Informix Product Family
Informix
Version 12.10

IBM Informix Installation Guide for Windows

GC27-4527-03

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Note
Before using this information and the product it supports, read the information in "Notices" on page B-1.

Edition

This edition replaces GC27-4527-02.

Contents

Introduction

This introduction provides an overview of IBM® Informix® products and of this publication as well as the conventions that it uses.

About this publication

This guide explains how to install, configure, and initialize an Informix server on a computer running a Windows operating system. The documentation assumes that you are familiar with the operating procedures of your computer and with your operating system. For information about your operating system, see your Microsoft Windows documentation.

The following additional products can be installed from the IBM Informix installation media:

- IBM Informix BladeManager
- IBM Informix DataBlade® Developers Kit (DBDK)
- IBM Informix ClusterIT
- IBM Informix Connect
- IBM Informix Client Software Development Kit (Client SDK)
- IBM Informix JDBC Driver
- The IBM Informix ODBC Driver can be installed as part of Client SDK.
- IBM Data Server Driver Package

For information about installing Client SDK and related programs, see the *IBM Informix Client Products Installation Guide*.

Types of users

This publication is for database administrators (DBAs) who install IBM Informix products. This guide assumes that you are familiar with the operating procedures of your computer and with your operating system. For information about your operating system, see your Microsoft Windows documentation.

What's new in installation for IBM Informix, Version 12.10

This publication includes information about new features and changes in existing functionality.

For a complete list of what's new in this release, go to http://pic.dhe.ibm.com/infocenter/informix/v121/topic/com.ibm.po.doc/new_features_ce.htm.

Table 1. What's New in IBM Informix Installation Guide for Windows for Version 12.10.xC4

Overview	Reference
Uninstall Informix programs on Windows from the Control Panel Windows users with administrator privileges can uninstall Informix products by using the Control Panel. Previous methods of modification and uninstallation are still available.	Chapter 4, “Removing Informix products or features,” on page 4-1

Table 1. What's New in IBM Informix Installation Guide for Windows for Version 12.10.xC4 (continued)

Overview	Reference
Easier installation of 32-bit programs on Windows 64-bit operating systems When you install Informix products from 32-bit installation media on 64-bit Windows computers, you no longer need to add the SysWOW compatibility folder to the **PATH** environment variable.	Chapter 2, "Installing Informix and client products on Windows," on page 2-1

Table 2. What's New in IBM Informix Installation Guide for Windows for Version 12.10.xC3

Overview	Reference
Automatically configure the server during installation If you create a server during installation, the server is configured based on your selections in the installation program, storage spaces are created, automatic tuning of resources for performance is enabled, and the JSON wire listener is started.	"Create a configured server during installation" on page 1-3

Example code conventions

Examples of SQL code occur throughout this publication. Except as noted, the code is not specific to any single IBM Informix application development tool.

If only SQL statements are listed in the example, they are not delimited by semicolons. For instance, you might see the code in the following example:

```
CONNECT TO stores_demo
...

DELETE FROM customer
   WHERE customer_num = 121
...

COMMIT WORK
DISCONNECT CURRENT
```

To use this SQL code for a specific product, you must apply the syntax rules for that product. For example, if you are using an SQL API, you must use EXEC SQL at the start of each statement and a semicolon (or other appropriate delimiter) at the end of the statement. If you are using DB–Access, you must delimit multiple statements with semicolons.

Tip: Ellipsis points in a code example indicate that more code would be added in a full application, but it is not necessary to show it to describe the concept that is being discussed.

For detailed directions on using SQL statements for a particular application development tool or SQL API, see the documentation for your product.

Additional documentation

Documentation about this release of IBM Informix products is available in various formats.

You can access Informix technical information such as information centers, technotes, white papers, and IBM Redbooks® publications online at http://www.ibm.com/software/data/sw-library/.

Compliance with industry standards

IBM Informix products are compliant with various standards.

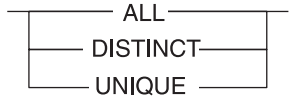
IBM Informix SQL-based products are fully compliant with SQL-92 Entry Level (published as ANSI X3.135-1992), which is identical to ISO 9075:1992. In addition, many features of IBM Informix database servers comply with the SQL-92 Intermediate and Full Level and X/Open SQL Common Applications Environment (CAE) standards.

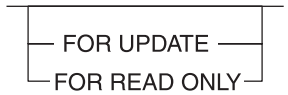
Syntax diagrams

Syntax diagrams use special components to describe the syntax for statements and commands.

Table 3. Syntax Diagram Components

Component represented in PDF	Component represented in HTML	Meaning
	`>>----------`	Statement begins.
	`---------->`	Statement continues on next line.
	`>----------`	Statement continues from previous line.
	`----------><`	Statement ends.
	`--------SELECT----------`	Required item.
	`--+-----------------+---` `  '------LOCAL------'`	Optional item.

	`---+-----ALL-------+---`
	`   +--DISTINCT-----+`
	`   '---UNIQUE------'`
		Required item with choice. Only one item must be present.

	`---+------------------+---`
	`    +--FOR UPDATE-----+`
	`    '--FOR READ ONLY--'`
		Optional items with choice are shown below the main line, one of which you might specify.

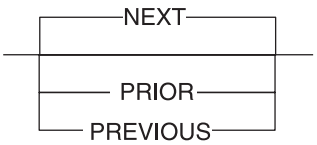
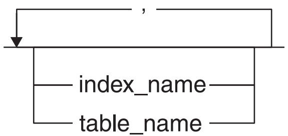
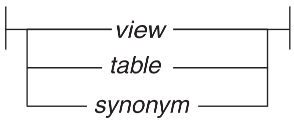
	`    .---NEXT---------.`
	`----+----------------+---`
	`    +---PRIOR--------+`
	`    '---PREVIOUS-----'`
		The values below the main line are optional, one of which you might specify. If you do not specify an item, the value above the line is used by default.

Table 3. Syntax Diagram Components (continued)

Component represented in PDF	Component represented in HTML	Meaning

	`.-------,-----------.`
	`V                   |`
	`---+-----------------+---`
	`   +---index_name---+`
	`   '---table_name---'`
		Optional items. Several items are allowed; a comma must precede each repetition.

	`>>-| Table Reference |-><`	Reference to a syntax segment.

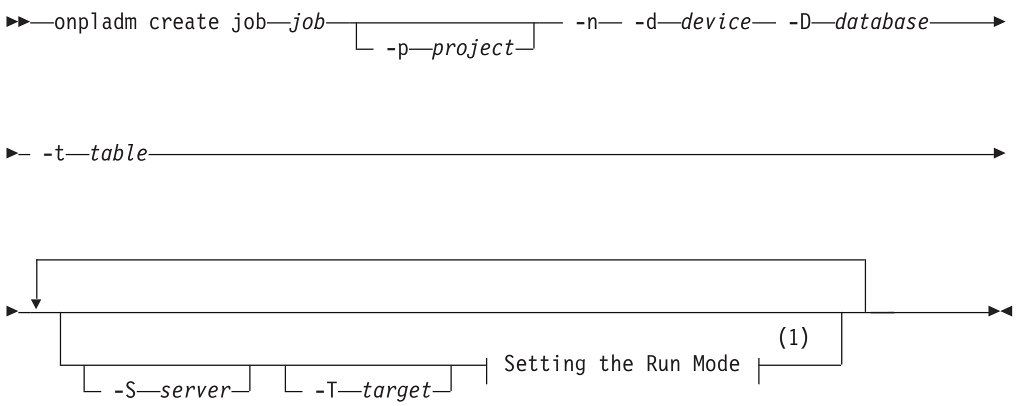
Table Reference
 
	`Table Reference`
	`|--+-----view--------+--|`
	`   +------table------+`
	`   '----synonym------'`
		Syntax segment.

How to read a command-line syntax diagram

Command-line syntax diagrams use similar elements to those of other syntax diagrams.

Some of the elements are listed in the table in Syntax Diagrams.

