iwrite technical manual

iwrite authors and contributors
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Chapter 1

Files

This section describes the files iwrite utilizes.

1.1 report files

An iwrite report consists of a single XML file. The report file has the extension *irpt.*

1.2 Preferences

Preferences are stored in *INI* file format. This format contains sections that contain key value pairs. A semicolon denotes a comment line, which is ignored. It is not recommended to use comments as the section will get updated/overwritten.

1.2.1 database

The *database.ini* file contains a history of database connections. The password to the database server is never saved.

Under BSD type and GNU Linux operating systems, iwrite uses the path specified by the *XDG_CONFIG_HOME* environment variable. If the variable is not set, it uses the following default path: *$HOME\.config\iwrite*

Under Windows, iwrite uses *SIDL_LOCAL_APPDATASIDL_LOCAL_APPDATA.* The path is typically '*C:\Documents and Settings\username\Local Settings\Application Data.*'

1.3 Glade

Glade files define user interface elements. They are XML files produced by Glade, a user interface designer for GTK+ and GNOME. Following are the default install locations for these files.

FreeBSD	*/usr/local/share/iwrite/ui/*
GNU Linux	*/usr/share/iwrite/ui/*
NetBSD	*/usr/pkg/share/iwrite/ui*
OpenBSD	*/usr/local/share/iwrite/ui/*
Windows	*application directory*

1.4   Drivers

Database drivers are shared libraries that are loaded by iwrite dynamically (as needed). In order to work properly, the respecitve client libraries need to be installed on the system.

Driver	Library	Client Library
MariaDB/MySQL	libiwsql_mariadb.so	libmysqlclient.so
Oracle	libiwsql_oracle.so	libocci.so
PostgreSQL	libiwsql_pq.so	libpq.so
SQLite	libiwsql_sqlite3.so	libsqlite3.so

If not using the default installation directories, set the library path such as LD_LIBRARY_PATH to the install directory.

Chapter 2

Menu

2.1 SQL

2.1.1 Database

Aspect

Descriptor for the database module. This also acts as the key in the database preferences **??** file.

Driver	Database	Hostname	IP Address	Port	Username	Password
PostgreSQL	X	O	O	O	O	O
SQLite	X	-	-	-	-	-
MariaDB	X	O	O	O	O	O
Oracle	O	-	-	-	X	X

Driver

The name of the driver module. Depending on the driver chosen, some of the parameters that follow may be optional. That is, the driver does not require them or has predefined default values.

The administrator at your organization can supply the required data.

The table above describes values that are required ('X'), optional ('O'), or not available ('-') for each driver.

The MariaDB database driver is compatible with MySQL.

Database

The name of the database to query.

255 maximum number of characters

Oracle The Oracle database driver uses database for the connection string. The connection string is the instance to connect too. The format can be in URL form or an Oracle Net Keyword-value pair.

- URL form

  //host:[port][/service name]

  for example,

  //127.0.0.1:1521/orcl

- Keyword-value pair

  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=127.0.0.1)(PORT=1521))
  (CONNECT_DATA=(SERVICE_NAME=orcl)))

Hostname

The hostname of the database server.

63 maximum number of characters

IP Address

The numeric IP address of the database server.

47 maximum number of characters

Port

The port number of the database server.
  6 *maximum number of characters*

Username

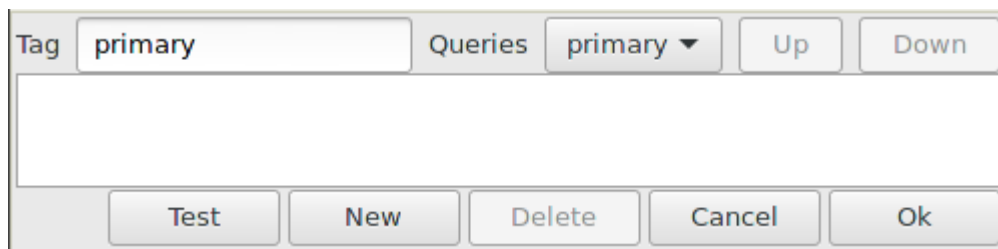The user name used to connect to the database server.
  31 *maximum number of characters*

Prompt for password

Passwords are not stored. If a password is required, this box should be checked. Checking this box will prompt for the password when the query is executed.
  31 *maximum number of characters*

2.1.2   Query

The query dialog provides a method to enter SQL statements that will comprise data to be used in the report.

SQL should only contain select statements. They should not contain statements such as *INSERT* or *UPDATE* that modify database tables. SQL is sent to the database server unfiltered. In other words, there is no security check or validation.

Reference

Queries can contain a reference to a column or prompt for value. The format for a reference is as follows

```
':'[table'.']column
```

Consider the following primary query:

```
SELECT * FROM payment ORDER BY customer_id
```

A secondary query can be constructed that joins another query (primary). The example below will join the primary table to the customer table by using column *customer_id*.

```
SELECT first_name, last_name
  FROM customer
  WHERE customer_id=:customer_id
```

The example above can also be done faster by using an inner join in the SQL statement.

```
SELECT payment.*, customer.first_name, customer.lastname
  FROM payment, customer
  WHERE payment.customer_id=customer.customer_id
```

This feature was supposed to give the ability to query another database. However, it is incomplete.

Prompt

Following, is the format for prompt.

```
':''?'column
```

The name of column can be any valid characters that are bound by the Database SQL implementation. When the report is run, the prompt/label will be displayed as the label.

The following query will prompt the user for a customer id.

```
SELECT *
  FROM payment
  WHERE customer_id=':?customer_id'
```

Sub-report   If this query is a sub-report, the prompt behaves as a parameter. The primary report will substitute the prompt with the current value of the column.

2.1.3   Break

Page break

A page break will generate a new page every time the column value changes. It does not behave like a group break, which is typically used for running totals.

Group break

A level break will generate a new section every time the value of a column changes. It works by starting at the last break (highest) and working towards the first (lowest).

Chapter 3

Command Line

Following are the command line options iwrite supports.

help list options

output output file name

password database password

prompt values for query

report path of report to run

3.1   help

Output the list of options shown above

3.2   output

The name of the file to write too.
    This option is only valid in combination with the *report* option.

3.3   password

The password to the database. Following is the format for password.

```
--password=password[:username[:aspect]]
```

password password

username optional database login name

aspect optional aspect name that the password and username are associated

If any of the parameters contains a colon, it can be escaped with the following sequence: \:

A backslash can be escaped with the following sequence: \\

3.4   prompt

The values to query parameters. If a query contains a prompt **??**, the value can be specified on the command line using the following format:

```
--prompt=field:value
```

3.5   report

The name of the report to open or run. If *output* is given, the report is run. Otherwise, it is opened for editing. The report will run non-interactively. When it is completed, it will exit back to the shell prompt. On success zero is returned. Otherwise, a non-zero value is returned.

Following is an exmple to run a report named foo.

```
iwrite --report=./Reports/foo --output=./tmp/foo.pdf --password=mypwd
```

License

3.6   iwrite

3.6.1   software

```
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```

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3.7   The decNumber Library

decNumber library license

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3.8   libzint

libzint library license

libzint - the open source barcode library
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3.8.1   Reed-Solomon encoder

Reed-Solomon encoder license

This is a simple Reed-Solomon encoder
(C) Cliff Hones 2004

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3.9 BSON parser

BSON parser license

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