csi file restrictions

The BlackBerry® Signing Authority Tool administrator might place restrictions on your .csi file to limit your access to code signatures.

.csi file restriction	Description
# of Requests	Sets the maximum number of requests you can make using a particular .csi file. When you reach the maximum number of requests, the .csi file becomes invalid. To make new code signature requests, you must apply for a new .csi file. Although an administrator can permit an infinite number of requests, the number of requests is often limited for security reasons.
Expiry Date	Sets the expiry date for your .csi file. After the expiry date, you will no longer be able to apply for code signatures with this .csi file. To make new signature requests, you must apply for a new .csi file.

To request changes to these restrictions, contact your system administrator.

The registration key or .csk file is missing

When you use the BlackBerry® Signature Tool to register with the BlackBerry Signing Authority, the BlackBerry Signature Tool creates a .csk key. Your registration key is stored with your .csk file. If you lose the registration key or the .csk file, you will not be able to request code signatures. If you are a third party developer and lose the .csk file, contact your ISV Technical Partnership Manager. If you are not an ISV partner, email jde@rim.com.

Appendix: Command line code signature requests

Request code signatures using the command line

Request code signatures using the command line

1. At the command prompt, browse to the BlackBerry® Signature Tool bin directory, for example, C:\Program Files\Research In Motion\BlackBerry JDE 4.2.0\bin
2. To start the BlackBerry Signature Tool, type the following command:

```
Java -jar SignatureTool.jar [ [-a] [-c] [-C] [-s] [-f [-d] <inputFile> ] [-r <directory> ] [-help] <codFile> <codfile>... | <csiFile>
```

Argument	Description
-a	Request signatures automatically.
-c	Close after requesting signatures if no errors occur.
-C	Close after requesting signatures even if errors occur.
-s	Print code signing statistics on the number of signatures received and number of signatures requested.
-r <directory>	Search a directory and select all .cod files in the directories.
-f <file>	Use a file to specify the .cod files to load.
-d	Remove the temporary file used with option -f. Use option -d in conjunction with option -f.
.csi file	Type a .csi file, which contains your registration information and a list of signatures that you can apply for. Specify one .csi file per command.
.cod file	The compiled application. When you obtain the required code signatures, you can load the .cod file on a BlackBerry device. Specifying a .cod file using the command prompt is equivalent to using the BlackBerry Signature Tool to request the signatures for a .cod file. You can use the BlackBerry Signature Tool to reference multiple .cod files in one command.



Note: Back up the sigtool.csh, .set, and .db files.

