

# DB-Gate™

The Remote Database Access  
Component of iSecurity



User Manual  
Version 1.2



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### Record your Product Authorization Code Here:

**Computer Model:**

**Serial Number:**

**Authorization Code**

# Table of Contents

<b>About This Manual .....</b>	<b>1</b>
Product Documentation Overview.....	1
Printed Materials .....	1
Online Help .....	1
Typography Conventions .....	1
Other iSecurity Products .....	2
<b>Chapter 1: Introducing DB-Gate .....</b>	<b>4</b>
System Requirements .....	4
Starting DB-Gate .....	4
Why You Need DB-Gate .....	5
Typical Remote Access Limitations .....	5
DB-Gate Benefits.....	6
DB-Gate Restrictions.....	6
Native OS/400 Text Based User Interface .....	7
Menus .....	7
Data Entry Screens.....	7
<b>Chapter 2: Remote DB Definitions .....</b>	<b>9</b>
Work with Directory Entries .....	9
Modifying a Directory Entry.....	10
Copying an Existing Directory Entry .....	12
Creating a New Directory Entry .....	12
<b>Chapter 3: DB Drivers .....</b>	<b>13</b>
Working with Database Drivers .....	13
Modifying a DB Driver .....	14
Copying a DB Driver .....	16
Adding a New DB Driver .....	17
Deleting a DB Driver .....	17
Drivers & Licenses Folders .....	18
<b>Chapter 4: DB-Gate Log.....</b>	<b>19</b>
<b>Chapter 5: Remote User ID .....</b>	<b>23</b>
Injection of Remote User IDs .....	23
Modifying a Server Authentication Entry .....	24
Adding a New Server Authentication Entry .....	24
<b>Chapter 6: Test Drive .....</b>	<b>25</b>
Starting SQL.....	25
Working with SQL Program Sources .....	26
<b>Chapter 7: System Configuration.....</b>	<b>27</b>
General Definitions.....	28
Log Retention .....	29
Setting DB Log Retention Parameters.....	29

<b>Chapter 8: Maintenance Menu .....</b>	<b>31</b>
Display DB-Gate Definitions .....	31
Work with Operators .....	33
Check Locks .....	35
Add DB-Gate to Java CLASSPATH .....	35
Journal Definition Files .....	36
Adding a Journal .....	36
Removing Journal .....	37
Displaying a Journal .....	38
Uninstall .....	38

# About This Manual

This user guide is intended for system administrators and security administrators responsible for the implementation and management of security on AS400 systems. However, any user with basic knowledge of AS400 operations will be able to make full use of this product after reading this book.

## Product Documentation Overview

Raz-Lee takes customer satisfaction seriously. Our products are designed for ease of use by personnel at all skill levels, especially those with minimal AS400 experience. The documentation package includes a variety of materials to get you familiar with this software quickly and effectively.

### Printed Materials

This user guide is the only printed documentation necessary for understanding this product. It is available in user-friendly PDF format and may be displayed or printed using Adobe Acrobat Reader version 4.0 or higher. Acrobat Reader is included on the product CD-ROM.

This manual contains concise explanations of the various product features as well as step-by-step instructions for using and configuring the product.

### Online Help

AS400 context sensitive help is available at any time by pressing the **F1** key. A help window appears containing explanatory text that relates to the function or option currently in use. Online help will shortly be available in Windows help format for viewing on a PC with terminal emulation.

## Typography Conventions

- Menu options, field names, and function key names are written in **Bold**.
- References to chapters or sections are written in *Italic*.
- OS/400 commands and system messages are written in ***Bold Italic***.
- Key combinations are separated by a dash, for example: Shift-Tab.
- Emphasis is written in **Times New Roman bold**.

## Other iSecurity Products

Raz-Lee's iSecurity is an integrated, state-of-the-art security solution for all System i servers, providing cutting-edge tools for managing all aspects of network access, data, and audit security. Its individual components work together transparently, providing comprehensive “out-of-the-box” security.

### Other iSecurity products include:



#### ***Change Tracker***

Change Tracker automatically tracks modifications in the software and file structure within production libraries. Changes are tracked at both the object and source levels. It does not require any special actions by programmers.



#### ***COMMAND***

COMMAND monitors and filters commands and its parameters before they are run, enabling you to control each parameter, qualifier or element, in conjunction with the context in which it is about to run. Options include Allow, Allow with Changes and Reject. It includes a comprehensive log, proactive alerting and easily integrates with SIEM.



#### ***AOD***

Authority on Demand provides an advanced solution for emergency access to critical application data and processes, which is one of the most common security slips in System i (AS/400) audits. Current manual approaches to such situations are not only error-prone, but do not comply with regulations and often-stringent auditor security requirements.



#### ***Capture***

Capture silently captures and documents user screens for tracking and monitoring, without any effects on system performance. It also preserves job logs for subsequent review. Capture can run in playback mode and can be used to search within texts.



#### ***AP-Journal***

AP-Journal automatically manages database changes by documenting and reporting exceptions made to the database journal.



#### ***Anti-Virus***

Anti-Virus is a dedicated iSeries-specific product engineered to provide full protection to the server, its file contents, and resident iSeries or System i dedicated software.



#### ***Visualizer***

Visualizer is an advanced DWH statistical tool with state-of-the-art technology. This solution provides security-related data analysis in GUI and operates on summarized files; hence, it gives immediate answers regardless of the amount of security data being accumulated.



### ***Firewall***

Firewall protects and secures all types of access, to and from the System i, within or outside the organization, under all types of communication protocols. Firewall manages user profile status, secures entry via pre-defined entry points, and profiles activity by time. Its Best Fit algorithm determines the validity of any security-related action, hence significantly decreasing system burden while not compromising security.



### ***Audit***

Audit is a security auditing solution that monitors System i events in real-time. It includes a powerful query generator plus a large number of predefined reports. Audit can also trigger customized responses to security threats by means of the integrated script processor contained in Action.



