BEA eLink
Java Adapter
for Mainframe

WLS Edition Installation Guide

BEA® eLink™ Java Adapter for Mainframe WLS Edition Installation Guide

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Contents

1 Pre-Installation Considerations

This chapter contains information that is necessary for properly installing and running the BEA eLink Java Adapter for Mainframe WLS Edition (JAM) software.

This section consists of the following topics:

- Planning

- Non-Mainframe Environment

- Verifying SNA Stack Installation

- Verifying WebLogic Server Installation

Planning

The normal JAM environment generally consists of two properly configured components, the JAM and the Systems Network Architecture (SNA) Communications Resource Manager (SNACRM).

When these two components are installed on the same machine, the installation is considered a combined (or local) configuration. When these two components are installed on different machines, the installation is considered a distributed (or remote) configuration. This difference in configuration must be accounted for in the WebLogic Server `weblogic.properties` file. Please refer to the *Configuring the Java Adapter for Mainframe Environment* chapter of the *BEA eLink Java Adapter for Mainframe WLS Edition User Guide* for more information on configuring the WebLogic Server software.

When running a SNACRM installed on a different machine from the JAM, you must specify the `-r` parameter on the `weblogic.system.startupArgs.jcrmgw` line of the `weblogic.properties` file. If the two components are installed on the same machine, the `-r` parameter is optional

Refer to the *BEA eLink Java Adapter for Mainframe WLS Edition Information Center* home page, located on the product documentation CD-ROM, for more detailed information about these tasks.

Note: It is important to involve your mainframe system support personnel early in the process. In a large shop, separate individuals are likely to be responsible for Multiple Virtual System (MVS), Virtual Telecommunications Access Method (VTAM), and Customer Information Control System/Enterprise Systems Architecture (CICS/ESA). Make sure everyone is involved.

Mainframe Requirements

The following configurations are required on the mainframe in order to conduct operations with the BEA TUXEDO/WLS environment:

- Established VTAM configuration
- CICS/ESA Logical Unit (LU) configured
  - Creating connections
  - Defining sessions
- If using IMS, APPC and transaction definitions must exist for that environment.

Non-Mainframe Requirements

The following software must reside on the non-mainframe system:

■ SNA stack

■ WebLogic Server

Non-Mainframe Environment

A non-mainframe environment is a UNIX-based or Windows NT-based machine running the JAM software. The software is fully bi-directional, supporting the local system as either a client or server. This environment consists of the following components:

■ Hardware, which is any workstation and network interface supported by the required software.

■ Operating system software and SNA protocol stacks (PU servers). Refer to the *BEA eLink Java Adapter for Mainframe WLS Edition Release Notes* for a complete listing.

Stack installation should also be completed and verified. (Refer to vendor documentation for stack installation and verification information.)

■ BEA WebLogic Server 4.x

For JAM installations in a WebLogic Server environment, you must have the BEA WebLogic Server 4.x software already installed.

Verifying SNA Stack Installation

Proper stack installation will ensure your applications deploy and operate correctly. The following installation tasks must occur in the following order:

1. Install the stack software per vendor instructions.

2. The stack should be able to start.

3. Definitions should be able to successfully activate.

4. Any vendor-provided test should be executed successfully.

Verifying WebLogic Server Installation

To ensure your applications deploy and operate correctly, the following installation tasks must occur in the following order:

1. Validate the WebLogic Server software installation by running the sample applications found at the following url: HTTP://www.weblogic.com/docs/examples. You should run at least one of the servlet examples.

2. Install the eLink Java Adapter for Mainframe WLS Edition software according to the instructions in this guide.

3. Validate the eLink Java Adapter for Mainframe WLS Edition software installation by running the sample applications, such as `toupclt.c` (UNIX-based platform).

2 Installation

BEA eLink Java Adapter for Mainframe WLS Edition (JAM) software runs on UNIX-based and Windows NT platforms. To install the UNIX-based software, you run a script that is supplied on the product CD-ROM and enter the needed information as the script progresses through the installation process. To install the Windows NT-based software, you establish a Windows session, launch the `setup.exe` executable, and respond to prompts by clicking on buttons and/or entering data in screen fields. Refer to the following appropriate sections for your installation instructions.

