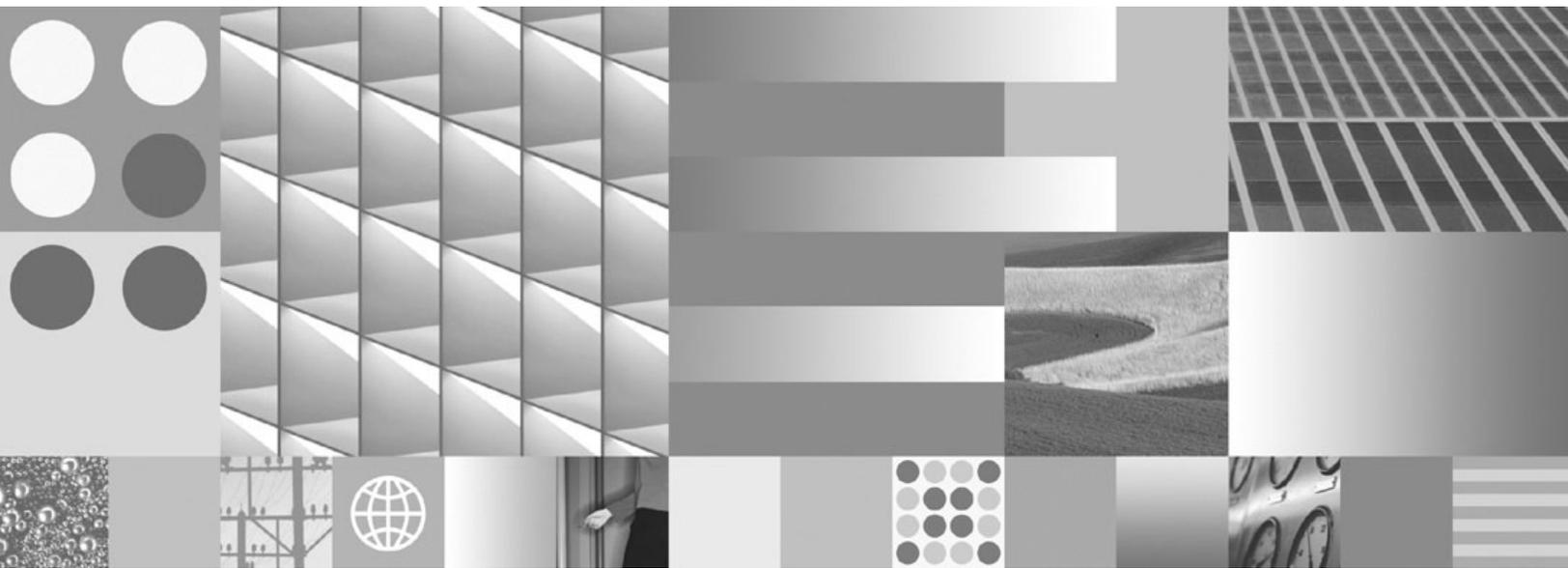


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Version 11.50

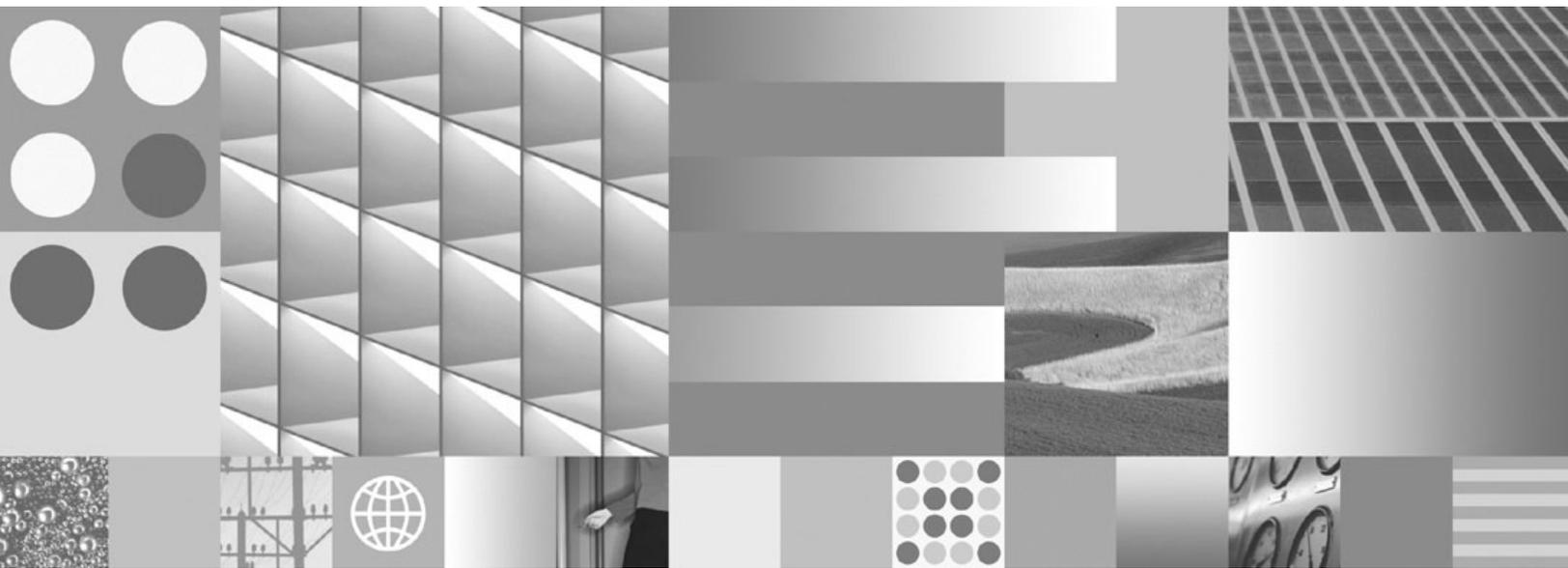


**IBM Informix Dynamic Server Installation Guide
for Windows**

IBM Informix



Version 11.50



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

Note

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

This edition replaces GC23-7753-04.

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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

IBM Informix 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 IDS:

- IBM Informix BladeManager
- IBM Informix DataBlade® Developers Kit (DBDK)
- IBM Informix Connect (IConnect)
- IBM Informix Client Software Development 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 Client SDK, see the *IBM Informix Client Products Installation Guide*.

IBM 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 Tool is available for download at: <http://www.openadmintool.com>

For a description of client and other related products for IDS, see *IBM Informix Dynamic Server Getting Started 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 IBM Informix Dynamic Server Installation, Version 11.50

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

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

+ *Table 1. What's New in Version 11.50.xC6*

+ Overview	Reference
+ Simplified Deployment of an IDS Instance + You can set configuration parameters, essential environment variables, and SQLHOST connectivity information in a deployment utility configuration file (ifxdeploy.conf). You can reuse the file to deploy instances with the deployment utility. When you plan to embed a snapshot of the same instance in multiple locations, you can use the customized configuration file to centralize the installation setup work and ensure that the deployed instances are consistent. + If you do not specify certain environment variables when you run the ifxdeploy command, or set them in an ifxdeploy.conf file, the deployment utility sets values based on the process environment.	See "ifxdeploy.conf File: The Deployment Utility Configuration File" on page 5-10.
+ Dynamic dbspace Relocation when Deploying Snapshots + You can dynamically reconfigure the chunk paths of a snapshot by using the -relocate option of the deployment utility. The -relocate option initializes the dbspaces required for deploying the template instance without a separate step for disk space initialization.	See "Rapid IDS Embeddability with the Deployment Utility" on page 5-2.

| *Table 2. What's New in Version 11.50.xC5*

Overview	Reference
Deploying IDS with the Deployment Utility (Windows) This command-line utility facilitates faster deployment of a configured IDS instance. This utility is currently available on Windows. The utility can be called programmatically or from a script as part of an application installation, and therefore supports completely silent IDS deployment.	See Chapter 5, "Deploying IDS with the Deployment Utility," on page 5-1.

