DB2 IBM Informix

IBM

Version 4.0A

IBM Informix DataBlade Module Installation and Registration Guide

G251-2276-00

DB2 IBM Informix

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Version 4.0A

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G251-2276-00

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

First Edition (December 2004)

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In This Introduction

This introduction provides an overview of the information in this manual and describes the conventions it uses.

About This Guide

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.

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Organization of This Guide

The *IBM Informix: DataBlade Module Installation and Registration Guide* includes the following chapters:

- Chapter 1, "Installing DataBlade Modules," on page 1-1, describes how to install DataBlade modules.
- Chapter 2, "Registering with the BladeManager Graphical User Interface," on page 2-1, describes how to use the graphical user interface to BladeManager.
- Chapter 3, "Registering with the BladeManager Command-Line Interface," on page 3-1, describes how to use the command-line interface to BladeManager.
- Appendix A, "Troubleshooting Registration Problems," on page A-1, describes potential problems with registering your DataBlade module and offers solutions.
- An Accessibility appendix describes how to read syntax diagrams in the HTML version of this manual using a screen reader.
- A Notices appendix describes IBM products, features, and services.
- An index directs you to areas of particular interest.

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 Developer's Kit. See the BladeManager *IBM Informix: Read Me First* sheet 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 both Windows and UNIX computers.

Documentation Conventions

This section describes the conventions that this manual uses. These conventions make it easier to gather information from this and other volumes in the documentation set.

The following conventions are discussed:

- Typographical conventions
- Other conventions
- Syntax diagrams
- Command-line conventions
- Example code conventions

Typographical Conventions

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

Convention	Meaning
KEYWORD	All primary elements in a programming language statement (keywords) appear in uppercase letters in a serif font.
italics ***italics*** `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 ***boldface***	Names of program entities (such as classes, events, and tables), environment variables, file and pathnames, and interface elements (such as icons, menu items, and buttons) appear in boldface.
`monospace` *`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.

Tip: When you are instructed to "enter" characters or to "execute" a command, immediately press `RETURN` after the entry. When you are instructed to "type" the text or to "press" other keys, no `RETURN` is required.

Feature, Product, and Platform

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

Extended Parallel Server

Identifies information that is specific to IBM Informix Extended Parallel Server

End of Extended Parallel Server

UNIX Only

Identifies information that is specific to UNIX platforms

End of UNIX Only

Windows Only

Identifies information that is specific to the Windows environment

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 (Linux Only)

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.

Note: Starting in 2004, syntax diagrams have been reformatted to conform to the IBM standard.

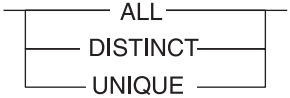
Syntax diagrams depicting SQL and command-line statements have changed in the following ways:

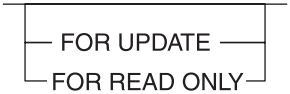
- The symbols at the beginning and end of statements are now double arrows instead of a vertical line at the end.
- The symbols at the beginning and end of syntax segment diagrams are now vertical lines instead of arrows.

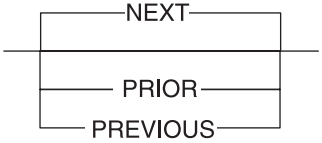
- How many times a loop can be repeated is now explained in a diagram footnote instead of a number in a gate symbol.
- Syntax statements that are longer than one line now continue on the next line instead of looping down with a continuous line.
- Product or condition-specific paths are now explained in diagram footnotes instead of icons.

The following table describes syntax diagram components.

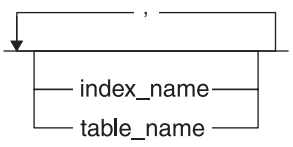
Component represented in PDF	Component represented in HTML	Meaning
	`>>----------`	Statement begins.
	`---------->`	Statement continues on next line.
	`>----------`	Statement continues from previous line.
	`---------><`	Statement ends.
	`--------SELECT----------`	Required item.
	`--+-----------------+---`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

