

**"ODBC Database" module  
PRINTED MANUAL**

# "ODBC Database" module

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## 1 Introduction

The ODBC database plugin module is used to communicate with different database types. Since the ODBC database plugin module is database-independent, all database-specific code is contained within ODBC drivers.

This module can be used for export data received to any ODBC compatible database. ODBC interface lets work with different databases under Windows. Module has the following features:

- Data export to MS SQL Server database;
- Data export to Oracle database (since ver.7)
- Data export to dBase I-IV files;
- Data export to Paradox database files;
- Data export to DBF files;
- Data export to MS Excel files;
- Data export to CSV files;
- Data export to any other ODBC compatible database (Lotus Notes/Domino for example via NotesSQL ODBC driver).

If you need use database specific features while exporting data to a database (such as Stored procedures or functions), then use our SQL Database Professional module.

## 2 System requirements

The following requirements must be met for "ODBC Database" to be installed:

**Operating system:**

- Windows 95;
- Windows 95 OSR2;
- Windows 98;
- Windows Me;
- Windows NT4;
- Windows 2000;
- Windows XP (all editions) (both x86 and x64);
- Windows 2003 Server (both x86 and x64);
- Windows Vista (both x86 and x64).

**Free disk space:** Not less than 5 MB of free disk space is recommended.

**Special access requirements:** You should log on as a user with Administrator rights in order to install this module.

The main application (core) must be installed, for example, Advanced Serial Data Logger.

**Notes for Microsoft Vista:**

Since our software saves data to the registry and installs to the Program Files folder, the following requirements must be met:

1. You need Administrator rights to run and install our software

2. The shortcut icon of our software will be located on the desktop;
3. Windows Vista will ask for your confirmation to continue the installation.

NOTE: You can configure the user account only once in order not to see the above dialog box any more. Search Google for the solution of this problem.

### 3 Installing ODBC Database

1. Close the main application (for example, Advanced Serial Data Logger) if it is running;
2. Copy the program to your hard drive;
3. Run the module installation file with a double click on the file name in Windows Explorer;
4. Follow the instructions of the installation software. Usually, it is enough just to click the "Next" button several times;
5. Start the main application. The name of the module will appear on the "Modules" tab of the "Settings" window if it is successfully installed.

If the module is compatible with the program, its name and version will be displayed in the module list. You can see examples of installed modules on fig.1-2. Some types of modules require additional configuration. To do it, just select a module from the list and click the "[Setup](#)" button next to the list. The configuration of the module is described below.

You can see some types of modules on the "Log file" tab. To configure such a module, you should select it from the "File type" list and click the "Advanced" button.