### ***Action***

Action automatically intercepts and responds to security breaches, system activity events, QHST contents, and other message queues. Inquiring messages can be automatically answered. Alerts are sent by e-mail, SMS, pagers, or the message queues. Command scripts with replacement variables perform customized corrective actions, such as terminating a user session or disabling a user profile.



### ***View***

View is a unique, patent-pending, field-level solution that hides sensitive fields and records from restricted users. This innovative solution hides credit card numbers, customer names, etc. Restricted users see asterisks or zeros instead of real values. View requires no change in existing applications. It works for both SQL and traditional I/O.



### ***Screen***

Screen protects unattended terminals and PC workstations from unauthorized use. It provides adjustable, terminal- and user-specific timeout capabilities.



### ***Password***

Password provides a first-tier wall of defense for users by ensuring that user passwords cannot be easily cracked.



### ***Assessment***

Assessment checks your ports, sign-on attributes, user privileges, passwords, terminals, and more. Results are instantly provided, with a score of your current network security status with its present policy compared to the network if iSecurity were in place.

---

## Chapter 1: Introducing DB-Gate

Raz-Lee Security's DB-Gate, part of the iSecurity suite, lets you open concurrent and transparent SQL connections to numerous types of remote data sources and databases. You can do this on any IBM or non-IBM platform using STRSQL and compile using CRTSQL for programs which refer to these databases.

DB-Gate is a client-only product, so it saves you both money and time you would otherwise require to integrate new hardware or set up a complicated API.

### System Requirements

DB-Gate requires the V5R3 operating system or higher.

### Starting DB-Gate

To begin using DB-Gate, type *STRDB* on any command line. The main screen is displayed.

You can access the different features from the main DB-Gate screen. The various feature groups are described in the following chapters:

- Remote DB Definitions
- DB Drivers
- Activity Log
- General Configuration and Maintenance



```

DBMENU                                DB-Gate                                iSecurity
System: S520
*Patent-Pending*

Select one of the following:

Remote DB Definitions                  Activity Log
 1. Work with Directory Entries        41. Display Log

DB Drivers                             Test Drive
11. Work with DB Drivers              51. Start SQL
15. Drivers & Licenses Folders        55. Work with SQL* program sources

Auto Injection of Remote User ID      General
21. Work with Server Authentication   81. System Configuration
                                       82. Maintenance Menu

Selection or command
===> █

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
F13=Information Assistant   F16=AS/400 main menu

```

Main DB-Gate Screen

## Why You Need DB-Gate

IBM AS/400 users often require access to remote, non-DB2 databases that do not support DRDA server behavior, such as Oracle, MS-SQL and Derby. These databases run on various operating systems and use standard languages (i.e. SQL).

### Typical Remote Access Limitations

To successfully access remote databases, companies have selected products based on either of the following limited methods:

- Using ambiguous or non-standard APIs that are not defined through RDBDIRE (relational Database Directory Entry) and therefore make no use of an ARD program
- Selecting a client-server configuration that requires additional hardware

These options are cumbersome, require special settings which often prevent users from fully utilizing standard SQL commands on the AS/400 and often include hidden infrastructure costs.

## DB-Gate Benefits

- “Opens” the entire non-DB2 spectrum of databases
- Greatly expands programmer’s capabilities when working with non-DB2 databases
- Reduces the need for redundant data and ETL (extract, transformation, load) data manipulation products
- Eliminates the need for \*SQLPKG, even when accessing another DB2 database (including one on the AS/400)
- Unique technology enables transparent access to any database (MySQL, ORACLE, MS SQL, DB2, Informix, SQLite) or data source (e.g., Excel) which resides on any IBM or non-IBM platform using STRSQL, STRQM or programs in languages such as RPG, Cobol, etc. (compiled using CRTSQL...)
- Integration with the STRSQL lets you prompt to see the Table names, Column names, and more
- Expands IBM i-based DRDA functionality by enabling transparent connectivity with JDBC databases not supported by DRDA
- Uses standard SQL syntax and is based upon standard OS/400 functionality – so there is virtually no learning curve to get up and running
- Remote Server Authentication that makes use of the IBM Server Authentication Entries, injecting them seamlessly when needed and eliminating the need to remember and re-enter a user name and password for each CONNECT to a remote DB
- Provides detailed traceability logs.

## DB-Gate Restrictions

The following functions are not supported:

- Database large objects (BLOBs, CLOBs, DBCLOBs)
- Data links
- User IDs longer than ten characters
- Passwords longer than ten characters
- Stored procedure result sets
- SQL statements longer than 32K
- Stored procedures with Commit on Return
- Scrollable cursors
- Multi-row input
- Extended diagnostics
- RDB aliases

## Native OS/400 Text Based User Interface

DB-Gate is designed to be a user-friendly product. The user interface follows standard System i CUA conventions. All product features are available via the menus, so you are never required to memorize arcane commands.

Many features are also accessible via the command line, for the convenience of experienced users.

### Menus

Product menus allow for easy access to all features with a minimum of keystrokes. Menu option numbering and terminology are consistent throughout this product as well as other Raz-Lee products. To select a menu option, simply type the option number and press Enter. The command line is available from nearly all product menus. If the command line does not appear (and your user profile allows use of the command line), press F10 to display it.

### Data Entry Screens

Data entry screens include many convenient features such as:

- Pop-up selection windows
- Convenient option prompts
- Easy-to-read descriptions and explanatory text for all parameters and options
- Search and filtering with generic text support.

The following describes the different data entry screens.

- To enter data in a field, type the desired text and then press **Enter** or **Field Exit**
- To move from one field to another without changing the contents press **Tab**
- To view options for a data field together with an explanation, press **F4**
- To accept the data displayed on the screen and continue, press **Enter**.

The following function keys may appear on data entry screens.

<b>Function Key</b>	<b>Description</b>
<b>F1 - Help</b>	Display context-sensitive help
<b>F3 - Exit</b>	End the current task and return to the screen or menu from which the task was initiated
<b>F4 - Prompt</b>	Display a list of valid options for the current field or command. For certain data items, a pop-up selection window appears
<b>F6 - Add New</b>	Create a new record or data item
<b>F8 - Print</b>	Print the current report or data item
<b>F9 - Retrieve</b>	Retrieve the previously-entered command
<b>F12 - Cancel</b>	Return to the previous screen or menu without updating

## Chapter 2: Remote DB Definitions

This chapter describes how to define a remote database. When definitions are activated, they create an RDBDIRE (Remote DB Directory Entry) in the operating system.

