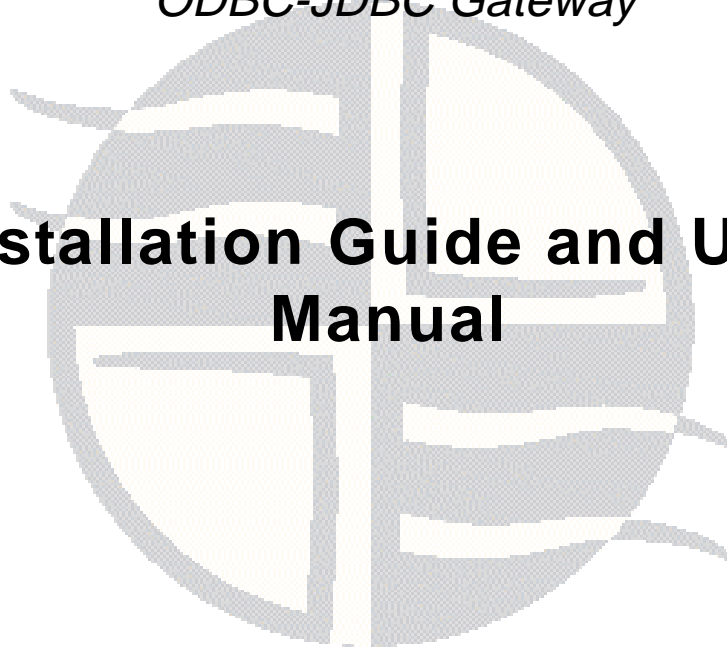


Easysoft Data Access

ODBC-JDBC Gateway

Installation Guide and User Manual





Version 12.

This manual documents version 1.1.n of the Easysoft ODBC-JDBC Gateway.

Publisher: Easysoft Limited

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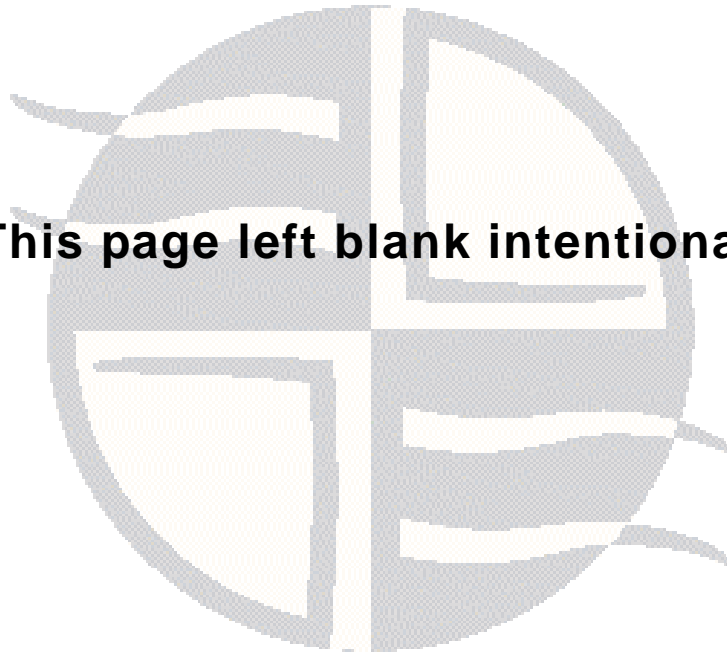


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PREFACE



About this manual

This manual is intended for use by anyone who wants to access JDBC data sources from Windows ODBC applications.

Chapter Guide

- **Intended Audience**
- **Displaying the Manual**
- **Notational Conventions**
- **Typographical Conventions**
- **Contents**
- **Trademarks**



PREFACE

About this manual

Intended Audience

The sections written for the Microsoft Windows platforms require some familiarity with the use of buttons, menus, icons and text boxes. If you have any experience of Apple Macintosh computers, Microsoft Windows or the X Window System, you will have no difficulty with these sections.

Displaying the Manual

This manual is available in the following formats:

- Portable Document Format (PDF), which can be displayed and printed using the Acrobat Reader, available free from Adobe at <http://www.adobe.com>.
- HTML (the format Easysoft recommend for viewing onscreen).

Notational Conventions

Across the range of Easysoft manuals you will encounter passages that are emphasized with a box and a label.

A *note box* provides additional information that may further your understanding of a particular procedure or piece of information relating to a particular section of this manual:

NB Note boxes often highlight information that you may need to be aware of when using a particular feature.

A *reference box* refers to resources external to the manual, such as a useful website or suggested reading:

REF For more manuals that use this convention, see the rest of the Easysoft documentation.

A *platform note* provides platform-specific information for a particular procedure step:

Linux

In Linux you must log on as the `root` user in order to make many important changes.

A *caution box* is used to provide important information that you should check and understand, prior to starting a particular procedure or reading a particular section of this manual:

Caution!

Be sure to pay attention to these paragraphs because Caution boxes are important!

Information has also been grouped within some chapters into two broad classes of operating system, Windows and Unix, for which side tabs are used to help you turn to the section relevant to you.

Typographical Conventions

To avoid ambiguity, typographic effects have been applied to certain types of reference:

- User interface components such as icon names, menu names, buttons and selections are presented in bold, for example:

Click **Next** to continue.

Where there is a chain of submenus, the following convention is used:

Choose **Start > Programs > Command Prompt**.

- Commands to be typed are presented using a monotype font, for example:

At the command prompt type `admin`.

- Keyboard Commands

It is assumed that all typed commands will be committed by pressing the *<Enter>* key, and as such this will not normally be indicated in this manual. Other key presses are italicized and enclosed by angle brackets, for example:

Press *<F1>* for help.

- File listings and system names (such as file names, directories and database fields) are presented using the monotype plain text style.

Contents

- **Introduction**
Introduces the Easysoft ODBC-JDBC Gateway.
- **Installation**
Explains how to install the Easysoft ODBC-JDBC Gateway.
- **Configuration**
Explains how to configure a data source for the Easysoft ODBC-JDBC Gateway.
- **Appendices**
Comprising a Glossary.

PREFACE

About this manual

Trademarks

Throughout this manual, *Windows* refers generically to Microsoft Windows 95, 98, 2000, NT or XP, which are trademarks of the Microsoft Corporation. The X Window system is specifically excluded from this and is referred to as *The X Window System* or just *X*.

Note also that although the name UNIX is a registered trademark of UNIX System Laboratories, the term has come to encompass a whole range of UNIX-like operating systems, including the free, public Linux and even the proprietary Solaris. Easysoft use Unix (note the case) as a general term covering the wide range of Open and proprietary operating systems commonly understood to be Unix 'flavors'.

Easysoft and Easysoft Data Access are trademarks of Easysoft Limited.

INTRODUCTION

Introducing the Easysoft ODBC-JDBC Gateway

The Easysoft ODBC-JDBC Gateway enables Windows ODBC applications to access JDBC data sources.

Chapter Guide

- [Why ODBC?](#)
- [Driver Managers](#)
- [Why JDBC?](#)
- [The Easysoft ODBC-JDBC Gateway](#)

INTRODUCTION

Introducing the Easysoft ODBC-JDBC Gateway

Why ODBC?

Historically, corporate data was held on large, centralized computing resources that performed all the processing required on it. Changes to the business practice meant changes had to be made to the corporate mainframe system. Worse still was the problem of integrating two or more of these highly individual systems, for example in the event of a corporate merger.

As the desktop computer improved in power, users began to want to access corporate data in order to process it on their own desktop. The client-server architecture became a popular goal: the central computing resource (server) would produce a subset of its data for a user-friendly tool (client). The client would use desktop computing power to format and present the data.

Database application writers and their customers found themselves with a key problem: it was necessary to produce one version of a piece of software for each DataBase Management System (DBMS) they wished to use it with.

Relational databases and SQL went part way toward alleviating the problem. For the first time there was a defined, open, standard language for querying databases. In theory at least, it was possible to use the same language in dealing with databases from a variety of manufacturers. The X/Open consortium went on to define a Call Level Interface (CLI) so that programmers could effectively use SQL within their own programs.