Table 2. What's New in Version 11.50.xC5 (continued)

Overview	Reference
<p data-bbox="180 254 824 287">Upgrading to IDS v11.50.xC5 in Silent Mode (Windows)</p> <p data-bbox="180 308 824 455">You can upgrade from IDS v11.50.xC4 or earlier to IDS v11.50.xC5 in silent mode. You will need to record a response file for IDS v11.50.xC5. You cannot use a response file that was recorded when IDS v11.50.xC4 or earlier versions were installed.</p>	<p data-bbox="829 254 1448 317">See “Using a Response File for Silent Installation” on page 2-6.</p>

Table 3. What's New in Version 11.50.xC4

Overview	Reference
<p data-bbox="180 585 824 648">Upgrade IBM Informix Dynamic Server by Overwriting the Existing Installation</p> <p data-bbox="180 669 824 930">When you are upgrading IDS from one fix pack level to another in the same product version, you can install the product in the running database server installation directory. You also can overwrite an existing installation for training or specialized technical needs. Take all necessary backup precautions before upgrading with this method. It is recommended that most users follow the IBM Informix Migration Guide for version-to-version upgrades and migrations.</p>	<p data-bbox="829 585 1448 648">“Upgrade of IDS by Overwriting an Existing Installation” on page 2-12</p>

Table 4. What's New in Version 11.50.xC2

Overview	Reference
<p data-bbox="180 1062 824 1125">Multiple Copies of IBM Informix Dynamic Server on the Same Windows Computer</p> <p data-bbox="180 1146 824 1293">In version 11.10, you could not install and run multiple copies of the same version of IDS 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.</p> <p data-bbox="180 1314 824 1434">If the installation application detects that the same version of IDS is already installed, you can choose to install a new copy in another directory or you can choose to modify the existing installation.</p>	<p data-bbox="829 1062 1448 1096">“Multiple Copies of IDS on One Computer” on page 1-2</p>

Table 5. What's New in Version 11.50.xC1

Overview	Reference
<p>Enhanced Configuration Options During Installation</p> <p>You can use the new Instance Configuration Wizard to automatically create the database server configuration file (ONCONFIG) during a custom installation in GUI mode.</p> <p>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.</p>	<p>See "Instance Configuration Wizard" on page 1-8.</p>
<p>DRDA[®] Protocol Configuration During Installation</p> <p>It's easier now than in past releases to set up an instance to use a variety of database clients. When you install IBM Informix 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.</p> <p>If you disable DRDA support in the installation 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").</p>	<p>See "Installing with the GUI Custom Setup" on page 2-3.</p>
<p>Install as the Local System Account Support</p> <p>In past releases, the IBM Informix Dynamic Server Windows Service was allowed to log on only as user informix. Starting with version 11.50, you can install IDS on Windows as the local system account.</p> <p>Select the Local System User option in the installation application. 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 IDS.</p> <p>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 IDS on UNIX[®] and IDS on Windows operating systems.</p>	<p>See "Installing with the GUI Custom Setup" on page 2-3.</p>

Documentation Conventions

Special conventions are used in the product documentation for IBM Informix Dynamic Server.

Technical Changes

Technical changes to the text are indicated by special characters depending on the format of the documentation.

HTML documentation

New or changed information is surrounded by blue \gg and \ll characters.

PDF documentation

A plus sign (+) is shown to the left of the current changes. A vertical bar (|) is shown to the left of changes made in earlier shipments.

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 IBM Informix Dynamic Server

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

Documentation about IBM Informix products is available in various formats.

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/techdocs.html>. Alternatively, you can access or install the product documentation from the Quick Start CD that is shipped with the product.

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.

The IBM Informix Geodetic DataBlade Module supports a subset of the data types from the *Spatial Data Transfer Standard (SDTS)—Federal Information Processing Standard 173*, as referenced by the document *Content Standard for Geospatial Metadata*, Federal Geographic Data Committee, June 8, 1994 (FGDC Metadata Standard).

IBM Informix Dynamic Server (IDS) Enterprise Edition, Version 11.50 is certified under the Common Criteria. For more information, refer to *Common Criteria Certification: Requirements for IBM Informix Dynamic Server*, which is available at <http://www.ibm.com/support/docview.wss?uid=swg27015363>.

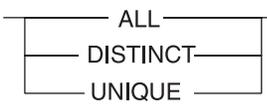
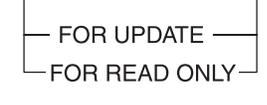
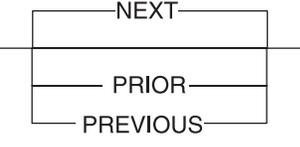
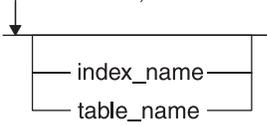
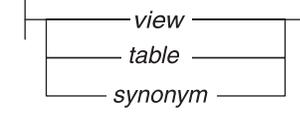
Syntax Diagrams

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

Table 6. 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.

Table 6. Syntax Diagram Components (continued)

Component represented in PDF	Component represented in HTML	Meaning
	<code>--+-----+-- '-----LOCAL-----'</code>	Optional item.
	<code>---+---ALL-----+--- +---DISTINCT-----+ '---UNIQUE-----'</code>	Required item with choice. One and only one item must be present.
	<code>---+-----+-- +---FOR UPDATE-----+ '---FOR READ ONLY---'</code>	Optional items with choice are shown below the main line, one of which you might specify.
	<code>.---NEXT-----. ---+-----+-- +---PRIOR-----+ '---PREVIOUS-----'</code>	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 will be used as the default.
	<code>.-----, v ---+-----+-- +---index_name---+ '---table_name---'</code>	Optional items. Several items are allowed; a comma must precede each repetition.
	<code>>>- Table Reference -<<</code>	Reference to a syntax segment.
Table Reference 	Table Reference <code> ---+-----view-----+-- +-----table-----+ '-----synonym-----'</code>	Syntax segment.

How to Read a Command-Line Syntax Diagram

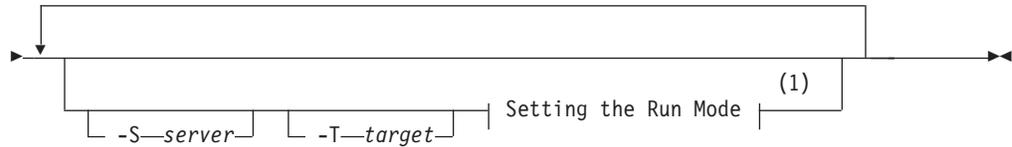
Command-line syntax diagrams use similar elements to those of other syntax diagrams.

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

Creating a No-Conversion Job

`>>-onpladm create job—job— [-p—project] — -n— -d—device— -D—database—>>`

`>>-t—table—>>`

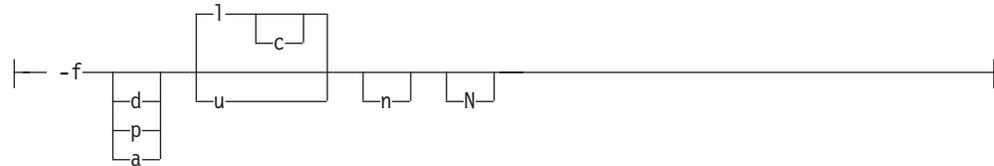


Notes:

1 See page Z-1

| This diagram has a segment 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 in 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 top 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. Type **onpladm create job** and then the name of the job.
2. Optionally, type **-p** and then the name of the project.
3. Type 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 choose 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 type **-f**, optionally type **d**, **p**, or **a**, and then optionally type **l** or **u**.
5. Follow the diagram to the terminator.

Keywords and Punctuation

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

When a keyword appears in a syntax diagram, it 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 additional syntax diagrams. When a variable appears in a syntax diagram, an example, or text, it is shown in *lowercase italic*.

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

▶▶—SELECT—*column_name*—FROM—*table_name*—▶▶

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 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.
- Add comments to topics directly in the IDS 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! Find out more at <http://publib.boulder.ibm.com/infocenter/idshelp/v115/index.jsp?topic=/com.ibm.start.doc/contributing.htm>.

Feedback from all methods is monitored by those who maintain the user documentation. 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 IDS on Windows

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

- "Online Notes"
- "Verifying System Requirements"
- "Verifying Administrators Group Membership"
- "Multiple Copies of IDS on One Computer" on page 1-2
- "Choosing Your Installation Setup" on page 1-3
- "Installable Features of IDS" on page 1-4
- "Demonstration Database Server" on page 1-6
- "Instance Configuration Wizard" on page 1-8
- "Planning Role Separation" on page 1-8
- "Installation Directory" on page 1-9
- "Choosing between Local and Domain Installations" on page 1-9
- "User informix" on page 1-10
- "Upgrading the Database Server" on page 1-10

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:

- 256 MB of RAM.
- Sum of RAM and paging file must be at least 512 megabytes. (Some installation choices require additional disk space. The installation application informs you of the total disk space required by your setup before you copy the binary files to your host computer.)
- Total of 350 MB of free disk space for installation of the product and all features of a working system.
- Destination drive with a Windows file system (NTFS).

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 IDS on One Computer

Multiple copies of IBM Informix 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

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

Do not install a newer version of IBM Informix 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 want to run different versions of IDS on the same host machine, keep the installations in different paths.

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

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

Multiple copies of the same version

You can install multiple copies of the same version of IBM Informix 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

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.