### Work with Directory Entries

To begin working with directory entries, select **1. Work with Directory Entries** from the main screen. The following Work with Directory Entries screen opens. Directories are marked as Active or --- (deactivated).

```

Work with Directory Entries

Type options, press Enter.                Subset . . . _____
  1=Select  3=Copy  4=Remove  7=Activate  8=Deactivate

Opt  Status  Directory entry
█   Active  CRM
-   Active  SALES
-   ---     SHIPMENTS
-   Active  TESTDB

F3=Exit  F5=Refresh  F6=Add new  F8=Print      F12=Cancel      Bottom
DB Directory Entry deleted.
Relational database directory entry deactivated.

```

#### Work with Directory Entries

To view a specific subset of drivers, enter the first alphanumeric characters of the driver in the **Subset by driver** field and press **Enter**. The driver list is redisplayed with results that match your query.

## Modifying a Directory Entry

You can update the details of a Directory Entry by highlighting it and choosing **1. Select**. The **Modify Directory Entry** screen appears with the selected directory entry filled in.

Once you modify the directory entry, press **Enter**, then press **Enter** again to confirm your changes.

---

**NOTE:** *You are not able to update the Directory Entry Name or Driver.*

---

Modify Directory Entry	
Directory Entry . . . . .	SALES Active: Y (Driver: ORACLE_SID )
Description . . . . .	
Log . . . . .	0 0=Global dft, 1=No Log, 2=Connect, 4=All
Host or IP . . . . .<host>	1.1.1.181
Port . . . . .<port>	1521
Catalog . . . . .<catalog>	
Schema . . . . .<schema>	
Database . . . . .<db>	
	System ID . . . . .<a
URL . . . . .	
Auto replacements are:	jdbc:oracle:thin:@<host>:<port>:<adl1>
<host><port><catalog>	
<schema><db><adl1-4>	
F3=Exit	F7=Driver page F12=Cancel

Modify Directory Entry Screen

The following table describes the detailed information you enter to create a new DB driver. Some of the parameters may vary depending on the selected driver.

Parameter	Description
<b>Directory Entry</b>	Name of the directory
<b>Active</b>	Y (yes) or N (no)
<b>Driver</b>	The driver you associated with the new entry
<b>Description</b>	Description of the directory (optional)
<b>Log</b>	0=Global default (this value is taken from System Configuration's General Definitions screen) 1=No log (no data is stored) 2=Connect (the log will store a record of each connection and disconnection from a database) 4=All (the log will store all commands sent; when a Fetch command is sent, it will only store the first in the series)
<b>Host or IP</b>	The address used to access the remote database
<b>Port</b>	The port number associated with the above address required for setting up a connection to the remote database
<b>Catalog</b>	If the database requires a Catalog for the connection, specify it here
<b>Schema</b>	The schema for the remote database
<b>Database</b>	Database name
<b>Additional parameters: SID in this example</b>	Up to four different parameters, based on the selected driver.
<b>URL</b>	Provided by the DB driver provider. May include parameters: <host><ip><user><pwd><catalog><port><schema><adl1-4>

## Copying an Existing Directory Entry

You can choose to add a new Directory Entry by copying one that already exists. Copying a directory entry is also the only way you can change the name of an existing directory entry.

1. To copy an existing directory, highlight it and select **3. Copy**. The **Copy DB Directory Entry** screen appears with the selected directory entry already filled in.
2. Enter a new Directory Entry name and press **Enter**, then press **Enter** again to confirm your new entry. All the existing directory entry details are automatically added and the **Work with Directory Entries** screen is redisplayed with the newly created directory entry (deactivated).

## Creating a New Directory Entry

You can choose to add a new Directory Entry either by copying one that already exists or by entering all the details on your own.

To add a completely new directory entry, do the following:

1. Select **F6. Add New**. The following **Add New Directory Entry** screen is displayed.
2. Type the new Directory Entry alias name. You can also select **F4. Prompt** (when in the **Directory Entry** field) to display the existing Directory Entry list. If you choose one and press **Enter**, it will then be added to the new **Directory Entry** field.
3. You must now add an existing driver type. Either type it in or select **F4. Prompt** (when in the **Driver** field) to display a list of the existing DB drivers.
4. Click **Enter** to move on to the empty **Add New Directory Entry Details** screen. If the URL had been saved in the driver, it is automatically added. This screen is the same as the Modify Directory Entry Screen above.

Add New Directory Entry

Directory Entry . . . . . █ \_\_\_\_\_  
Driver . . . . . \_\_\_\_\_

F3=Exit    F4=Prompt    F12=Cancel

**Add New Directory Entry**



## Chapter 3: DB Drivers

### Working with Database Drivers

A database driver enables you to access a remote database, first by recognizing it and then by establishing a connection with it.

**NOTE:** *DB-Gate comes with pre-installed DB drivers. You may add any number of additional drivers or modify the existing ones.*

To set up a database driver, select **11. Work with DB Drivers** from the main menu. The following **Work with DB Drivers** screen with a three-column list of the different types of databases already entered in the system and from which you can choose to create a remote connection. It includes the following details:

- Driver Name
- Available – Yes indicated that the driver's **Driver file** parameter (in the Modify DB Driver screen) has been filled in with the path to the jar file on the IFS
- Description for the driver.

```

Work with DB Drivers
Subset by driver . . . _____
by text . . . . . _____
Type options, press Enter.
1=Select  3=Copy  4=Delete  8=Driver page

Opt Driver  Available
█ AS400DB2  Yes  DB2 on OS/400 platform
  CACHE    -   Cache
  DAFFODILLO - DaffodilDB Local
  DAFFODILSR - DaffodilDB Server
  DB2       Yes  DB2 for Windows/Linux
  DB2JDBC4  Yes  DB2 for Windows/Linux
  DERBY     Yes  JavaDB/Derby
  FIREBIRD  Yes  Firebird
  FRONTBASE Yes  FrontBase
  HSQLDB    Yes  HSQLDB
  HSQLDBEMBD Yes HSQLDB Embedded
  H2_EMBED  Yes  H2 Database Engine (Embedded)
  H2_MEM    Yes  H2 Database Engine (In memory mode)
  H2_SERVER Yes  H2 Database Engine (Server mode)
  More...

F3=Exit  F6=Add new  F8=Print  F12=Cancel