ODBC (Open Database Connectivity) has for many years been recognised as the de facto data access method for Windows applications and ODBC drivers are available on Windows for all leading database systems.

ODBC is an API definition, compliant with ANSI SQL and the X/Open SQL CLI which allows an application to be written without considering the intricacies of the particular database engine to which it connects.

An ODBC *driver* takes care of all database-specific code, if necessary transforming the structure of the underlying system into a relational framework.

Figure 1 on page 15 illustrates the principle of separating the driver from the application:

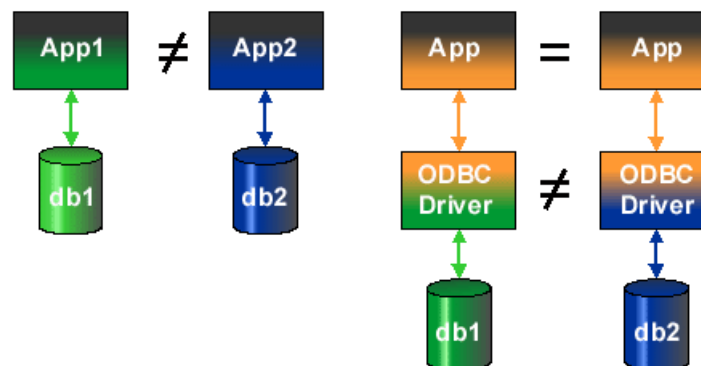


Figure 1: Before and after ODBC

Before ODBC, even if *App1* and *App2* were functionally equivalent, there had to be two programs, one for each DataBase Management System (DBMS), whereas ODBC permits the DBMS-specific parts of the program to be separated from the part that fulfils the functional requirement.

The result is that the completed application can be attached to any DBMS that has a corresponding driver. There are currently over fifty DataBase Management Systems supported in this way.

INTRODUCTION

Introducing the Easysoft ODBC-JDBC Gateway

Driver Managers

The barest ODBC system would include an ODBC-conformant driver accessing some data, and an ODBC-conformant application, linked to the driver library.

If commercial applications were distributed in this way, users would need to re-link their applications to their chosen driver whenever they wanted to access a different data source.

Instead, the application program is linked to a *driver manager*, which loads the required driver at runtime.

The driver manager also initializes the driver with a stored set of attributes.

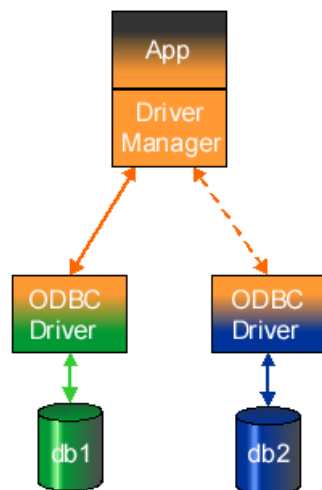


Figure 2: The Driver Manager as a dynamic linker

This approach provides three key results:

- Once developers have written applications to satisfy a business requirement, the application can be 'plugged in' to whatever database management system satisfies the technical demands.
- Administrators can connect a variety of applications (such as generic query tools) to their databases to browse and investigate the data.
- *Data access middleware* can be inserted between the ODBC application and driver to add strategic functionality such as joining heterogeneous databases into one data source or bridging a network.

Why JDBC?

JDBC provides a call-level API for SQL-based database access and is the industry standard for database-independent connectivity between the Java programming language and a wide range of databases.

The JDBC API makes it possible to:

- Establish a connection with a database
- Send SQL statements
- Process the results

Support for JDBC technology has been built into many new products, ensuring that customers are not locked into any proprietary architecture and can continue to access information stored on different database management systems.

No configuration is required on client machines, as all connection information is defined by the JDBC URL used to access the server.

INTRODUCTION

Introducing the Easysoft ODBC-JDBC Gateway

The Easysoft ODBC-JDBC Gateway

ODBC has for many years been recognised as the de facto data access method for Windows applications. Java has introduced an alternative standard, known as JDBC (Java DataBase Connectivity).

A growing number of database systems targeted at the Java marketplace only provide access via JDBC, thus excluding the use of popular ODBC applications such as Microsoft Excel and Crystal Reports for reporting and analysis.

The Easysoft ODBC-JDBC Gateway is the solution to this problem, a fully functional ODBC 3.5 driver which allows you to access all your existing JDBC data sources from any Windows ODBC 2.0, 2.5, 3.0 or 3.5 compliant application.

The Easysoft ODBC-JDBC Gateway uses the JNI (Java Native Interface) to load JDBC Driver classes and to call JDBC methods in the loaded JDBC drivers.

Version 1.3x or 1.4x of the Java Virtual Machine (JVM) and the Java2 Runtime Environment (JRE) must be installed on the target machine before attempting to install the Easysoft ODBC-JDBC Gateway.

All details concerning Java downloads and installation can be found on the Sun Java web site at <http://java.sun.com>.

The driver DLL file (`o2jg.dll`) contains an implementation of all the ODBC API functions and a separate DLL file (`o2jgs.dll`) contains ODBC Setup API functions.

INSTALLATION

Installing the Easysoft ODBC-JDBC Gateway

This section explains how to install, license and remove the Easysoft ODBC-JDBC Gateway on supported Windows platforms.

The installation can be carried out by anyone with local administrator privileges for the target machine.

Chapter Guide

- **Obtaining the Easysoft ODBC-JDBC Gateway**
- **What to install**
- **Installing the Easysoft ODBC-JDBC Gateway**
- **Uninstalling the Easysoft ODBC-JDBC Gateway**

Obtaining the Easysoft ODBC-JDBC Gateway

There are three ways to obtain the Easysoft ODBC-JDBC Gateway:

- The Easysoft web site is available 24 hours a day at <http://www.easysoft.com> for downloads of definitive releases and documentation.

Select **Download** from the Easysoft ODBC-JDBC Gateway section of the website and then choose the platform release that you require.

First time visitors must complete the new user form and click **Register**. Note that your personal Internet options may require you to login and click **Continue** if you have previously registered.

- The Easysoft FTP server is available 24 hours a day at <ftp://ftp.easysoft.com>, containing free patches, upgrades, documentation and beta releases of Easysoft products, as well as definitive releases.

The FTP site is useful if you have a slow connection or if you want to write a script to retrieve the file.

Change to the `pub/odbc-jdbc-gateway` directory and then choose the platform release that you require.

- If you have an extremely slow connection you can order Easysoft software on CD by email, telephone or post (see [Contact Details](#)).

What to install

The name of the install file will be of the format:

`EasysoftODBC-JDBCGateway-x_y_z-platform.exe`

where "x" is the major version number, "y" is the minor version number and "z" is the build index, which is incremented when minor changes are made.

"*platform*" will vary depending on the operating system distribution you require.

Within your licensed major version number, you should go for the highest release available for your platform.

Note that to install software of a different major number requires a new license.

Whichever medium you choose, you should now download the file and begin the installation process.

Caution!

If you are upgrading a previous installation of the Easysoft ODBC-JDBC Gateway, you are advised to uninstall your existing installation before continuing. Refer to "[Uninstalling the Easysoft ODBC-JDBC Gateway](#)" on page 39 for details about this procedure.

Installing the Easysoft ODBC-JDBC Gateway

1. From the web, click to download the installation file.

– OR –

In your FTP client, switch to `binary` mode and `get` the install file.

– OR –

INSTALLATION

Installing the Easysoft ODBC-JDBC Gateway

If you have a CD, go to the folder containing the distribution file.

Caution!

Please shut down other Windows programs before installing. In particular, if Microsoft Outlook is running there can be a pause of up to several minutes when InstallShield is started.

