caAdapter MMS v 4.1.1

Installation Guide

NATIONAL® CANCER INSTITUTE

Center for Biomedical Informatics
and Information Technology

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Contents

Introduction

This installation guide outlines the supported configurations and technical installation instructions for caAdapter 4.1. Directions for validating the caAdapter installation are also included.

Overview of caAdapter

caAdapter is an open source tool set that provides model mapping services in support of caCORE components and facilitates data mapping and transformation among different kinds of data sources.

caAdapter MMS is one component of caAdapter. The MMS tool provides Object to Data Model mapping capabilities in support of building caCORE compatible applications. The caAdapter supports NCI CBIIT's mission of developing a translational research infrastructure and building a clinical research network by providing a common platform for sharing data. For more information about the caAdapter, see the *caAdapter 4.1 User's Guide*.

caAdapter 4.1 Tested Platforms

caAdpater 4.1 has been tested on the system platforms with the stated software and hardware requirements listed in*Table 1*.

	NCI CBIIT Windows Server	NCI CBIIT Linux App Server
Model	DELL Optiplex GX270	HP Proliant ML 330
CPU	1 x Intel® Pentium™ 2.8 GHz	1 x Intel® Xeon™ Processor 2.80 GHz
Memory	3.2 GB	4 GB
Local Disk	System = 40 GB	System = 2 x 36 GB (RAID 1) Data = 2 x 146 (RAID 1)
Network	100mb / full duplex	100mb / full duplex
OS	Windows 2000 Professional	Red Hat Linux ES 3
Resolution (Recommended)	1280 x 1024 1024 x 768	1600x1200 1400x1050 1280x960 1280x864
Resolution (NOT Recommended)	800 x 600 640 x 480	800 x 600 640 x 480

Table 1 caAdapter Tested Platforms

caAdapter Software Requirements

To use caAdapter, you must download and install Java, which is not included with caAdapter. *Table 2* contains detailed information on the software and URL hyperlinks (for download). The version is in accordance with the NCI CBIIT technology stack. You are required to visit each site of the third party software to review the license agreement prior to using the software with caAdapter.

Software Name	***Version***	***Description/URL***	***Directory***
Java 2 Platform Enterprise Edition (J2EE) or Standard Edition (J2SE)	1.5.0_04	The J2SE Software Development Kit (SDK) supports creating J2SE applications http://java.sun.com/j2se/	If your root directory in Windows is `C:\`, then install to the `C:\jdk1.5.0_04` Java home directory
JGraph	5.12.1	Jgraph is a freely available Java Graph Component for the visualization and layout of graphs http://www.jgraph.com/downloads.html	Copy jgraph.jar to caAdapter lib directory
SQLeonardo	sqleonardo.2007.01	SQLeonardo is a graphical tool that lets you query databases. http://sourceforge.net/projects/sqleonardo/	Copy sqleonardo.jar after unzipping to caAdapter lib directory

Table 2 Required software for all caAdapter distributions

Setting Environment Variables

You must verify that the JAVA_HOME and ANT_HOME environment variables are set and then you must add them to your PATH.

Setting the JAVA_HOME Environment Variable

Perform the following steps to set the environment variables in Windows.

Step	*Action*
1.	Right click **My Computer > Properties** and select the **Advanced** tab.
2.	Click the **Environment Variables** button.
3.	**JAVA_HOME** must be listed in the **User variables** or **System variables** section of the dialog box. To add a new variable, click the **New** button below either section.
4.	In the **New User Variable** dialog box, add the **Variable** and **Variable Value** for your home directory. Examples: **Variable** = ***JAVA_HOME***; **Variable Value** = ***C:\jdk1.5.0_04***
5.	Find the **PATH** environment variable, double click it or click the **Edit** button and add ***%JAVA_HOME%\bin*** to the end of its value. Click all **OK** buttons to confirm the changes.
6.	To verify that the **PATH** statement listed in the **Environment Variables** dialog box includes **JAVA_HOME**, open a command window (**Start > Command Prompt**). Type ***path*** at the prompt and hit **enter** to display your path. For example, ***C:\jdk1.5.0_04*** should be at the end of your path. If you were successful, you can run `java` anywhere in your system. To verify the java version type `java –version` at the command prompt.

Required Software for Source Distribution—Not Included in caAdapter

If you are installing source code, you must download and install Ant that is not included with caAdapter. *Table3* contains detailed information on the software and URL hyperlinks (for download). The version is in accordance with the NCI CBIIT technology stack.

