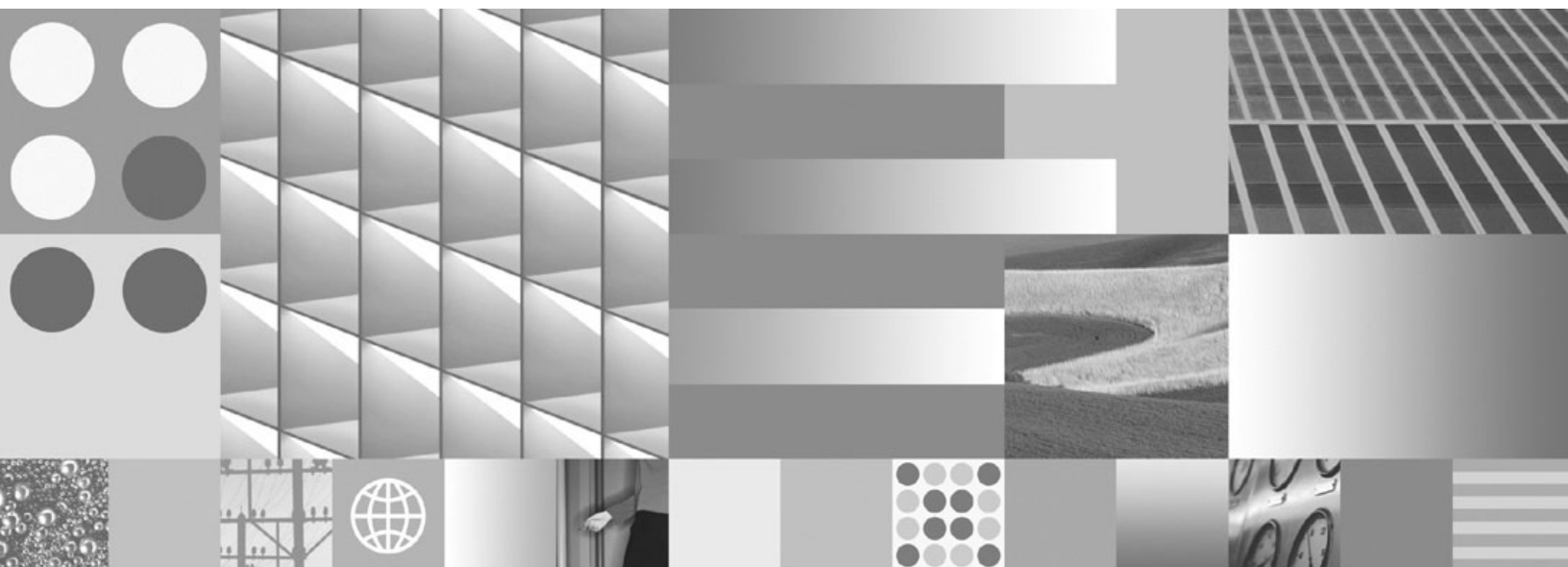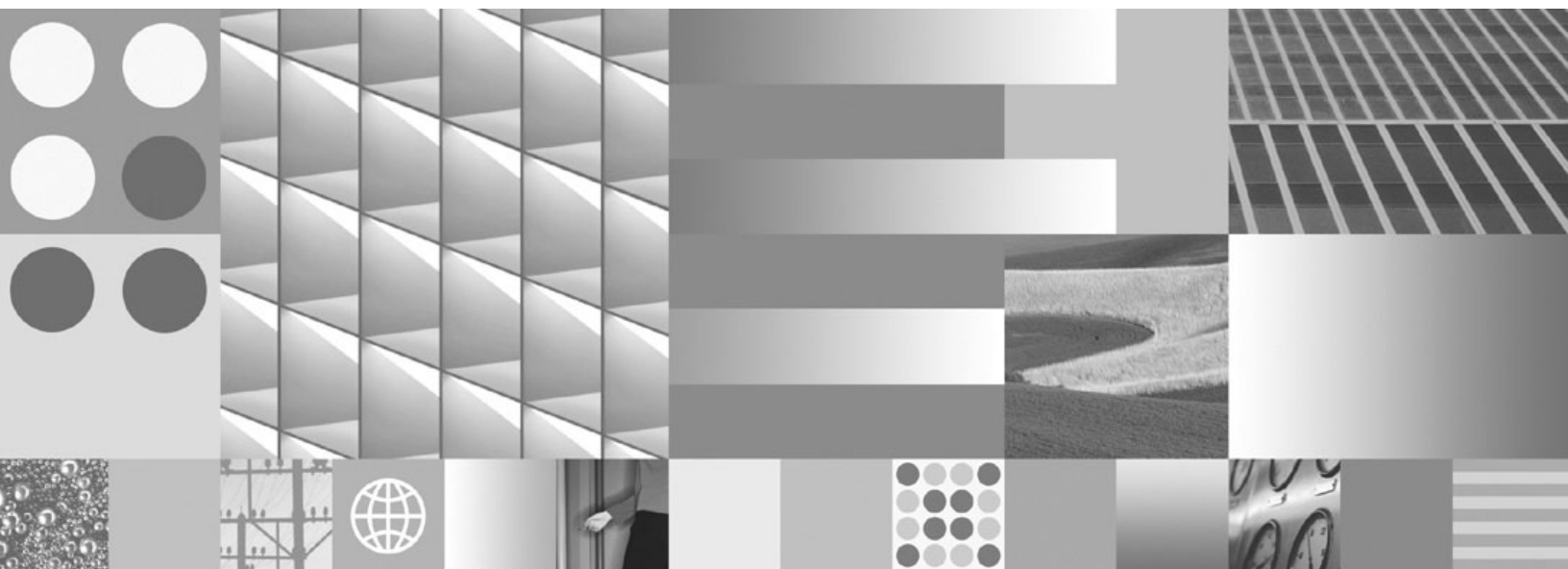IBM Informix

Version 11.50

GC23-7753-01

**IBM Informix Dynamic Server Installation Guide
for Windows**

IBM Informix

IBM Informix Dynamic Server Installation Guide
for Windows

Contents

Introduction

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

IBM Informix Dynamic Server Editions

Dynamic Server is available in different editions to fit different business needs.

Some of the functionality described in IBM Informix documentation might not be available for Workgroup Edition. For details on the differences between editions, see the following Web site:

http://www.ibm.com/software/data/informix/ids/ids-ed-choice/

The license agreement has the specific restrictions for each edition. To view a license for a particular edition, search for "Informix Dynamic Server" on the following Web site:

http://www.ibm.com/software/sla/sladb.nsf

About This Publication

This guide explains how to install, configure, and initialize IBM Informix Dynamic Server on a computer running a Windows® operating system.

The following additional products can be installed from the installation media for Dynamic Server:
* IBM Informix BladeManager
* IBM Informix DataBlade® Developer's Kit (DBDK)
* IBM Informix Connect (IConnect)
* IBM Informix Client Software Developer's Kit (Client SDK)
* IBM Informix ClusterIT
* The IBM Informix JDBC Driver is available on the installation media and needs to be separately installed. For information on installing IBM Informix JDBC Driver, see the *IBM Informix JDBC Driver Programmer's Guide*.
* The IBM Informix ODBC Driver can be installed as part of IBM Informix Client SDK. For information on installing IBM Informix CSDK, see the *IBM Informix Client Products Installation Guide*.

Informix Server Administrator (ISA) is available for download at: http://www.ibm.com/software/data/informix/downloads.html

OpenAdmin Tool for IDS is a PHP-based Web browser administration tool that can administer multiple database server instances using a single installation on a Web server. OpenAdmin is available for download at: https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?lang=en_US&source=swg-informixfpd

For a description of client and other related products for Dynamic Server, see *IBM Informix Dynamic Server Getting Started Guide*.