```

Work with DB Drivers Screen

The following driver configurations are currently supplied alongside the product:

- |                         |                       |
|-------------------------|-----------------------|
| ■ Cache                 | ■ MS JDBC             |
| ■ Daffodil              | ■ MS SQL 2005         |
| ■ DB2 for Windows/Linux | ■ MySQL               |
| ■ JavaDB/Derby          | ■ Oracle              |
| ■ Firebird              | ■ Pervasive           |
| ■ Frontbase             | ■ PointBase           |
| ■ HSQLDB                | ■ PostgreSQL          |
| ■ Informix              | ■ Sybase SQL Anywhere |
| ■ Mimer                 | ■ Sqlite              |
| ■ MS Excel              | ■ Sybase ASE          |

If the URL for the driver manufacturer has been saved within the driver's details, you can open the driver's webpage in your browser and read detailed information on the database. To do this, select **8. Driver page** and then press **Enter**.

To view a specific subset of drivers, do one of the following:

- In the **Subset by driver** field, at the top right of the screen, enter the first alphanumeric characters of the driver and press **Enter**. The driver list is redisplayed with results that match your query.
- In the **Subset by text** field, enter any alphanumeric characters you want to match in either the **Driver Name** or **Description** fields and press **Enter**. The driver list is redisplayed with results that match your query.

## Modifying a DB Driver

To modify a DB driver, do the following:

1. Highlight the DB driver you want to update and press **1. Select**, then press **Enter**. The **Modify DB Driver** screen opens with the driver's details.
2. Update the fields, then press **Enter**. A confirmation message appears asking if you want to modify any of the entries.
3. Press **Enter** again to save the changes to the driver.

From within the driver page, you can view open the URL for the driver manufacturer to read detailed information on the DB driver by selecting **F7. Driver page**.

To restore the default settings of the current driver, select **F9. Restore Default**.

**Modify DB Driver**

Driver . . . . . DB2

Driver file . . /iSecurity/DB-Gate/Drivers/db2jcc.jar

Class . . . . . com.ibm.db2.jcc.DB2Driver

Driver page . . http://www-306.ibm.com/software/data/db2/java

Default port . . 50000

Additional parms **Label** **Possible values**

Parm 1 . .<ad1> \_\_\_\_\_

Parm 2 . .<ad2> \_\_\_\_\_

Parm 3 . .<ad3> \_\_\_\_\_

Parm 4 . .<ad4> \_\_\_\_\_

URL dft schema . jdbc:db2://<host>:<port>/<db>

Std replacements:

<host><db> \_\_\_\_\_

<catalog><port> \_\_\_\_\_

<schema><ad1-4> \_\_\_\_\_

F3=Exit                      F7=Driver page    F9=Restore Default                      F12=Cancel

**Modify DB Driver Screen**

The following table describes the information in the DB driver screen.

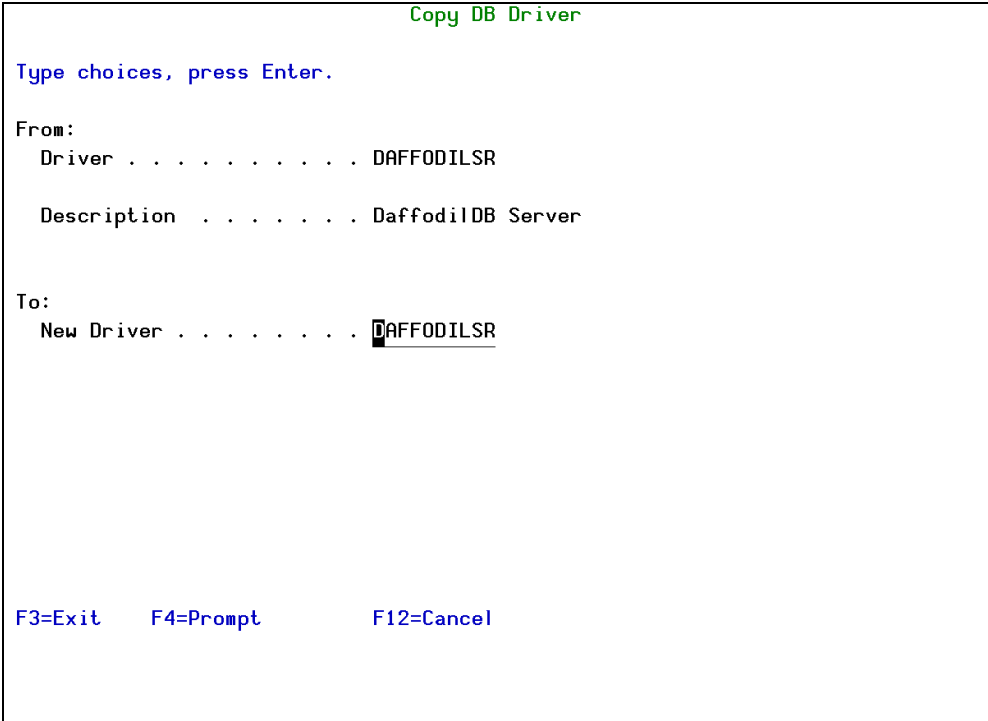
Parameter	Description
<b>Driver</b>	Driver's name and description. It will appear in the DB Drivers list when configuring a connection.
<b>Driver file</b>	Path to the jar file on the IFS that contains the JDBC driver for this database.
<b>Class</b>	JDBC driver class name.
<b>Driver page</b>	URL for the driver developer's webpage.
<b>Default port</b>	The default port to use when setting up a connection.
<b>Additional Parameters</b>	You may define up to four parameters which are specific for this driver. The definition includes the label, as well as a short explanation or the possible values. Parameters which are defined here will be displayed when this driver is selected.