Creating a no-conversion job

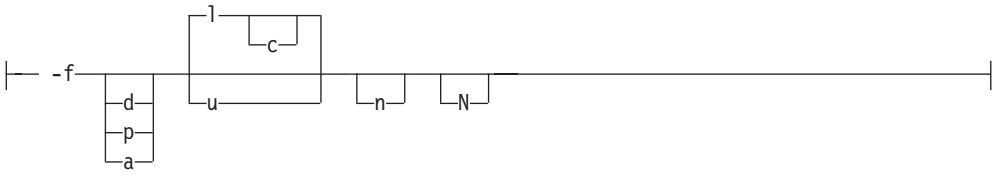


Notes:

1 See page Z-1

This diagram has a segment that is named “Setting the Run Mode,” which according to the diagram footnote is on page Z-1. If this was an actual cross-reference, you would find this segment on the first page of Appendix Z. Instead, this segment is shown in the following segment diagram. Notice that the diagram uses segment start and end components.

Setting the run mode:



To see how to construct a command correctly, start at the upper left of the main diagram. Follow the diagram to the right, including the elements that you want. The elements in this diagram are case-sensitive because they illustrate utility syntax. Other types of syntax, such as SQL, are not case-sensitive.

The Creating a No-Conversion Job diagram illustrates the following steps:

1. Include **onpladm create job** and then the name of the job.
2. Optionally, include **-p** and then the name of the project.
3. Include the following required elements:
   - **-n**
   - **-d** and the name of the device
   - **-D** and the name of the database
   - **-t** and the name of the table
4. Optionally, you can include one or more of the following elements and repeat them an arbitrary number of times:
   - **-S** and the server name
   - **-T** and the target server name
   - The run mode. To set the run mode, follow the Setting the Run Mode segment diagram to include **-f**, optionally include **d**, **p**, or **a**, and then optionally include **l** or **u**.
5. Follow the diagram to the terminator.

Keywords and punctuation

Keywords are words that are reserved for statements and all commands except system-level commands.

A keyword in a syntax diagram is shown in uppercase letters. When you use a keyword in a command, you can write it in uppercase or lowercase letters, but you must spell the keyword exactly as it appears in the syntax diagram.

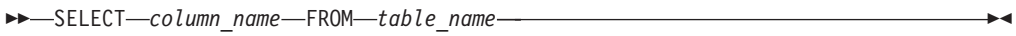
You must also use any punctuation in your statements and commands exactly as shown in the syntax diagrams.

Identifiers and names

Variables serve as placeholders for identifiers and names in the syntax diagrams and examples.

You can replace a variable with an arbitrary name, identifier, or literal, depending on the context. Variables are also used to represent complex syntax elements that are expanded in other syntax diagrams. A variable in a syntax diagram, an example, or text, is shown in *lowercase italic*.

The following syntax diagram uses variables to illustrate the general form of a simple SELECT statement.



When you write a SELECT statement of this form, you replace the variables *column_name* and *table_name* with the name of a specific column and table.

How to provide documentation feedback

You are encouraged to send your comments about IBM Informix user documentation.

Use one of the following methods:

- Send email to docinf@us.ibm.com.
- In the Informix information center, which is available online at http://www.ibm.com/software/data/sw-library/, open the topic that you want to comment on. Click the feedback link at the bottom of the page, complete the form, and submit your feedback.
- Add comments to topics directly in the information center and read comments that were added by other users. Share information about the product documentation, participate in discussions with other users, rate topics, and more!

Feedback from all methods is monitored by the team that maintains the user documentation. The feedback methods are reserved for reporting errors and omissions in the documentation. For immediate help with a technical problem, contact IBM Technical Support at http://www.ibm.com/planetwide/.

We appreciate your suggestions.

Chapter 1. Preparing to install Informix and client products on Windows

Read the following information and complete the tasks appropriate for your installation environment.

Related tasks:

"Installing with the GUI typical setup" on page 2-1

"Installing with the GUI custom setup" on page 2-2

Online notes

See the release notes, documentation notes, and machine notes in the Release Information subtopic under the Product Overview topic for useful topics and links about an IBM Informix product or fix pack. Also review the online notes about the known and fixed defects for the product or fix pack.

All these notes are in the Information Center at http://pic.dhe.ibm.com/infocenter/informix/v121/index.jsp.

Verify system requirements

Before you install any products, make sure that your system meets the requirements.

See the IBM Informix machine notes for a list of supported Windows operating systems on which you can install the products.

Important: The following requirements might be lower for your system, depending on the operating system and environment.

- A typical installation of the IBM Informix software bundle requires approximately 750 MB of disk space. Some installation choices require more disk space. The installation application informs you of the total disk space that is required by your setup before you copy the binary files to your host computer.
- The drive on which IBM Informix or client products is installed must be formatted using NTFS and must have 8.3 file name creation enabled.
- An installation requires approximately 1 GB RAM.
- Ensure that you have 1 GB free space available in your temporary directory before installation. This space allows the extraction of the installation media and for running the installation program. The location can be altered by setting the **IATEMPDIR** environment variable to a location that contains sufficient storage before you start the installation program.

Related tasks:

"Installing with the GUI typical setup" on page 2-1

"Installing with the GUI custom setup" on page 2-2

Verify Administrators group membership and disable User Account Control

Verify that you are logged in as a member of the Windows Administrators group.

For Windows 7 and subsequent Windows versions, you must turn off User Account Control (UAC) security before you install IBM Informix.

For information about how to create groups, add users to groups, and turn off User Account Control, see your Windows documentation.

Multiple installations of the Informix server on one computer

You can install multiple versions of the Informix database server on the same computer with the following restrictions:

- Each installation must be a different version or fix pack number. For example, 11.70.xC7, 11.70.xC8, or 12.10.xC1
- Each installation must be in a separate directory

Each Informix installation on the host computer can run with its own installation setup, including unique role separation settings.

Benefits of multiple installations include:

- The ability to test new features before you use them in a production database
- The ability to have both 32-bit and 64-bit versions on the same computer

Each installation adds a corresponding program group on the **Start** > **Programs** menu.

When you install additional copies of the product on the same computer, a number is appended to the program group name. The first installation on a computer, by default, does not have an installation number that is appended to the program group name. The first copy (that is, the second installation of the product on the computer) has 1 appended at the end of the program group entry. The number of each subsequent copy that you install increases by 1. For example, the installation number of the third copy is 2 and the installation number of the fourth copy is 3.

You cannot install copies of IBM Informix Client Software Development Kit or IBM Informix Connect on a computer that already has an installation of one of these client products.

Choose your installation setup

Typical setup installs all Informix products on the installation media, with all features, and requires minimal user input. Custom setup lets you select specific products and features to exclude from the installation to minimize the footprint (disk size) and provides options to install the Informix server with more advanced security and configuration features.

Installation application setup types

The installation application has two setup options:

Typical installation
Typical setup is recommended for most database server environments, but the installation requires more disk space and memory than an installation created using custom setup.

Custom installation
Custom setup lets you select products and features to exclude from the

installation. Some features are mutually dependent, and must be installed with one another. The installation application enforces these dependencies.

In addition, custom setup lets you select whether to create a database server instance automatically after installation. If you create an instance in custom installation, you have the option to set specific configuration parameters or to let the installation application set them automatically.

You must select custom setup to complete a domain installation or to enable role separation.

You can run the installation application on Windows in either of the following modes:

- Graphical user interface (GUI).
- Silent installation. You can perform a *silent installation*, an installation method that requires no user interaction with the installation application after you start it. Silent installation is useful when you plan to install Informix or related products on multiple computers. You must have a complete *response file*, which indicates how you want the installation to be configured, before you can perform a silent installation.

Which setup type you select depends on your system architecture, your technical expertise, and the requirements of your implementation.

Silent installation
If you expect to replicate your installation configuration with silent installation, read "Performing a silent installation of Informix and client products" on page 2-4 first.

Installing database server to run as local system account
To install the Informix database server as a local system account on Windows, you must select a custom installation and complete the administrative user configuration accordingly. With the option to run the Informix service as local system, the database server is started using the Windows local system account, instead of user **informix**.

Related tasks:

"Installing with the GUI typical setup" on page 2-1

"Installing with the GUI custom setup" on page 2-2

"Performing a silent installation of Informix and client products" on page 2-4

Create a configured server during installation

You can choose to create and configure a server during installation. The server is configured by the choices that you make in the installation program and started after installation is complete. The server requires minimal administration.