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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 Dynamic Server Installation, Version 11.50

For a comprehensive list of new features for this release, see the *IBM Informix Dynamic Server Getting Started Guide*. The following changes and enhancements are relevant to this publication.

Table 1. What's New in Version 11.50.xC2

Overview	Reference
Multiple Copies of Dynamic Server on the Same Windows Computer	"Multiple Copies of Dynamic Server on One Computer" on page 1-2
In version 11.10, you could not install and run multiple copies of the same version of Dynamic Server on the same Windows computer. Now you can do so by using the graphical user interface or by supplying installation parameters in a file to perform a silent, non-interactive installation.	
If the installation program detects that the same version of Dynamic Server is already installed, you can choose to install a new copy in another directory or you can choose to modify the existing installation.	

Table 2. What's New in Version 11.50.xC1

Overview	Reference
Enhanced Configuration Options During Installation	See "Instance Configuration Wizard" on page 1-7.
You can use the new Instance Configuration Wizard to automatically create the database server configuration file (ONCONFIG) during a custom installation in GUI mode.	
Provide the information for the instance that you are installing, such as the number of CPUs, memory, disk space, and estimates of online transactions and query clients. The wizard ensures that your settings are valid, and it calculates values for other server configuration parameters based on your settings. Your custom configuration information is stored in the ONCONFIG file so that when you start the instance after the product is installed, the instance runs with your settings.	

Table 2. What's New in Version 11.50.xC1 (continued)

Overview	Reference
DRDA® Protocol Configuration During Installation

It's easier now than in past releases to set up an instance to use a variety of database clients. When you install Dynamic Server Version 11.50 the installer enables you to configure a database server alias and a port for clients that use the Distributed Relational Database Architecture™ (DRDA) protocol. By default, those items are configured for you unless you deselect DRDA support. DRDA is for open development of applications that allow access of distributed data. DRDA is interoperable with IBM Data Server clients.

If you disable DRDA support in the install application, you can still modify the instance to function with the DRDA protocol after installation by using the **instmgr.exe** utility (see "Server Instance Manager Command-Line Options"). | See "Installing with the GUI Custom Setup" on page 2-3. |
| Install as the Local System Account Support

In past releases, the Dynamic Server Windows Service was allowed to log on only as user **informix**. Starting with version 11.50, you can install Dynamic Server on Windows as the local system account.

Select the Local System User option in the installation program. That option provides the same privileges as the **informix** user account; however, it uses an internal account that does not require a password. The local system account is used by the operating system and services running under Windows during the installation of Dynamic Server.

You can choose not to create an **informix** user account at all, but if you do so, you will not be able to use Enterprise Replication between Dynamic Server on UNIX® and IDS on Windows operating systems. | See "Installing with the GUI Custom Setup" on page 2-3. |

Documentation Conventions

This section describes the following conventions, which are used in the product documentation for IBM Informix Dynamic Server:

- Typographical conventions
- Feature, product, and platform conventions
- Syntax diagrams
- Command-line conventions

- Example code conventions

Typographical Conventions

This publication uses the following conventions to introduce new terms, illustrate screen displays, describe command syntax, and so forth.

Convention	Meaning
KEYWORD	Keywords of SQL, SPL, and some other programming languages appear in uppercase letters in a serif font.
italics	Within text, new terms and emphasized words appear in italics. Within syntax and code examples, variable values that you are to specify appear in italics.
boldface	Names of program entities (such as classes, events, and tables), environment variables, file names, path names, and interface elements (such as icons, menu items, and buttons) appear in boldface.
monospace	Information that the product displays and information that you enter appear in a monospace typeface.
KEYSTROKE	Keys that you are to press appear in uppercase letters in a sans serif font.
>	This symbol indicates a menu item. For example, "Choose **Tools > Options**" means choose the **Options** item from the **Tools** menu.

Feature, Product, and Platform Markup

Feature, product, and platform markup identifies paragraphs that contain feature-specific, product-specific, or platform-specific information. Some examples of this markup follow:

Dynamic Server only: Identifies information that is specific to the Windows operating system

Windows only: Identifies information that is specific to the Windows operating system

This markup can apply to one or more paragraphs within a section. When an entire section applies to a particular product or platform, this is noted as part of the heading text, for example:

Table Sorting (Windows)

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 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

You can view, search, and print all of the product documentation from the IBM Informix Dynamic Server information center on the Web at http:// publib.boulder.ibm.com/infocenter/idshelp/v115/index.jsp.

For additional documentation about IBM Informix Dynamic Server and related products, including release notes, machine notes, and documentation notes, go to the online product library page at http://www.ibm.com/software/data/informix/ pubs/library/. Alternatively, you can access or install the product documentation from the Quick Start CD that is shipped with the product.

Compliance with Industry Standards

The American National Standards Institute (ANSI) and the International Organization of Standardization (ISO) have jointly established a set of industry standards for the Structured Query Language (SQL). 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.

How to Provide Documentation Feedback

You are encouraged to send your comments about IBM Informix user documentation by using one of the following methods:

- Send e-mail to docinf@us.ibm.com.
- Go to the Information Center at http://publib.boulder.ibm.com/infocenter/ idshelp/v115/index.jsp and open the topic that you want to comment on. Click the feedback link at the bottom of the page, fill out the form, and submit your feedback.

Feedback from both methods is monitored by those who maintain the user documentation of Dynamic Server. The feedback methods are reserved for reporting errors and omissions in our documentation. For immediate help with a technical problem, contact IBM Technical Support. For instructions, see the IBM Informix Technical Support Web site at http://www.ibm.com/planetwide/.

We appreciate your suggestions.

Chapter 1. Preparing to Install Dynamic Server on Windows

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

- "Upgrading the Database Server"
- "Online Notes"
- "Verifying System Requirements"

Upgrading the Database Server

For information on migrating your database server from a previous version of Dynamic Server to Version 11.50, and for information on migrating your data, see the *IBM Informix Migration Guide*, Version 11.50.

Online Notes

Read the online notes, which are located in the **IIF/doc** directory or at http://publib.boulder.ibm.com/infocenter/idshelp/v115/topic/ com.ibm.relnotes.doc/relnotes.htm.

Verifying System Requirements

Refer to the IBM Informix Dynamic Server machine notes for specific, supported Windows operating systems.

Verify that your computer meets the minimum installation requirements:

- 128 megabytes of RAM (minimum); 256 megabytes (recommended)
- Sum of RAM and swap file must be 256 megabytes (minimum); 512 megabytes (recommended)
- Destination drive with a Windows file system (NTFS)
- Total of 350 megabytes needed to install the product and all features to have a working system

  The installation program determines, at run time, the amount of disk space required.

Verifying Administrators Group Membership

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

For information on how to create groups and add users to groups, see your Windows documentation.

Multiple Copies of Dynamic Server on One Computer

Multiple copies of Dynamic Server can run on the same computer. The copies can be the same or different versions of the product.

Multiple copies of different versions

Do not install a newer version of Dynamic Server in the same location where an earlier version of the product exists to avoid conflicts between directories, **.dll** files, registry entries, and other Informix-related services. If you wan to run different versions of Dynamic Server on the same host machine, keep the installations in different paths.

To uninstall versions of Informix products released before 11.50, refer to the uninstallation documentation for that version.

To uninstall version 11.50 Dynamic Server and any of its components, refer to Chapter 4, "Modifying Dynamic Server on Windows," on page 4-1.