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

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

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

Component represented in PDF	Component represented in HTML	Meaning

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

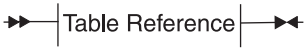
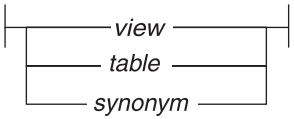
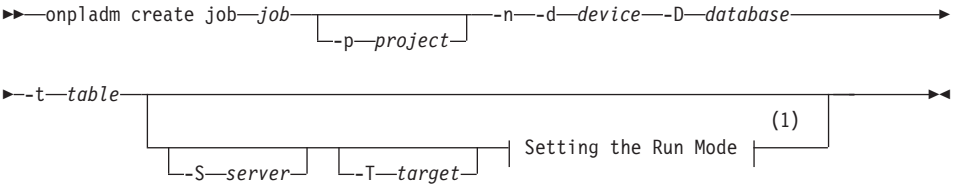
	<pre>>>-| Table Reference |-><</pre>	Reference to a syntax segment.

Table Reference
 
	<pre>Table Reference
	|--+-----view--------+--|
	   +------table------+
	   '----synonym------'</pre>
		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 the previous section.

Creating a No-Conversion Job

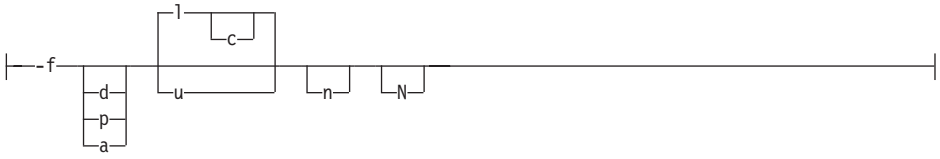


Notes:

1 See page 17-4

The second line in this diagram has a segment named "Setting the Run Mode," which according to the diagram footnote, is on page 17-4. This segment is shown in the following segment diagram (the diagram uses segment start and end components).

Setting the Run Mode:



To construct a command correctly, start at the top left with the command. Follow the diagram to the right, including the elements that you want. The elements in the diagram are 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.

Your diagram is complete.

Keywords and Punctuation

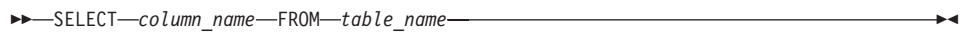
Keywords are words reserved for statements and all commands except system-level commands. When a keyword appears in a syntax diagram, it is shown in uppercase letters. When you use a keyword in a command, you can write it in uppercase or lowercase letters, but you must spell the keyword exactly as it 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.



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.

Example Code Conventions

Examples of SQL code occur throughout this manual. 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 DB–Access, you must delimit multiple statements with semicolons. 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.

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 manual for your product.

Additional Documentation

For additional information, refer to the following types of documentation:

- Installation guides
- Release notes and documentation notes
- Online notes
- Informix error messages
- Manuals
- Online help

Installation Guides

Installation guides are located in the top-level directory of the product CD or in the top-level directory of the product's compressed file if you downloaded it from the IBM Web site. Alternatively, you can obtain installation guides from the IBM Informix Online Documentation site at http://www.ibm.com/software/data/informix/pubs/library/.

Release Notes and Documentation Notes

This section describes the on-line release and documentation notes for DataBlade modules and BladeManager.

DataBlade Module On-Line Notes

The on-line notes consist of the following documents:

- **Release Notes**. Contain upgrade instructions, registration requirements, compatibility issues, and feature differences from earlier versions of the DataBlade module. These notes also list fixed bugs and known bugs.
- **Documentation notes**. Contain errata and information not included in the printed documentation.
- **Machine notes** (if any). Contain special actions required to configure and use the DataBlade module on your platform.

UNIX Only

The on-line notes are in the **$INFORMIXDIR/extend/datablade.version** directory for the database server installation.

End of UNIX Only

Windows Only

To view the on-line notes, double-click the appropriate icon in the INFORMIX program group. These files are located in the following directory for the database server installation: **%INFORMIXDIR%\extend\datablade.version**

End of Windows Only

You can find the filenames of the on-line notes in the introductory chapter of your DataBlade module user's guide.

These files are also located on the Informix Installation Resource Web page at http://www.informix.com/informix/resource.

The following on-line release notes and documentation notes supplement the information about BladeManager provided in this manual.

