

general_ledger

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Chapter 1

General Ledger.

General Ledger will be a fully-featured, multi-user, open-source general ledger system. The project is in the early stages of development.

Chapter 2

Module Index

2.1 Modules

Here is a list of all modules:

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Chapter 3

Class Index

3.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

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Chapter 4

Class Index

4.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

genleg::Config	Configuration options class	21
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genleg::ConfigBadOption	Exception class for bad provided option	24
genleg::ConfigCouldNotOpenFile	Exception class for when conf file cannot be opened	25
genleg::ConfigException	Configuration module exception base class	26
genleg::ConfigOptionNotSet	Exception class for option not set	27
gldb::DBConn	Database connection class	28
gldb::DBConnCouldNotConnect	Could not connect to database exception class	30
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gldb::DBConnDummy	Dummy database implementation class	32
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Chapter 5

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5.1 File List

Here is a list of all documented files with brief descriptions:

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Chapter 6

Module Documentation

6.1 Database interaction module

Classes

- class [gldb::DBConnException](#)
Base database connection exception class.
- class [gldb::DBConnCouldNotConnect](#)
Could not connect to database exception class.
- class [gldb::DBConnCouldNotQuery](#)
Could not execute database query exception class.
- class [gldb::DBConn](#)
Database connection class.
- class [gldb::DBConnImp](#)
Abstract database implementation base class.
- class [gldb::Table](#)
Database table class.
- class [gldb::TableField](#)
Database table field class.
- class [gldb::TableRow](#)
Database table row class.
- class [gldb::DBConnDummy](#)
Dummy database implementation class.
- class [gldb::DBConnMySQL](#)
MySQL database implementation class.

Functions

- [DBConnImp *](#) [gldb::get_connection](#) (const std::string database, const std::string hostname, const std::string username, const std::string password)
Creates and returns a pointer to a database implementation.
- std::string [gldb::get_database_type](#) ()
Returns the name of the compiled-in database type.

6.1.1 Detailed Description

Module for interacting with the database.

6.1.2 Function Documentation

6.1.2.1 DBConnImp * glldb::get_connection (const std::string *database*, const std::string *hostname*, const std::string *username*, const std::string *password*)

Creates and returns a pointer to a database implementation.

The implementation of this function is provided by the individual database implementations. One database implementation is compiled into the program at any one time. Multiple database systems are, or will be, supported, and not every system will possess the libraries and headers to compile every implementation. Therefore, only one implementation is compiled in at a time. The fact that each database implementation will implement this function to return the correct derived class prevents any attempt to compile unsupported library code. This would not be feasible if we were to simply provide each implementation as a subclass.

Parameters

<i>database</i>	The name of the database to which to connect.
<i>hostname</i>	The hostname of the computer running the database.
<i>username</i>	The username with which to log into the database.
<i>password</i>	The password with which to log into the database.

Returns

A pointer to the database implementation.

6.1.2.2 std::string glldb::get_database_type ()

Returns the name of the compiled-in database type.

Returns

The name of the compiled-in database type.

6.2 SQL statements module

Classes

- class [genleg::DBSQLMySQL](#)
MySQL SQL statements class.
- class [genleg::DBSQLStatements](#)
SQL statements class.

6.2.1 Detailed Description

Module for producing SQL statements used by program.

6.3 Program configuration module

Classes

- class [genleg::ConfigException](#)
Configuration module exception base class.
- class [genleg::ConfigOptionNotSet](#)
Exception class for option not set.
- class [genleg::ConfigBadOption](#)
Exception class for bad provided option.
- class [genleg::ConfigCouldNotOpenFile](#)
Exception class for when conf file cannot be opened.
- class [genleg::ConfigBadConfigFile](#)
Exception class for badly formed configuration file.
- class [genleg::Config](#)
Configuration options class.

Enumerations

- enum [genleg::Argument](#)
Enumeration class for option argument specifications.

6.3.1 Detailed Description

Module for getting options from the command line and configuration files.

6.4 General purpose helpers.

Functions

- `std::string & pgstring::trim_front (std::string &s)`
Trims leading whitespace from a string.
- `std::string & pgstring::trim_back (std::string &s)`
Trims trailing whitespace from a string.
- `std::string & pgstring::trim (std::string &s)`
Trims leading and trailing whitespace from a string.
- `std::vector< std::string > pgstring::split (const std::string &s, const char delim)`
Splits a delimited string into tokens.

6.4.1 Detailed Description

General purpose helper classes and functions.

6.4.2 Function Documentation

6.4.2.1 `std::vector< std::string > pgstring::split (const std::string & s, const char delim)`

Splits a delimited string into tokens.

Parameters

<code>s</code>	The string to split.
<code>delim</code>	The delimiter character on which to split.

Returns

A vector of tokens.

6.4.2.2 `std::string & pgstring::trim (std::string & s)`

Trims leading and trailing whitespace from a string.