2. Execute the `EasysoftODBC-JDBCGateway-x_y_z-platform.exe` file.

There will be a short delay while setup prepares the wizard to guide you through the rest of the install procedure before the InstallShield **Welcome** dialog box is displayed:

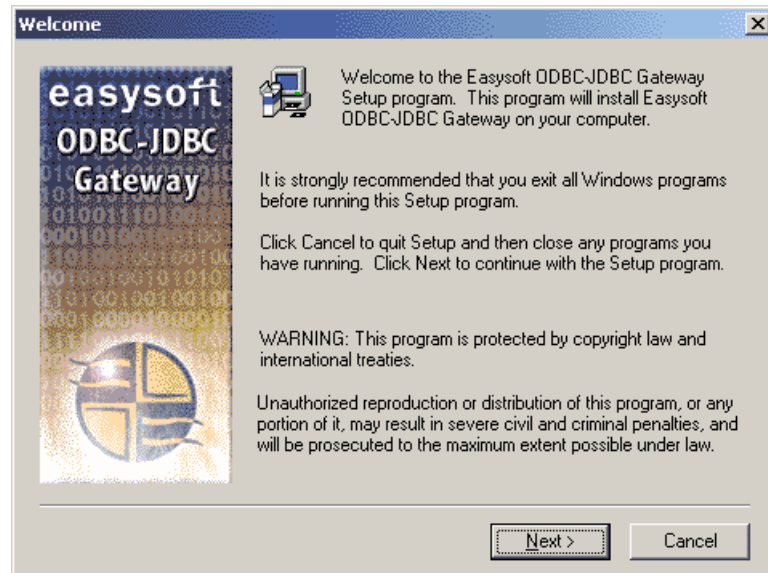


Figure 3: The Welcome dialog box

3. Click **Next** to continue.

The **Find a Java Virtual Machine** dialog box is displayed:

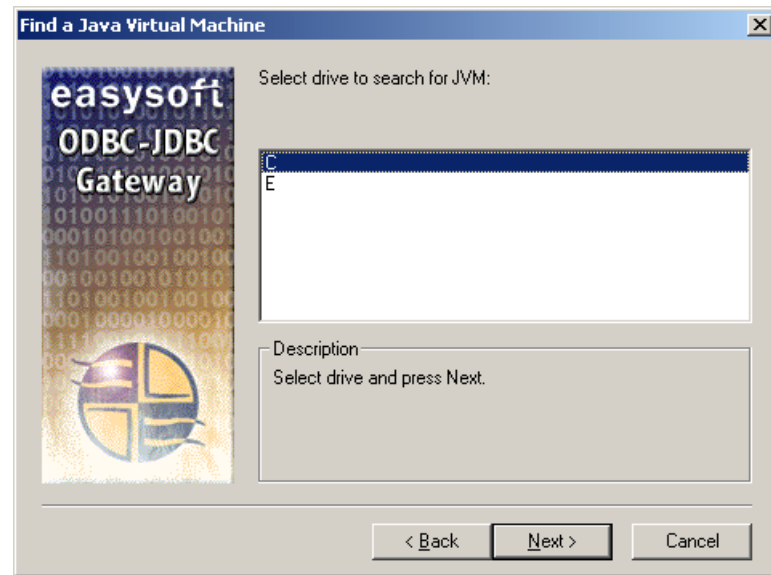


Figure 4: The Find a Java Virtual Machine dialog box

4. Highlight the drive on which you wish to search for JVMs from the list of valid drives found by the installer on your machine.
5. Click on **Next** and (assuming you selected the C drive in this example) the following dialog box is displayed:

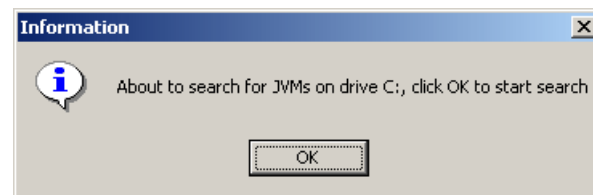


Figure 5: The Searching for Java Virtual Machines dialog box

INSTALLATION

Installing the Easysoft ODBC-JDBC Gateway

6. Click **OK** to continue.

There will now be a short wait while the search takes place, before the name of the first JVM found is displayed in the text box:

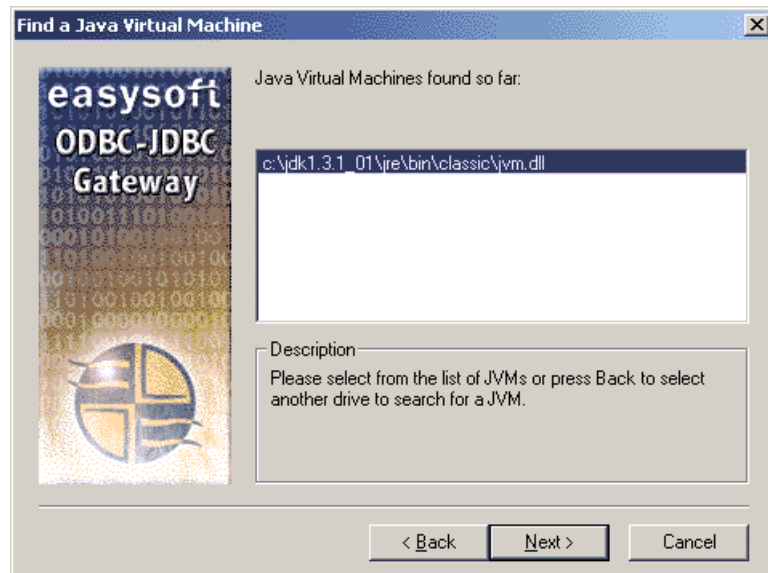


Figure 6: The Java Virtual Machines found dialog box

7. Click **Next** and go to [step on page 26](#).

If no JVM is found then the following dialog box is displayed:

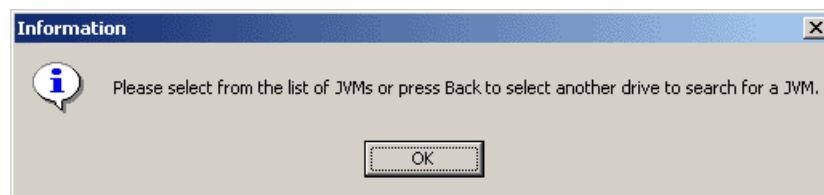


Figure 7: The Select JVM dialog box

- Click **OK**, and then either click **Back** to select another drive, or **Cancel** to exit the installation.

If you select **Next**, the following dialog box is displayed:

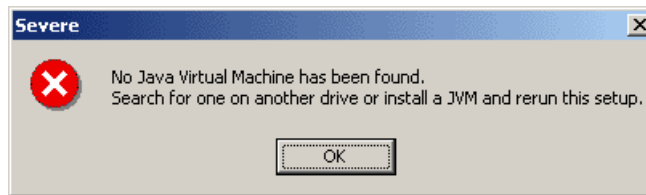


Figure 8: The No Java Virtual Machine found dialog box

- Click **OK** and then **Cancel** to exit the installation.

NB

Download Java from either the Sun Java web site at <http://java.sun.com/j2se/1.4/download.html> or IBM at <http://www-106.ibm.com/developerworks/java/jdk/>, both of which have been tested with the Easysoft ODBC-JDBC Gateway.

If you download Java then you will need to reinstall the Easysoft ODBC-JDBC Gateway so that it is registered by the software (it is not necessary to uninstall).

INSTALLATION

Installing the Easysoft ODBC-JDBC Gateway

If a JVM is found by the installer, then the following dialog box is displayed:

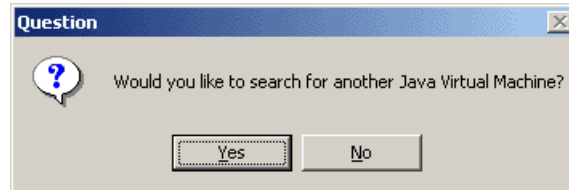


Figure 9: The Search for another Java Virtual Machine dialog box

10. If the first JVM found is satisfactory, then click **No**.

– OR –

Click **Yes** to search for another JVM. The installer will allow you to keep adding to the list of JVMs until you click **No**.