On-Line File	Purpose
bmgdoc.txt	Describes features not covered in the manuals or modified since publication.
bmgrel.txt	Describes feature differences from earlier versions of Informix products and how these differences might affect current products. This file also contains information about any known problems and their workarounds.

UNIX Only

These files are located in the $INFORMIXDIR/release directory under the subdirectory for your locale for you Informix client products installation.

End of UNIX Only

Windows Only

To view the on-line notes, click the appropriate icon in the **Informix** program group. These files are located in the %INFORMIXDIR%\release directory under the subdirectory for you locale for your Informix client products installation

End of Windows Only

These files contain vital information about application and performance issues.

The DataBlade Developer's Kit InfoShelf

You can download the DataBlade Developer's Kit InfoShelf from Answers OnLine or access it from the DataBlade Developer's Kit. The InfoShelf provides not only this manual but also the following information in HTML format:

- A tutorial for the DataBlade Developer's Kit
- A document that describes the example DataBlade modules included with the DataBlade Developer's Kit
- A reference library that contains this guide, as well as the following manuals:
  - *IBM Informix: DataBlade Developer's Kit User's Guide*
  - *IBM Informix: DataBlade Module Development Overview*
  - *IBM Informix: DataBlade API Programmer's Guide*
  - *IBM Informix: Guide to SQL Syntax*

- *IBM Informix: Guide to SQL Tutorial*
- *IBM Informix: JDBC Driver Programmer's Guide*
- *IBM Informix: ESQL/C Programmer's Manual*

- A master index that contains the merged index entries of all the books listed here. The index entries provide links into the HTML versions of the manuals included in the InfoShelf.

BladeManager Graphical User Interface On-Line Help

While this manual describes the overall process for registering and unregistering DataBlade modules, the on-line help associated with the BladeManager graphical user interface provides detailed descriptions for the contents of each tabbed page.

Online Notes

The following sections describe the online files that supplement the information in this manual. Please examine these files before you begin using your product. They contain vital information about application and performance issues.

Online File	Description	Format
TOC Notes	The TOC (Table of Contents) notes file provides a comprehensive directory of hyperlinks to the release notes, the fixed and known defects file, and all the documentation notes files for individual manual titles.	HTML
Documentation Notes	The documentation notes file for each manual contains important information and corrections that supplement the information in the manual or information that was modified since publication.	HTML, text
Release Notes	The release notes file describes feature differences from earlier versions of IBM Informix products and how these differences might affect current products. For some products, this file also contains information about any known problems and their workarounds.	HTML, text
Machine Notes	(Non-Windows platforms only) The machine notes file describes any platform-specific actions that you must take to configure and use IBM Informix products on your computer.	text

Online File	Description	Format
Fixed and Known Defects File	This text file lists issues that have been identified with the current version. It also lists customer-reported defects that have been fixed in both the current version and in previous versions.	text

Locating Online Notes

Online notes are available from the IBM Informix Online Documentation site at http://www.ibm.com/software/data/informix/pubs/library/. Additionally you can locate these files before or after installation as described below.

Before Installation

All online notes are located in the top-level directory of the product CD. The easiest way to access the documentation notes, the release notes, and the fixed and known defects file is through the hyperlinks from the TOC notes file.

The machine notes file and the fixed and known defects file are only provided in text format.

After Installation

On UNIX platforms in the default locale, the documentation notes, release notes, and machine notes files appear under the **$INFORMIXDIR/release/en_us/0333** directory.

Dynamic Server

On Windows the documentation and release notes files appear in the **Informix** folder. To display this folder, choose **Start > Programs > IBM Informix Dynamic Server** *version* **> Documentation Notes** or **Release Notes** from the taskbar.

Machine notes do not apply to Windows platforms.

End of Dynamic Server

Online Notes Filenames

Online notes have the following file formats:

Online File	File Format	Example
TOC Notes	*prod_os*_tocnotes_*version*.html	**ids_win_tocnotes_10.0.html**
Documentation Notes	*prod_bookname*_docnotes_*version*.html/txt	**ids_hpl_docnotes_10.0.html**

Online File	File Format	Example
Release Notes	*prod_os*_relnotes_*version*.html/txt	**ids_unix_relnotes_10.0.txt**
Machine Notes	*prod*_machine_notes_*version*.txt	**ids_machine_notes_10.0.txt**
Fixed and Known Defects File	*prod*_unix_defects_*version*.txt *prod*_win_fixed_and_known _defects_*version*.txt	**ids_defects_10.0.txt** **client_defects_2.90.txt** **ids_win_fixed_and_known _defects_10.0.txt**

Informix Error Messages

This file is a comprehensive index of error messages and their corrective actions for the Informix products and version numbers.