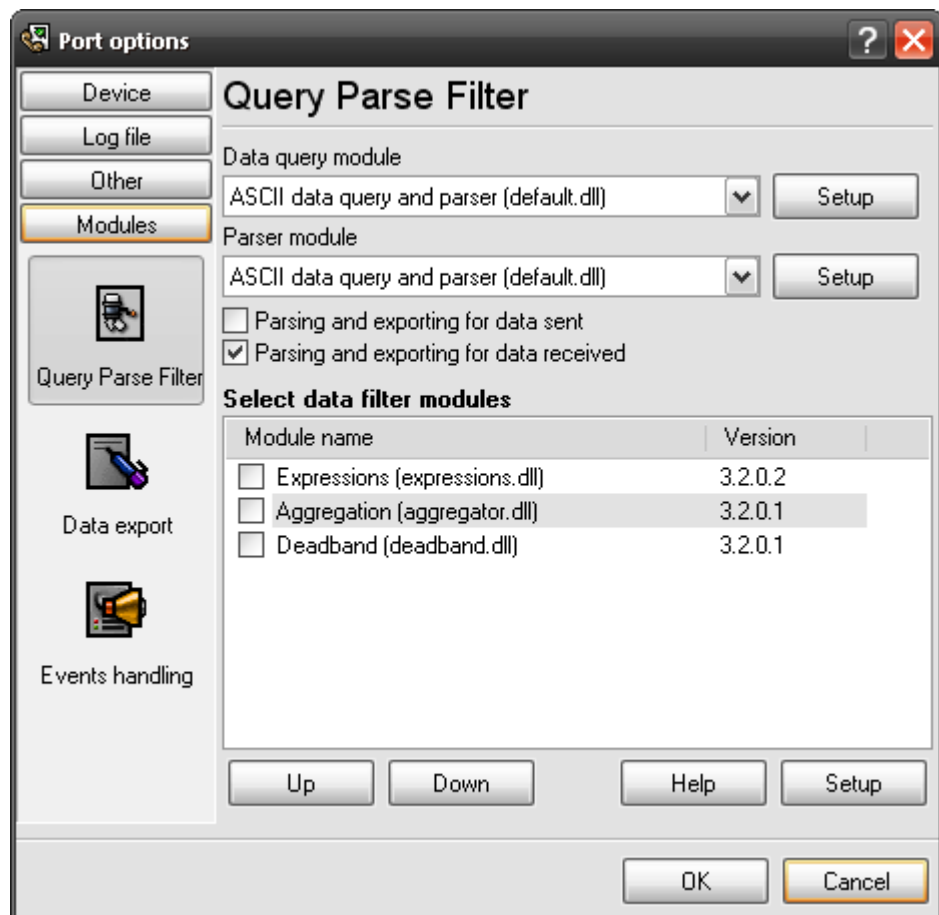


Fig.1. Examples of installed modules

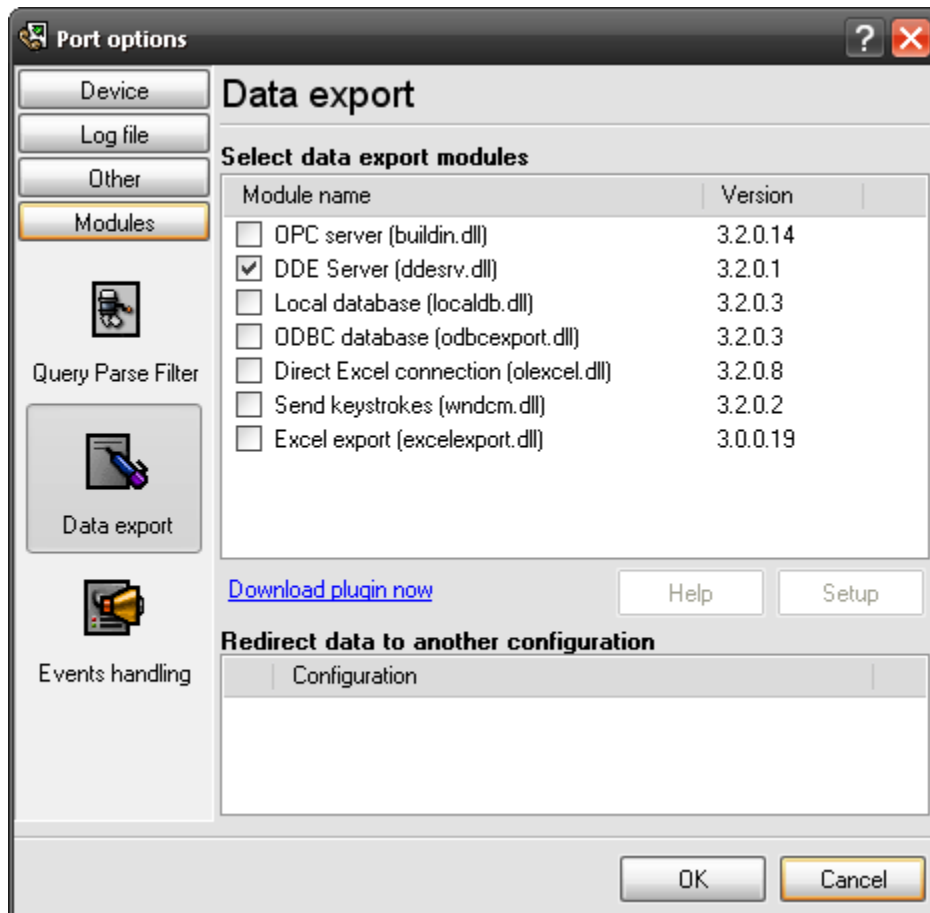


Fig.2. Examples of installed modules

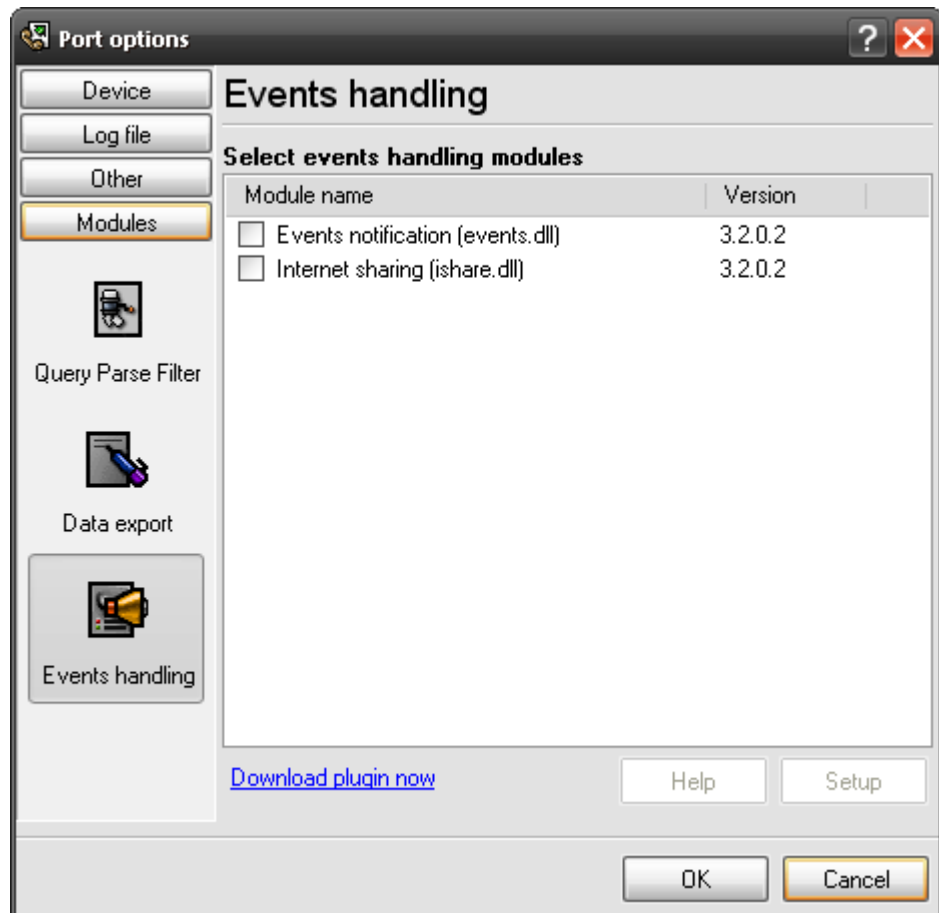


Fig.3. Examples of installed modules

## 4 Glossary

**Plug-in** - module

**Main program** – the program shell that uses this module. For example: Advanced Serial Data Logger


**Parser** – the module that processes the data flow singling out data packets from it and variables from data packets. These variables are used in data export modules after that.

**Core** - see "Main program".

## 5 ODBC database plugin

### 5.1 Getting started

The module is configured in a special dialog box. To open the module settings dialog box, you should do the following:

1. Start the main program if it is not running yet;
2. Select Options -> Settings... in the main menu or click the  button on the toolbar;
3. Open the Modules tab in the settings;
4. Select the "ODBC database" module from the list of publishing modules on this tab. If there is no such module, go to "Installation" section and make sure you have done everything correctly to install the module;
5. Click the Setup button.

Using our step-by-step instruction you can without any difficulty to export data to your database. These are steps you must go through in series:

1. [Database selection and connection settings](#);
2. [Errors handling](#);
3. [Binding](#).

### 5.2 Database connection

#### 5.2.1 What's a DSN?

According to Microsoft documentation, it means "The name that applications use to request a connection to an ODBC data source." In other words, it is a symbolic name that represents the ODBC connection. It hides the connection details like database name, directory, database driver, UserID, password, etc. So when making a connection to the ODBC, you don't have to remember the database name, where it resides, etc.