The mandatory configuration parameters and environment variables are set and connectivity information is configured.

Note: If you plan to use a locale or language other than the default, set the appropriate environment variables before you create a database.

The following storage spaces are created for the server:

- An extendable plogspace for the physical log
- A dbspace for the logical log

- Dbspaces with the default page size and with an 8 KB page size for databases and tables
- A temporary dbspace
- An sbspace
- A temporary sbspace

The sizes of the spaces are based on the number of expected users that you specify during the installation.

The server is configured automatically tune resources for performance, which includes expanding the buffer pool, the logical logs, and the physical log, and increasing virtual processors.

IBM OpenAdmin Tool (OAT) for Informix is configured and connected to the server.

The JSON wire listener is configured, started, and connected to the server through the **ifxjson** user.

Related reference:

GLS-related environment variables (GLS User's Guide)

Plan role separation

Role separation provides increased database security because the database server splits administrative tasks into mutually exclusive roles.

If you do not enable role separation, the **Informix-Admin** group performs all administrative tasks. For detailed information about the role separation feature, see the *IBM Informix Security Guide*.

Important: You must select custom installation setup to enable role separation. You cannot turn off role separation after you enable it. To remove role separation from your system, you must use the uninstaller to remove all database instances and related files. After the uninstallation, reinstall the database server without role separation.

If you enable role separation during installation, you are prompted to create groups and users and add the users to the corresponding groups.

Table 1-1. Role separation

Default group name	Role category	Role definition
Informix-Admin	General Database Administration	Performs general administrative tasks, such as archiving and restoring data, monitoring use and performance, and tuning the system.
ix_dbsso	Database System Security Officer	Maintains the security of the database server. Functions of this role include audit adjustment and changing security characteristics of storage objects. Creation of this user role requires selection of a password during installation.

Table 1-1. Role separation (continued)

Default group name	Role category	Role definition
ix_aao	Auditing Analysis Officer	Audits the records of specific types of database activities. If someone attempts to circumvent or corrupt the security mechanism of the database, these actions can be traced. Creation of this user role requires selection of a password during installation.
ix_users	Database Users	Accesses the database to perform end-user tasks. Only users who are designated as members of the **ix_users** group can access the database.

During installation, you can replace these default users and groups with existing users or groups.

Related tasks:

"Installing with the GUI custom setup" on page 2-2

Installation directory

The drive on which the directory exists must be formatted using NTFS and must have 8.3 filename creation enabled. You are not required to create the directory before installation. IBM Informix software refers to this installation directory as `%INFORMIXDIR%`, and often the **INFORMIXDIR** environment variable is set to this directory. The installation application suggests a default `%INFORMIXDIR%` path, which you can change by typing a different path.

For more information about the **INFORMIXDIR** environment variable, see the *IBM Informix Guide to SQL: Reference*.

User informix

User **informix** is a user account with main authority over an IBM Informix instance.

User **informix** is required for most installations because it has the unique user identifier (UID) to manage and maintain Informix instances and databases on the host server. The only exception to this requirement is when you install the Informix server as local system user.

The password for this user account must be protected. Only let trusted database and security administrators log in as user **informix**.

If you are installing Informix for the first time on your system and have not selected the local system user option, the installation program prompts you to create the **informix** user by providing a password. If user **informix** already exists on your system, the installation program prompts you to confirm the password.

Important: The database server will not start if password standards for user **informix** or any other users do not conform to local security standards.

Other IBM product installation files

The IBM Data Server Driver Package is included in the installation media for Windows.

When you use the Informix installation application on Windows, you can select to install the IBM Data Server Driver Package with either IBM Informix Client Software Development Kit (Client SDK) or IBM Informix Connect. If you select to install the driver, a separate, short installation application starts. If you do not install the driver during Informix product installation, you can install the driver separately later. The IBM Data Server Driver Package directory appears on the top level of the installation media. For more information about the driver, see the *IBM Informix Client Products Installation Guide*

Chapter 2. Installing Informix and client products on Windows

Most IBM Informix products, including the database server and the major client applications, can be installed using a packaged software bundle. You can select exactly which products you want to install. There is also a selection of supported installation methods offered to help meet the requirements of specific environments.

The executable file for the Informix software bundle installation is the `ids_install.exe` file on the installation media. If the `ids_install.exe` file does not appear on the top level of the media that you have, extract the **iif** folder maintaining the folder structure to access the executable file.

If you prefer, you can install each of the following client products individually by using a separate installation application that is available as a different executable file:

- Informix Client Software Development Kit (Client SDK)
- Informix Connect
- Informix JDBC Driver

For more information about these individual client installation applications, see the *IBM Informix Client Products Installation Guide* regarding Client SDK and Informix Connect or the *IBM Informix JDBC Driver Programmer's Guide*.

If you want to use the Informix installation application with screen reader software, perform the following actions:

1. Install the Java™ Access Bridge.
2. Start the Informix installation application from the command line with this command: `ids_install.exe LAX_VM=path_name/java.exe`

It is recommended that you use IBM Java Runtime Environment (JRE) 1.6 SR7 or later.

Installing with the GUI typical setup

Select a typical setup in the installation application GUI to install the Informix database server and client products with all features. Typical installation setup by default creates a ready-to-use database server instance that is configured for your host environment.

Verify that you completed the appropriate preparation tasks for installation.

To install Informix products by using the GUI typical setup:

1. Open the `ids_install.exe` file.
2. Read the license agreement. You must accept it to proceed. Depending on your selections, you might need to accept more than one license agreement.
3. Accept or change the default installation directory in the Choose Install Folder window.
4. Select **Typical** in the Installation Type window.

5. Optional: Choose whether to create a server as part of the installation. The server is configured by the choices that you make in the installation program and started after installation is complete.
6. Select the expected number of database users.
7. If you chose to create a server, enter the password for the **ifxjson** user and record it in a secure location. The installation application creates the **ifxjson** account to administer the JSON wire listener.
8. If you are prompted for an Informix administrator password, enter a password and record it in a secure location. The installation application creates the administrator account, and you must have the password to administer the Informix installation. This user account is referred to as user **informix** throughout Informix products and documentation.
9. Verify that the installation summary accurately reflects your installation options, and that the host computer has enough free space for the total installation. Go back to adjust the installation options as necessary.

Important: If you did not create a server in the installation application, set up an Informix server.

Related tasks:

"Configuring Informix with the Server Instance Manager" on page 3-5

Configuring the wire listener (JSON compatibility)

Related reference:

"Verify system requirements" on page 1-1

"Choose your installation setup" on page 1-2

"Log files" on page 2-5

Chapter 1, "Preparing to install Informix and client products on Windows," on page 1-1

Installing with the GUI custom setup

You can use a custom setup to exclude some Informix products and features from the installation to reduce disk space. A custom setup also provides you with other ways to configure installation variables for the requirements of your system.

Verify that you completed the appropriate preparation tasks for installation.

To use a domain account to administer Informix instances, you must run the installer as a user who has both local and domain controller administrator access.

To install Informix by using GUI custom setup:

1. Open the `ids_install.exe` file.

   Important: If you want to record a response file with the installation configuration, you perform a silent installation.
2. Read the license agreement. You must accept it to proceed. Depending on your selections, you might need to accept more than one license agreement.
3. Accept or change the default installation directory in the Choose Install Folder window.
4. Select **Custom** in the Installation Type window, and select the Informix products and features that you want to install.

a. Click the + character by each component node to view the products and features that are contained in that component.
b. Clear check boxes by products and features that you do not want to install. The installation application enforces dependencies among products and features. If you cannot configure the selected or cleared features exactly as you want, it is probably an unsupported installation configuration for your environment.

   A brief description of a selected component or feature is provided in the GUI window.

   Important: If you want to set up clustering for failover support, select **Cluster utility**.

5. Optional: Change user authentication settings, depending on your planned usage of the installation and host environment:
   - You can change the user account that runs the Informix database server to a local system account. Running the Informix server as a local system account is useful if you are planning to embed the server. This account is a service that runs as a user without a password requirement.
   - If you are installing the server as a local system account and plan to use Enterprise Replication, create the **informix** user manually.
   - If you are running the installer as a domain administrator and you want to use a domain account to administer Informix instances, select **Domain**.
6. Choose whether to set up a ready-to-use Informix server as part of the installation, whether to initialize the server, and whether to customize configuration parameter settings.