When **No** has been clicked, the following dialog box is displayed:

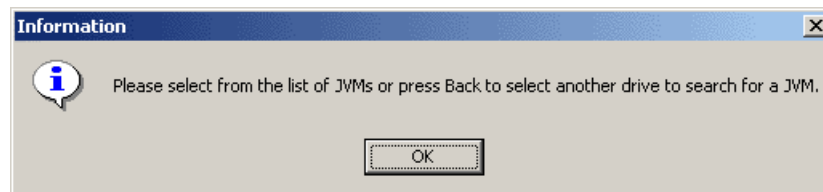


Figure 10: The Select from the list of JVMs dialog box

11. Click **OK**.

The list of JVMs found is displayed:

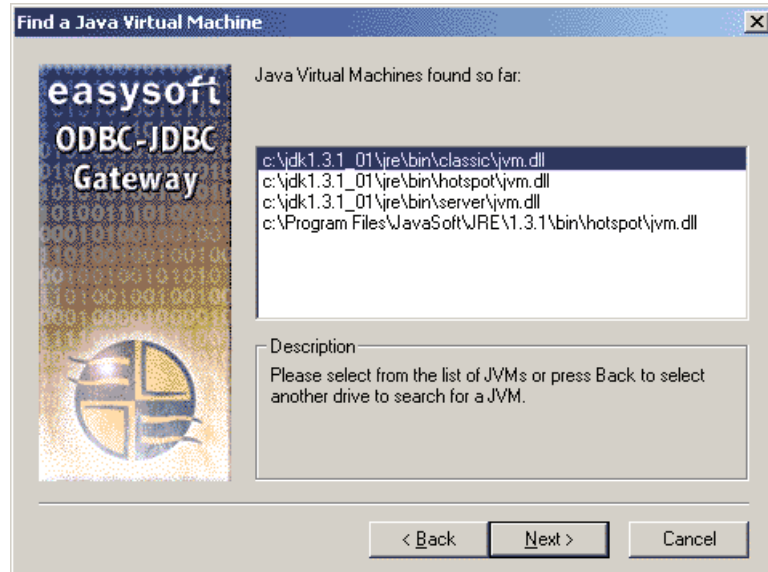


Figure 11: The List of JVMs found dialog box

12. Click **Back** (as instructed) to go to [step 4 on page 23](#).

– OR –

Highlight which JVM to use and click **Next** to continue.

INSTALLATION

Installing the Easysoft ODBC-JDBC Gateway

The **Software License Agreement** dialog box displays more information about licensing and the components which are installed.

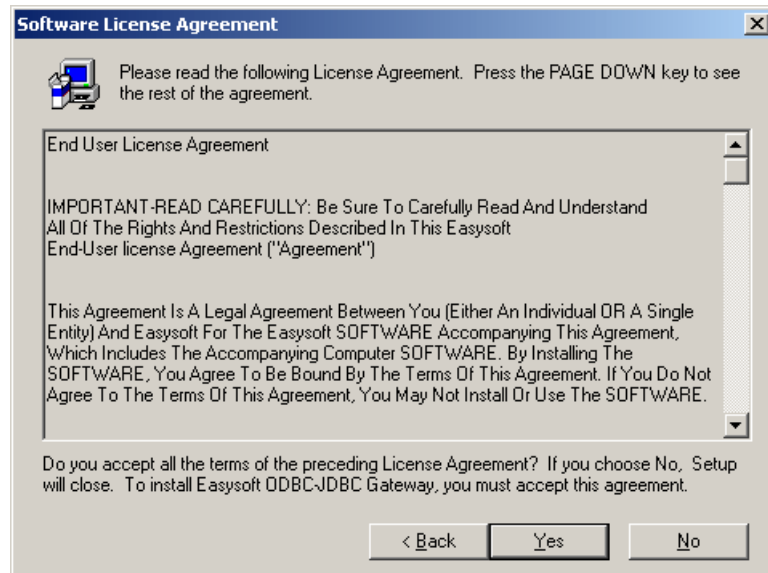


Figure 12: The Software License Agreement dialog box

13. When you have read this information, click **Yes** to continue.

The **Information** dialog box is displayed:



Figure 13: The Information dialog box

14. When you have read this information, click **Next** to continue.

INSTALLATION

Installing the Easysoft ODBC-JDBC Gateway

The **User Information** dialog box is displayed:

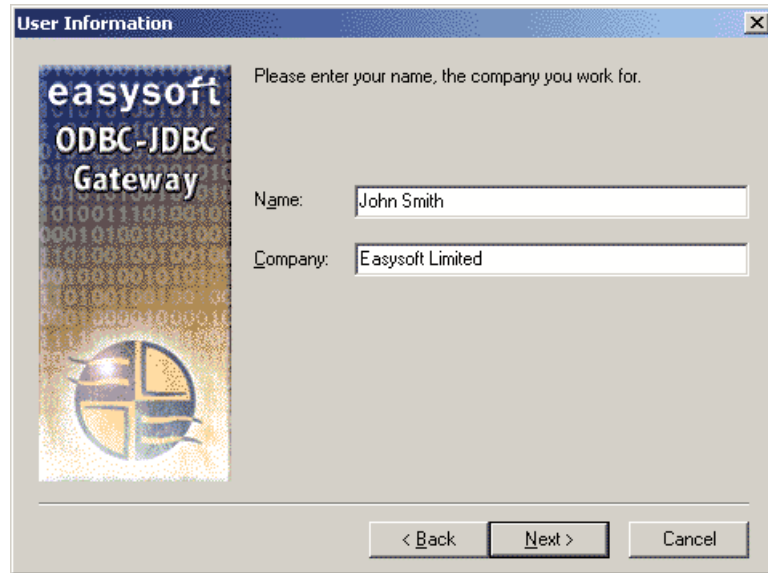


Figure 14: The User Information dialog box

15. Enter your name and the name of your company. Then click **Next** to continue.

NB

The name and company that you enter here will become the defaults in the License Manager later on.

You are then asked to choose where to install the Easysoft ODBC-JDBC Gateway files in the **Choose Destination Location** dialog box:

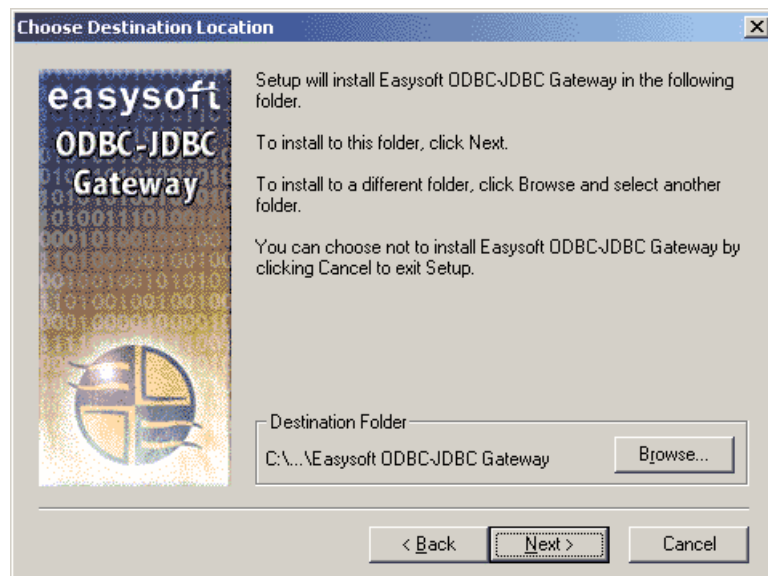


Figure 15: The Choose Destination Location dialog box

16. Click **Next** to install the application into the default directory location:

C:\Program Files\Easysoft\Easysoft ODBC-JDBC Gateway

– OR –

Click **Browse** and select an alternative directory location for the installation, before clicking **Next**.

The install program now starts the Easysoft License Manager (explained fully in the [Licensing Guide](#)).

INSTALLATION

Installing the Easysoft ODBC-JDBC Gateway

The following types of license are available:

- a *free time-limited trial license* which gives you free and unrestricted use of the product for a limited period (usually 30 days).
- a *full license* if you have purchased the product. On purchasing the product you are given an authorization code which you should have to hand.

Easysoft Data Access License Manager

Contact Information

The following contact details are required to generate your license keys. If you have already registered with the Easysoft web site, please ensure your details are consistent with your registration.