This topic consists of the following sub-topics:

- Installation Components

- Installing on a UNIX-based Platform

- Installing on a Windows NT Platform

- Installation Files and Directories

Installation Components

The following sections provide an example of the JAM software component installations:

- Installing the SNA Communications Resource Manager

- Installing the Java Adapter for Mainframe

Installing on a UNIX-based Platform

To install the eLink Java Adapter for Mainframe WLS Edition software on a UNIX-based platform, you run the `install.sh` script. This script allows you to select which eLink Java Adapter for Mainframe WLS Edition components you want to install.

As the script runs, it asks you for the following information:

- Platform on which to install eLink software (Refer to *BEA eLink Java Adapter for Mainframe WLS Edition Release Notes* for a complete listing of supported platforms.)

- Directory where the eLink Java Adapter for Mainframe WLS Edition system is installed (You must enter a valid directory name.)

- SNA stack support for the platform selected (Refer to *BEA eLink Java Adapter for Mainframe WLS Edition Release Notes* for a complete listing of platform-stack compatibility.)

The following listings provide an example of running this script for each of the eLink Java Adapter for Mainframe WLS Edition components. The values in bold are supplied by you during installation. To accept default values at a prompt, press Enter.

Note: The platforms, stacks, and file names shown in the following listings are examples only. These values are dependent on platform and stack configurations for your system and may vary from the example.

Installing the SNA Communications Resource Manager

The following listing provides an example for running the install.sh script for a
SNA Communications Resource Manager installation.

Listing 2-1   SNA Communications Resource Manager Installation

```
user@machine-> sh install.sh

01) hp/hpux1020     02) ibm/aix43     03) sun5x/sol26
04) sun5x/sol117

Install which platform's files? [01-4, q to quit, l for list]: 1

** You have chosen to install from hp/hpux1020 **

BEA eLink Java Adapter for Mainframe WLS Edition Release 4.0

This directory contains the BEA eLink Java Adapter for Mainframe
4.0 WLS Edition for HP-UX 10.20 on 9000/800 series.

Is this correct? [y,n,q]: y

To terminate the installation at any time
press the interrupt key,
typically <del>, <break>, or <ctrl+c>.

The following packages are available:

  1    crm    SNA Communications Resource Manager
  2    jam    Java Adapter for Mainframe

Select the package(s) you wish to install (or 'all' to install
all packages) (default: all) [?,??,q]: 1

SNA Communications Resource Manager
(9000) Release 4.0
Copyright (c) 2000 BEA Systems, Inc.
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Distributed under license by BEA Systems, Inc.
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Directory where SNA Communications Resource Manager files are to be
installed
(Enter your directory path) [?,q]: /work/cmadm
```

BEA eLink Java Adapter for Mainframe WLS Edition Installation Guide   **2-3**

Using **/work/cmadm** as the SNA Communications Resource Manager base directory

The following SNA Communications Resource Manager stack support options are available:

```
1     hp60          SNA plus2 v6.0
2     all           All stacks
```

Select an option (default: all) [?,??,q]:

Determining if sufficient space is available ...
27934 blocks are required
3905426 blocks are available to /work/cmadm

