

Installation Guide



Homogeneous and
Heterogeneous
System
Copy for SAP Systems
Based on SAP
Web Application
Server Java 6.40 SR 1

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Typographic Conventions

Type Style	Represents
Example Text	Words or characters that appear on the screen. These include field names, screen titles, pushbuttons as well as menu names, paths and options.
	Cross-references to other documentation
Example text	Emphasized words or phrases in body text, titles of graphics and tables
EXAMPLE TEXT	Names of elements in the system. These include report names, program names, transaction codes, table names, and individual key words of a programming language, when surrounded by body text, for example, SELECT and INCLUDE.
Example text	Screen output. This includes file and directory names and their paths, messages, names of variables and parameters, source code as well as names of installation, upgrade and database tools.
Example text	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example text>	Variable user entry. Pointed brackets indicate that you replace these words and characters with appropriate entries.
EXAMPLE TEXT	Keys on the keyboard, for example, function keys (such as F2) or the ENTER key.

Icons

Icon	Meaning
	Caution
	Example
	Note
	Recommendation
	Syntax

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Homogeneous and Heterogeneous System Copy for SAP Systems Based on SAP Web Application Server Java 6.40 SR1

1 Introduction

As of SAP NetWeaver `04 SR 1, you can copy SAP Systems based on SAP Web Application Server Java 6.40 SR1 (SAP Web AS 6.40 SR1).

SAP will deliver the Java System Copy feature in SAP NetWeaver `04 Support Release 1. Since this is a new feature, SAP has decided that these projects can only be performed under SAP's control during the introductory phase. Before you start a Java System Copy, you must contact SAP to get more information. To do this, open an SAP Service Marketplace message.

Since the procedure is based on new technology, your first system copy has to be performed by a migration consultant who has detailed knowledge of both the J2EE Engine and the ABAP system copy procedure. SAP development will support these system copies in the introductory phase.

Organization and Process Flow

1. The customer or consultant opens a message under BC-INS-MIG on SAP Service Marketplace. A new message must be opened for each system that needs to be copied.



1. Start the short text with:

```
'JSCNW04SR1: {hom het} / <SRCDB>/<SRCOS> to <TRGDB>/<TRGOS>'
```

For example: JSCNW04SR1: het / INF/HPUX to ORA/HPUX

'hom' stands for homogeneous system copy.

'het' stands for heterogeneous system copy or migration.

2. Start the problem description with the following:

Please forward this message directly to Development Support(SAP AG) .

3. In addition, the message must contain the following information about the source and target systems:

- Version of the J2EE engine
- Java version
- Java components installed in the J2EE Engine
- SAP NetWeaver `04 Support Package Stack Level
- Add-in or standalone engine
- Operating system and operating system version
- Database and database version
- Source database size

This ensures that SAP Service Marketplace messages about Java System Copy projects are sent directly to the development team, and not to other support organizations. You must record any problems that occur during the Java System Copy procedure in this message.

2. SAP informs the customer about how to start the Java System Copy.

Contact and Support During the Introductory Phase

Problems are processed in the usual way in SAP Service Marketplace messages. However, messages concerning Java System Copy go to the migration development team. To ensure this, ALL problems during the Java system copy procedure have to be reported in the message where you registered the Java System Copy. If necessary, the team will contact the application developers or inform you if you need to open additional messages.

Releasing the Copied System

After the system copy, the migration consultant and the customer are responsible for performing tests to verify that the system copy was successful. Once the tests have been completed successfully, the customer 'releases' the system. For production systems, a heterogeneous system copy is followed by a migration check. For more details, see SAP Service Marketplace at service.sap.com/osdbmigration.

About Java System Copy

There are two different situations for the system copy:

When a **homogeneous** system copy is performed, the target SAP system is installed on the same operating system and the same database system as the source SAP system. The contents of the database are copied from the source to the target system.

When a **heterogeneous** system copy is performed, the operating system or the database system is changed. Familiarize yourself with the migration procedure. For detailed information, see the SAP OS/DB Migration page on SAP Service Marketplace at service.sap.com/osdbmigration.



A homogeneous system copy should only be done by a person with experience in copying systems and with knowledge of the operating system, the database, and the Java Dictionary. A heterogeneous system copy must be done by a certified system support consultant or an SAP Technical Consultant.



Create a SAP Service Marketplace message in the application area **BC-INS-UNIX** (UNIX), **BC-INS-NT** (Windows), or **BC-INS-AS4** (IBM eServer iSeries) if you experience problems during the homogeneous system copy.

In the case of a heterogeneous system copy (OS/DB migration), create an OSS message in the application area **BC-INS-MIG** if you experience problems.

There are two different procedures for performing a Java system copy. Both are using the installation tool SAPInst:

- Database-specific procedure (tools provided by the database vendor)
- With SAP tools (Jload Procedure)

The system copy is performed by SAPinst using the Jload tool and applies to all operating systems and all databases. For restrictions see **SAP Note 785848**. When a system copy is performed, the Java database content and the components in the file system are copied to the target system.



For example: You want to copy an SAP Enterprise Portal (SAP EP) installation based on Web Application Server ABAP + Java, that is Web AS ABAP + Java AddIn. For the ABAP part of the system, you have to perform the ABAP system copy. SAPinst copies the SAP Web AS Java Add-in and the SAP EP residing on it with all their configurations and contents in one go.



Check **SAP Note 785848** for Java components based on SAP Web AS 6.40 SR1 that have been released already for system copy.



For a heterogeneous system copy, only the Jload procedure is available.

SAP NetWeaver '04 Master Guide

If you want to copy your Sap Web AS Java system in the context of the implementation of SAP NetWeaver 04 SR1 or one of its technical scenarios, it is essential that you familiarize yourself with the contents of the corresponding Master Guide before starting the installation.

The Master Guide is the central document for the implementation of mySAP Business Suite solutions and business scenarios. It lists the components and third-party applications required by each component of NetWeaver '04 SR1, and refers to the required installation and upgrade guides. It also defines the installation sequence of the technical scenarios of SAP NetWeaver '04 SR1.

How to use this guide

This document describes how to copy an SAP Web AS Java system or the Java Add-In of an SAP Web AS ABAP+Java system.

In the context of a system copy you have to perform a lot of the activities, that are required for an installation as well (mainly when you are setting up the target system). Therefore, this document describes only the differences from the installation guide for SAP Web AS Java and refers to the content of the installation guide for all common contents.

Therefore, you must use the documentation Installation Guide – SAP Web AS Java 6.40 SR 1 on <OS> : <database> on SAP Service Marketplace at service.sap.com/instguidesNW04 → *Installation* → *SAP Web AS* as a supplement for the system copy guide.

This document does not describe how to copy an SAP Web AS ABAP system or the ABAP part of an SAP Web AS ABAP+Java System.

If you want to copy an ABAP system or the ABAP part of an SAP Web AS ABAP+Java system, you have to use the documentation *Installation Guide - Homogeneous and Heterogeneous System Copy for SAP Systems Based on SAP Web Application Server ABAP 6.40 SR1* on SAP Service Marketplace at service.sap.com/instguidesNW04 → *Installation* → *Sap Web AS*.

Constraints

- The export and import of a database with the installation tools for reorganization purposes is not described in this documentation, and is not supported by SAP. Use the appropriate tools for database reorganization.
- This system copy guide is based on SAP Web AS Java 6.40 with patch level SP09. Some [post-installation steps \[page 89\]](#) may become obsolete when you apply the next patch levels.
- For the development of Java applications, we strongly recommend that you follow the rules mentioned below. Otherwise, we cannot guarantee that you will be able to copy your J2EE Engine later with the SAP tools to change your underlying operating system and/or database system:
 - Dos:
 - Save configuration data and runtime data in the J2EE database only. If you absolutely need to save this data to the file system level, you must use the Software Deployment Manager (SDM) to save the data.
 - Make sure that the Open SQL standard is adhered to.
 - Make sure that all communication runs through the database pool.
- Don'ts:
 - Do not save any system and infrastructure-specific data in business objects. Use a pointer to the central storage of such information. Forbidden for use:
 - System Name and SID

- Host name
- IP addresses
- Services and Ports
- Logical destinations and logical system names
- other technical infrastructure names
- Do not use file system persistency
- Avoid Java/ABAP dependencies

1.1 Naming Conventions

In this documentation, the following naming conventions apply:

Terminology

- The term Java system is the same as SAP Web Application Server Java.
- The term Java Add-in is used for the Java part of the SAP Web Application Server ABAP+Java.
- The term installation is used in the context of migration.
- Migration is a synonym for heterogeneous system copy.
- *Source System* and *Target System*

The SAP system containing the original database is called the source system and the system to which the database copy is to be imported is called the target system.

- *System Copy*

Duplication of an SAP system. Certain SAP parameters may change when a system is copied. When a system copy is made, all the instances are newly installed, but the database is set up using a copy of the source system database.

- *Java Export*

Archives including the database content of the Java database schema and file system components created by SAPinst

- *Placeholders*

Placeholders such as <EXPORT_DIR> are used in commands. They are used in the same way as in the SAP system installation documentation, and must be replaced with the values valid for your site.

Variables

Variables	Description
<SAPSID>	SAP system ID in uppercase letters
<sapsid>	SAP system ID in lowercase letters
<DBSID>	Database system ID in uppercase letters
<dbsid>	Database system ID in lowercase letters
<db>	Database system
<INSTDIR>	Installation directory for the SAP system
<DVD-DIR>	Directory on which a DVD is mounted
<OS>	Operating system name within a path
<EXPORT_DIR>	Directory where the Java export is created.

The following examples show how the variables are used:



- Log on as user <sapsid>adm and change to the directory /usr/sap/<SAPSID>. If your SAP system ID is C11, log on as user c11adm and change to the directory /usr/sap/C11.
- Change to the directory <DVD-DIR>/UNIX/<OS>. If the DVD is mounted on /sapcd1 and your operating system is AIX, change to /sapcd1/UNIX/AIX_64.

1.2 New Features

Area	Description
SAPinst	For the export and import of database content, the new Jload installation tool is used.
	As of SAP NetWeaver '04 SR 1 there is a new F1 field help displaying information about the input parameter fields of the SAPinst screens. This new field help replaces the former "What's this" help on the SAPinst screens and the former input parameter tables in the Web AS installation guides.
	<p>New features for J2EE engine which are not available with the original installation kit:</p> <ul style="list-style-type: none"> - using a database specific system copy method, for example Oracle backup/restore) except XI - performing an XI system copy based on NetWeaver 04 SR1 SP14 (and higher)

2 Planning

Before you begin with the practical system copy tasks, it is essential to have a planning phase in which you make a number of fundamental decisions that influence the subsequent system copy procedure. Careful planning is a prerequisite for the successful system copy of the system.

SAP recommends that you perform a system copy when you set up a test, demo, training or standby system. You should perform upgrades in a test system first. This way you can identify customer-specific problems that might result from modifications.

When copying a system that contains production data it is important to choose the right moment for the copy. This could be a month-end or year-end closing. Make sure that there is a well-defined starting point for the data in the new system.

Prerequisites



Read the following SAP Notes before beginning the system copy:

The **SAP Note 785848** *System Copy for SAP Systems Based on SAP NetWeaver '04 SR 1 Java* contains the most recent information regarding Java system copy.

Make sure that you have the most recent version of the note. SAP Notes are located on SAP Service Marketplace at service.sap.com/notes.

A consistent system copy can only be ensured if you perform all steps described in this documentation.

The system copy is applicable for:

- Setting up system landscapes (where the SAP systems have different SAPSIDs).
- Creating systems for testing, demonstration, training, and standby purposes. Depending on the purpose of the system, it may be advisable to use the same SAP system name, even though the system cannot be included in a system group for transports in this case.

Process Flow

Obtain the latest versions of the [required documentation \[page 18\]](#).

In the case of a major change in hardware configuration (for example, new machine type, new hard disk configuration, new file system type), consult your SAP-authorized hardware partner.

Decide which homogeneous system copy method you want to use:

- With database-specific tools (tools provided by the database vendor):
Some database vendors offer specific tools for copying a database. These tools allow you to:
 - Restore a backup of one database (source DB) in another one (target DB) (backup method)
 - Unload the source DB and load the data into the target DB.

- With SAP tools (Jload procedure):

The system copy is carried out with SAP tools. This method should be used if database-specific methods are either not available or not suitable.

Copying an SAP system with these tools is described in section *Jload Procedures*.



For a heterogeneous system copy, only the Jload procedure is available.

Neither of these methods is supported for all database systems. See the following table to check which copy methods are available for your database system:

Available system copy methods:

Database	OS Platform	Available Methods
MaxDB	UNIX	Use one of the following: <ul style="list-style-type: none"> • The database-independent Jload method [Page 51] • MaxDB-specific procedure [Page 44] for a homogeneous system copy only
	Windows	Use one of the following: <ul style="list-style-type: none"> • The database-independent Jload method [Page 51] • MaxDB-specific procedure [Page 44] for a homogeneous system copy only

IBM DB2 Universal Database for eServer iSeries	eServer iSeries	Use one of the following: <ul style="list-style-type: none"> • The database-independent Jload method [Page 51] • IBM DB2 for iSeries-specific procedure [Page 47] for a homogeneous system copy only
IBM DB2 Universal Database for UNIX and Windows	UNIX or Windows	Use one of the following: <ul style="list-style-type: none"> • The database-independent Jload method [Page 51] • Database-specific procedure [Page 44] for a homogeneous system copy only
IBM DB2 Universal Database for z/OS	eServer zSeries	Use the following: <ul style="list-style-type: none"> • The Jload method (see Database-Independent System Copy (Jload Procedures) [Page 51]).
Informix	UNIX	Use the following: <ul style="list-style-type: none"> • The Jload method (see Database-Independent System Copy (Jload Procedures) [Page 51]).
	Windows	Use the following: <ul style="list-style-type: none"> • The Jload method (see Database-Independent System Copy (Jload Procedures) [Page 51]).
Oracle	UNIX	Use one of the following: <ul style="list-style-type: none"> • The Jload method ((see Database-Independent System Copy (Jload Procedures) [Page 51]) • The Oracle backup/restore method (see Oracle-Specific Procedure [Page 35])
	Windows	Use one of the following: <ul style="list-style-type: none"> • The Jload method ((see Database-Independent System Copy (Jload Procedures) [Page 51]) • The Oracle backup/restore method (see Oracle-Specific Procedure [Page 35] and SAP Note 676468).
MS SQL Server	Windows	Use the following: <ul style="list-style-type: none"> • The Jload method (see Database-Independent System Copy (Jload Procedures) [Page 51]) • Database-specific procedure [Page 49] for a homogeneous system copy only

Create a plan for performing the system copy. If you want to perform the migration of an ABAP+Java system, keep in mind that you must perform the migration of the ABAP part of your system as described in the documentation *Installation Guide - Homogeneous and Heterogeneous System Copy for SAP Systems Based on SAP Web Application Server ABAP 6.40 SR1* before you perform the migration of the Java Add-in.

Check the information on database and operating system release combinations for SAP components on SAP Service Marketplace at service.sap.com/pam.

Take into account the downtime of the source system (for preparations and copying) when planning the system copy.

Choose an SAP system ID for your target system as described in “Basic SAP system Parameters” in the documentation *Installation Guide – SAP Web Application Server Java on <OS>: <DB>*



Keep in mind that either the instance name, the instance number or the host name of the central instance on the target system must be different from that of the source system.

Heterogeneous System Copy for Java system: Get the Migration Key



If you change the operating system or the database system during the copy (heterogeneous system copy), you need a **migration key**. You will be asked for the migration key when you install the target system. For more information about how to request the migration key see **SAP Note 785848**.

If you are performing a heterogeneous system copy of an ABAP+Java system, you need a migration key when copying the ABAP part of the system. You do not need an additional migration key for the Java Add-in. For information about how to get the migration key for a heterogeneous system copy of an ABAP system, see the documentation *Homogeneous and Heterogeneous for SAP Systems based on Web AS ABAP 6.40 SR1*.

Test run/schedule

Perform a test run of the system copy. The time taken by the test run is used to calculate the system downtime:

- If your target system will replace your source system, try to perform a complete test run, in which the entire database is exported from the source system, transferred to the target system and imported there. The approximate system downtime will be equal to the total test time (that is, time for export, transport, and import).
- If you do not want to replace your source system, a partial test run (export of entire database or parts of it) may suffice to calculate the system downtime. The source system will only be down for the time of the export.

Calculating the system downtime is particularly important for very large databases (VLDB) or when tapes are being used. The test run also determines the amount of export data. You should choose the best data transfer method (for example, FTP or tape). We recommend that you perform read/write actions only on local file systems.

Define a schedule for the test system copy and the final system copy.

2.1 Required Documentation

The following sections describe the documentation that you require for the installation.

- SAP Installation Notes
- SAPinst Troubleshooting Guide
- Information on SAP Service Marketplace

2.1.1 SAP Notes

You **must** read the following SAP Notes **before** you start the copy of your SAP system. These SAP Notes contain the most recent information, as well as corrections to the installation and system copy documentation.

Make sure that you have the up-to-date version of each SAP Note, which you can find on *SAP Service Marketplace* at service.sap.com/notes.

SAP Note Number	Title	Description
785848	System Copy for SAP Systems Based on SAP Web AS Java 6.40 SR 1	General information about the system copy for SAP systems based on SAP Web AS Java
785850	SAP Web AS Java 6.40 SR 1 Installation on UNIX	Unix-specific information about the installation of SAP Web AS Java.
786608	SAP Web AS Java 6.40 SR 1 Installation on Windows	Windows-specific information about the installation of SAP Web AS Java.
789188	SAP Web AS Java 6.40 SR 1 Installation on iSeries	iSeries-specific information about the installation of SAP Web AS Java.
790224	SAP J2EE Engine 6.40 SP9 - malfunctioning jms	JMS transactions are malfunctioning in a system created from JLoad import in versions before SP10.

2.1.2 Information on SAP Service Marketplace

Information on the following areas is available on SAP Service Marketplace.

Description	Internet Address	Title
SAP Notes	service.sap.com/notes	–
Released platforms	service.sap.com/platforms	–
Network infrastructure	service.sap.com/network	–
System sizing	service.sap.com/sizing	Quick Sizer tool
Front-end installation	service.sap.com/instguidesNW04 → Installation → SAP Web AS	Front End Installation Guide
Security	service.sap.com/security	–
Homogeneous and heterogeneous system copy for ABAP systems	service.sap.com/instguidesNW04 → Installation → SAP Web AS	Homogeneous and Heterogeneous System Copy for SAP Systems based on SAP Web Application Server ABAP 6.40
Installation of an SAP system based on SAP Web AS (ABAP)	service.sap.com/instguidesNW04 → Installation → SAP Web AS	Component Installation Guide – SAP Web Application Server ABAP on <OS>: <DB>
Installation of an SAP system based on SAP Web AS (Java)	service.sap.com/instguidesNW04 → Installation → SAP Web AS	Component Installation Guide – SAP Web Application Server Java on <OS>: <DB>

2.1.3 Accessing the SAP Library

For more information on the SAP Web Application Server, access the SAP Library from the **SAP Help Portal** at help.sap.com/nw4

2. Select the required language.
3. Choose *SAP NetWeaver*.

3 Preparation

Before you start the system copy, you must perform steps to prepare the procedure.

To make a consistent copy of the database, it is necessary to prepare the source host for the export and to prepare the target host for the import.



It is not necessary to prepare the source and target system when performing a test run.

Preparations on your source host

- You make sure that all required DVDs for the system copy are available.
- If you want to copy with the database specific copy method or if your J2EE engine is at least patched to SP13, then download the archive `JSC<DBS><SP_level>_<No.>.sar` from the SAP service market place. You can find the file in <http://service.sap.com/patches> → *Support Packages and Patches* → *Entry by Application Group* → *SAP NetWeaver* → *SAP NETWEAVER* → *SAP NETWEAVER 04* → *Entry by Component* → *Application Server Java* → *SAP J2EE ENGINE 6.40* → *<your OS>*.

Database-independent system copy (Jload): If you want to copy a J2EE engine below SP13 using the Jload procedure, then use the tools from the installation master DVD.

- You [prepare the DVDs required for the export \[page 28\]](#)
- System copy of Java Add-in: You perform the export for the ABAP system as described in the documentation *Installation Guide - Homogeneous and Heterogeneous System Copy for SAP Systems Based on SAP Web Application Server ABAP 6.40 SR1*



System copy of Java Add-in:

You cannot copy a Java Add-in to a newly installed ABAP system installation. You must have copied the ABAP system before, even if you performed no manual configuration in this system. Reason: Even a newly installed ABAP system is changed by the Java Add-in installation

- You make sure that there is enough disk space for the export of the content of the Java database (depending on the size of the database and on the components running on the Java system, at least 1.5 GB).
- You make sure that the source Java system or the source Java Add-in is running.
- You make sure that your source host complies with the requirements for running SAPinst for the export as described in “Prerequisites before Starting SAPinst” in the documentation *Installation Guide – SAP Web AS Java 6.40 SR 1 on <OS> : <DB>, Part II – Installation and Post-Installation*
- XI specific prerequisites:
 - XI 3.0 SPS 14
 - SWC 'XITTOOLS': patch level 1 or higher (available on SMP)



XI only: additional information to read before start:

In case you have configured business systems and the Integration Server in different clients of the same system (e.g. if you are running the flight demo example) please be aware that no adoption takes place for the business clients during system copy procedure. You will have to adapt the configuration for these clients afterwards, that is adapting the logical system (SALE,

SCC4), creating a new business system in SLD after creating a technical system (RZ70) and re-configure scenarios related to these clients according to the configuration guide.