Name: John Smith

E-Mail Address: john.smith@easysoft.com

Company: Easysoft

Telephone: 01937 860 000

Facsimile: 01937 860 001

Installed Licenses

License keys can be generated by choosing the Request option. To add licenses already supplied to you, choose the Enter License option.

Buttons: Finish, Help, Request License, Remove License, Remote License, Enter License

Figure 16: The License Manager window

17. Enter your contact details.

You **MUST** enter the **Name**, **E-Mail Address** and **Company** fields.

The **Telephone** and **Facsimile** fields are important if you require Easysoft to contact you by those methods.

18. Click **Request License**.

You are asked for a license type:



Figure 17: The License Type dialog box

The next step depends on the type of license you want.

19. If you want a trial license click **Time Limited Trial** and then click **Next**.

The License Manager asks what software you are licensing:

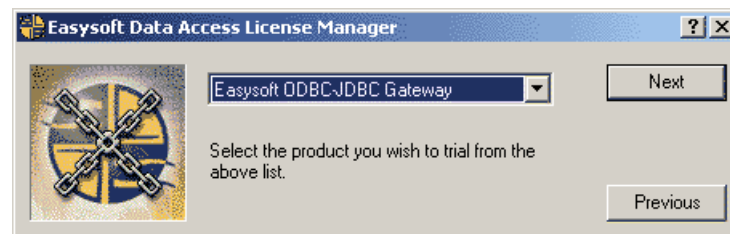


Figure 18: Select the product you are licensing

INSTALLATION

Installing the Easysoft ODBC-JDBC Gateway

Select **Easysoft ODBC-JDBC Gateway** from the drop-down list and then click **Next**.

– OR –

If you have obtained an authorization code for a purchased license, select **Non-expiring License** and then click **Next**.

The License Manager requests an authorization code.

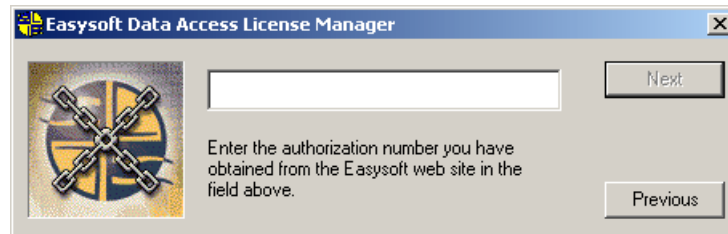


Figure 19: The Authorization Number dialog box

20. Enter the authorization code and then click **Next**.

The License Manager displays a summary of your details and allows you to choose the method of applying for your license:



Figure 20: The License Application dialog box

Choose **On-line Request** if your machine has a connection to the internet.

The License Manager then transmits a network packet to the license server at Easysoft. The whole process is automatic and invisible, and you can proceed to **step 21 on page 36**.

NB Only your license request identifier and contact details as they appear in the main License Manager screen are sent to Easysoft.

The remaining three options (**Email Request**, **Print Request** and **View Request**) are all ways to obtain a license if your machine is offline (i.e. does not have a connection to the internet).

INSTALLATION

Installing the Easysoft ODBC-JDBC Gateway

Each of these methods involves providing Easysoft with information including your site number (a number unique to your machine) and then waiting to receive your license key.

Instead of emailing, faxing or telephoning your details to Easysoft, you can enter them directly onto Easysoft's web site and your license key will be emailed to you automatically.

To use this method, click **View Request** to display your site number, then run a web browser and go to

<http://www.easysoft.com/sales/autolicense.phtml>.

Choose the type of license you require, enter your site number and then click **Continue**. Your license key will now be emailed to you.

When you receive the license key, you can activate it either by double-clicking the email attachment or by clicking **Enter License** on the License Manager main screen and pasting the license key into the dialog box.

A message is displayed, telling you how many licenses have been added.

NB

If you use the **Email Request** option, the license key is emailed to the email address as displayed on the License Manager main screen, not the `from:` address of your email.

21. Click **Finish** in the License Manager to return to the install program.

The **Setup Complete** dialog box is displayed:

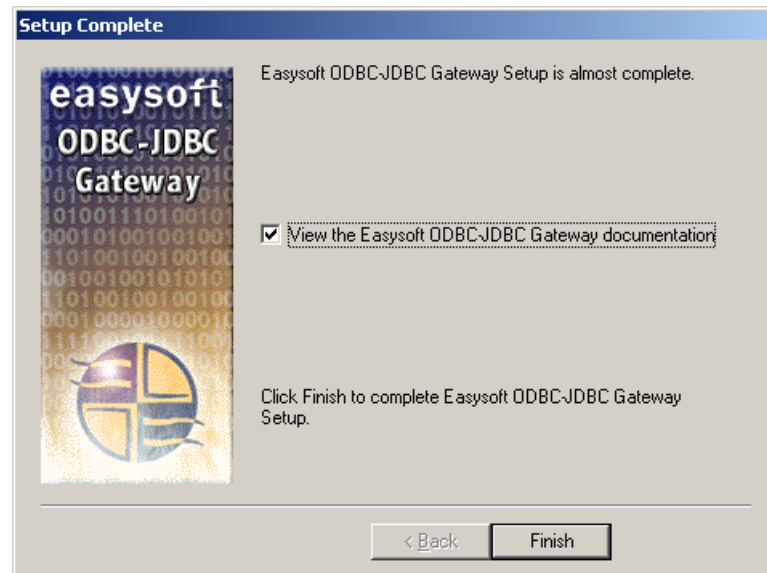


Figure 21: The Setup Complete dialog box

22. Select the **View ODBC-JDBC Gateway Documentation** check box if you wish to display this documentation in Help format after the install is complete.
23. Click **Finish**.

The installation is complete.

A new **Programs>Easysoft>ODBC-JDBC Gateway** program group is added with links to this manual in Help format, the Easysoft web site, a Getting Started Guide, Licensing documentation, and the Easysoft ODBC-JDBC Gateway News Group.

INSTALLATION

Installing the Easysoft ODBC-JDBC Gateway

VALIDATING THE INSTALLATION

The version number and installation details of the Easysoft ODBC-JDBC Gateway can be verified by running the **ODBC Data Source Administrator**.

1. Select **Start > Setting > Control Panel** and open the ODBC icon.

2000

To find the ODBC icon in Windows 2000, open Administrative Tools in Control Panel. The ODBC icon is called Data Sources (ODBC).

XP

Select **Start >Settings > Control Panel > Administrative Tools > Data Sources (ODBC)**.

2. Select the **Drivers** tab and the Easysoft ODBC-JDBC Gateway installation details are displayed:

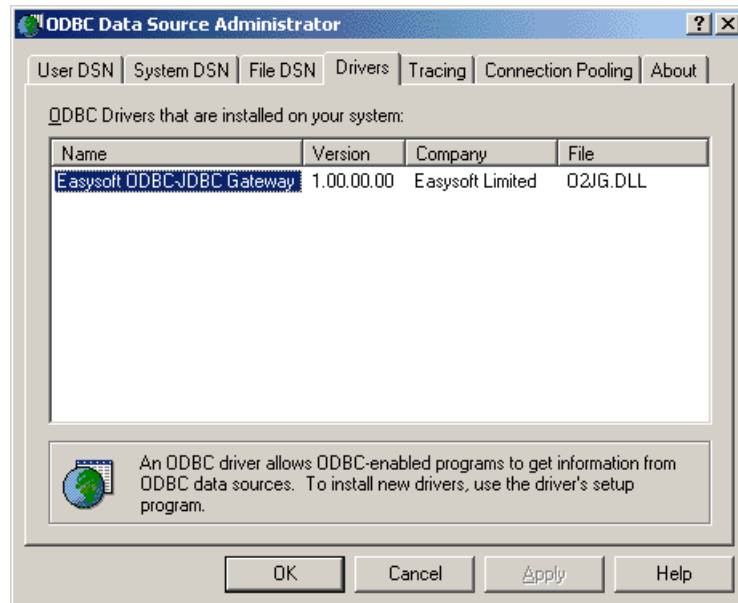


Figure 22: The ODBC Data Source Administrator Drivers tab

Uninstalling the Easysoft ODBC-JDBC Gateway

This section explains how to remove the Easysoft ODBC-JDBC Gateway from your system.

