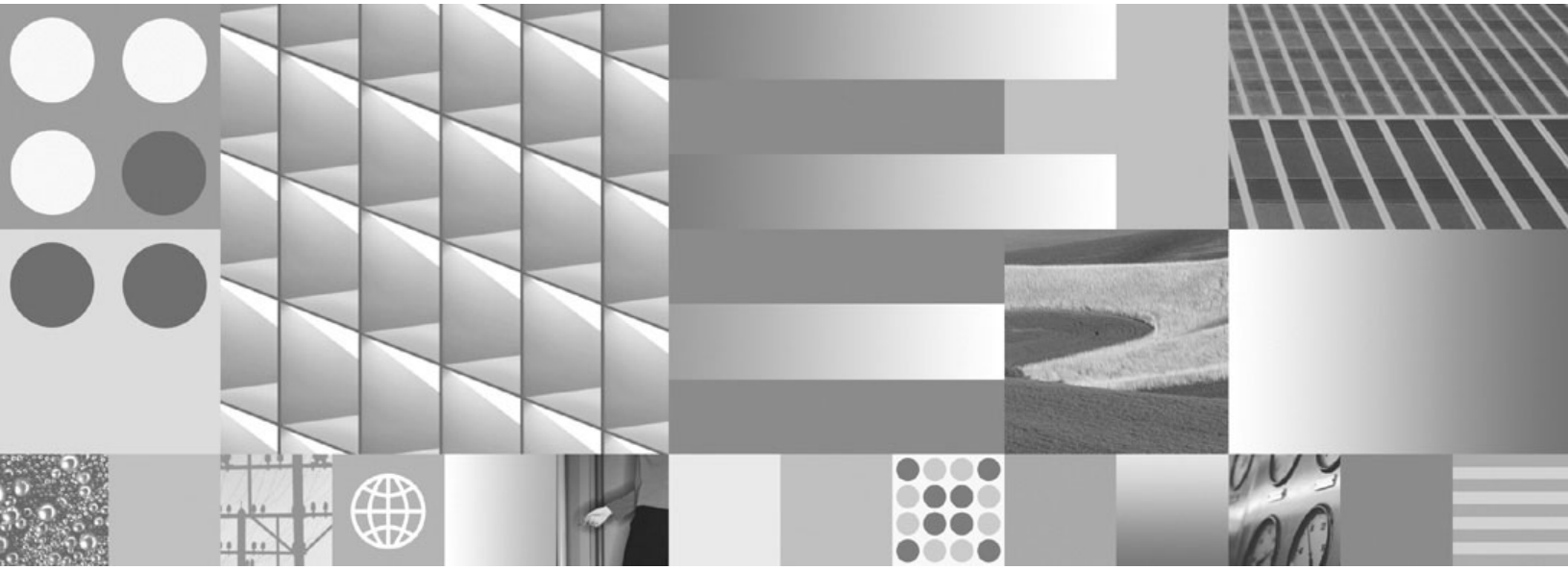
IBM Informix

Version 4.20

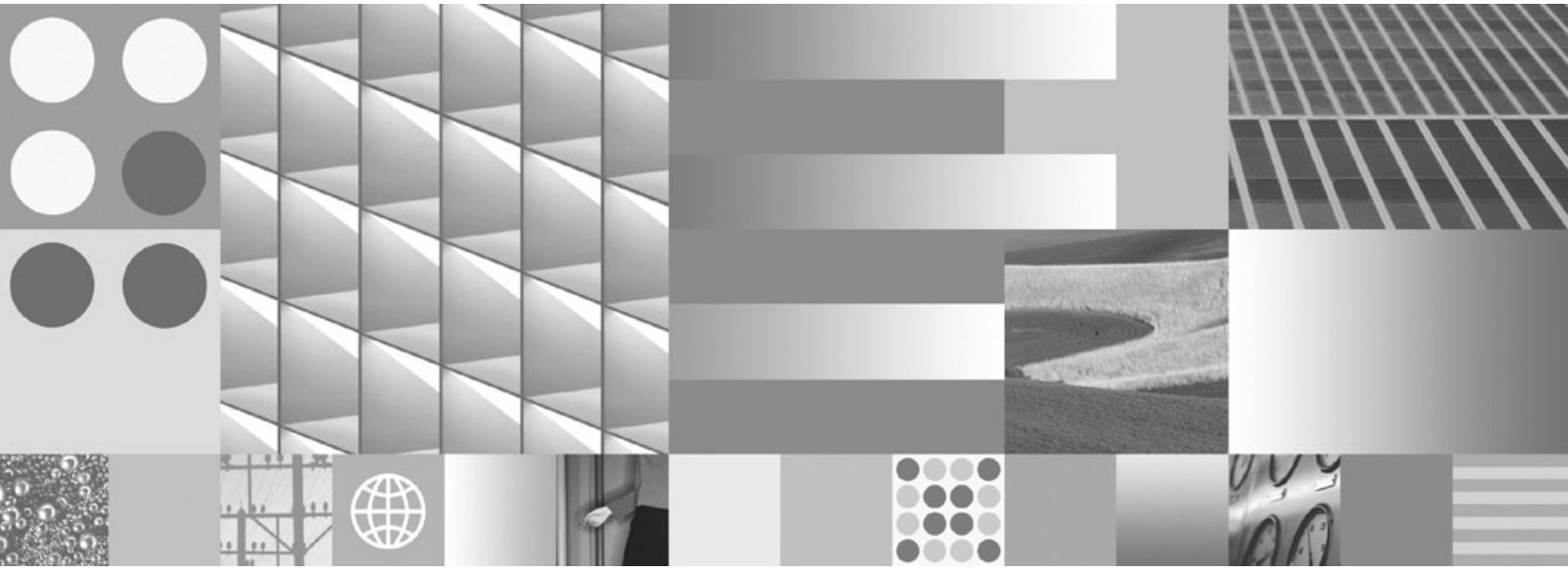


IBM Informix DataBlade Module Installation and Registration Guide

G229-6368-03

IBM Informix

Version 4.20



IBM Informix DataBlade Module Installation and Registration Guide

G229-6368-03

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

This edition replaces G229-6368-02.

Contents

Introduction

About This Publication

This guide explains how to install DataBlade® modules and how to use BladeManager to manage them in Informix® databases. BladeManager is an application that runs on client computers and requires a connection to IBM Informix Dynamic Server.

Types of Users

This manual is for database administrators who install and register DataBlade modules for use in a database. It is also for DataBlade module developers who register DataBlade modules during development.

Hardware and Software Requirements

BladeManager requires IBM Informix Dynamic Server and the IBM Informix Client Software Development Kit (Client SDK). See the BladeManager release notes for version compatibility and system requirements.

BladeManager is available as both a graphical user interface and a command-line interface.

The BladeManager graphical user interface runs on personal computers with Intel® processors running the Windows operating systems.

The BladeManager command-line interface runs on Windows®, UNIX®, and Linux® computers.

What's New in DataBlade Module Installation and Registration Guide for Dynamic Server Version 11.50

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

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

Table 1. What's New in the IBM Informix DataBlade Module Installation and Registration Guide Version 4.20 for Informix Dynamic Server Version 11.50.xC4.

Overview	Reference
DataBlade Module Registration through SQL You can now use the built-in **SYSBldPrepare( )** function to register one or more DataBlade modules or to unregister a DataBlade module, as an alternative to using the BladeManager application. This enables you to register DataBlade modules from any client API that supports SQL, such as DB-Access, SPL, C API, ESQL, JDBC, or ODBC, and without requiring that BladeManager be installed.	Chapter 2, "Registering with the SYSBldPrepare( ) Function," on page 2-1

Documentation Conventions

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

Technical Changes

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

HTML documentation
New or changed information is surrounded by blue >> 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

Identifies information that is specific to IBM Informix Dynamic Server

End of Dynamic Server

Windows Only

Identifies information that is specific to the Windows operating system

End of Windows Only

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

Table Sorting (Windows)

Example Code Conventions

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

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

```
CONNECT TO stores_demo
...

DELETE FROM customer
   WHERE customer_num = 121
...

COMMIT WORK
DISCONNECT CURRENT
```

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

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

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

Additional Documentation

Documentation about IBM Informix products is available in various formats.

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

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

Compliance with Industry Standards

IBM Informix products are compliant with various standards.

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

How to Provide Documentation Feedback

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

Use one of the following methods:

- Send e-mail to docinf@us.ibm.com.
- Go to the information center at http://publib.boulder.ibm.com/infocenter/idshelp/v115/index.jsp and open the topic that you want to comment on. Click the feedback link at the bottom of the page, fill out the form, and submit your feedback.
- Add comments to topics directly in the IDS information center and read comments that were added by other users. Share information about the product documentation, participate in discussions with other users, rate topics, and more! Find out more at http://publib.boulder.ibm.com/infocenter/idshelp/v115/index.jsp?topic=/com.ibm.start.doc/contributing.htm.