Unloading /cmhome/dist/elm-5/hp/hpux1020/crm/CRMSA.Z ...
```
bin/CRMLOGS
bin/SNACRM
bin/Xsnacrm
bin/bealogo.gif
bin/crmlkoff
bin/crmlkon
bin/jsnacrm.html
bin/jsnacrm.jar
bin/moncrm.jar
bin/moncrm.x509
bin/xsnacrm
lib/fmb.def
lib/libbuft.sl
lib/libcsxappc.sl
lib/libcsxcrm.sl
lib/libcsxgpw.sl
lib/libcsxscrm.sl
lib/libcsxxcrm.sl
lib/libcsxxfm.sl
lib/libcsxxmw.sl
lib/libctxdebugs_12.sl
lib/libctxmess_12.sl
lib/libctxos_12.sl
lib/libctxplat_12.sl
lib/libctxprim_12.sl
lib/libfml.sl
lib/libfml32.sl
lib/libgp.sl
lib/libgpnet.sl
lib/libtux.sl
lib/libtux2.sl
```

```
27910 blocks
... finished

Unloading /cmhome/dist/elm-5/hp/hpux1020/crm/STKSA.Z ...
lib/libcsxhp60.sl
1930 blocks
...finished

Changing file permissions...
... finished

Installation of SNA Communications Resource Manager was successful.

The following packages are available:

1.    crm    SNA Communications Resource Manager
2.    jam    JAVA Access for Mainframe

Select the package(s) you wish to install (or 'all' to install all
packages) (default: all) [?,??,q]:q
```

Installing the Java Adapter for Mainframe

The following listing provides an example for running the install.sh script for a
eLink Java Adapter for Mainframe WLS Edition installation.

Listing 2-2   eLink Java Adapter for Mainframe Installation

```
user@machine-> sh install.sh

01) hp/hpux1020      02) ibm/aix43      03) sun5x/sol26
04) sun5x/sol17

Install which platform's files? [01-4, q to quit, l for list]: 1

** You have chosen to install from hp/hpux1020 **

BEA eLink Java Adapter for Mainframe WLS Edition Release 4.0

This directory contains the BEA eLink Java Adapter for Mainframe
4.0 WLS Edition for HP-UX 10.20 on 9000/800 series.

Is this correct? [y,n,q]: y
```

```
To terminate the installation at any time
press the interrupt key,
typically <del>, <break>, or <ctrl+c>.

The following packages are available:

   1    crm    SNA Communications Resource Manager
   2    jam    Java Adapter for Mainframe

Select the package(s) you wish to install (or 'all' to install
all packages) (default: all) [?,??,q]: 2

Java Adapter for Mainframe
(9000) Release 4.0
Copyright (c) 2000 BEA Systems, Inc.
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BEA eLink is a trademark of BEA Systems, Inc.

Directory where Java Adapter for Mainframe files are to be installed
(Enter your directory path) [?,q]: /work/cmadm

Using /work/cmadm as the Java Adapter for Mainframe base directory

Determining if sufficient space is available ...
1750 blocks are required
3902062 blocks are available to /work/cmadm

Unloading /cmhome/dist/elm-5/hp/hpux1020/jam/JAMJA.Z ...
classdocs/jamdoc.jar
examples/samples.jar
lib/jam.jar

1750 blocks
... finished
Changing file permissions...
... finished

Installation of Java Adapter for Mainframe was successful.

The following packages are available:

1.    crm    SNA Communications Resource Manager
2.    jam    Java Adapter for Mainframe

Select the package(s) you wish to install (or 'all' to install all
packages) (default: all) [?,??,q]:q
```

Installing on a Windows NT Platform

Perform the following steps to install the JAM software on a Windows NT system.

1. Insert the product CD-ROM into your drive and click on the **Run** option from the **Start** menu. The **Run** window displays. Click **Browse** button to select the CD-ROM drive. Select the `Winnt` folder, then select the `Setup.exe` file. Click **OK** to run the executable and begin the installation. The **Welcome** screen displays. Click **Next** to continue.

Figure 2-1   Welcome Screen
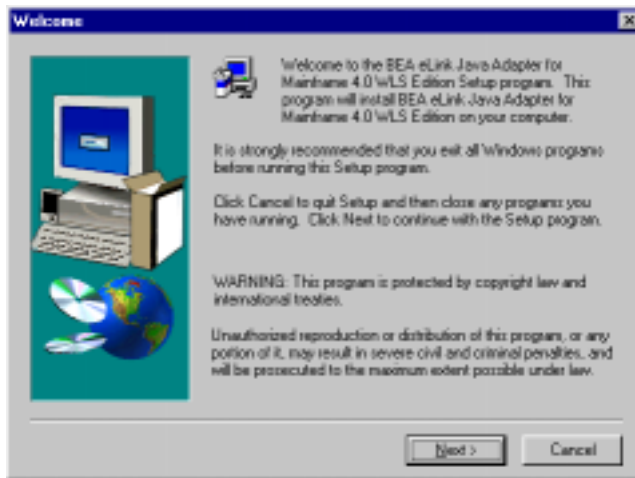
2. The **BEA Software License Agreement** displays. Click **Yes** to accept the terms of the agreement and continue with the product installation. Click **No** to exit the installation process.

