

# **IBM Informix 4GL**

## **Installation Guide**

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**Note:**

Before using this information and the product it supports, read the information in the appendix entitled "Notices."

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# Table of Contents

In This Guide . . . . .	1
System Requirements . . . . .	1
Memory and Disk Space Requirements . . . . .	2
Order of Installation . . . . .	3
Establishing the Informix User, Group, and Directory . . . . .	5
Setting Informix Environment Variables . . . . .	6
Creating and Using a Setup File . . . . .	7
Installing IBM Informix 4GL . . . . .	8

**Appendix A    Notices**



## In This Guide

This guide explains how to install your IBM Informix 4GL software. It includes the following sections:

- System requirements
- Order of installation
- Establishing the Informix user, group, and directory
- Setting Informix environment variables
- Installing IBM Informix 4GL

In addition, a Notices appendix describes IBM products, features, and services.

IBM Informix 4GL includes a demonstration database called **stores7**. For information about how to build this sample database and examples, see *IBM Informix 4GL by Example*.

If you are also installing a database server, you will need to install your database server after you have installed IBM Informix 4GL. For more information, check the *Administrator's Guide* for your database server.

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## System Requirements

IBM Informix provides two implementations of 4GL:

- The IBM Informix 4GL C Compiler, which uses a preprocessor to generate IBM Informix ESQL/C source code. This code is preprocessed in turn to produce *C source code*, which is then compiled and linked as object code in an executable command file.
- The Rapid Development System, which uses a compiler to produce *pseudo-machine code* (called P code) in a single step. You then invoke a *runner* to execute the P-code version of your 4GL application. This version is sometimes abbreviated as RDS.

4GL also includes an Interactive Debugger.

This section describes the disk space and memory requirements for the IBM Informix 4GL C Compiler, the Rapid Development System, and the Interactive Debugger.

### Memory and Disk Space Requirements

The following table indicates how much RAM is required, based on the number of users.

Number of Users	RAM Requirements
Small multiuser (1-10 users)	8 megabytes
Large multiuser	16 megabytes +

The following table lists the memory requirements of the various 4GL products.

4GL Component	Memory Required
IBM Informix 4GL C Compiler	
■ Programmer's Environment ( <b>i4gl</b> )	3 megabytes + database server
IBM Informix 4GL Rapid Development System	
■ Programmer's Environment ( <b>r4gl</b> )	3 megabytes + database server
■ P-code runner ( <b>fglgo</b> )	3 megabytes + database server
IBM Informix 4GL Interactive Debugger	
■ Development	3 megabytes + database server

The following table lists the disk-space requirements of the various 4GL products.

4GL Component	Disk Space Required
IBM Informix 4GL C Compiler	
■ Development	85 megabytes* (size of <b>.tar</b> file)
■ Runtime	35 megabytes (size of <b>.tar</b> file)
IBM Informix 4GL Rapid Development System	
■ Development	68 megabytes* (size of <b>.tar</b> file)
■ Runtime	35 megabytes (size of <b>.tar</b> file)
IBM Informix 4GL Interactive Debugger	
■ Development	38 megabytes (size of <b>.tar</b> file)
Combined installation of above three products	
■ Development	100 megabytes*

\* Includes 34 megabytes of Asian-language demonstrations, which might not be required.



**Important:** To run the 4GL compiler, you must have a C compiler installed on your computer. A C compiler is not included with this product.

## Order of Installation

If you install more than one Informix product, you must install them in a specific order, as follows:

1. Application development tools  
Install application development tools in order, from oldest to newest versions.
2. SQL application programming interfaces (APIs)  
Install SQL APIs in order, from oldest to newest versions.

### 3. Database servers

Install database servers in order, from oldest to newest versions. Generally, a database server should be installed in the same directory as any SQL API or application development tools that use it. Therefore, verify that `$INFORMIXDIR` is set to the common directory before you install these types of products.

### 4. Additional products

Install remaining interface and documentation products in order, from oldest to newest versions.