Additional Commands	
<b>F4</b>	When in the Driver field, displays a Select DB Driver window with the option to select a specific DB Driver. After entering 1. Select, the window closes and your selection is displayed in the Driver field.
<b>F7</b>	Once the Driver page has been entered, selecting F7 opens the URL in your default browser.
<b>F9</b>	Restores the original definition of a driver if it was supplied alongside the DB-Gate and replaces the current settings.

### Copying a DB Driver

To copy a DB driver, do the following:

1. Select the DB driver you want to copy and press **1. Copy**, then press **Enter**. The **Copy DB Driver** screen opens with the name and description of the selected driver.
2. In the new Driver field, change the name, then press **Enter**.
3. After the confirmation message appears asking if you want to modify any of the entries, press **Enter** again to save the new driver.



Copy DB Driver Screen

## Adding a New DB Driver

To add a new DB driver, do the following:

1. From the **Work with DB Drivers** screen, press **F6**. An empty **Add New DB Driver** screen appears.
2. After you complete the fields, press **Enter**.
3. After the confirmation message appears asking if you want to modify any of the entries, press **Enter** again to save the new DB driver.

## Deleting a DB Driver

To delete a DB driver from the list, do the following:

1. Select the DB driver and then select **4. Delete**. The driver's page is displayed.
2. Press **Enter** to confirm the delete request. The driver is deleted.

## Drivers & Licenses Folders

To view and update a connection to a remote database, select **15. Drivers & Licenses Folders** from the main screen. The **Work with Object Links** screen opens. This resource screen lets you see the paths to the third party drivers and their licenses.

```
Work with Object Links
Directory . . . . : /iSecurity/DB-Gate/Drivers/./

Type options, press Enter.
 2=Edit  3=Copy  4=Remove  5=Display  7=Rename  8=Display attributes
11=Change current directory ...

Opt  Object link      Type      Attribute  Text
---  -
.    .                DIR
..   ..              DIR
█    db2              DIR
     derby            DIR
     excel            DIR
     firebird         DIR
     hsqldb           DIR
     h2sql            DIR
     jtods            DIR
                                           More...

Parameters or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel  F17=Position to
F22=Display entire field      F23=More options
```

**Work with Object Links Screen**

The drivers belong to the official owners. They are supplied alongside the product for convenience. Next to each driver you may find the actual license under which it is supplied. These drivers have been downloaded and are supplied by Raz-Lee with the understanding that they may be supplied in this way.

## Chapter 4: DB-Gate Log

DB-Gate's Display Log shows the contents of the history log, which saves various data gathered from the different directory entries as you have defined them, in a standard format and using basic filter criteria. The "Backward Glance" feature lets you look at the last several minutes of activity without the need to define specific time or date parameters.

To begin filtering log entries, select **41. Display Log** from the main menu. The following **Display DB-Gate Log Entries** screen is displayed.

```

Display DB-Gate Log Entries (DSPDBLOG)

Type choices, press Enter.

Display last minutes . . . . . *BYTIME      Number, *BYTIME
Starting date and time:
  Starting date . . . . . *CURRENT      Date, *CURRENT, *START...
  Starting time . . . . . 000000      Time
Ending date and time:
  Ending date . . . . . *CURRENT      Date, *CURRENT, *YESTERDAY...
  Ending time . . . . . 235959      Time
User profile . . . . . *ALL          Name, generic*, *ALL
Remote user profile . . . . . *ALL      Name, generic*, *ALL
Relational DB Entry . . . . . *ALL      Name, generic*, *ALL
SQL Operation . . . . . *ALL          Name, *ALL, ALTER, CLOSE...
SQL State . . . . . *ALL            Character, generic*, *ALL
SQL Error Code . . . . . *ALL       Number, *ERR, *NOERR, *ALL
SQL Statement contains . . . . . *ALL

More...

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Display DB-Gate Log Entries Screen

```

Display DB-Gate Log Entries (DSPDBLOG)

Type choices, press Enter.

SQL Message contains . . . . . *ALL

From job name . . . . . *ALL      Name, generic*, *ALL
  User . . . . . *ALL          Name, generic*, *ALL
  Number . . . . . *ALL       000000-999999, *ALL
From program name . . . . . *ALL   Name, generic*, *ALL
  Library . . . . . *ALL      Name, generic*, *ALL
Number of records to process . . *NOMAX  Number, *NOMAX
Output . . . . . *           *, *PRINT, *OUTFILE

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Display DB-Gate Log Entries Screen (Cont')

The following table describes the various settings you can define to filter log entries.

Parameter	Description
Display last minutes	Number, *BYTIME This "Backward Glance" feature lets you enter the number of minutes of recent activity you want to view, without the need to define any other time or date parameters. The feature is particularly helpful when trying to clarify the cause of problems
Starting date	Choose from: Current, Start, Yesterday, Week Start, Previous Weeks, Month Start, Previous Months, Year Start, Previous Years, and each day of the week
Starting time	00:00:00 format
Ending date	Same options as Starting date
Ending time	00:00:00 format
User profile	All (default) or a specific user profile on the AS/400
Remote user profile	All (default) or a specific user profile on the remote database
Relational DB Entry	All (default) or a specific remote DB entry



Parameter	Description
<b>SQL Operation</b>	All (default) or a specific SQL operation that is used at the beginning of an SQL statement (e.g., CONNECT, CREATE, DROP, etc.)
<b>SQL State</b>	All (default) or a specific state
<b>SQL Error Code</b>	All (default), a specific error code number or name that describes the problem, or entries without any error code
<b>SQL Statement contains</b>	All (default) or a specific SQL statement
<b>SQL Message contains</b>	All (default) or a specific error message that is associated with an error code
<b>From job name</b>	All (default) or specific job
<b>User</b>	All (default) or specific user
<b>Number</b>	All (default) or a specific number
<b>From program name</b>	All (default) or the program in the AS/400 that created this log
<b>Library</b>	All (default) or specific library of the program name
<b>Number of records to process</b>	No Maximum amount (NOMAX) or a specific number
<b>Output</b>	On the screen (*), Printed on one of the defined printers. If you enter Outfile, you must then define the following additional parameters: File to receive output, Library, Member to receive output, Replace or add records