Software Name	Version	Description/URL	Example Directory
Ant	1.6.2	Apache Ant is a Java-based build tool http://ant.apache.org/	If your root directory in Windows is `C:\`, then install to `C:\apache-ant-1.6.2` Ant home directory

Table3 Required software for caAdapter source distribution

Setting the ANT_HOME Environment Variable

Verify the `ANT_HOME` environment variable is set and add it to your `PATH`. Perform the following steps to do this in Windows:

Step	Action
1.	Right click **My Computer > Properties** and select the **Advanced** tab.
2.	Click the **Environment Variables** button.
3.	**ANT_HOME** must be listed in the **User variables** or **System variables** section of the dialog box. To add a new variable, click the **New** button below either section.
4.	In the **New User Variable** dialog box, add the **Variable** and **Variable Value** for your home directories. Examples: **Variable = *ANT_HOME*** **Variable Value = *C:\apache-ant-1.6.2***
5.	Find the **PATH** environment variable, double click it or click the **Edit** button and add ***%ANT_HOME%\bin*** to the end of its value. Click all **OK** buttons to confirm the changes.
6.	To verify that the **PATH** statement listed in the **Environment Variables** dialog box includes **ANT_HOME**, open a command window (**Start > Command Prompt**). Type ***path*** at the prompt and hit **enter** to display your path. For example, ***`C:\apache-ant-1.6.2\bin`*** should be at the end of your path. If you were successful, you can run `ant` anywhere in your system.

Downloading caAdapter

Complete the following steps to download caAdapter.

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1.</td><td>Go to the NCI CBIIT download web site
http://ncicb.nci.nih.gov/download/index.jsp.</td></tr>
<tr><td>2.</td><td>Provide your email, name, and institution. Click Enter the Download Area.</td></tr>
<tr><td>3.</td><td>Select Download from the caAdapter section.

Check the box labeled Checking this box indicates that you agree to the above terms to indicate agreement to the caAdapter license.</td></tr>
<tr><td>4.</td><td>Select the appropriate distribution as listed below and save it to a temporary directory on your computer (for example, <code>C:\temp</code> in Windows).

• Binary Distribution: The caAdapter binary distribution file contains the binary code, Javadocs, Release Notes, example messages, and licenses.
<table>
<tr><th>Binary Zip File Name</th><th>Description</th></tr>
<tr><td>CaadapterMMSv4.1_bin.zip</td><td>Binary file</td></tr>
</table>
• Source Distribution: The caAdapter source distribution file contains the source java code, build.xml, Javadocs, Release Notes, readme.txt, example messages, and licenses.
<table>
<tr><th>Source Zip File Name</th><th>Description</th></tr>
<tr><td>CaadapterMMSv4.1_src.zip</td><td>Source file</td></tr>
</table>
Windows Distribution: The caAdapter windows distribution file contains binary code, Release Notes, readme.txt, example messages, and licenses.
<table>
<tr><th>Binary Zip File Name</th><th>Description</th></tr>
<tr><td>CaadapterMMSv4.1.msi</td><td>Windows file</td></tr>
</table></td></tr>
</table>

Installing caAdapter

Complete the appropriate steps for your distribution to install caAdapter.

Installing the Source and Binary Distributions

Extract the contents of the caAdapter source or binary distribution zip file to your root directory. For example, if your root directory in Windows is `C:\`, then your caAdapter home directory becomes `C:\caadapter`. (**Note**: The `caadapter` directory is created for you.) *Table 3* contains the directory structure after installation.

Installing the Windows Distribution

Step	***Action***
1.	Double-click the `.msi` file and follow the instructions provided to complete installation. *Table 3* contains the directory structure after installation.

Directory	***Contents***
build	Binaries (`.class` files) (only for source distribution and is created at runtime)
conf	Application configuration files
dist	Contains `.jar`, `.war` files, and the `run.bat` file. (Source distribution only)
doc	caAdapter documentation and help system
etc	Important supplementary files (only for source distribution and the its contents will be packed with compiled codes as build the project)
lib	Java libraries and dependencies
src	Source code (`.java` files) (only for source distribution)
workingspace	Default directory where you can save project files. It also contains an `examples` directory with sample data.
build	Binaries (`.class` files) (only for source distribution and is created at runtime)
conf	Application configuration files

Table 3. Directory Structure of caAdapter

Verifying the Installation

Perform the appropriate processes for your distribution to ensure that your installation of caAdapter was successful.

Verifying the Binary Installation

Perform the following steps to launch the caAdapter mapping tool:

Step	***Action***
1.	In a command prompt window, enter ***`cd {home_directory}`*** to go to your home directory (for example, in Windows `C:\caadapter`).
2.	Enter ***`run.bat`*** The caAdapter Mapping Tool appears.

Verifying the Source Installation

Perform the following steps to launch the caAdapter mapping tool.

Step	***Action***
1.	In a Command Prompt window, enter cd {home_directory} to go to your home directory (for example, in Windows C:\caadapter).
2.	Enter **`ant`**
3.	Change to dist directory, enter **`cd dist`**
4.	Enter **run.bat** The caAdapter Mapping Tool appears.