Note: 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 IDS on a Computer” on page 2-1

Choosing Your Installation Setup

Using the installation application, you can choose a typical or custom setup for loading IBM Informix Dynamic Server and other products to your system. Typical setup installs the full IDS 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 IDS (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 IDS 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 the GUI installation application, you can generate a response file for configuring other instances’ installations in silent mode, but not when you use the Instance Configuration Wizard. 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 IBM Informix 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 IDS installation media that is bundled with other IBM Informix products and if the installation application detects the Microsoft Cluster Server on the host computer. Read “Cluster Installations” on page 2-9 for more information.
- *DRDA protocol support:* To *exclude* support for DRDA connections in your IDS 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 installation 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 2-14).

- *Installing database server to run as local system user:* To install IDS as a local system account on Windows, you must select a custom installation and complete the configuration setup accordingly. This lets the IDS 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 IDS as local system user.

Installable Features of IDS

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). Every IBM Informix Dynamic Server installation includes the components of the base server, regardless of whether you choose a typical or custom installation.

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.

The IBM Global Security Kit (GSKit) is included as a component of the IDS installation.

Features

The following list describes features in IBM Informix Dynamic Server, Version 11.50. A typical installation setup installs all of these features. If you choose custom installation setup, you can omit features that you do not want to install. 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 IDS 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

IBM 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 IBM Informix databases. Also use HPL to manipulate and filter the data as you perform load and unload operations.

Enterprise Replication

For replicating data between IDS 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 IDS 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 IBM Informix 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 installation 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 1-8 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 IDS 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 installation 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 installation application copies files. The information is also stored in **%INFORMIXDIR%\logs\IDS_install_date_time.log**.
- When the installation application 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 installation 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 IDS 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_dbssso	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 drive on which the directory exists must be formatted using NTFS. You do not need 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.

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 an IBM Informix Dynamic Server instance.

User **informix** is required for most installations because it has the unique user identifier (UID) to manage and maintain IDS 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 IDS 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.

Upgrading the Database Server

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

See also “Upgrade of IDS by Overwriting an Existing Installation” on page 2-12 to replace the earlier product.

Chapter 2. Installing IDS on Windows

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

- “Installing IBM Informix Products”
- “Installing a Copy of IDS 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 2-9
- “Upgrade of IDS by Overwriting an Existing Installation” on page 2-12
- “Multiple Residency” on page 2-13

Installing IBM Informix Products

IBM Informix 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 Software Development Kit (Client SDK) or Informix Connect. For information on installing these products, see the *IBM Informix Client Products Installation Guide*.

Installing a Copy of IDS on a Computer

You can install a copy of IBM Informix 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 IDS 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**.
4. Select the option to install a new instance when the installation application lists existing IDS instances and click **Next**.
5. Select the option to install in a different directory and click **Next**. Complete the prompts in the server installation application for a typical or custom setup.

Related concepts

“Multiple Copies of IDS on One Computer” on page 1-2

“Altering IDS Features” on page 4-1

Related reference

“Performing a Silent Installation” on page 2-5

Installing with the GUI Typical Setup

Launch the GUI installation application to complete a typical installation setup of IBM Informix products, which will load IBM Informix 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 IBM Informix 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 “Database Server Configuration After Installation” on page 3-4 and “Configuring IDS Manually” on page 3-6.

The installation creates a log file in %INFORMIXDIR%\logs\ which contains installation activity of the IDS 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 IBM Informix 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 IBM Informix Dynamic Server only (that is, you cannot choose any other IBM Informix products available on the installation media). Read the topics “Performing a Silent Installation” on page 2-5 and “Using a Response File for Silent Installation” on page 2-6 before you start the installation application if you want to generate a response file.

To install IDS 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 IDS 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 IDS 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 IDS 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: Select the **Create Server** option if you want to create the database server but not initialize it.
 12. Optional: Create the database server instance and set basic configuration parameters in the GUI application.

Warning: Installing with the **Initialize Server** checkbox selected deletes all existing IDS data, if any, 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 application 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 IDS 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 to suit your needs and hardware** 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 1-8 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 IDS without this option, you can still add DRDA connectivity to the instance later without reinstalling.
13. 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 2-10. When the checkbox is disabled, the installation application does not detect a supported cluster environment in the host computer or you are not using the IDS installation media that is bundled with other IBM Informix products.
14. If you chose to install other IBM Informix products bundled with IDS, verify the GUI window for products selection reflects what you want to install.
15. Specify a domain installation type, if applicable.
16. Review your installation settings and select whether to begin copying the IBM 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 “Database Server Configuration After Installation” on page 3-4 and “Configuring IDS Manually” on page 3-6

The installation creates a log file in `%INFORMIXDIR%\logs\`, which records IDS 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 IBM Informix Dynamic Server and other IBM Informix products separately. Silent installation is performed in the command-line environment.

Before you can do a silent installation, you must provide IDS installation setup information a `.ini` file. Then to complete silent installation, you invoke this `.ini` file to repeat the same installation setup on a different computer or in a different location on the same computer.

Choose one of the following methods to prepare the `.ini` file and to complete a silent installation:

- Use the `server.ini` file provided on the installation media as a template for entering your silent-installation settings. Specify your customized `.ini` file in the silent installation command.
- While installing IDS with the GUI custom setup program, record your installation settings in a *response file*. Use this response file for replicating the custom installation in silent mode.

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

Related tasks

“Installing a Copy of IDS on a Computer” on page 2-1

“Performing Silent Uninstallations of IDS” on page 4-2

Using a Customized server.ini File for Silent Installation

Copy the **server.ini** file in the Dynamic Server installation media, customize it with a different file name, and run the silent installation command.

You must have Windows administrator privileges to perform the silent installation.

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

1. Create a copy of the **server.ini** file in the top directory of the database server product folder (**IIF** by default), and keep your .ini file in the **IIF** folder.

Important: Do not overwrite the existing **server.ini** file, and do not move the copy that you make from the **IIF** folder.

2. Customize the copy of the **server.ini** file.
3. Run the following command in the **IIF** directory to start the silent installation and generate a log file.

```
setup.exe -s -f1"path\your_filename.ini" -f2"path\your_filename.log"
```

Where:

- *path\your_filename* is the full path and file name for your customized .ini file in the -f1 flag and for the log file in the -f2 flag

The file specified by -f2 captures details about the silent installation. Because the silent installation does not display error messages, 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.

For example, if you have not changed the default database server product folder name and its contents and you customize the .ini settings in a file named **new_server.ini**, you would enter the following command to start the silent installation of the database server:

```
setup.exe -s -f1"C:\IIF\new_server.ini" -f2"C:\IIF\new_server.log"
```

Using a Response File for Silent Installation

Record IBM Informix Dynamic Server installation settings in a response file, and specify this file when you run the silent installation command.

You must have Windows administrator privileges to perform the silent installation.

If you plan to perform silent installation by replicating the settings of a completed IDS installation done with the GUI custom setup program, use the following method to start the installation application.

Note: The response file option does not function if you use the Instance Configuration Wizard during the installation.

To perform a silent installation by using a response file:

1. Start the installation application by running the following command:

```
setup.exe -r -f1"path\response_filename.ini"
```

path\response_filename is the full path and file name of your response file

The *f1* argument is optional. If you do not specify the location and name of the response file with the *f1* argument, by default the installation sequence is saved in *%WINDIR%\setup.iss*.
2. Complete the GUI custom installation of the product.
3. Copy your .ini file to the directory where you want to use silent installation to replicate the IDS installation setup that you just created.
4. Run the following command in the **IIF** directory. If the target computer already hosts one or more IDS installations, see "Silent Installation on a Host with Multiple Installations."

```
setup.exe -s -f1"path\response_filename.ini" -f2"path\response_filename.log"
```

where:

- *path\response_filename* is the full path and file name for your response file in the *-f1* flag and for the log file in the *-f2* flag

The file specified by *-f2* captures details about the silent installation. Because the silent installation does not display error messages, 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.

For example, you want to complete an IDS installation and record the setup so that you can replicate the installation in silent mode afterwards. First, you need to record the installation setup in a response file. You run the following command:

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

Where:

- *C:\temp* is the path to the location where you want the response file to be generated. This is not necessarily the same path as where you install IDS because you indicate the path for the product installation in the GUI program that launches after you run this command.
- *silent* is your response file name, to which you must append the *.ini* extension

After you have completed the installation, copy *silent.ini* to the directory where you want to use silent installation to replicate the installation setup. For this example, the following are conditions of the silent installation host environment:

- You are completing the silent installation on a different computer from where you created the response file.
- The target computer does not already have another IDS installation.
- You want to install the product in an existing path named *C:\AppDev*.