Once you have defined the filter for the log, press **Enter** to view the results. The following screen is an example of the output displayed.

```

Display DB Gate Log
Log information is available from 22/03/12
DB -> WAREHOUSE PREPARE SQLERR -204 [SQL0204] DEMOPF21 in ILAN type *FILE not
DB -> WAREHOUSE PREPARE SQLERR -104 [SQL0104] Token FROM1 was not valid. Valid
DB -> WAREHOUSE PREPARE SQLERR -204 [SQL0204] DEMOPF21 in ILAN type *FILE not
SASHA -> CRM PREPARE SQLERR 1146 Table 'ilan.demopf21' doesn't exist: select *
SASHA -> CRM PREPARE SQLERR 1146 Table 'ilan.demopf21' doesn't exist: select *
SASHA -> CRM PREPARE SQLERR -1 Table 'ilan.demopf21' doesn't exist: select * f
DB -> WAREHOUSE PREPARE SQLERR -204 [SQL0204] DEMOPF21 in ILAN type *FILE not
DB -> WAREHOUSE PREPARE SQLERR -204 [SQL0204] DEMOPF21 in ILAN type *FILE not
SASHA -> CRM PREPARE SQLERR -204 Table 'ilan.demopf21' doesn't exist: select *
SASHA -> CRM PREPARE SQLERR -204 You have an error in your SQL syntax; check t
SASHA -> CRM PREPARE SQLERR -204 You have an error in your SQL syntax; check t
DB -> WAREHOUSE PREPARE SQLERR -104 [SQL0104] Token FROM1 was not valid. Valid
SASHA -> CRM PREPARE SQLERR -204 You have an error in your SQL syntax; check t

Bottom
F3=Exit          F10=Entire-Entry      F17=Top  F18=Bottom

```

### Display DB-Gate Log

To view further details on the output, select **F10. Entire Entry**. The following screen appears.

```

Additional Entry Information      System: S520

Remote DB Entry . . . : WAREHOUSE      From User Profile . . . : DB
Date sent . . . . . : 12/03/22        Time sent . . . . . : 10:23:47
From Job . . . . . : QZRCRSVS/QUSER/215534      Program : DBCRTLGR
Remote User . . . . . : DB              Library: SMZB
Remote IP . . . . . :                   SQL Opr.: PREPARE
SQL State . . . . . : 42704             SQL Err.: 204-
SQL Error Message . . : [SQL0204] DEMOPF21 in ILAN type *FILE not found.
SQL Statement:
select * from ilan.demopf21

F3=Exit          F12=Cancel

```

### Additional Entry Information from DB-Gate Log

## Chapter 5: Remote User ID

This section details how to work with server authentications. The parameters and settings rely on standard IBM commands, such as ADDSVRAUTE and CHGSVRAUTE, which are described in detail in IBM's literature.

At the time that authentication information is required, the data entered here will be used. This eliminates the need for repetitive entries of the authentication information.

### Injection of Remote User IDs

To set up auto injection of remote user IDs, select **21. Work with Server Authentication** from the main menu and press **Enter**. The following **Work with Server Authentication Entries** screen is displayed.

```

Work with Server Authentication Entries
Subset by user . . . .
server . . . .
remote user. . . .

Type options, press Enter.
1=Select 4=Remove

Opt  User      Server      Remote user      Password
█   AU        CRM1        SASHA2
-   AU        RDBIMP     QSECOFR          *YES
-   AU        S520DDM   QSECOFR          *YES
-   AV        testrdb10 AV
-   DB        CRM        SASHA            *YES
-   DB        LOGISTICS sasha           *YES
-   DB        SALES     tm1             *YES
-   DB2ADMIN  acum_db   DB2ADMIN        *YES
-   DB2ADMIN  ACUMSDB  db2admin        *YES
-   DPROP     ODED     DPROP
-   DPROP     REPLICA  ODED
-   DPROP     SHI      DPROP
-   DPROP     192.168.168.182 DPROP
-   DPROP     192.168.168.4  DPROP

F3=Exit  F6=Add New  F12=Cancel

More . . .

```

**Work with Server Authentication Entries Screen**

To view a specific subset of server authentication entries, select one of the following subset fields: **User**, **Server** or **Remote User**. Enter the first alphanumeric characters of the entry and press **Enter**. The list is redisplayed with results that match your query.

## Modifying a Server Authentication Entry

To modify a server authentication entry, do the following:

1. Highlight the server authentication entry that you want to update in the **Work with Server Authentication Entries** screen and press **1. Select**, then press **Enter**.
2. When the **Modify User Authentication Entry** screen opens, update the User profile, Server and Remote user ID details displayed.
3. When you are done, press **Enter**. After the confirmation message appears, press **Enter** again to save your settings.

		Name
User profile . . . . .	AU	
Server . . . . .	CRM1	
Remote user ID . . . . .	SASHA2	
Password or *NONE . . . . .		

DB-Gate restricts Server to 18 characters. User and Password are restricted to 10 characters.

F3=Exit                      F12=Cancel

Modify User Authentication Entry Screen

## Adding a New Server Authentication Entry

To add a new server authentication entry, press **F6. Add New**. An empty **Add User Authentication Entry** screen appears.



## Working with SQL Program Sources

To begin working with SQL Program Sources, select **55. Work with SQL\*** program sources from the main screen and press **Enter**. The following **Work with Members Using PDM** screen is displayed.

```
Work with Members Using PDM (WRKMBRPDM)

Type choices, press Enter.

File . . . . . *PRV          *PRV, name
Library . . . . .           *PRV, name, *LIBL, *CURLIB
Member . . . . . *ALL        *ALL, name, *generic*...
Member type . . . . . > SQL*  *ALL, type, *generic*...

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

Bottom
```

Work with Members Using PDM Screen

# Chapter 7: System Configuration

DB-Gate is ready-to-run right out of the box. You should review a few system configuration parameters that control important features prior to using the product for the first time.