Components of IBM Informix Client Software Developer's Kit 2.81 are installed during IBM Informix 4GL installation. On 32-bit platforms, components of Client SDK 2.81.UC1 will be installed; on 64-bit platforms, components of Client SDK 2.81.FC1 will be installed. Client SDK components enable developers to write applications in the language they are familiar with, such as Java™, C++, C, or ESQL.

To use the full suite of Client SDK components, you must install Client SDK 2.81. On 32-bit platforms, you must install Client SDK 2.81.UC1; on 64-bit platforms, you must install Client SDK 2.81.FC1.

You may install IBM Informix Client SDK 2.81 and IBM Informix 4GL in the same directory.

#### **To install Client SDK and 4GL in the same directory**

1. Uninstall your existing version of Client SDK.
2. Install IBM Informix 4GL according to the instructions in [“Installing IBM Informix 4GL” on page 8](#).
3. Install Client SDK 2.81.UC1, or later, as appropriate.

For installation instructions, see the *IBM Informix Client Products Installation Guide*.

For more information about IBM Informix Client SDK 2.81, see the documentation set at <http://www-3.ibm.com/software/data/informix/pubs/library/>.



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## **Establishing the Informix User, Group, and Directory**

If this is the first time that you will install an IBM Informix product on your computer, you need to create new user and group accounts and create a new directory. Before you begin, keep the following considerations in mind:

- Know who you are logged in as. Typically, you need to be able to log in as the following users:
  - As **informix**: to run the Informix servers and software
  - As yourself: to perform administrative work on your computer, such as copying or untarring files
  - As **root**: to edit system files and install the Informix software
- The user **informix** is the database equivalent of the UNIX **root** account, so anyone logged in as **informix** can completely access any Informix products and databases. Make sure you keep the password for user **informix** confidential.
- IBM Informix products use group **informix** internally to control database access. You should make user **informix** the only member of group **informix**. If you make a user of an Informix product a member of group **informix**, you can cause unintended and uncontrolled database access.
- If you are using a network, make sure you propagate the new user name to all the systems on the network. For example, you (or the network administrator) might need to run the **yppmake** utility.
- Although IBM Informix uses **/usr/informix** as the directory path and name, you can install the software in any directory. If you decide to use a different directory, substitute that directory path and name throughout this guide whenever you see **/usr/informix**.

### To establish the informix user, group, and directory

1. Create a new group called **informix** in the **group** file (**/etc/group** on most UNIX-based systems).

Generally, you should provide an unused group number greater than or equal to 100. If necessary, see your system administrator or operating-system manual for assistance.

2. Add a new user called **informix** to the **/etc/passwd** file and assign the user to the group **informix**.

Generally, you should provide a user ID number greater than or equal to 100 for that user and include a password for user **informix**.

3. Create a new directory for your 4GL software by entering a command such as the following:

```
mkdir /usr/informix
```

---

## Setting Informix Environment Variables

Before you can use any IBM Informix product, the following environment variables must be set correctly:

- **INFORMIXDIR**: the location of the client programs, library files, message files, header files, and other IBM Informix software components. For example:

```
setenv INFORMIXDIR /extra/4gl
```

- **PATH**: the location of the binaries for your Informix software. For example:

```
setenv PATH ${PATH}:/extra/4gl/bin
```

- **INFORMIXSERVER**: the arbitrary, logical name you supplied for your Informix database server. This name is used to establish connectivity in client/server configurations. For example:

```
setenv INFORMIXSERVER cardtrick_01
```



- **INFORMIXSQLHOSTS:** the path to the **etc/sqlhosts** file within your Informix database software. For example:

```
setenv INFORMIXSQLHOSTS /extra/4gl/etc/sqlhosts
```

- **LD\_LIBRARY\_PATH:** sets the path to the library file that the Informix database software uses:

```
setenv LD_LIBRARY_PATH $INFORMIXDIR/lib:$INFORMIXDIR/lib/
esql:$INFORMIXDIR/lib/tools
```

**Important:** On some platforms, **LD\_LIBRARY\_PATH** has a different name. See the *Machine Notes* for the name of this environment variable on your platform. Earlier releases of 4GL before Version 7.31 required a different setting.

