IBM Informix

Version 11.50

**IBM Informix Dynamic Server Installation Guide
for UNIX, Linux, and Mac OS X**

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Version 11.50

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Contents

Introduction

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

About This Publication

This publication explains how to install IBM Informix Dynamic Server (IDS) Enterprise Edition and Workgroup Edition on UNIX®, Linux®, and Mac OS X operating systems.

The following IBM Informix products can be installed with Dynamic Server:
- IBM Informix BladeManager
- IBM Informix JDBC Driver (JDBC)
- IBM Informix Client Software Development Kit (Client SDK) *or* IBM Informix Connect (Informix Connect)

The bundled version of the Mac OS X installation program provides the option to install Dynamic Server with either Client SDK or Informix Connect only. However, IBM Informix DataBlade® Developers Kit and BladeManager are available on the bundled version of the installation media for Mac OS X, and they can be installed separately.

When the installation media contains Dynamic Server bundled with client programs, the Windows® clients are on a different disk from the one with UNIX, Linux, and Mac OS X clients.

IBM Informix Server Administrator (ISA) is not included with the Dynamic Server installation media. 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.

ISA is available for download at http://www.ibm.com/software/data/informix/downloads.html. ISA is not available for instances on Mac OS X.

The OpenAdmin Tool is available for download at https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?lang=en_US&source=swg-informixfpd.

For a description of clients and other products that function with Dynamic Server, see the *IBM Informix Dynamic Server Getting Started Guide*.

This publication is written for database administrators (DBAs) who install IBM Informix products. This publication assumes that you are familiar with the operating procedures of your computer and with your operating system.

What's New in Dynamic Server Installation, Version 11.50

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

Table 1. What's New in IBM Informix Dynamic Server Installation Guide for UNIX, Linux, and Mac OS X for version 11.50.xC3

Overview	Reference
Unattended (Silent) Installation Option on Mac OS X You can install Dynamic Server, IBM Informix Client Software Development Kit (Client SDK), and Informix Connect on Mac OS X without any user interaction after you launch the "silent" installation application. Previously, silent installation was available only on other operating systems that support Dynamic Server.	See "Performing an Unattended IBM Informix Installation (Mac OS X)" on page 3-3.

Table 2. What's New in IBM Informix Dynamic Server Installation Guide for UNIX, Linux, and Mac OS X for version 11.50.xC2

Overview	Reference
Enhanced Dynamic Server Installation Application on Mac OS X The Dynamic Server installation application can automatically tune the kernel settings to values that support a working instance of the database server on your computer. In addition, after setup of a demonstration database server is complete, a terminal icon appears inside the installation directory for easier navigation.	See "Installing Dynamic Server Quickly with Defaults (Mac OS X)" on page 3-1 or "Installing Dynamic Server with Selected Features (Mac OS X)" on page 3-2, depending on the installation setup you choose.

Table 3. What's New in IBM Informix Dynamic Server Installation Guide for UNIX, Linux, and Mac OS X for version 11.50.xC1

Overview	Reference
Enhanced Configuration Options during Installation You can use the new Instance Configuration Wizard to automatically create the database server configuration file (ONCONFIG) when you install with GUI or console mode. To access the wizard, select to create a demonstration database server and then choose to customize the default configuration file. 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.	See "Instance Configuration Wizard" on page 1-13
DRDA® Protocol Configuration during Installation It's easier now than in past releases to set up an instance to use a variety of database clients. When you install Dynamic Server Version 11.50 the installer enables you to configure a database server alias and a port for clients that use the Distributed Relational Database Architecture™ (DRDA) protocol. DRDA is for open development of applications that allow access of distributed data. DRDA is interoperable with IBM Data Server clients. If you do not select the DRDA support option, you can still set up the instance to function with the DRDA protocol after installation.	Read the documentation that is applicable to your installation setup and operating system: • "Installing Dynamic Server Quickly with Defaults (UNIX and Linux)" on page 2-1 • "Installing Dynamic Server with Selected Features (UNIX and Linux)" on page 2-2 • "Installing Dynamic Server Quickly with Defaults (Mac OS X)" on page 3-1 • "Installing Dynamic Server with Selected Features (Mac OS X)" on page 3-2
Installation on Mac OS X You can install Dynamic Server and other IBM Informix products on a computer running the Mac OS X operating system. The GUI installation program ensures that the prerequisite **informix** user and group accounts are established before copying product files to your computer.	See Chapter 3, "Installing IBM Informix on Mac OS X," on page 3-1

IBM Informix Dynamic Server Editions

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

Some of the functionality described in IBM Informix documentation might not be available for Workgroup Edition. For details on the differences between editions, see the following Web site: http://www.ibm.com/software/data/informix/ids/ids-ed-choice/

The license agreement has the specific restrictions for each edition. To view a license for a particular edition, search for "IBM Informix Dynamic Server" on the following Web site: http://www.ibm.com/software/sla/sladb.nsf

Documentation Conventions

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

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

Typographical Conventions

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

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

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 ≫ and ≪ 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 the Windows operating system

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

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

Table Sorting (Windows)

Example Code Conventions

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

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

```
CONNECT TO stores_demo
...

DELETE FROM customer
   WHERE customer_num = 121
...

COMMIT WORK
DISCONNECT CURRENT
```

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

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

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

Additional Documentation

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

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

Compliance with Industry Standards

The American National Standards Institute (ANSI) and the International Organization of Standardization (ISO) have jointly established a set of industry standards for the Structured Query Language (SQL). IBM Informix SQL-based products are fully compliant with SQL-92 Entry Level (published as ANSI X3.135-1992), which is identical to ISO 9075:1992. In addition, many features of IBM Informix database servers comply with the SQL-92 Intermediate and Full Level and X/Open SQL Common Applications Environment (CAE) standards.

Syntax Diagrams

This guide uses syntax diagrams built with the following components to describe the syntax for statements and all commands other than system-level commands.

Table 4. Syntax Diagram Components
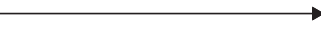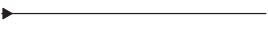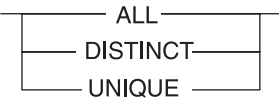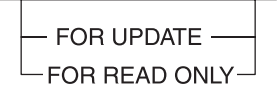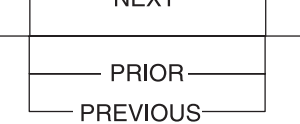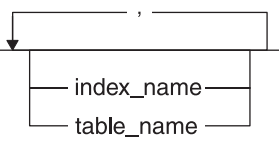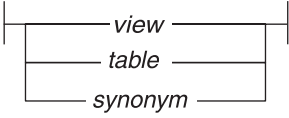
Component represented in PDF	Component represented in HTML	Meaning
►►———————	`>>---------------------`	Statement begins.
——————————►	`---------------------->`	Statement continues on next line.
►———————	`>---------------------`	Statement continues from previous line.
——————►◄	`----------------------><`	Statement ends.
———SELECT———	`--------SELECT----------`	Required item.
┌—————┐ ——LOCAL———	`--+----------------+---` `  '------LOCAL------'`	Optional item.

┌——ALL——┐
├—DISTINCT—┤
└—UNIQUE—┘
	`---+-----ALL-------+---`
	`   +--DISTINCT-----+`
	`   '---UNIQUE------'`
		Required item with choice. One and only one item must be present.

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

┌——NEXT——┐
├——PRIOR——┤
└—PREVIOUS—┘
	`   .---NEXT---------.`
	`----+---------------+---`
	`   +---PRIOR--------+`
	`   '---PREVIOUS-----'`
		The values below the main line are optional, one of which you might specify. If you do not specify an item, the value above the line will be used as the default.

▼ ┌—— , ——┐
├—index_name—┤
└—table_name—┘
	`   .-------,----------.`
	`   V                 |`
	`---+----------------+---`
	`   +---index_name---+`
	`   '---table_name---'`
		Optional items. Several items are allowed; a comma must precede each repetition.

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

Table 4. Syntax Diagram Components (continued)

Component represented in PDF	Component represented in HTML	Meaning

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

How to Read a Command-Line Syntax Diagram

The following command-line syntax diagram uses some of the elements listed in the table in Syntax Diagrams.

Creating a No-Conversion Job

```
►►──onpladm create job──job──────────────────────-n──-d──device──-D──database──────────►
                            └─-p──project─┘


►──-t──table────────────────────────────────────────────────────────────────────────►


         ┌────────────────────────────────────────────────┐
►────────┴──────────────────────────────────────┬─────────┴──────────────────────►◄
            └─-S──server─┘ └─-T──target─┘  │ Setting the Run Mode ├──(1)
```
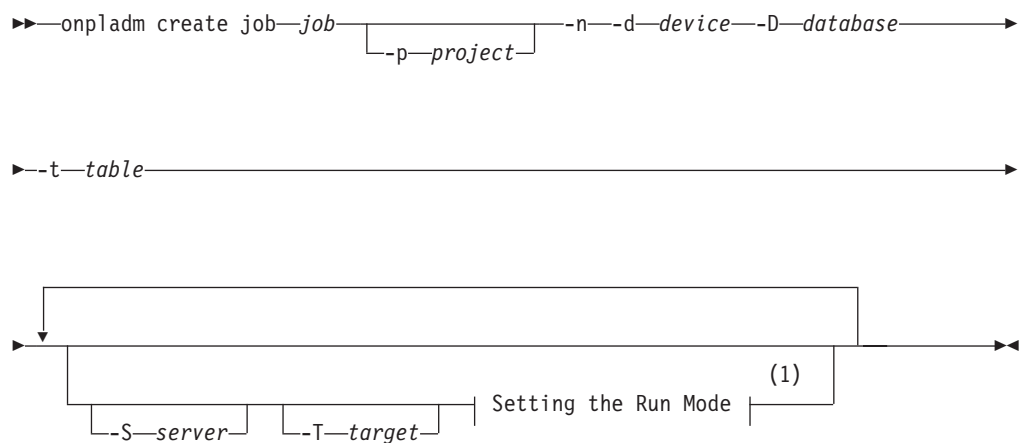
Notes:

1   See page Z-1

The second line in 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:

```
                  ┌─l─┐
                  │  └─c─┘ │
├──-f──┬────┬─────┴────────┴──┬───┬──┬───┬──────────────────────────────────┤
       ├─d─┤              └─u─┘  └─n─┘  └─N─┘
       ├─p─┤
       └─a─┘
```
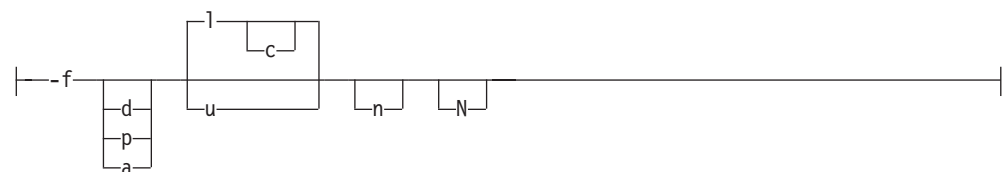
To see how to construct a command correctly, start at the top left of the main diagram. Follow the diagram to the right, including the elements that you want. The elements in this diagram are case sensitive because they illustrate utility syntax. Other types of syntax, such as SQL, are not case sensitive.

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 by using one of the following methods:

- Send e-mail to docinf@us.ibm.com.

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

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

We appreciate your suggestions.

Chapter 1. Preparing to Install Dynamic Server

You must prepare your system before you start the installation process and ensure that you have sufficient authority to perform the installation.

You should obtain root privileges before performing many of the installation-related tasks.

Preparation for installation encompasses some of the following tasks. Exactly which tasks you need to complete depends on your operating system, host computer environment, and your installation preferences.

- "Preparing the Operating System for Installation"
- "Upgrading Existing Dynamic Server Installations"
- "Determining System Requirements" on page 1-3
- "Loading Product Files (UNIX and Linux)" on page 1-3
- "Extracting Product Files (Mac OS X)" on page 1-3
- "Creating the Group informix and User informix" on page 1-6
- "Choosing Installation Options" on page 1-7

Preparing the Operating System for Installation

Before you install Dynamic Server, you must apply all patches and install the shared library files that are described in the Machine Notes for your specific operating system.