   Tip: For information about selecting a default or customized configuration and for information about the configuration parameters, click **Help** in this installation application window.
7. Select the expected number of database users.
8. If you are prompted for an Informix administrator password, enter a password and record it in a secure location. The installation application creates the administrator account, and you must have the password to administer the Informix installation. This user account is referred to as user **informix** throughout Informix products and documentation.
9. If you chose to create a server and you did not deselect the JSON component, enter the password for the **ifxjson** user and record it in a secure location. The installation application creates the **ifxjson** account to administer the JSON wire listener.
10. Optional: Enable role separation for auditing procedures.

    Important: If you enable role separation, you cannot turn it off after the product is installed. To remove role separation, you must uninstall the database server and reinstall it without role separation. For more information about role separation, click **Help** in the role separation window of the installation application.
11. Verify that the installation summary accurately reflects your installation options, and that the host computer has enough free space for the total installation. Go back to adjust the installation options as necessary.

Important: If you did not create a server instance in the installation application, configure an Informix server.

Related tasks:

"Configuring Informix with the Server Instance Manager" on page 3-5

Configuring the wire listener (JSON compatibility)

"Performing a silent installation of Informix and client products"

Related reference:

"Verify system requirements" on page 1-1

"Choose your installation setup" on page 1-2

"Log files" on page 2-5

Chapter 1, "Preparing to install Informix and client products on Windows," on page 1-1

"Plan role separation" on page 1-4

Performing a silent installation of Informix and client products

To perform a silent installation, which is also known as an *unattended installation*, use a response file that contains information about how you want the product installed. You invoke this response file in a command-line option to perform the silent installation.

You must be logged in as an administrator on all computers where you are complete an installation.

To complete a silent installation containing your configuration of a previous installation, you must have a response file with customized settings of how you want the product or products installed. The following procedure outlines two different ways of creating the response file: recording your configuration of an interactive GUI installation or customizing the `bundle.properties` template file. The installation media contains the text-based `bundle.properties` file that can be used as a template for creating your response file.

If you know that you have a valid response file already, begin with step 3 in the following procedure.

1. Create a response file by doing one of the following:
   - Run the Informix installation script to start the installation application in GUI mode, specifying that you want to record the installation in a response file.

     ```
     ids_install.exe -i gui -r path_name
     ```

     Substitute *path_name* with the full path and file name of your response file, appending `.properties` at the end of the name.
   - Create a copy of the `bundle.properties` file that is on the installation media and edit the file for the installation configuration that you want.

     Important: Do not overwrite, move, or delete the `bundle.properties` file that is shipped in the installation media. You must change the setting for product license terms agreement to "Accept" in your customized `.properties` file for it to function as a response file during silent installation.
2. Copy the response file to the computer where you want to install Informix and any bundled client programs.
3. Run the silent installation command, indicating the relative or absolute path to the response file :
   - `ids_install.exe -i silent -f path_name`
4. Repeat steps 2 and 3 for each location where you want to deploy the same installation setup.

Installation log files are located in the $INFORMIXDIR directory.

Related tasks:

"Installing with the GUI custom setup" on page 2-2

Related reference:

"Choose your installation setup" on page 1-2

"Log files"

Performing an inline Informix upgrade on Windows

If you have earlier versions of IBM Informix installed, you must use an upgrade path that is appropriate for your environment.

Important: If you plan to complete an inline upgrade where a previous version of Informix is already located, before you upgrade you must back up the database server that you are using (including the data chunks of the existing installation) and the onconfig and SQLHOSTS files. Be sure to review the *IBM Informix Migration Guide* for detailed prerequisites and instructions about the upgrade method that is appropriate for your environment.

There is no inline upgrade support for Client SDK and Informix Connect installations. To upgrade one of these client products at the same time you perform inline upgrade of the database server, uninstall the old client product installation and select the client product in the installation application.

To complete an inline upgrade of the Informix database server:

1. Save copies of the onconfig and SQLHOSTS files of the existing installation.
2. Shut down all instances of the Informix installation before installing the new version.
3. Install Informix in the $INFORMIXDIR path of the Informix installation that you want to upgrade.

If you want to remove any features from the upgraded installation, run the uninstallation application to selectively remove the features.

Log files

Installation log files can provide helpful information about a completed installation or help you identify problems about an installation attempt.

When you install Informix products, the installation application generates log files in %INFORMIXDIR%. Log files are also created if you attempt to install any of the products but the installation application does not complete successfully.

The log file %INFORMIXDIR%/IBM_Informix_Software_Bundle_InstallLog.log is created for any installation using the Informix software bundle. Log files for other installed products are created in %INFORMIXDIR%.

If the installation application fails, then the log files are placed on the Windows Desktop.

Related tasks:

"Installing with the GUI typical setup" on page 2-1

"Installing with the GUI custom setup" on page 2-2

"Performing a silent installation of Informix and client products" on page 2-4

Cluster installations

IBM Informix supports Microsoft Cluster Server (MSCS), which enables high availability on Microsoft Windows (Windows 2003, Windows XP and Windows Vista). MSCS allows you to cluster two Windows computers as redundant components, or nodes. When a failure occurs on one node in the cluster, Windows restarts the failed applications (such as the database server) on the surviving node in the pair.

Important: The database server installation must include the **Cluster utility** feature with appropriate installation configuration to set up an MSCS environment. You must install the Informix software bundle as documented in "Installing the Informix server on the primary node of a cluster environment."

MSCS includes the Cluster Administrator, which enables you to designate a cluster and define *resources*, resource ownership, and dependencies on other resources. A resource is a hardware component, such as a shared disk, or a software application, such as the database server, that is shared between the two nodes in a cluster.

The Cluster Administrator also enables you to define groups that specify resource dependencies, so that the Microsoft Resource Manager can move groups of dependent resources to the surviving node in the event of failover. The Microsoft Resource Manager is a program that invokes specific start, restart, stop, and monitoring functions for a resource.

Important: Stop Informix before shutting down the operating system during MSCS setup to avoid any data loss.

Overview of implementing a cluster on two nodes

After you complete cluster-implementation preparation tasks, you implement a clustering environment of the database server in three steps:

1. On the primary node, install the Informix server as documented in "Installing the Informix server on the primary node of a cluster environment."
2. Convert the database servers to a cluster configuration. This step is implemented with the ClusterIT utilities:
   - Use the **clusterIT_a.exe** utility to configure Informix on the primary node for use in a cluster.
   - Copy the `cluster.ini`, `clusterit_b.exe`, and `silent_install_`*`version`*`.ini` files from `%INFORMIXDIR%` of the primary node to the directory where you want to install the database server on the secondary node. These `.ini` files are in `%INFORMIXDIR%` of the primary node as a result of the Informix server installation there.
   - On the secondary node, run the **clusterIT_b.exe** utility. The utility installs the Informix server and configures the primary node's database server instance to run with the instance on the secondary node.

Installing the Informix server on the primary node of a cluster environment

Before you install the server, do the following:

- Decide on an `%INFORMIXDIR%` path that is a local disk and is the same path on both the computer with the primary node and the computer with the secondary node.

- Verify that the shared disks of the cluster can store all chunks. All chunks must be on shared disks.

After the installations on both primary and secondary nodes, it must be possible to move the disks from one node to another. While all chunks must be on shared disks, each %INFORMIXDIR% must be local to each node.

To install the Informix database server on the host computer of a primary node for the cluster environment:

1. Install the Informix server with the following configuration:
   a. Select **Custom** setup in the installation application.
   b. In the Product Selection window that contains the product and feature tree, select the **Cluster utility** feature of the core database server family.
   c. Specify a domain user **informix** account.
   d. Select the **Create a server instance** checkbox, and verify that the **Initialize server** checkbox is *not* selected.

   See "Installing with the GUI custom setup" on page 2-2 for more information about custom installation.
2. Edit the onconfig file. For more information about the onconfig file, see the *IBM Informix Administrator's Reference*.
3. Put the root dbspace on a shared disk.
4. Move all shared disks to the primary node.
5. Initialize the database server. For more information, see "Database server configuration after installation" on page 3-3.
6. Create additional dbspaces, if necessary. For more information, see "Dbspace name, location, and size" on page 3-7. Additional dbspaces must be located on shared disks.