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

We appreciate your suggestions.

Chapter 1. Installing DataBlade Modules

In This Chapter

This chapter provides instructions for completing the tasks described in the following sections:

- "Overview of Installing and Registering a DataBlade Module" on page 1-1
- "Installing Your DataBlade Module on UNIX" on page 1-2
- "Installing Your DataBlade Module on Windows" on page 1-3
- "Uninstalling Your DataBlade Module on UNIX" on page 1-4
- "Uninstalling Your DataBlade Module on Windows" on page 1-4

Overview of Installing and Registering a DataBlade Module

Before you can use a DataBlade module, make sure your database server and any clients are properly configured.

On UNIX, you must have these environment variables set properly: **INFORMIXDIR**, **PATH**, **LD_LIBRARY_PATH**, **ONCONFIG**, and **INFORMIXSERVER**. For more information, see the *IBM Informix Dynamic Server Administrator's Guide*.

On Windows, you must have these environment variables set properly: **INFORMIXDIR** and **INFORMIXSERVER**. For more information, see the *IBM Informix Dynamic Server Installation Guide for Windows*.

To use a DataBlade module in your database:

1. Install the DataBlade module on Dynamic Server.

   This process is described later in this chapter.
2. Make the DataBlade module available to a database by registering it in that database with the BladeManager utility, or with an SQL function call.
   - To use an SQL function call on UNIX or Windows, see Chapter 2, "Registering with the SYSBldPrepare( ) Function," on page 2-1.
   - To use a graphical user interface on Windows, see Chapter 3, "Registering with the BladeManager Graphical User Interface," on page 3-1.
   - To use a command-line interface on UNIX or Windows, see Chapter 4, "Registering with the BladeManager Command-Line Interface," on page 4-1.

For more information on your DataBlade module, see the user's guide for the module.

Installing Your DataBlade Module on UNIX

This section describes how to install a DataBlade module on a UNIX computer.

How you install your DataBlade module depends on when it was released; the installation process for DataBlade modules released after the beginning of 2007 is different from the installation process for DataBlade modules released prior to 2007.

To install a newer DataBlade module on UNIX:

1. Log in as the **informix** user.
2. Perform one of the following tasks depending on how you obtain the software:
   - **CD-ROM:** Move to the CD-ROM directory.
   - **Electronic download:** Follow the directions on the download site to download the product file.
3. Run the executable command. See the *Quick Start Guide* for your DataBlade module for details on this command.
4. Confirm the installation directory. By default, the value of the **INFORMIXDIR** environment variable for the database server installation is selected. You can specify a different Dynamic Server instance.

To install a pre-2007 DataBlade module on a UNIX computer:

1. Log in as the **informix** user.
2. Complete the following steps if you received your DataBlade module software on a CD. If you plan to access the product by electronic delivery, follow the instructions at the download site and then go to Step 3.
   a. Move to the CD-ROM directory. The software for each platform has its own compressed file; the platform name is included in the file name. The string *x*C*n* in the file name further distinguishes the product. The values for *x* and their meaning are:

      F 64 bit

      H 32 bit HP

      U 32 bit UNIX or Linux

      T 32 bit Windows

   b. Copy the compressed product file to a temporary location, such as the **/tmp** directory.
   c. Uncompress the file and restore the content with the appropriate command (such as **uncompress**, **zcat**, **tar**, **cpio**, **rpm**, **winzip**).

      This command creates a *datablade* directory (or directories) into which it copies the product files, where *datablade* is the DataBlade module project name.
3. Move to the *datablade* directory, where *datablade* is the DataBlade module project name.
4. Run the installation script:

   ```
   ./install
   ```
5. Confirm the installation directory. By default, the value of the **INFORMIXDIR** environment variable for the database server installation is selected. You can specify a different Dynamic Server instance.

The DataBlade module software is installed in the directory **$INFORMIXDIR/extend/***datablade***.***version*, where *datablade* is the project name and *version* is the version number. For example, the IBM Informix Large Object Locator DataBlade Module, Version 1.2, is in **$INFORMIXDIR/extend/lld.1.20.UC2**.

If the DataBlade module package you are installing has multiple DataBlade modules, each module is unloaded into a separate directory. Each directory has its own installation script. Move to each directory using the **cd** command and run the installation script. The order of installation does not matter.

Important: After you install your DataBlade module, read the online notes in the **/doc** directory in the DataBlade directory.

Installing Your DataBlade Module on Windows

This section describes how to install a DataBlade module on a Windows computer.

How you install your DataBlade module depends on when it was released; the installation process for DataBlade modules released after the beginning of 2007 is different from the installation process for DataBlade modules released prior to 2007.

To install your newer DataBlade module on a Windows computer:

1. Log in as a member of the **Informix-Admin** group.
2. Perform one of the following tasks depending on how you obtain the software:
   - **CD-ROM:** Move to the CD-ROM directory.
   - **Electronic download:** Follow the directions on the download site to download the product file.
3. Run the executable command. See the *Quick Start Guide* for your DataBlade module for details on this command.
4. Confirm the installation directory. By default, the value of the **INFORMIXDIR** environment variable for the database server installation is selected. You can specify a different Dynamic Server instance.
5. Complete the installation.

To install your pre-2007 DataBlade module on a Windows computer:

1. Log in as a member of the **Informix-Admin** group.
2. Load the DataBlade module CD into your CD-ROM drive. Or, if you plan to access the product by electronic delivery, follow the instructions at the electronic site.
3. Start the **Setup** program in one of the following ways:
   - In the Run dialog box, type *d*`:setup` and click **OK**.
   - At the DOS prompt, type *d*`:setup` and press `ENTER`.

   The *d* represents the letter of the CD-ROM drive.

   An installation options dialog box appears.
4. In the installation options dialog box, select one of the following installation types:
   - **Typical.** Includes all components, any online help, and any examples.
   - **Compact.** Includes all components but not online help or examples.
   - **Custom.** Allows you to select which components and subcomponents you want to install.

5. Confirm the installation directory. By default, the value of the **INFORMIXDIR** environment variable for the database server installation is selected. You can specify a different Dynamic Server instance.
6. In the verification dialog box, make sure the destination path and selected components are correct and click **Next**.

   The Setup Complete dialog box appears.
7. Click **Finish** to exit **Setup**.

The DataBlade module software is installed in the directory **%INFORMIXDIR%\extend***datablade*.*version*, where *datablade* is the project name and *version* is the version number. For example, the IBM Informix Large Object Locator DataBlade Module, Version 1.2, is in **%INFORMIXDIR%\extend\lld.1.20.TC2**.

Important: After you install your DataBlade module, read the online notes in the **\doc** directory in the DataBlade directory.

Uninstalling Your DataBlade Module on UNIX

This section describes how to uninstall a DataBlade module that was released after the beginning of 2007 on a UNIX computer.

To uninstall a newer DataBlade module on UNIX:

1. Unregister the DataBlade module. See "Unregistering a DataBlade Module" on page 4-7.
2. Log in as the **informix** user.
3. Run the uninstall command. See the *Quick Start Guide* for your DataBlade module for details on this command.

Uninstalling Your DataBlade Module on Windows

This section describes how to uninstall a DataBlade module that was released after the beginning of 2007 on a Windows computer.

To uninstall a newer DataBlade module on Windows:

1. Unregister the DataBlade module. See "Unregistering a DataBlade Module" on page 3-5.
2. Log in as the **informix** user.
3. Use Add/Remove Programs in the Control Panel or run the uninstall command. See the *Quick Start Guide* for your DataBlade module for details on this command.

Chapter 2. Registering with the SYSBldPrepare( ) Function

In This Chapter

You can now use the built-in **SYSBldPrepare( )** function to register one or more DataBlade modules or to unregister a DataBlade module, as an alternative to using the BladeManager application. This enables you to register DataBlade modules from any client API that supports SQL, such as DB-Access, SPL, C API, ESQL, JDBC, or ODBC, and without requiring that BladeManager be installed.

This chapter also describes the **SYSBldRelease( )** function, which returns the version string of the **SYSBldPrepare( )** function.

Restrictions on Using the SYSBldPrepare( ) Function

The following restrictions affect which databases can support the **SYSBldPrepare( )** function for DataBlade module registration:

- No cross-database support. You cannot use **SYSBldPrepare( )** to register or unregister a DataBlade module in any database except the local database to which your session is currently connected. To use this function in another database, you must first connect to that database and then invoke **SYSBldPrepare( )**.
- No transaction support. Do not invoke **SYSBldPrepare( )** within transactions that you begin explicitly.
- Currently there is no support for unlogged or ANSI/ISO-compliant databases. The function is valid only in databases that support explicit transactions.
- You cannot register a DataBlade module on a remote standalone (RS) secondary server, because such servers cannot directly support DDL operations, like those that this function performs. If a DataBlade module needs to be registered or unregistered on an RS secondary server, you must register or unregister that module on the primary server that the secondary server replicates.