Run the following command in the **IIF** directory:

```
setup.exe -s -f1"C:\AppDev\silent.ini" -f2"C:\AppDev\silent.log"
```

After silent installation completes, you can view the generated *silent.log* file for troubleshooting in the path that you indicated in the *-f2* option.

Silent Installation on a Host with Multiple Installations

Use a response file to direct the action of the silent installation on a computer that already hosts a Dynamic Server installation. A command-line option lets you specify location when maintaining or uninstalling an existing installation.

Specifying an Installation to Modify

If the Dynamic Server version that you want to install matches the version on the target computer, the information recorded in your response file determines whether the silent installation adds a new copy of the database server or modifies the existing installation. Therefore, if your response file recorded a new installation, you do not need to include the `-multiple` option in the silent installation command. Similarly, if you ran the `setup.exe -r` command to start the installation application in maintenance mode, the response file records your intention to modify features, repair binaries, or complete uninstallation of an existing database server installation.

On a computer that hosts more than one installation of the database server, you can direct which installation to modify by using the `-path` option in the silent installation command.

If you do not specify a location with the `-path` option, the silent installation randomly selects one of the existing installations on the target computer and proceeds in maintenance mode.

The following is an example of how to include the `-path` option in the silent installation command:

```
setup.exe -s -path C:\tmp\informix -f1"C:\tmp\install.ini" -f2"C:\tmp\log.txt"
```

where `-path C:\tmp\informix` indicates the location of the installation to modify.

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”
- “Overview of Implementing a Cluster on Two Nodes”
- “Setting Up a Cluster Installation” on page 2-10
- “Preparing to Set Up a Cluster” on page 2-10
- “Implementing a Cluster on the Primary Node” on page 2-11
- “IDS as a Cluster on the Secondary Node” on page 2-11
- “Installing IDS as a Cluster on the Secondary Node” on page 2-11
- “IDS as a Cluster on the Secondary Node” on page 2-11

Cluster Installations

IBM Informix 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 IDS 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 IBM Informix Dynamic Server, see “Installing IBM Informix Products” on page 2-1.

Important: Stop IDS 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 IBM Informix Dynamic Server in a cluster environment in three steps:

1. Install IBM Informix 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 IDS on the primary node for use in a cluster.
 - Use the **clusterIT_b** utility to install IDS 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 **Informix ClusterIT - primary Node** window appears.
2. Fill out the information about networking environment, machine names, and configuration for installing IBM Informix Dynamic Server:
 - a. In the **DBSERVERNAME to be clustered** text box, enter the name of your unclustered IDS instance.
 - b. In the **DBSERVERNAME final (when clustered)** text box, enter a name for your IDS 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. 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 IDS 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, an IDS 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 IDS by running the **onstat-** command.

Preparing to Set Up a Cluster

To prepare to set up a cluster:

1. Install IBM Informix Dynamic Server on the primary node without initialization.
2. Edit the **onconfig** file. For more information on the **onconfig** file, see the *IBM Informix Dynamic Server 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 3-4.
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 IDS 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 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 IDS cluster resource
- Sets dependencies
- Sets the IDS 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.

IDS 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 IBM Informix 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 IDS as a Cluster on the Secondary Node

To install IBM Informix 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 IDS on the secondary node. This number is the same as that of IDS 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 IDS instance in the cluster configuration. On this secondary node, IDS 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, IDS 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.

Upgrade of IDS by Overwriting an Existing Installation

Use the installation application to overwrite an existing IBM Informix Dynamic Server installation only when you are upgrading from a previous fix pack of the same version number or for specialized technical environments.

When you place the IBM Informix Dynamic Server installation media on a Windows computer that hosts an earlier version of the server, you will be prompted as to whether you want to install in a different directory or upgrade by installing in the same directory where the older version of the product already exists.

For upgrading or migrating a production database server, choose to install in a different directory as documented in the *IBM Informix Migration Guide* unless you have specific goals or system constraints that require you to overwrite the older installation completely. The following are some examples of when you might upgrade by installing directly to the directory where an earlier version or fix pack level are located:

- Upgrade an existing IDS installation that has the same version number as the new product, but is an earlier fix pack. For example, if the host computer has IDS 11.50.xC1 and you want to install IDS 11.50.xC4, then complete the upgrade by installing in the same location.
- Capture the installation settings in a response file so that you can upgrade other older IDS instances with silent installation.
- You have a computer hosting an older version of IDS that does not have sufficient free space to hold two installations of the product.
- You plan to use a symbolic link to migrate the data to the new version.

Overwriting an Existing IDS Installation

Ensure that you complete the prerequisites before you do an upgrade that installs the product in a directory that already has an earlier version.

Important: Ensure that you have the installation media for the IBM Informix Dynamic Server version that you are replacing, back up your databases, and complete other preparation steps before you upgrade using the following method. See the *IBM Informix Migration Guide* for details about supported upgrade paths and data migration.

When you install using the procedure below, the old version or fix pack of the product is uninstalled.

1. Open the IBM Informix Dynamic Server installation application of the version or fix pack level that you want to install.
2. Select the option to install a new instance when the installation application lists existing IDS instances and click **Next**.
3. Select the option to upgrade by replacing the product and click **Next**. Complete the prompts in the server installation application for a typical or custom setup.

While the database server engine is upgraded by this task, the preceding steps do not change your databases.

To start the IDS instance, you must initialize the server manually.

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

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 IDS 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 1-1.

The following steps are for using the Server Instance Manager GUI. See “Server Instance Manager Command-Line Options” on page 2-14 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 an IBM Informix 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 <i>DRDA_server_alias</i> -drdaport <i>DRDA_port</i> drdasvc <i>DRDA_service_name</i>	Command line for standalone support of DRDA in the DBMS.
-apw <i>password</i>	Specifies the user informix password for a new instance.
-c -n <i>servername</i> -apw <i>informix_password</i>	Creates an instance of the database server.
-rename -apw <i>informix_password -n</i> <i>new_name old_name</i>	Rename an existing server name.
-s <i>.ini_filename</i>	Initialize the specified instance in silent mode.
-f <i>.ini_filename</i>	Retrieve some information from a partial initialization file, and the remainder from the user.
-d -n <i>servername</i>	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 <i>version</i>	Upgrade all instances to the specified version. (Upgrading a single instance in a multi-instance environment is not supported.)
-r -v <i>version -n</i> <i>servername</i>	Revert the specified instance to the specified version.
-rall -v <i>version</i>	Revert all instances to the specified version.
-b64 <i>Base64_password</i>	Specifies Base64-encoded password.
-l	Indicates cluster installation.

Table 2-2. *instmgr.exe* Utility Options (continued)

Option	Meaning
-system	Create database server instance that runs as local system user instead of user informix. (IDS must be installed as local system user to use this option.)

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*.

You can find information that will help identify and resolve installation errors in the IDS 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 IBM Informix Dynamic Server.

- “Working with the Installation”
- “IDS Program Group” on page 3-2
- “Initializing and Starting the Database Server” on page 3-3
- “Database Server Configuration After Installation” on page 3-4

Working with the Installation

After installing IBM Informix Dynamic Server, determine how much of the database server setup the installation application has completed and what actions you must do before putting the server in production.

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 IDS runs on your system.

If have completed a more advanced installation of IDS, 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 IDS 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*.
- IBM 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

IDS Program Group

An IBM Informix Dynamic Server program group is on the Windows Start Menu after installation completes.

To access the following items on the database server program group, click **Start** → **Programs** → **IBM Informix Dynamic Server**. The following table describes the program group menu.

Table 3-1. IBM Informix Dynamic Server Program Group

Menu Item	Description
Documentation	<p>Contains shortcuts to product documentation:</p> <p>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.</p> <p>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.</p>
Error Messages	Provides a complete list of all of the error messages and their corrective actions.
Modify Installation	<p>Opens a wizard for modifying the installation:</p> <p>Modify Alter IDS components and features.</p> <p>Repair Fix any corrupt or missing binaries for installed features.</p> <p>Remove Remove all features of a working installation and, optionally, remove related group and user IDs. This selection launches the uninstallation application.</p>

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

Menu Item	Description
Server Instance Manager	Creates and configures new server instances and removes configured server instances.
<i>server-name</i>	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 onspace . (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 Dynamic Server 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. **Warning:** If you run the **-iy** switch on a database server that has IDS databases, the data is deleted.
 - 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
```

Warning: If you run the `-iy` switch on a database server that has IDS databases, the data is deleted.

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
```

Database Server Configuration After Installation

If you need to create a Dynamic Server instance after installation completes, you can use the Server Instance Manager or use the standard configuration file (**onconfig.std**) as a basis for a new configuration file.