#### So, what's a file DSN ?

Before we discuss this, let me the list the various types of DSNs.

- **System DSN** - This is the DSN used through out the system, no matter which user logs in. Meaning, all users on the system can see this DSN and use it (as long as they know the user ID and password). The connection parameters are stored in the registry.
- **User DSN** - This is a DSN created for a specific user. Only the user who created the DSN can see this and use it. Like System DSN, the information is stored in the registry.

In both these two cases, DSN details are stored in the system registry. With that, let me explain what a file DSN is. Instead of storing the DSN details in registry, you store it in a file - simple ?! Yes, it is. The file is a simple text file, with a .DSN extension. Although it sounds simple, you need to know the parameters that make up a DSN. But again, it is not all that difficult, as you can look this up in any ODBC reference, or online help that comes with Visual Basic or Access.

#### Creating file DSNs

Shown below is a generic file DSN for an MS Access database.

----- file.dsn -----

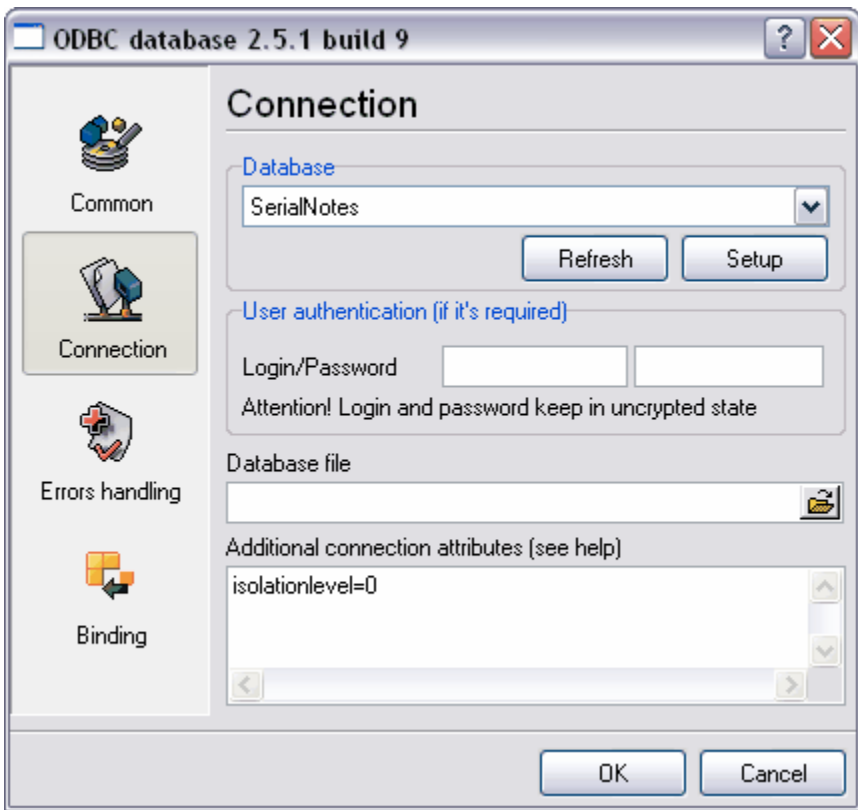
```
[ODBC]
DRIVER=Microsoft Access Driver (*.mdb)
ReadOnly=0
UserCommitSync=Yes
Threads=3
SafeTransactions=0
PageTimeout=5
MaxScanRows=8
MaxBufferSize=512
ImplicitCommitSync=Yes
FIL=MS Access
DriverId=25
```

### 5.2.2 Database connection settings

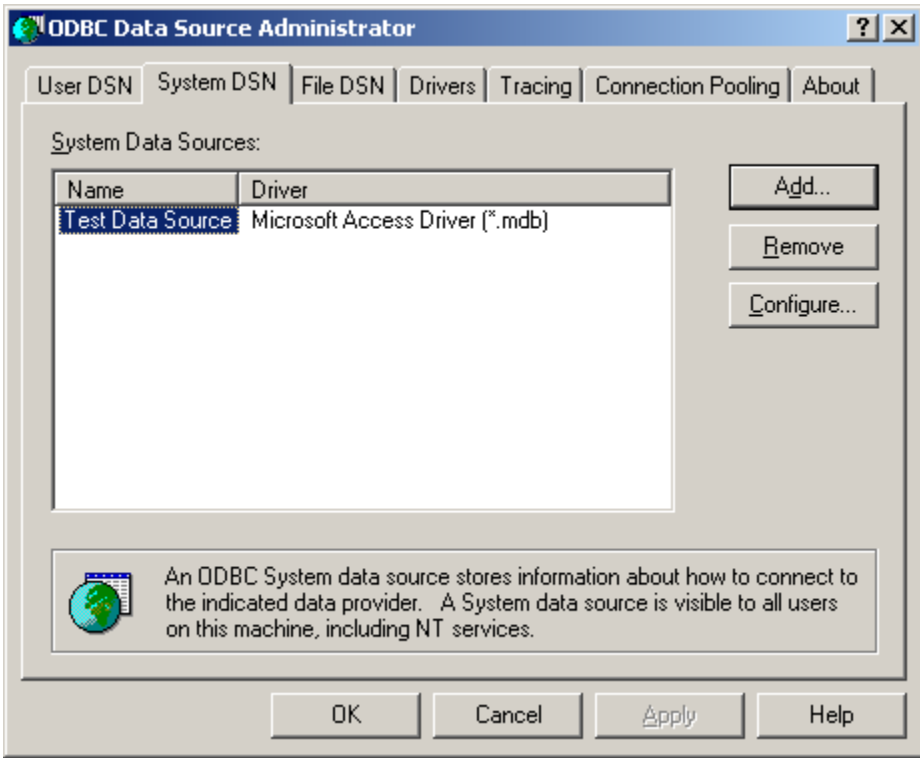
For interaction with databases program uses ODBC technology. It means that program can work only with those databases (DB) for which there is ODBC driver. Nowadays there are drivers for such databases as: Oracle, MS SQL, MS Access, MS Excel, FoxPro, dBase. But this is not the whole list of available databases. To get more complete information visit Microsoft's site ([www.microsoft.com](http://www.microsoft.com)) or your database provider site.