On UNIX platforms, use the **finderr** command to read the error messages and their corrective actions.

Dynamic Server

On Windows, use the Informix Error Messages utility to read error messages and their corrective actions. To display this utility, choose **Start > Programs > IBM Informix Dynamic Server** ***version*** **> Informix Error Messages** from the taskbar.

End of Dynamic Server

You can also access these files from the IBM Informix Online Documentation site at http://www.ibm.com/software/data/informix/pubs/library/.

Manuals

Online Manuals

A CD that contains your manuals in electronic format is provided with your IBM Informix products. You can install the documentation or access it directly from the CD. For information about how to install, read, and print online manuals, see the installation insert that accompanies your CD. You can also obtain the same online manuals from the IBM Informix Online Documentation site at http://www.ibm.com/software/data/informix/pubs/library/.

Printed Manuals

To order hardcopy manuals, contact your sales representative or visit the IBM Publications Center Web site at http://www.ibm.com/software/howtobuy/data.html.

Online Help

IBM Informix online help, provided with each graphical user interface (GUI), displays information about those interfaces and the functions that they perform. Use the help facilities that each GUI provides to display the online help.

Accessibility

IBM is committed to making our documentation accessible to persons with disabilities. Our books are available in HTML format so that they can be accessed with assistive technology such as screen reader software. The syntax diagrams in our manuals are available in dotted decimal format, which is an accessible format that is available only if you are using a screen reader. For more information about the dotted decimal format, see the Accessibility appendix.

IBM Informix Dynamic Server Version 10.0 and CSDK Version 2.90 Documentation Set

The following tables list the manuals that are part of the IBM Informix Dynamic Server Version 10.0 and the CSDK Version 2.90 documentation set. PDF and HTML versions of these manuals are available at http://www.ibm.com/software/data/informix/pubs/library/. You can order hardcopy versions of these manuals from the IBM Publications Center at http://www.ibm.com/software/howtobuy/data.html.

Table 1. Database Server Manuals

Manual	Subject
Administrator's Guide	Understanding, configuring, and administering your database server.
Administrator's Reference	Reference material for Informix Dynamic Server, such as the syntax of database server utilities **onmode** and **onstat**, and descriptions of configuration parameters, the **sysmasters** tables, and logical-log records.
Backup and Restore Guide	The concepts and methods you need to understand when you use the **ON-Bar** and **ontape** utilities to back up and restore data.
DB-Access User's Guide	Using the **DB-Access** utility to access, modify, and retrieve data from Informix databases.
DataBlade API Function Reference	The DataBlade API functions and the subset of ESQL/C functions that the DataBlade API supports. You can use the DataBlade API to develop client LIBMI applications and C user-defined routines that access data in Informix databases.
DataBlade API Programmer's Guide	The DataBlade API, which is the C-language application-programming interface provided with Dynamic Server. You use the DataBlade API to develop client and server applications that access data stored in Informix databases.

Table 1. Database Server Manuals (continued)