It should be pointed out that there is no “typical” or “optimal” configuration for a connectivity product such as DB-Gate. Each installation or application has different operational criteria and security needs. For example, the log requirements for a large manufacturing environment may be quite different from those for a bank, a software developer or a service organization.

To begin system configuration, Select **81. System Configuration** from the main screen and press Enter. The following **DB Directory Entry System Configuration** screen appears.

```

DBPARMR          DB Directory Entry System Configuration  25/03/12 12:18:36

Select one of the following:

DB-Gate
  1. General Definitions

      9. Log Retention

                                     General
                                     98. Driver Licenses
                                     99. Copyright Notice
Selection ==>>> █

Release ID . . . . . 01.0 12-03-20  44DE466 520 7459
Authorization code . . . . . B01203731542 1

F3=Exit   F22=Enter Authorization Code   F12=Cancel
  
```

**DB Directory and System Configuration Screen**

**NOTE:** *After you modify any of the parameters accessible from this menu, the message “Modify data, or press Enter” appears upon return to the menu.*

## General Definitions

To change the global settings of DB-Gate, do the following:

1. Select **1. General Definitions** from the **System Configuration** screen. The following **General Definitions** screen appears.
2. Enter a **Log level** setting from one of the following options:

Option	Description
<b>1=No log</b>	No data is stored
<b>2=Connect</b>	The log will store a record of each connection and disconnection from a database
<b>4=All</b>	The log will store all commands sent; when a Fetch command is sent, it will only store the first in the series

```

General Definitions                                     25/03/12 10:37:16

Type options, press Enter.

Log level . . . . . 1          1=No Log
                                   2=Connects only
                                   4=All

Notes:
All errors are logged, regardless of this setting.
For 4=All, only the first FETCH is logged.

F3=Exit  F12=Cancel
  
```

**General Definitions Screen**

---

**NOTE:** When you select the **0=Global default** setting for a specific **directory entry**, it will take the setting you define on this screen.

---

3. When you are done, press **Enter**. After the confirmation message appears, press **Enter** again to save your settings.



# Log Retention

## Setting DB Log Retention Parameters

Log Retention parameters govern the retention and backup of the DB-Gate history log files. In order to preserve disk storage capacity and improve query response time, you should retain transactions for the minimum period necessary to maintain an effective audit program.

The recommended initial settings are shown below.

To set the log retention periods, do the following:

1. Select **9. Log Retention** from the **DB Directory Entry System Configuration** screen. The following **DB Log Retention** screen appears.
2. Enter the parameters as defined in the table below.
3. When you are done, press **Enter**. After the confirmation message appears, press **Enter** again to save your settings.

```
DB Log Retention                                25/03/12 10:40:10

Type options, press Enter.

Data retention period (days) . . . 30          Days, 99=*NOMAX
Backup program for data . . . . . *NONE        Name, *STD, *NONE
Backup program library . . . . . _____

You may specify a backup program to run automatically before deleting old
data. This program runs prior to automatic deletion of data whenever the
retention period expires.

The *STD program is SMZB/DBSOURCE DBDBGKBP.

F3=Exit   F12=Cancel
```

DB Log Retention Screen

Parameter	Description
<b>Data retention period</b>	The number of days that the queries are retained. At the end of this period, queries are purged from the log. Enter 99 to retain all data indefinitely.
<b>Backup Program for data</b>	Enter the name of the backup program you wish to use, type *STD to use the standard backup program or *NONE for no backup.
<b>Library</b>	Enter the name of the library where it is located.

## Chapter 8: Maintenance Menu

The Maintenance Menu lets you set and display global definitions for DB-Gate. To open it, select **82. Maintenance Menu** from the main menu.

```

DBMINTM                               Maintenance Menu                               iSecurity/DB-Gate
                                                                              System: S520
                                                                              *Patent-Pending*

Select one of the following:

Definitions                            General
5. Display DB-Gate Definitions          52. Check Locks
                                         53. Add DB-Gate to Java CLASSPATH

Operators                               Journal Definition Files
11. Work with Operators                71. Add Journal
                                         72. Remove Journal
                                         79. Display Journal

                                         Uninstall
                                         91. Uninstall

Selection or command
===> █

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel
F13=Information Assistant  F16=AS/400 main menu

```

Maintenance Menu Screen

### Display DB-Gate Definitions

To print the definitions that you entered for DB-Gate, do the following:

4. From the Maintenance Menu screen, select **5. Display DB-Gate Definitions**. The following screen appears.
5. When you are done, press **Enter**. After the confirmation message appears, press **Enter** again to save your settings.

```

Display DB-Gate Definitions (DSPDBDFN)

Type choices, press Enter.

Report type . . . . . > *DBENTRY      *ALL, *DBENTRY, *DBDRVR
From item . . . . . *ALL             Character value, *ALL, *START
To item . . . . . *SAME              Character value, *ONLY, *LAST
Format . . . . . *DETAILS            *LIST, *DETAILS
Output . . . . . *                   *, *PRINT

Bottom

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Display DB-Gate Definitions Screen

Parameter	Description
Report Type	*ALL = All of the following options *DBENTRY = The definitions for the Directory Entries *DBDRVR = The definitions for the DB Drivers
From item	Character value *All *Start = From the beginning of all values
To item	Character value *Only *Last
Format	*List = Short form *Details = Full form
Output	* = Screen *Print = Spool

## Work with Operators

The operators' authorities' management is maintained in one place for this product. It also offers the site a possibility of implementing a second password to protect use of the product.

There is one default group: \*AUD#SECAD. It allows all users both \*AUDIT and \*SECADM special authorities. By default, this group has full access (Read and Write) to all the product's components.

You may add more operators, delete them, and give them authorities and passwords according to your own judgment. You even have the option to make the new operators' definitions apply to all your systems; therefore, upon import, they will work on every system.

To view existing operator's authorities and modify them, do the following.

From the **Maintenance Menu**, select **11. Work with Operators**.