Figure 2-2   BEA Software License Agreement

3.   The **User Information** screen displays after the License Agreement. Enter the name of the eLink Platform System Administrator in the **Name** field. Enter the name of your company in the **Company** field. Click **Next** to continue with the installation.

Figure 2-3   User Information Screen
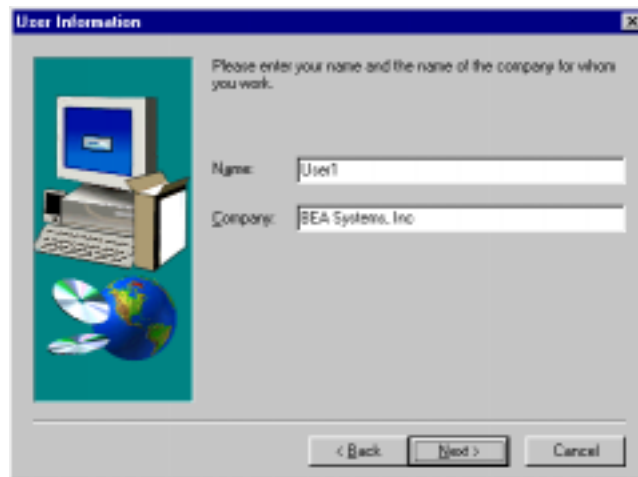
4. The **Select Components** screen displays after the **User Information** screen. Select the components you want to install; clear the components you do not want to install.

Figure 2-4 Select Components Screen
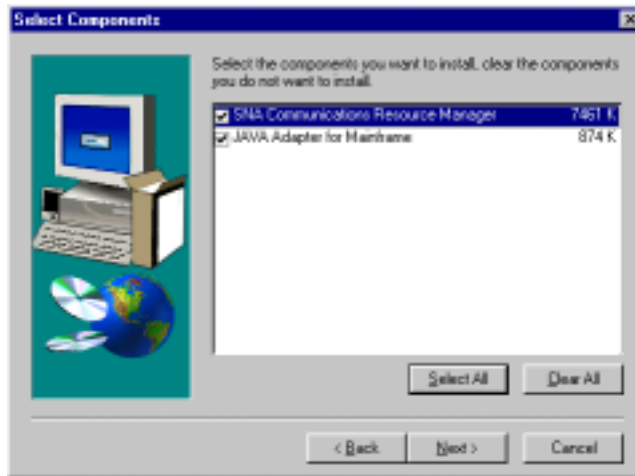
5. The **Choose Destination Location** screen displays. Enter the directory where you want the software installed and click **Next**.

   Note: The **Choose Destination Location** screen will display for each component you select to install.

Figure 2-5   Choose Destination Location Screen
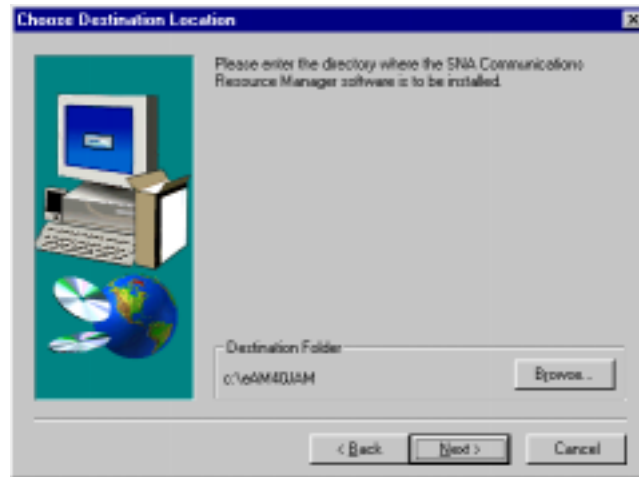
6. The **Installation Progress** screen displays. This indicates the progress of the installation of files, the quantity of read operations from the CD-ROM, the available disk space being used, and the completion percentage of the installation process. When the bar displays 100%, the installation has completed. You may abort the installation process anytime prior to completion by clicking the **Cancel** button.

