

IBM FileNet Image Services
Version 4.2

*Guidelines for Installing and
Configuring IBM DB2 Software*



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Note

Before using this information and the product it supports, read the information in “Notices” on page 23.

This edition applies to version 4.1.2 of IBM FileNet Image Services (product number 5724-R95) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Contents

1 Guidelines for Installing and Configuring IBM DB2 Software 8

- Document revision history 9**
- Accessing IBM FileNet Documentation 9**
- IBM FileNet Education 9**
- Feedback 10**
 - Documentation feedback 10
 - Product consumability feedback 10
- DB2 Software requirements 10**
- Operating system and disk space requirements 11**
- Hardware and software requirements 11**
- Installing DB2 ESE software on AIX and Solaris servers 11**
- Installing DB2 Client software 11**

2 Guidelines for Installing DB2 ESE Server Software 12

- Before You Begin 12**
 - Create DB2 Users and Groups 12
 - Create Image Service Users for DB2 Server Authentication 14
 - SERVER or SERVER_ENCRYPT Authentication 14
 - An AIX Example 15

| | |
|--|-----------|
| A Solaris Example | 16 |
| CLIENT Authentication | 16 |
| Install DB2 ESE | 17 |
| Install 64-bit JDK or JRE | 17 |
| On an AIX Server | 17 |
| On a Solaris Server | 18 |
| Create the DB2 Database | 19 |
| Create the DB2 Tablespace | 20 |
| Report to Sys Admin and your service representative | 21 |
| Continue the DB2 Client Installation | 22 |

3 Guidelines for Installing DB2 Client Software 23

| | |
|--|-----------|
| Before You Begin | 23 |
| Create Image Service Users for DB2 Client Authentication | 23 |
| An AIX Example | 25 |
| A Solaris Example | 26 |
| Install DB2 Client | 26 |
| To Catalog the DB2 Server Node | 28 |
| To Catalog the Image Services Databases | 28 |
| Link to the DB2 Database | 28 |
| Update IS Configuration Files (if necessary) | 29 |
| Continue the Image Services Installation | 30 |

Notices 31

Trademarks 34

U.S. Patents Disclosure 35

Guidelines for Installing and Configuring IBM DB2 Software

This document provides guidelines for installing IBM® DB2® software on AIX®, HP-UX®, Sun® Solaris, and Windows® Servers for use with IBM FileNet® Image Services.

Server Types

Perform the procedures in this document on these Image Services servers:

Root/Index - (Multi-server installation)

Root/Index/Storage Library - (Combined or Entry server install)

Application - (Running WorkFlo Queue Services,
SQL Services or VW Services)

The **Database Administrator** is responsible for installing the DB2 software on both Server and Client computers, and for creating the DB2 database, as well as client and server communication.

At this time, Image Services requires the DB2 database and server software to be located on a remote UNIX, AIX, Solaris, HP-UX or Windows server.

The DB2 client software can be installed on any UNIX or Windows Server system supported by Image Services: AIX, HP-UX, Solaris, or Windows Server.

Note Image Services and the DB2 database cannot be collocated on the same DB2 database server at this time.

Document revision history

| IS version | Date | Comment |
|------------|----------|---------|
| 4.2 | May 2011 | |

Accessing IBM FileNet Documentation

To access documentation for IBM FileNet products:

- 1 Navigate to **Product Documentation for FileNet P8 Platform** at <http://www-1.ibm.com/support/doc-view.wss?rs=3278&uid=swg27010422>
- 2 Select the **FileNet Image Manager Active Edition** link.
- 3 Select the **FileNet Image Services** link.

IBM FileNet Education

IBM FileNet provides various forms of education. Please visit the Training and certification page on IBM's Web site at (www-306.ibm.com/software/sw-training/).

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Product consumability feedback

Help us identify product enhancements by taking a [Consumability Survey](#). The results of this comprehensive survey are used by product development teams when planning future releases. Although we are especially interested in survey responses regarding the most recent product releases, we welcome your feedback on any of our products.

The survey takes approximately 30 minutes to complete and must be completed in a single session; there is no option to save a partially completed response.