Preparations on your target host

- You make sure that all required DVDs for the system copy are available.
- You prepare the target system as described in the documentation *Installation Guide – SAP Web AS Java 6.40 SR 1 on <OS> : <DB>, Part I – Planning and Preparation*.
- You [prepare the DVDs required for the import \[page 28\]](#).
- You make sure that your target system complies with the requirements for running SAPinst for the import as described in “Prerequisites before Starting SAPinst” in the documentation *Installation Guide – SAP Web AS Java 6.40 SR 1 on <OS> : <DB>, Part II – Installation and Post-Installation*

3.1 Preparing a host for SAPInst

Use

You need to prepare your system as follows:

UNIX

- You [prepare the host for the J2EE Engine \[page 24\]](#).
- You [prepare the host for the SAPInst GUI \[page 25\]](#).



If required, you can perform a **remote** system copy using a standalone SAPInst GUI on a separate Windows or UNIX host. This enables you to perform the system copy on a remote host while monitoring it with the SAPInst GUI from a local host. If you want to perform a remote system copy, see [Remote System Copy with SAPInst \[page 85\]](#). In this case, prepare both the local and the remote host for the SAPInst GUI.

Windows

- You [prepare the host for the J2EE Engine \[page 24\]](#).
- You [prepare the host for the SAPInst GUI \[page 25\]](#).



If required, you can perform a **remote** system copy using a standalone SAPInst GUI on a separate Windows or UNIX host. This enables you to perform the system copy on a remote host while monitoring it with the SAPInst GUI from a local host. If you want to perform a remote system copy, see [Remote System Copy with SAPInst \[page 85\]](#). In this case, prepare both the local and the remote host for the SAPInst GUI.

IBM Server iSeries

- Since IBM eServer iSeries does not provide a graphical user interface, you must install the JRE on a Windows host to perform the system copy with SAPInst. Proceed as described in [Preparing the System for the SAPInst GUI \[page 25\]](#).
- You [prepare a Windows user account and an iSeries user profile \[page 25\]](#).
- You [install the TMKSVR server and create an installation share \[page 26\]](#).

3.1.1 Preparing the System for the J2EE Engine

Use

The J2EE Engine requires a Java Development Kit (Java™ 2 SDK, Standard Edition = JDK) on the host where the J2EE Engine is to be installed. You need this for system variants with Java.

The JDK includes the Java runtime environment (JRE), which is required for the SAPinst GUI.

Procedure

1. Check the JDK versions that are released for SAP systems on SAP Service Marketplace at:

service.sap.com/platforms → *Product Availability Matrix* → *SAP NetWeaver* → *SAP NetWeaver 04* → *JSE Platforms*

2. Make sure a valid JDK version is installed on every host on which you want to install an SAP instance with the J2EE Engine, as follows:

- JDK is not already installed

Since JDK is not part of the SAP shipment, you need to download and install it.

See **SAP Note 709140** for recommended JDK versions for your platform and how to obtain them.



For Java system copy, you always need to apply the latest JDK version for your platform.

- JDK is already installed

Check the installed version of JDK by entering the following:

```
java -version
```



SAPinst asks you to confirm which of the installed Java Virtual Machines (JVM) is to be used for the installation.

UNIX: All Java executables found in the system path of user root as well as the value of the environment variable `JAVA_HOME` can be used.

Windows: SAPinst additionally checks the registry for installed JVMs. If the environment variable `JAVA_HOME` points to a JVM with a valid version, it is used by default. If not, the JVM with the highest version in the required version range is used.



We recommend that you use SUN JDK version 1.4.2_9.



Windows x86_64: We recommend that you perform a remote export.

3. If you want to install the J2EE Engine with strong encryption:
 - a. Download the required .SDA file from SAP Service Marketplace at service.sap.com/swdc → SAP Software Distribution Center → Download → SAP Cryptographic Software.
 - b. Download the JCE policy files for your platform:

UNIX (except of AIX), Windows: java.sun.com/j2se/1.4.2/downloads

AIX, Linux for zSeries, iSeries, z/OS: www6.software.ibm.com/dl/jcesdk/jcesdk-p

- c. Copy the JCE policy files to:

UNIX (except for AIX), Windows: SAPinst installs the files. You do not need to copy them to a special location.

AIX: `/usr/java14_64/jre/lib/security`

z/OS: `JAVA_HOME/lib/security`

3.1.2 Preparing the System for the SAPinst GUI

Use

The installation tool SAPinst uses the Java-based graphical user interface, SAPinst GUI, regardless of your system variant (ABAP, Java, or both). Therefore, you always need a Java runtime environment (JRE) on the host where SAPinst is to run. The JRE is included in the JDK.

Procedure

1. Check the JRE versions that are released for SAP Web AS and for SAP systems on SAP Service Marketplace at:

`service.sap.com/platforms` → *Product Availability Matrix* → *SAP NetWeaver* → *SAP NetWeaver 04* → *JSE Platforms*

2. Make sure a valid version of JRE is installed on the host where SAPinst is to run, as follows:

- o JRE is not already installed:

See **SAP Note 709140** for recommended JDK versions for your platform and how to obtain them.

- o JRE is already installed:

Check the installed version of JRE by entering:

```
java -version
```

3.1.3 iSeries: Preparing a Windows User Account and iSeries User Profile

Use

For the installation you need to create a user account on your Windows installation host and a user profile on the iSeries you want to install.

The following requirements apply:

- The iSeries user profile and the Windows user account must have the same name and password.
- The iSeries user profile must have user class *SECOFR and all special authorities that belong to user QSECOFR.
- The Windows user account must have administrator rights on the Windows installation host.

Procedure



The user name **SAPINST** and the password **SAP** are used in the procedures as examples.

Windows

3. Create a local user.

In the *User name* field, enter your installation user name, for example, **SAPINST**.

In the *Password* and *Confirm password* fields, enter the password **SAP**.

Deselect *User must change password at next logon*.

Assign the new user **SAPINST** to the group *Administrators*.

iSeries

Execute the following command:

```
CRTUSRPRF USRPRF(SAPINST) PASSWORD(SAP) USRCLS(*SECOFR) TEXT('Test User for SAP Installation') SPCAUT(*USRCLS)
```

3.1.4 iSeries: Installing TMKSVR and Creating an Installation Share

Use

The **TMKSVR** is the interface between iSeries and Windows for the installation with **SAPinst**. **SAPinst** runs on Windows, but has to install the product on iSeries. This means that all actions required for iSeries are initiated remotely on Windows but executed locally using the **TMKSVR**. The communication is done using TCP/IP.

In addition, an installation share on the iSeries host needs to be created and mapped to the Windows installation host, which is done automatically by the **TMKSVR**.

The **TMKSVR** has to be installed and an installation share has to be created on all iSeries hosts where you want to install instances of an SAP system.

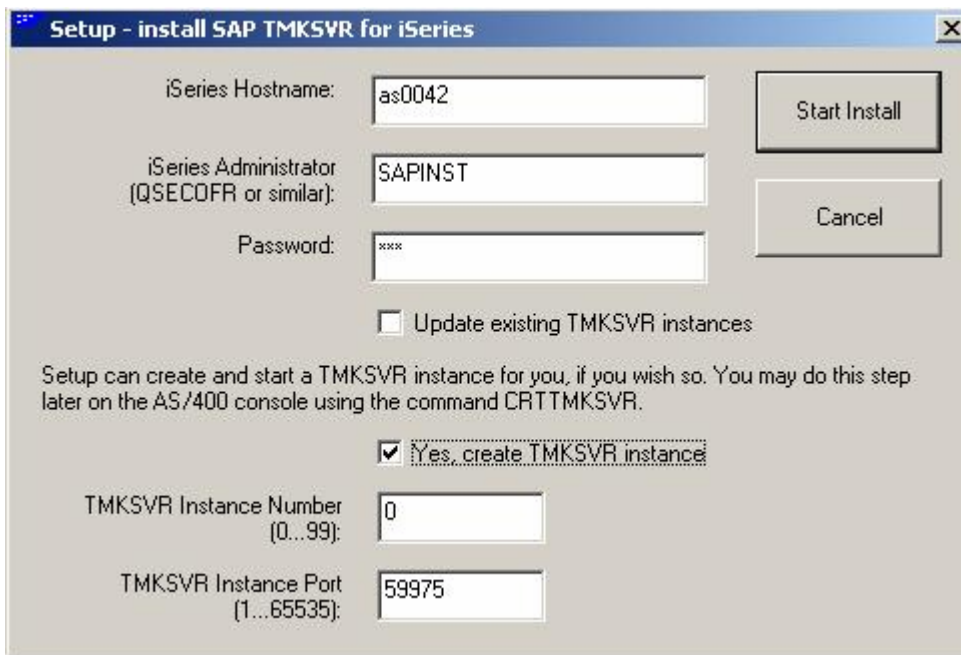
Prerequisites

- An FTP server must be running on iSeries.
- You must prepare a user. For more information on how users are prepared, see [Preparing a Windows User Account and iSeries User Profile \[Page 25\]](#).
- Copy the *SAP Installation Master DVD* from the DVD drive to the iSeries.

Procedure

1. Log on to your Windows host as the installation user. For more information, see [Preparing a Windows User Account and iSeries User Profile \[Page 25\]](#).
2. Run **SETUP.EXE** from the directory **IM(x)_OS400_64\SAPINST\AS400\TMKSVR** on the DVD containing the installation package. You can start the setup program by double-clicking it in the Windows Explorer.

The following dialog box appears:



Setup - install SAP TMKSVR for iSeries

iSeries Hostname: as0042

iSeries Administrator (QSECOFR or similar): SAPINST

Password: xxx

Update existing TMKSVR instances

Setup can create and start a TMKSVR instance for you, if you wish so. You may do this step later on the AS/400 console using the command CRTTMKSVR.

Yes, create TMKSVR instance

TMKSVR Instance Number (0...99): 0

TMKSVR Instance Port (1...65535): 59975

3. Enter the following values:

3.2 *iSeries Hostname*

Enter the name of the iSeries host where you want to install TMKSVR.

3.3 *iSeries Administrator (QSECOFR or similar)*

Enter the iSeries user. For more information, see [Preparing a Windows User Account and iSeries User Profile \[Page 25\]](#).

3.4 *Update existing TMKSVR instances*

Do **not** select this option.

3.5 *Yes, create TMKSVR instance*

Select this option.

3.6 *TMKSVR instance number*

Leave the value at 0.

3.7 *TMKSVR Instance Port (also referred to as the Dispatcher Port)*

Leave the value at 59975, if possible. Only change this port number if you encounter problems during installation because the port is in use.

Result

The installation uses FTP to install and start the TMKSVR on iSeries. During installation, the TMKSVR library is created on iSeries. If you want a TMKSVR instance to be created, a library named TMKSVR<nn> is also created, where <nn> is the instance number (for example, TMKSVR00).

A NetServer share named ROOTBIN will be created on the iSeries host. You can map it now to your Windows PC or let SAPinst do it during the installation.

For more information, see the documentation `install.pdf` on the DVD in directory `IM<x>_OS400_64\SAPINST\AS400\TMKSVR`.

3.2 Preparing the Installation DVDs that are Required for the System Copy

Use

You use this procedure to prepare the installation DVDs that are required for the system copy.

Procedure

1. Using *Media Information for SAP NetWeaver '04 SR 1*, identify the required CDs and DVDs for your installation and keep them separate from the remaining CDs and DVDs. This avoids mistakes between CDs and DVDs with similar names, so that you use the correct CDs and DVDs for your installation.



If the target system is on MS SQL server you must ensure that you are using the latest version of the NW04SR1 Installation Master (CD number D51031148).

It can be downloaded from <http://service.sap.com/swdc> → *Download* → *Installation and Upgrades* → *Entry by Application Group* → *SAP NetWeaver* → *SAP NETWEAVER* → *SAP NETWEAVER 04* → *Installation and Upgrade* → *<Windows Server on IA32 32 bit or Windows Server on IA64 64 bit>* → *MS SQL SERVER* → *NW04SR1 Installation Master Windows <XX> Bit*.

Remark: <XX> corresponds to the bit length of the target operating system.



The CD and DVD names in the table below are **abbreviated**.

You can find the **full names** in *Media Information for SAP NetWeaver '04 SR 1* on SAP Service Marketplace at: service.sap.com/instguidesNw04 → *Installation*

The following table shows the required DVDs:

Installation Option	Installation Service	Required DVDs / CDs
Central Java System	Migration – Database Export	<i>SAP Installation Master DVD</i>
	Migration – Target System Installation	<i>SAP Installation Master DVD</i>
		<i>SAP Java DVD</i>
		<i>Export dump</i> (has been created by the service <i>Migration – Database Export</i>)
		<i>RDBMS DVD</i> (not for iSeries)
	Dialog Instance Installation	<i>SAP Installation Master DVD</i>
<i>SAP Java DVD</i>		
Distributed Java System	Migration – Database Export	<i>SAP Installation Master DVD</i>
	Migration – Target Central Instance Host Preparation	<i>SAP Installation Master DVD</i>
	Migration – Target Database Installation	<i>SAP Installation Master DVD</i>
		<i>RDBMS DVD</i> (not for iSeries)
	Migration – Target Central Instance Installation	<i>SAP Installation Master DVD</i>
		<i>SAP Java DVD</i>
		<i>Export dump</i> (has been created by the service <i>Migration – Database Export</i>)
	Dialog Instance Installation	<i>SAP Installation Master DVD</i>
		<i>SAP Java DVD</i>
	Java Add-In	Migration – Java System Database Export
Migration – Java System Installation		<i>SAP Installation Master DVD</i>
		<i>SAP Java DVD</i>
		<i>Export dump</i> (has been created by the service <i>Migration – Database Export</i>)
		<i>RDBMS DVD</i> (not for iSeries)
		Informix: For the Java Add-In based on MaxDB or IBM DB2 UDB for UNIX and Windows you need one of the following DVDs: <i>RDBMS DVD</i> for MaxDB or IBM DB2 UDB
Dialog Instance Installation		<i>SAP Installation Master DVD</i>
	<i>SAP Java DVD</i>	
Distributed Java Add-in	Migration – Database Export	<i>SAP Installation Master DVD</i>
	Java Database Schema	<i>SAP Installation Master DVD</i>

	Installation	<i>SAP Java DVD</i>
		Informix: For the Java Add-In based on MaxDB or IBM DB2 UDB for UNIX and Windows you need one of the following DVDs: <i>RDBMS DVD</i> for MaxDB or IBM DB2 UDB
	Migration – Target Central Instance Installation	<i>SAP Installation Master DVD</i>
		<i>SAP Java DVD</i>
		<i>Export dump</i> (has been created by the service <i>Migration – Database Export</i>)
	Dialog Instance Finalization	<i>SAP Installation Master DVD</i>
<i>SAP Java DVD</i>		

2. Make sure that the required DVDs are available at the same time:

- Before the installation, make sure that you:
 - Have sufficient DVD drives
 - Copy the DVDs manually to local hard disks
- During the installation, use the SAPinst DVD / CD Browser dialog, that is, you can check the entered location and then copy the entire DVD to the path you entered in column *Copy Package to*.



Informix only: If you want to copy a Java Add-In based on MySQL MaxDB or IBM DB2 Universal Database for Windows to go with a previously copied **Informix-based** ABAP engine, make sure that you check the entry “Java System Copy” in the following SAP Notes:

- UNIX: **SAP Note 790877**
- Windows: **SAP Note 790878**

3.2.1 iSeries: Copying the Installation DVDs to the IFS of the iSeries host

Use

You need several DVDs during an SAP system installation. You have to copy all relevant DVDs for an instance installation to the IFS of the iSeries host before you can install that instance.

Prerequisites

Make sure you have configured your TCP/IP as described in **SAP Note 92589**. Do not forget afterwards to perform an IPL to make the change effective. Otherwise, you will notice very poor copy performance from your local Windows drive to your IFS on your iSeries.

Procedure



The following procedure uses the user name **SAPINST** and the password **SAP** as examples.

1. To open the MS DOS screen under Windows, choose *Start* → *Run*.
2. Enter `cmd.exe`.
3. Choose *OK*.

The MS DOS screen appears.

4. In the command line of the MS DOS screen, enter `net use`.

All network connections to shared resources are displayed.

5. Check whether you have a connection to your iSeries.

If you find `\\<iSeries Hostname>\ROOTBIN` in the column *Remote* and a drive directory letter in the column *Local*, you have already established the required connection to your iSeries.

Otherwise, you have to establish this connection. To do this, enter:

```
net use X: \\<iSeries Hostname>\ROOTBIN SAP /USER:SAPINST
```

x: is now your new network drive for sharing `\\<iSeries Hostname>\ROOTBIN` with your IFS on the iSeries. If x: is already in use, choose another drive letter that is free.

For more information, see [Preparing a Windows User Account and iSeries User Profile \[Page 25\]](#).

6. To change to the new network drive, enter `x:` in the command line of your MS DOS screen.
7. Create the subdirectories in your IFS where you want to copy the required DVDs.

3.8 For each DVD enter:

```
mkdir \tmp\<sid>\<DVD_name>
```

8. Copy the installation DVDs from your Windows drive (for example `D:\`) to the IFS of your iSeries host. Insert the required installation DVDs and enter the following command:

3.9 For each *DVD* enter:

```
xcopy D:\ X:\tmp\<sid>\<DVD_name>
```

```
xcopy D:\<DVD> X:\tmp\<sid>\<DVD_name> /E
```



You have to copy the root directory of the DVD and all required DVD subdirectories to the IFS of your iSeries.

9. Repeat steps 7 and 8 for every required DVD.

4 System Copy Process

4.1 Database-Specific System Copy

Purpose

The following sections describe database-specific procedures for the homogeneous system copy. Database-specific methods are not available for all database systems. For information on the availability, see table *Available System Copy Methods* in [Planning \[page 15\]](#) in this documentation and check the SAP Service Marketplace for SAP Notes describing the homogeneous system copy for your database system.

You can use the SAP installation tool SAPinst to archive SDM and application-specific file system content.

Process Flow for Copying an ABAP+Java System

Central System

To perform the export for a **central** system, you need to proceed as follows on the central system host:



To perform the export, the ABAP server needs to be up and running.

Process Flow on the Source System

1. You perform the export of the Java Add-In:
 - a. **UNIX:** You [start SAPinst on UNIX \[page 57\]](#)
Windows: You [start SAPinst on Windows \[page 63\]](#)
 - b. Choose the installation service *SAP NetWeaver '04 Support Release 1* → *Java Add-In for ABAP* → *<DB>* → *Central System* → *Migration - Database Export*
 - c. Follow the instructions on the SAPinst screens. On the screen *Java System > Database Export*, choose option *Copy the database by using database tools*.
2. You perform the system copy of the ABAP system as described in the database-specific procedure in the documentation *Homogeneous and Heterogeneous System Copy for SAP Systems based on Web AS ABAP 6.40 SR1*.

Process Flow on the Target System

1. You install the ABAP central instance on the target system as described in the database-specific procedure in the documentation *Homogeneous and Heterogeneous System Copy for SAP Systems based on Web AS ABAP 6.40 SR1*.
2. You install the ABAP database instance on the target system as described in the database-specific procedure in the documentation *Homogeneous and Heterogeneous System Copy for SAP Systems based on Web AS ABAP 6.40 SR1*.
3. You install the Java Add-In:

- a. **UNIX:** You [start SAPinst on UNIX \[page 57\]](#)
Windows: You [start SAPinst on Windows \[page 63\]](#)
- b. Choose the installation service *SAP NetWeaver '04 Support Release 1 → Java Add-In for ABAP → <DB> → Central System → Migration – Target Central Instance Installation*.
- c. Follow the instructions on the SAPinst screens.
- d. Perform [follow-up activities \[page 89\]](#).
- e. Restart the SAP system.

Distributed or High Availability System

To perform the export for a **distributed or high availability system**, you proceed as follows:

Process Flow on the Source System

1. **Central Instance host:** You perform the export of the Java Add-In:
 - a. **UNIX:** You [start SAPinst on UNIX \[page 57\]](#)
Windows: You [start SAPinst on Windows \[page 63\]](#)
 - b. Choose the installation service *SAP NetWeaver '04 Support Release 1 → Java Add-In for ABAP → <DB> → Distributed System → Migration - Database Export*
 - c. Follow the instructions on the SAPinst screens. On the screen *Java System > Database Export*, choose option *Copy the database by using database tools*.
2. **Database instance host:** You perform the system copy of the ABAP system as described in the database-specific procedure in the documentation *Homogeneous and Heterogeneous System Copy for SAP Systems based on Web AS ABAP 6.40 SR1*.