Manual	Subject
Database Design and Implementation Guide	Designing, implementing, and managing your Informix databases.
Enterprise Replication Guide	How to design, implement, and manage an Enterprise Replication system to replicate data between multiple database servers.
Error Messages file	Causes and solutions for numbered error messages you might receive when you work with IBM Informix products.
Getting Started Guide	Describes the products bundled with IBM Informix Dynamic Server and interoperability with other IBM products. Summarizes important features of Dynamic Server and the new features for each version.
Guide to SQL: Reference	Information about Informix databases, data types, system catalog tables, environment variables, and the stores_demo demonstration database.
Guide to SQL: Syntax	Detailed descriptions of the syntax for all Informix SQL and SPL statements.
Guide to SQL: Tutorial	A tutorial on SQL, as implemented by Informix products, that describes the basic ideas and terms that are used when you work with a relational database.
High-Performance Loader User's Guide	Accessing and using the High-Performance Loader (HPL), to load and unload large quantities of data to and from Informix databases.
Installation Guide for Microsoft Windows	Instructions for installing IBM Informix Dynamic Server on Windows.
Installation Guide for UNIX and Linux	Instructions for installing IBM Informix Dynamic Server on UNIX and Linux.
J/Foundation Developer's Guide	Writing user-defined routines (UDRs) in the Java programming language for Informix Dynamic Server with J/Foundation.
Large Object Locator DataBlade Module User's Guide	Using the Large Object Locator, a foundation DataBlade module that can be used by other modules that create or store large-object data. The Large Object Locator enables you to create a single consistent interface to large objects and extends the concept of large objects to include data stored outside the database.
Migration Guide	Conversion to and reversion from the latest versions of Informix database servers. Migration between different Informix database servers.
Optical Subsystem Guide	The Optical Subsystem, a utility that supports the storage of BYTE and TEXT data on optical disk.
Performance Guide	Configuring and operating IBM Informix Dynamic Server to achieve optimum performance.
R-Tree Index User's Guide	Creating R-tree indexes on appropriate data types, creating new operator classes that use the R-tree access method, and managing databases that use the R-tree secondary access method.

Table 1. Database Server Manuals (continued)

Manual	Subject
SNMP Subagent Guide	The IBM Informix subagent that allows a Simple Network Management Protocol (SNMP) network manager to monitor the status of Informix servers.
Storage Manager Administrator's Guide	Informix Storage Manager (ISM), which manages storage devices and media for your Informix database server.
Trusted Facility Guide	The secure-auditing capabilities of Dynamic Server, including the creation and maintenance of audit logs.
User-Defined Routines and Data Types Developer's Guide	How to define new data types and enable user-defined routines (UDRs) to extend IBM Informix Dynamic Server.
Virtual-Index Interface Programmer's Guide	Creating a secondary access method (index) with the Virtual-Index Interface (VII) to extend the built-in indexing schemes of IBM Informix Dynamic Server. Typically used with a DataBlade module.
Virtual-Table Interface Programmer's Guide	Creating a primary access method with the Virtual-Table Interface (VTI) so that users have a single SQL interface to Informix tables and to data that does not conform to the storage scheme of Informix Dynamic Server.

Table 2. Client/Connectivity Manuals

Manual	Subject
Client Products Installation Guide	Installing IBM Informix Client Software Developer's Kit (Client SDK) and IBM Informix Connect on computers that use UNIX, Linux, and Windows.
Embedded SQLJ User's Guide	Using IBM Informix Embedded SQLJ to embed SQL statements in Java programs.
ESQL/C Programmer's Manual	The IBM Informix implementation of embedded SQL for C.
GLS User's Guide	The Global Language Support (GLS) feature, which allows IBM Informix APIs and database servers to handle different languages, cultural conventions, and code sets.
JDBC Driver Programmer's Guide	Installing and using Informix JDBC Driver to connect to an Informix database from within a Java application or applet.
.NET Provider Reference Guide	Using Informix .NET Provider to enable .NET client applications to access and manipulate data in Informix databases.
ODBC Driver Programmer's Manual	Using the Informix ODBC Driver API to access an Informix database and interact with the Informix database server.
OLE DB Provider Programmer's Guide	Installing and configuring Informix OLE DB Provider to enable client applications, such as ActiveX Data Object (ADO) applications and Web pages, to access data on an Informix server.

Table 2. Client/Connectivity Manuals (continued)

Manual	Subject
Object Interface for C++ Programmer's Guide	The architecture of the C++ object interface and a complete class reference.

Table 3. DataBlade Developer's Kit Manuals

Manual	Subject
DataBlade Developer's Kit User's Guide	Developing and packaging DataBlade modules using BladeSmith and BladePack.
DataBlade Module Development Overview	Basic orientation for developing DataBlade modules. Includes an example illustrating the development of a DataBlade module.
DataBlade Module Installation and Registration Guide	Installing DataBlade modules and using BladeManager to manage DataBlade modules in Informix databases.

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.