To prepare the operating system on your system:

1. Read the Machine Notes, which are in file **ids_machine_notes_11.50.txt** on the installation media. The Machine Notes also contain recommendations for tuning the operating system to support Dynamic Server instances, as well as any specific limitations to your operating system.

   You can also access the Machine Notes from the following Web sites:

   a. The IBM Informix Information Center at http://publib.boulder.ibm.com/infocenter/idshelp/v115/index.jsp

   b. The IBM Informix Library at http://www.ibm.com/software/data/informix/pubs/library/

2. Apply the operating system patches as documented.

3. If you do not have all the required library files for your platform, install them on your system. IBM Informix documentation refers to the installation directory as **$INFORMIXDIR**. If **$INFORMIXDIR** is set in the environment, this will be the default install location.

After installation, the Machine Notes, as well as the Dynamic Server Documentation Notes and Release Notes, are in the **$INFORMIXDIR/release** subdirectory.

Upgrading Existing Dynamic Server Installations

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

See the *IBM Informix Migration Guide* for detailed prerequisites and instructions about how to upgrade.

- If you are upgrading from one version of Dynamic Server to another on the same UNIX or Linux system, you can keep the same **informix** group identifier and **informix** user account. If the group identifier exists locally but user **informix** does not, you must create this user definition manually before running the installation application.
- On Mac OS X, you do not need to create user or group **informix** manually for a regular upgrade or installation.
- If you plan to install where a previous version of Dynamic Server is already located, before you upgrade you must back up the database server that you are using, as well as its configuration files.

Choose one of the supported upgrade paths.

- The preferred approach is to install Dynamic Server in a new directory. If you choose a custom installation with this upgrade path, select the Conversion and Reversion Support feature in the Database Server Extensions component so that you can migrate your old database server to the new installation.
- Remove the Dynamic Server binaries from your previous installation but retain other parts of the installation and then install the new version in the same directory. The general process is the following:

  1. Remove the Dynamic Server binaries (**$INFORMIXDIR/bin**, **$INFORMIXDIR/gls**, **$INFORMIXDIR/msg**, **$INFORMIXDIR/extend**, and so on) from your old Dynamic Server instance.
  2. Retain the **onconfig** file, **sqlhosts**, and root chunks.
  3. Install new Dynamic Server version in **$INFORMIXDIR**.

  If you choose a custom installation with this upgrade path, select the Conversion and Reversion Support feature in the Database Server Extensions component.

- If you need to install Dynamic Server, version 11.50 over an existing Dynamic Server installation, you risk conflicts among directories and IBM Informix-related services on your system. If you use this installation method, you must install version 11.50 with all features (typical installation mode). After you install Dynamic Server, you can remove one or more features to minimize the size of the installation.

If you used any of the following methods in past releases to redistribute Dynamic Server or to selectively remove any of its features, it is recommended that you use the Deployment Wizard to do those tasks with this release. If you want to use the deprecated methods, refer to the documentation that came with the earlier release of the product for information about using those methods.

Table 1-1. Deprecated Installation Methods

Installation Method	Products Installed	Reasons to Use	Prerequisites
Extract with command-line script	Use to install database server, Client SDK, or Informix Connect individually	You use the extraction with command-line installation alternative when you want to install the product to redistribute it or when you want to save space or time on subsequent installations.	

Table 1-1. Deprecated Installation Methods (continued)

Installation Method	Products Installed	Reasons to Use	Prerequisites
Invoke a jar file directly	Use to install all components of Dynamic Server, database server only, Client SDK, Informix Connect, or Informix JDBC Driver with product-specific command	Provides a faster installation method than extraction from the command-line script (you can exclude binaries for Dynamic Server features that you do not want to install) and supports custom installation	To use this installation option, you must have the required Java™ Runtime Environment (JRE) version at release 1.4.2 or higher

Loading Product Files (UNIX and Linux)

Before you install, you must load the product files.

The directory where the media files reside, referred to as *media_location* in this documentation, can be on a disk device, such as a CD, or on a file server where the downloaded source file is decompressed.

To load the product files on UNIX and Linux operating systems:

1. Access the installer directly from a CD.
2. To access the installer from a file server, enter the appropriate tar or other command. For example:

   `tar xvf filename`

   In this command, *filename* is the path name of the tar file that contains the product files.

Extracting Product Files (Mac OS X)

If you obtained Mac OS X installation media by downloading the files, extract the product from the compressed .dmg file before you run the install application.

The install application runs when you open the **iif** file. If you have received the media on a disk, then you do not need to extract product files to access the file. However, media downloaded from the Internet is compressed and needs to be extracted.

To extract the product files on Mac OS X:

Open the self-extracting .dmg file to access the installer file.

Determining System Requirements

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

Read the following topics and make sure that your system meets all requirements:
- "Disk Space Requirements for IBM Informix" on page 1-4
- "Extracting JRE from the Installation Media Manually" on page 1-5
- "Choosing an Installation Directory: $INFORMIXDIR" on page 1-8
- "Choosing Installation Options" on page 1-7

Disk Space Requirements for IBM Informix

A typical installation of Dynamic Server without other products requires a minimum of approximately 430 MB.

The disk space required for a IBM Informix Client Software Development Kit (Client SDK) or Informix Connect (IConnect) installation can vary between 105 and 180 MB depending on your system and IBM Informix setup.

In addition to the Dynamic Server product space requirements listed above, ensure that you have 75 MB free space available in your temporary directory (**/tmp** by default) before UNIX or Linux installation if you are using the Java Runtime Environment (JRE) that is bundled with the installation application. The JRE is extracted from the installation media if your system does not have it, and it is removed after installing products and features.

Computers with the Mac OS X operating system host the required JRE version. Therefore, a Mac installation on this platform does not use the JRE bundled with the installation application.

If you are using a JRE already present on the host server, you need less than 1 MB for Java.

Java Runtime Environment on the Installation Media

Remember to keep the IBM Informix installation media after you install a product because it contains the JRE version for uninstallation and for modifying current installations.

Important: Keep the installation media that you are using so that you can extract the Java Runtime Environment (JRE) from the media if necessary. However, this does not apply to Mac OS X installations because the operating system has the required JRE.

Installation and uninstallation, including changing Dynamic Server features on a current instance, require certain types of Java Runtime Environment (JRE) at version 1.4.2 or higher. The installation media has the required JRE version, and it will automatically be used for most operations in which you install or uninstall IBM Informix products and components.

When you launch the installation application with the media, it searches your system to determine if the required JRE version 1.4.2 or later is on your system.

- If you have the required JRE on your system already, the installation application uses that JRE instance.
- If the application does not detect the required JRE version on your system, it automatically extracts the correct JRE version from the **.jvm.bin** file and loads it to the temporary directory (**/tmp** by default). The installation application automatically removes the JRE files from the temporary directory. Note that JRE remains on the installation media. Any time that an IBM Informix application automatically copies JRE files to your system to install or reinstall products or features, the JRE files are automatically deleted from the temporary directory after the operation is complete.

Uninstalling IBM Informix Products and Removing Features

Uninstalling one of the products or removing features requires you to have the JRE on your system before you launch the uninstall application. The task of obtaining the JRE is documented in "Extracting JRE from the Installation Media Manually." If you know that you have a valid version of the JRE on your system, you do not need to manually extract the JRE. In any case, your system needs to be set up so that the uninstallation is pointed to the JRE that works for removing any IBM Informix products or features.

Before you can use the uninstallserver command for removing Dynamic Server or its features, do *one* of the following tasks

- Modify the PATH environment variable. Set the PATH variable using either of the following commands:

  Bourne shell:

  `PATH=`*`your_JRE_path`*`/bin:$PATH; export PATH`

  C shell:

  `setenv PATH `*`your_JRE_path`*`/bin:$PATH`

- Use the **-javahome** parameter:

  `./uninstallserver -javahome `*`your_JRE_path`*

If you choose to use uninstall.jar to remove Dynamic Server or specific features, your PATH environment variable must contain the location of the valid JRE.

You will also need a correct version of JRE 1.4.2 or later to uninstall Client SDK, Informix Connect, or Informix JDBC Driver.

See "Removing IBM Informix Products and Features (UNIX and Linux)" on page 6-2 for more information about removing Dynamic Server or its features.

Extracting JRE from the Installation Media Manually

Extract Java Runtime Environment (JRE) from the installation media to a working directory before performing uninstallation operations on the UNIX or Linux operating system if necessary.

See "Java Runtime Environment on the Installation Media" on page 1-4 and "Removing IBM Informix Products and Features (UNIX and Linux)" on page 6-2 to determine if you need to complete this task. Do not extract the JRE from the installation media if you are working on the Mac OS X operating system.

The JRE is included in the root directory of the installation media. The JRE filename is **.jvm.bin** and it is platform specific. The directory where you extract JRE must have at least 75 MB of free disk space.

To install JRE from the installation media:

1. Run the .jvm.bin command from the location where you want to extract the JRE and point to the location of the **.jvm.bin** file on the installation media:
   - For example, if you want to install the JRE in **/home/pd/temp/** and the **.jvm.bin** file is in a CD-ROM directory named **Java**, you would run the following command:
   - `/home/pd/temp% /CDROM/Java/.jvm.bin`
2. Set the switch to the directory where you are extracting the JRE by passing the **-javahome** argument when you launch the uninstallation application.
   - For example, if you extracted the JRE to **/home/pd/temp/**, you would launch the uninstallation application as follows:

Creating the Group informix and User informix

Typically the installation application creates these required objects, but in a few situations you need to create them before installing. The Mac OS X installation application automatically creates group and user informix in all circumstances, so this task does not apply to Mac computers.

You need to create the objects before you run the installation application in the following situations:

- You want to specify a particular identifier (ID) number.
- The group **informix** exists on the system; however, the user **informix** does not. In this case, you need to create the user only.

To create the group informix and user informix:

1. Create the group **informix** by using the groupadd utility followed by the name of the group, in this format:

    `groupadd n informix`

    On AIX®, use mkgroup command instead of groupadd.

    where *n* is an unused identifier (ID) greater than 100.

2. Create the user **informix** by using the useradd utility followed by the group (**informix**) and user name (**informix**) in this format:

    `useradd -u n -g informix informix`

    Important: Only add users to the group **informix** if the users need administrative access to the database server.

3. Create a password for user **informix** by running the passwd utility.

Group informix

Group **informix** must exist on the system for the user accounts required to install and administer Dynamic Server.

The **informix** group definition establishes the set of user accounts to which you want to grant administrative access to the database server. User **informix** must be part of this group.

The Mac OS X install application automatically creates user and group **informix** if they do not already exist on your computer.

If you are installing Dynamic Server for the first time on a UNIX or Linux system, you can create group **informix** manually before you run the installation application. Alternatively, when you run the install application for Dynamic Server bundled with other IBM Informix products, the application can create it automatically.

User informix

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

User **informix** is required because it has the unique user identifier (UID) to manage and maintain Dynamic Server instances and databases on the system. The

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

If you are installing Dynamic Server for the first time on your system, you can create user **informix** manually before you run the installation application. Alternatively, when you run the install application for Dynamic Server bundled with other IBM Informix products on UNIX or Linux, the application can create it automatically in most situations. The situation when this install application cannot create user **informix** is when *group* **informix** already exists on your system.

The Dynamic Server installation program for the Mac OS X operating system always creates group and user **informix** if they do not already exist on the host computer.

Choosing Installation Options

You can choose from several installation options to install Dynamic Server, its features, and related products.

When you install Dynamic Server or related products, you can use various installation options to install the products to suit your installation environment and goals:

- "Installation Methods"
- "Typical and Custom Installation Options" on page 1-8
- "Choosing an Installation Directory: $INFORMIXDIR" on page 1-8
- "Deployment Wizard" on page 1-9
- "Installable Features of Dynamic Server" on page 1-9
- "Demonstration Database Server" on page 1-12
- "Instance Configuration Wizard" on page 1-13
- "Role Separation" on page 1-14
- "Response File (UNIX and Linux)" on page 1-14 (not available on Mac OS X)
- "Manifest File and Installed Files List" on page 1-15

Installation Methods

On UNIX and Linux you can use a launchpad to install Dynamic Server bundled with related products or product-specific commands to install individual products separately.