Prerequisite Tasks

This section lists the prerequisite tasks for using the **SYSBldPrepare( )** function to register or unregister DataBlade modules.

To prepare to call the SYSBldPrepare( ) function:

1. Install and configure Informix Dynamic Server.

- You must have these environment variables set properly: **INFORMIXDIR** and **INFORMIXSERVER**. For more information, see the *IBM Informix Dynamic Server Installation Guide for UNIX, Linux, and Mac OS X* or the *IBM Informix Dynamic Server Installation Guide for Windows*.
- Set the DB_LIBRARY_PATH configuration parameter in the ONCONFIG file. The DB_LIBRARY_PATH configuration parameter specifies the location that IDS checks for UDR or UDT shared libraries. The DB_LIBRARY_PATH configuration parameter should include **$INFORMIXDIR/extend** for DataBlade modules. For more information, see the *IBM Informix Dynamic Server Administrator's Reference*.
- You can register DataBlade modules written in the Java™ language only if your database server supports J/Foundation. For more information about J/Foundation, see the *J/Foundation Developer's Guide*.

2. Install DataBlade modules.

   See Chapter 1, "Installing DataBlade Modules," on page 1-1 for more information on how to install DataBlade modules on UNIX or Windows systems, and how to uninstall DataBlade modules.
3. Obtain a user identifier and its password that authorizes you to begin a user session. If you do not have these for the Dynamic Server instance, contact the Database Server Administrator (DBSA) and request a user ID and a password.

   On Dynamic Server instances that have set the IFX_EXTEND_ROLE configuration parameter to enable the EXTEND role, you must be granted that role (or be user **informix** or a member of the DBSA group) to be able to register or unregister DataBlade modules in any database. If your Dynamic Server instance has enabled the EXTEND role, but you do not hold that role, contact the DBSA and request that the EXTEND role be granted to you.
4. Connect to the database. For information on the Connect and Resource access privileges that you need to connect to the database, see the *IBM Informix Dynamic Server Administrator's Guide*.
5. Establish an environment in which you can issue valid SQL statements. This can be any client API that supports SQL, such as DB-Access, SPL, C API, ESQL, JDBC, or ODBC. Refer to the documentation of your API for information on how to establish a database connection and how to call built-in functions.

Registering a DataBlade Module

To register a DataBlade module, run the **SYSBldPrepare( )** function with the DataBlade module reference and the `'create'` arguments. For the complete calling syntax and the signature of the **SYSBldPrepare( )** function, see its description in the *IBM Informix Guide to SQL: Syntax*.

The DataBlade module reference is the installed name and version number of the DataBlade module, which you can see in the **$INFORMIXDIR/extend** directory. The version string that follows the DataBlade module name can be replaced by or truncated with the asterisk (*) wildcard, which instructs **SYSBldPrepare( )** to register the highest installed version of the specified module.

The following call to the **SYSBldPrepare( )** function instructs the database server to register the highest installed version of the Basic Text Search DataBlade module:

```
EXECUTE FUNCTION sysbldprepare('bts.*','create');
```

Successful invocation of the **SYSBldPrepare( )** function with `'create'` as its second argument also registers any DataBlade modules on which the module specified in the first argument is dependent. The following SPL statement registers the

specified version of the Spatial DataBlade module and implicitly registers the highest installed version of the R-tree DataBlade module on which it has a dependency:

```
LET y = sysbldprepare('spatial.8.21.FC3','create');
```

Here the LET statement assigns to the variable **y** the returned status code from the call to **SYSBldPrepare( )**. If **y** = 0, the registration succeeded.

If the dependency R-tree DataBlade module (**ifxrltree**) is already registered, no action to register it is taken, even if the currently registered version is not the highest installed version.

Registering a Set of DataBlade Modules

To register all DataBlade modules that are installed as part of Dynamic Server, run the **SYSBldPrepare( )** function with the `'builtin'` and the `'create'` arguments. These DataBlade modules are described in the *IBM Informix Database Extensions User's Guide*.

To register a list of DataBlade modules, you can create a text file in the **$INFORMIXDIR/extend/ifxmngr** directory that contains DataBlade module references and use it as the first argument to the **SYSBldPrepare( )** function.

For the complete calling syntax and the signature of the **SYSBldPrepare( )** function, see its description in the *IBM Informix Guide to SQL: Syntax*.

The following CALL statement of SPL registers all of the built-in DataBlade modules:

```
CALL sysbldprepare('builtin','create');
```

Unregistering a DataBlade Module

To unregister a DataBlade module, run the **SYSBldPrepare( )** function with the DataBlade module reference and the `'drop'` arguments. For the complete calling syntax and the signature of the **SYSBldPrepare( )** function, see its description in the *IBM Informix Guide to SQL: Syntax*.

The following example unregisters version 2.0 of the Node DataBlade module:

```
EXECUTE FUNCTION sysbldprepare('Node.2.0','drop');
```

When you unregister a DataBlade module with the `'drop'` argument, the asterisk notation specifies the version of the specified module that is registered in the database.

The following example unregisters the currently registered version of the Node DataBlade module:

```
EXECUTE FUNCTION sysbldprepare('Node.*','drop');
```

The `'drop'` argument does not implicitly unregister other DataBlade modules that have dependency relationships with the module specified by the first argument. The **SYSBldPrepare( )** function issues an error if you attempt to unregister a DataBlade module on which another DataBlade module that is currently registered in the database depends. For example, you cannot use this function to unregister the R-tree DataBlade module while the Spatial DataBlade module is still registered.

```
EXECUTE FUNCTION sysbldprepare('ifxrltree.*','drop');
```

You can unregister the R-tree module without **SYSBldPrepare( )** throwing an exception if you first unregister the dependent Spatial DataBlade module:

```
EXECUTE FUNCTION sysbldprepare('spatial.*','drop');
EXECUTE FUNCTION sysbldprepare('ifxrltree.*','drop');
```

Upgrading or Reverting a DataBlade Module

You can use the **SYSBldPrepare( )** function to upgrade a registered DataBlade module to a higher version, or to revert to a lower version. Like BladeManager, the **SYSBldPrepare( )** function does not allow more than one version of the same DataBlade module to be registered in the same database. When you register the replacement version, you do not need a second call to **SYSBldPrepare( )** to unregister a DataBlade module that you have replaced with another version.

Before you can change the registered version of a DataBlade module, the other version must be installed in the **$INFORMIXDIR/extend** directory.

Upgrading to a Higher Version

To upgrade a DataBlade module to a higher version, run the **SYSBldPrepare( )** function with the DataBlade module reference and the `'create'` arguments. For the complete calling syntax and the signature of the **SYSBldPrepare( )** function, see its description in the *IBM Informix Guide to SQL: Syntax*.

Suppose, for example, that you have installed versions 8.20.FC1 and 8.21.FC3 of the Spatial DataBlade module and versions 1.00 and 2.00 of the R-tree module, but only the **spatial.8.20.FC1** and **ifxrltree.1.00** modules are registered in the database. To upgrade from **spatial.8.20.FC1** to **spatial.8.21.FC3**, issue these function calls:

```
EXECUTE FUNCTION sysbldprepare('ifxrltree.*','create');
EXECUTE FUNCTION sysbldprepare('spatial.*','create');
```

This sequence of calls has the following effects:

- The first call upgrades the R-tree DataBlade module to the highest installed version.
- The second call upgrades the Spatial DataBlade module to the highest installed version

Here the asterisk in each function call specifies the highest installed version, so no exact version string is needed in the first argument.

Reverting to an Earlier Version

To revert a DataBlade module to an earlier version, run the **SYSBldPrepare( )** function with the DataBlade module reference and the `'create'` arguments. For the complete calling syntax and the signature of the **SYSBldPrepare( )** function, see its description in the *IBM Informix Guide to SQL: Syntax*.

The following example reverts to version 8.20.FC1 of the Spatial DataBlade module and version 1.00 of the R-tree module:

```
EXECUTE FUNCTION sysbldprepare('spatial.8.20.FC1','create');
EXECUTE FUNCTION sysbldprepare('ifxrltree.1.00','create');
```

In these function calls, you cannot use an asterisk as the version string, because 8.20.FC1 and 1.00 are not the latest installed versions of their respective modules.

Viewing Version Information of SYSBldPrepare( )

To determine which **SYSBldPrepare( )** version you have been using, use the **SYSBldRelease( )** function. This function can be useful if you contact IBM Support with **SYSBldPrepare( )** issues. You must have run the **SYSBldPrepare( )** function at least one time before the **SYSBldRelease( )** function can return the version string.