Multiple copies of the same version

You can install multiple copies of the same version of Dynamic Server on one Windows operating system. A copy refers to an installation in a different location on the same computer. The benefits of doing this include:
- The ability to test new features before using them in a production database
- The ability to have both 32-bit and 64-bit versions on the same computer

When installing Dynamic Server on a computer that already has that version installed, you can choose to install a new copy in another directory or you can choose to modify the existing installation. To identify which installed copy you want to modify, use the unique location of the installation or the installation number that was generated automatically when the copy was installed.

The first copy that you install on a computer is, by default, installation number 1. The subsequent copies that you install have installation numbers that increase by 1. For example, the installation number of the second copy is 2 and the installation number of the next copy is 3.

Tip: If you uninstall copies, and then install additional copies, the installation number will increase by 1 based on the highest installation number on that computer. For example, if you have three copies on the computer and you delete installation number 2, when you install another copy of the same version, the new copy is installation number 4.

Related tasks

"Installing a Copy of Dynamic Server on a Computer" on page 2-1
You can install a copy of Dynamic Server in a different directory if the same version of the product is already installed on the computer.

Choosing Your Installation Setup

Using the installation application, you can choose a typical or custom setup for loading Dynamic Server and other products to your system. Typical setup installs the full Dynamic Server product, while custom setup lets you exclude product features in order to minimize the installation footprint (disk size).

Installation Application Setup Types

The installation application has two setup options:

- **Typical installation:** A typical installation requires the most disk space and memory. It is the recommended installation for most database servers. The typical setup installs Dynamic Server (the base server) and all associated feature sets (components), as well as a configured demonstration database server.
- **Custom installation:** A custom installation allows you to perform advanced installation steps and configuration of the database server. The main customization tool of this setup option is the Deployment Wizard, which lets you omit components and features that you do not need to reduce the disk space required by the installation (footprint).

You can run the installation application on Windows in either of the following modes:
- graphical user interface (GUI)
- silent installation

Which setup type you choose depends your system architecture, your technical expertise, and the needs of your implementation. There are some Dynamic Server installation options for which you must choose a particular setup or installation mode:

- *Instance Configuration Wizard:* This wizard is only available with a custom setup in GUI mode.
- *Silent installation:* Custom setup is recommended, but not required, for silent installation. If you expect to replicate your installation configuration in other machines, read "Performing a Silent Installation" on page 2-5 first. In GUI mode you can generate a response file for configuring other instances' installations in silent install mode, except when you utilize the Instance Configuration Wizard in the GUI install program. Parameters affected by the Instance Configuration Wizard are not available for silent installation.
- *Automatic startup of cluster utility after installation*: You must select a custom Dynamic Server installation and select the cluster utility checkbox if you want the IBM Informix ClusterIT Utility to start running automatically after you have completed installation. This option is only available if you have the Dynamic Server installation media that is bundled with other Informix products *and* if the install program detects the Microsoft Cluster Server on the host computer. Read "Cluster Installations" on page 2-8 for more information.
- *DRDA protocol support:* To *exclude* support for DRDA connections in your Dynamic Server instance, you must select a custom installation and complete the configuration setup accordingly. DRDA (Distributed Relational Database Architecture) is designed for interoperability among different IBM Data Server clients. If you disable DRDA support in the install application, you can still modify the instance to function with the DRDA protocol after installation by using the **instmgr.exe** utility (see "Server Instance Manager Command-Line Options" on page 2-13).

- *Installing database server to run as local system user:* To install Dynamic Server as a local system account on Windows, you must select a custom installation and complete the configuration setup accordingly. This lets the Dynamic Server log in as a Windows service, instead of user **informix**.

Read "Installing with the GUI Custom Setup" on page 2-3 for more information about DRDA support and Dynamic Server as local system user.

Installable Features of Dynamic Server

You can install the following features with the base server: Database Server Extensions, Global Language Support, Backup and Restore, Demos, Data-Loading Utilities, and Administrative Utilities.

Base Server

The *base server* refers to the core database server for basic DBA operations without optional extensions, libraries, or utilities. The minimum size of the base server installation is 180 megabytes (MB).

The base server no longer contains the XML Publishing feature and must be included in your Deployment Wizard selections if you want to install it. XML Publishing is in the Database Server Extensions component.

Support for the Distributed Relational Database Architecture (DRDA) protocol is included in the Base Server. To use the DRDA support functionality with IBM Data Server .NET Provider or IBM Data Server JDBC Driver, you must obtain and install the .NET Provider or JDBC Driver separately.

Features

The following list describes features in Dynamic Server, version 11.50. You can view the size of each component and feature on your system before you actually proceed with installation when you select the component or feature in the GUI setup.

Database Server Extensions
Database administration tools and programming extensions

    J/Foundation
        For writing user-defined routines in the Java™ programming language

    Built-in DataBlade Modules
        For providing large object location management, MQ transaction support, binary user-defined types, the hierarchical node data type, basic text search, and Web Feature Services for spatial data

    Conversion and Reversion Support
        Framework required for migrating to and from other versions of the database server

    XML Publishing
        Set of functions to publish SQL queries as XML

Global Language Support
The feature files to support languages, cultural conventions, and code sets.

These files are not required if your default locale uses American English, which is the default language in Dynamic Server when no GLS feature is installed.

West European and Americas
Danish, Dutch, English, Finnish, French, German, Icelandic, Italian, Norwegian, Portuguese, Spanish, and Swedish locales

East European and Cyrillic
Czech, Polish, Russian, and Slovak locales

Chinese
Traditional Chinese and simplified Chinese locales

Korean
Korean locales

Japanese
Japanese locales

Other   Thai locales

Backup and Restore
Feature utilities for backing up and restoring database server data

ON-Bar Utilities
The onbar utility is a batch file (**onbar.bat**) that starts the onbar-driver. Use this batch file to customize backup and restore operations and check the storage-manager version.

Informix Interface for Tivoli® Storage Manager
For implementing XBSA functions that use Tivoli Storage Manager with ON-Bar

Informix Storage Manager
For managing external storage devices and media that contain backups

archecker Utility
For verifying backups and restoring portions of a database, a table, a portion of a table, or a set of tables

Demos
Demonstration databases and examples

Data-Loading Utilities
For efficient loading and unloading of data in certain configurations

onunload and onload Utilities
For moving data quickly from one operating system or database server to another without changing the database schema. Use the onunload utility to unload data from the specified database or table onto a tape or a file on disk in disk-page-sized units. Use the onload utility to re-create the database or the table from the tape or file that was created by the onload utility.

dbload Utility
For loading data into databases or tables that IBM Informix products created. Use the dbload utility to transfer data from one or more text files into one or more existing tables.

High-Performance Loader (HPL)
For loading or unloading large quantities of data efficiently to or from a database. Use HPL to exchange data with tapes, data files,

and programs, and convert data from these sources into a format compatible with Informix databases. Also use HPL to manipulate and filter the data as you perform load and unload operations.

Enterprise Replication
For replicating data between Dynamic Server database servers

Administrative Utilities
Additional administrative utility feature sets

Miscellaneous Monitoring Utilities
For displaying the logical log by using the onlog utility or managing the database server with SNMP by using the onsnmp utility.

Auditing Utilities
For administering audit masks, trails, and other auditing information on the database server by using the onaudit and onshowaudit utilities.

Database Import and Export Utilities
For unloading a database into text files, creating and populating a database from those text files, or unloading a database schema into a text file

Demonstration Database Server

The installation application can create and configure a ready-to-use database server, which you can use as a production or testing instance.