1. Select **Start > Settings > Control Panel**, then double-click the **Add/Remove Programs** icon.

You are then presented with a list of applications that can be automatically removed.

2. Select **Easysoft ODBC-JDBC Gateway** and click **Add/Remove**.
3. Click **Yes** to confirm that you wish to remove the Easysoft ODBC-JDBC Gateway and all its components.

The system begins to remove all the components. If shared components seem not to be required, you will be prompted to decide whether or not to delete them.

NB	Under Windows, install/uninstall procedures incorporate a mechanism in the registry to determine whether or not shared files are still required by other programs. Sometimes this database can become out-of-date, such as when an application is deleted directly without using Add/Remove Programs , or when the registry is 'repaired' after a system crash.
-----------	--

4. If you feel confident with the registry (i.e. your system has had relatively few programs installed and removed) you should click **Yes** or **Yes to All** to continue.

– OR –

If you have any doubts (e.g. uninstall procedures have failed in the past) you should click **No** or **No to All**.

INSTALLATION

Installing the Easysoft ODBC-JDBC Gateway

The uninstall process removes the Easysoft ODBC-JDBC Gateway components from your system.

NB

If files have been created in any of the installation directories then these directories will not be removed. In this case, the uninstall program will issue a warning and you can click **Details** to find out what directories remain.

5. On completion, click **OK** to go back to the Control Panel **Install/Uninstall** window.
6. The uninstall process is complete.

Any licenses you obtained for the Easysoft ODBC-JDBC Gateway and other Easysoft products are held in the Windows registry.

Note that your licenses are not removed when you uninstall, so the product does not need to be relicensed if you reinstall or upgrade.

CONFIGURATION

Configuring the Easysoft ODBC-JDBC Gateway

This section describes how to create an ODBC data source for the Easysoft ODBC-JDBC Gateway.

Chapter Guide

- [Creating a System Data Source Name](#)
- [DSN-less Connections](#)

Creating a System Data Source Name

This section provides information for the dialog box used to create ODBC data sources with the Easysoft ODBC-JDBC Gateway.

1. Select **Start > Setting > Control Panel** and open the ODBC icon.

2000

To find the ODBC icon in Windows 2000, open Administrative Tools in Control Panel. The ODBC icon is called Datasources (ODBC).

The **ODBC Data Source Administrator** dialog box is displayed:

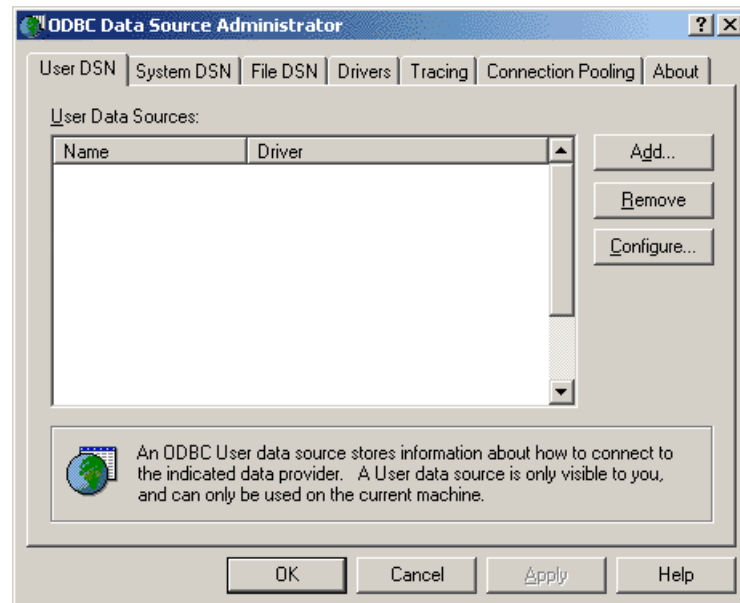


Figure 23: The ODBC Data Source Administrator User DSN tab

2. If you wish to create a System data source, rather than a User data source, click on the **System DSN** tab:

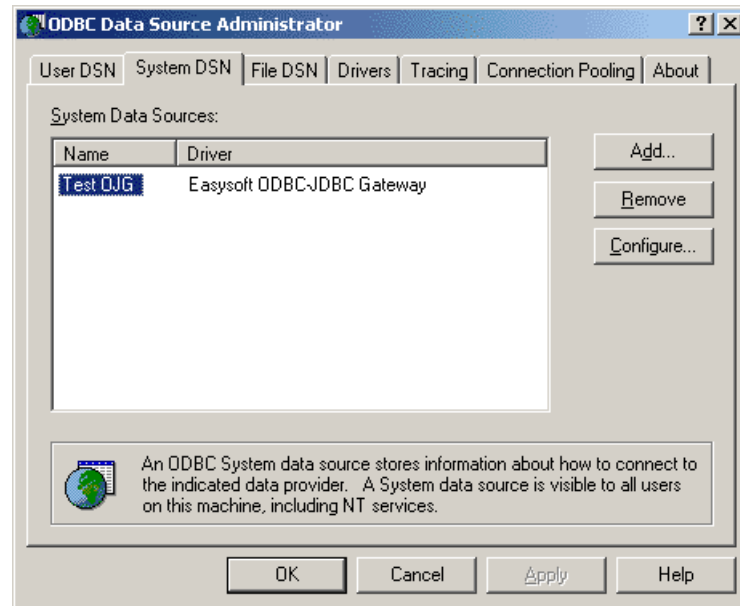


Figure 24: The ODBC Data Source Administrator System DSN tab

Note that a **User DSN** is only available to the user who created that data source, whereas a **System DSN** is available to all users on a system.

3. Click **Add....**

CONFIGURATION

Configuring the Easysoft ODBC-JDBC Gateway

The **Create New Data Source** dialog box is displayed:

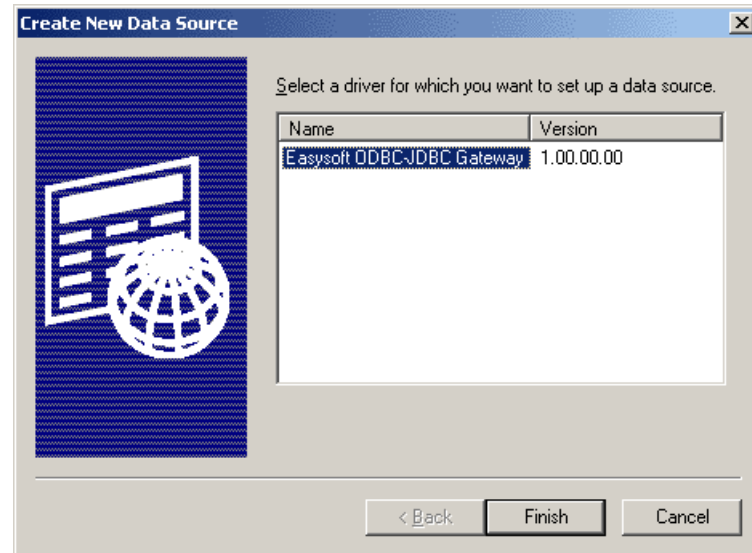
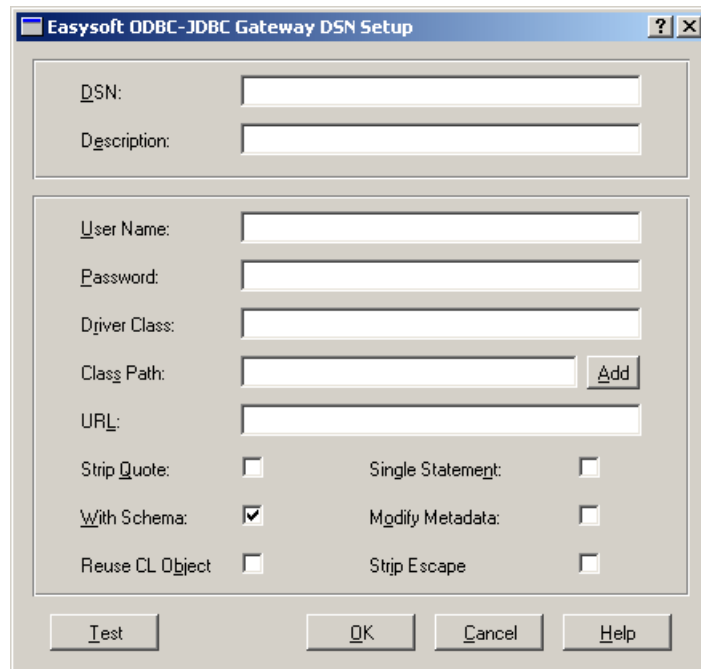