7. The **Setup Complete Screen** displays, indicating the eLink software has been successfully installed on your platform. Click **Finish** to exit the installation process.

Figure 2-6   Setup Complete Screen
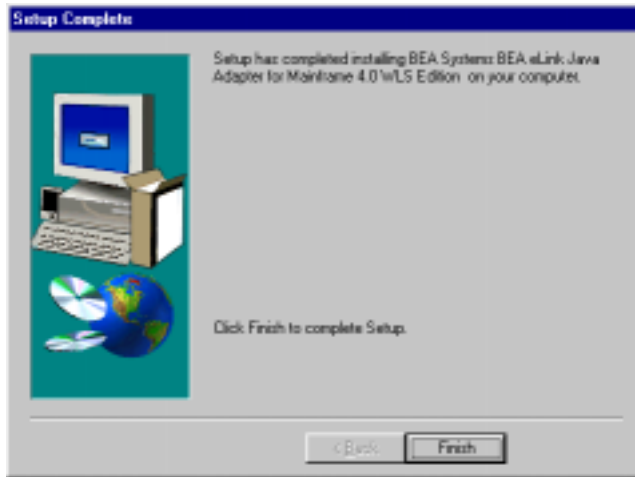
Uninstalling eLink Java Adapter for Mainframe WLS Edition on Windows NT

Perform the following steps to uninstall the eLink Java Adapter for Mainframe WLS Edition on a Windows NT system.

1. Click the **Start** button, and then point to **Settings**. Point to the folder that contains **Control Panel**, and then click **Control Panel**.

2. Double-click on the **Add/Remove Programs** option from the **Control Panel** listings to access the **Add/Remove Programs Properties** window.

3. In the **Add/Remove Program Properties** window, select **eLink Java Adapter for Mainframe 4.0, JAM Edition** from the program list and click the **Add/Remove** button.

4. You are prompted by a message box asking if you are sure you want to completely remove the software and its components. Click **Yes** to continue with uninstalling. Click **No** to cancel uninstalling.

5. The uninstall process for eLink Java Adapter for Mainframe WLS Edition begins. The **Remove Programs From Your Computer** screen displays. Click **OK** to complete the uninstall process.

Figure 2-7 Remove Programs From Your Computer Screen
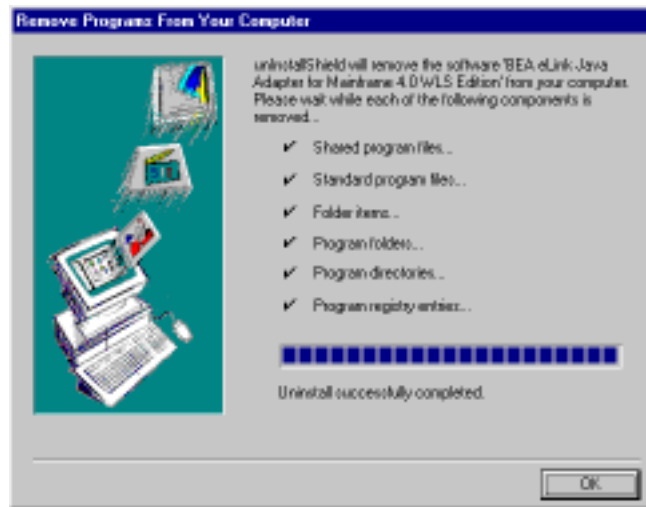
Installation Files and Directories

The JAM CD-ROM contains the following libraries and executable programs for each of the following installation scenarios and their supported platforms. After installing the JAM software, verify that these libraries and programs are installed on your system.