```
Work with Operators

Type options, press Enter.
  1=Select  4=Delete

Authority level: 1=*USE  9=*FULL

Opt User      System  DB  Adm
█ *AUD#SECAD  S520   9   9
- CS          S520   9
- GS          S520   9   9
- OS          S520   1   1
-

DB=DB-Gate      Adm=Administrator

F3=Exit  F6=Add new  F8=Print  F11=*SECADM/*AUDIT authority  F12=Cancel

Bottom
```

### Work with Operators

To modify an operator, highlight it and choose **1. Select**.

To add a new operator, press **F6**.

**Modify Operator**

Type choices, press Enter.

Operator . . . . . \*AUD#SECAD  
System . . . . . S520 \*ALL, Name  
Password . . . . . \*SAME Name, \*SAME, \*BLANK

**Authorities by subject:**  
DB-Gate . . . . . 9 1=\*USE, 9=\*FULL  
Product Administrator . . . . . 9 1=\*USE, 9=\*FULL

F3=Exit F12=Cancel

**Modify Operator Screen**

Parameter	Description
<b>Operator</b>	The Operator can be a user or group profile. DG Gate provides one type of Operator group: <b>*AUD#SECAD</b> . This group has full access (Read and Write) to all parts of DB-Gate.
<b>System</b>	*ALL Name
<b>Password</b>	Name = Password *SAME = Same as previous password when edited *BLANK = No password
<b>DB-Gate</b>	User of the product 1=*USE (Read authority only) 9=*FULL (Read and Write authority)
<b>Product Administrator</b>	Person responsible for backups, setting authorization codes, etc. 1=*USE (Read authority only) 9=*FULL (Read and Write authority)

## Check Locks

To verify if objects are locked in the system, select **52. Check Locks** from the **Maintenance Menu**.

```
GSLCKMNU                                Check Locks                                iSecurity
                                           System:   S520

Select one of the following:

Check Locks
  1. Data Base Files

  -. Display Files
     End this session. Enter CHKSECLCK OBJTYPE(*DSPF) from a new session.

  -. All File Types
     End this session. Enter CHKSECLCK OBJTYPE(*ALL ) from a new session.

Selection or command
===> █

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
F13=Information Assistant   F16=AS/400 main menu
```

Check Locks Screen

## Add DB-Gate to Java CLASSPATH

Use this tool if you suspect that the Java components required by the system cannot be found. Using it will define the location of the required components in the CLASSPATH (which is similar to \*LIBL for Java).

# Journal Definition Files

A journal file records changes made to definitions in the data library.

## Adding a Journal

To add a journal, select option **71. Add Journal** from the **Maintenance Menu** screen. The following **Create Journal – Confirmation** screen appears. Press **Enter** to confirm.

```
DBMINTM                               Maintenance Menu                               iSecurity/DB-Gate
System: S520
Select ..... Pending*
: █          Create Journal - Confirmation :
Definit :
5. Dis : You are about to start journaling the product files. :
: The journal receivers will be created in library : TH
: SMZBJRND . If this library does not exist, it will :
: be automatically created. :
Operato :
11. Wor : If you wish to create the library in a specific ASP, :
: you should press F3=Exit, create this library, and :
: run again this option. :
: :
: Press Enter to start journaling, F3 to Exit. :
: :
: F3=Exit :
: :
Selecti .....
==> 71

F3=Exit F4=Prompt F9=Retrieve F12=Cancel
F13=Information Assistant F16=AS/400 main menu
```

Create Journal – Confirmation Screen



## Removing Journal

To remove a journal, select option **72. Remove Journal** from the **Maintenance Menu** screen. The following **End Journal – Confirmation** screen appears. Press **Enter** to confirm.

```
DBMINTM                               Maintenance Menu                               iSecurity/DB-Gate
System: S520
Select ..... Pending*
:      █                               End Journal - Confirmation
Definit :
5. Dis : You are about to end journaling the product files.
:      : The journaling will stop in library SMZBJRND
:      :
:      : Press Enter to end journaling.
Operato :
11. Wor : F3=Exit
:      :
:      : .....
Uninstall
91. Uninstall

Selection or command
==> 72

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel
F13=Information Assistant  F16=AS/400 main menu
```

End Journal - Confirmation Screen

## Displaying a Journal

To view journaled files, select option **79. Display Journal** from the **Maintenance Menu** screen. The following **Display Journal Entries** screen appears.

```
Display Journal Entries

Journal . . . . . : SMZ4          Library . . . . . : SMZ4DTA

Type options, press Enter.
  5=Display entire entry

Opt  Sequence  Code  Type  Object      Library      Job          Time
█    1         J    PR   AUCTION2P   SMZ4DTA     QPADEV000V   13:41:03
-    2         D    JF   AUCTION2P   SMZ4DTA     QPADEV000V   13:41:09
-    3         F    JM   AUCTION2P   SMZ4DTA     QPADEV000V   13:41:09
-    4         D    JF   AUACTNL     SMZ4DTA     QPADEV000V   13:41:09
-    5         F    JM   AUACTNL     SMZ4DTA     QPADEV000V   13:41:09
-    6         D    JF   AUACTNP     SMZ4DTA     QPADEV000V   13:41:10
-    7         F    JM   AUACTNP     SMZ4DTA     QPADEV000V   13:41:10
-    8         D    JF   AUADPAP     SMZ4DTA     QPADEV000V   13:41:10
-    9         F    JM   AUADPAP     SMZ4DTA     QPADEV000V   13:41:10
-   10         D    JF   AUADPLP     SMZ4DTA     QPADEV000V   13:41:10
-   11         F    JM   AUADPLP     SMZ4DTA     QPADEV000V   13:41:10
-   12         D    JF   AUAUDOP     SMZ4DTA     QPADEV000V   13:41:11
                                           More...

F3=Exit  F12=Cancel
```

**Display Journal Entries**

## Uninstall

Use the Uninstall feature to remove DB-Gate from your computer.

Select **91. Uninstall** from the **Maintenance Menu** and follow the directions that follow on the **Uninstall SECURITYBP** screen.