To complete the cluster setup on the primary node, see "Setting up the installation on the cluster primary node."

Setting up the installation on the cluster primary node

There must be an existing Informix instance on the computer that has been configured as documented in "Installing the Informix server on the primary node of a cluster environment" on page 2-6.

When you run the **clusterit_a.exe** utility on the primary node, ClusterIT performs the following tasks:

- Extracts the resource .dll (ifxdb920.dll) to the WINDOWS\cluster directory
- Creates an IBM Informix resource group
- Moves all physical disks on which chunks are located to the IBM Informix group
- Creates a virtual IP address and a virtual host name
- Registers the resource type IFXDB920
- Creates the Informix cluster resource
- Sets dependencies
- Sets the Informix cluster resource to online

To set up a cluster on the primary node:

1. Run the **clusterit_a.exe** utility.

2. In the window that opens when you start the utility, fill out the information about networking environment, machine names, and configuration for the cluster node:
   a. In the **DBSERVERNAME to be clustered** text box, enter the name of your unclustered Informix instance.
   b. In the **DBSERVERNAME final (when clustered)** text box, enter a name for your Informix instance after it has been converted into a cluster configuration.
   c. In the **Physical hostname primary node** text box, enter the physical host name of the primary node.
   d. In the **Informix password** text box, enter your password.
   e. Enter the path information in the **Full path to the IDS directory on the Informix RDBMS CD** field.
   f. Enter the location of the installation (the value of `%INFORMIXDIR%` must be located on a local disk and must be identical for both nodes).
   g. In the **New virtual host name for the database host** text box, enter the new virtual host name.
   h. In the **virtual IP address for the database host** text box, enter the IP address for the new virtual host.
   i. In the **Subnetmask** text box, enter the value of the Subnetmask for the new virtual host.
   j. Select the network you want to use for the IP address from the **Network** menu.
   k. Select the **Number of shared disks** where you have chunks located.
   l. Enter the name of the shared disks you use as chunk locations for Informix from the **Shared disks for database** text box. These disks are moved to the **Informix** group that will be created by the ClusterIT utility. In the event of failure, the disks you specify here will move over to the other node.
3. Click **Convert to Cluster**. After conversion, an Informix server comes back online, but it is now controlled by the Microsoft Cluster Service. The resource group **Informix** has been created.

The settings that you specified in the **clusterit_a.exe** utility are written to the newly created `%INFORMIXDIR%/cluster/clusterit.ini` file.

You can check the state of the database server by running the **onstat** command.

Installing the Informix server on the secondary node of a cluster environment

Uninstall any previous IBM Informix installations on the secondary node before implementing a new cluster installation.

Before starting this task, do the following:

- The primary node installation of the database server is configured following the "Installing the Informix server on the primary node of a cluster environment" on page 2-6 instructions.
- Copies of the `silent_install_`*`version`*`.ini`, `clusterit_b.exe`, and `cluster.ini` files in `%INFORMIXDIR%` on the primary node must be on the secondary node.
- Verify that the **INFORMIXDIR** environment variable is not set.
- Verify you have Administrator privileges to administer Windows operating system groups on the computer for the secondary node.

- The following task is documented for environments where user **informix** runs the database server instance and is a domain account.

When you run the `clusterit_b.exe` utility on the secondary node, the utility performs the following tasks:

- Installs on the secondary node (silent installation)
- Copies registry entries from the primary node
- Copies the configuration file from the primary node
- Makes the resource `.dll` file (`ifxdb920.dll`) available on the secondary node

To install the database server in a cluster configuration on the secondary node:

1. Copy the `silent_install_`*`version`*`.ini` file and the `cluster.ini` file from `%INFORMIXDIR%` of the primary node to computer for the secondary node.
2. Run the **clusterit_b.exe** utility on the secondary node. The IBM Informix ClusterIT - secondary node window opens.
3. Fill in the text boxes:
   a. In the **Physical hostname primary node** field, enter the physical host name of the primary node.
   b. Enter the full path information in the **Full path to the Informix installation media** field.
   c. Enter the **Instance number** for Informix on the secondary node. This number is the same as that of Informix on the first node.
   d. Enter the location of the installation (the value of `%INFORMIXDIR%` must be located on a local disk and must be identical for both nodes).
   e. Enter your **Informix** password.
   f. In the **DBSERVERNAME final (when clustered)** text box, enter the name of the Informix instance in the cluster configuration. On this secondary node, Informix will be installed directly with this name.
   g. Check whether to enable **Role separation**. For more information, see "Plan role separation" on page 1-4.
4. Click **Convert to Cluster**. After the ClusterIT utility finishes conversion, the Informix instance tarts on the secondary node.

Important: The `silent_install_`*`version`*`.ini` and `cluster.ini` files contain your passwords for administering the Informix installation. After you have completed the clustering environment setup, edit these two `.ini` files on both the primary and secondary nodes to remove the passwords. Alternatively, you can delete the `silent_install_`*`version`*`.ini` file and the `cluster.ini` file.

Multiple residency

You can set up multiple independent database server environments on the same computer.

Complete the following tasks to set up multiple residency.

Plan for multiple residency

When you plan for multiple residency on a computer, consider the following factors:

- Storage space

Each database server must have its own unique storage space. You cannot use the same disk space for more than one instance of a database server. When you prepare an additional database server, you must repeat some of the planning that you did to install the first database server. For example, you must consider these questions:

- Will you use mirroring? Where will the mirrors reside?
- Where will the message log reside?
- Can you dedicate a tape drive to this database server for its logical logs?
- What kind of backups will you perform?

- Memory

  Each database server has its own memory. Can your computer handle the memory usage that an additional database server requires?

Creating a new database server instance

Before you set up multiple residency, you must install one database server as described in Chapter 2, "Installing Informix and client products on Windows," on page 2-1. It is not necessary to install more than one copy of the database server binary files. All instances of the same version of the database server on one computer can share the same executable files.

To set up multiple residency, use the Server Instance Manager. To use the Server Instance Manager program, you must have administrative privileges on the database server. However, local administrator privileges are sufficient, even if the database server was installed for domain use.

Before you use the Server Instance Manager, verify that you are a member of the **Informix-Admin** group. For more information, see "Verify Administrators group membership and disable User Account Control" on page 1-1.

The following steps are for using the Server Instance Manager GUI. See "Server Instance Manager command-line options" for other ways you can use this utility.

To create a new database server instance:

1. Select **Start** > **Programs** > **IBM Informix** > **Server Instance Manager**.
2. Select the **Installation Method**, and click **Create New** to create a new instance of the database server.
3. Follow the prompts.

After you enter the required information, the Server Instance Manager installs services, records environment variables, updates the registry, and creates `onconfig` and `sqlhost` files for the new database server instance.

Server Instance Manager command-line options

The **instmgr.exe** utility extends the ability to configure an IBM Informix instance with command-line options.

Purpose

The **instmgr.exe** utility is a command-line version of the Server Instance Manager.

You must have administrative privileges on the database server. However, local administrator privileges are sufficient, even if the database server was installed for domain use.

The following table describes the **instmgr.exe** utility options.

Table 2-1. The **instmgr.exe** *utility options*

Option	Meaning
-alias *DRDA_server_alias* **-drdaport** *DRDA_port* **drdasvc** *DRDA_service_name*	Command line for standalone support of DRDA® in the DBMS.
-apw *password*	Specifies the user **informix** password for a new instance.
-c -n *servername* **-apw** *informix_password*	Creates an instance of the database server.
-rename -apw *informix_password* **-n** *new_name old_name*	Rename an existing server name.
-s *.ini_filename*	Initialize the specified instance in silent mode.
-f *.ini_ filename*	Retrieve some information from a partial initialization file, and the remainder from the user.
-d -n *servername*	Delete the specified instance. **Warning:** This removes related dbspaces and deletes the data.
-dall	Delete all instances. **Warning:** This removes related dbspaces and deletes the data.
-uall -v *version*	Upgrade all instances to the specified version. (Upgrading a single instance in a multi-instance environment is not supported.)
-r -v *version* **-n** *servername*	Revert the specified instance to the specified version.
-rall -v *version*	Revert all instances to the specified version.
-b64 *Base64_password*	Specifies Base64–encoded password.
-l	Indicates cluster installation.
-system	Create database server instance that runs as local system user instead of user **informix**. (Informix must be installed as local system user to use this option.)