WebLogic Server Installation

Verify that the following WebLogic Server platform files are installed on your system.

All directories are relative to the installation directory. Platform-specific stack abstraction libraries are included in these tables as well.

Solaris

Verify that the following files are installed by the JAM software:

Table 2-1 Solaris Installation Files and Directories

Directory	Files
bin	Xsnacrm xsnacrm GWSNAX CRMLOGS SNACRM crmlkon crmlkoff bealogo.gif jsnacrm.html jsnacrm.jar moncrm.jar moncrm.x509
lib	fmb.def libctxmess_12.so libctxdebugs_12.so libctxos_12.so libctxprim_12.so libctxplat_12.so libgws.so libcsxappc.so libcsxcp.so libcsxxfm.so libcsxxmw.so libcsxgpw.so libcsxcrm.so libcsxxcrm.so libcsxscrm.so libcsxsun91.so libcsxspx60.so

AIX

Verify that the following files are installed by the JAM software:

Table 2-2 AIX Installation Files and Directories

Directory	Files
bin	Xsnacrm xsnacrm GWSNAX CRMLOGS SNACRM crmlkon crmlkoff bealogo.gif jsnacrm.html jsnacrm.jar moncrm.jar moncrm.x509
lib	fmb.def libctxmess_12.so libctxdebugs_12.so libctxos_12.so libctxprim_12.so libctxplat_12.so libgws.so libcsxappc.so libcsxcp.so libcsxxfm.so libcsxxmw.so libcsxgpw.so libcsxcrm.so libcsxxcrm.so libcsxscrm.so libcsxibm50.so

HP-UX

Verify that the following files are installed by the JAM software.

Table 2-3 HP-UX Installation Files and Directories

Directory	Files
bin	Xsnacrm xsnacrm GWSNAX CRMLOGS SNACRM crmlkon crmlkoff bealogo.gif jsnacrm.html jsnacrm.jar moncrm.jar moncrm.x509
lib	fmb.def libctxmess_12.sl libctxdebugs_12.sl libctxos_12.sl libctxprim_12.sl libctxplat_12.sl libgws.sl libcsxappc.sl libcsxcp.sl libcsxxfm.sl libcxssmw.sl libcsxgpw.sl libcsxcrm.sl libcsxxcrm.sl libcsxscrm.sl libcsxhp60.sl

Windows NT

Verify that the following files are installed by the JAM software.

Table 2-4 Windows NT Installation Files and Directories

Directory	Files
bin	bealogo.gif
	crmlkoff.exe
	crmlkon.exe
	crmlogs.exe
	csxappc.dll
	csxcp.dll
	csxcrm.dll
	csxgpw.dll
	csxibm50.dll
	csxibm60.dll
	csxms40.dll
	csxscrm.dll
	csxxfm.dll
	ctxdebugs_12.dll
	ctxmess_12.dll
	ctxos_12.dll
	ctxprim_12.dll
	ctxplat_12.dll
	dminit.exe
	gws.dll
	gwsnax.exe
	jsnacrm.html
	jsnacrm.jar
	moncrm.jar
	moncrm.x509
	snacrm.exe
lib	fmb.def

Standalone SNACRM Installation

Verify that the following SNACRM platform files are installed on your system.

All directories are relative to the specified installation directory. Also included are the TUXEDO libraries that will ship with the standalone SNACRM. For encryption purposes, the libgp that is shipped will be the one enabled for 40-bit encryption.

Solaris

Verify that the following files are installed by the JAM software.

Table 2-5 Solaris Installation Files and Directories

Directory	Files
bin	Xsnacrm xsnacrm CRMLOGS SNACRM crmlkon crmlkoff bealogo.gif jsnacrm.html jsnacrm.jar moncrm.jar moncrm.x509
lib	fmb.def libbuft.so libcsxappc.so libcsxcrm.so libcsxgpw.so libcsxscrm.so libcsxxcrm.so libcsxxfm.so libcsxxmw.so libctxdebugs_12.so libctxmess_12.so libctxos_12.so libctxplat_12.so libctxprim_12.so libfml.so libfml32.so libgp.so libgpnet.so libtux.so libtux2.so

AIX

Verify that the following files are installed by the JAM software.