SYSBldRelease( ) is a built-in function of Dynamic Server that takes no arguments. It returns the version string and compilation date of the **SYSBldPrepare( )** function. The returned version string has this format:

```
major.minor.os_codeCinterim
```

Here C is a literal character, and the *major*, *minor*, *os_code*, and *interim* elements of the version string have the same semantics that these terms have in the Module Reference segment in the calling syntax of the **SYSBldPrepare( )** function, but with no asterisk (*) wildcard notation.

The SQL statement in the following example requests the version string of the **SYSBldPrepare( )** function for the current database:

```
EXECUTE FUNCTION sysbldrelease();
```

For the complete calling syntax and the signature of the **SYSBldPrepare( )** function, see its description in the *IBM Informix Guide to SQL: Syntax*.

SYSBldPrepare( ) Error Messages

Calls to the **SYSBldPrepare( )** function can return error messages. For information about these error messages, see the section "Exceptions in Calls to SYSBldPrepare( )" on page A-1.

Chapter 3. Registering with the BladeManager Graphical User Interface

In This Chapter

To use a DataBlade module in a database, you must first register the DataBlade module in the database. *Registration* is the process of executing the SQL statements that create the DataBlade module database objects and identify the DataBlade module shared object file or dynamic link library to the database server. You use BladeManager to register DataBlade modules.

Before you can use BladeManager, you must complete the tasks listed in the section "Prerequisite Tasks" on page 3-1, next.

This chapter describes how to register DataBlade modules using the BladeManager graphical user interface main application window on Windows computers. You can also use the **SYSBldPrepare( )** function or the command-line interface of BladeManager to register DataBlade modules. For details of DataBlade module registration on UNIX or Windows using calls to **SYSBldPrepare( )**, see Chapter 2, "Registering with the SYSBldPrepare( ) Function," on page 2-1. For details of DataBlade module registration on UNIX or Windows using the command-line interface of BladeManager, see Chapter 4, "Registering with the BladeManager Command-Line Interface," on page 4-1.

The graphical user interface to the BladeManager application provides four tabbed pages on which you can perform tasks, as described in the following sections:

- "Managing DataBlade Modules" on page 3-2
- "Managing Client Files" on page 3-5
- "Viewing Log Files" on page 3-6
- "Viewing Module Information" on page 3-7

Prerequisite Tasks

This section lists the prerequisite tasks for using BladeManager to register DataBlade modules.

To prepare to use BladeManager:

1. Install and configure Informix Dynamic Server.

- You must have these environment variables set properly: **INFORMIXDIR** and **INFORMIXSERVER**. For more information, see the *IBM Informix Dynamic Server Installation Guide for Windows*.
- Set the DB_LIBRARY_PATH configuration parameter in the ONCONFIG file. The DB_LIBRARY_PATH configuration parameter specifies the location that IDS checks for UDR or UDT shared libraries. The DB_LIBRARY_PATH configuration parameter should include **$INFORMIXDIR/extend** for DataBlade modules. For more information, see the *IBM Informix Dynamic Server Administrator's Reference*.

2. Install DataBlade modules.

   See Chapter 1, "Installing DataBlade Modules," on page 1-1, for more information.

3. If necessary, install BladeManager.

   BladeManager is included in the Informix Dynamic Server installation bundle. If you did not install BladeManager when you installed Informix Dynamic Server, run **BladeMgr\Setup.exe** from the installation media.

To start BladeManager, select **Start > Programs >** *Informix program group name*> **BladeManager** or double-click the **BladeManager** icon in the Informix program group. To see a particular page in the application window, click its tab.

Managing DataBlade Modules

To manage DataBlade modules, use the **Databases** page, as shown in Figure 3-1.

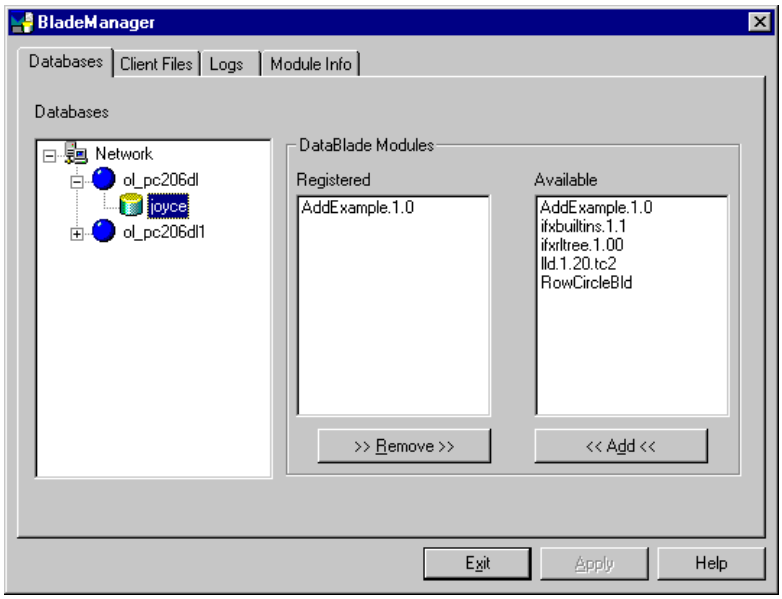


Figure 3-1. Databases Page

Managing DataBlade modules consists of tasks described in the following subsections:

- "Connecting to a Database" on page 3-3, next
- "Registering a DataBlade Module" on page 3-3
- "Upgrading a DataBlade Module" on page 3-4
- "Unregistering a DataBlade Module" on page 3-5

Connecting to a Database

After you install a DataBlade module, you register it in each database in which you want to use it. To register a DataBlade module, you must first connect to that database.

See the *IBM Informix Dynamic Server Administrator's Guide* for information on the connect and resource permissions you need to connect to the database.

Tip: You can be sure you have the right permissions if you run BladeManager as the default user for the database server. You can tell you are the default user if you are not prompted for a user name and password when you attempt to connect to the database. You can use the **Setnet32** utility to specify the user name and password you want to be the default for a particular database server. Make sure you restart BladeManager whenever you change settings in **Setnet32**.

To connect to a database:

1. To see a list of available database servers, in the **Databases** list box on the **Databases** page, click the expander button next to the network and database server icons.
2. Click the name of the database to which you want to connect.
3. If the User Login dialog box appears, type a user name and password that have the required permissions for the database.
4. Click **OK**.

After you connect, BladeManager displays the registered and available DataBlade modules for that database.

The first time BladeManager connects to a database, BladeManager prepares the installed DataBlade modules for registration and generates a log file. During the preparation, BladeManager gathers the DataBlade module information that appears on the BladeManager pages. If the preparation of a DataBlade module fails, the DataBlade module does not appear in the **Available** list box. Check the log file for information about preparation failures (see "Viewing Log Files" on page 3-6) and see Appendix A, "Troubleshooting Registration Problems," on page A-1, for possible solutions.

Registering a DataBlade Module

When BladeManager registers a DataBlade module, it executes a set of SQL statements to register each database object in the module. Registration is equivalent to creating database objects individually with the SQL CREATE statement.

You must have resource permissions on the database to register a DataBlade module in it. Additionally, if the server is configured so that the EXTEND role is needed to add UDRs and UDTs, then you must be granted the EXTEND role by a DBSA (typically, user **informix**).

To register a DataBlade module:

1. On the **Databases** page, select the database in which you want to register a module (see Figure 3-1 on page 3-2).
2. In the **Available** list box, select the module you want to register.
3. Click **Add**.
4. Click **Apply**.

If registration fails, BladeManager returns the database to its prior state. To see the SQL statements that failed, look at the corresponding log file (see "Viewing Log Files" on page 3-6) and see Appendix A, "Troubleshooting Registration Problems," on page A-1, for possible solutions.

Some DataBlade modules depend on one or more *interfaces*. An interface is like a contract between DataBlade modules: the DataBlade module that requires the interface depends on the functionality of the DataBlade module that provides the interface.

When you register a DataBlade module with an interface dependency, BladeManager verifies that one of the DataBlade modules that provides that interface is registered in the database. If it is, registration continues. If it is not, BladeManager displays the Modules with Missing Interface dialog box; select one of the DataBlade modules and click **OK**.

Important: You can register DataBlade modules written in the Java language only if your database server support J/Foundation. For more information about J/Foundation, see the *J/Foundation Developer's Guide*.

Important: BladeManager does not verify the integrity of the DataBlade modules that provide a required interface; BladeManager does not check for the presence of the required database objects.

Upgrading a DataBlade Module

To upgrade a DataBlade module, use BladeManager to register a new version of the module. When you register the new version, BladeManager will automatically unregister the old version.