The Dynamic Server Configuration File

To access the installed database server, a configuration file must exist in **INFORMIXDIR** and must contain valid settings for your system. Setting up a demonstration database server during installation establishes a basic, valid configuration file, which can help users who are new to Dynamic Server. The installation setup you choose determines how the demonstration database server can be configured:

- *Typical Installation:* Setup of the demonstration database server is automatic and requires no user input during installation. The installation application scans your system and records necessary information to the configuration file shipped with the installation media. The database server will be initialized after installation is complete.

- *Custom Installation:* Custom installation lets you decide whether to configure a database server or not, and if you do, gives you more options about the settings. There are two ways in which you can utilize the default configuration file during installation:

    Basic demonstration database server: Select the Initialize Server checkbox in the install application and ensure that the settings for the server name, service name, port, and server number are accurate.

    Instance Configuration Wizard: A more customized database server can be created with the Instance Configuration Wizard. Select the Initialize Server and Enable the default configuration file checkboxes to use this feature. Read the "Instance Configuration Wizard" on page 1-7 section for more information.

Important: If you check the box by Initialize Server, the database server initializes automatically after installation and deletes any existing data on the host computer.

Alternatively, you can skip server configuration and configure the database server manually after installation is complete using the Server Instance Manager (**instmgr.exe**) utility.

Demonstration Database Server on Your System

The following information about the demonstration database server can help you decide what installation setup and settings to choose:

* The demonstration database server should have on your system a server number between 0 and 255 that is not shared with another instance. If all the valid server numbers are used by other instances and you want to install the demonstration server, it is recommended that you make one of the server numbers available only for the Dynamic Server demonstration instance before launching the installation.

* The installation application automatically searches for and assigns a unique, unused server number for your demonstration database server. You can also specify a server number between 0 and 255. If you enter a server number that is used by another instance, the installation application does not accept it and does one of the following:

  1. If a server number between 0 and 255 is unused on your system, the demonstration database server is assigned this number.

  2. If the installation application is unable to find another unused server number, then the number that you provided will be used.

* If you select the shipped configuration file, the name assigned to the demonstration database server depends on what installation setup is being used:

  Typical Setup: The install application dynamically creates a database server name, and the information about it is displayed in a message.

  Custom Setup: You provide the database server name.

  The ONCONFIG environment variable is set to the sample configuration file located at **%INFORMIXDIR%\etc\onconfig.*demo_server_name***. Details about this are displayed before the install application copies files. The information is also stored in **%INFORMIXDIR%\logs*IDS_install_date_time*.log**.

* When the installation program initializes the demonstration database server, the following databases are built automatically: **sysmaster**, **sysuser**, **sysutils**, and **sysadmin**.

* The message log regarding installation of the demonstration database server is located in **%INFORMIXDIR%*demo_server_name*.log**.

Instance Configuration Wizard

The Instance Configuration Wizard is an installation option that automatically creates a database server configuration file customized to your system environment.

You can use the Instance Configuration Wizard on a Windows computer when you install using a custom setup in GUI mode. In the install application, the checkboxes for "Initialize Server" and for enabling a custom configuration file must be selected to invoke the wizard.

Note: When the "Initialize Server" checkbox is selected, the installation will delete any existing data on the host computer.

The wizard is a utility that ensures your settings are valid, and it calculates values for other server configuration parameters based on your settings. The configuration information is stored in the ONCONFIG file so that when you start the instance after the product is installed, the instance runs with settings appropriate for your environment.

If you use this configuration utility, the installation's settings cannot be recorded in a response file for silent installation.

The Instance Configuration Wizard prompts for the following configuration settings and system information:

- server name
- server number
- rootsize: the size of the root dbspace (in megabytes)
- number of central processing units (CPUs): a CPU is equivalent to a single execution unit
- memory: system RAM dedicated to the server instance being created (in megabytes)
- number of online transaction clients (applications used for modifying the state of databases)
- number of query clients (applications used for returning result sets for decision support; typically require more overhead than clients used for transaction processing)

The number of ONCONFIG file parameters set by this wizard varies, depending on your hardware and database system needs.

If the Instance Configuration Wizard encounters a problem while checking the entered settings, the configuration file is created with standard, workable configuration parameters and a message about this is displayed.

Planning Role Separation

You must choose Custom installation setup to enable 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*.

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. and then reinstall the database server without role separation.

If you choose to 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.
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.

Installation Directory

The installation directory is the location in which you want the database server files to reside. You do not need to create this directory before installation. The drive on which the directory exists must be formatted using NTFS. IBM Informix software refers to this installation directory as **INFORMIXDIR** and often uses this value to set the **%INFORMIXDIR%** environment variable.

You do not need to create the directory before installation. The install application suggests a default **INFORMIXDIR** directory, which you can change by typing a different path. If you specified a directory in **%INFORMIXDIR%** before running the install application, ensure the path indicated in the install application is the same.

Typically, there is only one **INFORMIXDIR** directory for a specific version of Dynamic Server. When you run the install application on a computer that already hosts the same version of the database server or related Informix products, the application lets you modify, repair, or remove the existing installation. See Chapter 4, "Modifying Dynamic Server on Windows," on page 4-1 for more information.

When you run the Dynamic Server 11.50 install application on a computer that hosts Version 11.10, the application detects the other version and prompts you for how to proceed.

Important: Select **Install to a Default/Different Directory** if the install application generates a message that a previous version of Dynamic Server is detected. Also,

be sure to read the *IBM Informix Migration Guide* and the install application's other messages to minimize risk of overwriting product binaries, database server setup, and data.

If your computer hosts more than one installation of Dynamic Server, each instance has a corresponding Informix Dynamic Server program group on the **Start > Programs** menu.

Choosing between Local and Domain Installations

You can install locally or in a domain.

Local Installation

If you do not plan to have workstations access a domain controller, install the database server on a local computer. For a local installation, you should have administrative privileges.

Domain Installation with Domain Administrator Privileges

Domain installation is useful if you run the database server on several computers and want a central security mechanism. If several of your computers belong to the same domain, and therefore share the same primary domain controller or domain controllers, perform a domain installation on these computers. To install in a domain, you must have administrative privileges and your computer must already belong to a domain. Run the installation program and choose the Install in Domain option when the installation wizard prompts you.

User informix

User **informix** is a user account with main authority over a Dynamic Server instance.

User **informix** is required for most installations because it has the unique user identifier (UID) to manage and maintain Dynamic Server instances and databases on the host server. The only exception to this requirement is when you install IDS 11.50 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 Dynamic Server 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 either user **informix** or end users do not conform to local security standards.

Chapter 2. Installing Dynamic Server on Windows

The following topics explain your Dynamic Server and IBM Informix products installation choices. Troubleshooting information is also included.

- "Installing IBM Informix Products"
- "Installing a Copy of Dynamic Server on a Computer"
- "Installing with the GUI Typical Setup" on page 2-2
- "Installing with the GUI Custom Setup" on page 2-3
- "Performing a Silent Installation" on page 2-5
- "Setting Up Cluster Installations" on page 2-7
- "Multiple Residency" on page 2-12\

Installing IBM Informix Products

Dynamic Server for Windows includes a Windows launchpad, which is a graphical interface with the options to view this publication, the release notes or the Information Center, start the installation, or browse the installation media. The launchpad will start automatically when the CD is inserted. To access the launchpad from a downloaded product, from the main directory, select **Launch.exe**.

If the **Launch.exe** file does not appear in the directory that first opens, click **setup.exe**.

The IBM Informix JDBC Driver is available on the installation media and needs to be separately installed. For information on installing IBM Informix JDBC Driver, see the *IBM Informix JDBC Driver Programmer's Guide*.