The **genoncfg** utility is 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 a Dynamic Server 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. The **genoncfg** utility is documented in the *IBM Informix Dynamic Server Administrator's Reference*.

The following information is provided for advanced users who must manually start or change configuration of a database server instance.

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

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.

Dbospace Name, Location, and Size

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

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

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

- **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 dbospace size is 200 megabytes.

- **Smart blob Drive**

A default smart blob space 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 dbospace 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 Dynamic Server Administrator's Guide*.

Shared Server Definition Computer

The shared server definition computer is the machine hosting the database server instance with which client computers connect if you are deploying Dynamic Server in a networked Windows environment.

Specify where you want the **sqlhosts** registry information for the shared server definition to be stored. You can choose either the local host machine or another computer that hosts a central, shared repository of **sqlhosts** settings 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 IDS Manually

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 “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.

For more information about configuring the database server manually, see the *IBM Informix Dynamic Server Administrator's Guide*.

Chapter 4. Modifying IDS on Windows

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

Review the following information to uninstall or modify IDS

- “Altering IDS Features”
- “Uninstalling IDS” on page 4-2
- “Reinstalling the Database Server” on page 4-2
- “Performing Silent Uninstallations of IDS” on page 4-2

Altering IDS 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, IBM Informix 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 IDS 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 IDS components and features.

The wizard for modifying IDS 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 IDS

If you have multiple copies of the same version of IBM Informix 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 IDS 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 your drive, path, and response 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 IDS on a Computer” on page 2-1

Uninstalling IDS

Back up your IBM Informix 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 IDS instances on the host computer.

To uninstall the database server:

1. Select **Start > Programs > IBM Informix Dynamic Server > 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 IDS on One Computer” on page 1-2.

Performing Silent Uninstallations of IDS

You can remove IBM Informix 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 IDS 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 your drive, path, and file name for the recorded file that contains the uninstallation options.

Related reference

“Performing a Silent Installation” on page 2-5

Chapter 5. Deploying IDS with the Deployment Utility

Use the command-line deployment utility to deploy a snapshot of IBM Informix Dynamic Server and create a new instance as a quick alternative to traditional installation, especially for deployments to many computers.

You can configure the snapshot so that the instance is ready to run for your needs immediately after deployment.

Review the following information to use the deployment utility.

- “The Deployment Utility”
- “Rapid IDS Embeddability with the Deployment Utility” on page 5-2
- “Creating a Snapshot for Deployment” on page 5-4
- “Deploying a Snapshot with the Deployment Utility” on page 5-4
- “ifxdeploy Command: The Deployment Utility” on page 5-5
- “ifxdeploy.conf File: The Deployment Utility Configuration File” on page 5-10
- “Removing a Snapshot with the Deployment Utility” on page 5-15

The Deployment Utility

The IBM Informix deployment utility can deploy snapshots of pre-configured IDS instances (with or without data) on one or more computers.

A snapshot is an image that includes the IBM Informix Dynamic Server installation directory, configuration settings, and any data spaces associated with the instance. To take a snapshot, you must have installed IDS. The installation can be a working instance, or simply an installation that you set up as a template from which to deploy the instance on other computers.

Deploying a snapshot is different from installing IDS with the silent installation option. It is much quicker because you are simply recreating the installed instance from a snapshot, you are not installing the product all over again. Similarly, if you deployed a snapshot on a computer, you can replace the snapshot or remove it by using the deployment utility.

The following list describes some scenarios for which the deployment utility can be useful:

- You want to deploy a particular database server configuration on multiple computers. You can tune only one instance as the template instance, and then use the utility to deploy it on to other computers in silent mode.
- You want to clone an instance on the same computer or set up multiple instances quickly.
- You want to upgrade multiple instances to a different fix pack or version level to take advantage of newer product enhancements but this requires tuning certain configuration parameters or environment variables. You can tune the template instance, and then use the utility to upgrade other instances rapidly.
- You are embedding a IDS application on multiple computers and want to reduce application installation and setup time. You can specify the installation location

+ and a single path for all application files including the database server files
+ during deployment to avoid waiting for data loading and database server
+ initialization.

+ Most deployment utility functionality can be invoked by using either
+ command-line options or setting options in a text-based template configuration
+ (.conf) file to accommodate your working preference. The .conf file also facilitates
+ easier reuse of an instance setup because you can save your settings in a copy of
+ the file.

| To operate the deployment utility, run the **ifxdeploy** executable from a command
+ line or from a script as part of an application installation. (The full file name of the
+ executable is **ifxdeploy.exe** in the Windows version of IDS, but it will be referred
+ to as simply **ifxdeploy** throughout the documentation.) The utility can be run
| without user interaction, in silent mode.

+ **Rapid IDS Embeddability with the Deployment Utility**

+ A snapshot of an instance can be reconfigured and initialized by running the
+ deployment utility with a combination of command line options or by setting
+ values in the **ifxdeploy.conf** file.

+ You can preinitialize the instance by indicating the location of the IBM Informix
+ Dynamic Server chunk paths on the target computer.

+ The **ifxdeploy.conf** file allows for more dynamic customization than the
+ command-line options because in the file you can specify any configuration
+ parameter values, set key environment variables, and create multiple database
+ server aliases.

+ To apply configuration settings of the **ifxdeploy.conf** file to an instance you are
+ deploying, enter the file name as an argument to the **-config** option when you run
+ the **ifxdeploy** command.

+ If you set different values for the same instance in the **ifxdeploy.conf** file and as an
+ option to the **ifxdeploy** command option, the deployment utility uses the value
+ specified on the command line. For example, if you specify **-p mypassword1** on the
+ command line but set the **INFORMIXPASSWORD** parameter to **mypassword2** in the
+ **ifxdeploy.conf** file, the deployed instance requires **mypassword1** for authentication.

+ **Initialized dbspaces**

+ If you create a snapshot with initialized dbspaces, you can deploy the snapshot as
+ an initialized instance without having to wait for disk space initialization on the
+ target system.

+ To deploy the dbspaces to different locations from where they were when the
+ snapshot was taken, use the **-relocate** option. In the **-relocate** option you specify
+ one or more parent directories for the chunks of the deployed instance.

+ If you want to relocate the chunk parent directories, verify the following before
+ you run the utility:

- + • The chunk files on the target computer exist in path locations that correspond
+ with your chunk parent directory relocation settings.

- Each chunk file has an ownership and permissions setting that allows you to modify it.
- You know the ROOTPATH (and MIRRORPATH, if applicable) for the deployed instance, and provide the path information in a configuration parameter setting or by using the **-rootpath** option.

Database Server Configuration

You can set essential configuration parameters in the command-line options of the **ifxdeploy** command, instead of setting the values in the **onconfig** file.

In the **ifxdeploy.conf** file, you can provide server configuration parameters in the following ways:

- Edit essential configuration parameter settings for your instance; the parameter options that appear in the file mirror those that are available as command-line options.
- If you do not edit a configuration parameter setting listed in the file, accept the default value.
- Indicate a pre-existing **onconfig** file for the instance to use.
- Customize configuration parameter settings in the **ONCONFIG** part of the **ifxdeploy.conf** file, which overrides any **onconfig** file settings. This is particularly useful if you have brought your snapshot to the target computer, analyzed the environment, and know that there are a few specific parameters that are easier to adjust through the deployment utility instead of manually editing the **onconfig** file.

Attention: The values of any options that you pass on the **ifxdeploy** command line supersede the corresponding settings of the **ifxdeploy.conf** file.

An **onconfig** file is generated from **onconfig.std** if you do not specify one and the **ONCONFIG** environment variable is not set.

Environment Variables

You can specify **INFORMIXDIR**, **INFORMIXSERVER**, **INFORMIXSQLHOSTS**, and **ONCONFIG** environment variables in the **ifxdeploy.conf** file.

The deployment utility can read the following environment variables from the process environment and use them to configure the deployed instance:

- **INFORMIXDIR**
- **INFORMIXSERVER**
- **CLIENT_LOCALE**
- **DB_LOCALE**
- **DBLANG**
- **GL_USEGLU**
- **SERVER_LOCALE**

If the **INFORMIXDIR** and **INFORMIXSERVER** environment variables are not set on the target computer, you must enter them in the configuration file or when prompted by the deployment utility. No default values are provided for these two environment variables.

+ On Windows, the **INFORMIXSQLHOSTS** environment variable is used only if
+ you want to capture the connectivity settings stored in the registry of another
+ computer.

+ If the **ONCONFIG** environment variable is not set, the utility creates one from a
+ combination of whatever parameter settings you provide in the configuration file
+ and **onconfig.std**. The file name format of the autogenerated ONCONFIG file is
+ **onconfig.server_name**.