DB2 Software requirements

For current information on supported hardware platforms, operating system versions, and application software compatibility, see the *IBM FileNet Image Services, Image Services Resource Adapter, and Print Hardware and Software Requirements*. To download this document from the IBM Web site, see [“Accessing IBM FileNet Documentation” on page 9](#).

Important

Starting DB2 V9.5 client software is supported on AIX, HP Integrity, Solaris servers, and Windows servers; it is not supported on HP 9000 (PA-RISC) servers.

Operating system and disk space requirements

Check the IBM DB2 Web site at <http://www-01.ibm.com/software/data/db2/9/sysreqs.html> and select the needed version from the drop-down list for the latest OS and disk space requirements.

Hardware and software requirements

For current information on supported hardware platforms, operating system versions, and application software compatibility, see the *IBM FileNet Image Services, Image Services Resource Adapter, and Print Hardware and Software Requirements*. To download this document from the IBM Web site, see [“Accessing IBM FileNet Documentation” on page 9](#).

Important

You can install DB2 V9.5 and higher client software on AIX, HP Integrity, Solaris servers and Windows servers; it is not supported on HP 9000 (PA-RISC) servers.

Installing DB2 ESE software on a remote database server

To install and configure the DB2 software on the server that will host the DB2 database, see [Chapter 2, “Guidelines for Installing DB2 ESE Server Software,” on page 12](#).

Installing DB2 Client software

To install the DB2 client software on the server that will host Image Services and link to the DB2 database, see [Chapter 3, “Guidelines for Installing DB2 Client Software,” on page 23](#).

Guidelines for Installing DB2 ESE Server Software

This chapter describes how to configure a DB2 database on a dedicated, remote AIX or Solaris 64-bit server.

Before You Begin

Create DB2 Users and Groups

Three users and three groups are required to use DB2. You can specify your own user and group names as long as they adhere system naming rules and DB2 naming rules. (Check the IBM DB2 documentation to be sure.) If you choose to let DB2 create them for you during the installation process, they'll have the default names shown in the following table:

| | Default User Name | Default Group Name |
|--------------------------------|-------------------|--------------------|
| Instance Owner | db2inst1 | db2iadm1 |
| Fenced User | db2fenc1 | db2fadm1 |
| DB2 Administration Server User | db2as | db2asgrp |

- The **instance owner** home directory is where the DB2 instance will be created.

- The **fenced user** runs user-defined functions (UDFs) and stored procedures outside the address space used by the DB2 database.
- The **DB2 Administration Server (DAS) user** runs the DB2 administration server on your system.

To prevent environmental conflicts between two or more instances, you should ensure that each instance has its own home file system. Errors will be returned when the home file system is shared.

Each instance owner must have a unique home directory. All of the files necessary to run the instance are created in the home directory of the instance owner's user ID/username.

The instance owner and the group that is the System Administration (SYSADM) group are associated with every instance. The instance owner and the SYSADM group are assigned during the process of creating the instance.

Note

The **root** user cannot act as a DBA. You must logon as the instance owner to act as the DBA. For example:

```
su - <instance owner>
```

The primary group of the instance owner automatically becomes the system administration group for the instance and gains SYSADM authority over the instance. Other user IDs or user names that are members of the primary group of the instance owner also gain this level of authority.

Create Image Service Users for DB2 Server Authentication

DB2 provides a variety of authentication types to authenticate users to access databases. FileNet Image Services supports authentication types of **SERVER**, **SERVER_ENCRYPT**, and **CLIENT**.

- **SERVER** authentication specifies that authentication occurs on the server using local operation system security.
- **SERVER_ENCRYPT** authentication specifies that the server accepts encrypted **SERVER** authentication scheme.
- **CLIENT** authentication specifies that authentication occurs on the database partition where the application is invoked using operating system security.

Note

We recommend that you use **SERVER** or **SERVER-ENCRYPT** authentication for Image Services.

SERVER or SERVER_ENCRYPT Authentication

When the database authentication type is set to **SERVER** or **SERVER_ENCRYPT**, the following users must be created on the DB2 server where the DB2 database resides.