The IBM Informix ODBC Driver can be installed as part of IBM Informix Client SDK. For information on installing IBM Informix Client SDK, see the *IBM Informix Client Products Installation Guide*.

Installing a Copy of Dynamic Server on a Computer

You can install a copy of Dynamic Server in a different directory if the same version of the product is already installed on the computer.

The following steps require IBM Informix Dynamic Server Version 11.50.xC2 or later. They describe how to use a graphical user interface (GUI) to install a copy of the product. If you prefer to install a copy without directly interacting with the GUI, you can perform a silent installation instead.

To install a copy of Dynamic Server on a computer where the same version is already installed:

1. Prepare the installation media.
   - **Downloaded installation media:** You must extract the files maintaining the folder structure delivered in the media. Select **Launch.exe**.
   - **CD installation:** Launch the CD.

   The Launchpad opens.

2. Select **Install Products** from the Launchpad and click **Next**.
3. Select to install IBM Informix Dynamic Server and click **Next**. The Existing Installed Instances Detected window opens.
4. Select how you want to proceed and click **Next**:
   a. Install a new copy of the product on the computer. Complete the prompts in the server installation application for a typical or custom setup.
   b. Modify the existing installation of the product. Select which of the copies you want to modify. Use the server maintenance window to modify, repair, or remove the installed product.

Related concepts

"Multiple Copies of Dynamic Server on One Computer" on page 1-2
Multiple copies of Dynamic Server can run on the same computer. The copies can be the same or different versions of the product.

"Altering Dynamic Server Features" on page 4-1
You can modify, repair, or remove installed features. You can also modify, repair, or remove a particular copy of the product if you have multiple copies installed on one computer.

Related reference

"Performing a Silent Installation" on page 2-5
You can perform a *silent installation*, an installation method requiring no user interaction with the setup program, to install Dynamic Server and other Informix products separately. Silent installation is performed in the command-line environment.

Installing with the GUI Typical Setup

Launch the GUI installation application to complete a typical installation setup of Informix products, which will load Dynamic Server with all its components and features.

Typical setup automates the installation by providing default settings for the following:
- server name
- server number
- port
- user account (**informix**)
- general administrative group (**Informix-Admin**)

To install Dynamic Server using GUI Typical Setup:
1. Prepare the installation media.
   - **Downloaded installation media:** You must extract the files maintaining the folder structure delivered in the media. Select **Launch.exe**.
   - **CD installation:** Launch the CD.

   The Launchpad opens.
2. Select **Install Products** from the Launchpad and click **Next**.
3. Select the products that you want to install.
4. Read the license agreement. You must accept it to proceed.
5. Select the **Typical** option.

6. Enter user account information. You will need to enter your system's user **informix** password for these GUI windows. If no user **informix** exists yet, the installation wizard creates one and will require you to create a password for it.

   Enter a password and record it in a secure location.

7. Specify the installation directory if you do not want to accept the default destination path that the GUI displays.

   The destination drive must be formatted with a Windows file system (NTFS).

8. Review your installation settings. When the GUI displays a summary of your installation settings, you have the opportunity to change the settings (**Back** button) or to cancel the installation (**Cancel** button). Otherwise, if you are satisfied with the settings, select **Next** to begin installation.

Completing the installation program loads a configured database server with a typical setup. For information on changing the configuration or configuring a database server manually, see "Information about Dynamic Server Configuration Parameters" on page 3-4 and "Configuring Dynamic Server Manually" on page 3-6.

The installation creates a log file in **%INFORMIXDIR%\logs** which contains installation activity of the Dynamic Server installation. In addition, there is a manifest file (**%INFORMIXDIR%\etc\manifest.inf**). This other "log file" can help you see quickly what features and components are currently installed. Do not modify the content of this file.

The **informix** user account, under which the database server runs, is assigned to the **Informix-Admin** group.

Installing with the GUI Custom Setup

Custom installation in GUI mode lets you exclude some Dynamic Server features and offers you other ways to configure installation variables for the needs of your system.

Use the GUI custom setup if you want to generate a response file for replicating the installation setup on other instances in silent mode. The silent installation process will function in this way if you choose to install Dynamic Server only (that is, you cannot choose any other Informix products available on the installation media). Read the topics "Performing a Silent Installation" on page 2-5 and "Creating a Response File for Silent Installation" on page 2-6 before you start the install application if you want to generate a response file.

To install Dynamic Server using GUI Custom Setup:

1. Prepare the installation media.
   - **Downloaded installation media:** You must extract the files maintaining the folder structure delivered in the media. Select **Launch.exe**.
   - **CD installation:** Launch the CD.

   The Launchpad opens.

2. Select **Install Products** from the Launchpad and click **Next**.

3. Select the products that you want to install.

4. Read the license agreement. You must accept it to proceed.

5. Select **Custom** installation setup.

6. Specify the installation directory if you do not want to accept the default destination path that the GUI displays.

   The destination drive must be formatted with a Windows file system (NTFS).

7. Select the features you want to install.

   a. Components are at the top level of the tree-nesting hierarchy.

   b. Click the + character by component feature sets–features grouped together by similar functionality–to view individual features. The components without + characters next to them do not have individual features.

   c. Deselect components and features that you do not want to install. The wizard enforces dependencies among features and all components. If you cannot configure the selected/deselected features exactly as you want, it is probably an unsupported installation configuration for your site.

   d. Notice that a brief description of a selected component or feature appears on the right side of the GUI window.

   e. See the disk-size information about your selected component and feature configuration, as well as the amount of free space on your drive, under the GUI feature tree.

8. Enter applicable user account information and, optionally, enable role separation. If the user **informix** account does not exist on your computer yet, the installation application creates one and requires you to create a password for it.

   a. Enter the user **informix** password for your Windows computer, unless you want to install Dynamic Server so that it runs as a local system user account without creating user **informix**. If no user **informix** exists on your computer yet, the installation application creates one but you are responsible for providing the password and storing it in a secure location.

   b. *Optional:* Click the first checkbox to install in a particular domain and specify the domain controller administrator. You must have administrator privileges for the domain to do this.

   c. *Optional:* Click the Local System User checkbox if you want the Dynamic Server instance to run as an internal Windows account, instead of logging in as a Windows service.

   d. *Optional:* Click the checkbox for "Do not Create User informix" if you are sure that this does not interfere with your implementation goals.

   e. *Optional:* Click the Enable Role Separation box if you want to activate this configuration option. If you do not enable role separation, click **Next** and go to step 10.

9. Specify role-based groups for Dynamic Server administration.

   a. Select the name of the group to access the database server for general administration tasks.

   b. Select the name of the security administrator group and the password twice for confirmation.

   c. Select the name of the auditing administrator group and the password twice for confirmation.

   d. Select the name of the database end user group.

10. Enter the server name for the installation.

11. *Optional:* Set basic configuration parameters in the install application.

    Warning: Installing with the Initialize Server checkbox selected deletes any existing data on your host computer as part of the installation process. However, to set basic configuration parameters in the installation GUI, the Initialize Server checkbox must be selected. While using the configuration

features in the installation program are potentially very useful, be sure to know your installation environment and proceed with caution.

   a. Deselect the Initialize Server checkbox if you do not want to overwrite existing data on your host computer by setting the configuration parameters below. Regardless of whether this checkbox is selected or not, the GUI program will provide a summary of your installation choices before copying files to your computer.

   b. *Optional:* Select the Enable a Custom Configuration File checkbox if you want to activate the Instance Configuration Wizard. You need to enter settings for the socket protocol fields, but you will provide more detailed hardware and usage parameters in the GUI window that appears directly afterwards. (See "Instance Configuration Wizard" on page 1-7 for more information about this option.)

   c. *Optional:* Select the Enable DRDA Support checkbox if you want the instance to have a server alias and port for Distributed Relational Database Architecture (DRDA) connections. DRDA is designed for interoperability with IBM Data Server clients. If you install Dynamic Server without this option, you can still add DRDA connectivity to the instance later without reinstalling.