+ Database Server Aliases

+ With the **ifxdeploy.conf** file, you can set up multiple database server aliases that
+ are equivalent to setting the **DBSERVERALIASES** configuration parameter in the
+ **onconfig** file. The "ALIAS" section of the file consists of fields in which you can
+ provide the **SQLHOSTS** connection information for each alias. The "ALIAS" setting
+ can expedite your deployment if you plan to use database server aliases because
+ you enter the connection information as part of the configuration file setup and do
+ not need to configure **SQLHOSTS** information separately.

| Creating a Snapshot for Deployment

| Create a snapshot of IBM Informix Dynamic Server that you can use with the
| deployment utility to place pre-configured instances on multiple computers.

| Before you create a snapshot, you must meet the following prerequisites:

- + • Windows administrator privileges on the computer.
- | • Sufficient disk space to save the snapshot in a file. If space is limited, you might
| want to store the snapshot in a compressed file.

| To create a snapshot, complete the following steps on the computer where you
| installed the IDS instance:

- | 1. Shut down the instance in a consistent state with **onmode -kuy**.
- | 2. Create a snapshot of the following items:
 - | • IDS installation directory

| **Tip:** Ensure you include the **IDSFILES.txt** file, which is in the installation
| directory. That file is required if you want to use the deployment utility to
| remove the snapshot from the target computer after you deploy it.

- | • Configuration settings
- | • Optional: Data spaces associated with the instance

| **Tip:** Store the components of the snapshot in a compressed file if you want
| to save space. If you compress the snapshot with Gzip tar on UNIX or
| Linux[®] or into a zip file on Windows, the utility can be automatically
| decompressed by the deployment utility.

- | 3. Optional: After you create the snapshot, you can restart the instance.

| Deploying a Snapshot with the Deployment Utility

| Deploy a snapshot of an instance by using the **ifxdeploy** command on the target
| computer.

| Before you deploy a snapshot, you must meet the following prerequisites:

- | • Windows administrator privileges on the target computer.

- If you are deploying data, the root dbSPACE is in the same absolute path on the target computer as on the template computer.
- The target computer has sufficient disk space for the snapshot.

Tip: You need the same amount of space as was used on the template computer. The space required depends on what you included in the snapshot, such as data, extra files, or other applications.

To deploy the snapshot on the target computer:

1. Save a copy of the snapshot.
2. If not set, set the environment variables for **INFORMIXDIR**, **INFORMIXSERVER**, and your locale. You can set the environment variables in the **ifxdeploy.conf** file. The default locale is U.S. English. If the environment variables or the locale are not set, the utility reads these settings from the process environment and uses them to configure the instance.
3. If you want to provide your own configuration file, set the **ONCONFIG** environment variable to the location of the file that you want to use. You can set the **ONCONFIG** environment variable in the **ifxdeploy.conf** file. If you do not set the **ONCONFIG** environment variable, or if the file specified by the **ONCONFIG** environment variable cannot be found, the deployment utility automatically creates a configuration file with standard configuration settings (based on the **onconfig.std** file).
4. Optional: If there are specific parameter values in the **onconfig** file that you want to modify, set them in the "ONCONFIG" option section of the **ifxdeploy.conf** file.
5. Run the **ifxdeploy** command with the appropriate options. The utility is located in the **bin** subdirectory of the installation path. See "ifxdeploy Command: The Deployment Utility" for supported options.

ifxdeploy Command: The Deployment Utility

Use the **ifxdeploy** command to deploy a snapshot or remove a snapshot that you already deployed.

Syntax

```
ifxdeploy [Deployment Parameters] [Uninstallation Parameters]
```

Deployment Parameters:

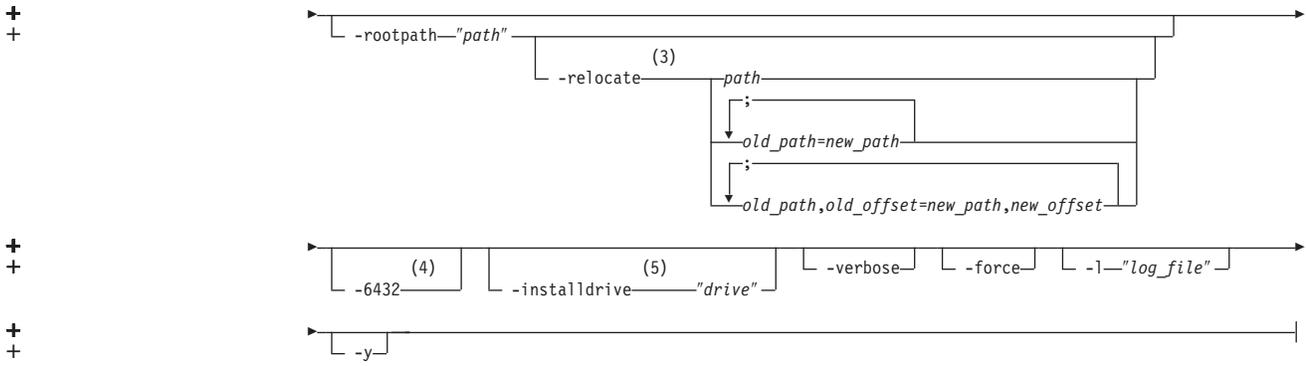
```

-p password (1)
-system
-config "conf_file_name"
-extractcmd "command"
-file "file_name"

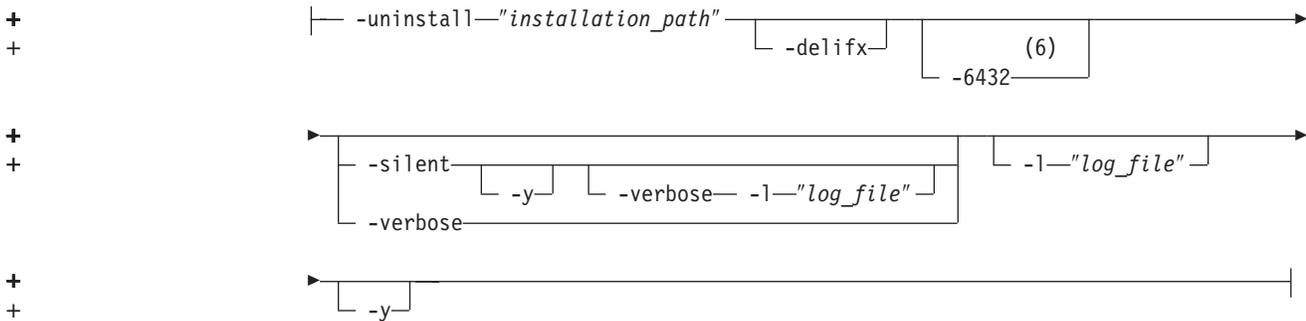
-silent [-y]
-verbose [-l "log_file"]
-sqliport port (2)
-namedpipe
-drdaport port

-servernum server_number

```



Uninstallation Parameters:



Notes:

- 1 -system functions on Windows only
- 2 -namedpipe functions on Windows only
- 3 -relocate can run without -rootpath option if ROOTPATH is set in an ONCONFIG parameter
- 4 -6432 functions on Windows only
- 5 -installdrive functions on Windows only
- 6 -6432 functions on Windows only

Command Options

Table 5-1. ifxdeploy Command Options

Element	Purpose	Key Considerations
-config "conf_file_name"	Specifies deployment configuration file to run with utility.	
-delifx	Removes user informix and the Informix-Admin group.	The -delifx option functions when there is only one IDS installation on the computer.
-drdaport port	Specifies the Distributed Relational Database Architecture (DRDA) service port for use with the IBM Common Clients.	The default is 9089.

Table 5-1. **ifxdeploy** Command Options (continued)

Element	Purpose	Key Considerations
-extractcmd "command"	Extracts the snapshot that you want to deploy or modify.	Specify the command and the file that contains the snapshot files.
-file "file_name"	Extracts the snapshot from the "file_name" file by using 7-Zip software.	Use this option only if the target computer has 7-Zip for Windows or Gzip for UNIX or Linux.
-force	Overwrites the existing instance settings on the target computer.	
-installdrive "drive"	Note: This option is for Windows only. Specifies the drive for the directory containing data spaces (typically, this is the IFMXDATA directory).	The default drive is C:. You must have enough space for the IDS installation and databases.
-l "file_path"	Sends status messages to a text file.	Indicate the full path and file name for the log file that you want to use. If the file does not exist, it will be created for you.
-namedpipe	Note: This option is for Windows only. Sets the default database server network protocol to a named pipe connection.	If you specify both -namedpipe and -sqlport , the deployment utility uses only one of them.
-p password	Specifies the user informix password used to create the IDS service.	Specify the password for user informix on the target computer. If you specify a password and the user informix does not exist on the target computer, the user will be created and will have the specified password.
-relocate path	Specifies new parent directory of chunks in the deployed instance.	You can specify a single new parent directory or map multiple separate chunk paths to different locations. In addition, you can substitute offsets of the old paths with new values if you are indicating multiple new parent directories.
-rootpath "path"	Indicates the location of the root dbspace.	default path:drive:\ifmxdata\server_name\rootdbs_dat.000
-servernum server_number	Specifies the server number of the instance.	The number must be an integer from 0 to 255. The default is 0.