Process Flow on the Target System

1. **Central Instance host:** You install the ABAP central instance on the target system as described in the database-specific procedure in the documentation *Homogeneous and Heterogeneous System Copy for SAP Systems based on Web AS ABAP 6.40 SR1*.
2. **Database Instance host:** You install the ABAP database instance on the target system as described in the database-specific procedure in the documentation *Homogeneous and Heterogeneous System Copy for SAP Systems based on Web AS ABAP 6.40 SR1*.
3. **Central Instance host:** You install the Java Add-In:
 - a. **UNIX:** You [start SAPinst on UNIX \[page 57\]](#)
Windows: You [start SAPinst on Windows \[page 63\]](#)
 - b. Choose the installation service *SAP NetWeaver '04 Support Release 1 → Java Add-In for ABAP → <DB> → Distributed System → Migration – Target Central Instance Installation*.
 - c. Follow the instructions on the SAPinst screens.
 - d. Perform [follow-up activities \[page 89\]](#).
 - e. Restart the SAP system.

Process Flow for Copying a Java System

Central System

To perform the export for a **central system**, you need to proceed as follows on the central system host:

Process Flow on the Source System

1. You perform the export of the Java system:
 - a. **UNIX:** You [start SAPinst on UNIX \[page 57\]](#)
Windows: You [start SAPinst on Windows \[page 63\]](#)
 - b. Choose the installation service *SAP NetWeaver '04 Support Release 1 → Java System → <DB> → Central System → Migration Database Export*
 - c. Follow the instructions of the SAPinst screens. On the screen *Java System > Database Export*, choose *Copy the database using database tools*.
2. [Generate the control file structure for the target database \[page 36\]](#)
3. If required, you [create an offline backup of the source database \[page 40\]](#)

Process Flow on the Target System

You install the Java system:

1. **UNIX:** You [start SAPinst on UNIX \[page 57\]](#)
Windows: You [start SAPinst on Windows \[page 63\]](#)
2. Choose the installation service *SAP NetWeaver '04 Support Release 1 → Java System → <DB> → Central System → Migration – Target Central Instance Installation*.
4. **Oracle:** Follow the instructions of the SAPinst screens until you are requested to restore the Oracle backup.
5. [Restore the database files on the target system \[page 43\]](#).
6. After the backup / restore has finished, you return to SAPinst and continue the installation of the target system. If necessary, you have to [restart SAPinst \[page 44\]](#).

Distributed or High Availability System

To perform the export for a **distributed or high availability system**, you proceed as follows:

Process Flow on the Source System

1. **Central Instance host:** You perform the export of the Java system:
 - a. **UNIX:** You [start SAPinst on UNIX \[page 57\]](#)
Windows: You [start SAPinst on Windows \[page 63\]](#)
 - b. Choose the installation service *SAP NetWeaver '04 Support Release 1 → Java System → <DB> → Distributed System → Migration - Database Export*.
 - c. Follow the instructions of the SAPinst screens. On the screen *Java System > Database Export*, choose *Copy the database using database tools*.

2. **Database Instance host:** [Generate the control file structure for the target database \[page 36\]](#)
3. **Database Instance host:** If required, you [create an offline backup of the source database \[page 40\]](#)

Process Flow on the Target System

1. Central Instance host:
 - a. **UNIX:** You [start SAPinst on UNIX \[page 57\]](#)
Windows: You [start SAPinst on Windows \[page 63\]](#)
 - b. Choose the installation service *SAP NetWeaver '04 Support Release 1 → Java System → <DB> → Distributed System → Migration - Target System Central Host Preparation*.
 - c. Follow the instructions on the SAPinst screens.
2. Database Instance host:
 - a. **UNIX:** You [start SAPinst on UNIX \[page 57\]](#)
Windows: You [start SAPinst on Windows \[page 63\]](#)
 - b. Choose the installation service *SAP NetWeaver '04 Support Release 1 → Java System → <DB> → Distributed System → Migration - Target Database Installation*
 - c. **Oracle:** Follow the instructions of the SAPinst screens until you are requested to restore the Oracle backup.
 - d. [Restore the database files on the target system \[page 43\]](#).
 - e. After the backup / restore has finished, you return to SAPinst and continue the installation of the target system. If necessary, you have to [restart SAPinst \[page 44\]](#).
3. Central Instance host:
 - a. **UNIX:** You [start SAPinst on UNIX \[page 57\]](#)
Windows: You [start SAPinst on Windows \[page 63\]](#)
 - b. Choose the installation service *SAP NetWeaver '04 Support Release 1 → Java System → <DB> → Distributed System → Migration - Target Central Instance Installation*
4. Perform [follow-up activities \[page 89\]](#).

4.1.1 Oracle-Specific Procedure

Purpose

In an SAP system environment, you can create a homogeneous copy of an Oracle database by copying database files. This method is suitable for creating an exact copy of an existing database. The source of the copy can be an offline backup or the file system of your source host.

SAPinst is used for the installation on the target system host as described in the installation documentation for your SAP component. Only the SAPinst steps for setting up and loading the database steps are modified.

Advantages

- Existing offline backups can be used (provided redo logs were cleaned up with forced log switches).
- Procedure is faster than the Jload method.

Disadvantages

- Offline backup/copy of database files in a heterogeneous environment is not possible as hardware of the source and target systems must be binary compatible.
- Source system host and target system host must be different.

- SAP system and database must be shut down during offline backup/copy of database files.
- You cannot change the database schema and the tablespace names.

Prerequisites

Make sure that the following requirements are met:

- You use the same Oracle release and patch level for your database in the source and target system.
- You install the [JDK / JRE version required by SAPinst \[page 24\]](#).
- The `JAVA_HOME` environment variable must point to the JRE directory.
- The `classes12.jar` must exist in the `<ORACLE_HOME>/jdbc/lib` directory (installed using a standard Oracle installation).
- The backup must be done **offline**.



Do not use online backups to copy your J2EE engine. Some Java applications store persistent data in the file system and therefore consistency between database content and file system content cannot be guaranteed if you use an online backup.

- We strongly recommend that you run the source and target systems on different hosts for security reasons.
- The source and target systems must be binary compatible.



Note that the source or target system must be 32 or 64-bit systems. You can copy from 32-bit systems to 64-bit systems and vice versa.

If your source system uses the US7ASCII character set, you must choose this character set when installing the target system. SAPinst prompts for the character set during the installation (key: `Database Character Set`). The installation default is WE8DEC or UTF8 for Unicode systems. To find out the character set used by the source system, connect to the source database as user `sap<schemaid>` or `sapr3` with `sqlplus` and enter: `SELECT * FROM V$NLS_PARAMETERS;`

4.1.1.1 Generating the Control File Structure

Use

The OraBRCopy Java tool generates a file `CONTROL.SQL` into the current working directory, which can be used on the target system.



UNIX systems: you do not have to adapt the generated files.

Windows: If the target system uses other logical drives for the Oracle database, you have to adapt drive letters in `CONTROL.SQL` and `init<TARGET_DBSID>.ora` files.

The tool is located on the *SAP Installation Master DVD*:

- **Unix:**
`<DVD-DIR> : /IM_<xx>/SAPINST/UNIX/COMMON/INSTALL/ORA/ORABRCOPY.SAR`
- **Windows:**

<DVD-DIR> : \IM_<xx>\SAPINST\NT\COMMON\INSTALL\ORA\ORABRCOPY.SAR

For a detailed description of the OraBRCopy tool refer to the delivered documentation ORABRCopy.pdf which is part of the ORABRCOPY.SAR archive.

Prerequisites



We recommend that you shut down the SAP system before you perform the following steps. The Oracle database and listener must still be running.

Procedure

1. Create an installation directory <INSTDIR> (UNIX: with permissions 777) on the source system.
2. Copy the ORABRCOPY.SAR archive from the *Installation Master* DVD to the installation directory and extract it using SAPCAR:

You find the archive in the following directory:

- o For Unix:

<DVD-DIR>/IM_<xx>/SAPINST/<UNIX>/COMMON/INSTALL/ORA/ORABRCOPY.SAR

- o Windows:

<DVD-DIR> : \IM_<xx>\SAPINST\NT\COMMON\INSTALL\ORA\ORABRCOPY.SAR

3. Make sure that all redo log groups are archived.
4. Start the OraBRCopy tool as an OS user with Oracle DBA privileges (user ora<dbsid> on UNIX, user <sapsid>adm on Windows):

- o On UNIX, enter the following commands:

```
./ora_br_copy.sh -generateFiles -forceLogSwitches -targetSid
<TARGET_DBSID> -password <system's password> -listenerPort <listener port>
```

- o On Windows, enter the following commands:

```
ora_br_copy.bat -generateFiles -forceLogSwitches -targetSid <TARGET_DBSID>
-password <system's password> -listenerPort <listener port>
```

The tool will create the files CONTROL.SQL, CONTROL.TRC and init<targetSID>.ora in your installation directory, shutdown and restart the database and perform the required log switches. The tool will stop the database before its execution is finished.



If an error occurs, check the log file:

<INSTDIR>/ora.brscopy.log

5. Verify and, if necessary, update the CONTROL.SQL control file using the CONTROL.TRC trace file as follows:

Example for Windows

```
REM
=====
REM CONTROL.SQL
REM
REM      SAP AG Walldorf
REM      Systeme, Anwendungen und Produkte in der Datenverarbeitung
```

```
REM
REM      (C) Copyright SAP AG 2004
REM
=====
REM Generated at:
REM Fri Sep 17 08:33:25 CEST 2004
REM for target system NEW
REM on
REM Windows 2000 5.0 x86
CONNECT / AS SYSDBA
STARTUP NOMOUNT
CREATE CONTROLFILE REUSE
SET DATABASE "NEW"
RESETLOGS
ARCHIVELOG
MAXLOGFILES 255
MAXLOGMEMBERS 3
MAXDATAFILES 1022
MAXINSTANCES 50
MAXLOGHISTORY 1134
LOGFILE
GROUP 1 (
'D:\ORACLE\NEW\ORIGLOGA\LOG_G11M1.DBF' ,
'D:\ORACLE\NEW\MIRRLOGA\LOG_G11M2.DBF'
) SIZE 50M,
GROUP 2 (
'D:\ORACLE\NEW\ORIGLOGB\LOG_G12M1.DBF' ,
'D:\ORACLE\NEW\MIRRLOGB\LOG_G12M2.DBF'
) SIZE 50M,
GROUP 3 (
'D:\ORACLE\NEW\ORIGLOGA\LOG_G13M1.DBF' ,
'D:\ORACLE\NEW\MIRRLOGA\LOG_G13M2.DBF'
) SIZE 50M,
GROUP 4 (
'D:\ORACLE\NEW\ORIGLOGB\LOG_G14M1.DBF' ,
'D:\ORACLE\NEW\MIRRLOGB\LOG_G14M2.DBF'
) SIZE 50M
DATAFILE
'D:\ORACLE\NEW\SAPDATA1\SYSTEM_1\SYSTEM.DATA1' ,
'D:\ORACLE\NEW\SAPDATA3\IMS_1\IMS.DATA1' ,
```

```
'D:\ORACLE\NEW\SAPDATA3\IMS_2\IMS.DATA2' ,
'D:\ORACLE\NEW\SAPDATA3\IMS_3\IMS.DATA3' ,
'D:\ORACLE\NEW\SAPDATA3\IMS_4\IMS.DATA4' ,
'D:\ORACLE\NEW\SAPDATA4\IMS_5\IMS.DATA5' ,
'D:\ORACLE\NEW\SAPDATA4\IMS_6\IMS.DATA6' ,
'D:\ORACLE\NEW\SAPDATA4\IMS_7\IMS.DATA7' ,
'D:\ORACLE\NEW\SAPDATA4\IMS_8\IMS.DATA8' ,
'D:\ORACLE\NEW\SAPDATA4\IMS_9\IMS.DATA9' ,
'D:\ORACLE\NEW\SAPDATA1\IMS640_1\IMS640.DATA1' ,
'D:\ORACLE\NEW\SAPDATA1\IMS640_2\IMS640.DATA2' ,
'D:\ORACLE\NEW\SAPDATA1\IMS640_3\IMS640.DATA3' ,
'D:\ORACLE\NEW\SAPDATA1\IMS640_4\IMS640.DATA4' ,
'D:\ORACLE\NEW\SAPDATA2\IMS640_5\IMS640.DATA5' ,
'D:\ORACLE\NEW\SAPDATA2\IMS640_6\IMS640.DATA6' ,
'D:\ORACLE\NEW\SAPDATA2\IMS640_7\IMS640.DATA7' ,
'D:\ORACLE\NEW\SAPDATA2\IMS640_8\IMS640.DATA8' ,
'D:\ORACLE\NEW\SAPDATA2\IMS640_9\IMS640.DATA9' ,
'D:\ORACLE\NEW\SAPDATA3\IMS640_10\IMS640.DATA10' ,
'D:\ORACLE\NEW\SAPDATA4\IMS640_11\IMS640.DATA11' ,
'D:\ORACLE\NEW\SAPDATA1\IMSUSR_1\IMSUSR.DATA1' ,
'D:\ORACLE\NEW\SAPDATA2\ROLL_1\ROLL.DATA1'
;
ALTER DATABASE OPEN RESETLOGS;
ALTER TABLESPACE PSAPTEMP ADD TEMPFILE
'D:\ORACLE\NEW\SAPDATA3\TEMP_1\TEMP.DATA1'
SIZE 350M REUSE AUTOEXTEND OFF;
```



In the above example for Windows, entries and values of CONTROL.SQL written in bold should be compared to the trace file. The changes to be made are valid for UNIX, too.

Changes to be made:

- a. If you want to upgrade your database from 32-bit to 64-bit, add the following lines at the bottom of the control.sql file:

```
shutdown immediate;
startup restrict
spool utlirp.log
@?/rdbms/admin/utlirp.sql
spool off
alter system disable restricted session;
```

b. MAXLOGFILES 255

...

The numbers must be greater or equal to the corresponding numbers in the trace file.

```
c. GROUP 1 (
'D:\ORACLE\NEW\ORIGLOGA\LOG_G11M1.DBF' ,
'D:\ORACLE\NEW\MIRRLOGA\LOG_G11M2.DBF'
) SIZE 50M,
Group 2 (
```

...

The sizes of the respective groups must be equal to the sizes of the corresponding groups in the trace file.

```
d. 'D:\ORACLE\NEW\SAPDATA1\SYSTEM_1\SYSTEM.DATA1' ,
'D:\ORACLE\NEW\SAPDATA3\IMS_1\IMS.DATA1' ,
...
'D:\ORACLE\NEW\SAPDATA1\IMS640_1\IMS640.DATA1'
```

...

The count of the data files must be equal to the count of the corresponding data files in the trace file.

```
e. ALTER TABLESPACE PSAPTEMP ADD TEMPFILE
'D:\ORACLE\NEW\SAPDATA3\TEMP_1\TEMP.DATA1'
SIZE 350M REUSE AUTOEXTEND OFF;
```

...

The size must be equal to the corresponding size in the trace file.

f. The number of the rows with ALTER TABLESPACE must be equal to the number of the corresponding rows in the trace file.

4.1.1.2 Creating an Offline Backup

Create an offline backup if required. There are different possibilities to prepare the actual transfer of the database files:

- If you have an existing offline backup which is up-to-date, you can use it (provided redo logs were cleaned up with forced log switches).
- If you want to transport the database file (for example, on tape) or if you have to perform the database shut-down at a certain time, stop the database (normal shut-down) and perform a complete offline backup. You can use the trace file CONTROL.TRC created by OraBrCOPY to determine the file system trees that have to be saved.
- Otherwise, stop the database (normal shutdown) and copy the database files when the actual transfer to the target system takes place. You do not have to perform any preparations for the actual transfer now. Proceed with the next step.

4.1.1.3 Preparing the Target System

Prerequisites

Make sure that the sapdata<n> file systems on the target system host are large enough.

Procedure

1. Install the target SAP system with SAPinst as described in the installation documentation for your SAP component:



When you perform a system copy using the Oracle backup/restore method, you cannot change the database schema and the tablespace names of the new target system. When installing the target central instance, database instance, or dialog instance make sure that you enter the correct database schema names (which are the database schema name of the **source** system). The schema names of the source and target system must be identical.

- When SAPinst prompts for the database installation method, choose:
Homogeneous System Copy (Backup/Restore).
 - Install until SAPinst stops to restore the database files on the target system.
The following message is displayed:

SAPinst now stops the installation. Please proceed as follows:....
2. **UNIX:** If necessary, extract the Oracle stage archives manually and install the Oracle Software as described in the installation documentation for your SAP solution.
 3. [Restore the database files on the target system \[page 43\]](#).
 4. Create the following directories on the target system, if they do not exist:
 - UNIX:
 - /oracle/<TARGET_DBSID>/mirrlog<x>
 - /oracle/<TARGET_DBSID>/origlog<x>
 - /oracle/<TARGET_DBSID>/sapdata<x>
 - /oracle/<TARGET_DBSID>/sapreorg
 - /oracle/<TARGET_DBSID>/saparch
 - /oracle/<TARGET_DBSID>/oraarch
 - /oracle/<TARGET_DBSID>/saptrace
 - /oracle/<TARGET_DBSID>/saptrace/background
 - /oracle/<TARGET_DBSID>/saptrace/usertrace
 - /oracle/<TARGET_DBSID>/origlogA/cntrl
 - /oracle/<TARGET_DBSID>/sapdata1/cntrl
 - /oracle/<TARGET_DBSID>/saparch/cntrl
 - /oracle/<Target_DBSID>/sapcheck
 - Windows:
 - <drive>:\oracle\<TARGET_DBSID>\mirrlog<x>
 - <drive>:\oracle\<TARGET_DBSID>\origlog<x>
 - <drive>:\oracle\<TARGET_DBSID>\sapdata<x>
 - <drive>:\oracle\<TARGET_DBSID>\sapreorg
 - <drive>:\oracle\<TARGET_DBSID>\saparch
 - <drive>:\oracle\<TARGET_DBSID>\oraarch
 - <drive>:\oracle\<TARGET_DBSID>\saptrace
 - <drive>:\oracle\<TARGET_DBSID>\saptrace\background
 - <drive>:\oracle\<TARGET_DBSID>\saptrace\usertrace
 - <drive>:\oracle\<TARGET_DBSID>\origlogA\cntrl

- <drive>:\oracle\<TARGET_DBSID>\sapdata1\cntrl
 - <drive>:\oracle\<TARGET_DBSID>\saparch\cntrl
 - <drive>:\oracle\<Target_DBSID>\sapcheck
5. Make sure that the following directories are empty (except the subdirectory saparch/cntrl).
- **UNIX:** /oracle/<TARGET_DBSID>/saparch and /oracle/<TARGET_DBSID>/oraarch
 - **Windows:** <drive>:\oracle\<TARGET_DBSID>\saparch and <drive>:\oracle\<TARGET_DBSID>\oraarch
6. **UNIX:** All directories must be owned by the user ora<target_dbsid>.

To achieve this enter the following command:

```
chown ora<target_dbsid>:dba<directory>
```

7. **Windows:** For all directories set the security settings for the built-in accounts and groups SYSTEM, Administrators, SAP_<SAPSID>_GlobalAdmin (domain installation), and SAP_<SAPSID>_LocalAdmin (local installation) as follows:
- a. In the Windows Explorer, right-click the Oracle root directory and choose *Properties*.
 - b. Under *Security*, choose *Advanced*.
 - c. Uncheck *Allow inheritable permissions from the parent* (Windows Server 2003), or *Inherit from parent the permission entries that apply to child objects* (Windows 2000).
 - d. In the upcoming dialog, choose *Copy*, to copy the permission entries that were previously applied from the parent to this object.
 - e. Choose *OK*.
 - f. Set the permissions for the above-mentioned accounts SYSTEM, Administrators, SAP_<DBSID>_GlobalAdmin, or SAP_<DBSID>_LocalAdmin to *Full Control*.
 - g. Delete all other accounts.

4.1.1.4 Restoring the Database Files on the Target System



If you do not use an offline backup but copy the database files directly from the source to the target system host, make sure that you shut down the database on the source system before you copy the listed files from the source to the target directories.

1. Copy the following files from the source to the target system host either by using an offline backup or by copying the listed files from the source directories to the target directories:

The table shows the directories on UNIX.

For Windows you have the corresponding directories, for example

<drive>:\oracle\<DBSID>\sapdata<x>:

Source and Target Directory	Files
/oracle/<DBSID>/sapdata<x>	All files
/oracle/<DBSID>/origlog<x>	All files
/oracle/<DBSID>/mirrlog<x>	All files
source: <INSTDIR> target: <SAPINST_INSTDIR> Java Only: target: Windows: %programfiles%\sapinst_instdir\NW04SR1\W EBAS_COPY\CENTRAL\ONE_HOST or %programfiles%\sapinst_instdir\NW04SR1\W EBAS_COPY\DISTRIBUTED\DB UNIX: /temp/...	CONTROL.SQL
source: <INSTDIR> UNIX: target: /oracle/<DBSID>/<DB_VERSION>_<BIT>/dbs Windows: target: \oracle\<DBSID>\<DB_VERSION>_<BIT>/datab ase	init<TARGET_DBSID>.ora



- If you use an existing offline backup, the source data files and log files are not located in the directories shown in the table.
 - On Windows, the installation directory of the target system is normally located in the directory:
 %programfiles%\sapinst_instdir\NW04SR1\WEBAS_ABAP_ORA_NUC\DB
2. Windows: After you have copied the database files, make sure that the files on the source and target system are **not** located in different directories or drives. If required, make the corresponding changes in the control.sql and the init<DBSID>.ora file.
 3. UNIX: Verify that the created directories and copied files have the owner **ora<target_dbsid>**, belong to the group **dba**, and have the permissions **740**.
 4. Make sure that the control files are **not** restored. If necessary, remove them.