FileNet Image Services requires four users that have **DBADM** authority to access the DB2 database. The standard FileNet names for these users are:

- **f_sw**: The primary user of the Image Services relational databases and eProcess.
- **f_maint**: Mainly used by **GDB_exim**, a generic database export/import utility. It is also used by your service representative to gain

access to the system's relational database for troubleshooting and investigation.

- **f_sqi:** This user is used by the SQL subsystem of IS Toolkit. If you have IS Toolkit or IS Process Analyzer installed, the **f_sqi** user can be used to access some of the features of these products.
- **f_open:** The default database logon user used by the SQL subsystem of IS Toolkit. It is the database logon default user.

You can use these standard FileNet names, or you can choose other names. These users are regular OS level users, and unlike the instance owner users, they don't need to have a separate file system for their home directories.

AIX

An AIX Example

If the instance owner group is **fn_grp1**, enter the following commands as a user with **root** privileges. These sample commands use the standard FileNet names, but you can choose other names:

```
mkuser pgrp=fn_grp1 f_sw  
mkuser pgrp=fn_grp1 f_sqi  
mkuser pgrp=fn_grp1 f_maint  
mkuser pgrp=fn_grp1 f_open
```

Set their passwords by entering:

```
passwd f_sw  
passwd f_sqi  
passwd f_maint  
passwd f_open
```

Logoff as **root** user, and logon as each of the four new users, one at a time, to change the password to avoid connection problems the first time they're used.

SOL**A Solaris Example**

If the instance owner group is `fn_grp1`, enter the following commands as a user with **root** privileges. These sample commands use the standard FileNet names, but you can choose other names:

```
useradd -d /export/home/f_sw
useradd -d /export/home/f_sqi
useradd -d /export/home/f_maint
useradd -d /export/home/f_open

useradd -g fn_grp1 -G Staff

useradd -s /bin/ksh -m f_sw
useradd -s /bin/ksh -m f_sqi
useradd -s /bin/ksh -m f_maint
useradd -s /bin/ksh -m f_open
```

Logoff as **root** user, and logon as each of the four new users, one at a time, to change the password to avoid connection problems the first time they're used.

CLIENT Authentication

When the authentication type is CLIENT, these users must be created on the DB2 client computer (IS Root/Index server) with special requirements. See [**Chapter 3, “Guidelines for Installing DB2 Client Software,” on page 23**](#) for details.

Install DB2 ESE

- 1 As a user with **root** privileges, create a temporary file system with sufficient space to contain the tar.Z and the uncompressed installation file.
- 2 Mount the CD-ROM.
- 3 Copy the compressed image and uncompress it.
- 4 Launch the DB2 Installer and make the following selections:
 - Install Product
 - DB2 UDB Enterprise Edition
 - Typical Installation
 - Create a 64-bit instance
 - Single partition instance
- 5 When the installation is finished, view the status report or go to /tmp to view all DB2 install logs to ensure there are no errors.

After a successful installation, the DB2 instance should be up and running. Continue with the next section.

Create the DB2 Database

You need SYSADM authority to create the database. The database name must be unique and can be from 1 to 8 characters long. For example, **indexdb**.

Tip

You are required to use the same name for both the database name and the database alias name. See the DB2 documentation for a complete information on creating a database.

When you create a database for your Image Services index, use the following options:

USING CODESET

Specifies the code set to be used for data entered into this database. You can select an ISO8859 character set or one of several multibyte character sets as described in the “Multicultural Support” appendix of the *IS System Administrator's Handbook*. After you create the database, you cannot change the code set.

Important

The default code set for databases created on DB2 9.5 and up is Unicode. If you do not specify a code set when you create a database after installing DB2 9.5, you might see warning messages in the IS event log if multi-byte enhanced security has not been enabled.

If you decide to use the Unicode code page for your IS index database, you must ensure that the Image Services Multi-Byte Enhanced Security schema is enabled. See the *IS Release Notes* for more information on this feature. To download this document from the IBM Web site, see **“Accessing IBM FileNet Documentation” on page 9.**

TERRITORY

Specifies the territory to be used for data entered into this database. The territory is a two-letter code such as US for United States, FR for France, DE for Germany, and so on. See the DB2 documentation for valid territory codes. After you create the database, you cannot change the territory.