Chapter 3. Post-installation tasks on Windows

Review the following information after installing IBM Informix.

Working with the installation

After you install IBM Informix, determine how much of the database server setup the installation application completed and what actions you must do before you put the server in production.

If you chose to create a server during installation, the server is ready to use and can run on your system automatically. But you can further configure the server by setting configuration parameters and environment variables before you put the server in production.

If you did not create a server during installation, you must configure the server before you start it for the first time.

Tip: When you initialize a server, a shortcut is added to the **Start** menu. To run commands for an initialized server, click **Start** > **All Programs** > **IBM Informix** > ***server_name***.

If you want to use a locale other than the default locale of US English, use Global Language Support (GLS) to configure your installation for your locale.

The DB-Access utility, which is provided with your IBM Informix database server products, includes one or more demonstration databases. Many examples in IBM Informix manuals are based on these demonstration databases, and you can use these databases to explore Informix functionality. The demonstration databases can be created at any time after installation.

Related concepts:

Demonstration databases (DB-Access Guide)

GLS User's Guide (GLS User's Guide)

Setup performed by the installation application

Before you begin manual post-installation tasks, it is helpful to know some of the major tasks the installation application has done.

A typical installation (and possibly a custom installation, depending on your choices during setup) performs the following actions to make the database server ready to run on Windows:

- Configured and installed the database server as a Windows service.
- Created an **informix** user account and an **Informix-Admin** administrative group. The administrative group name is different if you enabled role separation and changed the name of the **Informix-Admin** group.
- Automatically assigned the **informix** user account, under which the database server runs, to the **Informix-Admin** group and to the Windows Administrators group.
- Granted the following advanced privileges to the **informix** user account:

- Logon as service
- Act as part of the operating system
- Increase quotas
- Replace a process level token
- Debug programs
- Manage auditing and security log

Informix program group

An IBM Informix program group is on the Windows Start menu after installation completes.

The database server program group is accessible through **Start** > **Programs**. The following table describes the program group menu.

Table 3-1. IBM Informix program group

Menu item	Description
Documentation	Contains shortcuts to product documentation: **Information Center** A Web-based, powerful online interface containing the technical information about the IBM Informix products. Requires a connection to the Internet. If you do not have a connection to the Internet, you can find the product documentation on the installation media. **Release notes** Describes new features of IBM Informix products. This file also contains information about any changes to function from previous releases and any known problems and their workarounds. Read this file before you use the database server.
Error Messages	Provides a complete list of all of the error messages and their corrective actions.
Server Instance Manager	Creates and configures new server instances and removes configured server instances.
uninstallserver	You can select from the following uninstallation options: **Complete Uninstall** Uninstalls the whole Informix installation. **Uninstall Specific Features** Displays the Informix feature tree so that you can select which features or whole components that you want to remove.
server-name	Opens a Command Prompt window for an initialized database server instance. You can use that window to run DB-Access and certain command-line utilities such as **onstat**, **oncheck**, and **onspaces**. (The **oninit** utility is designed to be started by a service rather than from this window.) If you have more than one database server instance, there is a shortcut menu for each of them.

Database server configuration after installation

To create an IBM Informix instance after installation completes, you set mandatory server properties. You can also set optional properties, such as enabling specific features.

You can manually set configuration parameters, environment variables, and connectivity information. This method provides the greatest flexibility for customizing your database server. Create an `onconfig` file for configuration parameters, set environment variables, and add connectivity information to the `sqlhosts` file.

You can set the mandatory server properties with the Server Instance Manager and then update the `onconfig` file and set additional environment variables.

You can use the **genoncfg** utility as an alternative configuration method if you are comfortable working in a command-line environment. With this utility, you set a short list of parameters in an input file, from which the utility then generates an Informix configuration file that is optimized for both your anticipated usage and your host environment. You cannot use this utility to change a working configuration file.

Related reference:

The genoncfg Utility (Administrator's Reference)

Setting configuration parameters

The configuration file for the IBM Informix server is identified by the **ONCONFIG** environment variable, but if you have not set the **ONCONFIG** environment variable, the name that is used is `onconfig`. Even if you do not plan to use multiple servers, it is recommended that you use a file that is named `onconfig.`*`server_name`*.

If you created a database server or customized the default configuration file during the installation, manual setup of the configuration parameters is not required for a functioning Informix instance. However, all instances that are created without using the default configuration file in the installation application require further action to set values for at least some configuration parameters.

An Informix installation includes a default configuration file at `%INFORMIXDIR%\etc\onconfig.std`. This file has initial values for many of the configuration parameters. You can use `onconfig.std` as a template configuration file that you can copy and customize to how you use the product and to the host environment.

Important: Do not modify or delete `onconfig.std`, which is a template and not a functional configuration.

To prepare an Informix configuration file:

1. Copy the `onconfig.std` template file.
2. Modify the *copy* of the template file.
3. Set the **ONCONFIG** environment variable to the name of your customized configuration file.

If you omit a parameter value in your copy of the configuration file, the database server either uses default values from the `onconfig.std` template file or calculates values that are based on other parameter values.

Related concepts:

Database server configuration (Administrator's Guide)

Related reference:

Database configuration parameters (Administrator's Reference)

Setting environment variables

Set environment variables after you install IBM Informix. If you created a database server during installation, all mandatory environment variables are set, however, you can set optional environment variables.

You must be logged in as a member of the Windows Administrators group.

You can set environment variables in the system applet or at the command line.

To set the environment variables for an Informix instance:

1. Set the **INFORMIXDIR** environment variable to the directory where you installed IBM Informix products.
2. Set the **PATH** environment variable to include `%INFORMIXDIR%\bin`.
3. Set the **INFORMIXSERVER** environment parameter to specify the default database server to which IBM Informix DB-Access or an SQL API client makes an explicit or implicit connection.
4. Set the **ONCONFIG** environment variable to the name of a valid `onconfig` file.
5. If you want to use a locale or language other than the default locale of US English, set the following environment variables:
   a. Set the **CLIENT_LOCALE** environment parameter to specify a nondefault locale.
   b. Set the **DBLANG** environment parameter to specify the subdirectory of `%INFORMIXDIR%` that contains the customized language-specific message files that IBM Informix products use.
   c. Set the **DB_LOCALE** environment parameter.
   d. Set the **SERVER_LOCALE** environment parameter.
   e. Set the **GL_USEGLU** environment parameter if you plan to use UTF-8 character encoding. You must set the **GL_USEGLU** environment parameter before you create a database in which you plan to store UTF-8 character data.
6. Set the **INFORMIXSQLHOSTS** environment parameter to specify the file that contains the `sqlhosts` information. (The default location of this file is `%INFORMIXDIR%\etc\sqlhosts`.)

Related concepts:

Using environment variables on Windows (SQL Reference)

Related tasks:

Setting local environment variables for utilities (Administrator's Reference)

Environment settings (SQL Reference)

Related reference:

GLS-related environment variables (GLS User's Guide)

Preparing connectivity files

Prepare the files that the IBM Informix instance uses to communicate with client applications and with other database servers.

The connectivity information allows a client application to connect to any IBM Informix database server on the network. The connectivity data for a particular database server includes the database server name, the type of connection that a client can use to connect to it, the host name of the computer or node on which the database server runs, and the service name by which it is known.

Connectivity configuration determines whether your instance has a database server alias and a port for clients that use the Distributed Relational Database Architecture™ (DRDA) protocol. DRDA is for open development of applications that allow access of distributed data. DRDA is interoperable with IBM Data Server clients. If you created a database server with the default configuration file during installation, then your instance already supports DRDA connections.

You must prepare the connectivity information even if the client application and the database server are on the same computer or node. You are not required to specify all possible network connections in the `sqlhosts` file before you start the database server. But to make a new connection available after you have initialized the database server, you must restart the database server.