Figure 25: The Create New Data Source dialog box

4. Highlight the **Easysoft OJG** driver and click **Finish**.

The **Easysoft ODBC-JDBC Gateway DSN Setup** dialog box prompts the user to create an ODBC data source for a specific JDBC driver using the appropriate connection information:



The dialog box contains the following fields and options:

- DSN: [Text Field]
- Description: [Text Field]
- User Name: [Text Field]
- Password: [Text Field]
- Driver Class: [Text Field]
- Class Path: [Text Field] [Add]
- URL: [Text Field]
- Strip Quote:
- Single Statement:
- With Schema:
- Modify Metadata:
- Reuse CL Object:
- Strip Escape:

Buttons at the bottom: Test, OK, Cancel, Help.

Figure 26: The Easysoft ODBC-JDBC Gateway DSN Setup dialog box

The following fields are defined on the **Easysoft ODBC-JDBC Gateway DSN Setup** dialog box:

DSN

The name of the data source.

DESCRIPTION

A brief description of the data source.

CONFIGURATION

Configuring the Easysoft ODBC-JDBC Gateway

USER NAME

The name of a user to pass to the JDBC driver in order to access the database (if required).

The value entered into this field is passed to the JDBC driver as part of a `Properties` object in the connect call.

The equivalent Java code is as follows:

```
Connection con;
Properties prop;
if ( uid != null ) {
    prop.put( "user", uid );
}
con = DriverManager.getConnection( url, p );
```

This value can be overridden at the ODBC level by passing either a non-NULL user name in the call to `SQLConnect()` or a `UID=value` attribute in the connection string passed to `SQLDriverConnect()`.

It can also be supplied in the JDBC URL supplied to the JDBC driver, but the syntax of this is JDBC driver dependent.

PASSWORD

The password for the specified user to pass to the JDBC driver in order to access the database (if required).

The value entered into this field is passed to the JDBC driver as part of a `Properties` object in the connect call.

The equivalent Java code is as follows:

```
Connection con;
Properties prop;
```

```
if ( pwd != null ) {  
    prop.put( "password", pwd );  
}  
con = DriverManager.getConnection ( url, p );
```

This value can be overridden at the ODBC level by passing either a non-NULL password in the call to `SQLConnect()` or a `PWD=value` attribute in the connection string passed to `SQLDriverConnect()`.

It can also be supplied in the JDBC URL supplied to the JDBC driver, but the syntax of this is JDBC driver dependent.

DRIVER CLASS

The JDBC driver class name for this data source that will be passed to the `forName()` function.

The equivalent Java code is as follows:

```
Class.forName( driverClass );
```

NB

The syntax and contents of this field are unique to the JDBC driver being used and can be obtained from the individual driver documentation.

An example value (in this case for the **Easysoft JDBC-ODBC Bridge**) would be the string:

```
easysoft.sql.jobDriver
```

This value can be supplied at the ODBC level by a `DRIVERCLASS=value` attribute in the connection string passed to `SQLDriverConnect()`.

CONFIGURATION

Configuring the Easysoft ODBC-JDBC Gateway

CLASS PATH

A list of any `.jar` files required to enable Java to load the JDBC driver class.

This list is specified in the same way as the Java `CLASSPATH` environment variable, with the separator between entries depending on the operating system used (Windows uses a semi-colon ";" and other platforms use a colon ":").

Click **Add** to launch a file browser to help you to locate the required `.jar` file on your system.

If the target driver requires multiple `.jar` files then click **Add** again to add a further entry.

NB The order in which the `.jar` files are specified can be significant.

Please refer to <http://java.sun.com/j2se/1.4/docs/tooldocs/windows/classpath.html> on the Sun Java web site for further information about the setting of class paths under Windows.

This value can be supplied at the ODBC level by a `CLASSPATH=value` attribute in the connection string passed to `SQLDriverConnect()`.

URL

The string that will be passed as the first argument to the call:

```
Connection con;
```

```
con = DriverManager.getConnection( url, p );
```

The syntax and contents of this field are unique to the JDBC driver being used and can be obtained from the individual driver documentation.

NB

An example value (in this case for the **Easysoft JDBC-ODBC Bridge**) would be the string:

```
jdbc:easysoft://server:8831/dsn_name
```

This value can be supplied at the ODBC level by a `URL=value` attribute in the connection string passed to `SQLDriverConnect()`.

STRIP QUOTE

Controls how any SQL passed through the Easysoft ODBC-JDBC Gateway is scanned and modified.

Some JDBC drivers can not accept double quotes around column and table names, and in some cases the quotes will trigger failure, as it may invoke unwanted case-sensitive behaviour.

As an example, the following SQL:

```
SELECT "A" FROM "T"
```

will, when seen by the JDBC driver, be transformed to:

```
SELECT A FROM T
```

This value can be supplied at the ODBC level by a `STRIP_QUOTE=value` attribute in the connection string passed to `SQLDriverConnect()`.

CONFIGURATION

Configuring the Easysoft ODBC-JDBC Gateway

SINGLE STATEMENT

Some JDBC drivers are only capable of using a single active result set, but may return a value of either zero or greater than one from `DatabaseMetaData.getMaxStatements()`.

Select this attribute to force the ODBC driver to return a value of 1 from the `SQLGetInfo` call to find `SQL_MAX_CONCURRENT_ACTIVITIES`.

This value can be supplied at the ODBC level by a `SINGLESTMT=value` attribute in the connection string passed to `SQLDriverConnect()`.

WITH SCHEMA

Controls the return of schema information from ODBC metadata calls.

Some JDBC drivers return schema information from the result set generated by `getTables()` (for example), but are unable to handle SQL that contains the schema information in table and column specifications.

This attribute is selected by default, but clearing it will result in schema information being returned to the ODBC application, allowing it to assemble the relevant SQL.

This value can be supplied at the ODBC level by a `SCHEMA=value` attribute in the connection string passed to `SQLDriverConnect()`.

MODIFY METADATA

Some JDBC drivers only return a partial result set from calls such as `DatabaseMetaData.getTypeInfo()`.

Select this attribute to cause the ODBC driver to modify the values in the result set returned from metadata calls (such as `SQLGetTypeInfo`) so that they conform to the expected ODBC3 result set specification.

This value can be supplied at the ODBC level by a `CLEAN_METADATA=value` attribute in the connection string passed to `SQLDriverConnect()`.

REUSE CL OBJECT

When loading a JDBC driver the Gateway creates a `java.net.URLClassLoader` and this is then used to load the JDBC driver.

Select this attribute to retain the `URLClassLoader` object between calls to `SQLConnect` and `SQLDriverConnect`, thus enabling a faster connection and reducing the system resources required.

This attribute can be selected under normal use and should only be cleared if problems are encountered connecting to multiple different JDBC drivers.

This value can be supplied at the ODBC level by a `REUSECL=value` attribute in the connection string passed to `SQLDriverConnect()`.

STRIP ESCAPE

While some JDBC drivers can accept ODBC-type escape sequences, some JDBC drivers are unable to understand them.

Select this attribute to allow the ODBC driver to modify the SQL passed to the JDBC driver, removing the ODBC sequences.

For example, the following SQL when passed to the ODBC driver:

```
SELECT * FROM T WHERE DATE_FIELD = {d '1999-02-01'}
```

CONFIGURATION

Configuring the Easysoft ODBC-JDBC Gateway

will be altered to:

```
SELECT * FROM T WHERE DATE_FIELD = '1999-02-01'
```

when this attribute is set to true.