12. *Optional:* Select the Start the ClusterIT Utility checkbox if you want the IBM Informix ClusterIT Utility to start up after installation. You will need to complete the tasks outlined in "Setting Up a Cluster Installation" on page 2-8. When the checkbox is disabled, the install application does not detect a supported cluster environment in the host computer or you are not using the Dynamic Server installation media that is bundled with other Informix products.

13. If you chose to install other Informix products bundled with Dynamic Server, verify the GUI window for products selection reflects what you want to install.

14. Specify a domain installation type, if applicable.

15. Review your installation settings and select whether to begin copying the Informix files to your computer. When the GUI displays a summary of your installation settings, you have the opportunity to change the settings (**Back** button) or to cancel the installation (**Cancel** button). Otherwise, if you are satisfied with the settings, select **Next**.

The installation program configures the database server with a custom setup. For information on changing the configuration or configuring a database server manually, see "Information about Dynamic Server Configuration Parameters" on page 3-4 and "Configuring Dynamic Server Manually" on page 3-6

The installation creates a log file in **%INFORMIXDIR%\logs** , which records Dynamic Server installation activity. In addition, there is a manifest file (**%INFORMIXDIR%\etc\manifest.inf**). This other "log file" can help you see quickly what features and components are currently installed. Do not modify the content of this file.

Performing a Silent Installation

You can perform a *silent installation*, an installation method requiring no user interaction with the setup program, to install Dynamic Server and other Informix products separately. Silent installation is performed in the command-line environment.

You can use the **server.ini** file provided on the installation media as a template for entering your silent-installation settings. Alternatively, you can record your GUI custom setup settings for a Dynamic Server installation into a specific kind of log file (a *response file*) to be used for replicating the custom installation in silent mode.

The Dynamic Server silent installation requires you to configure the same parameters as the settings that appear in the GUI custom-installation wizard.

For information on how to silently install other Informix products, see their product documentation.

Related tasks

"Installing a Copy of Dynamic Server on a Computer" on page 2-1
You can install a copy of Dynamic Server in a different directory if the same version of the product is already installed on the computer.

"Performing Silent Uninstallations of Dynamic Server" on page 4-2
You can remove Dynamic Server without interactively providing options. To do so, you must generate a response file for the uninstallation application. Ensure that you have access to the original media files for this task.

Using the server.ini File

To run a silent installation using the server.ini file on the installation media:

1. Copy the **server.ini** file from the top directory in the database server product folder (**IIF**) to a temporary directory.

   Important: Do not overwrite the existing **server.ini** file. Make a copy and edit the copy.

2. Customize the copy of the **server.ini** file.

3. Run the following command:

   ```
   setup.exe -s -f1"server.ini_pathname" -f2"server_log_pathname" -multiple
   ```

   Where:
   - *server.ini_pathname* is the full path and file name for the **.ini** file
   - *server_log_pathname* is the full path and file name of the location where you want the silent installation log file to reside
   - the `-multiple` argument is required only if you want to install another copy of the same version of the product on the same computer.

For example, if **server.ini** and **server.log** reside in C:\TEMP, enter the following command to start the silent installation of the database server:

```
setup.exe -s -f1"C:\TEMP\server.ini" -f2"C:\TEMP\server.log"
```

The file specified by -f2 captures details about the silent installation. Because the silent installation cannot send error messages to the user interactively, it uses the **.log** file as an installation log. If the silent installation fails for any reason, the failure is recorded in this log file.

Creating a Response File for Silent Installation

If you want to reuse your GUI custom-setup installation configuration to install Dynamic Server in the same way on other instances, you need to enter the following command to create the response and log files before you do the GUI custom installation setup:

```
setup.exe -r -f1"C:\temp\silent.ini" -multiple
```

where `C:\temp\silent.ini` is the response file that you will be able to use for silent installation. The `f1` argument is optional, and if you do not specify the location of the response file with the `f1` argument, by default the installation sequence is saved in %WINDIR%\setup.iss. Also, `-multiple` is an argument that you specify only to install more than one copy of a version of the product on the same computer.

Note: The response file option does not function on an installation that utilizes the Instance Configuration Wizard feature.

To use the response file for a silent installation, follow the steps in the ″Using the server.ini File″ procedure above but enter `silent.ini` in the place of `server.ini`.

Silent Installation Response Codes

Response codes indicate success or errors during silent installation and they are recorded in the file that is specified by the **-f2** argument for the installation command.

Table 2-1. Silent installation response codes

Code	Description
0	Success.
-3	Required data not found in the Setup.iss file.
-5	File does not exist.
-6	Cannot write to the response file.
-7	Unable to write to the log file.
-8	Invalid path to the InstallShield Silent response (.iss) file.
-9	Not a valid list type (string or number).
-10	Data type is not valid.
-11	Unknown error during setup.
-51	Cannot create the specified folder.
-52	Cannot access the specified file or folder.
-53	Invalid option selected.

Setting Up Cluster Installations

Complete the following tasks to cluster two computers.
- "Cluster Installations" on page 2-8
- "Overview of Implementing a Cluster on Two Nodes" on page 2-8
- "Setting Up a Cluster Installation" on page 2-8
- "Preparing to Set Up a Cluster" on page 2-10
- "Implementing a Cluster on the Primary Node" on page 2-10
- "Dynamic Server as a Cluster on the Secondary Node" on page 2-10
- "Installing Dynamic Server as a Cluster on the Secondary Node" on page 2-11
- "Dynamic Server as a Cluster on the Secondary Node" on page 2-10

Cluster Installations

Dynamic Server 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.

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.

You can install Dynamic Server either on one node of a cluster or on both nodes (in a fail-safe mode). Installation on one node of a cluster is the same as regular installation on a stand-alone computer. For more information about installing Dynamic Server, see "Installing IBM Informix Products" on page 2-1.

Overview of Implementing a Cluster on Two Nodes

After you complete cluster-implementation preparation tasks, you implement Dynamic Server in a cluster environment in three steps:

1. Install Dynamic Server on the primary node.
2. Install the ClusterIT utility.
3. Convert the database servers to a cluster configuration. This step is implemented with the ClusterIT utilities:
   - Use the **clusterIT_a** utility to configure Dynamic Server on the primary node for use in a cluster.
   - Use the **clusterIT_b** utility to install Dynamic Server and configure it for use in a cluster on the secondary node.

Setting Up a Cluster Installation

To set up a cluster on the primary node:

1. Run the following command on the primary node: **clusterIT_a**.
   The **IBM Informix ClusterIT - primary Node** window appears.

2. Fill out the information about networking environment, machine names, and configuration for installing Dynamic Server:

   a. In the **DBSERVERNAME to be clustered** text box, enter the name of your unclustered Dynamic Server instance.

   b. In the **DBSERVERNAME final (when clustered)** text box, enter a name for your Dynamic Server 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 **Informix** password.

   e. Fill 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%**, which 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. Choose the network you want to use for the IP address from the **Network** menu.

   k. Choose the **Number of shared disks** where you have chunks located.

   l. Enter the name of the shared disks you use as chunk locations for Dynamic Server 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 the ClusterIT utility completes, a Dynamic Server comes back online, but it is now controlled by the Microsoft Cluster Service. The resource group **Informix** has been created.

You can check the state of your Dynamic Server by running the **onstat-** command.