The following installation methods are available on UNIX and Linux:

Launchpad

> The ids_install command launches a user interface that you can use to install Dynamic Server and one or more products that are bundled with it. You can select which products you want to install, and the appropriate installation applications are launched sequentially. If you prefer, you can run an installation command in silent mode. You can use a default configuration file for silent installation that is included with the installation media. The launchpad also provides quick links to the release notes, the *Dynamic Server Installation Guide*, and the IBM Informix Information Center.

Installation Applications

> The installserver, installconn, and installclientsdk commands start installation applications that you can use to install and configure individual products. You can run these commands in silent mode. You can

use a default configuration file for silent installation that is included with the installation media. If you prefer, you can record your installation configuration in a new response file. That response file can be used with the same installation application at a later time for silent installations.

The launchpad and the installation applications for UNIX and Linux start in console mode unless you specify that you want them to start in GUI mode.

Typical and Custom Installation Options

Typical setup uses existing defaults, while custom setup lets you exclude product features to minimize the installation footprint (disk size).

Using the installation application, you can choose a typical or custom setup for installing Dynamic Server and related products to your system.

Typical Installation
A typical installation requires the most disk space and memory. It is the recommended installation for most database servers. The typical setup installs Dynamic Server (the base server) and all associated feature sets (components). Some IBM Informix products refer to this type of installation as a *complete* installation.

Custom Installation
A custom installation gives you the flexibility to select what is installed on your system. A custom Dynamic Server installation lets you choose which features you want to install. Some features are mutually dependent, and must be installed with one another. The installation application enforces these dependencies. The deployment wizard relies on the custom setup to configure an installation that contains only what your application or deployment requires.

After installation, you can install additional features, reinstall features, or remove installed features without changing anything else in the base server. Which setup type you choose depends on your system architecture, your technical expertise, and the needs of your implementation.

Choosing an Installation Directory: $INFORMIXDIR

The directory for the Dynamic Server installation, referred to as **$INFORMIXDIR**, can be created before or during execution of the install application.

The Dynamic Server install application and the documentation refer to the installation directory as **$INFORMIXDIR**.

You can accept the default **$INFORMIXDIR** path provided when you run the installation application.

Alternatively, you can choose a different directory from the default. If you have a particular directory to which you want to install, prepare this directory following these guidelines:
* The directory must be local or an NFS-mounted file system using regular operating-system files.
* The directory should be empty before you install IDS there.
* To preserve product files of earlier versions, create separate directories for each version of your IBM Informix products.

- The **$INFORMIXDIR** path, including path separators, cannot contain spaces and should not exceed 200 characters.

Deployment Wizard

The deployment wizard is a part of the custom install application that allows you to include or exclude Dynamic Server features and functions.

Some customers use Dynamic Server to embed a database within their applications. Many customers work with only a part of the capabilities available to them in Dynamic Server. For example, one customer might never need to use the extra locales that are part of the Global Language Support (GLS) feature. A different customer might need to use GLS, but would use some but not all of the Performance Monitoring Utilities.

Dynamic Server consists of discrete, installable features. You can select to install only the database server features that your application and deployment require. Some features are mutually dependent, and must coexist in the instance. The wizard enforces these dependencies. The wizard automatically includes dependent features or informs you when a combination of selections is not supported. This flexibility benefits those who want to minimize the footprint on their systems, as well as those who want to embed Dynamic Server in another system or application.

To use the deployment wizard, you must select the custom setup in the install application. You can easily modify your installation by adding or removing features after Dynamic Server is installed without having to install the base server again. Adding or removing features after you have installed Dynamic Server does not affect the integrity of your system. The installer maintains a manifest file, which logs information about what features are currently installed.

All Dynamic Server features must run on the same version as the core database server.

Installable Features of Dynamic Server

You can install the following types of features with the base server: Dynamic 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 a Dynamic Server installation is approximately 100 MB.

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

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

BladeManager is part of the base server, as of version 11.10 of Dynamic Server. In addition, the IBM Global Security Kit (GSKit) is included as a component of the

Dynamic Server installation on all supported operating systems, except for Mac OS X.

Features

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

Database Server Extensions
Database administration tools and programming extensions

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

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

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

> **XML Publishing**
> Set of functions to publish SQL queries as XML

Global Language Support
The feature files to support languages, cultural conventions, and code sets. These files are not required if your default locale uses American English, which is the default language in Dynamic Server when no GLS feature is installed.

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

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

> **Chinese**
> Traditional Chinese and simplified Chinese locales

> **Japanese**
> Japanese locales

> **Korean**
> Korean locales

> **Other** Thai locales

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

> **ON-Bar Utilities**
> onbar is an editable shell script that starts the onbar-driver. Use the onbar script, as well as its related commands, 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 utilities

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 theonload 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 Dynamic Server database servers

Administrative Utilities
Additional administrative utility feature sets

Performance Monitoring Utilities
This feature has two utilities. Use the ON-Monitor utility to monitor the disk spaces and data of the database server. Use the onperf utility as a graphical monitoring tool to track most of the metrics that the onstat utility provides but with more options for viewing and saving data.

Miscellaneous Monitoring Utilities
For displaying the logical log by using the onlogutility, managing the database server with SNMP by using the onsnmp utility, or remotely starting the IDS server using the OpenAdmin Tool

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

You can create a demonstration database server to learn more about Dynamic Server and start using it quickly. Also, select to create the demonstration database server if you want to use the Instance Configuration Wizard.

Options in the Install Application

The install application asks if you want to create a demonstration database server instance.

- **Yes**: Choosing this option lets you do one of the following:

  Provide your own configuration file to create a demonstration database server

  Accept the default configuration file that is in the installation media to create a demonstration database server

  Customize the default configuration file to suit your usage needs and environment by invoking the Instance Configuration Wizard (this alternative is available only in GUI and console installation modes; see "Instance Configuration Wizard" on page 1-13 for more information about this option)

  After installation, the database server is initialized automatically.

- **No**: If you choose this option, then you need to configure and initialize the database server manually after installation is complete.

ONCONFIG File

The installed database server requires the presence of a configuration file (ONCONFIG file) in order for you to begin using Dynamic Server. In addition, the **ONCONFIG** environment variable must be set. Creating the demonstration database server or customizing the default demonstration ONCONFIG file and related settings when you run the install application can expedite establishment of a working configuration file.

Setup of the Dynamic Server Demonstration Database

The following information about the demonstration database server can help you decide whether to use the default configuration file:

- The demonstration database server should have on your system a server number between 0 and 255 that is not shared with another instance. If all the valid server numbers are used by other instances and you want to install the demonstration server, it is recommended that you make one of the server numbers available only for the Dynamic Server demonstration instance before launching the installation.
- The installation application automatically searches for and assigns a unique, unused server number for your demonstration database server. You can also specify a server number between 0 and 255. If you enter a server number that is used by another instance, the installation application does not accept it at first and does the following:

  1. The installation application searches for an unused server number between 0 and 255.

2. If the application finds a valid, unused server number, then it assigns the demonstration server to this number. The application displays a message on the screen informing you of the number that is used.

3. If your system does not have an unused server number, then the number that you entered will be used and a warning message appears.

Any messages generated by the installation's assignment of a server number for the demonstration server are also recorded in **$INFORMIXDIR/tmp/log.txt**.

• If you select the shipped ONCONFIG file, the database name will be `demo_on` by default and the **ONCONFIG** environment variable is set to the sample ONCONFIG file located at **$INFORMIXDIR/etc/onconfig.***demo_server_name*.

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

• The message log regarding installation of the demonstration database server is located in **$INFORMIXDIR/tmp/log.txt**.

• The install application creates additional configuration and log files to support the database server in **$INFORMIXDIR/demo/server.**. For information about the configuration settings for the database server, see the **$INFORMIXDIR/demo/server/profile_settings** file.

• **INFORMIXSQLHOSTS** will default correctly to **$INFORMIXDIR/etc/sqlhosts**. If you change the name or location of this file, then you must set the **INFORMIXSQLHOSTS** variable to reflect the new name and path.

Instance Configuration Wizard

The Instance Configuration Wizard is an installation option that automatically creates a database server configuration file (ONCONFIG) suitable for your system environment.

You can use the Instance Configuration Wizard in GUI and console installation modes after you have selected to create a demonstration database server. The wizard is a utility that ensures 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.

The following configuration settings and system information determine how this utility sets up the database server:

• server name
• server number
• rootpath: the physical file in which databases are stored
• 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 decision support clients (applications used for returning result sets; typically require more overhead than clients used for transaction processing)

The **-record** command-line option cannot be used to generate a response file for installations created with this automated configuration utility.

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.

Role Separation

Role separation provides checks and balances to improve the security of your event-auditing procedures.

Event auditing tracks selected activities that users perform. With role separation enabled, members of certain group identifiers (group IDs) on your system manage and examine these records to ensure additional security.

Two roles must be associated with group IDs to enable role separation:

Database System Security Officer (DBSSO)
> Controls what the auditing subsystem monitors and which actions database users can perform

Auditing Analysis Officer (AAO)
> Controls whether auditing occurs, maintains the audit log files, and analyzes the audit records of those database activities that the DBSSO mandates to be audited

Important: If you enable role separation, you cannot turn it off after Dynamic Server is installed. To remove role separation, you must uninstall the database server and reinstall it without role separation.

The installation application asks you whether to set up role separation or not. The group **informix** is the default group associated with the two roles. If you want to specify group IDs rather than accept the default ones, verify that the groups that you plan to specify in the role-separation panel exist on your system before you launch the installation application.

Outside of the installation application, establish an audit-only user account for each individual who acts as a DBSSO or AAO. For example, a person with DBSSO responsibilities could have the user **DBSSO1** account, and also have the user **garcia5** account for general database server access.

Response File (UNIX and Linux)

A response file facilitates installation of IBM Informix products in silent mode.

The response file contains installation settings for a product and its features.

For an unattended installation on a UNIX or Linux operating system, you will need to use one of the following response file types that suits your installation goals:

Default response files
> Use one of the **.ini** files that are on the installation media to install with default values. Use the **server.ini** file to install only Dynamic Server and its features, or the **bundle.ini** file to install Dynamic Server and other IBM Informix products bundled with it.

Self-customized response files
> Copy either the **server.ini** or **bundle.ini** file to your system, rename the file, and use it as a template for customizing your installation settings. Do not modify the original **server.ini** and **bundle.ini** files.

> **Note:** If you edit values in **server.ini** or **bundle.ini** and then install by invoking one of these two file names, the installation still contains the default values shipped out with the media. The installation application does not recognize any changes made locally to **server.ini** or **bundle.ini** if you use either file name in the silent installation command.

Response files generated by a product installation program
> If you want to use the same installation settings in more than one directory or computer, first install a product in GUI- or console-mode to capture the installation settings in a response file. Specify the **-record** option. (When used with the ids_install command, the **-record** option will record a typical or complete installation of all products. You cannot use the **-record** option for a custom setup with the ids_install command.) *Do not* name your response file **server.ini** or **bundle.ini**. Use your **.ini** file to perform a silent installation elsewhere.

Note: Using the **-record** option when you launch the install application disables the Instance Configuration Wizard functionality of a typical installation in GUI or console mode.

For detailed information about silent installation, see "Performing an Unattended Dynamic Server Installation" on page 2-6 and "Installation Commands: Silent Mode" on page 2-6.

Response File (Mac OS X)

A response file facilitates installation of IBM Informix products in silent mode.

The response file contains installation settings for a product and its features.

For an unattended installation on Mac OS X, the response file is **bundle.ini**. You will need to copy the **bundle.ini** file from the installation media to your home directory, and then modify the installation settings for your needs. For information on how use the response file, see "Performing an Unattended IBM Informix Installation (Mac OS X)" on page 3-3.

You can use the **bundle.ini** file on Mac OS X to install:
- Dynamic Server with either Client SDK or Informix Connect
- Dynamic Server alone
- either Client SDK or Informix Connect alone

Manifest File and Installed Files List

Two dynamic system files record installation information.