To prepare the connectivity files:

1. Edit the `sqlhosts` file to include the correct connectivity information with a text editor or equivalent tool.
   - The default location of this file is `%INFORMIXDIR%\etc\sqlhosts`.
   - If you set up several database servers to use distributed queries, use either one `sqlhosts` file to which the **INFORMIXSQLHOSTS** environment variable points or separate `sqlhosts` files in each database server directory.
2. If your system uses Internet Protocol network connections, enter settings in the `%windir%\system32\drivers\etc\services` file.

Related tasks:

Configuring connectivity between Informix database servers and IBM Data Server clients (Administrator's Guide)

Related reference:

Connectivity configuration (Administrator's Guide)

Configuring Informix with the Server Instance Manager

Use the Server Instance Manager if you want to configure the database server manually after installation of the product.

To configure the installed database server:

1. Open the Server Instance Manager utility and specify the following:
   - database server number
   - database server name
   - service name and port number for the TCP/IP network protocol
2. If you selected custom installation setup:
   a. Specify a name for the root dbspace.
   b. Specify the primary and mirror storage location and disk-space size for the root dbspace.
   c. Specify the name of the default sbspace.
   d. Specify the primary and mirror storage location and disk-space size for the default sbspace.

3. Specify the computer to use for shared server definition for your database server and administrative tools.

   The installation program installs services on the computer and configures the database server.
4. If you configured a new instance of the database server, you are prompted to initialize the database server:
   - Click **Yes** to initialize the database server and the root dbspace.
   - Click **No** to skip initialization.

   If you skip initialization, you must manually start the database server and specify the root dbspace size later. For more information on manual initialization, see "Starting the database server from the Control Panel" on page 3-8.

   Database server initialization might take several minutes.

   A message indicates that the database server was successfully installed.
5. If you selected other products to install, the installation prompts you to configure these products.
6. To update the members of the **Informix-Admin** group, log out and log back in. This step enables you to run the IBM Informix administration tools.
7. Restart your computer, if prompted.

Related tasks:

"Installing with the GUI typical setup" on page 2-1

"Installing with the GUI custom setup" on page 2-2

Database server number

The database server number uniquely identifies a database server if more than one instance of the database server is installed.

If only one instance of the database server is installed, set this number to `0`. The database server number that you specify is the value for the SERVERNUM configuration parameter.

The database server uses configuration parameters, set in the `onconfig` file, during initialization. For more information about configuration parameters and the `onconfig` file, see the "Configuration parameters" topic of the *IBM Informix Administrator's Reference*.

To determine how many instances of the database server are installed, run the Server Instance Manager program. To run the Server Instance Manager program, select **Start** > **Programs** > **IBM Informix** > **Server Instance Manager**.

Database server name

The database server name identifies the database server to client applications.

In most cases, you can select the default database server name. The database server name that you specify is the value for the DBSERVERNAME configuration parameter.

Database server names must begin with a letter and can contain only letters, numbers, and the underscore character.

Service name and port number

The service name specifies the service name entry and the port number specifies the port entry for the database server in the **sqlhosts** file.

Specify the service name and port number for the TCP/IP network protocol.

If only one database server instance exists on the computer, the installation program provides default values. It is recommended that you use these default values. For subsequent database server instances, you must provide unique values.

Dbspace name, location, and size

A dbspace is a logical collection of chunks to which databases and tables are assigned.

During installation, the root dbspace is created automatically. You can configure an additional data dbspace, mirror location, or smart blob drive.

Specify the location and disk-space size for the dbspace:

Primary data location
By default, the primary data location is the current drive. The installation program displays the amount of available disk space; the default dbspace size is 200 megabytes.

Smart blob drive
A default smart blobspace can be configured optionally. The default size is 200 megabytes.

Mirror location
The mirrored location serves as the backup area if the primary storage device fails. The mirrored location should be the same size as the primary location and should be in a different drive. The data dbspace and the smart blob can be mirrored on the same drive.

This mirrored location is also the value of the MIRRORPATH configuration parameter.

Default sbspace name, location, size, and page size

An sbspace is a logical storage area that the database server uses to store smart large objects (CLOB and BLOB data).

The default sbspace is the location in which the database server stores a smart large object if you do not specify an sbspace name when you create the smart large object. The database server also uses the default sbspace to store user-defined statistics.

Specify the primary and mirror data-storage location for the default sbspace:

Primary Data Location
By default, the Primary Data Location of the sbspace is the current drive and must have a minimum of 200 megabytes. The installation program displays the amount of available disk space. This location also specifies the value of the SBSPACENAME configuration parameter.

Mirror location
The mirrored location serves as the backup area if the primary storage device fails. The mirrored location should be the same size as the primary location and should be in a different drive.

Size The size of the sbspace should be at least 200 megabytes.

Page size

The size of the sbpage should approximate the size of the most frequently occurring smart large object that the sbspace holds. The default is one page.

For more information about sbspaces, see the *IBM Informix Administrator's Guide*.

Starting the database server from the Control Panel

You can start the database server by starting the IBM Informix service in the Control Panel.

- You must be a member of the **Windows Administrators** group.
- The disk space for the database server must be initialized once to prepare the root dbspace so that it can be used by the database server. If you performed a typical installation and chose to create a server instance or you performed a custom installation and chose to create and initialize the server, disk space is already initialized.
- If you chose not to create a server instance or not to initialize the server during installation, start the server and initialize the disk space by using the **-i** option of the **oninit** command in the **Start Parameters** field of the Services application or with the **starts** command from the command line.
- If you are upgrading from a previous version of IBM Informix and you are using the same root dbspace, do not initialize the disk space.

To start the database server from the Control Panel:

1. In Administrative Tools, double-click **Services**.
2. Double-click **Informix IDS -** *server_name* from the list.
3. Optional: Type **oninit** options in the **Start Parameters** field.
4. Click **OK**
5. Click **Start**.
6. To verify that the server started, use the **onstat** utility.

Related tasks:

"Starting the database server from the command line"

Related reference:

The oninit utility (Administrator's Reference)

The onstat utility (Administrator's Reference)

Starting the database server from the command line

You can start the database server by using the **starts** command from the command line.

- You must be a member of the **Windows Administrators** group.
- The disk space for the database server must be initialized once to prepare the root dbspace so that it can be used by the database server. If you performed a typical installation and chose to create a server instance or you performed a custom installation and chose to create and initialize the server, disk space is already initialized.
- If you chose not to create a server instance or not to initialize the server during installation, start the server and initialize the disk space by using the **-i** option of the **oninit** command in the **Start Parameters** field of the Services application or with the **starts** command.

- If you are upgrading from a previous version of IBM Informix and you are using the same root dbspace, do not initialize the disk space.

To start the database server by using the command line:

1. Open a command line.
2. Change to `%INFORMIXDIR%\bin`.
3. Enter the **starts** command followed by the server name. For example:

   ```
   starts server_name
   ```

   You can add an **oninit** option. For example, to start the database server without deleting temporary tables:

   ```
   starts server_name -p
   ```
4. To verify that the server started, use the **onstat** utility.

Related tasks:

"Starting the database server from the Control Panel" on page 3-8

Related reference:

The oninit utility (Administrator's Reference)

The onstat utility (Administrator's Reference)

Stopping the database server

To stop the database server from the Control Panel, you must be a member of the Windows Administrators group. To stop the database server from the command line, you must be a member of the **Informix-Admin** group.

To stop the database server:

- From the Control Panel:
  1. Select **Start** > **Control Panel** > **Administrative Tools**.
  2. Double-click **Services**.
  3. Select **Informix IDS -*server_name*** from the **Service** list box.
  4. Click **Stop**.
- From the Command Prompt window:
  1. Click **Start** > **Programs** > **IBM Informix** to display the program group for the database server.
  2. Click the database server instance (*server_name*) to display the Command Prompt window.
  3. In the Command Prompt window, type: `onmode -ky`.

Chapter 4. Removing Informix products or features

Use the uninstallation application to remove the IBM Informix database server, client products, or features.

You must have Windows administrator privileges to complete the uninstallation. Before you remove the product, shut down all instances of the Informix server.

The uninstallation application removes only the selected installation; it does not affect other installations. To remove multiple installations, remove each one separately.