Preparing to Set Up a Cluster

To prepare to set up a cluster:

1. Install Dynamic Server on the primary node without initialization.
2. Edit the **onconfig** file. For more information on 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 "Information about Dynamic Server Configuration Parameters" on page 3-4.
6. Create additional dbspaces, if needed. For more information, see "Dbspace Name, Location, and Size" on page 3-5. Additional dbspaces must be located on shared disks.
7. Uninstall any previous Dynamic Server installations on the secondary node.

Implementing a Cluster on the Primary Node

When you run the clusterIT_a utility on the primary node, ClusterIT performs the following tasks:

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

To use ClusterIT to implement a cluster, the **INFORMIXDIR** directory must be located on a local disk, the (**INFORMIXDIR** directory must be on an identical local path for each node, and any chunks must be on shared disks. It must be possible to move the disks from one node to another.

Dynamic Server as a Cluster on the Secondary Node

When you run the **clusterIT_b** utility on the secondary node, the **clusterIT_b** utility performs the following tasks:

- Installs Dynamic Server on the secondary node (silent installation)
- Copies registry entries from the primary node

- Copies the **ONCONFIG** file from the primary node
- Makes the resource .dll **(ifxdb920.dll)** available on the secondary node

Installing Dynamic Server as a Cluster on the Secondary Node

To install Dynamic Server in a cluster configuration on the secondary node:

1. Run the following command on the secondary node: **clusterIT_b** The **IBM Informix ClusterIT - secondary node** window appears.

2. Fill in the text boxes:
   a. In the **Physical hostname primary node** field, enter the physical host name of the primary node.
   b. Fill in the **Full path to the IDS directory on the Informix RDBMS CD** field.
   c. Enter the **Instance number** that you choose for Dynamic Server on the secondary node. This number is the same as that of Dynamic Server on the first node.
   d. Enter the location of the installation (the value of **%INFORMIXDIR%**, which 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 Dynamic Server instance in the cluster configuration. On this secondary node, Dynamic Server will be installed directly with this name.
   g. Check whether or not to enable **Role separation**. For more information, see "Planning Role Separation" on page 1-8.
3. Click **Convert to Cluster.** After the ClusterIT utility completes, Dynamic Server starts on the secondary node.

After implementing a cluster environment on multiple nodes, you can find a record of the ClusterIT utility activities in the **clusterIT.log** files, one for

clusterIT_a in the primary node directory, and one for **clusterIT_b** in the secondary node directory where the ClusterIT executables were installed.

Multiple Residency

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

Complete the following tasks to set up multiple residency.
- "Planning for Multiple Residency"
- "Creating a New Database Server Instance"

Planning 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 need to repeat some of the planning that you did to install the first database server. For example, you need to 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 Dynamic Server 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 "Verifying Administrators Group Membership" on page 1-2.

The following steps are for using the Server Instance Manager GUI. See "Server Instance Manager Command-Line Options" on page 2-13 for other ways you can use this utility.

To create a new database server instance:

1. Choose **Start > Programs > IBM Informix Dynamic Server 11.50 > 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 an **onconfig** file for the new database server instance.

Server Instance Manager Command-Line Options

The **instmgr.exe** utility extends the ability to configure a Dynamic Server 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 2-2. 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.
-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.

Troubleshooting Installation Problems

This section describes some common installation problems and the corresponding solutions for users who receive their product materials directly from IBM. You can find more information about Client SDK and IConnect installation issues in the *IBM Informix Client Products Installation Guide* documentation.

You can find information that will help identify and resolve installation errors in the Dynamic Server log file in the following location:

```
%INFORMIXDIR%\logs\IDS_Install_date_time.log
```

If any of the problems described in this section persist, contact IBM Technical Support.

- *Problem.* If you enter an invalid database server name, you receive the following message:

  ```
  The database server name you entered is not valid. Please
  note the following limitations: a database server name
  cannot exceed 128 characters; it can only contain letters,
  numbers, and underscores; and it must begin with a letter.
  ```

  Solution. Enter a different name and note the limitations stated in the message.

- *Problem.* If you have insufficient virtual memory for the installation, you receive the following message:

  ```
  This installation of Dynamic Server requires number MB of
  free page file space. After you install this product,
  increase your page file size to properly use your virtual
  memory with this product.
  ```

  Solution. For information about how to increase the size of your page file, refer to your Windows documentation.

- *Problem.* If you do not have the correct privileges to run the install program, you receive the following message:

  ```
  You do not appear to be an administrator. In order to run
  this program, you must belong to the Administrators group
  on local computer.
  ```

  Solution. Use the administrator account to log on or contact your system administrator to add your user account to the Administrators group.

Chapter 3. Post-Installation Tasks on Windows

Review the following information after installing Dynamic Server.

- "Working with the Installation"
- "Dynamic Server Program Group" on page 3-2
- "Initializing and Starting the Database Server" on page 3-3
- "Information about Dynamic Server Configuration Parameters" on page 3-4

Working with the Installation

The installation sets up a database server that is ready to use and can run on your system automatically. But you may still want to perform some basic enhancements before you put the server in production. These tasks show you ways to control the way Dynamic Server runs on your system.

If have done a more *advanced* installation of Dynamic Server, these post-installation tasks might be *required* in order to work with the database server.

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 Dynamic Server 11.50 >** *servername*.

The following tasks are covered in the next sections of the documentation:

- Starting the database server manually.
- Setting up the database server to start whenever Windows is launched.
- Stopping the database server.

  Two Dynamic Server features that require post-installation configuration are the following:

  – Global Language Support (GLS) is a feature that enables you to configure the database server to use a locale other than the default locale, which is U.S. English. For more information on how to create databases that use the diacritics, collating sequence, and monetary and time conventions of a different language, see the *IBM Informix GLS User's Guide*.

  – Informix Storage Manager (ISM) is a feature that can be used for ON-Bar backup-and-restores. See the *IBM Informix Storage Manager Administrator's Guide* for more information.

Installation Automatic Actions

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.

  (*Custom installations*: If you enabled role separation when you installed the database server, you could have 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

Dynamic Server Program Group

After you install the database server, to access the following items on the database server program group, click **Start > Programs > Informix Dynamic Server 11.50.** The following table describes the program group menu.

Table 3-1. Dynamic Server 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, as well as 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.
Modify Installation	Opens a wizard for modifying the installation:
	Modify Alter Dynamic Server components and features.
	Repair Fix any corrupt or missing binaries for installed features.
	Remove Remove all features of a working installation and, optionally, remove related group and user IDs. This selection launches the uninstallation application.
Server Instance Manager	Creates and configures new server instances and removes configured server instances.

Table 3-1. Dynamic Server Program Group (continued)

Menu Item	Description
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.

Initializing and Starting the Database Server

After the database server is initialized once, you can start it manually or set it to start automatically when Windows starts.

You can initialize and start the server from the Control Panel interface or from the command line. If the server was initialized during installation, you do not need to initialize it again.

Important: To complete these tasks from the Control Panel, you must be a member of the Windows Administrators group. To complete them from the command line, you must be a member of the **Informix-Admin** group. Do not use the **oninit** utility to start the database server. For detailed information about how to start the database server, see the *IBM Informix Administrator's Guide*.

To start the database server by using the Control Panel:

1. Choose one of the following options:
   - **Start > Control Panel > Administrative Tools**
   - **Control Panel > Administrative Tools > Component Services > Console Root > Services (Local) (for a Domain Controller)**
2. Double-click **Services**.
3. Double-click **Informix IDS -** *server_name* from the list and specify the appropriate start options or accept the default ones. Verify the options on the General page of the dialog box:
   - If you want database server to start automatically when Windows starts, make sure that **Startup type** is set to Automatic. The database server is set to start automatically if you installed with a custom setup, or if you initialized the database server during a typical setup.
   - If the server is not initialized yet, type **-iy** in the **Start Parameters** field. This option creates and initializes the root dbspace. You do not need to do this if you chose to initialize the server during installation. The server needs to be initialized only once before you can start it.
   - Click OK to save your options.
4. Click **Start**.