Manifest file
> **$INFORMIXDIR/etc/manifest.inf**

Installed files list
> **$INFORMIXDIR/etc/IIFfiles.installed** on platforms using J/Foundation and **$INFORMIXDIR/etc/IDS2000files.installed** on platforms not using J/Foundation

Important: Do not modify the content of these files. These "log files" can help you quickly see what features are currently installed, as well as a history of such activity.

Chapter 2. Installing Dynamic Server on UNIX and Linux

Console, GUI, and silent modes of installation are available for key IBM Informix products.

Ensure that you prepare your system before you install any programs, as described in Chapter 1, "Preparing to Install Dynamic Server," on page 1-1

Install Dynamic Server and any related products that you need by using any of the following information:
- "Installing Dynamic Server Quickly with Defaults (UNIX and Linux)"
- "Installing Dynamic Server with Selected Features (UNIX and Linux)" on page 2-2
- "Installation Commands for Dynamic Server and Related Products" on page 2-3
- "Performing an Unattended Dynamic Server Installation" on page 2-6
- "Installation Commands: Silent Mode" on page 2-6
- "Deploying Dynamic Server to Multiple Computers" on page 2-10
- "Installing and Maintaining Client Products" on page 2-10

Installing Dynamic Server Quickly with Defaults (UNIX and Linux)

You can install Dynamic Server and all its features quickly by using the typical setup for installation.

Make sure that your system is ready for installation (see Chapter 1, "Preparing to Install Dynamic Server," on page 1-1). Also, obtain root privileges before you begin the installation program.

To install Dynamic Server on Linux or UNIX:
1. From a command prompt, run the installation command for the products that you want to install and specify the options for the commands as described in "Installation Commands for Dynamic Server and Related Products" on page 2-3. The commands are in the directory where the media files reside, referred to as *media_location* in this documentation. The installation application runs in console mode by default, unless you specify GUI mode when you issue the command.

   media_location/**ids_install**
   > Installs Dynamic Server and its features, as well as one or more related products: Informix JDBC Driver, and either Client SDK or Informix Connect.

   media_location/**SERVER/installserver**
   > Installs Dynamic Server and its features.
2. Follow the instructions in the installation application.
   a. Read and accept the license to proceed with the installation.
   b. You can install into the default directory or choose a different directory.
   c. Select the products that you want to install, if that is an option.
   d. Choose **Typical** setup to install the product with all features.
   e. Optional: Choose whether to enable role separation for auditing procedures.

Important: If you enable role separation, you cannot turn it off after the product is installed. To remove role separation, you must uninstall the database server and reinstall it without role separation. To learn more about role separation, see "Role Separation" on page 1-14.

f. Optional: Select whether to create a demonstration database server instance. Choosing this option in GUI and console modes of installation is required if you want to use the Instance Configuration Wizard or if you want to set up the instance for DRDA Support while running the install application.

- If you do not choose the demonstration option, you can configure and initialize the database server manually after installation is complete.

- If you choose to create the demonstration database server, you can provide your own configuration file, use the default configuration file as is, or customize the default configuration file to suit your usage needs and hardware. After installation, the database server instance is initialized automatically. For more information, see "Demonstration Database Server" on page 1-12 and "Instance Configuration Wizard" on page 1-13.

- To be able to install the database server with DRDA Support, use the default configuration file. Distributed Relational Database Architecture (DRDA) is for open development of applications that allow access of distributed data and is interoperable with IBM Data Server clients.

  If you do not select the DRDA support option, you can still set up the instance to function with the DRDA protocol after installation.

g. **Important:** Verify that the installation summary accurately reflects your installation options, and that the server has enough free space for the total installation. Go back to adjust the installation options as necessary.

3. Complete the installation and exit the installation application.

After the installation application loads the files on your system, you can test that the database server functions.

Installing Dynamic Server with Selected Features (UNIX and Linux)

Use the custom setup to install Dynamic Server with only the features that you need.

Make sure that your system is ready for installation (see Chapter 1, "Preparing to Install Dynamic Server," on page 1-1). Also, obtain root privileges before you begin the installation program.

To install Dynamic Server on Linux or UNIX:

1. From a command prompt, run the installation command for the products that you want to install and specify the options for the commands as described in "Installation Commands for Dynamic Server and Related Products" on page 2-3. The installation application runs in console mode by default, unless you specify GUI mode when you issue the command.

   *media_location***/ids_install**
   Installs Dynamic Server and its features, as well as one or more related products: Informix JDBC Driver, and either Client SDK or Informix Connect.

   *media_location***/SERVER/installserver**
   Installs Dynamic Server and its features.

2. Follow the instructions in the installation application.

a. Read and accept the license to proceed with the installation.

b. You can install into the default directory or choose a different directory.

c. Select the products that you want to install, if that is an option.

d. Choose **Custom** setup to install the product with selected features. For more information about the base server and the list of features, see "Installable Features of Dynamic Server" on page 1-9.

e. Optional: Choose whether to enable role separation for auditing procedures.

   Important: If you enable role separation, you cannot turn it off after the product is installed. To remove role separation, you must uninstall the database server and reinstall it without role separation. To learn more about role separation, see "Role Separation" on page 1-14.

f. Optional: Select whether to create a demonstration database server instance. Choosing this option in GUI and console modes of installation is required if you want to use the Instance Configuration Wizard or if you want to set up the instance for DRDA Support while running the install application.

   • If you do not choose the demonstration option, you can configure and initialize the database server manually after installation is complete.

   • If you choose to create the demonstration database server, you can provide your own configuration file, use the default configuration file as is, or customize the default configuration file to suit your usage needs and hardware. After installation, the database server instance is initialized automatically. For more information, see "Demonstration Database Server" on page 1-12 and "Instance Configuration Wizard" on page 1-13.

   • To be able to install the database server with DRDA Support, use the default configuration file. Distributed Relational Database Architecture (DRDA) is for open development of applications that allow access of distributed data and is interoperable with IBM Data Server clients.

g. **Important**: Verify that the installation summary accurately reflects your installation options, and that your system has enough free space for the total installation. Go back to adjust the installation options as necessary.

3. Complete the installation and exit the installation application.

After the installation application loads the files on your system, you can test that the database server functions. You can also remove features, reinstall features, or add features that you chose not to install earlier. You can modify the features by using the installation application without affecting the integrity of the base server.

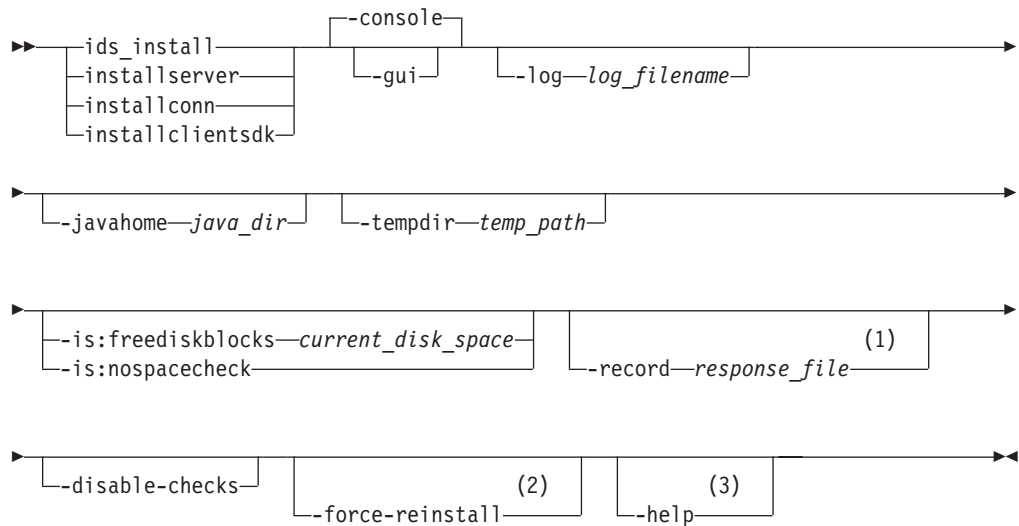# Installation Commands for Dynamic Server and Related Products

Syntax and usage for ids_install, installserver, installconn, and installclientsdk commands.

Purpose

These commands install Dynamic Server with related products, or they install Dynamic Server and related products separately, in either console or GUI mode. If you want to supply installation options in a file instead of interactively providing them during the installation, see "Installation Commands: Silent Mode" on page 2-6.

Run the following commands as root user.

Syntax

```
►►─┬─ids_install──────┬──┬─────────────┬──┬────────────────────────┬──►
   ├─installserver────┤  │  ┌─-console─┐│  └─-log──log_filename──────┘
   ├─installconn──────┤  └──┼──────────┤┘
   └─installclientsdk─┘     └─-gui─────┘


►─┬────────────────────────┬──┬──────────────────────┬──────────────────►
  └─-javahome──java_dir─────┘  └─-tempdir──temp_path──┘


►─┬────────────────────────────────────────────┬──┬──────────────────(1)─┬─►
  ├─-is:freediskblocks──current_disk_space──────┤  └─-record──response_file─┘
  └─-is:nospacecheck────────────────────────────┘


►─┬────────────────────┬──┬───────────────(2)─┬──┬───────(3)─┬──►◄
  └─-disable-checks─────┘  └─-force-reinstall──┘  └─-help─────┘
```

Notes:

1   The **-record** option does not function with the ids_install command. Also, the **-record** option disables the Instance Configuration Wizard functionality of typical GUI and console installations.

2   **Important**: Use with caution. Overwrites existing installed features or complete Dynamic Server *without* checking for version compatibility.

3   Do not use the **-help** option simultaneously with other options when you run the command. The **-help** option invalidates any other options put into the same command line.

Parameters

Table 2-1. Syntax Elements

Element	Purpose	Restrictions
java_dir	Specifies the JRE on the host computer to use during installation.	The JRE must be version 1.4.2 or higher.
log_filename	Specifies a non-default log filename.	None
temp_path	Specifies the path to temporary directory. If you receive an error during file extraction, there is not enough space in the **/tmp** directory. To overcome this error, set the -tempdir option to a different temporary directory with sufficient space.	None
current_disk_space	Specifies the amount of free disk space that exists on the destination file system, in number of 512-byte blocks.	None
response_file	Specifies the name for the response file. The response file is a customized **.ini** file that you can use for silent installations elsewhere.	Required if you specify the **-record** option. This option does not function with the ids_install command.

The following table describes the installation application options.

Table 2-2. Installation Options

Option	Meaning
ids_install	Install Dynamic Server and related products.
installserver	Install Dynamic Server only.
installconn	Install IConnect only.
installclientsdk	Install Client SDK only.
-console	Start the installation program in console mode. This is the default mode.
-gui	Start the installation program in GUI mode.
-log *log_filename*	Log installation program progress in the specified file.
-javahome *java_dir*	Use specified JRE. To force the installation program to use the bundled JRE and ignore any local JREs, use `-javahome none`.
-tempdir *temp_path*	Use specified temporary directory.
-is:freediskblocks *current_disk_space*	Use to specify the amount of current free disk space on the destination file system, in case the system fails to correctly report free disk space.
-is:nospacecheck	Use to prevent the installation program from checking if there is adequate space for product installation files. **Use with caution:** If there is not enough space to extract the temporary files, the installation program will fail.
-record *response_file*	Records the installation settings in a response file that can be used for silent installations of the same configuration of Dynamic Server (specifically, the base server and its features). This option does not function with the ids_install command.
-disable-checks	Disables the database server prerequisites check in the install application when needed. If you are using the **java** command for installing, the option is: `-W systemcheck.active=false` Refer to "Disabling the Database Server Prerequisites Check" on page 2-6 and the machine notes for your operating system for more information.
-force-reinstall	**Use with caution**: Overwrites existing installed features or the complete Dynamic Server installation *without* checking for version compatibility (for example, checking if the database server being installed is an older version than the one that is already installed in the install location). **Important**: Users are responsible for the changes at the target if this option is used.
-help	Display list of supported options and their functions.

Note: The JRE is included on the installation media but it is not installed. During installation, the JRE is temporarily extracted to your system and then it is removed after the installation is complete.