PAGESIZE

This option is required because the default page size for DB2 is 4 KB, which is not supported by Image Services. A page size of 32 KB is the most desirable.

For example, the following command creates a database named `indexdb` that uses the ISO8859-01 codeset, the territory of United States, the SYSTEM collation (the default), and the 32 KB page size:

```
CREATE DATABASE indexdb USING CODESET ISO8859-1  
TERRITORY US PAGESIZE 32 k
```

Create the DB2 Tablespace

| Recommended Tablespace Name | Tablespace Name Actually Assigned | Minimum Size (MB) | Tablespace Size Actually Created |
|--------------------------------|--------------------------------------|----------------------|-------------------------------------|
| userspace1 | | 200 | |
| indexspace1 (optional) | | 200 | |

To place all tables and indexes on one tablespace, only one tablespace is needed.

To place table raw data and index information in different tablespaces, create two tablespaces: one for the table raw data, and one for index information.

Grant DBADM authority to FileNet Image Services users

With DB2 9.7, a user who has SYSADM authority does not have implicit DBADM authority and has limited capabilities compared to the capabilities available with DB2 9.5. The required DBADM authority is not automatically granted to the four Image Services database users on the new database created even though the users still hold SYSADM authority. When you use the “upgrade database” or “restore database” command DBADM authority is granted to the SYSADM group.

To grant DBADM authority explicitly to the FileNet Image Services users login as the instance owner and connect to the database.

db2 connect to <db_name>

db2 grant dbadm on database to <psu_user_f_sw>,<psu_user_f_sqi>,<psu_user_f_maint>,<psu_user_f_open>

Where <db_name> is the database name dedicated to Image Services, and <psu_user_*> is the database user defined by the system administrator.

Report to Sys Admin and your service representative

Please return the following information to the System Administrator and your service representative or ValueNet Partner.

| | Default User Name | User Name You Chose | Default Group Name | Group Name You Chose |
|--------------------------------|-------------------|---------------------|--------------------|----------------------|
| Instance Owner | db2inst1 | | db2iadm1 | |
| Fenced User | db2fenc1 | | db2fadm1 | |
| DB2 Administration Server User | db2as | | db2asgrp | |

| Recommended Tablespace | Tablespace Name Actually Assigned | Minimum Size (MB) | Tablespace Size Actually Created |
|------------------------|-----------------------------------|-------------------|----------------------------------|
| userspace1 | | 200 | |
| indexspace1 (optional) | | 200 | |

| FileNet User Name | User Name you chose (optional) | Password |
|-------------------|-----------------------------------|----------|
| f_sw | | |
| f_sql | | |
| f_maint | | |
| f_open | | |

DB2 Database Alias Name: _____

(indexdb, for example)

User Tablespace Location : _____

for tables

(userspace1, for example)

User Tablespace Location : _____

for indexes

(userspace2, for example)

Continue the DB2 Client Installation

After the DB2 server software has been successfully installed, you can continue with the next chapter, **Chapter 3, “Guidelines for Installing DB2 Client Software,” on page 23.**

Guidelines for Installing DB2 Client Software

This chapter describes how to configure a DB2 client software on the Image Services server and link it to the DB2 index database.

The Image Services server can be either a Root/Index server or an Application server.

Important

Image Services 4.2 supports DB2 Server Client or Runtime Client software on AIX, HP Integrity, Solaris, and Windows servers.

HP-UX on HP 9000 or PA-RISC is no longer supported on FileNet Image Services 4.2.

Before You Begin

If you are using SERVER or SERVER_ENCRYPT authentication, skip to **[“Install DB2 Client” on page 24.](#)**

Create Image Service Users for DB2 Client Authentication

For CLIENT authentication, FileNet Image Services requires four OS level users that need to be created on the DB2 client computer (the IS Root/Index server).

- 1 After the database has been created, you can grant these privileges by entering the following SQL commands as the instance owner on the

DB2 server. These sample commands use the standard FileNet names, but you should use the names you chose:

```
Connect to <dbname> ;  
Grant dbadm on database to user f_sw;  
Grant dbadm on database to user f_sqi;  
Grant dbadm on database to user f_open;  
Grant dbadm on database to f_maint;
```

Install DB2 Client

To install DB2 Client, you must be logged on as a user with **root** privileges (UNIX servers) or with **Administrator** privileges (Windows servers).