For more information about setting IBM Informix environment variables, see the *IBM Informix Guide to SQL: Reference*. If you need to make modifications to the **termcap** file, make those modifications in another directory and reference that directory.

## Creating and Using a Setup File

You can create a setup file that stores the environment variables. You must run the environment variables in the window from which you are running an IBM Informix product. You can then source the file to apply the environment variables.

### To create and use a setup file

1. Create a setup file using either the **Text Editor** or **vi** editor.
2. Enter your current environment variables into the setup file. For example, a setup file might include the following environment variables:

```
setenv INFORMIXDIR /extra/4gl
setenv PATH ${PATH}:/extra/4gl/bin
setenv INFORMIXSERVER cardtrick_01
setenv INFORMIXSQLHOSTS /extra/4gl/etc/sqlhosts
```

3. Save the file.
4. Each time you open a new shell window, source the setup file. For example:

```
source setup
```

5. View the environment variables to make sure they are set correctly. Use the command:

```
env
```

It is always a good idea to check the environment variables. Instances will occur where UNIX might not allow you to access a file. If this occurs, you might have to log in as another user to access the file.

---

## Installing IBM Informix 4GL

This section contains instructions for loading and installing IBM Informix 4GL. If you are also installing a database server, review the installation and configuration information in the *Administrator's Guide* for your version of the database server before you proceed with the steps in this section.

Before you begin, you will need the following:

- IBM Informix 4GL software media
- Your device name

Your IBM Informix product materials include a CD-ROM or other electronic media that contains all the product files. If you do not have the proper media, contact your supplier or IBM Informix sales representative.

### To install IBM Informix 4GL

1. Log in as **root**.
2. Load the CD-ROM or other electronic.
3. If you are not currently in the **\$INFORMIXDIR** directory, enter the following command:

```
cd $INFORMIXDIR
```

4. Copy the software files from the CD-ROM or other electronic media to the current directory by entering the **tar** command:

```
tar xvf[b] pathname [20]
```

where *pathname* is the full path to the tarfile for the product on the CD-ROM or to the device on which the other electronic media is downloaded.

For example:

```
/cdrom/ibm/i4gl/4gl.tar
```

Depending on which 4GL products you purchased, you will use the **tar** command for the following components:

- **4glid** (Interactive Debugger)
  - **4glrds** (4GL Rapid Development System)
  - **c4gl** (4GL C Compiler)
5. Enter the installation command for the first 4GL product you want to install.

For example, to install the first product listed in the following table, enter the following: `./install4db`. You will perform steps 4 through 6 for each of the products you purchased.

<b>Product</b>	<b>Installation Command</b>
IBM Informix 4GL Interactive Debugger	<code>./install4db</code>
IBM Informix 4GL C Compiler	<code>./install4gl</code>
IBM Informix 4GL Rapid Development System	<code>./install4gp</code>

The following message appears on the screen:

```
Installation Script
This installation procedure must be run by root (super-
user). It will change the owner, group, and mode of all
files of this package in this directory. There must be a
user "informix" and a group "informix" known to the
system.
Press RETURN to continue,
or the interrupt key (usually CTRL-C or DEL) to abort.
```

6. Press RETURN to continue the installation procedure. You then see a message similar to the following:

```
WARNING!  
This software, and its authorized use and number of users,  
are subject to the applicable license agreement with  
Informix Software, Inc. If the number of users exceeds the  
licensed number, the excess users may be prevented from  
using the software. UNAUTHORIZED USE OR COPYING MAY  
SUBJECT YOU AND YOUR COMPANY TO SEVERE CIVIL AND CRIMINAL  
LIABILITIES.  
Press RETURN to continue,  
or the interrupt key (usually CTRL-C or DEL) to abort.
```

7. Press RETURN to begin the installation.

A series of messages appears on the screen as each directory is installed:

```
Installing directory .  
Installing directory bin  
Installing directory lib  
.  
:  
.
```

The following message tells you that your IBM Informix product is fully installed:

```
Installation of <product> complete
```

After this message appears, you see the shell prompt, indicating completion of installation.

8. Repeat steps 4 through 6 until each of the files has been executed.
9. Log out as **root** after you complete product installation.

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