Disabling the Database Server Prerequisites Check

Operating system updates on the host computer that are not certified for Dynamic Server (specifically operating system versions that are above the recommended base version) can run the installation program in some situations by bypassing the database server prerequisites check.

The database server prerequisites on newer versions of an operating system can change after the release of the install application. Sometimes this results in the application's inability to recognize the most recently changed prerequisites. A command-line option can disable the install application's prerequisites check. IBM Informix has command-line options that disable the install application's prerequisites check when it is necessary.

Important: When you use an option to disable this check, the computer still must have the database server prerequisites for installation to succeed. This option only removes the interference of the install application's prerequisites check of an operating system version that you do not have. The verified versions of the prerequisites are listed in **Platform.prq**.

The option that you use is either **-disable-checks** or **-W systemcheck.active=false**, depending on your installation method. See "Installation Commands for Dynamic Server and Related Products" on page 2-3 for information on how to use these options.

Performing an Unattended Dynamic Server Installation

To install a product on a UNIX or Linux system without interactively providing installation information, run the install application in silent mode.

The silent installation requires that you have a local copy of a response file (**.ini**) that contains the installation options with preset values.

To install in silent mode, perform the following steps as root user:

1. From a command prompt, change directory to $INFORMIXDIR.
2. Start the product installation application in silent mode with the appropriate options set.
   - If you do not specify a response file with the **-options** flag, a default response file is used: **bundle.ini** for ids_install and **server.ini** for the installserver command.
   - You must accept the software license in the **.ini** file by setting **-G licenseAccepted=** option to **true** for the silent installation to occur. Otherwise, the application requires that you manually set the **-acceptlicense=yes** option. Note that if you use the default **bundle.ini** and **server.ini** files, the **-G licenseAccepted=** option is set to **false.**

   Note: When **bundle.ini** or **server.ini** is used as the response file, the installation application proceeds by using the default settings shipped in the installation media. The application does not recognize any changes made to these two **.ini** files.

Installation Commands: Silent Mode

A silent installation requires no user interaction with the installation program after you run the command.

Purpose

These commands start silent installation of Dynamic Server with related products, or they install Dynamic Server and related products separately. The silent-installation commands function on UNIX and Linux operating systems.

Run the following commands as root user.

Syntax

```
►►─┬─ids_install────┬──────────────────────────────────────────────────►
   ├─installserver──┤
   ├─installconn────┤
   └─installclientsdk─┘
```

```
                                    (1)        ┌─*.ini────┐ (2)
►─--silent──-acceptlicense=yes──────────┬──────────────────────┬────────►
                                         └─-options──optionsfile─┘
```

```
►─┬────────────────────┬──┬─────────────────────┬──┬──────────────────┬─►
  └─-log──logfilename───┘  └─-javahome──javadir──┘  └─-tempdir──temp path─┘
```

```
►─┬──────────────────────────────────────┬──────────────────────────────►
  └─-P──installLocation=──install dir─────┘
```

```
►─┬────────────────────────────────────────┬──┬───────┬──┬───────────────┬─►
  ├─-is:freediskblocks──current_disk_space──┤  └─-debug─┘  └─-disable-checks─┘
  └─-is:nospacecheck───────────────────────┘
```

```
►─┬────────────────────┬──┬────────┬─────────────────────────────────────►◄
  │              (3)   │  │   (4)  │
  └─-force-reinstall───┘  └─-help──┘
```

Notes:

1. This option is required *only* if you did not set `-G licenseAccepted=true` in the **.ini** file used for installation. The default **bundle.ini** and **server.ini** files contain `-G licenseAccepted=false`.

2. The default **.ini** file for ids_install is **bundle.ini**. The default **.ini** file for installserver is **server.ini**.

3. **Important**: Use with caution. Overwrites existing installed features or the complete Dynamic Server installation *without* checking for version compatibility.

4. Do not use the `-help` option simultaneously with other options when you run the command. The `-help` option invalidates any other options put into the same command line.

Parameters

Table 2-3. Elements for Silent Installation Options

Element	Purpose	Restrictions
optionsfile	Refers to the .ini file containing preset installation properties; substitute this with your real .ini file name.	Do not name the file server.ini or bundle.ini. Those are the names of the shipped .ini files.
javadir	Specifies the JRE on the host computer to use during installation	The JRE must be version 1.4.2 or higher.
logfilename	Specifies a non-default log filename	None
temp path	Specifies path to temporary directory. If you receive an error during file extraction, there is not enough space in the **/tmp** directory. To overcome this error, set the `-tempdir` option to a different temporary directory with sufficient space.	None
current_disk_space	Specifies the amount of free disk space that exists on the destination file system, in number of 512-byte blocks.	None
install dir	Specifies the installation directory.	None

The following table describes the silent installation options.

Table 2-4. Silent Installation Options

Option	Meaning
ids_install	Install Dynamic Server and selected related products. This command is in *media_location*.
installserver	Install Dynamic Server only. This command is in *media_location*/SERVER
installconn	Install IConnect only. This command is in *media_location*/ICONNECT
installclientsdk	Install Client SDK only. This command is in *media_location*/CSDK
-silent	Install in silent mode.
-acceptlicense=yes	Accept license agreement.
-options *optionsfile*	Use specified .ini file containing preset installation values. This option is not required if you want to use the default .ini file.
-log *logfilename*	Log installation program progress.
-javahome *javadir*	Use specified JRE.
-tempdir *temp path*	Use specified temporary directory.
- P installLocation= *install dir*	Use to set the installation directory from the command line.
-is:freediskblocks *current_disk_space*	Use to specify the amount of current free disk space on the destination file system, in case the system fails to correctly report free disk space.

Table 2-4. Silent Installation Options (continued)

Option	Meaning
-is:nospacecheck	Use to prevent the installation program from checking if there is adequate space for product installation files. **Use with caution:** If there is not enough space to extract the temporary files, the installation program will fail.
-debug	Use to store all internal messages to a log file for debugging installation problems.
-disable-checks	Disables the database server prerequisites check in the install application when needed. If you are using the **java** command for installing, the option is: `-W systemcheck.active=false` Refer to "Disabling the Database Server Prerequisites Check" on page 2-6 and the machine notes for your operating system for more information.
-force-reinstall	**Use with caution**: Overwrites existing installed features or the complete Dynamic Server instance *without* checking for version compatibility (for example, checking if the server being installed is an older version than the one that is already installed in the install location). **Important:** Users are responsible for the changes at the target if this option is used.
-help	Use to display a list of supported options and their purpose.

Examples

The following command installs Dynamic Server with the defaults that are configured in the **server.ini** file that comes with the product. You must accept the license when you run the command if you use the default configuration file.

`media_location/SERVER/installserver -silent -acceptlicense=yes`

The following command installs Dynamic Server with the settings that were captured in the response file, **mycustomserver.ini**. That file was generated during a server installation that was initiated with the `./installserver -gui -record mycustomer.ini` command. Note that in that previous installation, the license was accepted in the installation wizard (because the `-acceptlicense=yes` option was not passed with the command). Therefore, you do not need to specify the `-acceptlicense=yes` option during the silent installation.

`media_location/SERVER/installserver -silent -options mycustomserver.ini`

Automatically Accessing the Database Server after Installation

You can choose to automatically launch a terminal emulator for the database server instance.

Make sure that your DISPLAY environment variable is set.

The installer checks some known locations on your system for the terminal emulator that you selected. If the installer finds the terminal emulator, it launches a terminal window (a window with a command interpreter, or shell, running in it). The terminal window is pre-configured for you to view and work with the database server instance.

Deploying Dynamic Server to Multiple Computers

Deploying Dynamic Server to multiple UNIX or Linux computers is a two-phase process. During an installation on one computer, you generate a response file. On other computers, you use the response file to install the same configuration in silent mode, which is also referred to as an unattended installation.

You must be logged in as root user to run installation applications. Make sure that your system is ready for installation, see Chapter 1, "Preparing to Install Dynamic Server," on page 1-1 for more information.

To deploy Dynamic Server on multiple computers:

1. On one computer, record the settings of a Dynamic Server installation that you will want to replicate while you are running the install application.
   - Start a product installation application in GUI or console mode and specify the **-record** option to generate a response file. Note that the **-record** option does not function with the ids_install command and disables the Instance Configuration Wizard functionality of GUI and console installation modes.
   - *Do not* name the response file **server.ini** or **bundle.ini**.
   - See "Installation Commands for Dynamic Server and Related Products" on page 2-3 for more information about installation on the first computer.

   `media_location/SERVER/installserver -gui -record myresponsefile.ini`

2. On another computer, perform a silent installation by using the recorded response file to deploy the installation configuration you completed on the first computer.
   - Start the same product installation application that you used to create the response file; however, start the application in silent mode, not GUI or console mode.
   - Specify the response file (**.ini**) with the **-options** flag.
   - To ensure the installation does not fail because of lack of disk space, specify the amount of current free disk space on the destination file system with the **-is:freediskblocks** flag.

   `media_location/SERVER/installserver -silent -options myresponsefile.ini`
   `        -is:freediskblocks current_disk_space`

See "Performing an Unattended Dynamic Server Installation" on page 2-6 for more information about the silent installation process.

Installing and Maintaining Client Products

You can install Client SDK or Informix Connect as part of the Dynamic Server installation application. For UNIX and Linux, you also have the option to use the client products' installation applications separately.

For detailed information about installing clients in different methods and on different platforms, see *IBM Informix Client Products Installation Guide*.

To install Client SDK or Informix Connect on Linux or UNIX, log in as root user and complete the following steps:

1. From a command prompt, run the installation command for the products that you want to install and specify the options for the commands as described in "Installation Commands for Dynamic Server and Related Products" on page 2-3.

- *media_location*/ids_install
- *media_location*/ICONNECT/installconn
- *media_location*/CSDK/installclientsdk

The installation application runs in console mode by default, unless you specify GUI mode when you issue the command.

2. Follow the instructions in the installation application.
   - You must accept the license to install the program.
   - You can install into the default directory or choose a different directory.
   - Select the product that you want to install, if that is an option. Select either Client SDK or Informix Connect, not both.
   - If you want to install the product with all defaults, choose typical or complete setup (depending on the installation application you are using). Otherwise, choose the custom setup for more configuration options.
3. Review the summary information before proceeding with the installation and exiting the installation application.

Chapter 3. Installing IBM Informix on Mac OS X

Major IBM Informix products for Mac OS X can be installed with a GUI program or by using an unattended installation command ("silent mode"). The Mac OS X installation application is not available in console mode.

Prepare your system before you install any programs, as described in Chapter 1, "Preparing to Install Dynamic Server," on page 1-1 The GUI installation application will prompt you to enter valid system administrator credentials before installation setup can proceed. The command for unattended installation must be run by root user.

Install Dynamic Server using one of the following methods. You can also select to install either IBM Informix Client Software Development Kit or Informix Connect while running the installation application.

- "Installing Dynamic Server Quickly with Defaults (Mac OS X)"
- "Installing Dynamic Server with Selected Features (Mac OS X)" on page 3-2
- "Performing an Unattended IBM Informix Installation (Mac OS X)" on page 3-3

Installing Dynamic Server Quickly with Defaults (Mac OS X)

You can install Dynamic Server and all its features quickly by using the typical setup for installation.

You must have system administrator privileges to run the installation application. Make sure that your system is ready for installation, as described in Chapter 1, "Preparing to Install Dynamic Server," on page 1-1

To install Dynamic Server with typical setup:

1. Open the **iif** package file.
2. Enter the system administrator password when you are prompted for it.
3. Enter a directory and password for the **informix** user account if you are prompted for these credentials, and store the password in a secure location. The installer does not prompt for the credentials if there is already an **informix** user account on the computer.
4. Follow the instructions in the installation application.
   a. Read and accept the license to proceed with the installation.
   b. You can install into the default directory or choose a different directory.
   c. Select the IBM Informix products to install. You can install either Client SDK or Informix Connect, not both, as client programs to run with Dynamic Server.
   d. Choose **Typical** setup to install the product with all the features.
   e. Optional: Choose whether to enable role separation for auditing procedures.