Table 5-1. **ifxdeploy** Command Options (continued)

Element	Purpose	Key Considerations
-silent	Directs the utility to run in silent mode.	When you use this option, messages do not display on the screen but are written in a log file. If you use the -silent option and -verbose option together, you must also include the -l argument.
-sqlport <i>port</i>	Specifies the SQLHOSTS service port for the server instance.	The default port is 9088. If you specify both -namedpipe and -sqlport , the deployment utility uses only one of them.
-system	Note: This option is for Windows only. Creates an IDS service that logs in to the operating system as system user.	
-uninstall <i>installation_path</i>	Removes a snapshot that was originally deployed by the deployment utility.	
-verbose	Runs the command in verbose mode.	
-y	Runs the command without prompting for confirmation.	
-6432	Note: This option is for Windows only. Redirects registry access to 32-bit registry view.	Use this option if you are deploying a 32-bit IDS instance on a 64-bit computer.

Usage

Before you use this command, create a snapshot and copy it to the computer where you want to deploy the snapshot. See “Creating a Snapshot for Deployment” on page 5-4 for more information.

Run this command, with options, on the computer where you want to deploy the snapshot. When you specify a value for a parameter, if the value contains a space, enclose the value in double quotation marks. You must run the command either as an Administrator user or as the **root** user.

If you placed the snapshot in a compressed file, you must extract it. Use the **-extractcmd** option to decompress a snapshot with a customized command or script. Alternatively, if you have 7-zip software for Windows or Gzip for UNIX or Linux installed, you can use the **-file** option to decompress the snapshot.

Use the **-force** parameter to deploy a snapshot to multiple computers and override the database server instance settings on the target computer.

Examples of Deployment Utility Usage on Windows

Deploying a IDS Instance in Silent Mode

In this example, the user **informix** is created on the target server and has the password `mypassw0rd`. The command will run in silent mode, without prompting for confirmation. The snapshot is decompressed from the `my_archive.zip` file by 7-zip software if it is installed on the operating system.

```
ifxdeploy.exe -p mypassw0rd -y -silent -file my_archive.zip
```

Deploying a IDS Instance as Local System User Where You Specify an Extraction Method

In this example, the snapshot is extracted from the `C:\my_archive.tar` file on the target computer:

```
ifxdeploy.exe -system -extractcmd "tar -xf C:\my_archive.tar c:\informix"
```

The extract command is enclosed in double quotation marks because it contains spaces.

Creating a New Server Instance

In this example, the `SQLHOSTS` port number is 9090, the server number for the instance is 2, and a full path is specified for the log file.

```
ifxdeploy.exe -silent -y -sqlport 9090 -servernum 2 -l C:\my_log.txt
```

Creating an Instance as Local System User with DRDA Enabled

In this example, the `SQLHOSTS` port is 9090, the `DRDA` port is 9096, and the command will run in verbose mode. The snapshot used here is not in a compressed file format, so neither the `-file` option nor the `-extractcmd` option is needed.

```
ifxdeploy.exe -system -y -sqlport 9090 -drdaport 9096 -verbose
```

Dynamic Relocation of Chunks to Single Parent Directory

In this example, the chunks are relocated to a single parent directory and indicate location of the root dbspace:

```
ifxdeploy -rootpath D:\IFMX\ex1\rootdbs.001 -relocate D:\IFMX\ex2
```

Chunk Relocation to Multiple Paths

In this example, the location of the root dbspace has been specified with the `ROOTPATH` configuration parameter, so the command does not need to be run with the `-rootpath` option. Each mapping between the old path and the new path is separated by a semicolon.

```
ifxdeploy -relocate C:\IFMXDATA=D:\IFMXDATA;C:\IFMXLOGSPACE=E:\IFMXLOGSPACE
```

Chunk Relocation to Multiple Paths with New Offsets

In this example, the location of the root dbspace has been specified with the `ROOTPATH` configuration parameter, so the command does not need to be run with the `-rootpath` option. The mapping of the old paths and the new paths includes offset values (in kilobytes), which are indicated after the commas.

```
ifxdeploy -relocate C:\IFMXDATA,0=D:\IFMXDATA,4;C:\IFMXDATAB,3=D:\IFMXDATAB,5
```

+ ifxdeploy.conf File: The Deployment Utility Configuration File

+ The **ifxdeploy.conf** file is a text-file template in which you can configure an
+ instance snapshot prior to deploying it with the **ifxdeploy** command.

+ Purpose

+ The **ifxdeploy.conf** file is in **\$INFORMIXDIR/etc/** on Linux and
+ **%INFORMIXDIR%\etc** on Windows.

+ By using the **ifxdeploy.conf** file, you can run the deployment utility with fewer
+ command-line options to configure the instance. You can save and reuse the file to
+ deploy instances to other locations. The file supports the same functionality as the
+ **ifxdeploy** command options, but also additional functionality that is useful for
+ embedding IDS when you are deploying a snapshot in multiple locations that
+ require minimal or no modification in instance setup. See “Rapid IDS
+ Embeddability with the Deployment Utility” on page 5-2 for a description of the
+ major embeddability features of the **ifxdeploy.conf** file.

+ Parameters

+ The **ifxdeploy.conf** file is value pair based. If there is a parameter with a default
+ value that you want to change, provide the value in an uncommented line.

+ **Attention:** The values of parameters that are set on the **ifxdeploy** command line
+ overwrite the values of the same parameters in the **ifxdeploy.conf** file.

+ The following table explains the parameters in the same order that they appear in
+ the configuration template file.

+ *Table 5-2. ifxdeploy.conf File Parameters*

Parameter	Description	Example of Value Setting (Uncommented Line)
INFORMIXSERVER	Primary database server name. Must be set either here or as environment variable before deployment (no default value is provided).	INFORMIXSERVER deploy3
PROTOCOL1	Primary network protocol. This is equivalent to the PROTOCOL field of the SQLHOSTS registry.	PROTOCOL1 olscotcp
PORT1	Number of the primary listening port. No value required for the onipcnp protocol. The range of permissible values is from 1 to 32767.	PORT1 9094
SERVERNUM	The server number. Corresponds to the SERVERNUM configuration parameter. The range of permissible values is from 0 to 255.	SERVERNUM 100

Table 5-2. *ifxdeploy.conf* File Parameters (continued)

Parameter	Description	Example of Value Setting (Uncommented Line)
INFORMIXSQLHOSTS	Pointer to remote computer containing SQLHOSTS registry settings that the deployed instance is to use.	
BEGIN ALIAS . . . END ALIAS	Specifies new database server aliases and related SQLHOSTS connectivity settings for the deployed instance. The optional OPTIONS line sets a SQLHOSTS parameter value. In the example, b=32767 sets buffers.	BEGIN ALIAS SERVERNAME alias1 PROTOCOL drsoctcp PORT 9091 OPTIONS b=32767 END ALIAS
INFORMIXDIR	Path for the deployed instance. Must be set here or as environment variable (no default path is provided).	C:\tmp\informix
ONCONFIG	The onconfigfile name. If none is specified here and no ONCONFIG environment variable is set, a new file is created from onconfig.std .	onconfig.sample
SNAPSHOT	Note: This parameter can only be used if you are deploying an instance from a snapshot compressed as a .tgz file on UNIX or Linux or a .zip file on Windows. Indicates the location of a supported, compressed archive type containing the snapshot. This parameter is equivalent to the -file command-line option.	
RELOCATE	Set chunk paths for the deployed instance. You can indicate a parent directory for all chunk path names or map them individually to separate parent directories. You can also deploy the chunks with specific offset values. Offset values are in kilobytes.	<i>Example 1: Relocate all chunk paths to one directory:</i> C:\example1 <i>Example 2: Select individual chunk paths and specify the directories where the paths are relocated:</i> C:\ex2=C:\ex3; C:\ex4=C:\ex5 <i>Example 3: Change multiple chunk paths and offsets:</i> C:\ex6,10=C:\ex7,100; C:\ex8,20=C:\ex9,200

Table 5-2. *ifxdeploy.conf* File Parameters (continued)