Alternatively, to perform the tasks from the command line, click **Start > Run** and run the appropriate command from %INFORMIXDIR%\bin:

- To start a database server that was already initialized once, run this command:

  starts *server_name*
- To initialize and then start the database server, run the command with the **-iy** option.

  starts *server_name* -iy

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. Choose **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 Dynamic Server 11.50** 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
     ```

Information about Dynamic Server Configuration Parameters

The following information is provided for advanced users who either need to configure the database server manually or want to change the configured database server.

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" chapter of the *IBM Informix Dynamic Server 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, choose **Start > Programs > IBM Informix Dynamic Server 11.50 > Server Instance Manager**.

Database Server Name

The database server name identifies the database server to client applications. In most cases, you can choose the default value. 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

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

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

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 100 megabytes.
- **Smart blob Drive**

  A default smart blobspace can be configured optionally. The default size is 100 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 100 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 100 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*.

Shared Server Definition Computer

Specify the computer on which to update the **sqlhosts** registry information with the shared server definition for the new database server instance and administrative tools as follows:

- The local computer on which you are installing the database server (default)
- Another computer in the network that serves as a central, shared repository of **sqlhosts** information for multiple database servers in the network.

  If you specify another computer on the network, you must set the **INFORMIXSQLHOSTS** environment variable on your local computer to the name of the computer that stores the **sqlhosts** information.

Configuring Dynamic Server Manually

To configure Dynamic Server manually after installation, see the information in the *IBM Informix Dynamic Server Administrator's Guide*.

To configure the 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 "Initializing and Starting the Database Server" on page 3-3.

   Note: 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.

Chapter 4. Modifying Dynamic Server on Windows

The uninstall application facilitates uninstallation and reinstallation of Dynamic Server, as well as modification of installed features of a database server instance.

Review the following information to uninstall or modify Dynamic Server.

- "Altering Dynamic Server Features"
- "Uninstalling Dynamic Server" on page 4-2
- "Reinstalling the Database Server" on page 4-2
- "Performing Silent Uninstallations of Dynamic Server" on page 4-2

Altering Dynamic Server Features

You can modify, repair, or remove installed features. You can also modify, repair, or remove a particular copy of the product if you have multiple copies installed on one computer.

To alter the features and components of your installation, Dynamic Server provides a dynamic GUI that detects what features are on your server. This part of the uninstall application not only lets you select and deselect features, but also repairs any flawed binaries among installed features.

To alter the features of your Dynamic Server installation:

- Select **Start > Programs > IBM Informix Dynamic Server 11.50 > Modify Installation** or launch the GUI maintenance wizard by opening the **Add/Remove Programs** feature of the Control Panel.
- Select the **Modify** button to alter Dynamic Server components and features.

  The wizard for modifying Dynamic Server features and components enforces certain dependencies. For example, if you select a feature for removal but do not select other components that rely on this feature, the wizard does not let you perform this.

- Select the **Repair** button to fix any corrupt or missing binaries for installed features.
- Select the **Remove** button to remove all features, including all required components for a working installation. This selection launches the uninstall program.

Altering Copies of Dynamic Server

If you have multiple copies of the same version of Dynamic Server installed on a computer, you can use the maintenance wizard to modify, repair, or remove one of the copies. You can also use one of the following command line options to perform maintenance on a specific copy or uninstall the copy:

-path   Specifies the installation path for which maintenance is required. You can use this command line option with other maintenance options. For example:

```
setup.exe -path installation path -s -f1"X:path\response file"
```

| **-instnum**

Specifies the installation number of the copy that requires maintenance. For example:

```
setup.exe -instnum installation number -s -f1"X:path\response file"
```

| Where:

| - *installation path* is the full or relative path to the location of the Dynamic Server installation that you want to alter.

| - *installation number* is the unique number that identifies each copy; this number was automatically generated when the copy was installed.

| - *X:path\response file* is the path and file name of the file (**uninstall.ini**) where the uninstallation options were recorded or of the file (**maint.ini**) where the maintenance options were recorded.

Related tasks

"Installing a Copy of Dynamic Server on a Computer" on page 2-1
You can install a copy of Dynamic Server in a different directory if the same version of the product is already installed on the computer.

Uninstalling Dynamic Server

Important: Back up your Dynamic Server system before you uninstall.

Important: Any groups and user accounts that you used for this installation will be removed in both local and domain installations, except when there are other instances on the disk. The uninstallation application cannot remove groups and user accounts if there are other Dynamic Server instances on the host computer.

To uninstall the database server:

1. Select **Start > Programs > IBM Informix Dynamic Server 11.50 > Modify Installation > Remove**
2. Choose one of the following options:
   - Retains all databases, but removes all server binaries

     This option is typically used when you upgrade the product because it facilitates removing server binaries while preserving dbspace.
   - Removes server binaries and all databases associated with them

     This option removes all installed binaries and dbspaces. Use this option with caution.

Reinstalling the Database Server

If an earlier version of the database server is already installed at a specific instance, the installer provides options either to upgrade or to complete a fresh installation at a different location. See "Multiple Copies of Dynamic Server on One Computer" on page 1-2

Performing Silent Uninstallations of Dynamic Server

You can remove Dynamic Server without interactively providing options. To do so, you must generate a response file for the uninstallation application. Ensure that you have access to the original media files for this task.

To perform a silent uninstallation:

1. To uninstall an existing installation and record a response file, use this command:

   `setup.exe -r -f1"X:path\uninstall.ini"`

   The command records the uninstallation options as you perform them and stores them in a response file. If you do not specify the location of the response file, by default the uninstallation sequence is saved in %WINDIR%\setup.iss.

2. To perform the silent uninstallation on another system, or to uninstall from the same system at a later time, specify the appropriate response file with this command:

   `setup.exe -s -f1"X:path\uninstall.ini"`

3. To uninstall an existing installation when there are multiple copies of a version installed on the same computer, specify the appropriate response file with one of the following commands:

   `setup.exe -s -path installation path -f1"X:path\uninstall.ini"`

   `setup.exe -s -instnum installation number -f1"X:path\uninstall.ini"`

   Where:

   - *installation path* is the full or relative path to the location of the Dynamic Server installation that you want to alter.
   - *installation number* is the unique number that identifies each copy; this number was automatically generated when the copy was installed.
   - *X:path*\uninstall.ini is the path and file name for the recorded file that contains the uninstallation options.

Related reference

"Performing a Silent Installation" on page 2-5
You can perform a *silent installation*, an installation method requiring no user interaction with the setup program, to install Dynamic Server and other Informix products separately. Silent installation is performed in the command-line environment.

Appendix. Accessibility

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

Accessibility features for IBM Informix Dynamic Server

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 Dynamic Server. These features support:

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

Tip: The IBM Informix Dynamic Server Information Center and its related publications are accessibility-enabled for the IBM Home Page Reader. You can operate all features using the keyboard instead of the mouse.

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. The syntax diagrams in our publications are available in dotted decimal format.

You can view the publications for IBM Informix Dynamic Server in Adobe Portable Document Format (PDF) using the Adobe Acrobat Reader.

IBM and Accessibility

See the *IBM Accessibility Center* at http://www.ibm.com/able for more information about the commitment that IBM has to accessibility.

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