The file names are specified by the parameter control_files of the init<TARGET_DBSID>.ora file.



After the restore procedure, you must install the Java central instance.
To do so, choose the following service in SAPinst:

Central System: *Java Add-in for ABAP → Oracle → Central System → Migration – Target System Installation*

Distributed System: *Java Add-In for ABAP → Oracle → Distributed System → Migration - Target System Installation.*

4.1.1.5 Restarting SAPinst

Procedure

1. Restart SAPinst. Continue as described in the installation documentation for your SAP system.
2. Request a new license key from SAP. For more information, see the installation documentation for your SAP system, section *Post-Installation Activities - Installing and Using the SAP License* and **SAP Note 94998**.

4.1.2 IBM DB2 UDB for UNIX and Windows Specific Procedure

Purpose

In an SAP system environment, you can create a homogeneous system copy of a DB2 database using the backup method or by relocating your database. The relocation of the database is usually used in conjunction with split mirror. For more information, see the documentation *Database Administration Guide: SAP on IBM DB2 Universal Database for UNIX and Windows*, section *The db2inidb Tool* and the DB2 documentation.

This section provides information on the backup method.

SAPinst is used for the installation on the target system host as described in the installation documentation for your SAP component. In a **Java** or **ABAP+Java** system, you have to additionally run an export for the Java Engine to archive SDM and application-specific file system content. On the target system, only the SAPinst steps for setting up and loading the database steps are modified.

Advantages of the Backup Method

- You can use existing backups.
- Using the backup method is faster than the R3load method.

Disadvantages of the Backup Method

- A restore or copy of database files in a heterogeneous environment is not possible as the hardware of the source and target systems must be binary compatible.



With DB2 UDB for UNIX and Windows, it is possible to use backup images cross platform for AIX, pLinux, Solaris and HP-UX.

- You cannot change the database schema. The database schema will be the same as of the source system.
- You cannot copy an individual MCODE component to another system. You can only copy the complete system.

Prerequisites

- The source and target systems must be compatible.

- If errors occur when restoring the backup on the target system, the complete restore must be repeated.

Process Flow

1. You perform an offline backup or restore an existing backup copy.



In a **Java** or **ABAP+Java** system, you do not have to export the database content for Backup/Restore with Jload. During the dialog phase, SAPinst will ask you on the *Database Export* dialog to specify the system copy method. If you want to use the backup / restore method, choose *Use database specific tools*.

2. To create the export directory structure with labels and to archive SDM and application-specific file system content, you additionally have to run SAPinst.

Java system only:

On the Welcome screen, choose *SAP NetWeaver '04 Support Release 1* → *Java System* → *IBM DB2 UDB for UNIX and Windows* → *<System variant>* → *Migration - Database Export*.

ABAP+Java system only:

On the Welcome screen, choose *SAP NetWeaver '04 Support Release 1* → *Java Add-In for ABAP* → *IBM DB2 UDB for UNIX and Windows* → *<System variant>* → *Migration - Database Export*.



In a **distributed system**, the export is run on the central instance host.

Perform the installation options in the sequence given and follow the instructions on the SAPinst dialogs.

3. To create a target system, run SAPinst on the target system host.

Java system only:

On the Welcome screen, choose *< SAP NetWeaver '04 Support Release 1* → *Java System* → *IBM DB2 UDB for UNIX and Windows* → *<System variant>* → *Migration* – *<Installation option>*

ABAP+Java system only:

On the Welcome screen, choose *< SAP NetWeaver '04 Support Release 1* → *Java Add-In for ABAP* → *IBM DB2 UDB for UNIX and Windows* → *<System variant>* → *Migration* – *<Installation option>*

Perform the installation options in the sequence given and follow the instructions on the SAPinst dialogs.

During the installation phase you will be prompted to perform the database restore.



Be aware of the following constraints, when using the backup method for a homogeneous system copy:

- You cannot change the connect user. During the dialog phase you have to make sure, that you enter exactly the name of the connect user like you did on your source system.
- The tablespace names remain the same during the database restore. However, you may change them after the installation.
- If you want to change the container names on the target system, you have to adapt the container names in the redirected restore script and then perform a redirected restore. For more information, see the documentation *Database Administration Guide: SAP on IBM DB2 Universal Database for UNIX and Windows*, section *Usage of Tool brdb6brt* and the *IBM DB2 documentation DB2 Command Reference*.

For the restore of your database, you can choose between one of the following options:

- Simple database restore

To perform a database restore, use the DB2 restore command. For more information see the IBM DB2 documentation *DB2 Command Reference*.

- Redirected restore

ABAP+Java system only:

To perform a redirected restore, use tool `brdb6brt` which retrieves a database backup and creates a CLP script for the restore of this backup image. For more detailed information on how to use tool `brdb6brt`, see the documentation *Database Administration Guide: SAP on IBM DB2 Universal Database for UNIX and Windows* section *Usage of Tool brdb6brt* and the IBM DB2 documentation *DB2 Command Reference*.

For a Java system only:

You **cannot** use tool `brdb6brt` to perform a redirected restore.

For more information about how to perform an offline backup for a Java only system, see the IBM Documentation IBM DB2 documentation *DB2 Command Reference*.



You do not have to export the database content for backup/restore with Jload. During the dialog phase, SAPinst will ask you if you want to export the database content using database tools or using Jload. If you choose the database tools, Jload is not used.

For more information, see **SAP Note 785848**.

4. Perform the database restore.

If you have used an online backup, you have to make sure that you have access to the log files that were created during the online backup. You also have to perform a rollforward operation to bring the database into a consistent state.

You can now continue with the installation.

5. If required, you can modify the tablespace names after the installation using the following command:

```
db2 rename tablespace <old name> to <new name>
```



```
db2 rename tablespace <SAPSID_SOURCE>#DBD to <SAPSID_TARGET>#DBD
```

ABAP+Java system only:

In addition, you have to update the tablespace names in tables TSDB6, IADB6 and TADB6 using the following commands:

- For table TSDB6, enter the following SQL command:

```
update <ABAP_connect_user_name>.tsdb6 set tablespace =
'<SAPSID_TARGET>#' || substr(tablespace,5,length(tablespace)-4) ,
indspace='<SAPSID_TARGET>#' || substr(indspace,5,length(indspace)-4)
```

- For table IADB6, enter the following SQL command:

```
update <ABAP_connect_user_name>.iadb6 set tablespace =
'<SAPSID_TARGET>#' || substr(tablespace,5,length(tablespace)-4)
```

- For table TADB6, enter the following SQL command:

```
update <ABAP_connect_user_name>.tadb6 set tablespace =
'<SAPSID_TARGET>#' || substr(tablespace,5,length(tablespace)-4)
```

Java system only:

These tables do not exist in a Java only system.

See also:

- *Database Administration Guide: SAP on IBM DB2 Universal Database for UNIX and Windows on SAP Service Marketplace at service.sap.com/instguidesNW2004s → Installation.*

IBM DB2 documentation → DB2 Command Reference

4.1.3 IBM DB2 for iSeries Specific Procedure

Purpose

In an SAP system environment, you can create a homogeneous system copy of a DB2 database using the **SAV/RSTLIB** system copy method.

Advantages

This method is faster than the *database-independent method* [\[Page 49\]](#).

For more information, see **SAP Note 585277**.

Disadvantage

You can only copy for IBM DB2 for iSeries.

4.1.4 MaxDB-Specific Procedure

Purpose

In an SAP system environment, you can create a homogeneous copy of a MaxDB database by using the backup and restore method. This method is suitable for creating an exact copy of an existing database. The source of the copy is a complete data backup of your source database.

The SAPinst tool is used for the installation on the target system host as described in the installation documentation for your SAP component. In SAPinst you select the backup and restore method as the database installation method. SAPinst stops before the database instance initialization and asks you to perform the recovery on the target database. After you have performed recovery and post-recovery activities you can continue the installation in SAPinst.

Advantages

- You can use existing offline backups.
- This method is faster than the *database-independent method using Jload* [\[Page 49\]](#).
- It is more robust.

Disadvantage

You can only copy between systems with the **same** CPU architecture. For more information, see below.

Prerequisites

- CPU architecture

You can use the backup and restore method to copy systems to the **same** CPU architecture. That is, you can copy a system based on swap byte architecture to another system based on swap byte architecture. You can also copy a RISC-based system to another RISC-based system. For example, the following combinations are possible:

- HP-UX <-> Sun Solaris
- Sun Solaris <-> AIX
- Windows <-> HP Tru64

- Windows <-> Linux
- Windows 32-bit <-> Windows 64-bit

However, you **cannot** copy between the following systems:

- HP-UX <-> Windows NT
- HP Tru64 <-> Sun Solaris

You can copy backups from 32-bit to 64-bit systems or from 64-bit to 32-bit systems.

- Data backup

You select a suitable recent **complete** data backup of your source database. You can also do this as part of the process flow below.

- Recovery tool

You are using the MaxDB Database Manager (DBMGUI) version 7.5.0 Build 12 or above.

You can find more information on DBMGUI at:

dev.mysql.com/doc → *MaxDB by MySQL* → *MaxDB Online Library* → *Tools*

- Database software

The database software on the target host must have the same version as the software on the source host. The build number of the software version on the target host must be greater than or equal to the version on the source host.

- Size of the data on the target system

The size of the target system must be greater than the used space on the source system. You can find the size of the used pages on the source system as follows:

```
dbmcli -d <database_name> -u <dbm_user>,<password> -n <database_server> -u
SQL sap<sid>,<password> sql_execute 'SELECT USEDPERM FROM SERVERDBSTATISTICS'
```

The result of this query is the amount of used space, expressed as the number of 8 KB pages. To get the used space in MB, divide this value by 128. When SAPinst prompts you, configure the database data volumes according to this value.

Process Flow

1. You do the following on the **source** system:

- a. If you do not already have a suitable recent **complete** MaxDB backup, you create a complete data backup using the DBMGUI tool:

DBMGUI → *Backup* → *Backup Wizard* → *Complete*

- b. You make the backup medium available on the target host.

- c. You:

- [Run SAPinst to perform the Java export \[Page 57\] for UNIX](#)
- [Run SAPinst to perform the Java export \[Page 63\] for Windows](#)


2. You do the following on the **target** system:

- a. Start SAPinst to install the new system.


During the installation of the database instance, SAPinst stops before database initialization in the screen *Perform Database Recovery* and asks you to perform the data recovery.

- b. You start the data recovery wizard from DBMGUI:

- i. You register your database instance in the DBMGUI
- ii. You check the database instance is in the admin state.
- iii. You choose *Recovery* → *Recovery with Initialization ...*

- iv. In *type of recovery* you select *Restore a medium*.
 - v. You specify the backup medium.
 - vi. You start the restore procedure.
- c. You start the data recovery wizard from DBMGUI:
- 
- The recovery wizard does not start the recovery immediately. It initializes the database instance first. It takes some time for the database server to format the database volumes.
- d. After the restore, you check the state of the target database instance. Change the database state to online if it is not already in online state.
 - e. You reload the system tables in the target system as follows:


```
dbmcli -d <NEW_DBSID> -u control,<password> load_systab -u
superdba,<password> -ud domain
```



Make sure that the database is online and the Xserver is up and running before continuing with SAPinst, as in the next step.
 - f. You continue with SAPinst or restart it if you stopped it during the recovery.

4.1.5 MS SQL Server-Specific Procedure

Purpose

In an SAP system environment, you can create a homogeneous copy of a MS SQL Server database by using the backup/restore or attach/detach methods. This method is suitable for creating an exact copy of an existing database.

Advantages

- You can use existing offline backups.
- This method is faster than the [database-independent method using Jload \[Page 49\]](#).

Disadvantage

You can only copy between systems running on MS SQL Server.

Prerequisites

- **CPU architecture**
You can copy systems between IA32, IA64 and x64.
- **MS SQL Server versions**
You can copy systems between the same versions of MS SQL Server. You also can copy a database from MS SQL Server 2000 to MS SQL Server 2005.

Process Flow

1. You do the following on the **source** system:
 - a. Start SAPinst to perform the Java export [Page 62] for Windows
 - b. You create a backup of the database or make a copy of the detached database.
2. You do the following on the **target** system:
 - a. You install the database software.
 - b. You attach the copied database or restore the backup.

- c. [Run SAPinst to perform the Java export \[Page 63\] for Windows.](#)



When performing a system copy in the distributed environment, do **not** execute the steps *Migration - Target System Central Host Preparation* and *Migration - Target Database Installation* when installing on MS SQL Server, even though they appear in the services lists of SAPInst. The only one service you have to execute is *Migration - Target Central Instance Installation*.

4.2 Database-Independent System Copy (Jload Procedures)

Purpose

You can use the SAP installation tool SAPinst to export and import your Java database content, file system, and all configuration in a database-independent format. The procedure generates a database export of all SAP objects that are defined in the Java Dictionary and archives the configuration and components into the file system.

Prerequisites

You have prepared your source system and your target system as described in the section "Preparation".



For the export, the J2EE engine needs to be up and running.

Process Flow for the Source System (Java Add-in)

UNIX

1. You [run SAPinst to perform the Java export \[page 57\]](#)



We recommend that you perform the export as a test run before you perform a productive run. Deselect the option *Stop J2EE cluster before export* on the screen *Java System > Database Export* when running SAPinst for a test run.



If your database instance is running on HP PA-Risc, you must proceed as described in **SAP Note 884452**.

2. You run SAPinst to perform the ABAP export as described in the documentation *Homogeneous and Heterogeneous System Copy for SAP Systems based on Web AS ABAP 6.40 SR1*.
3. If required, you can [run the SAPinst GUI in standalone mode to perform a remote installation \[page 85\]](#).

Windows

1. You [run SAPinst to perform the Java export \[page 63\]](#).



We recommend that you perform the export as a test run before you perform a productive run. Deselect the option *Stop J2EE cluster before export* on the screen *Java System > Database Export* when running SAPinst for a test run.

2. You run SAPinst to perform the ABAP export as described in the documentation *Homogeneous and Heterogeneous System Copy for SAP Systems based on Web AS ABAP 6.40 SR1*.
3. If required, you can [run the SAPinst GUI in standalone mode to perform a remote system copy \[page 85\]](#).

IBM Server iSeries

1. You [run SAPinst to perform the Java export \[page 72\]](#).



We recommend that you perform the export as a test run before you perform a productive run. Deselect the option *Stop J2EE cluster before export* on the screen *Java System > Database Export* when running SAPinst for a test run.

2. You run SAPinst to perform the ABAP export as described in the documentation *Homogeneous and Heterogeneous System Copy for SAP Systems based on Web AS ABAP 6.40 SR1*.

Process Flow for the Source System (Java system)

UNIX

1. You [run SAPinst to perform the Java export \[page 57\]](#).



If your database instance is running on HP PA-Risc, you must proceed as described in **SAP Note 884452**.



We recommend that you perform the export as a test run before you perform a productive run. Deselect the option *Stop J2EE cluster before export* on the screen *Java System > Database Export* when running SAPinst for a test run.

2. If required, you can [run the SAPinst GUI in standalone mode to perform a remote system copy \[page 85\]](#).

Windows

1. You [run SAPinst to perform the Java export \[page 63\]](#).



We recommend that you perform the export as a test run before you perform a productive run. Deselect the option *Stop J2EE cluster before export* on the screen *Java System > Database Export* when running SAPinst for a test run.

2. If required, you can [run the SAPinst GUI in standalone mode to perform a remote system copy \[page 85\]](#).

IBM Server iSeries

1. You [run SAPinst to perform the Java export \[page 72\]](#).



We recommend that you perform the export as a test run before you perform a productive run. Deselect the option *Stop J2EE cluster before export* on the screen *Java System > Database Export* when running SAPinst for a test run.

Process Flow for the Target System (Java Add-In)

UNIX

1. You perform the ABAP import as described in the documentation *Homogeneous and Heterogeneous System Copy for SAP Systems based on Web AS ABAP 6.40 SR1*.
2. **Informix only:** If you want to copy a Java Add-In based on MySQL MaxDB or IBM DB2 Universal Database for Windows to go with a previously copied **Informix-based** ABAP engine, you need to first install the Java database and schema.
3. For more information, see [Running SAPinst on UNIX \[page 58\]](#).
4. Java import: You install the Java Add-In using the Java export.



You must check the documentation *Installation Guide – SAP NetWeaver '04 SR1 Java on <OS> : <database>* for any details concerning the installation of your database that cannot be covered by this documentation.

- a. Central System: You [run SAPinst to install the target system and perform the import \[page 57\]](#).
 - b. Distributed System: You [run SAPinst \[page 57\]](#) to do the following:
 - o Install the database schema on the database host
 - o Install the central instance and the SCS instance using the Java export.
- If required, you can also [control the import from a remote host \[page 85\]](#).
5. If required, you [run SAPinst to install dialog instances for your target system \[page 58\]](#).

Windows

1. You perform the ABAP import as described in the documentation *Homogeneous and Heterogeneous System Copy for SAP Systems based on Web AS ABAP 6.40 SR1*.
2. Informix only: If you want to copy a Java Add-In based on MySQL MaxDB or IBM DB2 Universal Database for Windows to go with a previously copied **Informix-based** ABAP engine, you need to first install the Java database and schema.
3. For more information, see [Running SAPinst on Windows \[page 63\]](#).
4. Java import: You install the Java Add-In using the Java export.



You must check the documentation *Installation Guide – SAP NetWeaver '04 SR1 Java on <your OS> : <your database>, Part II – Installation and Post-Installation* for details concerning the installation of your database that cannot be covered by this documentation.

- a. Central System: You [run SAPinst to install the target system and perform the import \[page 63\]](#).
 - b. Distributed System: You [run SAPinst \[page 63\]](#) to do the following:
 - o Install the database schema on the database host
 - o Install the central instance and the SCS instance using the Java export.
- If required, you can also [control the import from a remote host \[page 85\]](#).
5. If required, you [run SAPinst to install dialog instances for your target system \[page 63\]](#).

IBM Server iSeries

1. You perform the ABAP import as described in the documentation *Homogeneous and Heterogeneous System Copy for SAP Systems based on Web AS ABAP 6.40 SR1*.
2. Java import: You install the Java Add-In using the Java export.



You must check the documentation *Installation Guide – SAP NetWeaver '04 SR1 Java on <your OS> : <your database>, Part II – Installation and Post-Installation* for details concerning the installation of your database that cannot be covered by this documentation.

- a. Java Central System: You [run SAPinst to install the target system and perform the import \[page 72\]](#).
 - b. Java Distributed System: You [run SAPinst \[page 72\]](#) to do the following:
 - o Install the database schema
 - o Install the central instance and the SCS instance using the Java export.
3. If required, you [run SAPinst to install dialog instances for your target system \[page 72\]](#).

Process Flow for the Target System (Java system)

UNIX

1. Java import: You install the Java system:



You must check the documentation *Installation Guide – SAP NetWeaver '04 SR1 Java on <your OS> : <your database>, Part II – Installation and Post-Installation* for details concerning the installation of your database that cannot be covered by this documentation.

- a. Central System: You [run SAPinst to install the target system using the Java export. \[page 57\]](#)
- b. Java Distributed System: You [run SAPinst \[page 57\]](#) to do the following:
 - o Prepare the installation of the Java system
 - o Install the database on the database host
 - o Install the central instance and the SCS instance using the Java export.

If required, you can also [control the import from a remote host \[page 85\]](#)

2. If required, you [run SAPinst to install dialog instances for your target system \[page 58\]](#).

Windows

3. You install the Java system using the Java export.



You must check the documentation *Installation Guide – SAP NetWeaver '04 SR1 Java on <your OS> : <your database>, Part II – Installation and Post-Installation* for details concerning the installation of your database that cannot be covered by this documentation.

- a. Central system: You [run SAPinst to install the target system and perform the import. \[page 63\]](#).
- b. Distributed system: You [run SAPinst \[page 63\]](#) to do the following:
 - o Prepare the installation of the Java system
 - o Install the database on the database host
 - o Install the central instance and the SCS instance using the Java export.

If required, you can also [control the import from a remote host \[page 85\]](#).

4. If required, you [run SAPinst to install dialog instances for your target system \[page 63\]](#).

IBM Server iSeries

1. You install the Java system and perform the import:



You must check the documentation *Installation Guide – SAP NetWeaver '04 SR1 Java on <your OS> : <your database>, Part II – Installation and Post-Installation* for details concerning the installation of your database that cannot be covered by this documentation.

- a. Central system: You [run SAPinst to install the target system using the Java export \[page 63\]](#).
 - b. Java Distributed System: You [run SAPinst \[page 63\]](#) to:
 - o Prepare the installation of the Java system
 - o Install the database on the database host
 - o Install the central instance and the SCS instance using the Java export
2. If required, you [run SAPinst to install dialog instances for your target system \[page 72\]](#).