Building the Webstart Deployment

If you installed the source distribution successfully, you can optionally build the Webstart deployment WAR file.

Web server required the Webstart WAR file digitally signed to assert that the code is trusted. You can digitally sing the WAR file using an existing digital certificate or a temporary one.

Generating the Digital Key

If you need generate a temporary digital certificate, the following steps direct you setup parameter and generate a digital certificate with generated with Java Key Generator.

Step	*Action*

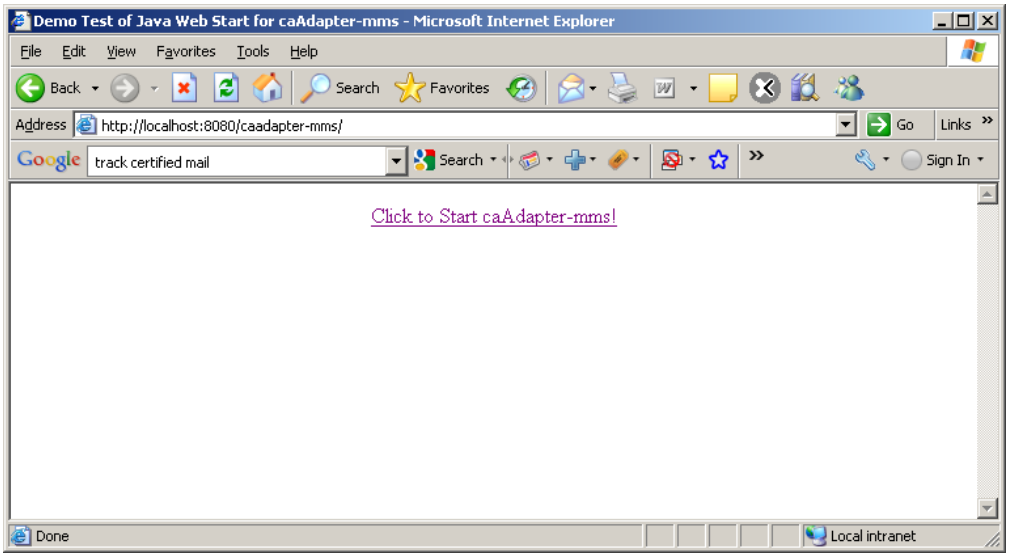
1.	Modify `build.properties` in the caAdapter home directory to set values of the parameters required by Java Key Generator. The Java Key Generator requires the information of publisher to create a digital certificate and the information of a keystore to save the certificate. These parameters are set in the `build.properties` as follows:
	`#The following properties are parameters of digital certificate`
	`certificate.subject.CN=tempPublisher`
	`certificate.subject.OU=caAdapter`
	`certificate.subject.O=nih.gov`
	`certificate.subject.C=US`
	
	`# The following properties are parameters of keystore`
	`signjar.alias =myKeyAlias`
	`signjar.storepass =myKeyPass`
	`signjar.keystore =myKeyStore`

2.	Run the following command in the caAdapter home directory: `ant generate-keys –Dgenerate-keys=true` If the command executes successfully, a key store is created in file named as “myKeyStore”. You will be able to access this key store with alias as “myKeyAlias” and pass phrase as “myKeyPass”.

Building the Webstart Deployment WAR File

Step	*Action*

1.	Modify the build.properties file with correct key store access information if you use an existing digital certificate to sign the Webstart application. The resulting build.properties file should be as follows:
	`# The following properties are parameters of keystore`
	`signjar.alias =existingKeyAlias`
	`signjar.storepass =existingKeyPass`
	`signjar.keystore =existingyKeyStore`
	If you use a temporary digital certificate generate in above step to sign the Webstart application, go to next step directly.

Step	Action
2.	Run the following command in the caAdapter home directory providing the webserver to host the Webstart deployment. `ant build-all –Dwebserver=http://localhost:8080` If the command executes successfully, caadapter-mms.war file is created in *dist* directory.
3.	Copy caadapter-mms.war to the deployment folder of your J2EE web server.
4.	Launch the caadapter-mms web application. For example, if you run the J2EE web server on your local machine on port 8080, you can perform step 4 above using http://localhost:8080/caadapter-mms/. 

Verifying the Windows Installation

Perform the following steps to launch the caAdapter Mapping Tool.

Step	
1.	Navigate to the **caAdapter** shortcut from the **Start** menu and click **caAdapter**. The caAdapter Mapping Tool appears.
2.	**Congratulations!** If you can see the caAdapter Mapping Tool interface, your installation was successful. See the *caAdapter 4.1 User's Guide* for detailed information on using caAdapter.

Contacting NCI CBIIT Application Support

http://ncicbsupport.nci.nih.gov/sw/

Telephone: 301-451-4384
Toll free: 888-478-4423