You should complete following steps to configure database connection with your database:

1. **It is necessary to make sure that on your computer have been installed ODBC drivers.** For that press button "Setup" (pic.1). If as the result of this action the window "ODBC data source administrators" was displayed (pic.2), you can move to the next step. Otherwise You must install ODBC drivers manager on Your computer. For this is enough to install Internet Explorer 5.0 or later or install Microsoft Data Access Components (MDAC) from Microsoft's site <http://www.microsoft.com/odbc>.



Pic.1. Connection setting



Pic.2 Data source administrator window.

2. **It is necessary to select data source.** So You have installed database. But that the program could go to database, You must create (or change the existing) **user or system** data source (pic.2). For that go to tab "Users DSN", then press "Add" and follow setting master instructions. If You use the program in service mode on Windows NT/2000/XP, so create **system data source** on tab "System DSN". After new data source creation click the "Refresh" button. From the list "database"(pic.1) select created (or modified) data source.
3. If necessary set password and login to connect to database.

**Attention!** Password and login are saved in the Windows registry at an unencrypted state!

4. If your database is a desktop database (such as DBF file or Microsoft Access database) you should specify a database file name in the "Database file" field.
5. That the program could auto connect (without each time manual setup) to a database you should specify all necessary connection attributes. Otherwise a dialog window will be displayed to input missing parameters and work of the whole program will be hold up. Every attribute defines data for a driver to make successful connection. All ODBC drivers support following connection attributes:

```
[DSN=<data-source-name>]
[FILEDSN=<data-source-name.dsn>]
[UID=<value>]
[PWD=<value>]
[DBQ=<value>]
[ISOLATIONLEVEL=<value>]
```

- **DSN** - Name of a data source. You may not specify this attribute, because you are selecting it in the "Database" field.
- **FILEDSN** - Name of a .dsn file from which a connection string will be built for the data source. These data sources are called file data sources.
- **UID** - A user ID.
- **PWD** - The password corresponding to the user ID, or an empty string if there is no password for the user ID.
- **DBQ** - Local database file name is set (for example MS Access). It is necessary to specify full path to a database file.

The connection attributes field may include any number of driver-defined keywords. You must define enough keywords so that a driver can connect to a data source using only the information in the connection attributes field. The driver defines which keywords are required to connect to the data source. You can specify these attributes at same format as described above.

```
[<Attribute>=<value>]
```

You can specify most connection attributes while configuring DSN. If you a configuration dialog of your ODBC driver doesn't allow to specify additional parameters, then please, refer to following chapters for additional attributes.

**Note 1.** ODBC drivers can use attributes values characters case while using.

#### Example 1:

The next set of attributes sets connection to data source "MS Access 97 Database", database, which is in file "D:\incom.mdb":

```
DBQ=D:\incom.mdb
```

**Example 2:**

The next connection string sets connection to data source "Payroll" over server Oracle "moola", identity control is made by operation system Oracle:

```
DSN=Payroll
UID=/
SERVER=moola
```

6. Connection control to a database. So You created and selected data source, set connection attributes. After You make all settings and press button "OK" (pic.1) program will try to connect with shown database. In case of unlucky connection try will be displayed message about error. Correct the defect and can move to "[Binding setting](#)".

## 5.2.3 Desktop databases specific

### 5.2.3.1 All databases

The following keywords are supported in the connection string for all drivers:

- **DSN** - Name of a data source. You may not specify this attribute, because you are selecting it in the "Database" field.
- **UID** - A user ID.
- **PWD** - The password corresponding to the user ID, or an empty string if there is no password for the user ID.
- **DBQ** - Local database file name is set (for example MS Access). It is necessary to specify full path to a database file.

If connection attributes are not specified in following chapters, then you should use above attributes only.

### 5.2.3.2 dBASE

- **COLLATINGSEQUENCE** - The sequence in which the fields are sorted. The sequence can be: ASCII (the default) or International. This sets the same option as Collating Sequence in the setup dialog box.
- **DEFAULTDIR** - The path specification to the directory.
- **DELETED** For the dBASE driver, specifies whether or not rows that have been marked as deleted can be retrieved or positioned on. If set to 1, deleted rows are not displayed; if set to 0, deleted rows are treated the same as non-deleted rows. This sets the same option as Show Deleted Rows in the setup dialog box.
- **DESCRIPTION** - A description of the data in the data source. This sets the same option as Description in the setup dialog box.
- **DRIVER** - The path specification to the driver DLL.
- **DRIVERID** An integer ID for the driver: 21 (dBASE III), 277 (dBASE IV), 533 (dBASE 5.0)
- **FIL** - File type dBase III, dBase IV, or dBase 5
- **PAGETIMEOUT** - Specifies the period of time, in tenths of a second, that a page (if not used) remains in the buffer before being removed. The default is 600 tenths of a second (60 seconds). Note that this option applies to all data sources that use the ODBC driver. This sets the same option as Page Timeout in the setup dialog box.
- **READONLY** - TRUE to make file read-only; FALSE to make file not read-only. This sets the same option as Read Only in the setup dialog box.

- **STATISTICS** - For the dBASE driver, determines whether table size statistics are approximated. Note that this option applies to all data sources that use the ODBC driver. This sets the same option as Approximate Row Count in the setup dialog box.
- **THREADS** - The number of background threads for the engine to use. This value is 3 and cannot be changed. This sets the same option as Threads in the setup dialog box.