4.3 Performing the System Copy on UNIX using SAPinst

Use

The following sections tell you how to run SAPinst on UNIX to perform the migration of a Java system or a Java Add-in installation and provide useful background information about SAPinst itself.

They describe an installation where SAPinst GUI and SAPinst server are running on the same host as well as a remote installation, where SAPinst GUI is running on another host:

- [Prerequisites before Starting SAPinst \[Page 57\]](#)
- [Running SAPinst on UNIX \[Page 58\]](#)
- [Handling SAPinst GUI \[Page 80\]](#)
- [Interrupted Installation with SAPinst \[Page 81\]](#)
- [Remote Installation with SAPinst \[page 85\]](#)

4.3.1 Prerequisites before Starting SAPinst

Use

This section provides background information about running SAPinst that is valid for the installation of all instances.

Procedure

1. Make sure that your operating system does **not** delete the temporary directory – `TEMP`, `TMP`, `TMPDIR`, or `/tmp` – and its subdirectories when the system is rebooted.



SAPinst normally creates the installation directory `sapinst_instdir` directly below the temporary directory. SAPinst finds the temporary directory by checking the value of the environment variables `TEMP`, `TMP`, or `TMPDIR`. If no value is set for these variables, SAPinst uses `/tmp` as default directory.

The SAPinst Self-Extractor extracts the SAPinst executables to the temporary directory, `TEMP`, `TMP`, `TMPDIR` or `/tmp`. These executables are deleted again after SAPinst has stopped running.



If SAPinst cannot find a temporary directory, the installation terminates with the error `FCO-00058`.

2. Make sure that you have at least 130 MB of free space in the installation directory for each Java installation service. In addition, you need 60 – 200MB free space for the SAPinst executables.

If you cannot provide 200 MB free space in the temporary directory, you can set one of the environment variables `TEMP`, `TMP`, or `TMPDIR` to another directory with 200 MB free space for the SAPinst executables.



Each SAP instance requires a separate installation directory.

3. Make sure that `umask` is set to `022` for user `root`. As user `root`, enter the following command:
`umask 022`
4. If you are installing a second or subsequent SAP system into an existing database, make sure that the database is **up and running before** starting the installation. For more information, see “Installation of Multiple Components in One Database” in the documentation *Installation Guide - SAP Web Application Server Java 6.40 SR 1 on <your OS> : <your database> Part I – Planning and Preparation*.
5. You must include the path to a valid `<JAVA_HOME>/bin` directory in the path for user `root` or set the `SAPINST_JRE_HOME` environment variable for the user `root` to the valid `<JAVA_HOME>` directory.



If you have more than one Java Virtual Machine (JVM) installed on your system (for example, you have two JREs with different versions installed), make sure that the `SAPINST_JRE_HOME` environment variable `<UNIX: for user root>` is set to the valid `<JAVA_HOME>` directory.

6. Make sure that your `DISPLAY` environment variable is set to `<host_name>:0.0`, where `<host_name>` is the host on which the SAPinst GUI will be displayed.
7. If required, you can terminate SAPinst and the SAPinst Self-Extractor by pressing `Ctrl+C`.
8. If there are errors with SAPinst, you can find the Self-Extractor log file `dev_selfex.out` in the temporary directory.
9. If required, delete any directories with the name `sapinst_exe.xxxxxxx.xxxx` after SAPinst has finished. Sometimes these remain in the temporary directory.



We recommend that you keep all installation directories until the system is completely and correctly installed.

4.3.2 Running SAPinst on UNIX

Use

This procedure tells you how to run SAPinst to install an SAP instance.

It describes an installation where SAPinst GUI and SAPinst server are running on the same host. If you want to perform a remote installation, where SAPinst GUI is running on another host, see [Remote Installation with SAPinst \[page 85\]](#).

Procedure

1. Log on to your host as user `root`.
2. If you want to install central instance, an SCS instance, a database instance, or a dialog instance, mount the *SAP Installation Master DVD*.



Mount DVDs **locally**. We do **not** recommend that you use Network File System (NFS), as reading from NFS-mounted DVDs might fail.

For more information on mounting DVDs, see section `<Your OS>: Mounting a CD / DVD.`”

Start SAPinst from the *SAP Installation Master DVD*.

3. Start SAPinst from the *SAP Installation Master DVD* using the **default** installation directory

Enter the following commands:

```
cd <SAP_Installation_Master_DVD>/IM<x>_<OS>/SAPINST/UNIX/<OS>
./sapinst product_cp.catalog
```



For copying a high availability system, enter the following commands on the central instance host:

```
cd <SAP_Installation_Master_DVD>/IM<x>_<OS>/SAPINST/UNIX/<OS>
./sapinst product_cp_ha.catalog
```



If you use the `product_cp_ha.catalog`, you need to copy the Installation Master DVD and the DTD files. For more information, see **SAP Note 785848**.

You can then **NOT** use the `product_cp.catalog` any more.

- a. Choose the required installation service.
SAPinst will copy several files to your installation directory.
- b. When the next screen appears, interrupt SAPinst by pressing *Cancel* and *Stop*.
- c. Extract the archive `JSC<db>13.sar` to the installation directory.
- d. Restart SAPinst, choose the installation service again.
- e. On the following dialog screen *What do you want to do?*, choose *Continue the installation in* and confirm with *OK*.
- f. Follow the instructions on the SAPinst screens.

SAPinst creates a directory called `sapinst_inst_dir`, which is the current working directory for your installation, below the temporary directory of your operating system.



SAPinst uses the port 21212 during the installation for communication with the SAPinst GUI. If this port is already used by another service you must add the parameter `SAPINST_DIALOG_PORT=<free_port_number>` to the relevant `sapinst` command above. For example:

```
sapinst.exe product_cp.catalog SAPINST_DIALOG_PORT=<free_port_number>
```

SAPinst GUI normally starts automatically by displaying the *Welcome* screen.

4. Select the corresponding installation service as shown in the tables below and then choose *Next*:



Choose the installation services for dialog instances (*Dialog Instance Finalization* and *Dialog Instance Installation*) only, if you copied an SAP system based on SAP Web AS 6.40 SR1 SP09.

Java Add-In Central System

Procedure	Installation Task in SAPinst
Export the content of the Java part of the	<i>Java Add-in for ABAP</i> → <your database> →

database on the source system and create the Java export.	<i>Central System → Migration – Database Export</i>
Install the Java Add-in for the Central instance on the target host using the Java export.	<i>Java Add-in for ABAP → <your database> → Central System → Migration – Target System Installation</i>
Complete dialog instance(s) for the target system.	<i>Java Add-in for ABAP → <your database> → Central System → Migration – Dialog Instance Finalization</i>


Informix only:



If you want to copy a Java Add-in based on MaxDB or IBM DB2 UDB for UNIX and Windows to go with a previously copied **Informix-based** ABAP Engine, you use the following installation procedures:

Procedure	Installation Task in SAPinst
Export the content of the Java part of the database on the source system and create the Java export.	<i>Java Add-in for ABAP → Informix → <Java Add-In with MaxDB or Java Add-In with IBM DB2 UDB for UNIX and Windows> → Migration – Database Export</i>
Install the Java database and schema on the target host.	MaxDB: <i>Java Add-in for ABAP → Informix → Java Add-In with MaxDB → Java Database Installation</i> IBM DB2 UDB for UNIX and Windows: <i>Java Add-in for ABAP → Informix → Java Add-In with IBM DB2 UDB for UNIX and Windows → Java Database with Schema Installation</i>
Install the Java Add-in for the Central instance on the target host using the Java export.	<i>Java Add-in for ABAP → Informix → <Java Add-In with MaxDB or Java Add-In with IBM DB2 UDB for UNIX and Windows> → Migration – Target System Installation</i>
Complete dialog instance(s) for the target system.	<i>Java Add-in for ABAP → Informix → <Java Add-In with MaxDB or Java Add-In with IBM DB2 UDB for UNIX and Windows> → Dialog Instance Finalization</i>

Java Add-in Distributed System


Procedure	Installation Service in SAPInst
Export the database content on the source system and create the Java export.	<i>Java Add-In for ABAP → <your database> → Distributed System → Migration – Database Export</i>
Install the database schema for the central instance on the target host.	<i>Java Add-In for ABAP → <your database> → Distributed System → Java Database Schema Installation</i>
Install the central instance on the target host using the Java export.	<i>Java Add-In for ABAP → <your database> → Distributed System → Migration – Target Central Instance Installation</i>
Install dialog instance(s) for the target system.  <p>This step is optional. However, if you install a Java DI on a Java AddIn system, you must install an ABAP DI first. The Java DI should be installed with the same SP level as the CI.</p>	<i>Java Add-In for ABAP → <your database> → Distributed System → Dialog Instance Installation</i>

Informix only



If you want to copy a Java Add-in based on MaxDB or IBM DB2 UDB for UNIX and Windows to go with a previously copied **Informix-based** ABAP Engine, you use the following installation procedures:

Migration Procedure	Installation Service in SAPInst
Export the database content on the source system and create the Java export.	<i>Java Add-In for ABAP → Informix → <Java Add-In with MaxDB or Java Add-In with IBM DB2 UDB for UNIX and Windows> → Distributed System → Migration – Database Export</i>
Install the Java database and schema on the target host.	MaxDB: <i>Java Add-in for ABAP → Informix → Java Add-In with MaxDB → Java Database Installation</i> IBM DB2 UDB for UNIX and Windows: <i>Java Add-in for ABAP → Informix → Java Add-In with IBM DB2 UDB for UNIX and Windows → Java Database with Schema Installation</i>
Install the central instance on the target host using the Java export.	<i>Java Add-In for ABAP → Informix → <Java Add-In with MaxDB or Java Add-In with IBM DB2 UDB for UNIX and Windows> →</i>

	<i>Distributed System → Migration – Target Central Instance Installation</i>
<p>Install dialog instance(s) for the target system.</p>  <p>This step is optional. However, if you install a Java DI on a Java AddIn system, you must install an ABAP DI first. The Java DI should be installed with the same SP level as the CI.</p>	<p><i>Java Add-In for ABAP → Informix → <Java Add-In with MaxDB or Java Add-In with IBM DB2 UDB for UNIX and Windows> → Distributed System → Dialog Instance Installation</i></p>

Java Central System

Migration Procedure	Installation Service in SAPInst
Export the database content on the source system and create the Java export.	<i>Java System → <your database> → Central System → Migration – Database Export</i>
Install the Java system on the target host using the Java export.	<i>Java System → <your database> → Central System → Migration – Target System Installation</i>
Install dialog instance(s) for the target system.	<i>Java System → <your database> → Central System → Dialog Instance Installation</i>

Java Distributed System

Migration Procedure	Installation Service in SAPInst
Export the database content on the source system and create the Java export.	<i>Java System → <your database> → Distributed System → Migration – Database Export</i>
Prepare the installation of the central Instance on the target host	<i>Java System → <your database> → Distributed System → Migration – Target Central Instance Host Preparation</i>
Install the database for the central instance on the target host.	<i>Java System → <your database> → Distributed System → Migration – Target Database Installation</i>
Install the central instance on the target host using the Java export.	<i>Java System → <your database> → Distributed System → Migration – Target Central Instance Installation</i>
Install dialog instance(s) for the target system.	<i>Java System → <your database> → Distributed System → Dialog Instance Installation</i>



This step is **optional**.

SAPinst creates a subdirectory for the chosen installation service below the installation directory `sapinst_instdir`.

5. Follow the instructions in the SAPinst input dialogs and enter the required parameters.



To find more information on each parameter, use the F1 key in SAPinst. If you need information on input parameters, position the cursor on the field of the respective parameter and press F1.



If your database instance is running on HP PA-Risc, you must proceed as described in **SAP Note 884452**.



Keep in mind that either the instance name, the instance number, or the hostname of the target system must be different from that of the source system.

After you have entered all required input parameters, SAPinst starts the installation and displays the progress of the installation.

When the installation has successfully completed, the screen *Finished successfully* is displayed.

4.4 Performing the System Copy on Windows Using SAPinst

Use

The following sections tell you how to run SAPinst on Windows to perform the system copy of a Java system or of a Java Add-In and provide useful background information about of SAPinst itself.

They describe an installation where SAPinst GUI and SAPinst server are running on the same host as well as a remote installation, where SAPinst GUI is running on another host:

- [Running SAPinst on Windows \[Page 63\]](#)
- [Handling SAPinst GUI \[Page 80\]](#)
- [Interrupted Installation with SAPinst \[Page 81\]](#)
- [Remote Installation with SAPinst \[page 85\]](#)

4.4.1 Running SAPinst on Windows

Use

This procedure tells you how to run SAPinst to install one or more SAP instances.

It describes an installation where SAPinst GUI and SAPinst server are running on the same host. If you want to perform a remote installation (SAPinst GUI is running on another host), see [Remote Installation with SAPinst \[page 85\]](#).

SAPinst normally creates the installation directory `sapinst_instdir` directly below the Program Files directory. If SAPinst is not able to create `sapinst_instdir` directly below the Program Files directory, SAPinst tries to create `sapinst_instdir` in the directory, to which the environment variable `TEMP` is set.



Each SAP instance requires a separate installation directory.

The SAPinst Self-Extractor extracts the executables to a temporary directory (`TEMP`, `TMP`, `TMPDIR`, or `SystemRoot`). These executables are deleted after SAPinst has stopped running. Directories with the name `sapinst_exe.xxxxxxx.xxxx` sometimes remain in the temporary directory. You can safely delete them.



In the temporary directory you can also find the SAPinst Self-Extractor log file `dev_selfex.out`, which might be useful if an error occurs.

If you want to terminate SAPinst and the SAPinst Self-Extractor, do one of the following:

- Right-click the icon for the SAPinst output window located in the Windows tray and choose *Exit*.
- Click the icon for the SAPinst output window located in the Windows tray and choose *File* → *Exit*.

Prerequisites

- You need at least 50 MB of free space in the installation directory for **each installation service**. In addition, you need 60-200 MB free space for the SAPinst executables.



We recommend that you keep all installation directories until the system is completely and correctly installed.



If SAPinst cannot find a temporary directory, the installation terminates with the error `FCO-00058`.

- If you are installing a second or subsequent SAP system into an existing database, make sure that the database is **up and running before** starting the installation. For more information about MCOD, see “Installation of Multiple Components in One Database (Optional)” in *Installation Guide – SAP Web AS Java 6.40 SR 1 on <your operating system> : <your database>, Part I – Planning and Preparation*.

Procedure

1. Log on to your host as a user who is a member of the local administration group.
2. Insert the *SAP Installation Master DVD* in your DVD drive.
3. Start SAPinst from the *SAP Installation Master DVD* :
 - a. Open a DOS command prompt
 - b. Change to the following directory:

```
<DVD drive>:\IM<x>_<OS>\SAPINST\NT\<platform>
```
 - c. Start SAPinst using the following command:

```
sapinst.exe product_cp.catalog
```



For copying a high availability system, use the following command on the central instance host:

```
sapinst.exe product_cp_ha.catalog
```




If you use the `product_cp_ha.catalog`, you need to copy the Installation Master DVD and the DTD files. For more information, see **SAP Note 785848**.

You can then **NOT** use the `product_cp.catalog` any more.

- d. Choose the required installation service.
SAPinst will copy several files to your installation directory.
- e. When the next screen appears, interrupt SAPinst by pressing *Cancel* and *Stop*.
- g. Extract the archive `JSC<db>13.sar` to the installation directory.
- h. Restart SAPinst, choose the installation service again.
- i. On the following dialog screen *What do you want to do?*, choose *Continue the installation in* and confirm with *OK*.
- j. Follow the instructions on the SAPinst screens.

SAPinst creates an installation directory where it keeps its log files. By default the installation directory is located below `ProgramFiles\sapinst_instdir`. The exact name of the subdirectory depends on the installation service chosen by you.

SAPinst GUI starts automatically by displaying the *Welcome* screen.

However, if there is only one component to install, SAPinst directly displays the first input dialog without presenting the *Welcome* screen.



SAPinst uses the ports 21212 and 21213 during the installation for communication with SAPinst GUI. You get an error message if one of these ports is already used by another service. In this case, open a command prompt and change to `<DVD drive>`: `\IM<x>_<OS>\SAPINST\NT\<platform>`. Run:
`sapinst.exe SAPINST_DIALOG_PORT=<free_port_number>`.
 For example, if you enter 60000 as `<free_port_number>`, SAPinst uses the ports 60000 and 60001.

4. In the *Welcome* screen, select the corresponding installation service from the tree structure as listed in the table below and choose *Next*.



Choose the installation services for dialog instances (*Dialog Instance Finalization* and *Dialog Instance Installation*) only, if you copied an SAP system based on SAP Web AS 6.40 SR1 SP09.

Java Add-In Central System

Procedure	Installation Task in SAPinst
Export the content of the Java part of the database on the source system and create the Java export.	<i>Java Add-in for ABAP</i> → <code><your database></code> → <i>Migration – Database Export</i>
Install the Java Add-in for the Central instance on the target host using the Java export.	<i>Java Add-in for ABAP</i> → <code><your database></code> → <i>Migration – Target System Installation</i>
Complete dialog instance(s) for the target system.	<i>Java Add-in for ABAP</i> → <code><your database></code> → <i>Migration – Dialog Instance Finalization</i>



Informix only:



If you want to copy a Java Add-in based on MaxDB or IBM DB2 UDB for UNIX and Windows to go with a previously copied **Informix-based** ABAP Engine, you use the following installation procedures:

Procedure	Installation Task in SAPinst
Export the content of the Java part of the database on the source system and create the Java export.	<i>Java Add-in for ABAP → Informix → <Java Add-In with MaxDB or Java Add-In with IBM DB2 UDB for UNIX and Windows> → Migration – Database Export</i>
Install the Java database and schema on the target host.	MaxDB: <i>Java Add-in for ABAP → Informix → Java Add-In with MaxDB → Java Database Installation</i> IBM DB2 UDB for UNIX and Windows: <i>Java Add-in for ABAP → Informix → Java Add-In with IBM DB2 UDB for UNIX and Windows → Java Database with Schema Installation</i>
Install the Java Add-in for the Central instance on the target host using the Java export.	<i>Java Add-in for ABAP → Informix → <Java Add-In with MaxDB or Java Add-In with IBM DB2 UDB for UNIX and Windows> → Migration – Target System Installation</i>
Complete dialog instance(s) for the target system.	<i>Java Add-in for ABAP Informix → <Java Add-In with MaxDB or Java Add-In with IBM DB2 UDB for UNIX and Windows> → Dialog Instance Finalization</i>

Java Add-in Distributed System

Procedure	Installation Service in SAPinst
Export the database content on the source system and create the Java export.	<i>Java Add-in for ABAP → <your database> → Distributed System → Migration – Database Export</i>
Install the database schema for the central instance on the target host.	<i>Java Add-in for ABAP → <your database> → Distributed System → Java Database Schema Installation</i>
Install the central instance on the target host using the Java export.	<i>Java Add-in for ABAP → <your database> → Distributed System → Migration – Target Central Instance Installation</i>
Install dialog instance(s) for the target system.	<i>Java System → <your database> → Distributed System → Dialog Instance Installation</i>
 This step is optional . However, if you install a Java DI on a	

<p>Java AddIn system, you must install an ABAP DI first. The Java DI should be installed with the same SP level as the CI.</p>	
--------------------------------------------------------------------------------------------------------------------------------	--

Informix only:




If you want to copy a Java Add-in based on MaxDB or IBM DB2 UDB for UNIX and Windows to a previously copied **Informix-based** ABAP Engine, you use the following installation procedures:

Migration Procedure	Installation Service in SAPinst
Export the database content on the source system and create the Java export.	<i>Java Add-in for ABAP → Informix → <Java Add-In with MaxDB or Java Add-In with IBM DB2 UDB for UNIX and Windows> → Distributed System → Migration – Database Export</i>
Install the Java database and schema on the target host.	MaxDB: <i>Java Add-in for ABAP → Informix → Java Add-In with MaxDB → Java Database Installation</i> IBM DB2 UDB for UNIX and Windows: <i>Java Add-in for ABAP → Informix → Java Add-In with IBM DB2 UDB for UNIX and Windows → Java Database with Schema Installation</i>
Install the database schema for the central instance on the target host.	<i>Java Add-in for ABAP → Informix → <Java Add-In with MaxDB or Java Add-In with IBM DB2 UDB for UNIX and Windows> → Distributed System → Java Database Schema Installation</i>
Install the central instance on the target host using the Java export.	<i>Java Add-in for ABAP → Informix → <Java Add-In with MaxDB or Java Add-In with IBM DB2 UDB for UNIX and Windows> → Distributed System → Migration – Target Central Instance Installation</i>
Install dialog instance(s) for the target system. This step is optional. However, if you install a Java DI on a Java AddIn system, you must install an ABAP DI first. The Java DI should be installed with the same SP level as the CI.	<i>Java Add-in for ABAP → Informix → <Java Add-In with MaxDB or Java Add-In with IBM DB2 UDB for UNIX and Windows> → Distributed System → Dialog Instance Installation</i>

Java Central System

Migration Procedure	Installation Service in SAPinst
Export the database content on the source system and create the Java export.	<i>Java System → <your database> → Central System → Migration – Database Export</i>
Install the Java system on the target host using the Java export.	<i>Java System → <your database> → Central System → Migration – Target System Installation</i>
Install dialog instance(s) for the target system.	<i>Java System → <your database> → Central System → Dialog Instance Installation</i>

Java Distributed System

Migration Procedure	Installation Service in SAPinst
Export the database content on the source system and create the Java export.	<i>Java System → <your database> → Distributed System → Migration – Database Export</i>
Prepare the installation of the central Instance on the target host	<i>Java System → <your database> → Distributed System → Migration – Target Central Instance Host Preparation</i>
Install the database for the central instance on the target host.	<i>Java System → <your database> → Distributed System → Migration – Target Database Installation</i>
Install the central instance on the target host using the Java export.	<i>Java System → <your database> → Distributed System → Migration – Target Central Instance Installation</i>
Install dialog instance(s) for the target system.	<i>Java System → <your database> → Distributed System → Dialog Instance Installation</i>
 This step is optional .	