Parameter	Description	Example of Value Setting (Uncommented Line)
INFORMIXPASSWORD	Password for user informix on the target computer. Sets password to what you enter as a value if no user informix exists on the computer.	INFORMIXPASSWORD <i>password</i>
SYSTEM Note: This parameter is for Windows only.	Sets whether the deployed instance will log on to Windows as local system account. The default value is 0 (IDS logs on as user informix).	SYSTEM 1 (this directs instance to log on as local system account but user informix is created) SYSTEM 2 (this deploys instance without creation of user informix)
LOGFILE	Sets the full path name for the log file of the deployment utility's errors and messages.	LOGFILE c:\my_log.txt
LOGLEVEL	Sets amount of information to write to log. Refer to the ifxdeploy.conf file for permissible values.	LOGLEVEL 5
SILENT	Sets whether or not the utility displays console output while it is running.	SILENT 1 (no console output) SILENT 0 (displays console output)
FORCE	Overwrites existing environment variable and onconfig file settings of the target computer.	FORCE 0 (Does not overwrite) FORCE 1 (Overwrites existing settings)
INSTALLDRIVE Note: This parameter is for Windows only.	Specifies the directory in which the deployed instance's dbspaces will be created on Windows.	INSTALLDRIVE C
ROOTPATH	Sets the location of the root dbspace.	default path: <i>drive:\ifmxdata\server_name\rootdbs_dat.000</i>
WIN6432 Note: This parameter is for Windows only.	Set this to 1 if installing 32-bit IBM Informix Dynamic Server on 64-bit Windows.	WIN6432 1
BEGIN ONCONFIG . . . END ONCONFIG	Specify values for any configuration file parameters. Enter each parameter and value exactly as they would be entered in the onconfig file. Can be used to overwrite specific onconfig file parameter values or instead of providing an onconfig file.	BEGIN ONCONFIG LOCKS 10000 END ONCONFIG

ifxdeploy.conf File Template

The following shows the contents of the **ifxdeploy.conf** file.

```
# Licensed Material - Property Of IBM
#
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#
# IBM Informix Dynamic Server
# Copyright IBM Corporation 2009 All rights reserved.
#
# Title:      ifxdeploy.conf
# Description: Configuration file for the IDS Deployment Utility
#
# Uncomment any values that you want to change from the default values.
#
# Note that any parameters set on the command line will override these values.

# Primary server values
#   - These values define the primary server name, protocol, and port.
#   - Use the BEGIN ALIAS section to define additional sever names and
#     protocols (such as DRDA).

# INFORMIXSERVER - Set the primary server name, or set it as an environment
#                  variable or command line parameter.
#INFORMIXSERVER

# PROTOCOL1 - Set the primary protocol (the sqlhosts NETTYPE field) for the
#             primary server.
#             - Values: onsoctcp, onipcnpmp
#PROTOCOL1 onsoctcp

# PORT1 - Set the primary listening port for the primary server (not needed for
#         onipcnpmp).
#         - Range: 1-32767
#PORT1 9088

# SERVERNUM - Set the primary server number (the value for the SERVERNUM
#             configuration parameter).
#             - Range: 0-255
#SERVERNUM

# INFORMIXSQLHOSTS - Set a value for the INFORMIXSQLHOSTS environment
#                   variable. On UNIX this value specifies the sqlhosts file
#                   (default is $INFORMIXDIR/etc/sqlhosts). On Windows, this
#                   value is generally not used but can be used to point to a
#                   remote machine (for example, \\machinename) whose registry
#                   contains SQLHOSTS information.
#INFORMIXSQLHOSTS

# Define additional server names and listeners with the BEGIN/END ALIAS
# statements.
# Each ALIAS results in a new SQLHOSTS entry and a new value for the
# DBSERVERALIASES configuration parameter in the onconfig file.
# For example:
#BEGIN ALIAS
#SERVERNAME alias1
#PROTOCOL drsoctcp
#PORT 9091
#OPTIONS # optional SQLHOSTS parameters (for example, b=32767 to set buffers)
#END ALIAS

# INFORMIXDIR - Set the location of the installation directory.
#              - Alternatively, set the INFORMIXDIR environment variable.
#INFORMIXDIR

# ONCONFIG - Set the onconfig file.
#           - If not specified and the ONCONFIG environment variable is not set,
```

```

+           #           a new onconfig file is created based on the onconfig.std file.
+ #ONCONFIG
+
+ # SNAPSHOT - Set the location of the compressed archive. This parameter is the
+ #           equivalent to the -file command line option. The archive must be a
+ #           .tgz file on UNIX or Linux and a .zip file on Windows. Only set
+ #           this value if you are supplying a compressed snapshot of an IDS
+ #           instance.
+ #SNAPSHOT
+
+ # RELOCATE - Set to the new location of dbspace chunks.
+ #           Use one of these methods or a combination of methods 2 and 3:
+ #           - Method 1: new_path (relocates all chunks to the specified path)
+ #           - Method 2: old_path=new_path (relocates only chunks
+ #                   created in the old path to the new path)
+ #           - Method 3: old_path,old_offset=new_path,new_offset;
+ #                   (relocates chunks and moves offsets)
+ #           You can specify multiple paths with methods 2 and 3 by
+ #           separating old and new path sets with a semicolon (;).
+ #RELOCATE
+
+ # Authentication values
+ # INFORMIXPASSWORD - Set the password for the informix user.
+ #                   - If not set, can be supplied on command line or
+ #                   interactively.
+ #                   - Not required if the SYSTEM parameter is set to 2.
+ #INFORMIXPASSWORD
+
+ # SYSTEM - Windows only - Set the IDS service to log on as the Windows
+ #           Local System user.
+ #           - Values:
+ #           0 - IDS service logs on as the informix user.
+ #           1 - IDS service logs on as the Local System user but creates the
+ #           informix user.
+ #           2 - Do not create the informix user.
+ #SYSTEM 0
+
+ # Logging parameters
+ # LOGFILE - Set the file for Deployment Utility errors and messages.
+ #LOGFILE
+
+ # LOGLEVEL - Set the amount of information to write to the log.
+ #
+ # 1 - FATAL - only print fatal errors.
+ # 3 - WARNING - print warnings and fatal errors.
+ # 5 - INFO - print informational messages, warnings, and fatal errors.
+ # 10 - DEBUG - print debugging information and all other messages.
+ #
+ #LOGLEVEL 5
+
+ # SILENT - Set to 1 to prevent console output so that errors and
+ #           messages only appear in the log file.
+ #           - Range: 0,1
+ #SILENT 1
+
+ # FORCE - Set to 1 to overwrite existing settings
+ #           - Range: 0,1
+ #FORCE 0
+
+ # INSTALLDRIVE - Windows only - Set to the drive where data spaces will be
+ #           created
+ #           - Range: C-Z
+ #INSTALLDRIVE C
+
+ # ROOTPATH - Set to the path for the root dbspace
+ #           - Default is \ifmxdata\${INFORMIXSERVER}\rootdbs_dat.000

```

```

+ #ROOTPATH
+
+ # WIN6432 - Windows only - Set this to 1 if installing a 32-bit version of IDS
+ #           on a 64-bit Windows operating system.
+ #           - Range: 0,1
+ #WIN6432 0
+
+ # Onconfig customization
+ # Use the BEGIN ONCONFIG and END ONCONFIG statements to add or override
+ # configuration parameters values in the onconfig file.
+ # Use instead of providing an onconfig file.
+ # Example:
+ #BEGIN ONCONFIG
+ #LOCKS 10000
+ #END ONCONFIG

```

+ Removing a Snapshot with the Deployment Utility

+ Use the deployment utility to remove a snapshot that was originally deployed by
+ the deployment utility. In addition, you can use this utility to remove user
+ **informix** and the **Informix-Admin** group from the operating system.

+ You must have Windows administrator privileges to remove the snapshot or
+ remove the user and group objects.

+ You must have the `IDSFILES.txt` file in the `etc` subdirectory of the installation
+ path.

+ To remove a snapshot:

+ Run the **ifxdeploy** command with the uninstallation options on the computer
+ where the snapshot is deployed. See “ifxdeploy Command: The Deployment
+ Utility” on page 5-5 for details about the command syntax.

+ The following command is an example of how to use the deployment utility to
+ remove a snapshot and to display runtime status messages:

```
+ ifxdeploy.exe -u C:\tmp\informix -verbose
```

+ The following is an example of how to uninstall a snapshot and to remove user
+ **informix** and the administrative group:

```
+ ifxdeploy.exe -u C:\tmp\informix -verbose -delifx
```

+

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.

You can view the publications for IBM Informix 4GL 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.

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 following the % symbol is the name of a syntax fragment rather than a literal. For example, the line 2.1 %OP1 means that you should refer 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 could write HOST STATE, but you could not 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 only 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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