### 5.2.3.3 Paradox

- **COLLATINGSEQUENCE** - The sequence in which the fields are sorted. When the Paradox driver is used, the sequence can be ASCII (default), International, Swedish-Finnish, or Norwegian-Danish. This sets the same option as Collating Sequence in the setup dialog box.
- **DBQ** - The name of the database file. This sets the same option as Database in the setup dialog box.
- **DEFAULTDIR** - The path specification to the directory.
- **DESCRIPTION** - A description of the data in the data source. This sets the same option as Description in the setup dialog box.
- **DRIVER** - The path specification to the driver DLL.
- **DRIVERID** - An integer ID for the driver: 26 (Paradox 3.x), 282 (Paradox 4.x), 538 (Paradox 5.x)
- **EXCLUSIVE** - Determines whether the database will be opened in exclusive mode (accessed by only one user at a time) or shared mode (accessed by more than one user at a time). Can be true (exclusive mode) or false (shared mode). This sets the same option as Exclusive in the setup dialog box.
- **FIL** - File type Paradox 3.x, Paradox 4.x, or Paradox 5.x
- **FILETYPE** - File type for the Text driver (Text).
- **PAGETIMEOUT** - Specifies the period of time, in tenths of a second, that a page (if not used) remains in the buffer before being removed. The default is 600 tenths of a second (60 seconds). Note that this option applies to all data sources that use the ODBC driver. This sets the same option as Page Timeout in the setup dialog box.
- **PARADOXNETPATH** - The full path of the directory containing a Paradox lock database, because it contains either the PDOXUSRS.net file (in Paradox 4.x) or the PARADOX.net file (in Paradox 5.x). If the directory does not contain one of these files, the Paradox driver creates one. For information about these files, see the Paradox documentation. Before a network directory can be selected, a Paradox user name must be entered. This sets the same option as Select Network Directory in the setup dialog box.
- **PARADOXNETSTYLE** - For the Paradox driver, the network access style to use when accessing Paradox data: either "3.x" for Paradox 3.x or "4.x" for Paradox 4.x or 5.x. Can be set to "3.x" or "4.x" if the version is Paradox 4.x or 5.x; if the version is Paradox 3.x, the style must be "3.x". This sets the same option as Net Style in the setup dialog box.
- **PARADOXUSERNAME** - For the Paradox driver, the Paradox user name. This sets the same option as User Name in the setup dialog box.
- **PWD** - The password. This is an optional keyword and will never be written to the file by the driver. It is used in a call to SQLDriverConnect against password-secured Paradox files. The password used will be valid whenever a table is opened. If no password is passed in the connection string, no password is established for that table. If tables have different passwords, more than one cannot be opened in the same session, nor can the tables be joined.
- **READONLY** - TRUE to make file read-only; FALSE to make file not read-only. This sets the same option as Read Only in the setup dialog box.
- **THREADS** - The number of background threads for the engine to use. This value is 3, and cannot be changed. This sets the same option as Threads in the setup dialog box.

### 5.2.3.4 Excel

- **DBQ** - For the Microsoft Excel driver when accessing Microsoft Excel 5.0, 7.0, or 97 files, the name of the workbook file. This sets the same option as Database in the setup dialog box.
- **DEFAULTDIR** - The path specification to the directory. This sets the same option as Select Directory or Select Workbook in the setup dialog box.
- **DESCRIPTION** - A description of the data in the data source. This sets the same option as Description in the setup dialog box.
- **DRIVER** - The path specification to the driver DLL.
- **DRIVERID** - An integer ID for the driver: 534 (Microsoft Excel 3.0), 278 (Microsoft Excel 4.0), 22 (Microsoft Excel 5.0/7.0), 790 (Microsoft Excel 97 and later)
- **FIL** - File type - Excel 3.0, Excel 4.0, Excel 5.0, Excel 7.0, or Excel 97
- **FIRSTROWHASNAMES** - Indicates whether the cells of the first row of the range contain the column names for the table (1) or not (0).
- **MAXSCANROWS** - The number of rows to be scanned when setting a column's data type based upon existing data. A number from 1 to 16 can be entered for the rows to scan. The value defaults to 8; if it is set to 0, all rows are scanned. (A number outside the limit will return an error.) This sets the same option as Rows to Scan in the setup dialog box.
- **READONLY** - TRUE to make file read-only; FALSE to make file not read-only. This sets the same option as Read Only in the setup dialog box.
- **THREADS** - The number of background threads for the engine to use. For the Microsoft Access driver, this value defaults to 3, but can be changed. For the dBASE, Microsoft Excel driver this value is 3, and cannot be changed. This sets the same option as Threads in the setup dialog box.

### 5.2.3.5 Text files

- **CHARACTERSET** - For the Text driver, OEM or ANSI.
- **COLNAMEHEADER** - For the Text driver, indicates whether the first record of data will specify the column names. Either TRUE or FALSE.
- **DEFAULTDIR** - The path specification to the directory.
- **DESCRIPTION** - A description of the data in the data source. This sets the same option as Description in the setup dialog box.
- **DRIVER** - The path specification to the driver DLL.
- **DRIVERID** - An integer ID for the driver: 27 (Text)
- **EXTENSIONS** - Lists the file name extensions of the Text files on the data source. This sets the same option as Extensions List in the setup dialog box.
- **FIL** - File type Text
- **FILETYPE** - File type for the Text driver (Text).
- **FORMAT** - For the Text driver, can be FIXEDLENGTH, TABDELIMITED, CSVDELIMITED (by a comma), or DELIMITED() (by the special character specified in the parentheses). The special character is one character in length and can be in character, decimal, or hexadecimal format.
- **MAXSCANROWS** - The number of rows to be scanned when setting a column's data type based upon existing data. For the Text driver, you can enter a number from 1 to 32767 for the number of rows to scan; however, the value will always default to 25. (A number outside the limit will return an error.) This sets the same option as Rows to Scan in the setup dialog box.
- **READONLY** - TRUE to make file read-only; FALSE to make file not read-only. This sets the same option as Read Only in the setup dialog box.