SAPinst creates a subdirectory for the chosen installation service below the installation directory `sapinst_instdir`.

If SAPinst prompts you to log off from your system, log off and log on again.

SAPinst restarts automatically.

5. Follow the instructions in the SAPinst dialogs.



To find more information on each parameter, use the F1 key in SAPinst. If you need information on input parameters, position the cursor on the field of the respective parameter and press F1.



Keep in mind that either the instance name, the instance number, or the hostname of the target system must be different from that of the source system.

After you have entered all required input information, SAPinst starts the installation and displays the progress of the installation. If the installation was successful, the *Finished successfully* screen is displayed.

4.5 Performing the System Copy on IBM eServer iSeries Using SAPinst

Use

The following sections tell you how to run SAPinst on iSeries to perform the system copy of a Java system or of a Java Add-in installation and provide useful background information about of SAPinst itself.

They describe an installation where SAPinst GUI and SAPinst server are running on the same host as well as a remote installation, where SAPinst GUI is running on another host:

- [Running SAPinst on iSeries \[Page 72\]](#)
- [Handling SAPinst GUI \[Page 80\]](#)
- [Changing the SAPinst GUI Host \[Page 78\]](#)
- [Starting SAPinst GUI on Another Host \[Page 85\]](#)

4.5.1 Running SAPinst on IBM eServer iSeries

Use

This procedure tells you how to run SAPinst to install one or more SAP instances. It describes an installation where SAPinst GUI and SAPinst server are running on the same Windows host.

SAPinst creates the installation directory `\usr\sap\sapinst` on iSeries.

The SAPinst Self-Extractor extracts the SAPinst executables to the temporary directory (`TEMP`, `TMP`, `TMPDIR` or `/tmp`) on your Windows PC. These executables are deleted again after SAPinst has stopped running. Directories with the name `sapinst_exe.xxxxxx.xxxx` sometimes remain in the temporary directory. You can safely delete them. You can terminate SAPinst and the SAPinst Self-Extractor by pressing `Ctrl+C`. In the temporary directory, you also find the Self Extractor log file `dev_selfex.out`, which might be useful if an error occurs.

Prerequisites

You need at least 50 MB of free space in the installation directory for each installation service. In addition, you need 60-200 MB free space for the SAPinst executables.



We recommend that you keep all installation directories until you are fully satisfied that the system is completely and correctly installed.



If SAPinst cannot find a temporary directory, the installation terminates with the error `FCO-00058`.

Procedure

1. Log on to the Windows host as the installation user. For more information, see [Preparing a Windows User Account and iSeries User Profile \[Page 25\]](#).
2. Start SAPinst from the *SAP Installation Master DVD* in one of the following ways:

- Using the **default** installation directory

Start the installation with the command:

```
sapinst.exe product_cp.catalog
```

in the path `<Mapped_Drive>:\<Copied SAP Installation Master DVD>\IM<x>_OS400_64\SAPINST\OS400\AS400.`



For copying a high availability system, use the following command on the central instance host:

```
sapinst.exe product_cp_ha.catalog
```



If you use the `product_cp_ha.catalog`, you need to copy the Installation Master DVD and the DTD files. For more information, see **SAP Note 785848**.

You can then **NOT** use the `product_cp.catalog` any more.



SAPinst uses the port 21212 and 21213 during the installation for communication with the SAPinst GUI. If this port is already used by another service you must add the parameter `SAPINST_DIALOG_PORT=<free_port_number>` to the relevant `sapinst` command above.

For example:

```
sapinst.exe product_cp.catalog SAPINST_DIALOG_PORT=<free_port_number>
```

- Using an **alternative** installation directory

Change to your installation directory.

Enter the following command to start SAPinst from the *SAP Installation Master DVD*:

```
<Mapped_Drive>:\<Copied SAP Installation Master DVD>\IM<x>_OS400_64\SAPINST\OS400\AS400\sapinst.exe
<Mapped_Drive>:\<Copied SAP Installation Master DVD>\IM<x>_OS400_64\SAPINST\OS400\AS400\product_cp.catalog
```



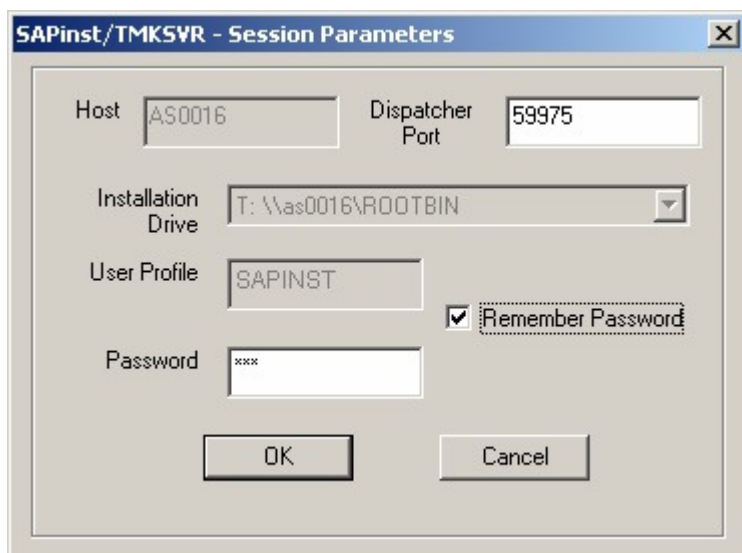
For copying a high availability system, use the following command on the central instance host:

```
<Mapped_Drive>:\<Copied SAP Installation Master DVD>\IM<x>_OS400_64\SAPINST\OS400\AS400\product_cp_ha.catalog
```

- a. Choose the required installation service.
SAPinst will copy several files to your installation directory.
- b. When the next screen appears, interrupt SAPinst by pressing *Cancel* and *Stop*.
- c. Extract the archive `JSC<db>13.sar` to the installation directory.

- d. Restart SAPinst, choose the installation service again.
- e. On the following dialog screen *What do you want to do?*, choose *Continue the installation in* and confirm with *OK*.
- f. Follow the instructions on the SAPinst screens.

3. The *SAPinst/TMKSVR – Session Parameters* dialog box appears and prompts you for the target iSeries parameters. Enter your values.



The SAPinst GUI now starts automatically by displaying the *Welcome* screen.


However, if there is only one component to install, SAPinst directly displays the first input dialog without the *Welcome* screen.

4. In the *Welcome* screen, select the corresponding installation service as shown in the table below and then choose *Next*:

Java Add-In Central System

Migration Procedure	Installation Task in SAPinst
Export the content of the Java part of the database on the source system and create the Java export.	<i>Java Add-in for ABAP → IBM DB2 UDB for iSeries → Migration – Database Export</i>
Install the Java Add-in for the Central instance on the target host using the Java export.	<i>Java Add-in for ABAP → IBM DB2 UDB for iSeries → Migration – Target System Installation</i>
Complete dialog instance(s) for the target system.	<i>Java Add-in for ABAP → IBM DB2 UDB for iSeries → Migration – Dialog Instance Finalization</i>

Java Add-in Distributed System


Migration Procedure	Installation Service in SAPinst
Export the database content on the source system and create the Java export.	<i>Java Add-in for ABAP → IBM DB2 UDB for iSeries → Distributed System → Migration – Database Export</i>
Install the Database schema for the central instance on the target host.	<i>Java Add-in for ABAP → IBM DB2 UDB for iSeries → Distributed System → Migration – Java Database Schema Installation</i>
Install the Central instance on the target host using the Java export.	<i>Java Add-in for ABAP → IBM DB2 UDB for iSeries → Distributed System → Migration – Target Central Instance Installation</i>
Install dialog instance(s) for the target system.  <p>This step is optional. However, if you install a Java DI on a Java AddIn system, you must install an ABAP DI first. The Java DI should be installed with the same SP level as the CI.</p>	<i>Java Add-in for ABAP → IBM DB2 UDB for iSeries → Distributed System → Dialog Instance Installation</i>

Java Central System

Migration Procedure	Installation Service in SAPinst
Export the database content on the source system and create the Java export.	<i>Java System → IBM DB2 UDB for iSeries → Central System → Migration – Database Export</i>
Install the Java system on the target host using the Java export	<i>Java System → IBM DB2 UDB for iSeries → Central System → Migration – Target System Installation</i>

Install dialog instance(s) for the target system.	<i>Java System → IBM DB2 UDB for iSeries → Central System → Dialog Instance Installation</i>
---------------------------------------------------	--------------------------------------------------------------------------------------------------

Java Distributed System

Migration Procedure	Installation Service in SAPinst
Export the database content on the source system and create the Java export.	<i>Java System → IBM DB2 UDB for iSeries → Distributed System → Migration – Database Export</i>
Prepare the installation of the Central Instance on the target host	<i>Java System → IBM DB2 UDB for iSeries → Distributed System → Migration – Target Central Instance Host Preparation</i>
Install the Database for the central instance on the target host.	<i>Java System → IBM DB2 UDB for iSeries → Distributed System → Migration – Target Database Installation</i>
Install the Central instance on the target host using the Java export.	<i>Java System → IBM DB2 UDB for iSeries → Distributed System → Migration – Target Central Instance Installation</i>
Install dialog instance(s) for the target system.  This step is optional.	<i>Java System → IBM DB2 UDB for iSeries → Distributed System → Dialog Instance Installation</i>

SAPinst creates a subdirectory for the chosen installation service below the installation directory `sapinst_instdir`.

5. Follow the instructions in the SAPinst input dialogs and enter the required parameters.



To find more information on each parameter, use the F1 key in SAPinst. If you need information on input parameters, position the cursor on the field of the respective parameter and press F1.



Keep in mind that either the instance name, the instance number, or the hostname of the target system must be different from that of the source system.

After you have entered all required input parameters, SAPinst starts the installation and displays the progress of the installation.

When the installation has successfully completed, the screen *Finished successfully* is displayed.

4.5.2 Changing the SAPinst GUI host (Optional)

Purpose

You can run the SAPinst GUI in standalone mode. This enables you to change the monitoring host the GUI runs on during installation.

The Windows host you started sapinst.exe from will be called `<sapinst_exe_host>`.

The Windows host where you want to run the SAPinst GUI in standalone mode will be called `<sapinst_GUI_host>`.

Prerequisites

- You have prepared the `<sapinst_GUI_host>` for the SAP system installation.
- You have prepared a Windows user account on the `<sapinst_GUI_host>` as described in section [Preparing a Windows user account and iSeries user profile \[Page 25\]](#).
- Both computers are in the same network and can ping each other.

To test this:

3.10 Log on to the host where you started sapinst.exe and enter the command

```
ping <sapinst_GUI_host>.
```

3.11 Log on to the host where you want to run the SAPinst GUI in standalone mode and enter the command `ping <sapinst_exe_host>`.

Process Flow

1. You [run SAPinst on the <sapinst_exe_host> \[Page 72\]](#).
2. You log off from the SAPinst GUI by choosing the *Logoff* button.
3. You [start SAPinst GUI on the <sapinst_GUI_host> \[Page 79\]](#).
4. You continue the installation using the SAPinst GUI.

4.5.3 Running SAPinst in standalone mode (Optional)

Purpose

You can run the SAPinst GUI in standalone mode. This enables you to change the monitoring host the GUI runs on during installation.

The Windows host you started sapinst.exe from will be called `<sapinst_exe_host>`.

The Windows host where you want to run the SAPinst GUI in standalone mode will be called `<sapinst_GUI_host>`.

Prerequisites

- You prepare the `<sapinst_GUI_host>` for the SAP system installation.
- You prepare a Windows user account on the `<sapinst_GUI_host>` as described in section [Preparing a Windows User Account and iSeries User Profile \[page 25\]](#).
- Both computers are in the same network and can ping each other.

To test this:

- 3.12 Log on to the host where you started sapinst.exe and enter the command

```
ping <sapinst_GUI_host>.
```

- 3.13 Log on to the host where you want to run the SAPinst GUI in standalone mode and enter the command `ping <sapinst_exe_host>`.

Process Flow

1. You run SAPinst on the <sapinst_exe_host>.
2. You log off from the SAPinst GUI by pushing the Logoff button.
3. You start SAPinst GUI on the <sapinst_GUI_host>.
4. You continue the installation using the SAPinst GUI.

4.5.4 Starting SAPinst GUI on Another Host (Optional)

Use

You use this procedure to run SAPinst GUI on the <sapinst_GUI_host>. The <sapinst_GUI_host> is the host from which you want to control the installation with the SAPinst GUI.

Prerequisites

- You started the installation on the <sapinst_exe_host>.
- During installation you pressed the *Logoff* Button in the SAPinst GUI.

Procedure

1. Log on to the <sapinst_GUI_host> as a user who is a member of the local administration group.
2. Insert the installation CD into your drive.
3. To start the SAPinst GUI double click on:



SAP informs you about how to start the Java System Copy.

Follow the instructions in the [Introduction \[Page 9\]](#).

4. Enter the host name of the Installation Host (<sapinst_exe_host>) and the same Port as SAPinst uses on this host and choose OK.

SAPinst GUI now connects to the SAPinst server and the first dialog of the installation appears.


5. Continue the installation from the <sapinst_GUI_host>.




To connect the SAPinst GUI from another host, the SAPinst server must still be running on the <sapinst_exe_host>. If the SAPinst server is stopped, no GUI can connect to it.

4.6 Handling SAPinst GUI

The following push buttons are available on the different SAPinst GUI dialogs (input screens, installation progress screen, message boxes):

Push Button / Function Key	Meaning
<i>F1</i>	Displays detailed information about each input parameter. The new field help replaces the former "What's this"-help on the SAPinst screens and the former input parameter tables in the installation guide.
<i>Back</i>	Displays the previous dialog for editing.
<i>Next</i>	Displays the next dialog for editing.
<i>Cancel</i>	<p>Cancels the installation with the following options:</p> <ul style="list-style-type: none"> – <i>Stop</i> Stops the installation without further changing the installation files. You can continue the installation later from this point. – <i>Reset</i> Resets all installation input files. All files in the installation directory are removed from the system. No backup is available. You must restart the installation from the beginning.
<i>Log Off</i>	<p>Cancels the connection to the SAPinst GUI only. The SAPinst server keeps on running.</p>  <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <p>Typical case:</p> <p>For some reason you need to log off during the installation from the host where you control the installation with SAPinst GUI. The installation continues while you are logged off. You can later connect with SAPinst GUI from another host to the same installation. For this you need the <i>SAP Installation Master DVD</i>.</p> <p>For more information on running SAPinst GUI in standalone mode for a remote installation, see Starting SAPinst GUI on the Local Host [page 86].</p> </div>
<i>View Log</i>	Displays the content of the <code>sapinst.log</code> file during the installation.
<i>Retry</i>	Performs the installation step again (if an error has occurred).
<i>Stop</i>	Stops the installation without further changing the installation files. You can continue the installation later from this point.
<i>Reset</i>	<p>Resets all installation input files. All files in the installation directory are removed from the system. No backup is available.</p> <p>You must restart the installation from the beginning.</p>

<i>Continue</i>	<p>Continues with the option you have chosen before.</p> <div style="text-align: center;">  </div> <p>If a message box comes up and you choose <i>Cancel</i>, SAPinst then offers you the options <i>Continue</i>, <i>Stop</i>, <i>Reset</i>. Do not choose <i>Continue</i>, but choose <i>Stop</i> or <i>Reset</i>. If you choose <i>Continue</i> an error occurs.</p>
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4.7 Interrupted Installation with SAPinst


Use

The SAP system installation might be interrupted for one of the following reasons:

- An error occurred during the processing phase:
SAPinst does not abort the installation in error situations. If an error occurs during the processing phase, the installation will hold and a dialog box appears. The dialog box contains a short description about the choices listed in the table following as well as a path to a log file that contains detailed information about the error.
- You interrupted the installation by choosing *Cancel*

The following table describes the options in the dialog box:

If you choose...	Description
<i>View Log</i>	A frame with history information (log files) about the steps performed last appears. These log files contain a short description of the error that has occurred. The dialog box will remain in the background, so you can choose one of the following two options (<i>Retry</i> or <i>Stop</i>) after viewing the log information.
<i>Retry</i>	<p>Since SAPinst records the installation progress in the <code>keydb.xml</code> file, you can continue the installation by choosing <i>Retry</i>.</p> <p>The installation continues from the point of failure without having to repeat any of the previous steps.</p> <p>You can try to solve the problem by viewing the entries in the log files and then choosing <i>Retry</i>.</p> <p>If the same or a different error occurs again, the dialog box will appear again.</p>
<i>Stop</i>	The dialog box and the SAPinst GUI will be closed. The installation stops but SAPinst records the installation progress in the <code>keydb.xml</code> file. Thus, you can continue the installation from point of failure without repeating any of the previous steps. See the procedure below.

<i>Reset</i>	<p>You must restart the installation from the beginning, that is, with the default <code>keydb.xml</code> file.</p> <div style="text-align: center;">  </div> <p>You must delete the previous installation before you restart SAPinst. For more information, see “Deletion of an SAP System Installation” in the documentation <i>Installation Guide – SAP Web Application Server Java on <OS>: <DB></i>.</p>
<i>Continue</i>	You continue the installation



UNIX only: You can also terminate SAPinst by choosing Ctrl+C. However, we do **not** recommend that you use Ctrl+C, because this kills the process immediately.

Procedure

The following procedures describe the steps to restart an installation, which you stopped by choosing *Stop*, or to continue an interrupted installation after an error situation.

Windows

1. Log on to your remote host as a user who is a member of the local administration group.
2. Insert the installation DVD in your DVD drive
2. Enter the following commands from the Windows command prompt:



SAP informs you about how to start the Java System Copy.

Follow the instructions in the [Introduction \[Page 9\]](#).

3. From the tree structure in the *Welcome* screen, choose the installation task that you want to continue and choose *Next*.



If there is only one component to install, SAPinst directly displays the dialog *What do you want to do?* without presenting the *Welcome* screen.

The *What do you want to do?* screen appears.

4. In the *What do you want to do?* screen, choose one of the following options and confirm with *OK*.

Option	Description
<i>Run a new Installation</i>	<p>The installation will not be continued.</p> <p>Instead, SAPinst moves the content of the old installation directory and all installation-specific files to the backup directory. Afterwards, you can no longer continue the old installation.</p> <p>The log files from the old installation are stored to a backup directory with the following naming convention: <log_day_month_year_hours_minutes_seconds> (for example, log_01_Oct_2003_13_47_56).</p>
<i>Continue old installation</i>	The installation, which was stopped before, will be continued from the point of failure.

UNIX

1. Log on to your local UNIX host as user `root`.
5. Mount your installation DVD.



Mount the DVD locally. We do **not** recommend using Network File System (NFS).

6. Enter the following commands:



SAP informs you about how to start the Java System Copy.

Follow the instructions in the [Introduction \[Page 9\]](#).

7. From the tree structure in the *Welcome* screen, choose the installation task that you want to continue and choose *Next*.



If there is only one component to install, SAPinst directly displays the dialog *What do you want to do?* without presenting the *Welcome* screen.

The *What do you want to do?* screen appears.

8. In the *What do you want to do?* screen, choose one of the following options and confirm with *OK*.

Alternative	Behavior
<i>Run a new Installation</i>	<p>The installation will not be continued.</p> <p>Instead, SAPinst moves the content of the old installation directory and all installation-specific files to the backup directory. Afterwards, you can no longer continue the old installation.</p> <p>The log files from the old installation are put into a backup directory with the following naming convention: <log_day_month_year_hours_minutes_seconds> (for example, log_01_Oct_2003_13_47_56).</p>
<i>Continue old installation</i>	The installation stopped before will be continued from the point of failure.

iSeries

1. Check if a SAPinst GUI Java process is still running.

If a process is still running, look for `javaw.exe` under *Processes* in your Task Manager and kill it.

Start the installation with the command:



SAP informs you about how to start the Java System Copy.

Follow the instructions in the [Introduction \[Page 9\]](#).

2. From the tree structure in the *Welcome* screen, select the installation task that you want to continue and choose *Next*.



If there is only one component to install, SAPinst directly displays the dialog *What do you want to do?* without presenting the *Welcome* screen.

3. The *What do you want to do?* screen appears.
4. In the *What do you want to do?* screen, decide between the following alternatives and choose *OK*.