      Important: If you enable role separation, you cannot turn it off after the product is installed. To remove role separation, you must uninstall the database server and reinstall it without role separation. To learn more about role separation, see "Role Separation" on page 1-14.
   f. Optional: Select whether to create a demonstration database server instance. Choosing this option is required if you want to use the Instance

Configuration Wizard or if you want to set up the instance for DRDA Support while running the install application.

- If you do not choose the demonstration option, you can configure and initialize the database server manually after installation is complete.

- If you choose to create the demonstration database server, you can provide your own configuration file, use the default configuration file as is, or customize the default configuration file to suit your usage needs and hardware. After installation, the database server instance is initialized automatically. For more information, see "Demonstration Database Server" on page 1-12 and "Instance Configuration Wizard" on page 1-13.

- To be able to install the database server with DRDA Support, use the default configuration file. Distributed Relational Database Architecture (DRDA) is for open development of applications that allow access of distributed data and is interoperable with IBM Data Server clients.

  If you do not select the DRDA support option, you can still set up the instance to function with the DRDA protocol after installation.

g. If the installer prompts you about automatic tuning of the kernel settings, select **Yes** unless you are sure that you want to tune the kernel with command-line tools outside of the installer. Refer to the Dynamic Server machine notes for Mac OS X for more information about kernel settings.

h. **Important:** Verify that the installation summary accurately reflects your installation options, and that the server has enough free space for the total installation. Go back to adjust the installation options as necessary.

5. Complete the installation and exit the installation application.

If you chose to create the demonstration database server, a terminal icon appears in the installation directory. Click this icon to open a terminal window that points to the demonstration database server.

Installing Dynamic Server with Selected Features (Mac OS X)

Choose custom setup of the Dynamic Server installation program to install the product with only the features that you need.

You must have system administrator privileges to run the installation application. Make sure that your system is ready for installation, as described in Chapter 1, "Preparing to Install Dynamic Server," on page 1-1.

To install Dynamic Server with custom setup:

1. Open the **iif** package file.

2. Enter the system administrator password when you are prompted for it.

3. Enter a directory and password for the **informix** user account if you are prompted for these credentials, and store the password in a secure location. The installer does not prompt for the credentials if there is already an **informix** user account on the computer.

4. Follow the instructions in the installation application.

   a. Read and accept the license to proceed with the installation.

   b. You can install into the default directory or choose a different directory.

   c. Select the IBM Informix products to install. You can install either Client SDK or Informix Connect, not both, as client programs to run with Dynamic Server.

d. Choose **Custom** setup to install the product using the Deployment Wizard, which lets you reduce the footprint (disk space) of the installation. For more information about the base server and the list of features, see "Installable Features of Dynamic Server" on page 1-9.

e. Optional: Choose whether to enable role separation for auditing procedures.

   Important: If you enable role separation, you cannot turn it off after the product is installed. To remove role separation, you must uninstall the database server and reinstall it without role separation. To learn more about role separation, see "Role Separation" on page 1-14.

f. Optional: Select whether to create a demonstration database server instance. Choosing this option is required if you want to use the Instance Configuration Wizard or if you want to set up the instance for DRDA Support while running the install application.

   • If you do not choose the demonstration option, you can configure and initialize the database server manually after installation is complete.

   • If you choose to create the demonstration database server, you can provide your own configuration file, use the default configuration file as is, or customize the default configuration file to suit your usage needs and hardware. After installation, the database server instance is initialized automatically. For more information, see "Demonstration Database Server" on page 1-12 and "Instance Configuration Wizard" on page 1-13.

   • To be able to install the database server with DRDA Support, use the default configuration file. Distributed Relational Database Architecture (DRDA) is for open development of applications that allow access of distributed data and is interoperable with IBM Data Server clients.

     If you do not select the DRDA support option, you can still set up the instance to function with the DRDA protocol after installation.

g. If the installer prompts you about tuning the kernel settings, you can let the installer automatically tune them by selecting **Yes**. Be aware that if you select **No**, you will need to tune the kernel settings manually using command-line tools. Refer to the Dynamic Server machine notes for Mac OS X for more information about kernel settings.

h. **Important:** Verify that the installation summary accurately reflects your installation options, and that the server has enough free space for the total installation. Go back to adjust the installation options as necessary.

5. Complete the installation and exit the installation application.

After the installation application loads the files on your system, you can test that the database server functions. You can also add features that you chose not to install earlier. You can modify the features by using the installation application without affecting the integrity of the base server.

If you chose to create the demonstration database server, a terminal icon appears in the installation directory. Click this icon to open a terminal window that points to the demonstration database server.

Performing an Unattended IBM Informix Installation (Mac OS X)

To install an IBM Informix product without interactively providing installation information, run the installation application in silent mode.

You must have root privileges to complete the installation in silent mode.

1. Open the top-level directory of the installation media that you obtained:

- *Downloaded media:* Double-click on the **.dmg** file.
- *Media on disk:* Insert the disk into the computer drive.

2. Double-click the **templates** folder.
3. Copy the **bundle.ini** file in the **templates** folder to your home directory.
4. Open your local copy of the **bundle.ini** file in a text editor.
5. Modify the installation settings of the **bundle.ini** file to meet your needs. **Important:** You must accept the license agreement for the installation to complete successfully. To accept the agreement, change the setting of `-G licenseaccepted=` from `false` to `true`.
6. Open a terminal window if you do not have one open already.
7. As root user, run the following command in the terminal window:

```
installer -pkg iif.11.50.FC3.macosx64.pkg -target /
```

Chapter 4. Configuring a Database Server

The installed database server must be configured for your system's environment.

If you created a demonstration database server or customized the default configuration file during installation, the instance is already configured. Otherwise, you must set configuration parameters after installation before you can use Dynamic Server.

You can configure the database server by completing the following tasks:
- "Setting Environment Variables"
- "Preparing Connectivity Files" on page 4-3
- "Setting Configuration Parameters" on page 4-3
- "Initializing and Starting a Database Server" on page 4-4

You can also use these procedures to change configuration settings for a database server, including the demonstration one.

See the *IBM Informix Dynamic Server Administrator's Guide* and *IBM Informix Dynamic Server Administrator's Reference* for other detailed information about how to set up and configure your system's environment and the database server.

Testing the Demonstration Database Server

To verify that the demonstration database server functions, you can run the DB–Access utility.

To test that the demonstration database server functions, do the following:
1. Initialize or start the demonstration database server.

   "Initializing and Starting a Database Server" on page 4-4
2. Run the following commands from a command prompt:
   ```
   $ dbaccessdemo
   $ dbaccess stores_demo
   ```
   If the installation was successful, the **dbaccessdemo** script interacts with the database server to create and populate the demonstration database, called `stores_demo` in this example.

You can use the **DB-Access** utility to access databases with SQL.

If the demonstration database server is not functioning, check the log file at **$INFORMIXDIR/tmp/log.txt** for possible tips about what is causing the problem. You can also use this log file to verify the server number on which the demonstration database server is set to run.

Setting Environment Variables

Set the environment variables after Dynamic Server installation for any instance other than a demonstration database server created while running the installation application.

You must be logged in as root user or with sufficient group or user identifier privileges (usually group or user **informix**) to set environment variables.

To set the environment variables for a Dynamic Server instance:

1. Set the **INFORMIXDIR** variable to the directory where you installed the database server or other IBM Informix products.

2. Set the **PATH** environment variable to include $INFORMIXDIR/bin as follows:

   - C shell:

     ```
     setenv PATH ${INFORMIXDIR}/bin:${PATH}
     ```

   - Bourne shell:

     ```
     PATH=$INFORMIXDIR/bin:$PATH
     export PATH
     ```

   You must set the **INFORMIXDIR** variable and add $INFORMIXDIR/bin to the **PATH** environment variable for each user.

3. Set **INFORMIXSERVER** to specify the default database server to which IBM Informix DB-Access or an SQL API client makes an explicit or implicit connection.

4. Set the **ONCONFIG** variable to the name of a valid ONCONFIG file. See "Setting Configuration Parameters" on page 4-3 to create or modify your ONCONFIG file.

5. If using a locale or language other than the default, set the following:

   - **CLIENT_LOCALE** to specify a nondefault locale.

   - **DBLANG** to specify the subdirectory of $INFORMIXDIR that contains the customized language-specific message files that IBM Informix products use.

   - Set **DB_LOCALE**.

   - Set **SERVER_LOCALE**.

6. Set **INFORMIXSQLHOSTS** to specify the file that contains the sqlhosts information. (The default location of this file is **$INFORMIXDIR/etc/sqlhosts**.)

7. Set **INFORMIXTERM** to specify whether IBM Informix DB-Access uses the information in the termcap file or the terminfo directory. On character-based systems, the termcap file and terminfo directory determine terminal-dependent keyboard and screen capabilities, such as the operation of function keys, color and intensity attributes in screen displays, and the definition of window borders and graphic characters.

8. Set $INFORMIXDIR/lib and any of its subdirectories to specify the shared-library path. The shared-library path environment variable specifies the library search path and is platform dependent.

Platform	Environment Variable
AIX	LIBPATH
HP-UX	SHLIB_PATH
Mac OS X	DYLD_LIBRARY_PATH
Solaris and most other platforms	LD_LIBRARY_PATH

For example, on Linux, set this environment variable as follows:

- Bourne shell:

  ```
  LD_LIBRARY_PATH=$INFORMIXDIR/lib:$LD_LIBRARY_PATH
  export LD_LIBRARY_PATH
  ```

- C shell:

  ```
  setenv LD_LIBRARY_PATH ${INFORMIXDIR}/lib:${LD_LIBRARY_PATH}
  ```

Preparing Connectivity Files

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

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

Connectivity configuration determines whether your instance has a database server alias and a port for clients that use the Distributed Relational Database Architecture (DRDA) protocol. DRDA is for open development of applications that allow access of distributed data. DRDA is interoperable with IBM Data Server clients. If you created a demonstration database server with the default configuration file while installing Dynamic Server, then your instance already supports DRDA connections. If not, then refer to the *IBM Informix Dynamic Server Administrator's Guide* for details on how to enable DRDA support on your instance.

You must prepare the connectivity information even if the client application and the database server are on the same computer or node. You do not need to specify all possible network connections in the **sqlhosts** file or registry before you start the database server. But to make a new connection available after you have initialized the database server, you must take the database server offline and then bring it back to online mode once again.

1. Edit the **sqlhosts** file as necessary to contain the correct connectivity information with a text editor or equivalent tool.
   - The default location of this file is **$INFORMIXDIR/etc/sqlhosts**.
   - If you set up several database servers to use distributed queries, use either one **sqlhosts** file to which **INFORMIXSQLHOSTS** points or separate **sqlhosts** files in each database server directory.
2. Enter settings in the **/etc/hosts** and **/etc/services** files if your system uses Internet protocol network connections.

For more information about setting connectivity files, see the *IBM Informix Dynamic Server Administrator's Guide*.

Setting Configuration Parameters

The configuration file for Dynamic Server is named onconfig.

If you selected to create a demonstration database server or customized the default configuration file while running the install application, manual setup of the configuration parameters is not required for a functioning Dynamic Server instance. However, all instances created without using the default configuration file in the install application require completion of the onconfig.std task below.

A Dynamic Server installation includes a default configuration file named onconfig.std. This file has initial values for many of the ONCONFIG parameters. You can use onconfig.std as a template configuration file that you can copy and tailor to your instance's needs. The path to this file is **$INFORMIXDIR/etc/onconfig.std**.

For information about why to modify the default configuration parameters, refer to *IBM Informix Administrator's Guide* documentation about configuring the database server. The *IBM Informix Administrator's Reference* details all the configuration parameters.

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

To prepare the onconfig.std file:
1. Copy the onconfig.std template file.
2. Modify the *copy* of the template file. The default value for the DUMPDIR parameter is **$INFORMIXDIR/tmp**. If you change this value in your configuration file, make sure that you specify a valid directory on your computer.
3. Set the **ONCONFIG** environment variable to the name of your customized configuration file.

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

Initializing and Starting a Database Server

Before you can start the database server, you must initialize it once.

Only user **informix** or root user can initialize the database server.

If you chose not to initialize the database server automatically during installation, you can initialize it manually after the product is installed.