Important: You cannot use the following procedure to upgrade or downgrade some versions of DataBlade modules. For instructions on which versions can be upgraded or downgraded, see the release notes for the DataBlade module.

To upgrade a DataBlade module:

1. On the **Databases** page, select the database in which you want to upgrade a DataBlade module (see Figure 3-1 on page 3-2).
2. In the **Available** list box, select the module you want to upgrade.
3. Click **Add**.

   The **Registered** list box shows the version of the module with the new version in parentheses to indicate that the current version will be upgraded.
4. Click **Apply**.

   After a successful upgrade, the **Registered** list box shows only the new version, along with any other DataBlade modules registered in the database.

If the upgrade fails, BladeManager returns the database to its prior state. To see the SQL statements that failed, look at the corresponding log file (see "Viewing Log Files" on page 3-6) and see Appendix A, "Troubleshooting Registration Problems," on page A-1, for possible solutions.

To downgrade a DataBlade module, use this same procedure to replace the DataBlade module with a lower version, which appears in the **Available** list box.

Unregistering a DataBlade Module

When BladeManager unregisters a DataBlade module, it removes each object of the module from the database by using SQL DROP statements.

Important: BladeManager does not unregister a DataBlade module that provides a required interface for other DataBlade modules or database objects.

To unregister a DataBlade module:

1. On the **Databases** page, select the database from which you want to unregister a module (see Figure 3-1 on page 3-2).
2. In the **Registered** list box, select the module you want to unregister.
3. Click **Remove**.
4. Click **Apply**.

If the unregistration fails, BladeManager returns the database to its prior state. To see the SQL statements that failed, look at the corresponding log file (see "Viewing Log Files" on page 3-6) and see Appendix A, "Troubleshooting Registration Problems," on page A-1, for possible solutions.

Managing Client Files

Some DataBlade modules are shipped with files that are required on client computers. These client files can include graphical user interfaces to view data or tools to query or search the database. When you install the DataBlade module, the client files are placed on the database server. You can install and uninstall these client files on the client computer that runs BladeManager.

You can manage client files with the **Client Files** page, as shown in Figure 3-2.

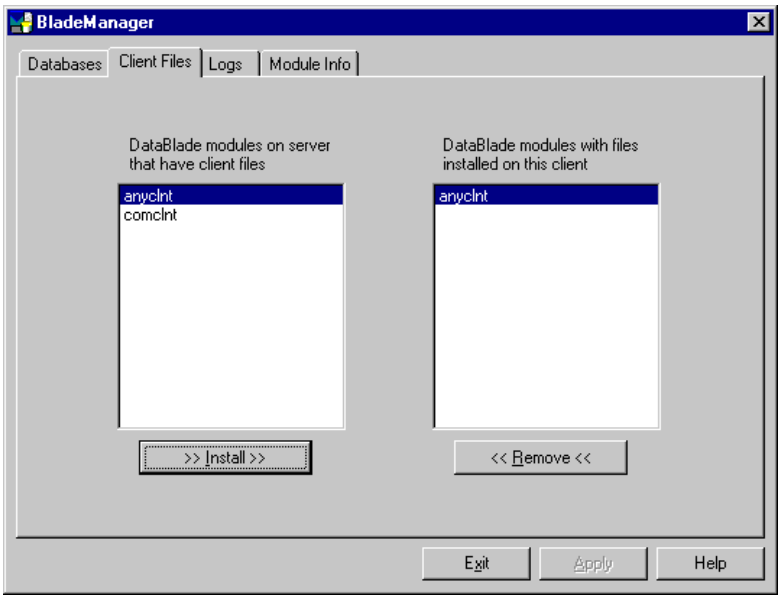


Figure 3-2. Client Files Page

The left list box shows the names of all the DataBlade modules on the current server that include client files that are appropriate for the current client computer.

DataBlade modules can contain additional client files for other operating systems. The right list box shows the names of all DataBlade modules that have client files installed on the current client computer.

Installing Client Files

You must install client files individually on each computer on which you require them.

Typically, client files are installed on the client computer in the **$INFORMIXDIR/extend/***datablade***/client** directory for your Informix client products, where *datablade* is the name of the DataBlade module. However, some DataBlade modules might install files in other directories. To install client files, you must have permission to write to the directory in which the client files are installed.

To install the client files:

1. On the **Client Files** page, select the DataBlade module that contains the client files you want to install from the left list box.
2. Click **Install**.

A client file installation might require processing after BladeManager has copied the files to your computer. For example, you might have to run an install script or **setup.exe** program before you can use the client files. For instructions, see the release notes for the DataBlade module.

Uninstalling Client Files

You must uninstall client files from each computer from which you want them removed.

To uninstall client files, you must have permission to write to the directory in which the client files reside.

To remove client files:

1. On the **Client Files** page, select a DataBlade module in the right list box.
2. Click **Remove**.

A client file uninstallation might require processing before or after BladeManager has removed the files from your computer. For example, you might have to run an uninstall script or program before the client files are completely removed. For instructions, see the release notes for the DataBlade module.

Viewing Log Files

BladeManager generates a log file when you prepare a database for registration and when you register, upgrade, or unregister a DataBlade module. If one of these tasks fails, the log file lists the specific SQL statement that failed. Log files also list whether the failure was expected or unexpected, and they show the error generated by the SQL command.

An example of an expected error is an error issued when a DataBlade module contains an SQL statement to create a table, but that table already exists. When BladeManager receives an unexpected error, it halts the operation and returns the database to its prior state.

Log files are numbered consecutively and contain a time stamp. You should periodically delete log files to free disk space.

View and delete log files on the **Logs** page, as shown in Figure 3-3.

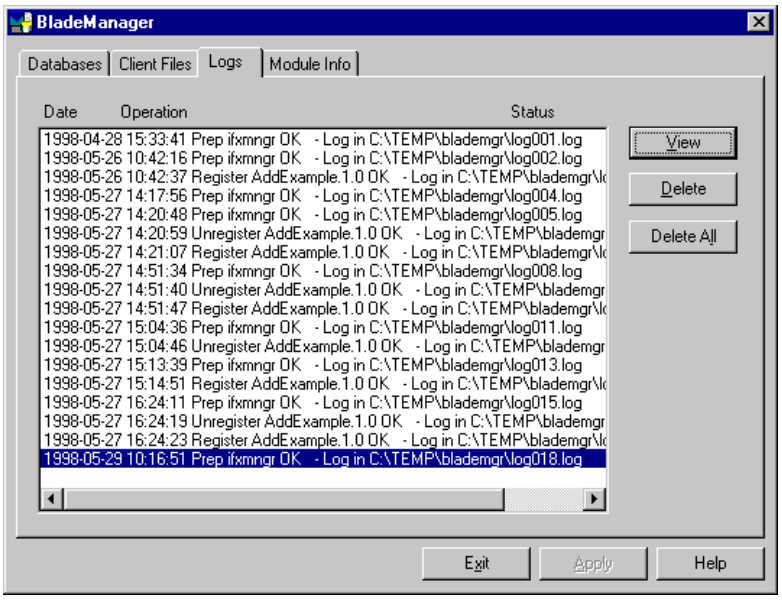


Figure 3-3. Logs Page

To view a log file:

1. On the **Logs** page, select the log file you want to view.
2. Click **View**.

To delete a log file:

1. On the **Logs** page, select the log file you want to delete.
2. Click **Delete**.

Viewing Module Information

Each DataBlade module has content and vendor information. After BladeManager prepares the DataBlade modules for a database, you can view the information for all DataBlade modules.

The **Module Info** page displays information on DataBlade modules installed in the database selected on the **Databases** page.

To view module information, on the **Module Info** page, select a DataBlade module in the **DataBlade modules** list box, as shown in Figure 3-4.

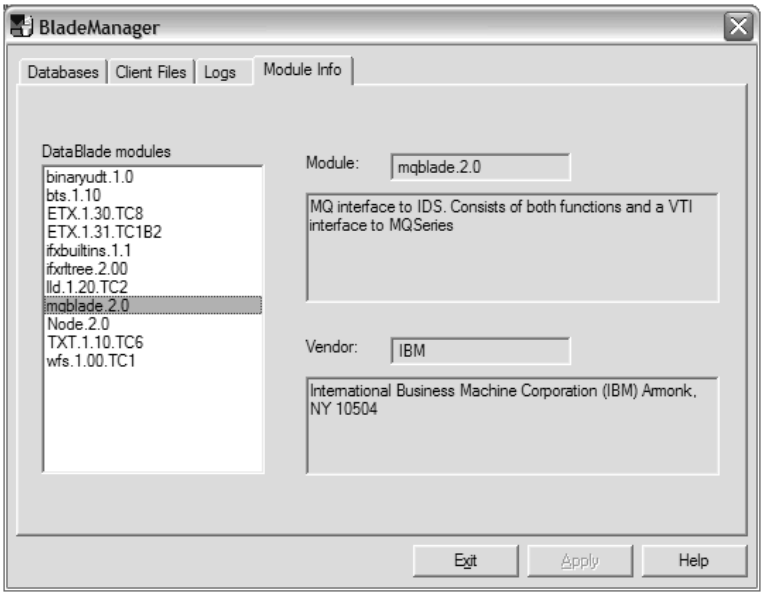


Figure 3-4. Module Info Page

The **Module** box shows the full name and version of the selected module, and it might display a description. The **Vendor** box shows information about the vendor of the DataBlade module.