Alternative	Behavior
<i>Run a new Installation</i>	<p>The installation will not be continued.</p> <p>Instead, SAPinst deletes the mentioned installation directory for the chosen installation service and starts the installation from the beginning.</p> <p>The log files from the old installation are put into a backup directory with the following naming convention: <log_day_month_year_hours_minutes_seconds> (for example, log_01_Oct_2003_13_47_56).</p>
<i>Continue old installation</i>	<p>The installation of the mentioned installation service will be continued from the point of failure.</p>



SAPinst uses the port 21212 and 21213 during the installation for communication with the SAPinst GUI. If this port is already used by another service you must add the parameter `SAPINST_DIALOG_PORT=<free_port_number>` to the relevant `sapinst` command above.

4.8 Remote Installation with SAPinst (Optional)

4.8.1 Remote Installation with SAPinst on UNIX and Windows (Optional)

Purpose

You can run the SAPinst GUI in standalone mode to perform a remote installation.

This enables you to install an SAP system on another host (the remote host) while monitoring the installation with the SAPinst GUI on your local Windows or UNIX computer (the local host).

Prerequisites

- Make sure that you have performed the preparation activities for your local host (SAPinst GUI host) and your remote host.

For more information, see “Installation Preparations” in this documentation.

- Both computers are in the same network and can ping each other.

To test this:

1.2 Log on to your remote host and enter the command `ping <local host>`.

1.3 Log on to the local host and enter the command `ping <remote host>`.

Process Flow

1. You [start SAPinst on the remote host \[page 85\]](#).
2. You [start SAPinst GUI on the local host \[page 86\]](#).
3. You perform the installation using the SAPinst GUI.

4.7.1.1 Starting SAPinst on the Remote Host (Optional)

Use

You use this procedure to run SAPinst on the **remote** host when you to perform a [remote installation \[page 85\]](#). The remote host is the host where you want to install the SAP system.

Prerequisites

You have [prepared your system for SAPinst \[page 23\]](#).

Concerning the Handling of the *SAP Installation Master DVD* see section [Running SAPinst \[page 57\]](#).

Procedure

Your Remote Host Runs on a Windows Platform

1. Log on to your remote host as a user who is a member of the local administration group.
2. Insert the installation DVD in your DVD drive.
3. Enter the following commands from the Windows command prompt:



SAP informs you about how to start the Java System Copy.

Follow the instructions in the [Introduction \[Page 9\]](#).

4. Start the SAPinst GUI on your local host, as described in [Starting SAPinst GUI on the Local Host \[page 86\]](#).

Your Remote Host Runs on a UNIX Platform

1. Log on to your remote host as user `root`.
2. Mount the installation DVD.



Mount the DVD locally. We do **not** recommend using Network File System (NFS).

3. Enter the following commands:



SAP informs you about how to start the Java System Copy.

Follow the instructions in the [Introduction \[Page 9\]](#).

SAPinst now starts and waits for the connection to the SAPinst GUI. That is, you see the following at the command prompt:

```
guiengine: no GUI connected; waiting for a connection on host <host_name>,
port <port_number> to continue with the installation
```

4. Start the SAPinst GUI on your local host, as described in [Starting SAPinst GUI on the Local Host \[page 86\]](#).

4.7.1.2 Starting SAPinst GUI on the Local Host (Optional)

Use

You use this procedure to run SAPinst GUI on the **local** host when you want to perform a [remote installation \[page 85\]](#). The local host is the host where you want to control the installation with the SAPinst GUI.

Prerequisites

You have [prepared your system for SAPinst \[page 23\]](#).

For more information about the handling of the *SAP Installation Master DVD* see [Running SAPinst on UNIX \[page 58\]](#) or [Running SAPinst on Windows \[page 63\]](#).

Procedure

Your Local Host Runs on a Windows Platform

1. Insert the installation CD into your CD drive.
2. Change to the following directory:
`cd <CD drive>:\IM<x>_<OS>\SAPinst\NT\<OS>`
3. Start the SAPinst GUI in one of the following ways:

- With additional parameters

Enter the following from the Windows command line:

```
startinstgui.bat host -<host_name> -port <port_number>
```

<host_name> is the host name of the installation host

<port_number> is the same port as SAPinst uses on the remote host

- Without additional parameters

- a. Enter the following from the Windows command line:

```
startinstgui.bat
```

The SAPinst GUI starts and tries to connect to SAPinst on the local host. However, normally there is no SAPinst running on the local host.

Therefore, the SAPinst GUI cannot connect and the *SAP Installation GUI Connection* dialog appears.

- b. Enter the host name of the *Installation Host* and the same *Port* as SAPinst uses on the remote host and choose *Log on*.

SAPinst GUI connects to the SAPinst server and the first dialog of the installation appears.

4. Perform the installation from your local host.

Your Local Host Runs on a UNIX Platform

1. Mount your installation DVD.



Mount the DVD locally. We do **not** recommend using Network File System (NFS).

2. Change to the following directory:

```
cd <SAP_Installation_DVD>/IM<x>_<OS>/SAPINST/UNIX/<OS>
```

3. Start the SAPinst GUI in one of the following ways:

- With additional parameters

Enter the following from the UNIX command line:

```
startinstgui.sh -host <host_name> -port <port_number>
```

<host_name> is the host name of the installation host

<port_number> is the same port as SAPinst uses on the remote host

- Without additional parameters

- c. Enter the following from the UNIX command line:

```
startinstgui.sh
```

The SAPinst GUI starts and tries to connect to SAPinst on the local host. However, normally there is no SAPinst running on the local host.

Therefore, the SAPinst GUI cannot connect and the *SAP Installation GUI Connection* dialog appears.

- d. Enter the host name of the *Installation Host* and the same *Port* as SAPinst uses on the remote host and choose *Log on*.

SAPinst GUI connects to the SAPinst server and the first dialog of the installation appears.

4. Perform the installation from your local host.

4.9 Troubleshooting

- If an error occurs during the **input phase**, SAPinst:

Stops the installation

Displays a dialog informing you about the error

- You can now directly view the log file by choosing *View Logs*
- You must abort the installation with *O.K.* and try to solve the problem.

- If an error occurs during the **processing phase**, SAPinst:

Stops the installation

Displays a dialog informing you about the error

You can now:

- Directly view the log file by choosing *View Logs*
- Try to solve the problem

For more information, see the *SAPinst Troubleshooting Guide for SAP Web AS Java Installation* on SAP Service Marketplace at:

service.sap.com/instguidesNW04 → *Installation* → *Web AS*

- Retry the installation by choosing *Retry*.
- Abort the installation by choosing *O.K.*

For more information, see [Interrupted Installation with SAPinst \[Page 81\]](#).

5 Follow-Up Activities

SAPinst has copied the Java system to your target system. It has also copied all the configurations of your Java system and of the components running in it. Generally, there is no need for further configuration steps, either in the source system or in the target system.

However, we recommend that you perform at least the post-installation checks in the target system as described in the post-installation section of the installation guide for the SAP Web AS Java (*Installation Guide – SAP Web Application Server Java on <OS>: <DB>*) and for the Java component(s) running in it.

To check and if necessary to reconfigure the copied functionalities and configuration, you may have to perform some post-installation activities:

1. [Perform follow-up activities on the source system \[page 89\]](#).
2. [Perform follow-up activities on the target system \[page 89\]](#).

5.1 Follow-Up Activities on the Source System

You do not need to perform post-installation steps in the source system for any of the Java components that are released for system copy at present.

5.2 Follow-Up Activities on the Target System

You have to perform general and component-specific configuration steps:

- [General follow-up activities \[page 90\]](#):
 - Request a SAP license key:

Once installation is complete and the SAP system copy has been imported, you will require a new license key for the target system. The license key of the source system is not valid for this system. For more information, see “Installing the SAP License” in the documentation *Installation Guide – SAP Web Application Server Java on <OS>: <DB>*
 - You patch the native binaries for SAP NetWeaver 04 as described in **SAP Note 832005**.
 - Perform [configuration steps for the SAP Java Connector \[page 90\]](#)
 - [Generate public-key certificates \[page 90\]](#)
- [Component-specific follow-up activities \[page 91\]](#):
 - [SAP Business Warehouse \[page 91\]](#)
 - [Configuration Steps for SAP Knowledge Warehouse - Internet Knowledge Servlet 1.0 \[page 95\]](#)
 - [Knowledge Management and Collaboration \[page 92\]](#)
 - [SAP Knowledge Warehouse \[page 95\]](#)
 - [SAP Exchange Infrastructure \(XI\) \[page 96\]](#)
 - [SAP Mobile Infrastructure \(MI\) \[page 101\]](#)
 - [SAP NetWeaver Java Development Infrastructure \(JDI\) \[page 102\]](#)
 - [mySAP ERP / mySAP CRM Java Components \[page 104\]](#).
 - [mySAP SRM Java Components \[page 106\]](#).

5.2.1 General Follow-Up Activities

5.2.1.1 Configuration Steps for the SAP Java Connector

Use

You need to perform these post-installation steps for a copied Java system that includes a component that has to connect to an ABAP backend using the SAP Java Connector (SAP JCo), for example SAP Business Warehouse or SAP Enterprise Portal.

Procedure

1. Log on to the Visual Administrator as an administrator.
2. On the launch path on the left choose Cluster → Server <server name> → Services → JCo RFC Provider.
3. On the right, choose Runtime and select the RFC destination that you use for the connection to the back end.
4. Maintain the required parameters for the RFC destination and repository.
5. Remove the old JCo destination that was copied from the source system.
6. Restart the Java server and the component.

5.2.1.2 Generate Public-Key Certificates

Use

After system copy, the public key certificates are wrong on the target system. You need to reconfigure them as described in the [SAP Library \[page 20\]](#) → Security → User Authentication and Single Sign-On → Authentication on the J2EE Engine → Configuring Authentication Mechanism → Using Logon Tickets for Single Sign-On → Configuring the Use of Logon Tickets → Replacing the Public-Key Certificate to Use for Logon Tickets.

Additional information can be found in **SAP Note 701205**.

5.2.1.3 Configuration of the J2EE instances on iSeries

Use

After system copy, some java parameters of the J2EE instances are duplicated or have to be adjusted. You need to reconfigure or delete them.

Procedure

7. Log on to the configtool (by a double click on the file configtool.bat in the path `\usr\sap\<SID>\<instance>\j2ee\configtool` from Windows).
8. When the Connection settings window comes up click on the Yes button.

9. On the launch path on the left choose cluster-data → instance_IDnnnnnn.
10. On the right, choose Message Server & Bootstrap and maintain the Java parameters:
Delete following entries:
 - Djco.jar=1
 - Djco.jar=1
 - Djava.ext.dirs=/usr/sap/<SID of source system>/SYS/j2ee/extFollowing entries should stay:
 - Djco.jar=1 (only one time!)
 - Djava.ext.dirs=/usr/sap/<SID of target system>/SYS/j2ee/ext
11. On the launch path on the left choose cluster-data → instance_IDnnnnnn → dispatcher_IDnnnnnn00.
12. On the right, choose General and maintain the Java parameters:
Configure the following entry by adjusting the target SID:
 - Djava.ext.dirs =/usr/sap/<SID of target system>/SYS/j2ee/ext
13. On the launch path on the left choose cluster-data → instance_IDnnnnnn → server_IDnnnnnnxx.
14. On the right, choose General and maintain the Java parameters:
Configure the following entry by adjusting the target SID:
 - Djava.ext.dirs =/usr/sap/<SID of target system>/SYS/j2ee/ext
15. Restart the J2EE engine.

Additional J2EE configuration information can be found in **SAP Note 717376**.

5.2.2 Component-Specific Follow-Up Activities

5.2.2.1 SAP Business Warehouse

Use

Follow the instructions in this section if the entries for *source system connection* have not been copied to the services file of your target system.

Prerequisites

You have performed a system copy that includes SAP Business Warehouse (SAP BW).

Procedure

You have to do the following to add the entries to the services file:

Your target host runs on a UNIX platform

1. Log on to your target system as user `root`.
2. Edit the file `/etc/services`.
3. Add the entries for your source system connection, for example `sapgw47 3347`.

Your target host runs on a Windows platform or on iSeries

1. Log on to your target system as a member of the local administration group.
2. Edit the file `<WindowsDirectory>\system32\drivers\etc\services`.
3. Add the entries for your *source system connection*, for example `sapgw47 3347`.

5.2.2.2 Knowledge Management and Collaboration

Purpose

After the system copy, the Knowledge Management and Collaboration (KMC) target system still has access to the same data as the original source system. If the source and target system have write access to the same data, this will result in serious inconsistencies in both systems. For this reason, it is essential to prevent both systems from using the same data.

Critical items that are accessed by both systems are, for example:

- Indexes for Search and Classification (TREX)
- Data in external repositories, for example, on file system shares
- Data on groupware servers

Process Flow

To prevent source and target system from working with the same data, reconfigure the following components on the target system:

- TREX
- Repository Managers
- Services
- Collaboration


The tables below summarize the configuration steps for each of the components and specify where you can find detailed information.

TREX

After the system copy, the target system is still connected to the same TREX installation as the source system. For this reason you need to install a new instance of TREX and connect it to the target system.



While KMC is still connected to the old TREX installation, do not delete any indexes, otherwise they will also be deleted on the source system.

Task	Detailed Information
For the target system, install a new instance of TREX.	service.sap.com/instguidesnw04 → <i>Installation</i> → <i>Cross-NW</i> → <i>Installation Guide Search and Classification TREX 6.1</i>
On the target system, set up the connection to the newly installed TREX system.	service.sap.com/instguidesnw04 → <i>Installation</i> → <i>Cross-NW</i> → <i>Installation Guide Search and Classification TREX 6.1</i> → <i>Client Side</i> → <i>Java Application (HTTP Connection)</i> .
On the target system, delete old indexes that belong to the source system. Define and generate new indexes for the target system.  <div style="background-color: #f0f0f0; padding: 5px; margin-top: 5px;">The prerequisite for this step is that all repository managers are configured correctly for the target system.</div>	help.sap.com/nw04 → <i>SAP NetWeaver</i> → <i>Information Integration</i> → <i>Knowledge Management</i> → <i>System Administration</i> → <i>System Configuration</i> → <i>Index Administration iView</i> .

Repository Managers

Ensure that the target system does not have write access to the same repositories as the source system.

Task	Detailed Information
On the target system, check the configuration of all external and internal repository managers that have write access to the same data as the source system. Ensure that the source and target system do not access the same data. For example, you need to check repository manager settings for: <ul style="list-style-type: none"> • CM FSDB or CM DBFS repositories • Simple File System repositories 	help.sap.com/nw04 → <i>SAP NetWeaver</i> → <i>Information Integration</i> → <i>Knowledge Management</i> → <i>Administration Guide</i> → <i>System Administration</i> → <i>System Configuration</i> → <i>Content Management Configuration</i> → <i>Repositories and Repository Managers</i> .

Services

Task	Detailed Information
<p>Content Exchange If content exchange is in use, the configuration on the source and target system is identical. However, it does not make sense to have the same content exchange procedures configured twice. For this reason, you delete the configuration on the target system and, if required, set up a new configuration. To remove the existing configuration on the target system, you run a cleanup file:</p> <ul style="list-style-type: none"> • Download the cleanup file attached to SAP Note 785848. Note that the cleanup procedure automatically creates a new ID for a syndicator and subscriber. • Import the cleanup file into the target portal. To do this, choose <i>System Administration</i> → <i>System Configuration</i> → <i>Knowledge Management</i> → <i>Content Management</i> and then, on the right, choose <i>Actions</i> → <i>Import</i>. • If required, configure new content exchange settings on the target system. 	<p>help.sap.com/nw04 → <i>SAP NetWeaver</i> → <i>Information Integration</i> → <i>Knowledge Management</i> → <i>Administration Guide</i> → <i>System Administration</i> → <i>System Configuration</i> → <i>Content Management Configuration</i> → <i>Global Services</i> → <i>Content Exchange Service</i>.</p>
<p>URL Generator On the target system, check the settings for the <code>Host</code> and <code>Alternative Host</code> parameters.</p>	<p>help.sap.com/nw04 → <i>SAP NetWeaver</i> → <i>Information Integration</i> → <i>Knowledge Management</i> → <i>Administration Guide</i> → <i>System Administration</i> → <i>System Configuration</i> → <i>Content Management Configuration</i> → <i>Global Services</i> → <i>URL Generator Service</i>.</p>
<p>System Landscape On the target system, delete the old system IDs that belong to the source system. To do this, you log on to the portal and choose <i>System Administration</i> → <i>System Configuration</i> → <i>Knowledge Management</i> → <i>Content Management</i> → <i>Global Services</i> → <i>System Landscape Definitions</i> → <i>Systems</i> → <i>Content Management Systems</i>.</p>	
<p>Scheduler Service If the target system is a SAP J2EE cluster, then you must assign scheduler tasks to the new system IDs of the target system. After the system copy these are still assigned to the IDs of the source system.</p>	<p>service.sap.com/instguidesnw04 → <i>Installation</i> → <i>EP</i> → <i>Installation Guide - SAP EP 6.0 (SR1) on Web AS 6.40</i> → <i>Installation of Knowledge Management and Collaboration</i> → <i>Post-Installation Activities</i> → <i>Post-Installation Tasks for SAP J2EE Engine Cluster</i> → <i>Cluster Only: Assigning Tasks to Nodes</i>.</p>

Collaboration

Task	Detailed Information
On the target system, adapt the room backend properties <code>server</code> , <code>port</code> and <code>protocol</code> .	help.sap.com/nw04 → SAP NetWeaver → Information Integration → People Integration → Collaboration → Administration Guide → Basic Configuration → Defining Backend System Properties for Room URLs.
On the target system, generate a new index to enable search operations in the content of rooms.	help.sap.com/nw04 → SAP NetWeaver → People Integration → People Integration → Collaboration → Administration Guide → Virtual Rooms → Configuration of Search Functions for Rooms → Configuration of the Search for Content in Rooms.
On the target system, check the properties of the room search object. Make sure that the parameter <code>Use TREX</code> is set.	help.sap.com/nw04 → SAP NetWeaver → People Integration → Collaboration → Administration Guide → Virtual Rooms → Configuration of Search Functions for Rooms → Configuration of the Search for Rooms.
On the target system, configure the connection to the required groupware server.	help.sap.com/nw04 → SAP NetWeaver → People Integration → Collaboration → Administration Guide → Groupware → Groupware Framework.
If the e-mailing service is active on the source system, but is not required on the target system, you need to delete the e-mail transport. After deletion of the transport, e-mailing is disabled. E-mails will no longer be automatically sent, for example, when members are excluded from a room or documents are updated and deleted.	help.sap.com/nw04 → SAP NetWeaver → People Integration → Collaboration → Administration Guide → Groupware → Groupware Framework → Installing and Configuring E-Mail Connectivity → Configuration Steps → Creating an E-Mail Transport
On the target system, reconfigure the <code>ServerName</code> and <code>ServerPort</code> for the application sharing server.	help.sap.com/nw04 → SAP NetWeaver → People Integration → Collaboration → Administration Guide → Basic Configuration → Configuring Real-Time Collaboration → Configuring the Application Sharing Server (RTC) → Setting Application Sharing Server Parameters (RTC).

5.2.2.3 Configuration Steps for SAP Knowledge Warehouse

Use

After the system copy, you have to configure the Internet Knowledge Servlet (IKS) to connect to the new ABAP backend as described in "Post installation - Configuration on the SAP IKS" in the documentation *Installation Guide - SAP Knowledge Warehouse 7.0* on SAP Service Marketplace at service.sap.com/instguidesNW04 → Installation → SAP KW → Installation Guide → SAP Knowledge Warehouse.

5.2.2.4 Configuration Steps for SAP Exchange Infrastructure (XI)

You have to perform the following post-installation steps for SAP XI:

5.2.2.4.1 System Landscape Directory



The following changes reflect exactly the post-installation steps in the SAP XI installation guide. For more detailed instructions about how to change the values, read the information in the document *Installation Guide - SAP Exchange Infrastructure 3.0 SR1* at service.sap.com/instguidesNW04 → *Installation* → *SAP XI*.

- **Maintaining the SLD Connection Parameters**
In transaction SLDAPICUST, change the value for the hostname as well as for the port number.
- **Maintaining Server Settings in the SLD**
Change the value for the object server.
- **Configuring the SLD Bridge**
Change the value for the gateway server as well as for the gateway service.
- **Maintaining the ABAP Connection**
In transaction RZ70, change the value for the host and the gateway service in the group box *Transport Information*. This value should be predefined by the value entered before in transaction SLDAPICUST.
- **Configuring the SLD Data Supplier Service in the Visual Administrator**
Change the value for the host as well as for the HTTP port number.

5.2.2.4.2 Integration Server



The following changes reflect exactly the post-installation steps in the SAP XI installation guide. For more detailed instructions about how to change the values, read the information in the document *Installation Guide - SAP Exchange Infrastructure 3.0 SR1* at service.sap.com/instguidesNW04 → *Installation* → *SAP XI*.