- 1 Mount the CD-ROM.
- 2 As a user with **root** privileges, create a temporary 2 GB file system. Then copy and uncompress the DB2 installation files in the file system.

Tip This temporary file system can be a mountable file system on another server.

- 3 Launch the DB2 Installer and make the following selections:
 - Install Products
 - DB2 Server Client or DB2 Server Run-Time Client
 - Typical Installation
 - Create either a 32-bit or a 64-bit instance

- Set existing user: fnsf (fnsf is the standard FileNet software user name; use the name that has been selected by the IS system administrator.)
 - Select installation directory/folder
 - UN-check “Configure NetBIOS... ” (This is not needed.)
 - Install
- 4 When the installation is finished, view the status report or go to /tmp (UNIX) or \My Documents\DB2log (Windows) to view all DB2 install logs to ensure there are no errors.

To Catalog the DB2 Server Node

Reboot the server and log onto the Image Services (DB2 Client) server as the instance owner, such as **fnsf**. You can catalog the DB2 server node by using the db2ca tool, if it is available, or by using the Command Line Processor as shown here:

```
db2 catalog tcpip node <server alias> remote <server name>  
server <tcpip port number of DB2 server instance>
```

For example:

```
db2 catalog tcpip node hplido remote hpvenice server 60004
```

Note The db2ca tool is not available in DB2 V9 on UNIX servers.

To Catalog the Image Services Databases

You can catalog the remote DB2 database by using the db2ca tool, if it is available, or by using the Command Line Processor as shown in this example:

db2 catalog database indexdb at node hplido

In this case, hplido is the database alias used in the connect statement to verify the connection between the DB2 client and the remote DB2 server. If you specify the 'as' clause, <alias name> is the db alias name. Otherwise the database name (indexdb) is the db alias name. When connecting to the database, you should use the db alias name.

Link to the DB2 Database

Since the DB2 database is located on a remote UNIX or Windows server, make sure that TCP/IP communications have been configured successfully on both server and client computers.

- 1 Use the DB2 Configuration Assistant, if it is available, to connect the DB Client to the DB2 database on the remote server.
- 2 To check the connection use DB2 Command Line Processor (CLP). Launch the Command Line Processor and enter:

DB2> **connect to <db_alias_name> user f_sw using <f_sw password>**

Update IS Configuration Files (if necessary)

You can upgrade to DB2 9.1 DB2 9.5 or DB2 9.7 several weeks or months after upgrading to Image Services 4.2. If you are upgrading DB2 independently of an Image Services 4.2 installation or upgrade, run **fn_setup_rdb** to update the IS configuration files and RDBMS related files.

(This step is also included in the IS 4.2 Upgrade procedures, so you do not need to run this command now if you are also upgrading to IS 4.2 at this time.)

Note Verify that the relational database is up before running the `fn_setup_rdb` command.

As an IS software user, such as **fns** enter:

fn_setup_rdb -u

If you upgrade the DB2 database from 8 to 9.1, 9.5 or 9.7 on UNIX, you need to run **inst_templates** for all FileNet Image Services OS users, to update three environment variables:

- DB2_HOME is the DB2 client instance owner's home directory appended by /sqlib, such as /home/fns/sqlib.
- DB2_INST is the name of the instance owner.
- LIBPATH on AIX, LD_LIBRARY_PATH on Solaris, SHLIB_PATH on HP-UX. is the shared library path(<libpath>) which equals to \$DB2_HOME/lib32:\$DB2_HOME/lib:<libpath>. For example, on AIX platform: LIBPATH=\$DB2_HOME/lib32:\$DB2_HOME/lib:\$LIBPATH.

Continue the Image Services Installation

After the DB2 software has been successfully installed, your service representative or ValueNet Partner can continue with the Image Services installation in the section, "Installing the FileNet Image Services Software." of the *Image Services Installation and Configuration Procedures*.

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