### 5.2.4 Oracle specific

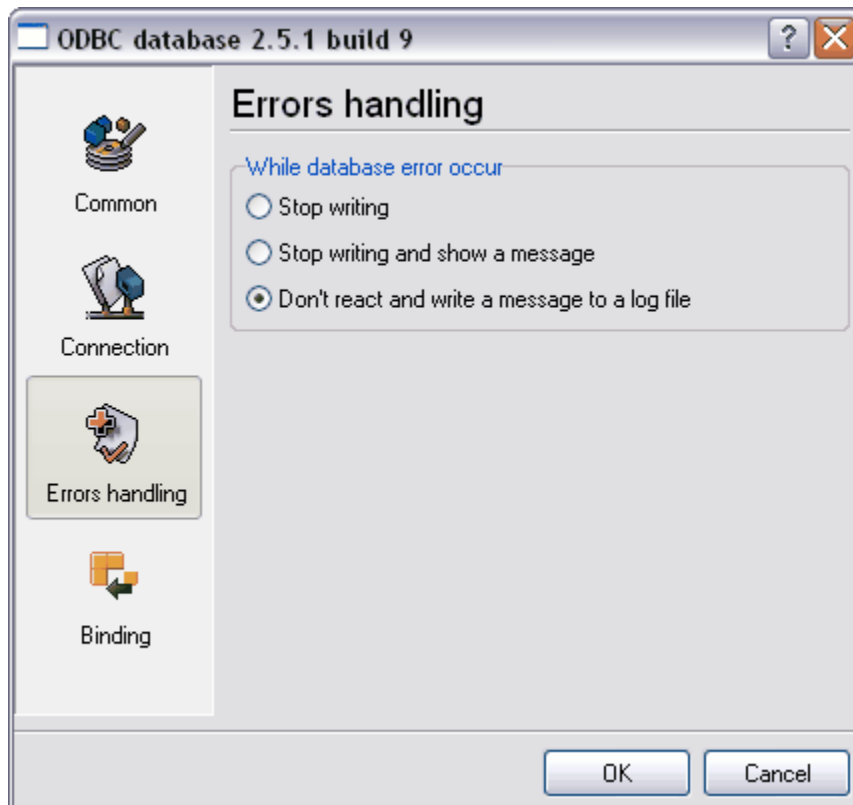
- **DSN** - The data source name listed in the Drivers tab of the ODBC Data Source Administrator dialog box.
- **PWD** - The password for the Oracle Server that you want to access. This driver supports limitations that Oracle places on passwords.
- **SERVER** - The connect string for the Oracle Server that you want to access.
- **UID** - The Oracle Server user name. Depending on your system, this attribute might not be optional—that is, certain databases and tables might require this attribute for security purposes. Use "/" to use Oracle's operating system authentication.
- **BUFFERSIZE** The optimal buffer size used when fetching columns.
- The driver optimizes fetching so that one fetch from the Oracle Server returns enough rows to fill a buffer of this size. Larger values tend to increase performance if you fetch a lot of data.
- **StdDayOfWeek** - Enforces the ODBC standard for the DAYOFWEEK scalar. By default this is turned on, but users who need the localized version can change the behavior to use whatever Oracle returns.
- **GuessTheColDef** - Specifies whether or not the driver should return a non-zero value for the cbColDef argument of SQLDescribeCol. Applies only to columns where there is no Oracle-defined scale, such as computed numeric columns and columns defined as NUMBER without a precision or scale.

### 5.2.5 FoxPro specific

- **BackgroundFetch** - "Yes" or "No".
- **Collate** - "Machine" or other collating sequence.
- **Exclusive** - "Yes" or "No".
- **SourceDB** - A fully qualified path to a directory containing zero or more free tables, or the absolute path and file name for a database.
- **SourceType** - "DBC" or "DBF".

## 5.3 Errors handling

When the module is performing its tasks, some errors may occur in the interaction with the database. It can be such errors as breaking the uniqueness while data are recorded into a table (PRIMARY KEY), breaking the data integrity limitation (FOREIGN KEY), losing the connection to the database, etc. You can set the behaviour of the module when such errors occur. These settings do not influence handling internal module errors, handling which is strictly programmed to provide maximum stability for the module. The parameters of this group are set on the "Errors handling" tab (pic. 1)



Pic.1 Errors handling

There are three ways the module can react when an error occurs:

1. **Stop writing** – if an error occurs, the program generates a message and enables the internal “Temporary disabled” option; it stops publishing data until the module is reconfigured. Besides, all the data coming for publishing after the error occurs will be recorded NEITHER to the temporary file NOR to the database. This option can be useful when you are configuring the module.
2. **Stop writing and show message** – if an error occurs, the program generates a message, enables the internal “Temporary disabled” option and displays a dialog box on the screen; it stops publishing data until the dialog box is closed. All data coming for publishing after the error occurs will be recorded NEITHER to the temporary file NOT to the database. If you click “Yes” in the dialog box, the module will resume its work. This option can be useful when you are configuring the module.
3. **Ignore errors, just write message to log** – if an error occurs, the program generates a message and continues its work according to its configuration.

## 5.4 Binding

We think that you have already dealt with databases (at least with stand-alone desktop databases), so as some terms can be not clear for untrained user.

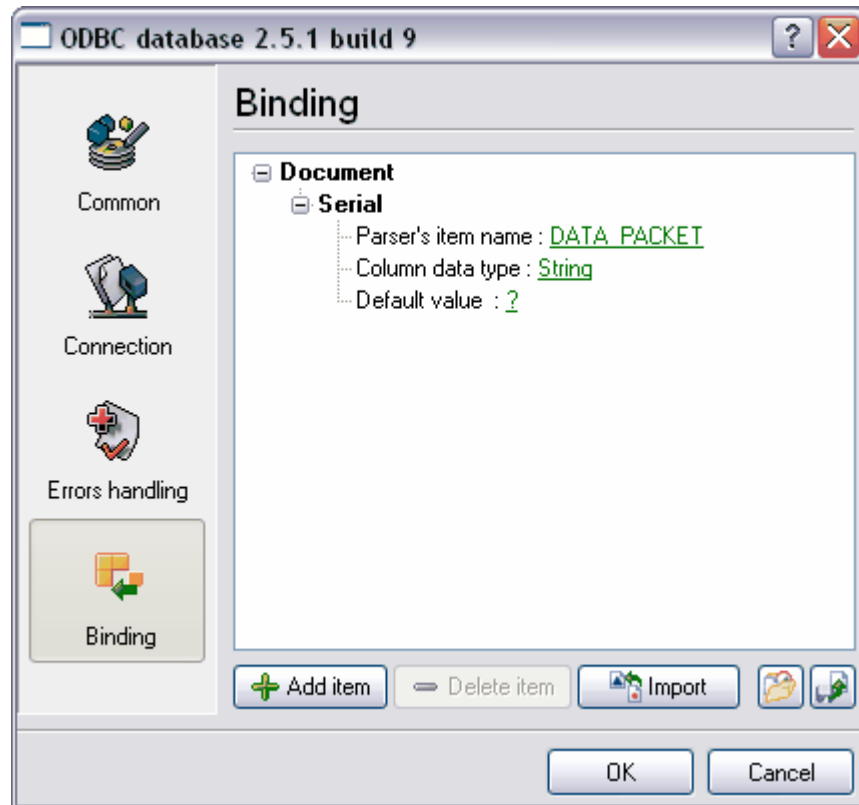
Create the table of necessary structure in your database where to save data. Advisable to create at once all the necessary fields (columns) in the table. Table must be created according to ANSI SQL92 standard, that puts some limits on field names in the table. In field names can be used **only** Latin characters (a-z, A-Z), numbers and underline mark ( \_ ). All other characters are inadmissible and their use can lead to error. Also as field name can't be used words, reserved in

language SQL. For example: NUMBER, DATE, TIME, STRING, SELECT, SUM, MIN, MAX, and [others](#).