Table 2-6 AIX Installation Files and Directories

Directory	Files
bin	Xsnacrm xsnacrm CRMLOGS SNACRM crmlkon crmlkoff bealogo.gif jsnacrm.html jsnacrm.jar moncrm.jar moncrm.x509
lib	fmb.def libbuft.so libcsxappc.so libcsxcrm.so libcsxgpw.so libcsxscrm.so libcsxxcrm.so libcsxxfm.so libcsxxmw.so libctxdebugs_12.so libctxmess_12.so libctxos_12.so libctxplat_12.so libctxprim_12.so libfml.so libfml32.so libgp.so libgpnet.so libtux.so libtux2.so

HP-UX

Verify that the following files are installed by the JAM software.

Table 2-7 HP-UX Installation Files and Directories

Directory	Files
bin	Xsnacrm xsnacrm CRMLOGS SNACRM crmlkon crmlkoff bealogo.gif jsnacrm.html jsnacrm.jar moncrm.jar moncrm.x509
lib	fmb.def libbuft.sl libcsxappc.sl libcsxcrm.sl libcsxgpw.sl libcsxscrm.sl libcsxxcrm.sl libcsxxfm.sl libcsxxmw.sl libctxdebugs_12.sl libctxmess_12.sl libctxos_12.sl libctxplat_12.sl libctxprim_12.sl libfml.sl libfml32.sl libgp.sl libgpnet.sl libtux.sl libtux2.sl

Windows NT

Verify that the following files are installed by the JAM software.

Table 2-8 Windows NT Installation Files and Directories

Directory	Files
bin	bealogo.gif
	crmlkoff.exe
	crmlkon.exe
	crmlogs.exe
	csxappc.dll
	csxcrm.dll
	csxgpw.dll
	csxibm50.dll
	csxibm60.dll
	csxms40.dll
	csxscrm.dll
	csxxfm.dll
	ctxdebugs_12.dll
	ctxmess_12.dll
	ctxos_12.dll
	ctxprim_12.dll
	ctxplat_12.dl
	dminit.exe
	jsnacrm.html
	jsnacrm.jar
	moncrm.jar
	moncrm.x509
	snacrm.exe
	libbuft.dll
lib	fmb.def
	libgp.dll
	libgpnet.dll
	libfml.dll
	libfml32.dll
	libtux.dll
	libtux2.dll

Java Adapter for Mainframe WLS Edition Installation

Verify that the following SNACRM platform files are installed on your system.

Solaris

Verify that the following files are installed by the JAM software.

Table 2-9 Solaris Installation Files and Directories

Directory	Files
lib	jam.jar
classdocs	jamdoc.jar
examples	samples.jar

AIX

Verify that the following files are installed by the JAM software.

Table 2-10 AIX Installation Files and Directories

Directory	Files
lib	jam.jar
classdocs	jamdoc.jar
examples	samples.jar

HP-UX

Verify that the following files are installed by the JAM software.

Table 2-11 HP-UX Installation Files and Directories

Directory	Files
lib	jam.jar

Table 2-11 HP-UX Installation Files and Directories

Directory	Files
classdocs	jamdoc.jar
examples	samples.jar

Windows NT

Verify that the following files are installed by the JAM software.

Table 2-12 Windows NT Installation Files and Directories

Directory	Files
lib	jam.jar
classdocs	jamdoc.jar
examples	samples.jar

Sample Source Files and Directories

Verify that the following sample source files are installed by the JAM software.

The following sample source files are contained in the
`eAM40JAM\examples\samples.jar` file.

Table 2-13 Sample Source Files and Directories

Files	Content
emprec.cpy	COBOL copybook (emp-rec)
empclass.egen	Client class (stand-alone) Egen script
empclient.egen	Client EJB Egen script
empserver.egen	Server EJB Egen script
empservlet.egen	Servlet Egen script
ExtSampleServlet.java	extended servlet class