IBM Welcomes Your Comments

We want to know about any corrections or clarifications that you would find useful in our manuals, which will help us improve future versions. Include the following information:

- The name and version of the manual that you are using
- Section and page number
- Your suggestions about the manual

Send your comments to us at the following email address:

docinf@us.ibm.com

This email address is reserved for reporting errors and omissions in our documentation. For immediate help with a technical problem, contact IBM Technical Support.

We appreciate your suggestions.

Chapter 1. Installing DataBlade Modules

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

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, next
- "Installing Your DataBlade Module on UNIX" on page 1-2
- "Installing Your DataBlade Module on Windows" on page 1-3

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.

UNIX Only

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*.

End of UNIX Only

Windows Only

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 Microsoft Windows*.

End of Windows Only

To use a DataBlade module in your database:

1. Install the DataBlade module on Dynamic Server.
   This process is described later in this chapter.

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2. Make the DataBlade module available to a database by registering it in that database with BladeManager.

   To use a graphical user interface on Windows, see Chapter 2, "Registering with the BladeManager Graphical User Interface," on page 2-1.

   To use a command-line interface on UNIX or Windows, see Chapter 3, "Registering with the BladeManager Command-Line Interface," on page 3-1.

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.

To install your 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 electronic 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

      T Windows

      U 32 bit

   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
   ```

You can select one of the following types of installations:

- **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.

You can use the existing value of the database server root directory (the value of the **INFORMIXDIR** environment variable for the database server installation), or you can let the install script prompt you for the target installation directory.

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. To access the online notes, see "Online Notes" on page xv of the Introduction.

Installing Your DataBlade Module on Windows

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

To install your 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 and then go to Step 3.
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. Choose the database server root directory (the value of the **INFORMIXDIR** environment variable for the database server installation) as your destination directory. If you enter another directory name, a warning appears and you must re-enter the information.
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. To access the online notes, see "Online Notes" on page xv of the Introduction.

Chapter 2. Registering with the BladeManager Graphical User Interface

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Connecting to a Database 2-3
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Viewing Module Information 2-8

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 2-1, next.

This chapter describes how to register DataBlade modules using the BladeManager graphical user interface main application window on Windows computers. The BladeManager application provides four tabbed pages on which you can perform tasks, as described in the following sections:

- "Managing DataBlade Modules" on page 2-2
- "Managing Client Files" on page 2-6
- "Viewing Log Files" on page 2-7
- "Viewing Module Information" on page 2-8

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.

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

2. Install DataBlade modules.

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

3. Install BladeManager.

   See the BladeManager *IBM Informix: Read Me First* sheet for instructions.

To start BladeManager, select **Start > Programs > Informix > 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 2-1.

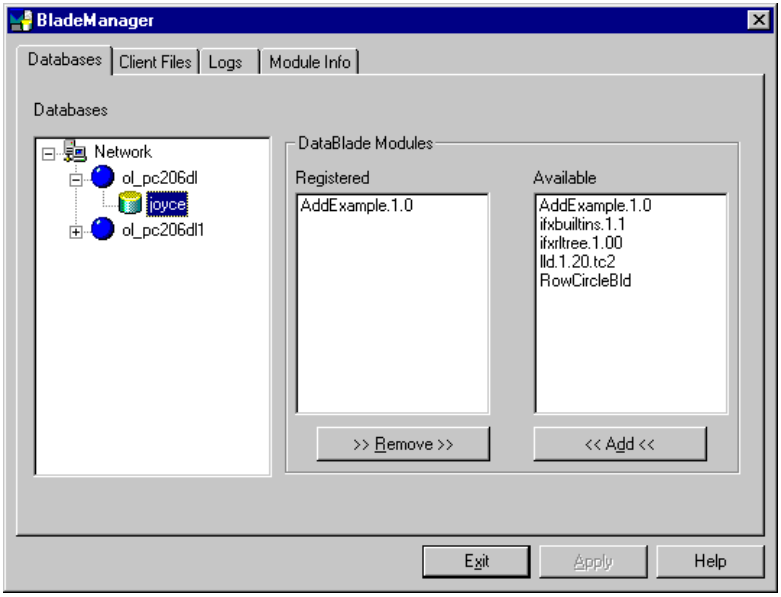

Figure 2-1. Databases Page

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

- "Connecting to a Database" on page 2-3, next
- "Registering a DataBlade Module" on page 2-3
- "Upgrading a DataBlade Module" on page 2-4

• "Unregistering a DataBlade Module" on page 2-5

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 2-7) 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 DataBlade module UDRs were created with the EXTEND clause, you must extend permissions to register that module.

To register a DataBlade module:

1. On the **Databases** page, select the database in which you want to register a module (see Figure 2-1 on page 2-2).
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 2-7) 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 Java only in *IBM Informix Dynamic Server with J/Foundation* database servers. For more information about J/Foundation, see the *IBM Informix: 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 2-1 on page 2-2).
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 2-7) 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 an earlier 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 2-1 on page 2-2).
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 2-7) 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 2-2.

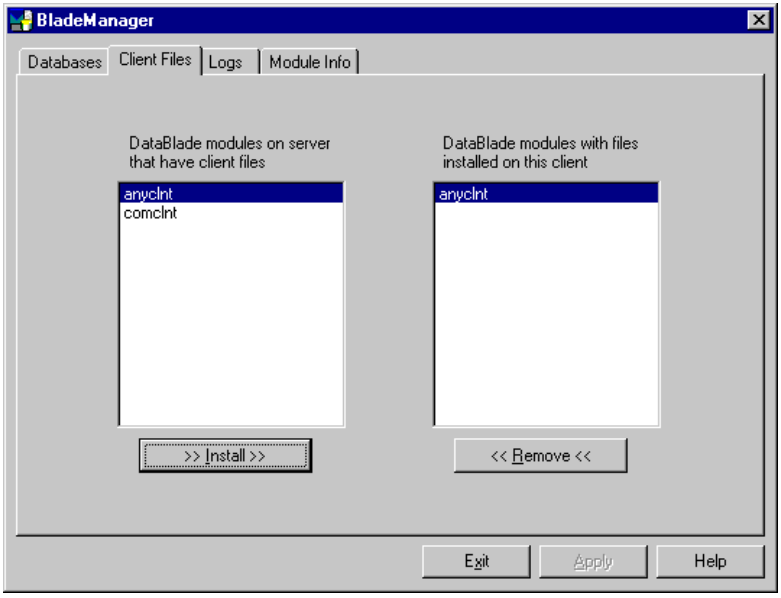

Figure 2-2. Client Files Page

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 2-3.

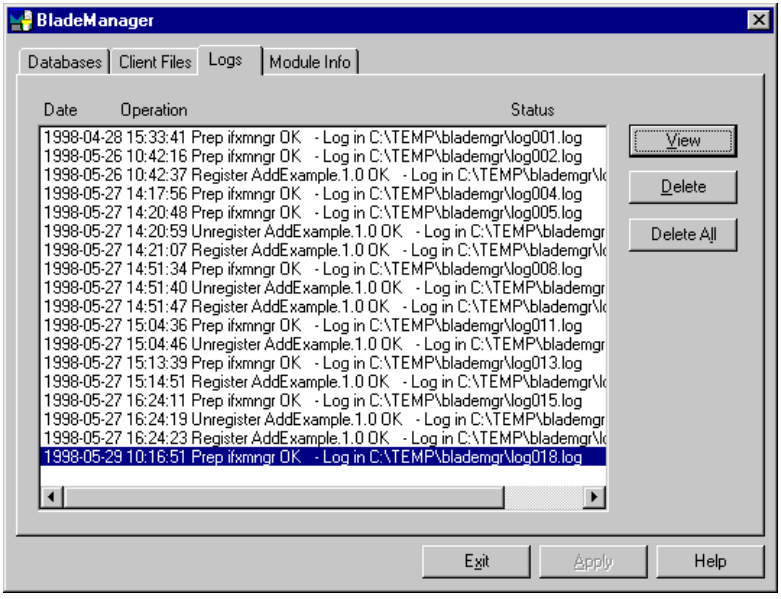

Figure 2-3. Logs Page

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 2-4.

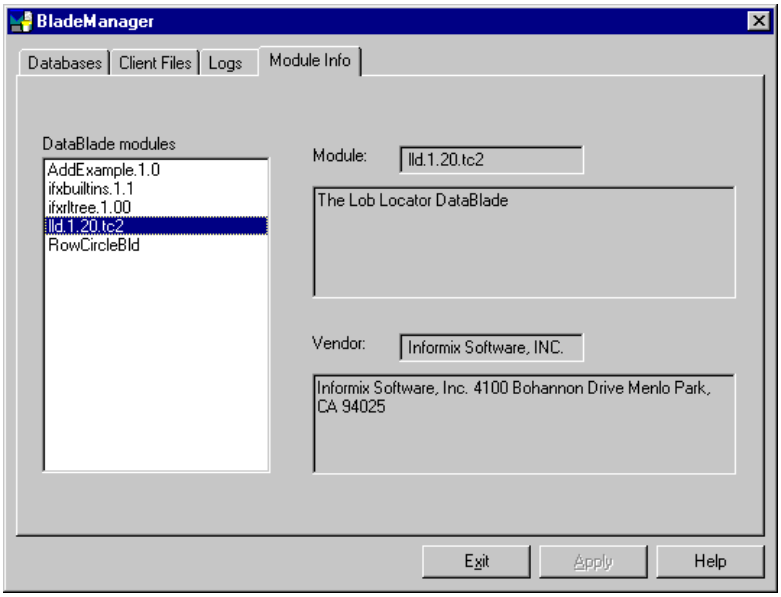

Figure 2-4. Module Info Page

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 3. Registering with the BladeManager Command-Line Interface

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  Starting and Stopping BladeManager 3-3
  Obtaining Help for Commands 3-3
  Setting Confirmation 3-4
  Executing BladeManager Commands Automatically at Startup 3-4
  Executing Multiple BladeManager Commands 3-4
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Managing DataBlade Modules 3-5
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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 3-2, next.

This chapter describes how to use the BladeManager command-line interface on UNIX and Windows. This interface provides commands to perform tasks, as described in the following sections:

- "Using BladeManager" on page 3-3
- "Managing DataBlade Modules" on page 3-5
- "Managing Client Files" on page 3-10
- "Viewing Log Files" on page 3-11

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- "Viewing Module Information" on page 3-12

The section "Command Reference" on page 3-12 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:

   UNIX Only

   - 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*.

   End of UNIX Only

   Windows Only