To initialize a new server, initialize disk space, and start Dynamic Server for the *first* time:

Run one of the following commands, depending on your environment.
- `oninit -i` overwrites any existing IDS databases on your host computer. Use caution when you run this command if you have existing databases.
- `oninit` (without the `-i` option) does not overwrite an existing database.

See the *IBM Informix Dynamic Server Administrator's Reference* for more information about the `oninit` utility.

Chapter 5. Setting up Multiple Residency

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

Complete the following tasks to set up multiple residency:
- "Hosting Multiple Database Servers"
- "Planning for Multiple Residency"
- "Creating Multiple Residency of a Database Server" on page 5-2
- "Setting Up an Instance-Specific ONCONFIG File" on page 5-3
- "TCP/IP Connectivity" on page 5-4
- "Preventing Data from Being Overwritten" on page 5-4
- "Preparing the Backup Environment for Multiple Residency" on page 5-4
- "Modifying Operating System Startup for Multiple Server Instances" on page 5-5
- "Resetting the INFORMIXSERVER Environment Variable" on page 5-5

Hosting Multiple Database Servers

Multiple residency refers to multiple database servers and their associated shared memory and disk structures that coexist on a single computer.

Multiple independent database server environments on the same computer allow you to:
- Separate production and development environments to protect the production system from the unpredictable nature of the development environment.
- Isolate sensitive applications or databases that are critically important, either to increase security or to accommodate more frequent backups than most databases require.

  When you use multiple residency, each database server has its own configuration file. Thus, you can create a configuration file for each database server that meets its special requirements for backups, shared-memory use, and tuning priorities.
- Test distributed data transactions on a single computer. If you are developing an application for use on a network, you can use local loopback to perform your distributed data simulation and testing on a single computer. (See the information about using a local loopback connection in the *IBM Informix Dynamic Server Administrator's Guide*.) Later, when a network is ready, you can use the application without changes to application source code.

Planning for Multiple Residency

Running multiple database servers on the same computer is not as efficient as running one database server. You need to balance the advantages of separate database servers with the extra performance cost.

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

Each database server needs its own memory. Ensure that your computer can handle the memory usage that an additional database server requires.

- Storage space

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

  – Will you use buffered or unbuffered files? Will the unbuffered files share a disk partition with another application? (For more information about buffered and unbuffered files, see the section on direct disk access in the *IBM Informix Administrator's Guide*.)

  – 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?

Creating Multiple Residency of a Database Server

Before you set up multiple residency, you must install one database server as described in Chapter 2, "Installing Dynamic Server on UNIX and Linux," on page 2-1

or Chapter 3, "Installing IBM Informix on Mac OS X," on page 3-1

Important: You do not need 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 binary files.

To create multiple residency of a database server:

1. Prepare a new **onconfig** configuration file and set the **ONCONFIG** environment variable to the new filename (see "Setting Up an Instance-Specific ONCONFIG File" on page 5-3).

2. *Optional*: Set up connectivity for the new database server instance (see "TCP/IP Connectivity" on page 5-4).

3. Initialize disk space for the new database server instance (see "Preventing Data from Being Overwritten" on page 5-4).

4. Prepare the backup environment for multiple residency (see "Preparing the Backup Environment for Multiple Residency" on page 5-4).

5. Modify the operating system startup to start the new database server instances automatically (see "Modifying Operating System Startup for Multiple Server Instances" on page 5-5).

6. Check the **INFORMIXSERVER** environment variables for users (see "Resetting the INFORMIXSERVER Environment Variable" on page 5-5).

Setting Up an Instance-Specific ONCONFIG File

Each instance of the database server must have its own onconfig configuration file. Make a copy of an onconfig file that has the basic characteristics that you want for your new database server. Give the new file a name that you can easily associate with its function. For example, you might select the filename onconfig.acct to indicate the configuration file for a production system that contains accounting information.

Set the **ONCONFIG** environment variable to the file name of the new onconfig file. Specify only the file name, not the complete path.

In the new configuration file, set the following configuration parameters:

SERVERNUM
> Specifies an integer (between 0 and 255) that is associated with a database server configuration. Each instance of a database server on the same host computer must have a unique SERVERNUM value. For more information about the SERVERNUM, DBSERVERNAME and ROOTPATH AND ROOTOFFSET parameters, see the *IBM Informix Administrator's Reference*.

DBSERVERNAME
> Specifies the dbservername of a database server. It is suggested that you choose a name that provides information about the database server, such as **ondev37** or *hostname***dev37**.

MSGPATH
> Specifies the path name of the message file for a database server. You should specify a unique path name for the message file because database server messages do not include the dbservername. If multiple database servers use the same MSGPATH parameter, you cannot identify the messages from separate database server instances. For example, if you name the database server **ondev37**, you might specify `/usr/informix/dev37.log` as the message log for this instance of the database server.

ROOTPATH and ROOTOFFSET
> Used together, specify the location of the root dbspace for a database server. The root dbspace location must be unique for every database server configuration.

If you put several root dbspaces in the same partition, you can use the same value for the ROOTPATH parameter. However, in that case, you must set the ROOTOFFSET parameter so that the combined values of the ROOTSIZE and ROOTOFFSET parameters define a unique portion of the partition.

You do not need to change ROOTNAME. Even if both database servers have the name **rootdbs** for their root dbspace, the dbspaces are unique because ROOTPATH specifies a unique location.

For more information about the SERVERNUM, DBSERVERNAME, ROOTPATH, and ROOTOFFSET parameters, the configuration parameters documentation in the *IBM Informix Administrator's Reference*.

You might also need to set the MIRRORPATH and MIRROROFFSET parameters. If the root dbspace is mirrored, the location of the root dbspace mirror must be

unique. For information about the MIRRORPATH and MIRROROFFSET parameters, see the *IBM Informix Administrator's Guide*.

TCP/IP Connectivity

If you use the TCP/IP communication protocol, you might need to add an entry to the **services** file for the new database server instance. If you use the IPX/SPX communication protocol, you might need to modify the connection information for the NetWare server.

The **sqlhosts** file must have an entry for each database server. If IBM Informix products on other computers access this instance of the database server, the administrators on those computers must update their **sqlhosts** files.

If you plan to use TCP/IP network connections with an instance of a database server, the system network administrator must update the **hosts** and **services** files. If you use an IPX/SPX network, the NetWare administrator must update the NetWare file server information.

For information about these files, see the chapter on client/server communications in the *IBM Informix Administrator's Guide*.

Preventing Data from Being Overwritten

Before you initialize disk space, check the setting of the **ONCONFIG** environment variable. If it is not set correctly, you might overwrite data from another database server. When you initialize disk space for a database server, the database server initializes the disk space that is specified in the current **onconfig** configuration file.

Important: As you create new blobspaces or dbspaces for a database server, assign each chunk to a unique location on the device. The database server does not allow you to assign more than one chunk to the same location within a single database server environment, but you must ensure that chunks that belong to different database servers do not overwrite each other.

Preparing the Backup Environment for Multiple Residency

Depending on your backup method, you must prepare the backup environment for multiple residency.

ON-Bar Utility Backups

The **ON–Bar** utility allows you to back up data from various database server instances to a single storage device if the storage manager allows it. The storage manager keeps track of what data has been backed up. However, keep storage-space and logical-log backups on separate storage devices.

ontape utility Backups

When you use multiple residency, you must maintain separate storage space and logical log backups for each database server instance.

If you can dedicate a tape drive to each database server, use the continuous logging option to back up your logical log files. Otherwise, you must plan your storage space and logical log backup schedules carefully so that use of a device for

one database server instance does not cause the other database server instance to wait. You must reset the ONCONFIG configuration parameter each time that you switch backup operations from one database server instance to the other.

Modifying Operating System Startup for Multiple Server Instances

You can ask your system administrator to modify the system startup script so that each of your database server instances starts whenever the computer is rebooted; for example, after a power failure. For more information about startup scripts, see the section on preparing startup and shutdown scripts in the *IBM Informix Administrator's Guide*.

To start a second instance of a database server, change the **ONCONFIG** and **INFORMIXSERVER** environment variables to point to the configuration file for the second database server and then run the oninit command. Do not change the **INFORMIXDIR** or **PATH** variables.

Similarly, you can ask the system administrator to modify the shutdown script so that all instances of a database server shut down normally.

Resetting the INFORMIXSERVER Environment Variable

If a new instance of a database should be the default database server, you must reset the **INFORMIXSERVER** environment variable.

Chapter 6. Modifying Installations on UNIX and Linux

After you install Dynamic Server, you can add features to an existing configuration or reinstall features. Adding or reinstalling features does not harm the database server or other installed features.

You can do the following with the Dynamic Server installation:
- "Adding Features to Installed Dynamic Server (UNIX and Linux)"
- "Reinstalling Dynamic Server Features (UNIX and Linux)" on page 6-2
- "Removing IBM Informix Products and Features (UNIX and Linux)" on page 6-2

Adding Features to Installed Dynamic Server (UNIX and Linux)

If you have a custom installation of Dynamic Server that does not include some features, and you want to add one or more of those features, you can do so without reinstalling the server.

You must have root privileges to add features to your Dynamic Server instance. Also, your system must have enough free disk space for the features you want to install.

Adding features to an existing installation requires you to run the Dynamic Server installation application for $INFORMIXDIR again. The application detects what features you do not have installed, displays them, and lets you deselect the features that you do not want in your instance. The application displays the amount of disk space your selection of features requires before actual installation of the files.

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

To add features:
1. From a command prompt, run the following installation command:

   media_location/SERVER/installserver
2. Read and accept the license to proceed with the installation.
3. If your $INFORMIXDIR path does not appear by default, specify the correct path.
4. Choose **Custom** setup type.
5. Select the features that you want to add.
6. Optional: Select whether to create a demonstration database server instance.

   Important: The settings for the demonstration database server name, server number, and ROOTPATH must be unique to the demonstration instance that you want to create and not shared with other instances on your system. Go back to adjust the installation options as necessary.
7. Complete the installation and exit the install application.

Reinstalling Dynamic Server Features (UNIX and Linux)

If a Dynamic Server feature is installed but you want to install it again, you can do so without reinstalling the base server or other features that are already installed in the instance.

You must have root privileges to add features to your Dynamic Server instance.

Important: Users are responsible for the changes at the target if this option is used.

You can reinstall a feature over an instance that already has the feature by using the `-force-reinstall` option.

Use with caution: The `-force-reinstall` command overwrites existing installed features or a complete Dynamic Server installation *without* checking for version compatibility (for example, checking if the server being installed is an older version than the one that is already installed in the install location).

1. From a command prompt, run the following installation command:

   media_location/SERVER/installserver -force-reinstall

2. Read and accept the license to proceed with the installation.
3. If your $INFORMIXDIR path does not appear by default, specify the correct path.
4. Choose custom setup type.
5. *Deselect* both Base Server *and* all features that you do not want to install at this time. Some features are mutually dependent to function properly in the database server. The `-force-reinstall` operation does not enforce features interdependencies.
6. *Optional:* Select whether to create a demonstration database server.
   - **Important**: The settings for the demonstration database server name, server number, and ROOTPATH must be unique to the demonstration instance that you want to create and not shared with other instances on your system. Go back to adjust the installation options as necessary.

Removing IBM Informix Products and Features (UNIX and Linux)

You can remove Dynamic Server completely, or just some of its installed features without removing the base server. You can also remove related IBM Informix products one at a time.

The following topics describe how to remove Dynamic Server, its features, and related products on UNIX and Linux:

- "Removing Dynamic Server and Installed Features (UNIX and Linux)"
- "Uninstallserver Command" on page 6-3
- "Removing Client SDK, Informix Connect, and Informix JDBC Driver" on page 6-5

Removing Dynamic Server and Installed Features (UNIX and Linux)

An uninstallation application (called *uninstaller*) is provided to remove the product and its features from a system.

To remove Dynamic Server and its features, you must have root privileges and have a valid JRE version on the system. You can use the uninstaller or a `java -jar` command.

Important: See "Java Runtime Environment on the Installation Media" on page 1-4 and "Extracting JRE from the Installation Media Manually" on page 1-5 for more information about ensuring your system will have the correct JRE ready version for the uninstaller.