Chapter 4. Registering with the BladeManager Command-Line Interface

In This Chapter

To use a DataBlade module in a database, you must first register the DataBlade module in the database. *Registration* is the process of executing the SQL statements that create the DataBlade module database objects and identify the DataBlade module shared object file or dynamic link library to the database server. You use BladeManager to register DataBlade modules.

Before you can use BladeManager, you must complete the tasks listed in the next section, "Prerequisite Tasks" on page 4-2.

This chapter describes how to use the BladeManager command-line interface for DataBlade module registration on UNIX and Windows. You can also call the **SYSBldPrepare( )** function to register DataBlade modules on UNIX and Windows, or use the graphic interface of BladeManage to register DataBlade modules on Windows. For details of DataBlade module registration by using SQL function calls, see Chapter 2, "Registering with the SYSBldPrepare( ) Function," on page 2-1. For details of DataBlade module registration on Windows using the graphic interface of BladeManager, see Chapter 3, "Registering with the BladeManager Graphical User Interface," on page 3-1.

The BladeManager command-line interface provides commands to perform tasks, as described in the following sections:

The section "Command Reference" on page 4-10 lists the BladeManager command-line interface commands alphabetically.

Prerequisite Tasks

This section lists the prerequisite tasks for using BladeManager to register DataBlade modules.

To prepare to use BladeManager:

1. Configure your Informix environment in one of the following ways:
   - On UNIX, set **INFORMIXDIR**, **PATH**, **LD_LIBRARY_PATH**, **ONCONFIG**, and **INFORMIXSERVER**. For information about setting these environment variables, see the *IBM Informix Dynamic Server Administrator's Guide*.
   - On Windows, set **INFORMIXDIR** and **INFORMIXSERVER**. For information about setting these environment variables, see the *IBM Informix Dynamic Server Installation Guide for Windows*.
2. Set the DB_LIBRARY_PATH configuration parameter in the ONCONFIG file. The DB_LIBRARY_PATH configuration parameter specifies the location that IDS checks for UDR or UDT shared libraries. The DB_LIBRARY_PATH configuration parameter should include **$INFORMIXDIR/extend** for DataBlade modules. For more information, see the *IBM Informix Dynamic Server Administrator's Reference*.
3. Install DataBlade modules.

   See Chapter 1, "Installing DataBlade Modules," on page 1-1, for more information.
4. Install BladeManager, if necessary.

   BladeManager is included in the installation for your database server on UNIX.

   BladeManager is included in the installation bundle for your database server on Windows. Alternatively, you can install BladeManager on Windows by running the **BladeMgr\Setup.exe** program in your database server product media.

Using BladeManager

This section describes how to complete the tasks described in the following subsections:

Starting and Stopping BladeManager

To start BladeManager, enter the following command at the UNIX or the MS-DOS command line prompt:

```
blademgr
```

Your screen displays a prompt consisting of the value of the current database server (the value of the **INFORMIXSERVER** environment variable when you start BladeManager) and an angle bracket (>). To execute BladeManager commands, enter the command name.

Important: If BladeManager fails to execute, make sure that Informix environment variables are set to run Informix database utilities. See "Prerequisite Tasks" on page 4-2 for more information.

To exit BladeManager, enter one of the following commands:

- `bye`
- `exit`
- `quit`
- an end-of-file key sequence, such as `CTRL-D` or `CTRL-Z`

Obtaining Help for Commands

To see a list of BladeManager commands and their syntax, enter one of the following commands:

- `help`
- `?`

Setting Confirmation

If confirmation is on, BladeManager prompts you to confirm the following tasks:

- Register a DataBlade module with the **register** command
- Unregister a DataBlade module with the **unregister** command
- Install a client file with the **add client** command
- Uninstall a client file with the **del client** command

When confirmation is off, BladeManager issues no confirmation prompt when you execute these commands. You might want to turn confirmation off when you use BladeManager in batch operations, so you can send commands to BladeManager from a file.

To turn confirmation on, enter the following command:

```
set confirm on
```

To turn confirmation off, enter the following command:

```
set confirm off
```

Executing BladeManager Commands Automatically at Startup

When BladeManager starts, it searches for the batch file **blademgr.run** in the current directory. If BladeManager finds the file, it executes any commands in it before it displays the prompt that allows you to enter commands. You can edit this file and place commands in it that are automatically executed whenever BladeManager starts.

For example, if you do not want to be prompted for confirmation each time you register a DataBlade module, you can put the **set confirm off** command in **blademgr.run** to turn confirmation off automatically whenever you run BladeManager.

If you include multiple commands in **blademgr.run**, separate each command with a carriage return.

Executing Multiple BladeManager Commands

To execute a series of BladeManager commands using shell redirection, enter the following command:

```
blademgr < filename.txt
```

The *filename.txt* specification in the example represents the name of a text file that contains one or more BladeManager commands, each on a separate line.

Removing BladeManager Objects for Server Reversion

If you want to revert to an earlier version of your database server, you must remove every database object added since the database server and database were upgraded. BladeManager adds its objects to a database whenever you connect to a database with BladeManager. To remove BladeManager objects from the specified database, enter the following command:

```
unprep database_name
```

To successfully revert to a previous version, the following conditions must be true about your database:

- You must have removed any new database objects.
- You must not have altered any existing database objects: for example, by upgrading existing DataBlade modules.

For more information on server reversion, see the *IBM Informix Migration Guide*.

Managing DataBlade Modules

Managing DataBlade modules includes the tasks described in the following subsections:

Connection Information

After you install a DataBlade module, you register it in each database in which you want to use it. To register a DataBlade module in a database, you must first connect to that database.

You need connect and resource permissions to connect to the database and register DataBlade modules. See the *IBM Informix Dynamic Server Administrator's Guide* for more information on permissions.

Before BladeManager can connect to a database, your Informix environment must be properly configured on the computer running the database server and on the client computer.

This section describes:

- Connecting to your database server.
- Connecting to a specific database.

Connecting to Your Database Server

When you start BladeManager, it uses default values for your user name, password, and database server unless you explicitly issue commands to change them.

On UNIX, the default user name and password are defined as your operating system login and password. The default database server is defined as the value of the **INFORMIXSERVER** environment variable. For information on setting these values, see *IBM Informix Dynamic Server Administrator's Guide*.

On Windows, the default values for user name, password, and database server are listed in the Setnet32 utility. The default database server is defined as the value of the **INFORMIXSERVER** environment variable. For information on setting these values, see *IBM Informix Client Products Installation Guide*.

You can change your connection to an Informix database server as follows:

- To see a list of available database servers, enter the following command:

  ```
  show servers
  ```

- To connect to a specified database server, enter the following command:

  ```
  set server server_name
  ```

- To connect as a different user, enter the following command:

  ```
  set user user_name
  ```

At the password prompt, enter the password. The user name and password are not validated until you attempt to connect to a database.

Tip: To avoid possible permissions problems, run BladeManager as the default user for the database server.

Connecting to Databases

BladeManager commands to register, unregister, list registered, and show available DataBlade modules operate on a specific database.

After you start BladeManager, you can connect to a database, as follows:

- To display a list of databases available to a database server, connect to the database server and enter the following command:

```
show databases
```

- To connect to a database, execute one of the following commands:
  - `list database_name`
  - `register module_name database_name`
  - `unregister module_name database_name`

  In the preceding example commands, *module_name* represents the name of the DataBlade module directory. These names typically follow the form of the DataBlade module name followed by the version number. See "Registering a DataBlade Module" on page 4-6 for information on the **list** and **register** commands. See "Unregistering a DataBlade Module" on page 4-7 for information on the **unregister** command.

The first time BladeManager connects to a database, it prepares the installed DataBlade modules for registration and generates a log file. If BladeManager fails to connect to a database or preparation fails, look at the appropriate log file (see "Viewing Log Files" on page 4-9) and see Appendix A, "Troubleshooting Registration Problems," on page A-1, for possible solutions.

Registering a DataBlade Module

When BladeManager registers a DataBlade module, it executes a set of SQL statements to register each database object in the module. Registration is equivalent to creating database objects individually with the SQL CREATE statement.