This value can be supplied at the ODBC level by a

`STRIP_ESCAPE=value` attribute in the connection string passed to `SQLDriverConnect()`.

ADD

Displays a dialog box that allows a `jar` file to be added to the **Class Path** field.

TEST

Takes the values for all Easysoft ODBC-JDBC Gateway Data Source settings and attempts to establish a connection to the specified JDBC data source.

It will report either the first error encountered or a successful completion of the test, and will time out after about 15 seconds.

Click **OK** to exit the Easysoft ODBC-JDBC Gateway **Data Source Setup** program after a successful connection has been made to ensure that those connection settings are saved.

OK

Creates or modifies an Easysoft ODBC-JDBC Gateway ODBC **Data Source Setup** with the currently displayed settings.

CANCEL

Exits the Easysoft ODBC-JDBC Gateway ODBC **Data Source Setup** program without affecting any settings.

HELP

Displays help information.

DSN-less Connections

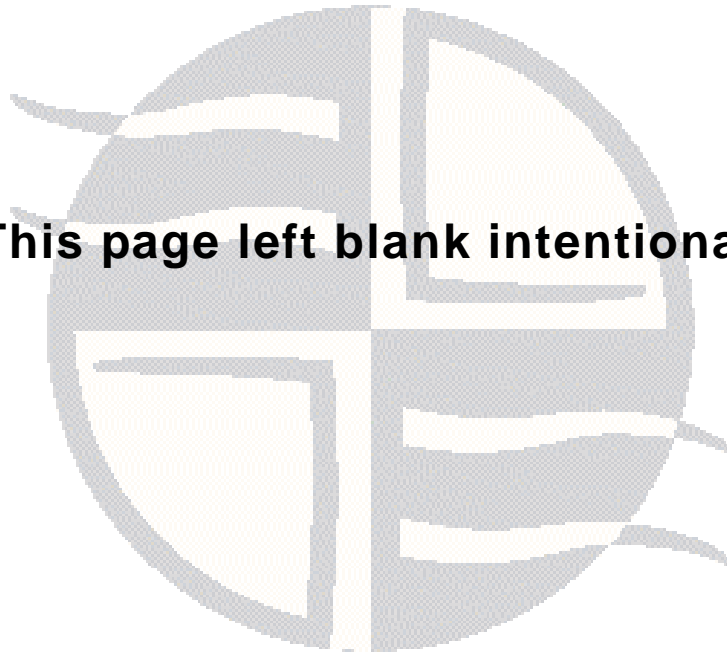
You can also connect to a database by using a DSN-less connection string looking something like:

```
SQLDriverConnect (... "DB=pubs;UID=demo;PWD=easysoft;" ...)
```

where `pubs` is the database name, `demo` is the user name with which to connect to the database, and `easysoft` is the password for the `demo` user.

Easysoft ODBC-JDBC Gateway attribute settings can also be added to this connection string, using the "`PARAMETER=value;`" attributes described for each field.

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GLOSSARY



Terms and definitions

API

Application Programmer Interface. An API is a published set of function calls and constants allowing different programmers to utilize a ready-written library of subroutines.

Applet

A Java program that has certain restrictions placed upon it, such as restricted network and filesystem access. Applets are able to run in a web browser.

Application

An Application Program ("Application" or "App") is a program that *applies* the computer to solving some real-world problem. In ODBC terms, it is the program connecting to the data source.

Authorization code

You must have an authorization code for the Easysoft product you wish to license in order to obtain a purchased license. When you purchase a product your authorization code is emailed to you. You do not need an authorization code to obtain a trial license.

Bitmask

A value which, when written out in binary, has a meaning assigned to each digit, which can be 0 or 1. This is a very efficient way of storing a number of *flags* in a small amount of memory. When viewed in decimal it is a single number resulting from adding up the values of the individual bits, worth 1, 2, 4, 8, 16, 32 and so on.

Client/Server

The name given to the architecture whereby one process (the *server*) keeps track of global data, and another task (the *client*) is responsible for formatting and presenting the data. The client requests queries or actions be performed on the data by the server. Often these processes run on different *hosts* across a local-area network.

Column

The vertical dimension of a table. Columns are named and have a *domain* (or *type*). The term *column* might refer to only the *definition* of a column (i.e. its name and type), or to all the data in it.

Connection String

ODBC *driver managers* accept a connection string when a client connects. Ideally it contains all necessary attribute values to make the connection to a data source, but provision is made for the driver to negotiate with the application or the user for any missing information.

Data Source

In ODBC terms, a data source is a database or other data repository coupled with an ODBC Driver, which has been given a Data Source Name (see **“DSN” on page 57**) to identify it to the ODBC Driver Manager.

DLL

Dynamic Link Library. Windows' mechanism for shared object code. See also **“Shared Object” on page 59**.

Download

The transfer of data from a remote machine (or "the internet") to your local machine. Mechanisms for achieving this include FTP and the World Wide Web.

Driver

See **“ODBC driver” on page 59.**

Driver Manager

Software whose main function is to load ODBC drivers. ODBC applications connect to the Driver Manager and request a *DSN*. The Driver Manager loads the driver specified in the DSN's configuration file. In Windows, the ODBC Data Source Administrator is used to set up the Driver Manager.

DSN

Data Source Name. A name associated with an ODBC data source. Driver Managers, such as unixODBC or the Microsoft Windows Driver Manager, use the Data Source Name to cross-reference configuration information and load the required driver.

Field

A placeholder for a single datum in a record, for example you can have a Surname field in a Contact Details record. Called a *cell* in MS Access.

Flags

Single-bit values, representing 'Yes' or 'No'. When more than one flag is present, they are normally stored in a *bitmask*.

Host

A computer visible on the network.

HTTP

HyperText Transfer Protocol. The means of transferring web pages.

JDBC (Java DataBase Connectivity)

A Java *API* for database access based on the *ODBC* API, but includes an object-oriented interface to the underlying data source.

JDK (Java Development Kit)

A software development environment for writing Java applets and applications.

JRE (Java RunTime Environment)

A subset of the Java Development Kit (JDK) which supports the execution (but not the development) of Java applications and consists of the Java Virtual Machine (JVM), the core classes, and supporting files.

JVM (Java Virtual Machine)

Software that interprets and executes the byte codes in Java class files like a microprocessor would execute machine code. There are many virtual machines available from different vendors and for different purposes.

Middleware

Software that is placed between the *client* and the *server* to improve or expand functionality.

ODBC (Open DataBase Connectivity)

A standard *API* for connecting application programs to relational database systems through a suitable *driver*. ODBC is available on a wide number of platforms.

ODBC driver

Software that accesses a proprietary data source, providing a standardized view of the data to ODBC.

Operating System

A collection of software programs, APIs and working practices that control and integrate the execution of system functions on behalf of application programs.

Platform

The term *platform* normally covers the hardware and operating system as a unit. For example; a PC running Microsoft Windows, a PC running BSD Unix, and a Sun running Solaris are three different platforms.

Server

A computer, or *host*, on the network, designed for power and robustness rather than user-friendliness and convenience. Servers typically run round-the-clock and carry central corporate data.

– OR –

A process performing the centralized component of some task, for example extracting information from a corporate database. See **“Client/Server” on page 56.**

Shared Object

A piece of object code (i.e. a program fragment) for loading and executing by other programs.

SQL (Structured Query Language)

A standard language for interacting with relational database systems, based on Relational Theory.

System Data Source

In the context of ODBC under Microsoft Windows, a data source which can be accessed by any user on a given system. See also **“User Data Source” on page 60.**

Table

A data set in a relational database, composed of rows and columns. For example:

software	
vendor	name
Easysoft	Easysoft ODBC-JDBC Gateway
MySoft	My ODBC Client Application

This table has two columns; *vendor*, and *name*. It has two rows: one corresponding to the Easysoft ODBC-JDBC Gateway and the other corresponding to MySoft’s ODBC client software. The term *table* can also apply to just the definition of the table, without its data.

User Data Source

An ODBC Data Source with access limited to a specific user on a given system. See also **“System Data Source” on page 60.**

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