caAdapter
Version 1.3

Installation Guide

NATIONAL® CANCER INSTITUTE

Center for Bioinformatics

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Introduction

This installation guide outlines the supported configurations and technical installation instructions for caAdapter 1.3. Directions for validating the caAdapter installation are also included.

Overview of caAdapter

The caAdapter consists of a technical architecture and a tool (http://trials.nci.nih.gov/projects/infrastructureProject/caAdapter) to support data sharing via the HL7 version 3 (v3) messaging standard at the National Cancer Institute Center for Bioinformatics (NCICB) (http://ncicb.nci.nih.gov) or any cancer center as part of the cancer Biomedical Informatics Grid (caBIG) (http://caBIG.nci.nih.gov) solution.

The caAdapter facilitates HL7 v3 message building, parsing and validation. It offers an open source platform for enabling healthcare applications to build and parse HL7 v3 messages based on specific message definitions. The caAdapter provides the capability to perform vocabulary validation and integrates with NCICB cancer Common Ontologic Representation Environment (caCORE) components (http://ncicb.nci.nih.gov/NCICB/infrastructure). This supports NCICB's mission of developing a translational research infrastructure and building a clinical research network by providing a common platform for sharing data.

The caAdapter Mapping Tool provides users a graphical user interface (GUI) and a runtime engine to map and convert clinical data in various incoming formats to an equivalent target HL7 v3 XML. For more information about the caAdapter, see the *caAdapter 1.3 User's Guide*.

caAdapter 1.3 Tested Platforms

Table 1 contains the system platforms and their requirements that caAdapter 1.3 has been tested on at NCICB.

	NCICB Windows Server	NCICB 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	1.3 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

	NCICB Windows Server	NCICB Linux App Server
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

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caAdapter Software Requirements

Required Software—Not Included in caAdapter

You must download and install Java that 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 NCICB technology stack.

Software Name	Version	Description/URL	Example 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

Table 2 Required software for all caAdapter distributions

Verify the JAVA_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	**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***

Step	Action
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. *Table 3* contains detailed information on the software and URL hyperlinks (for download). The version is in accordance with the NCICB 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

Table 3 Required software for caAdapter source distribution

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***

Step	Action
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.

Upgrading to caAdapter 1.3 from Previous HL7 SDK Versions*

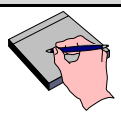
 **HL7 SDK Users Upgrading to caAdapter 1.3**	All users of previous HL7 SDK versions are encouraged to upgrade to the caAdapter 1.3. This release fixes some important bugs and includes the caAdapter Mapping Tool GUI-. It is recommended to uninstall any previous versions of HL7 SDK before following the procedures to install caAdapter 1.3.

Downloading caAdapter

Complete the following steps to download caAdapter:

Step	Action
1	Go to the NCICB download web site http://ncicb.nci.nih.gov/download/index.jsp.
2	Provide your email, name, and institution. Click **Enter the Download Center**.
3	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.
4	Select the appropriate distribution as listed below and save it to a temporary directory on your computer (for example, `C:\temp` in Windows). Each type of distribution has files with (w) or without (wo) Model Interchange Format (MIF) files. **NOTE:** You MUST be a member of HL7 to choose the files with MIFs. See *Obtaining MIF* Files on page 6 for more information.

Step	Action



- **Binary Distribution**: The caAdapter binary distribution file contains the binary code for caAdapter and HL7 JavaSIG software, Javadocs for caAdapter and HL7 JavaSIG code, Release Notes, HL7 message schemas, example messages, and licenses.

Binary Zip File Name	Description
caadapterv1.3_bin_w.zip	Binary file with HL7 MIF files
caadapterv1.3_bin_wo.zip	Binary file without HL7 MIF files

- **Source Distribution**: The caAdapter source distribution file contains the source java code for caAdapter and HL7 JavaSIG software, Javadocs for caAdapter and HL7 JavaSIG code, Release Notes, `readme.txt`, HL7 message schemas, example messages, and licenses.

Source Zip File Name	Description
caadapterv1.3_src_w.zip	Source file with HL7 MIF files
caadapterv1.3_src_wo.zip	Source file without HL7 MIF files

Windows Distribution: The caAdapter windows distribution file contains binary code for caAdapter and HL7 JavaSIG software, Javadocs for caAdapter and HL7 JavaSIG code, Release Notes, readme.txt, HL7 message schemas, example messages, and licenses.

Binary Zip File Name	Description
caadapterv1.3_w.msi	Windows file with HL7 MIF files
caadapterv1.3_wo.msi	Windows file without HL7 MIF files

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 4* contains the directory structure after installation.

Installing the Windows Distribution

Double-click on the `.msi` file and follow the instructions provided to complete installation. *Table 4* contains the directory structure after installation.

Directory	Contents
build	Binaries (.class files) (only for source distribution and is created at runtime)
etc	Important supplementary files
images	Images used by the GUI
lib	Java libraries and dependencies
license	License and legal information
schema	HL7 v3 Schema files
src	Source code (.java files) (only for source distribution)
workingspace	Default directory where you can save project files. It contains log files and HL7 v3 XML instances. It also contains an `examples` directory with sample data.

Table 4 Directory Structure of caAdapter

Updating the Installation

Obtaining MIF Files

If your distribution did not include MIF files, then you must add the mif.zip file to the lib directory, i.e. `C:\caadapter\lib`.
Note: the mif.zip filename must be all lowercase).

MIF files (in XML format, ending in .mif) are needed to run the parser and builder. You can download the MIF files from **http://www.hl7.org/Special/committees/java/index.cfm** . You MUST be a member of HL7 to access and download these files. Login using your HL7 username and password (http://www.hl7.org/). Then select the **Technical Committees** link from the community section of the main HL7 page. Follow the **Special Interest Groups** link to the Java SIG page. A link to download the MIF files is available under **Work Products** on this page.

Reviewing Appropriate Licenses

JavaSIG License

The JavaSIG is an HL7 Special Interest Group whose goal is to define an Application Programming Interface (API) for HL7 v3 artifacts. They have developed an open source software package which contains an XML parser and builder as well as RIM and datatype objects. See the JavaSIG website (http://www.hl7.org/Special/committees/java/index.cfm) for more details.

Common Terminology Services (CTS) License	CTS is an API specification that is intended to describe the basic functionality that is needed by HL7 v3 software implementations to query and access terminological content. The caAdapter contains java interfaces that are based on this specification and an implementation based on this specification that accesses the NCICB's Enterprise Vocabulary Services (EVS). See the CTS website (http://informatics.mayo.edu/index.php?page=11) for more details.

Verifying Installation

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

Verifying Binary Installation

Perform the following steps to launch the caAdapter Mapping Tool GUI:

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 ***`java -jar caadapter_ui.jar`***
3	The caAdapter Mapping Tool GUI displays.

Verifying Source Installation

Perform the following steps to launch the caAdapter Mapping Tool GUI:

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 compile`***
3	Enter ***`ant launchui`***
4	The caAdapter Mapping Tool GUI displays.

Verifying Windows Installation

Perform the following steps to launch the caAdapter Mapping Tool GUI:

Step	Action
1	Navigate to the **caAdapter** shortcut from the **Start** menu and click **caAdapter**.
2	The caAdapter Mapping Tool GUI displays.

Congratulations! If you can view the caAdapter Mapping Tool GUI, your installation was successful. See the *caAdapter 1.3 User's Guide* for detailed information on using caAdapter.

Contacting Technical Support

NCICB Application Support

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

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