You must have resource permissions on the database to register a DataBlade module in it. Additionally, if the server is configured so that the EXTEND role is needed to add UDRs and UDTs, then you must be granted the EXTEND role by a DBSA (typically, user **informix**).

After you connect to a database, you can register a DataBlade module, as follows:

- To display a list of DataBlade modules installed on the database server that are available for registration, enter the following command:

  ```
  show modules
  ```

  Modules that contain client files display the letter *c* after the module name.
- To display a list of DataBlade modules registered in the specified database, enter the following command:

  ```
  list database_name
  ```
- To register a DataBlade module in the specified database, enter the following command:

  ```
  register module_name database_name
  ```

  In the preceding example command, *module_name* represents the name of the DataBlade module directory. These names typically follow the form of the DataBlade module name followed by the version number.

If BladeManager is not currently connected to the database specified in the **register** command, it connects to the new database, prepares all available DataBlade modules, and displays a message about the success or failure of the preparation before continuing with registration.

If the registration of a module fails, BladeManager returns the database to its prior state. To see the SQL statements that failed, look at the corresponding log file (see "Viewing Log Files" on page 4-9) and see Appendix A, "Troubleshooting Registration Problems," on page A-1, for possible solutions.

Some DataBlade modules depend on one or more *interfaces*. An interface is like a contract between DataBlade modules: the DataBlade module that requires the interface depends on the functionality of the DataBlade module that provides the interface.

When you register a DataBlade module, BladeManager verifies that one of the DataBlade modules that provides the interface required by your module is already registered in the database. If it is, registration continues. If it is not, BladeManager prompts you to register the DataBlade module providing the interface.

Important: BladeManager does not verify the integrity of the DataBlade modules that provide a required interface. BladeManager does not check for the presence of the required database objects.

Important: You can register DataBlade modules written in the Java language only in *IBM Informix Dynamic Server with J/Foundation* database servers. For more information about J/Foundation, see the *J/Foundation Developer's Guide*.

Upgrading a DataBlade Module

To upgrade a DataBlade module, use BladeManager to register a new version of the module. When you register the new version, BladeManager will automatically unregister the old version.

Important: You cannot use the following procedure to upgrade or downgrade some versions of DataBlade modules. For instructions on which versions can be upgraded or downgraded, see the release notes for the DataBlade module.

To upgrade or downgrade a DataBlade module in the specified database, enter the following command:

```
register module_name database_name
```

In the preceding example command, *module_name* represents the name of the DataBlade module directory. These names typically follow the form of the DataBlade module name followed by the version number. BladeManager warns you that you are upgrading or downgrading a DataBlade module.

If BladeManager is not currently connected to the database specified in the **register** command, it connects to the new database, prepares all available DataBlade modules, and displays a message about the success or failure of the preparation before continuing with registration.

If the upgrade of a module fails, BladeManager returns the database to its prior state. To see the SQL statements that failed, look at the corresponding log file (see "Viewing Log Files" on page 4-9) and see Appendix A, "Troubleshooting Registration Problems," on page A-1, for possible solutions.

Unregistering a DataBlade Module

When BladeManager unregisters a DataBlade module, it removes each element of the DataBlade module from the database using SQL DROP statements.

Important: BladeManager does not unregister a DataBlade module that provides a required interface for other DataBlade modules or database objects.

To unregister a DataBlade module in the specified database, enter the following command:

```
unregister module_name database_name
```

In the preceding example, *module_name* represents the name of the DataBlade module directory. These names typically follow the form of the DataBlade module name followed by the version number. If BladeManager is not currently connected to the database specified in the **unregister** command, it connects to the new database, prepares all available DataBlade modules, and displays a message about the success or failure of the preparation before continuing with the **unregister** command.

If the unregistration of a module fails, BladeManager returns the database to its prior state. To see the SQL statements that failed, look at the corresponding log file (see "Viewing Log Files" on page 4-9) and see Appendix A, "Troubleshooting Registration Problems," on page A-1, for possible solutions.

Managing Client Files

Some DataBlade modules are shipped with files that are required on client computers. These client files can include command-line interfaces to view data or tools to query or search the database. When you install the DataBlade module, the client files are placed on the database server along with the elements of the module. You can install and uninstall these client files on the client computer running BladeManager.

To display a list of DataBlade modules installed on the database server to which BladeManager is connected that have client files installed on the computer on which BladeManager is running, enter the following command:

```
show client
```

Installing Client Files

You must install client files individually on every computer on which you want them installed by running BladeManager on each computer.

Typically, client files are installed on the client computer in the **$INFORMIXDIR/extend/***datablade***/client** directory for your IBM Informix client products, where *datablade* is the name of the DataBlade module. However, some DataBlade modules might install files in other directories. To install client files, you must have permission to write to the directory in which the client files are installed.

To install client files for a specific DataBlade module, enter the following command:

```
add client module_name
```

In the preceding example, *module_name* represents the name of the DataBlade module directory. These names typically follow the form of the DataBlade module name followed by the version number.

A client file installation might require processing after BladeManager has copied the files to your computer. For example, you might have to run an install script or **setup.exe** program before you can use the client files. For instructions, see the release notes for that DataBlade module.

Uninstalling Client Files

You must uninstall client files individually from each computer from which you want them removed.

You must have permission to write to the directory in which the client files reside.

To uninstall client files for a specific DataBlade module, enter the following command:

```
del client module_name
```

In the preceding example, *module_name* represents the name of the DataBlade module directory. These names typically follow the form of the DataBlade module name followed by the version number.

A client file uninstallation might require processing before or after BladeManager has removed the files from your computer. For example, you might have to run an uninstall script or program before the client files are completely removed. For instructions, see the release notes for that DataBlade module.

Viewing Log Files

BladeManager generates a log file whenever you prepare, register, upgrade, or unregister a DataBlade module. If one of these tasks fails, the log file can point to the particular SQL statement that failed. Log files also list whether the failure was expected or unexpected and show the text of the error generated by the SQL command.

An example of an expected error is an error issued when a DataBlade module contains an SQL statement to create a table, but that table already exists. When BladeManager receives an unexpected error, it halts the operation and returns the database to its prior state.

BladeManager stores log files in one of the following directories:

UNIX Only

- **/tmp/blademgr/***uid*, where *uid* is your UNIX user ID

End of UNIX Only

Windows Only

- **%TEMP%\blademgr**

End of Windows Only

Periodically delete files from the log directory to free disk space.

You can manage log files by performing the following tasks:

- To view the list of log files, enter the following command:

  ```
  show log
  ```

  BladeManager lists all available log files. You can see only log files created while BladeManager was running with your user ID.

- To see a particular log file, display the list of log files and enter the log file number.
- To see the most recent log file for the current session, enter the following command:

  ```
  show last log
  ```
- To delete log files for your user ID, enter the following command:

  ```
  del logs
  ```

  BladeManager prompts you to continue with the removal of the log files from the operating system.

Viewing Module Information

Each DataBlade module has content and vendor information.

To display information about a particular DataBlade module, enter the following command:

```
info module_name
```

In the preceding example, *module_name* represents the name of the DataBlade module directory. These names typically follow the form of the DataBlade module name followed by the version number.

If you are not connected to a database, use the following command to establish a connection to the specified database before executing the **info** command:

```
list database_name
```

Command Reference

This section describes the BladeManager commands in detail. The commands are listed in alphabetical order.

add client

The **add client** command installs the specified DataBlade module's client files on the client computer running BladeManager:

```
add client module_name
```

In the preceding example, *module_name* represents the name of the DataBlade module directory. These names typically follow the form of the DataBlade module name followed by the version number. See "Installing Client Files" on page 4-8 for more information.

bye

The **bye** command closes BladeManager and returns you to the operating system prompt:

```
bye
```

del client

The **del client** command removes the specified DataBlade module's client files from the client computer running BladeManager:

```
del client module_name
```

In the preceding example, *module_name* represents the name of the DataBlade module directory. These names typically follow the form of the DataBlade module name followed by the version number. See “Uninstalling Client Files” on page 4-9 for more information.

del logs

The **del logs** command deletes the **/tmp/blademgr/***uid* directory on UNIX or the **%TEMP%\blademgr** directory on Windows. The directory contains the log files from your BladeManager session:

```
del logs
```

See “Viewing Log Files” on page 4-9 for more information.

exit

The **exit** command closes BladeManager and returns you to the operating system prompt:

```
exit
```

help

The **help** command displays a list of all the BladeManager commands and syntax:

```
help
```

info

The **info** command displays vendor-supplied information about the specified DataBlade module:

```
info module_name
```

In the preceding example, *module_name* represents the name of the DataBlade module directory. These names typically follow the form of the DataBlade module name followed by the version number. See “Viewing Module Information” on page 4-10 for more information.

list

The **list** command displays all the DataBlade modules already registered with the specified database:

```
list database_name
```

See “Managing DataBlade Modules” on page 4-4 for more information.

quit

The **quit** command closes BladeManager and returns you to the operating system prompt:

```
quit
```

register

The **register** command registers the specified DataBlade module in the specified database:

```
register module_name database_name
```

In the preceding example, *module_name* represents the name of the DataBlade module directory. These names typically follow the form of the DataBlade module name followed by the version number. See "Registering a DataBlade Module" on page 4-6 for more information.

set confirm

The **set confirm** command toggles confirmation for the **register, unregister, add client,** or **del client** commands on and off:

```
set confirm on | off
```

See "Setting Confirmation" on page 4-3 for more information.

set server

The **set server** command connects BladeManager to the specified database server:

```
set server server_name
```

See "Connecting to Your Database Server" on page 4-5 for more information.

set user

The **set user** command sets the user for the current session:

```
set user user_name
```

BladeManager prompts you for a password.