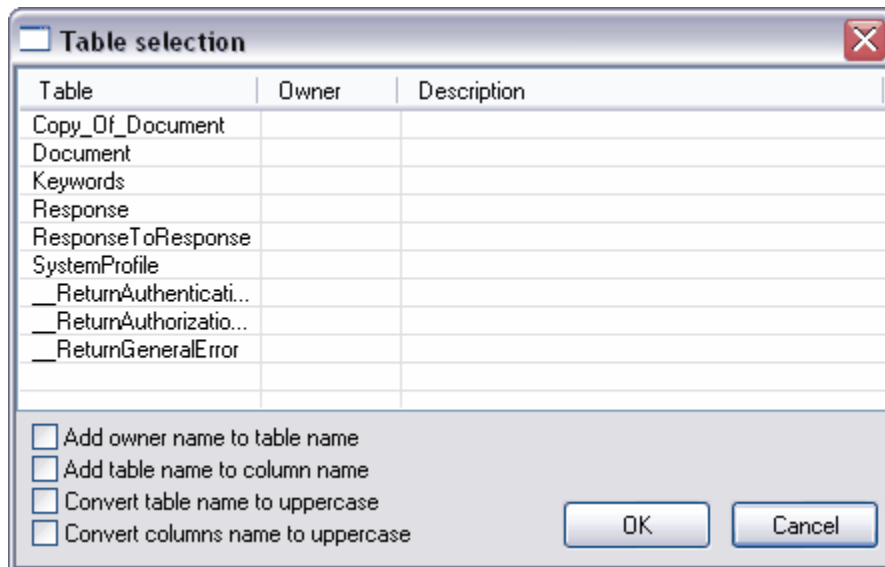
To have Your data get to table database, You must bind to every field in table value in informational transmitting. First of all must be binded obligatory (key) table fields.

So, now compare these values to fields in table:

1. **Importing of table fields description.** Click "Import" button (pic.1). If You setup connection with database correctly, in the displayed dialog window will be shown the list of all tables in Your database (pic.2). Select table created by you from the list and press button "OK". If necessary that at import to table name was added owner's name or to column name was added table name, show the corresponding parameter (in database Oracle).



Pic.1 Binding settings



Pic.2 Database table selection.

- After you have imported table description from base setup field description in ODBC export module. In window "Binding" is parameters tree. Setting procedure must be done for all available fields. Already at export ODBC export module set the default values for every field. For each item from the list you should select a name of a parser's item which is necessary for adjusting earlier. If the parser's item name isn't set, in the database the default value will be written.

## 5.5 ODBC limitations

### Table Name Limitations

- Table names can contain any valid characters (for example, spaces). If table names contain any characters except letters, numbers, and underscores, the name must be delimited by enclosing it in back quotes (` `).
- When the Microsoft Excel driver is used, and a table name is not qualified by a database reference, the default database is implied. If a name in Microsoft Excel includes the "!" character, it will automatically be translated to the "\$" character instead.
- The Microsoft Excel table name that references <filename> is supported for Microsoft Excel 3.0 and 4.0 files. The Microsoft Excel table name that references <workbook-name> is supported for Microsoft Excel 5.0, 7.0, or 97 files.
- When the dBASE driver is used, characters with an ASCII value greater than 127 are converted to underscores.
- When the Microsoft Access driver is used, the table name is limited to 64 characters.
- When the dBASE, Microsoft Excel 3.0 or 4.0, Paradox, or Text driver is used, special MS-DOS keywords CON, AUX, LPT1, and LPT2 should not be used as table names.

### Column Name Limitations

- Column names can contain any valid characters (for example, spaces). If column names contain any characters except letters, numbers, and underscores, the name must be delimited

- by enclosing it in back quotes ( ` ` ).
- When the Microsoft Access or Microsoft Excel driver is used, column names are limited to 64 characters, and longer names generate an error. When the Paradox driver is used, the maximum column name is 25 characters. When the Text driver is used, the maximum column name is 64 characters, and longer names are truncated.
- When the dBASE driver is used, characters with an ASCII value greater than 127 are converted to underscores.
- When the Microsoft Excel driver is used, if column names are present, they must be in the first row. A name that in Microsoft Excel would use the "!" character must be enclosed in back quotes ( ` ` ). The "!" character is converted to the "\$" character, because the "!" character is not legal in an ODBC name, even when the name is enclosed in back quotes. All other valid Microsoft Excel characters (except the pipe character (|)) can be used in a column name, including spaces. A delimited identifier must be used for a Microsoft Excel column name to include a space. Unspecified column names will be replaced with driver-generated names, for example, "Col1" for the first column.
- The pipe character (|) cannot be used in a column name, whether the name is enclosed in back quotes or not.
- When the Text driver is used, the driver provides a default name if a column name is not specified. For example, the driver calls the first column F1, the second column F2, and so on.

### Reserved Word Limitations

Do not use the reserved words listed in the SQL grammar in the "[Reserved words](#)" chapter of this manual (or the shorthand form of these reserved words) as identifiers (that is, table or column names), unless you surround the word in back quotes ( ` ` ).