- **Maintaining the Logical System**
In transaction SSC4 maintain the logical system information.
- **Maintaining Technical System and Business System for the Integration Server**
In the SLD maintain a product for the Technical System. Create a Business System for the Integration Server and maintain the logical system information.
- **Creating RFC Destinations in the ABAP Environment**
In transaction INTEGRATION_DIRECTORY_HMI, change the value for the target host as well as for the HTTP port number.
- **Maintaining RFC Destinations in the ABAP and SAP Java Environment**
For the following connections change the value for the gateway host as well as for the gateway service on the ABAP side and in the Visual Administrator. In the Visual Administrator additionally change the value for the application hostname and the system number. Change the value for the gateway host as well as for the gateway service on the ABAP side and the value for SAP XI host in the Visual Administrator for the following connections:

AI_RUNTIME_JCOSERVER	Is used for the connection of the ABAP to the Java part of the Integration Server.
LCRSAPRFC and	Are used for the connection of the Integration Server to the SLD

SAPSLDAPI	
-----------	--

- **Creating HTTP Destination pmistore in the SAP J2EE Environment**
Change the value for the host and port number in the destination URL.
- **Maintaining Pipeline to Integration Server**
Change the pipeline to the Integration Server by running transaction `SXMB_ADM`.

5.2.2.4.3 Changes in the Exchange Profile

The following parameters contain the hostname for the connection of components. All parameters pointing to the source system must be changed in order to reference the target system.

Details about the parameters can be found in the chapter *SAP Exchange Infrastructure Profile Parameters* in the *SAP XI 3.0 Configuration Guide*.

com.sap.aii.connect.cr.name	Contains the hostname of the component repository server.
com.sap.aii.connect.cr.httpport	Contains the HTTP port number of the component repository server.
com.sap.aii.connect.directory.name	Contains the hostname of the directory server.
com.sap.aii.connect.directory.httpport	Contains the HTTP port number of the directory server.
com.sap.aii.connect.directory.httpsport	Contains the HTTPS port number of the directory server.
com.sap.aii.connect.integrationserver.name	Contains the hostname of the Integration Server.
com.sap.aii.connect.integrationserver.r3.sysnr	R3 system number of the WebAS on which the Integration Server runs.
com.sap.aii.connect.integrationserver.r3.httpport	Contains the HTTP port number of the Integration Server.
com.sap.aii.connect.integrationserver.r3.httpsport	Contains the HTTPS port number of the Integration Server.
com.sap.aii.connect.landscape.name	Contains the hostname of the landscape directory server.
com.sap.aii.connect.landscape.httpport	Contains the HTTP port number of the landscape directory server.
com.sap.aii.connect.landscape.httpsport	Contains the HTTPS port number of the landscape directory server.
com.sap.aii.connect.repository.name	Contains the hostname of the repository server.
com.sap.aii.connect.repository.httpport	Contains the HTTP port number of the repository server.
com.sap.aii.connect.repository.httpsport	Contains the HTTPS port

	number of the repository server.
com.sap.aii.connect.rwb.name	Contains the hostname of the Runtime Workbench.
com.sap.aii.connect.rwb.r3.sysnr	R3 system number of the WebAS on which the RWB runs.
com.sap.aii.connect.rwb.httpport	Contains the HTTP port number of the runtime workbench.
com.sap.aii.connect.rwb.httpsport	Contains the HTTP port number of the runtime workbench.
com.sap.aii.ib.server.connect.webas.r3.ashost	Connection from Java stack to ABAP stack of the SAP Web AS.
com.sap.aii.ib.server.connect.webas.r3.sysnr	Connection from Java stack to ABAP stack of the SAP Web AS.
com.sap.aii.rwb.server.centralmonitoring.r3.ashost	Application server of the SAP Web AS on which the central PMI, central CCMS, and central alert server run.
com.sap.aii.rwb.server.centralmonitoring.r3.sysnr	System number of the Web AS on which the central PMI, CCMS and Alert Server run.
com.sap.aii.rwb.server.centralmonitoring.httpport	HTTP port of the Web AS (ABAP part) on which the central PMI, CCMS and Alert Server run.

- **Maintaining Server Settings for Exchange Infrastructure Profile Connection**
Change the value for the host name as well as for the instance number.

5.2.2.4.4 Refresh Caches

- **Restart J2EE Engine**
In order to initialize caches of Exchange Profile and SLD, restart the J2EE Server.
- **CPACache**
Since the restart of the J2EE server only leads to a delta cache refresh for the CPACache, a full CPACache refresh is to be forced by executing the following URL
`http://<host>:<Java-Port>/CPACache/refresh?mode=full`
- **XI Cache**
Refresh the XI Cache by running transaction `SXI_CACHE`.
- **Integration Directory**
 1. Start `SXI_CACHE`.
 2. Look at all communication channels with type 'CA'.
 3. In the Integration Directory, correct those channels that show the old engine name. You can recognize an old engine name by looking at the value of attribute 'Adapter Engine' in the channel editor showing the technical engine name (like in `SXI_CACHE`) instead of 'Integration Server'.
 4. For these channels change the value of the attribute 'Adapter Engine' to 'Integration Server' and activate the channel.
After the activation you should see the new engine name in `SXI_CACHE`.

5.2.2.4.5 Switching Addresses



The following changes reflect the configuration steps in the SAP XI configuration guide. For more detailed instructions about how to change the values, read the information in the document *Configuration Guide - SAP XI 3.0* at service.sap.com/instguidesNW04 → *Installation* → *SAP XI*.

The newly installed target IS 3.0 resides at a new network address. In case you want to reconnect business systems, you must make address changes at several locations in order to account for this change.

The following actions are performed automatically:

- Communication from the target IS 3.0 to business systems is set due to copying BI content, which contains the communication channels for these business systems.

The following sections contain a detailed description of all necessary manual address changes.

Connecting Business Systems to the SLD of the Target System

Business systems with an Integration Engine require a connection to the SLD server of the target system to obtain their name from the SLD. The business system name is used in the header of the message sent to the Integration Server. The connection to the SLD is established by creating an RFC destination (as described below) and calling a registered server program, which is defined on the SAP J2EE JRFC Engine of the Integration Server. The server program is called with the HTTP address as a parameter that is maintained with transaction SLDAPICUST.

Proceed as follows:

1. Use transaction SLDAPICUST in the business system to define the SLD access data. This data consists of the host and port of the SLD as well as a user (**XIAPPLUSER**) and password. You can use the entries that you maintained on your Integration Server.
2. You have to change all RFC destinations on your business system. They use the same registered server program, which is defined as part of the JRFC engine settings of the SAP J2EE Engine on the SLD host. This means that all business systems can use the same server program ID (SAPSLDAPI_UNICODE or SAPSLDAPI_NONUNICODE) for their RFC destinations LCRSAPRFC and SAPSLDAPI.
3. You must also change the RFC destinations in:
 - All business systems (enter the new Integration Server and, if necessary, adjust the roles)
 - All technical adapters
 - File `SLDaccessor.properties` in `directory /tech_adapter/BaseConfiguration`
4. You must enter the Gateways in file `etc/services`.
5. For Unicode business systems (program ID SAPSLDAPI_UNICODE), the Unicode indicator is set in the JRFC engine settings. For non-Unicode business systems (program ID SAPSLDAPI_NONUNICODE), the Unicode indicator is not set.

Maintaining System Connections and Destinations

If the host name and port of your Integration Server have changed after the system copy, you have to maintain the destinations and connections if you want to reconnect Integration Engines and adapters. For information on how to perform the individual tasks, see the *Configuration Guide – SAP Exchange Infrastructure 3.0*. The respective sections in this guide are stated below.

- **Update of HTTP destinations**
Update the HTTP destination that points from the Integration Engines (business systems) to the SAP XI

3.0 Integration Server. For more information, see section *Connecting Business Systems with an Integration Engine to the Central Integration Server*.

- **Optional: Destinations to IS 3.0 for receiver pre-identification**
In the Integration Engine, update RFC destination `AI_INTEGRATION_SERVER`. For more information, see the section *Creating a Destination to the Integration Server for Receiver Pre-Identification*.
- **Optional: Destinations to IS 3.0 for maintenance of value mapping table**
In the Integration Engine, update RFC destination `AI_INTEGRATION_SERVER`. For more information, see the section *Creating a Destination to the Integration Server for Maintaining the Value Mapping Table*.
- **System connections for the RFC adapter**
In all application systems, change the program ID *RFC Destination* in transaction `SM59` to the new program ID defined in your sender channels in the section *RFC Adapter*. For more information, see the section *System Connections for the RFC Adapter*.
- **Re-integration of business systems using the IDoc adapter of the source system**
In the sending system, update the RFC destination to the Integration Server. For more information, see the section *Settings for the IDoc Sending System*.
- **Integration of business systems using the Plain J2SE Adapter Engine**
Update the URL of the HTTP destination to the Integration Server in the sender adapters. For more information, see the section *Integration of Business Systems using the Plain J2SE Adapter Engine*.
- In case you made configuration settings *Maintain Services* for the Integration Server in transaction `SICF`, make sure these settings are maintained in the newly installed target system, too.

5.2.2.4.6 Connection Checks

- **Check SLDCHECK**
On the Integration Server execute transaction `SLDCHECK`.
- **Checks in SPROXY**
Call transaction `SPROXY`, choose *Goto* → *Connection Test* and execute all checks.

5.2.2.5 Configuration Steps for SAP Mobile Infrastructure (MI)

After the successful copy of the source system to the target system, there are a couple of steps to be executed in order to clean up the target system. As some of those steps are already documented in the SAP Mobile Infrastructure Installation Guide, this section references the corresponding chapters for a detailed explanation of the steps.



You can find the Installation Guide for SAP Mobile Infrastructure at service.sap.com/instguidesnw04 → *Installation* → *SAP MI*.

1. In order to delete device dependent data from the SAP MI Server Component, call transaction SE37 and execute the function module `DELETE_DATA_FOR_ALL_MI_DEVICES`.
 - This function module is only available from support package 14 onwards. If you have performed a copy from a system prior to SP14, you can find the source code attached in **SAP Note 920335**.
2. In order to delete user dependent data from the SAP MI Server Component, call transaction SE37 and execute the function module `DELETE_DATA_FOR_ALL_MI_USERS`.
 - This function module is only available from support package 14 onwards. If you have performed a copy from a system prior to SP14, you can find the source code attached in **SAP Note 920335**.
3. All Smart Sync runtime history data needs to be deleted from the target system. The deletion of such obsolete runtime history data from the SAP MI Server Component is done by using transaction `merrep_purge`.
For more information, see the SAP Library at help.sap.com/nw04 → *SAP NetWeaver* → *People Integration* → *SAP Mobile Infrastructure* → *SAP MI for Administrators* → *Administration Toolkit* → *Purge Tool*.
4. After the copy, the download links for the mobile component's installation files still point from the target system's ABAP server component to the source system's J2EE server component. In order to adjust these installation URLs for the mobile components, upload every single application installation file you want to use in the target system via the WebConsole as described in the Installation Guide, chapter *Uploading Mobile Applications*.
5. The Sync Servlet running on the target system's J2EE engine needs to connect to the target system's ABAP stack. Therefore, the sync servlet property files need to be configured. This is done by executing the steps as described in the Installation Guide, chapter *Creating Property Files*.
6. If the target system is supposed to connect to other RFC destinations than the source system, the RFC destinations used for SAP Mobile Infrastructure applications need to be changed accordingly. In this case, follow the instructions from *Creating an RFC Destination Pointing to the Backend* and *Settings for Generic Synchronization* if you are using Generic Sync applications. If you are using Smart Sync applications, execute the steps described in the chapter *Defining RFC Destinations for SyncBOs*.
7. The replica database of the target system needs to be reset. Resetting the replica database can be done in two ways:
 - The corresponding replica database is reset automatically when you regenerate the SyncBO in transaction `merrep_sbuilder`. Therefore, regenerating all SyncBOs in the target system will delete the replica database content.
 - Another way of resetting the replica database is described in **SAP Note 601548**.

5.2.2.6 Configuration Steps for SAP NetWeaver Java Development Infrastructure (JDI)

You have to perform the following manual steps on the target system after the move of an SAP system with usage type Development Infrastructure (DI). The assumption here is that all components (DTR, CBS, CMS, SLD and name server) were on a single host before the move and will remain on a single host after the move.

Procedure

1. If you are using an LDAP server for the user management it should be running to ensure that all the users that were created when the Java Development Infrastructure (JDI) was on the source system will still be valid after the move to the target system.
2. **Check the J2EE Engine Configuration:**
 - a. Set `MaxHeapSize` and other engine parameters to the recommended values (See *JDI Installation Guide* at service.sap.com/instguidesnw04 → *Installation* → *Dev Env* for details).
 - b. If your database is MaxDB:
 - Upgrade it to at least version 29.
 - Set the `JOIN_OPERATOR_IMPLEMENTATION` parameter to **IMPROVED** (setting this value is only possible using the DB-WebUI in SAPMMC).
 - Restart the database.
For general recommendations for the configuration of the Java Development Infrastructure Servers, see **SAP Note 889038**.
3. **Design Time Repository (DTR):**
 - a. Redeploy the database schema. This is necessary to recreate the missing metadata for the database views in the dictionary. Otherwise OpenSQL cannot see the database views. The database schema of the DTR server is part of the NWDI SCA. This is the SCA that you have downloaded from the SAP Service Marketplace at service.sap.com/swdc to deploy the NetWeaver Development Infrastructure (NWDI). In order to only deploy this database schema you have to extract the SCA file. You can do this by appending `.zip` to the filename. Then you can use a normal archive tool like WinZip. Under the subfolder `DEPLOYARCHIVES` you can find the SDA `sap.com~tc~dtr~dbschema.sda` for the database schema. This SDA must be deployed using the Software Deployment Manager (SDM)



During deployment, use the option *Update deployed SDAs/SCAs that have any version*. This option can be set in the *Deployment* tab on SDM – click on the triangle at the bottom to show the advanced options.

- b. Restart DTR server.
- c. Change the URL of Name server in name server configuration page in Web UI:
`http://<dtrhost>:<port>/dtr/system-tools/administration/NameServerConfiguration`
if you intend to use a different name server for the moved DTR instance or if the name server was also moved.
- d. Perform an Update Statistics (30%) on the database.



If your database is MaxDB you can use the Database Manager to update the database statistics.

4. System Landscape Directory (SLD):

Change the CIM Server URL (of the SLD that is defined in the technical landscape) to point to the target host.



Do not change the *ObjectServer* attribute!

5. Component Build Service (CBS):

The service properties `JDK_HOME_PATHS`, `BUILD_TOOL_JDK_HOME`, `rootFolder` and `threadPoolSize` have to be adjusted according to the hardware and software configuration of the new system.

See *JDI Installation Guide* for details about these parameters.

6. Change Management Service (CMS):

The main steps in CMS involve resetting the fields containing URLs to other components (like DTR, CBS, SLD).

- a. For the domain (in the *Domain Data* tab):
 - o Change the SLD URL to point to the target host.
 - o Change the CMS URL to point to the target host.
 - o Change the transport directory to the appropriate directory on the new CMS (target host).
 - o Save the domain. You should see a status message that the data was saved successfully.
 - o Update CMS using the button *Update CMS*. You should see a status message that the CMS update was successfully.
- b. Copy the contents of the transport directory of the old CMS (source system) to the transport directory of the new CMS (target system). The transport directory is configured in the domain (see *Domain Data* tab).
- c. For each track (in the *Track Data* tab):
 - o Change the CBS and DTR URLs.
 - o Save the track definition. You should see a status message that the data was saved successfully.
 - o For each runtime system that is defined:
Change the runtime system configuration to point to the appropriate host (of the target runtime system). If this has not changed, then leave the fields unchanged.
 - o Restore System State (of the DEV system). This will place the Software Components (SCs) into the import queue of this system.
 - o Import these SCs. After the import is finished, you should see a status for each SC.

7. IDE:

- a. Change the SLD URL in the preference page of the SAP NetWeaver Development Studio (under *Java Development Infrastructure* → *Development Configuration Pool*). This should now point to the new SLD on the target system.
- b. Import the development configuration you had earlier used for development.

Now you are ready to begin the development with you new (relocated) Java Development Infrastructure.

8. Verification Steps:

The following steps can optionally be done to verify that the Java Development Infrastructure is fully functional after the move:

- a. Login to the DTR (using the browser) for all defined users and browse the repository.
- b. Using IDE, create a new Development Component (DC), checkin and activate:
 - o The activation should succeed.
 - o The name of the Development Component (DC) must be reserved on the Name server.
- c. Release the activity created above (from the Transport View in the IDE):
 - o The activity (*Change Request*) should appear in the import queue of the CONS system of the track.
- d. Import the Change-Request into the CONS system (from the CMS Transport Studio).
- e. Assemble a new version of your Software Components (SCs) in one of the tracks.

5.2.2.7 Configuration Steps for mySAP ERP / mySAP CRM Java Components

5.2.2.7.1 Applications Using XCM Configuration

Use

You have performed a system copy of a SAP Web AS 6.40 Java system with applications that have been configured with the XCM Administrator, for example SAP CRM 4.0 SR1 Java Applications, Biller Direct.

After the system copy, the XCM settings are not available on the target system.

The XCM files are located in the subfolder `xcm` in `sys.global.dir`. You need to copy this directory and its contents from the source system to the target system.

Procedure

7. You use the operation system commands to copy this directory and its contents from the `sys.global.dir` of the source system to the target system as described in **SAP Note 827177**.
8. You perform the XCM-specific Post-Installation Activities for the copied mySAP ERP / mySAP CRM Java Components as described in the documentation:

Java Components for mySAP ERP 2004 SR1 on SAP Service Marketplace at service.sap.com/erp-inst → *mySAP ERP 2004* → *ERP Java Components* → *Java Components on mySAP ERP2004*

Java Components for SAP Customer Relationship Management 4.0 SR 1 on SAP Service Marketplace at service.sap.com/crm-inst → *General and Technical Installation Guides* → *Java Components for CRM 4.0 SR 1*

5.2.2.7.2 SAP WebDynpro Applications

Use

SAP Web Dynpro applications that use "Adaptive RFC" (a Web Dynpro technology based on JCo and All), require that their "Destinations" (backend connections) are configured with the "Web Dynpro Content Administrator" Admin" (a Web Dynpro specific tool). The configuration data is stored in the System Landscape Directory (SLD) where it is associated with the J2EE Cluster that the Content Admin runs on. Some additional data is stored in the Secure Storage of the J2EE Cluster itself. For both reasons, the Destinations have to be configured for each J2EE Cluster individually and currently can not be transported.

For more information, see the documentation in the [SAP Library \[page 20\]](#) → *Application Platform* → *Java Technology in SAP Web Application Server* and [SAP Library \[page 20\]](#) → *Application Platform* → *Java Technology in SAP Web Application Server* → *Development Manual* → *Web Dynpro*.



Make sure you use the correct host and port in the portal under *System administration* → *System configuration* → *Systems* → *SAP_Webdynpro*.

5.2.2.7.3 MapBox

Use

You need to proceed as follows to restore the configuration of the CRM Java component MapBox on the target system.

Procedure

1. You shut down the J2EE Engine.
2. You copy the following files to the respective directories:
 - a. Copy the files `mapboxmeta.xml`, `mapboxmeta.xsl` and `xmlprofiles.xml` to the directory `<J2EE_root>/cluster/server/.mapboxmeta`. These files can be found at the same location on the source system.
 - b. Copy the file `coordserver.cfg` to the `<J2EE_root>/cluster/server` directory.
 - c. If you wish to have the `smoketest` directory on the target system, then you need to copy the `smoketest` directory, too.
3. You start the J2EE Engine and MapBox from the URL as described in the documentation *Java Components for SAP Customer Relationship Management 4.0 SR 1* on SAP Service Marketplace at service.sap.com/crm-inst → *General and Technical Installation Guides* → *Java Components for CRM 4.0 SR 1*

Result

You have restored the configuration for MapBox on the target system.

5.2.2.8 Configuration Steps for mySAP SRM Java Components

5.2.2.8.1 Live Auction

Use

You need to proceed as follows to restore the configuration of the SRM Java component Live Auction on the target system.



Check whether the J2EE UME has been configured to point to the correct SRM system in the right client after the system copy:

1. Open the following URL in your browser: `http://j2ee:<port>/useradmin`.
2. Log on using a valid user/password of the new SRM system on the correct client.
3. If you are able to logon, the UME is configured properly.

Import the new certificate from the target SRM system to the target Java system

Assuming that the new target SRM system has new PSE and certificates, you have to reimport these into the target Java system. This will ensure that SSO will continue to work properly.

Perform the configuration step *Configuring Single Sign-On* as described in the SRM installation guide at service.sap.com/srm-inst.

Configure Live Auction properties to point to the correct target SRM system

The following JCo settings in the properties configuration might be invalid. You need to change them accordingly:

- `jco.client.client`
- `jco.client.user` (make sure the user has the correct roles)
- `jco.client.passwd` (make sure the password is correct)

- `jco.client.mshost` (target SRM hostname)
- `jco.client.r3name` (target SRM system ID)
- `jco.client.ashost` (target SRM hostname)
- `jco.client.sysnr` (target SRM system)

For more information on how to configure the JCo settings, see the SRM installation guide at service.sap.com/srm-inst.

Set the Live Auction link in ITS to point to the new target Java system

On your target SRM system, perform the configuration step *Maintain HTTP Connections to External Server* as described in the SRM installation guide at service.sap.com/srm-inst.

You might need to change the target host and server number accordingly, using transaction SM59.