# INFORMIX-4GL

# Installation Guide

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# In This Guide

This guide explains how to install your 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 INFORMIX-4GL

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

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

# System Requirements

Informix provides two implementations of 4GL:

- The INFORMIX-4GL C Compiler, which uses a preprocessor to generate 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 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 |
|---|---|
| INFORMIX-4GL C Compiler | |
| ■ Programmer's Environment (**i4gl**) | 3 megabytes + database server |
| INFORMIX-4GL Rapid Development System | |
| ■ Programmer's Environment (**r4gl**) | 3 megabytes + database server |
| ■ P-code runner (**fglgo**) | 3 megabytes + database server |
| 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 |
|---|---|
| INFORMIX-4GL C Compiler | |
| ■ Development | 85 megabytes* (size of **.tar** file) |
| ■ Runtime | 17 megabytes (size of **.tar** file) |
| INFORMIX-4GL Rapid Development System | |
| ■ Development | 68 megabytes* (size of **.tar** file) |
| ■ Runtime | 20 megabytes (size of **.tar** file) |
| INFORMIX-4GL Interactive Debugger | |
| ■ Development | 38 megabytes (size of **.tar** 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.

## Establishing the Informix User, Group, and Directory

If this is the first time that you will install an 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:
  - Informix: to run the Informix servers and software.
  - Yourself: to perform administrative work on your computer, such as copying or untarring files.
  - 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.
- 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 **ypmake** utility.
- Although 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 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 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_ol
```

- **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
$INFORMIXDIR/lib:4INFORMIXDIR/lib/
esql:$INFORMIXDIR/lib/tools
```

For more information about setting Informix environment variables, see the *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 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_ol
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.

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

```
env
```

# Installing INFORMIX-4GL

This section contains instructions for loading and installing 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:

- INFORMIX-4GL software media
- Serial number keycard
- Your device name

Your Informix product materials include a serial number keycard and CD-ROM or other electronic media that contain all the product files. Both are necessary for installation. If you do not have the serial number keycard or the proper media, contact your supplier or Informix sales representative.

You will need the serial number keycard to perform the installation procedure that follows. Your serial number keycard provides the correct command for copying the Informix files onto the hard disk of your computer. It lists a version of the **tar** command similar to the following:

```
tar xvf[b] devicename [20]
```

where *devicename* refers to the full pathname to that device. Devices are commonly in **/dev**, so the name is normally **/dev/*devicename***.

### To install INFORMIX-4GL

1. Log in as root.
2. Load the CD-ROM or other electronic media supplied with your software into the appropriate drive in your computer.
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 listed on your serial number keycard.

   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 `./install4db`. You will perform steps 4 through 8 for each of the products you purchased.

| Product | Installation Command |
|---|---|
| INFORMIX-4GL Interactive Debugger | `./install4db` |
| INFORMIX-4GL C Compiler | `./install4gl` |
| INFORMIX-4GL Rapid Development System | `./install4gp` |

   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.

   The following prompt appears:

```
Enter your serial number (e.g., INF#X999999) >
```

7. Enter the 11-character serial number located on your serial number keycard.

   The serial number is 3 uppercase letters, followed by a pound sign (#), followed by 1 uppercase letter and 6 digits.

   The following prompt appears:

   ```
   Enter your serial number KEY (uppercase letters only)>
   ```

8. Enter the 6-letter key from the serial number keycard.

   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.
   ```

   If your software is licensed for use by an unlimited number of simultaneous users, you see a message to that effect.

9. 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 Informix product is fully installed:

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

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

10. Repeat steps 4 through 8 until each of the files has been executed.

11. Log out as **root** after you complete product installation.