### Identifiers Limitations

- If an identifier contains a space or a special symbol, the identifier must be enclosed in back quotes. A valid name is a string of no more than 64 characters, of which the first character must not be a space. Valid names cannot include control characters or the following special characters: ` | # \* ? [ ] . ! \$ .
- Do not use the reserved words listed in the SQL grammar in the "[Reserved words](#)" chapter of this manual (or the shorthand form of these reserved words) as identifiers (that is, table or column names), unless you surround the word in back quotes ( ` ` ).

## 5.6 Reserved words

```
-A
  ADD
  ALL
  Alphanumeric
  ALTER
  AND
  ANY
  Application
  AS
  ASC
  Assistant
  AUTOINCREMENT
  Avg
-B
  BETWEEN
  BINARY
```

```
BIT
BOOLEAN
BY
BYTE
-C
  CHAR, CHARACTER
  COLUMN
  CompactDatabase
  CONSTRAINT
  Container
  Count
  COUNTER
  CREATE
  CreateDatabase
  CreateField
  CreateGroup
  CreateIndex
  CreateObject
  CreateProperty
  CreateRelation
  CreateTableDef
  CreateUser
  CreateWorkspace
  CURRENCY
  CurrentUser
-D
  DATABASE
  DATE
  DATETIME
  DELETE
  DESC
  Description
  DISALLOW
  DISTINCT
  DISTINCTROW
  Document
  DOUBLE
  DROP
-E
  Echo
  Else
  End
  Eqv
  Error
  EXISTS
  Exit
-F
  FALSE
  Field, Fields
  FillCache
  FLOAT, FLOAT4, FLOAT8
  FOREIGN
  Form, Forms
  FROM
  Full
  FUNCTION
-G
  GENERAL
  GetObject
  GetOption
  GotoPage
  GROUP
  GROUP BY
  GUID
-H
  HAVING
-I
```

Idle  
IEEEDOUBLE, IEEESINGLE  
If  
IGNORE  
Imp  
IN  
INDEX  
Index, Indexes  
INNER  
INSERT  
InsertText  
INT, INTEGER, INTEGER1, INTEGER2, INTEGER4  
INTO  
IS  
-J  
JOIN  
-K  
KEY  
-L  
LastModified  
LEFT  
Level  
Like  
LOGICAL, LOGICAL1  
LONG, LONGBINARy, LONGTEXT  
-M  
Macro  
Match  
Max, Min, Mod  
MEMO  
Module  
MONEY  
Move  
-N  
NAME  
NewPassword  
NO  
Not  
Note  
NULL  
NUMBER, NUMERIC  
-O  
Object  
OLEOBJECT  
OFF  
ON  
OpenRecordset  
OPTION  
OR  
ORDER  
Orientation  
Outer  
OWNERACCESS  
-P  
Parameter  
PARAMETERS  
Partial  
PERCENT  
PIVOT  
PRIMARY  
PROCEDURE  
Property  
-Q  
Queries  
Query  
Quit

-R  
REAL  
Recalc  
Recordset  
REFERENCES  
Refresh  
RefreshLink  
RegisterDatabase  
Relation  
Repaint  
RepairDatabase  
Report  
Reports  
Requery  
RIGHT

-S  
SCREEN  
SECTION  
SELECT  
SET  
SetFocus  
SetOption  
SHORT  
SINGLE  
SMALLINT  
SOME  
SQL  
StDev, StDevP  
STRING  
Sum

-T  
TABLE  
TableDef, TableDefs  
TableID  
TEXT  
TIME, TIMESTAMP  
TOP  
TRANSFORM  
TRUE  
Type

-U  
UNION  
UNIQUE  
UPDATE  
USER

-V  
VALUE  
VALUES  
Var, VarP  
VARBINARY, VARCHAR

-W  
WHERE  
WITH  
Workspace

-X  
Xor

-Y  
Year  
YES  
YESNO

## 6 Troubles?

### 6.1 Possible problems

**No data for publication/exporting** – no data is passed for exporting. Solution: configure the parser, make sure that one or more variables are declared in the parser.

**Error on binding variable with name %s [%s]** – the error usually occurs if data does not correspond to the specified format. For example, the date and time format does not correspond to the data.

**Unable to disconnect from the database [%s] and Unable to connect to a database [%s]** – it is impossible to connect/disconnect to/from the database. You should check the parameters of the database connection. The analysis of the additional information will help you locate the error.

**Database access error [%s]. Stop operations with the database?** – the message appears if an error occurs during an attempt to execute an SQL query if the second variant of reacting to errors is selected. The message implies a "Yes" or "No" answer. The analysis of the additional information will help you locate the error.

**Unable to verify your SQL script [%s]** – the message appears when an attempt to analyze your SQL query fails. Check if the syntax of your SQL query is correct.

**Tested successfully** – the message appears if your database connection is successfully tested. It requires no additional actions.

**Database isn't used** – the message appears if the module is temporarily disabled (the "Temporarily disabled" check box is selected) or the database name field is empty. Check the connection parameters.

**Database isn't selected** - the message appears if the database type is not selected. Check the connection parameters.

**Database: %s** – %s contains the database name. The message appears if the database connection is successful. Usually, you see it when you call the module for the first time. It requires no additional actions.

**Invalid data block length (columns=%d,length=%d)** – an internal application error. It means that the data sent by the parser is in an invalid format. Perhaps, you are using the module incompatible with the version of the Advanced Serial Data Logger kernel. Update the versions of both the kernel and the module.

**The time of connection is not due yet (%d,%d)** – the message appears during an attempt to connect to the database after the connection to it has been lost and the "Reconnect after" option is enabled. No additional actions are required.

**Invalid procedure call. Bad arguments** –an attempt to call the module using invalid parameters. Perhaps, you are using the module incompatible with the version of the Advanced Serial Data Logger kernel. Update the versions of both the kernel and the module.

**Writing to the database is complete** - the message appears if your queue of SQL queries is successfully executed. It requires no additional actions.

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**Writing to the database is complete with errors** – the message appears if the executing your queue of SQL queries was interrupted by an error. It requires no additional actions.

**Your SQL is empty. Please, specify some SQL text first** – the message appears if you do not enter the text for your SQL query. Check if the options on the "SQL queue" tab are configured correctly.

**Invalid temporary path** – the path to the temporary file specified by you does not exist. Enter a new path in the "Temporary folder" field on the "Errors handling" tab.

%s, %d – will be replaced by additional information.