   - On Windows, set **INFORMIXDIR** and **INFORMIXSERVER**. For information about setting these environment variables, see the *IBM Informix: Dynamic Server Installation Guide for Microsoft Windows*.

   End of Windows Only

2. Install DataBlade modules.

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

3. Install BladeManager, if necessary.

   UNIX Only

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

Windows Only

See the BladeManager *IBM Informix: Read Me First* sheet for instructions for installing BladeManager on Windows.

End of Windows Only

Using BladeManager

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

- "Starting and Stopping BladeManager" on page 3-3, next
- "Obtaining Help for Commands" on page 3-3
- "Setting Confirmation" on page 3-4
- "Executing BladeManager Commands Automatically at Startup" on page 3-4
- "Executing Multiple BladeManager Commands" on page 3-4
- "Removing BladeManager Objects for Server Reversion" on page 3-5

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 3-2 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" on page 3-5, next
- "Registering a DataBlade Module" on page 3-7
- "Upgrading a DataBlade Module" on page 3-8
- "Unregistering a DataBlade Module" on page 3-9

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.

UNIX Only

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*.

End of UNIX Only

Windows Only

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 for Microsoft Windows Environments*.

End of Windows Only

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 3-7 for information on the **list** and **register** commands. See "Unregistering a DataBlade Module" on page 3-9 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 3-11) 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 DataBlade module UDRs were created with the EXTEND clause, you must extend permissions to register that module.

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 3-11) 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 Java only in *IBM Informix Dynamic Server with J/Foundation* database servers. For more information about J/Foundation, see the *IBM Informix: 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 3-11) 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 3-11) 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 3-10 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 3-10 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 3-11 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 3-12 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 3-5 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 3-7 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 3-4 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 3-6 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 3-6 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 3-5 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 3-9 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.

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

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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

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

The syntax diagrams in the HTML version of this manual are available in dotted decimal syntax format, which is an accessible format that is available only if you are using a screen reader.

Dotted Decimal Syntax Diagrams

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

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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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