- To remove the database server and all client products
  1. Start the uninstallation application by using one of the following methods:
     - From the installation directory, run the `uninstallids.exe` executable file. For example, `%INFORMIXDIR%\uninstall\uninstall_ids\uninstallids.exe`.
     - Select the program name in the Control Panel Programs and Features window and use the **Uninstall or Change a Program** utility to uninstall. For example, select **IBM Informix Bundle *12.10***, and then click **Uninstall**.
  2. Optional: After Informix products are removed, you can manually delete the `%INFORMIXDIR%` directory. It is not deleted automatically.
- To remove the database server or specific features
  1. Start the uninstallation application by using one of the following methods:
     - Select **Start** > **Programs** > **IBM Informix *Version 12.10*** > **uninstallserver**
     - Select the program name in the Control Panel Programs and Features window and use the **Uninstall or Change a Program** utility to uninstall.
  2. From the uninstallation application, specify what you want to remove:
     - To completely remove the database server and related files, select **Complete uninstallation**.
       Use this option with caution. It removes all installed binary files and product features of the Informix installation. Files and folders that are created after the installation are not affected.
     - To remove specific database server features, select **Uninstallation of specific features**.
       This option prompts you to select the database server features that you want to remove.
  3. Follow the prompts in the uninstallation application to complete the uninstallation.

Uninstalling an Informix server installation in silent mode

You can create a response file by recording a GUI-based, interactive uninstallation of IBM Informix from one location using settings in the GUI application that you want to replicate. Then you run the silent uninstallation command passing the response file, although a response file is not necessary if you do not have a customized installation to deploy.

To create the response file, you must have an installation that you can uninstall in a way that you plan to reuse for removal of other installations. It is not possible to do a silent uninstallation of Informix and any of the client products simultaneously.

If you already have a response file that is ready for silent uninstallation, skip to step 2

To uninstall Informix in silent mode with a response file:

1. On a command line, start a GUI uninstallation of Informix with the `-r` option in the script:

   ```
   uninstall\uninstall_server\uninstallserver -i gui -r path_name
   ```

   Substitute *path_name* with full path and file name of where you want to generate the response file, appending `.properties` at the end of the file name.
2. Copy the response file to the location where you want to uninstall Informix.
3. Run the silent uninstallation command, indicating the full path name of the response file:

   ```
   uninstall\uninstall_server\uninstallserver -i silent -f path_name
   ```
4. For each location where you want to do a silent uninstallation, repeat steps 2 and 3

Appendix. Accessibility

IBM strives to provide products with usable access for everyone, regardless of age or ability.

Accessibility features for IBM Informix products

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use information technology products successfully.

Accessibility features

The following list includes the major accessibility features in IBM Informix products. These features support:

- Keyboard-only operation.
- Interfaces that are commonly used by screen readers.
- The attachment of alternative input and output devices.

Keyboard navigation

This product uses standard Microsoft Windows navigation keys.

Related accessibility information

IBM is committed to making our documentation accessible to persons with disabilities. Our publications are available in HTML format so that they can be accessed with assistive technology such as screen reader software.

IBM and accessibility

For more information about the IBM commitment to accessibility, see the *IBM Accessibility Center* at http://www.ibm.com/able.

Dotted decimal syntax diagrams

The syntax diagrams in our publications are available in dotted decimal format, which is an accessible format that is available only if you are using a screen reader.

In dotted decimal format, each syntax element is written on a separate line. If two or more syntax elements are always present together (or always absent together), the elements can appear on the same line, because they can be considered as a single compound syntax element.

Each line starts with a dotted decimal number; for example, 3 or 3.1 or 3.1.1. To hear these numbers correctly, make sure that your screen reader is set to read punctuation. All syntax elements that have the same dotted decimal number (for example, all syntax elements that have the number 3.1) are mutually exclusive alternatives. If you hear the lines 3.1 USERID and 3.1 SYSTEMID, your syntax can include either USERID or SYSTEMID, but not both.

The dotted decimal numbering level denotes the level of nesting. For example, if a syntax element with dotted decimal number 3 is followed by a series of syntax elements with dotted decimal number 3.1, all the syntax elements numbered 3.1 are subordinate to the syntax element numbered 3.

Certain words and symbols are used next to the dotted decimal numbers to add information about the syntax elements. Occasionally, these words and symbols might occur at the beginning of the element itself. For ease of identification, if the word or symbol is a part of the syntax element, the word or symbol is preceded by the backslash (\) character. The * symbol can be used next to a dotted decimal number to indicate that the syntax element repeats. For example, syntax element *FILE with dotted decimal number 3 is read as 3 * FILE. Format 3* FILE indicates that syntax element FILE repeats. Format 3* * FILE indicates that syntax element * FILE repeats.

Characters such as commas, which are used to separate a string of syntax elements, are shown in the syntax just before the items they separate. These characters can appear on the same line as each item, or on a separate line with the same dotted decimal number as the relevant items. The line can also show another symbol that provides information about the syntax elements. For example, the lines 5.1*, 5.1 LASTRUN, and 5.1 DELETE mean that if you use more than one of the LASTRUN and DELETE syntax elements, the elements must be separated by a comma. If no separator is given, assume that you use a blank to separate each syntax element.

If a syntax element is preceded by the % symbol, that element is defined elsewhere. The string that follows the % symbol is the name of a syntax fragment rather than a literal. For example, the line 2.1 %OP1 refers to a separate syntax fragment OP1.

The following words and symbols are used next to the dotted decimal numbers:

? Specifies an optional syntax element. A dotted decimal number followed by the ? symbol indicates that all the syntax elements with a corresponding dotted decimal number, and any subordinate syntax elements, are optional. If there is only one syntax element with a dotted decimal number, the ? symbol is displayed on the same line as the syntax element (for example, 5? NOTIFY). If there is more than one syntax element with a dotted decimal number, the ? symbol is displayed on a line by itself, followed by the syntax elements that are optional. For example, if you hear the lines 5 ?, 5 NOTIFY, and 5 UPDATE, you know that syntax elements NOTIFY and UPDATE are optional; that is, you can choose one or none of them. The ? symbol is equivalent to a bypass line in a railroad diagram.

! Specifies a default syntax element. A dotted decimal number followed by the ! symbol and a syntax element indicates that the syntax element is the default option for all syntax elements that share the same dotted decimal number. Only one of the syntax elements that share the same dotted decimal number can specify a ! symbol. For example, if you hear the lines 2? FILE, 2.1! (KEEP), and 2.1 (DELETE), you know that (KEEP) is the default option for the FILE keyword. In this example, if you include the FILE keyword but do not specify an option, default option KEEP is applied. A default option also applies to the next higher dotted decimal number. In this example, if the FILE keyword is omitted, default FILE(KEEP) is used. However, if you hear the lines 2? FILE, 2.1, 2.1.1! (KEEP), and 2.1.1 (DELETE), the default option KEEP only applies to the next higher dotted decimal number, 2.1 (which does not have an associated keyword), and does not apply to 2? FILE. Nothing is used if the keyword FILE is omitted.

***** Specifies a syntax element that can be repeated zero or more times. A dotted decimal number followed by the * symbol indicates that this syntax element can be used zero or more times; that is, it is optional and can be

repeated. For example, if you hear the line `5.1* data-area`, you know that you can include more than one data area or you can include none. If you hear the lines `3*, 3 HOST`, and `3 STATE`, you know that you can include `HOST`, `STATE`, both together, or nothing.

Notes:

1. If a dotted decimal number has an asterisk (*) next to it and there is only one item with that dotted decimal number, you can repeat that same item more than once.
2. If a dotted decimal number has an asterisk next to it and several items have that dotted decimal number, you can use more than one item from the list, but you cannot use the items more than once each. In the previous example, you can write `HOST STATE`, but you cannot write `HOST HOST`.
3. The `*` symbol is equivalent to a loop-back line in a railroad syntax diagram.

`+` Specifies a syntax element that must be included one or more times. A dotted decimal number followed by the + symbol indicates that this syntax element must be included one or more times. For example, if you hear the line `6.1+ data-area`, you must include at least one data area. If you hear the lines `2+`, `2 HOST`, and `2 STATE`, you know that you must include `HOST`, `STATE`, or both. As for the * symbol, you can repeat a particular item if it is the only item with that dotted decimal number. The + symbol, like the `*` symbol, is equivalent to a loop-back line in a railroad syntax diagram.

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