See "Connecting to Your Database Server" on page 4-5 for more information.

show client

The **show client** command displays a list of the DataBlade modules on the current database server that have files installed on the current client computer:

```
show client
```

show databases

The **show databases** command displays a list of the databases on the current database server:

```
show databases
```

show last log

The **show last log** command displays the most recent log file for the current session:

```
show last log
```

The **show last log** command does not return a log file if you have not executed a command during the current BladeManager session.

show log

The **show log** command lists the available log files and allows you to view the contents of a specific log file:

```
show log
```

After BladeManager lists all the log files that are available for viewing, it prompts you for the number of the particular log file whose contents you want to view.

show modules

The **show modules** command displays a list of the DataBlade modules available on the database server:

```
show modules
```

Modules that contain client files display the letter *c* after the module name.

show servers

The **show servers** command displays a list of the available servers:

```
show servers
```

unprep

The **unprep** command removes BladeManager from the specified database to allow you to revert from one version of your database server to an earlier version:

```
unprep database_name
```

See "Removing BladeManager Objects for Server Reversion" on page 4-4 for more information.

unregister

The **unregister** command unregisters the specified DataBlade module from the specified database:

```
unregister module_name database_name
```

In the preceding example, *module_name* represents the name of the DataBlade module directory. These names typically follow the form of the DataBlade module name followed by the version number. See "Unregistering a DataBlade Module" on page 4-7 for more information.

?

The **?** (question mark) command displays a list of all the BladeManager commands and syntax:

```
?
```

Appendix A. Troubleshooting Registration Problems

This appendix describes problems you might experience when registering a DataBlade module and possible solutions to the problems.

Exceptions in Calls to SYSBldPrepare( )

If the IFX_EXTEND_ROLE configuration parameter is set to ON, authorization to invoke the **SYSBldPrepare( )** function is available only to the Database Server Administrator (DBSA), and others to whom the DBSA has granted the EXTEND role. By default, the DBSA is user **informix**.

The **SYSBldPrepare( )** function issues an error if you attempt to use the `'drop'` option to unregister a DataBlade module on which another DataBlade module that is currently registered in the database depends. For example, you cannot use this function to unregister the R-tree DataBlade module while the Spatial DataBlade module is still registered.

Dynamic Server also issues an error if **SYSBldPrepare( )** attempts to unregister a DataBlade module that is not registered in the database.

The following example shows an attempt to register a DataBlade module that is not installed and the resulting error message:

```
EXECUTE FUNCTION sysbldprepare ('node.2.33', 'create');

(U0001) - registerBlade - Unable to register node.2.33
– DataBlade module not found
- check online log and sysblderrorlog table for more information
```

Runtime errors that occur can result in diagnostic error messages from **SYSBldPrepare( )** that are not Dynamic Server error messages. Consider the following example:

```
EXECUTE FUNCTION sysbldprepare ('bts.2.00', 'create');
```

The failure of a call to **SYSBldPrepare( )** can return diagnostic messages like the following:

```
(U0001) - registerBlade - registration failed for bts.2.00
– required VPCLASS is missing from onconfig
- check online log and sysblderrorlog table for more information

(U0001) - registerBlade - registration failed for bts.2.00
- sbspace problem
- check online log and sysblderrorlog table for more information

(U0001) - registerBlade - registration failed for bts.2.00
– unknown error
- check online log and sysblderrorlog table for more information
```

Connection Problems

If BladeManager fails to connect to a database or drops a database connection, perform the following tasks before you call Technical Support:

- Check whether BladeManager connects to some databases but not to others.

You might not have sufficient permissions to work on the databases to which you cannot connect.

IBM Informix software can be managed most easily when a single, default user in an environment with full permissions creates databases and registers DataBlade modules. Using a variety of permissions might cause some services to be denied, for security reasons.

- Check whether the operation that fails works correctly if a user with full permissions performs all the steps.
- Check whether BladeManager connects to databases in one GLS locale, but not in others.

  If your database and client are not connected in their respective default locales, try setting the **DB_LOCALE** and **CLIENT_LOCALE** environment variables to no locale (the default) and reconnecting to the database.
- Check the database server log file for errors. You might have to ask your database administrator for the location of the server log.
- Check whether the **$INFORMIXDIR/extend** and **$INFORMIXDIR/extend/ifxmgr** directories are deleted. If these directories no longer exist, reinstall your database server.

UNIX Only

- Check whether there are symbolic links to the **$INFORMIXDIR/extend** and **$INFORMIXDIR/extend/ifxmgr** directories. If there are symbolic links, reinstall your database server into a directory without symbolic links.

End of UNIX Only

- Check whether the connection problem is unique to BladeManager:
  - Check whether you have resource permissions by trying to create a table. If you cannot create a table, you do not have resource permissions: have your database administrator assign you permissions.

    UNIX Only

  - Check whether you can connect to the same database using DB-Access. If you cannot, consult your database administrator.

    End of UNIX Only

    Windows Only

  - Check whether you can connect to the same database using a client tool, such as SQL Editor or Schema Knowledge.

    If not, check your settings in **Setnet32** or consult your database administrator. If you can connect with SQL Editor, but not Schema Knowledge, you might have a problem with a high-level IBM Informix API.

    End of Windows Only

- Check the values specified for the DB_LIBRARY_PATH configuration parameter in the ONCONFIG file. The DB_LIBRARY_PATH configuration parameter should include the **$INFORMIXDIR/extend** directory for DataBlade modules.
- Check if the server is configured so that the EXTEND role is needed to add UDRs and UDTs. If that is the case, you must be granted the EXTEND role by a DBSA (by default, user **informix**).

If you had recently installed other software when you began experiencing problems with BladeManager, you might have overwritten a DLL required by BladeManager. See if reinstalling BladeManager solves the problem.

If you are still experiencing problems, contact Technical Support.

Preparation Failure

When BladeManager first connects to a database, it "prepares" the database for DataBlade module registrations by creating tables and loading data from files on the server. If you receive a preparation failure error when you attempt to connect to a database with BladeManager, complete the following tasks:

- Create a new database and connect to it with BladeManager, using the same user name. If preparation does not fail, you might have a permissions problem in the original database; contact your database administrator.
- Check the BladeManager logs for the preparation log:
  - If you do not find a preparation log, check the database server log to see if a thread failed during preparation.
  - Check the preparation log for "unexpected error" entries. You might be able to correct some errors (for example, if the database server ran out of disk space); otherwise, consult your database administrator about the error.
- Check whether the **$INFORMIXDIR/extend** and **$INFORMIXDIR/extend/ifxmgr** directories are deleted. If these directories no longer exist, reinstall your database server.

UNIX Only

- Check whether there are symbolic links to the **$INFORMIXDIR/extend** and **$INFORMIXDIR/extend/ifxmgr** directories. If there are symbolic links, reinstall your database server into a directory without symbolic links.

End of UNIX Only

Registration Problems

If BladeManager fails to register, unregister, or upgrade a DataBlade module, perform the following tasks:

- Check that the permissions on the *datablade***.bld** file are set to read-only. The *datablade***.bld** file is the DataBlade module shared object file located in the **$INFORMIXDIR/extend/***datablade.version* directory.
- Check the log that BladeManager generated for the operation. If the log has an "unexpected error" entry, send the details from the log to the vendor of the DataBlade module.
- Try to register other DataBlade modules: for instance, the DataBlade modules that ship with the database server. If you can register another DataBlade module, your problem is probably specific to the DataBlade module that failed. Read the release notes for that DataBlade module; some modules have special requirements, such as a named sbspace.

Appendix B. Accessibility

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

Accessibility features for IBM Informix Dynamic Server

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

Accessibility Features

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

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

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

Keyboard Navigation

This product uses standard Microsoft® Windows navigation keys.

Related Accessibility Information

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

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

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