To remove Dynamic Server from Linux or UNIX systems by using the uninstaller:
1. From a command prompt, change directory to $INFORMIXDIR.
2. Set the **$INFORMIXDIR** environment variable to the current directory.
3. Run `uninstallserver` with the appropriate options. The uninstall application runs in console mode by default, unless you specify GUI mode when you issue the command.
4. Follow the instructions in the application. By default, the product and all its features are selected to be removed. If you want to remove just some features, ensure that only those features are selected. You cannot remove the base server without all the other features.

   Important: If Client SDK is installed in the same directory as Dynamic Server:
   - You must uninstall Dynamic Server *before* you uninstall Client SDK.
   - Do not remove the Global Language Support (GLS) and Messages features because both products have dependencies on the features.

Alternatively, set the **$INFORMIXDIR** environment variable to the current directory and remove Dynamic Server and its features with the following command:

```
java -jar uninstall_ids1150/uninstall.jar
```

By default, the command starts in console mode. To uninstall in another mode, specify one of the following parameters with the command:

-swing
    Graphical user interface mode.

-silent Silent mode, which enables you to uninstall without interactively specifying options.

After Dynamic Server is removed, you can manually delete the $INFORMIXDIR directory. It is not deleted automatically. Also, you can remove Client SDK if you no longer require it. To remove IBM Informix client products, you must use Java with `-jar` options.

Uninstallserver Command

Syntax and usage for uninstalling Dynamic Server with the `uninstallserver` command.

You need to have root privileges to use this command.

```
                                ┌─-console─┐
►►─uninstallserver─┼──────────┼──┬─────────────────────┬─────────────►
                                └─-gui─┘      └─-log─logfilename─┘
```

```
 ┌─────────────────────────────────────────────────────────────────────────────┐
 ├──┬──────────────────────┬──┬────────────────────────┬──┬─────────┬──────(1)────►◄
    └─-javahome──java_dir──┘  └─-tempdir──temp_path──┘  └─-debug──┘
                                                           └─-help──┘
```
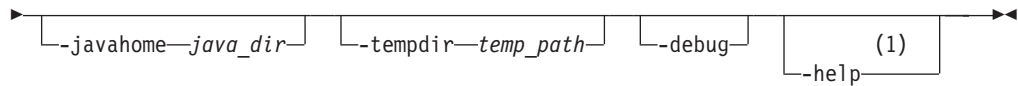
Notes:

1 Do not use the -help option simultaneously with other options when you run
the command. The -help option invalidates any other options put into the
same command line.

Table 6-1. Elements for uninstallserver Command Options

Element	Purpose	Restrictions
java_dir	Specifies the JRE on the host computer. Points to the directory that contains bin/java.	The JRE must be version 1.4.2 or higher.
logfilename	Specifies a non-default log filename.	None
temp_path	Specifies path to temporary directory. If you receive an error during file extraction that there is not enough space in the **/tmp**directory, set the -tempdir option to a different temporary directory.	None

The following table describes the options for the uninstaller.

Table 6-2. Options for the Uninstaller

Option	Meaning
uninstallserver	Use to start the uninstaller to remove Dynamic Server and all of its installed features.
-console	Start the uninstaller in console mode. This is the default mode.
-gui	Start the uninstaller in graphical user interface (GUI) mode.
-log *logfilename*	Use to log progress of the uninstaller.
-javahome *java_dir*	Use specified JRE.
-tempdir *temp_path*	Use specified temporary directory.
-debug	Use to store all internal messages to a log file for debugging problems while uninstalling the product or its features.
-help	Use to display a list of supported options and their purpose.

Usage

When you run the command, the uninstaller opens. Follow the instructions on the
interface to remove the whole product or selected features.

Important: If Client SDK is installed in the *same* directory as Dynamic Server:
* You must uninstall Dynamic Server *before* you uninstall Client SDK.
* Do not remove Global Language Support (GLS) because both Dynamic Server
and Client SDK use this feature.

Example

The following command starts the uninstaller in GUI mode and logs information
in a file named **myuninstall.log**.

```
$INFORMIXDIR/uninstallserver -gui -log myuninstall.log
```

Removing Client SDK, Informix Connect, and Informix JDBC Driver

Commands to remove Client SDK, Informix Connect, and Informix JDBC Driver.

Important:
- Do not remove any IBM Informix products by manually deleting files.
- If Client SDK is installed in the same directory as Dynamic Server:
  - You must uninstall Dynamic Server *before* you uninstall Client SDK.
  - Do not remove Global Language Support (GLS) because both products have dependencies on this feature.

Uninstall the products one at a time by running these commands from $INFORMIXDIR and following the prompts to complete the uninstallation. These commands require Java Runtime Environment (JRE) Version 1.4.2 or higher. See "Java Runtime Environment on the Installation Media" on page 1-4 and "Extracting JRE from the Installation Media Manually" on page 1-5 for more information about ensuring your system will have JRE ready for the uninstall operations.

Client SDK
```
java -jar uninstall_csdk/uninstall.jar
```

IConnect
```
java -jar uninstall_conn/uninstall.jar
```

JDBC driver
```
java -jar _uninst/uninstall.jar
```

By default, the commands for Client SDK and Informix Connect start in console mode while the command for Informix JDBC Driver starts in graphical user interface (GUI) mode. The following options used with the with one of the `java -jar` commands set the uninstaller mode:

-swing
      GUI mode.

-silent Silent mode, which enables you to uninstall without interactively specifying options.

Chapter 7. Modifying Installations on Mac OS X

After you install Dynamic Server, you can add features to an existing configuration.

The following topics document how you can add features to an existing Dynamic Server instance and how to delete the instance altogether:

- "Adding Features to Installed Dynamic Server (Mac OS X)"
- "Removing Dynamic Server and Installed Features (Mac OS X)" on page 7-2

Adding Features to Installed Dynamic Server (Mac OS X)

If you have a custom installation of Dynamic Server that does not include some features, and you want to add one or more of those features, you can do so without reinstalling the server.

Your system must have enough free disk space for the features that you want to install.

Adding features to an existing installation requires you to run the Dynamic Server installation application for $INFORMIXDIR again. The application detects what features you do not have installed and lets you add them. The installer displays the amount of disk space your selection of features requires before actual installation of the files.

Some database server features are mutually dependent to function properly. When you add features to an existing instance, the installation application enforces these interdependencies.

While adding features to an instance, it is possible that the computer prompts you for the administrator password.

To add features to an instance on Mac OS X:

1. Open the Dynamic Server installation media (the **iif** package file) on the computer hosting the database server instance.
2. Read and accept the license to proceed with the installation.
3. If your $INFORMIXDIR path does not appear by default, specify the correct path.
4. Choose **Custom** setup type.
5. Select the features that you want to add.
6. *Optional:* Select whether to create a demonstration database server instance.
   - **Important**: The settings for the demonstration database server name, server number, and ROOTPATH must be unique to the demonstration instance that you want to create and not shared with other instances on your system. Go back to adjust the installation options as necessary.
7. Complete the installation and exit the install application.

Removing Dynamic Server and Installed Features (Mac OS X)

The uninstallation application (called *uninstaller*) for Mac OS X is opened by entering the command `uninstallserver` in a terminal window.

You must have the privilege to run the `sudo` command for uninstalling on your system to remove Dynamic Server and its features with the uninstaller.

See the information in "Uninstallserver Command" on page 6-3 for details about what options are supported by this command.

To remove Dynamic Server from Mac OS X systems by using the uninstaller:

1. Open a terminal window so that you can work in a command-line environment.
2. Change directory to $INFORMIXDIR.
3. Set the **$INFORMIXDIR** environment variable to the current directory.
4. Run `sudo uninstallserver` with the appropriate options. The uninstall application runs in console mode by default, unless you specify GUI mode when you run the command.
5. Follow the instructions in the application. By default, the product and all its features are selected to be removed. If you want to remove just some features, ensure that only those features are selected. You cannot remove the base server without all the other features.

   Important: If Client SDK is installed in the same directory as Dynamic Server:
   - You must uninstall Dynamic Server *before* you uninstall Client SDK.
   - Do not remove the Global Language Support (GLS) and Messages features because both products have dependencies on the features.

Removing Client SDK and Informix Connect (Mac OS X)

Uninstall Client SDK and Informix Connect by running the GUI uninstallation application.

Important: If Client SDK is installed in the same directory as Dynamic Server:
- You must uninstall Dynamic Server *before* you uninstall Client SDK.
- Do not remove the Global Language Support (GLS) and Messages features because both products have dependencies on the features.

Note: When you uninstall Client SDK or Informix Connect, the registered IBM Informix ODBC Driver is unregistered if this registered driver is on the system. The uninstallation application also prompts you to confirm that you want to delete the user-defined **sqlhosts** file entries used by ODBC connections.

To uninstall IBM Informix client products in GUI mode on Mac OS X:

1. From **$INFORMIXDIR**, run the following command:
   - `sudo java -jar uninstall_csdk/uninstall.jar -swing`
2. Follow the prompts to complete the uninstallation.

Chapter 8. Viewing Log Files

You can view messages that are saved to log files to confirm successful installation or to troubleshoot problems.

Log Files for the Installation Application

Running the IBM Informix installation application automatically generates an **install.log** file in which issues about installing are recorded.

The **install.log** file details activity every time you run the installation application. If an installation attempt does not succeed, then refer to this log to identify possible problems. When the installation is successful, the log file is generated but by default is saved in a different directory.

When you attempt to install in the same directory more than once, each attempt generates a separate **install.log** file in the directory. The log file name of the previous installation attempt is appended with a datestamp if try to install on the same directory. The file name **install.log** is always the most recent log record for the directory.

Location of the install.log File

The **install.log** file location depends on whether the installation application has run successfully or not. For the following table

tempdir **stands for the temporary directory being used (/tmp by default)**

version **stands for version number of the IBM Informix product**

Table 8-1. Installer Log Files

Component	Default Location of install.log file for Failed Installation Attempt	Default Location of install.log file for Successful Installation
Dynamic Server	*tempdir*/informix/ids-*version*-install.log	$INFORMIXDIR/tmp/ids-*version*-install.log
IDS Bundle	*tempdir*/informix/ids_bndl-*version*-install.log	$INFORMIXDIR/tmp/ids_bndl-*version*-install.log
IConnect	*tempdir*/informix/iconnect-*version*-install.log	$INFORMIXDIR/tmp/iconnect-*version*-install.log
Client SDK	*tempdir*/informix/csdk-*version*-install.log	$INFORMIXDIR/tmp/csdk-*version*-install.log

To save the **install.log** file at a location other than in **/tmp**, specify the `-log` option when you run the installation command. For example, the following command would place the installation application log file in the **/sample** directory if it exists on the system:

```
ids_install -log sample/install.log
```

Log Files for IBM Informix Products During Installation

IBM Informix product-specific activity during installation is recorded in a **.txt** log file.

A **.txt** file recording messages pertaining to the loading of IBM Informix products is automatically generated when you run the installation application. This file is named **log.txt** or a variation of this. This file is always saved in the **$INFORMIXDIR/tmp/** directory.

If you install more than once in the same directory, the most recent installation attempt overwrites the **log.txt** file and the previous log file contents is written to a datestamped file in the same directory.

The following table lists the path and file names of the each product's installation log file.

Table 8-2. Product Log Files

IBM Informix Product Component	Location of Product-Specific Log File
Dynamic Server	$INFORMIXDIR/tmp/log.txt
Bundled IBM Informix Products	$INFORMIXDIR/tmp/log.txt
Informix Connect	$INFORMIXDIR/tmp/connlog.txt
Client SDK	$INFORMIXDIR/tmp/csdklog.txt

Appendix. Accessibility

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

Accessibility features for IBM Informix Dynamic Server

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

Accessibility Features

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

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

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

Keyboard Navigation

This product uses standard Microsoft® Windows navigation keys.

Related Accessibility Information

IBM is committed to making our documentation accessible to persons with disabilities. Our publications are available in HTML format so that they can be accessed with assistive technology such as screen reader software. The syntax diagrams in our publications are available in dotted decimal format. For more information about the dotted decimal format, go to "Dotted Decimal Syntax Diagrams."

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

IBM and Accessibility

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

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, this identifies a reference that 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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