Parameters

<code>s</code>	The string to trim.
----------------	---------------------

Returns

The trimmed string.

6.4.2.3 `std::string & pgstring::trim_back (std::string & s)`

Trims trailing whitespace from a string.

Parameters

<code>s</code>	The string to trim.
----------------	---------------------

Returns

The trimmed string.

6.4.2.4 `std::string & pgstring::trim_front (std::string & s)`

Trims leading whitespace from a string.

Parameters

<code>s</code>	The string to trim.
----------------	---------------------

Returns

The trimmed string.

6.5 Reporting program.

Functions

- static void `set_configuration` (`genleg::Config` &config, int argc, char *argv[])
Sets program configuration options.
- static void `print_usage_message` ()
Prints a program usage message.
- static void `print_version_message` ()
Prints a program version message.
- static void `print_help_message` ()
Prints a program help message.
- static std::string `login` (void)
Gets a password from the terminal.
- int `main` (int argc, char *argv[])
Main function.

Variables

- static const char * `progrname` = "gl_report"
Static variable for program name.

6.5.1 Detailed Description

Administrative reporting program.

6.5.2 Function Documentation

6.5.2.1 static std::string login (void) [static]

Gets a password from the terminal.

Returns

The password.

6.5.2.2 int main (int argc, char * argv[])

Main function.

Parameters

<code>argc</code>	Number of command line arguments.
<code>argv</code>	Command line arguments.

Returns

Exit status code.

6.5.2.3 `static void set_configuration (genleg::Config & config, int argc, char * argv[])` [static]

Sets program configuration options.

Parameters

<i>config</i>	Reference to a Config object.
<i>argc</i>	argc passed to <code>main()</code> .
<i>argv</i>	argv passed to <code>main()</code> .

6.6 Database program.

Functions

- static void `set_configuration` (`Config` &config, int argc, char *argv[])
Sets program configuration options.
- static void `print_usage_message` ()
Prints a program usage message.
- static void `print_version_message` ()
Prints a program version message.
- static void `print_help_message` ()
Prints a program help message.
- static std::string `login` (void)
Gets a password from the terminal.
- int `main` (int argc, char *argv[])
Main function.

Variables

- static const char * `progrname` = "gl_db"
Static variable for program name.

6.6.1 Detailed Description

Administrative database management program.

6.6.2 Function Documentation

6.6.2.1 static std::string login (void) [static]

Gets a password from the terminal.

Returns

The password.

6.6.2.2 int main (int argc, char * argv[])

Main function.

Parameters

<code>argc</code>	Number of command line arguments.
<code>argv</code>	Command line arguments.

Returns

Exit status code.

6.6.2.3 `static void set_configuration (Config & config, int argc, char * argv[])` `[static]`

Sets program configuration options.

Parameters

<i>config</i>	Reference to a Config object.
<i>argc</i>	<code>argc</code> passed to <code>main()</code> .
<i>argv</i>	<code>argv</code> passed to <code>main()</code> .

Chapter 7

Class Documentation

7.1 genleg::Config Class Reference

Configuration options class.

```
#include <config.h>
```

Public Member Functions

- [Config](#) ()
- [~Config](#) ()
- void [add_cmdline_option](#) (const std::string option, const enum [Argument](#) arg)
Adds a supported command line option.
- void [populate_from_cmdline](#) (const int argc, char *const *argv)
Populates options from the command line.
- void [populate_from_file](#) (const std::string filename)
Populates options from a configuration file.
- bool [is_set](#) (const std::string option) const
Checks if an option is set.
- const std::string & [operator\[\]](#) (const std::string &option) const
operator[] overload.

Private Attributes

- std::map< std::string,
std::string > [m_opts_set](#)
- std::list< std::pair
< std::string, enum [Argument](#) > > [m_opts_supp](#)

7.1.1 Detailed Description

Configuration options class.

7.1.2 Constructor & Destructor Documentation

7.1.2.1 Config::Config ()

Constructor

7.1.2.2 Config::~Config ()

Destructor

7.1.3 Member Function Documentation

7.1.3.1 void Config::add_cmdline_option (const std::string *option*, const enum Argument *arg*)

Adds a supported command line option.

Parameters

<i>option</i>	The name of the option.
<i>arg</i>	The argument specification for the option.

7.1.3.2 bool Config::is_set (const std::string *option*) const

Checks is an option is set.

Parameters

<i>option</i>	The name of the option to check.
---------------	----------------------------------

Returns

`true` if the option has been set, `false` if it has not.

7.1.3.3 const std::string & Config::operator[] (const std::string & *option*) const

operator[] overload.

Retrieves the value of a set option.

Parameters

<i>option</i>	The name of the option.
---------------	-------------------------

Returns

The value of the option.

Exceptions

<i>ConfigOptionNotSet</i>	If the named option has not been set.
-------------------------------------------	---------------------------------------

7.1.3.4 void Config::populate_from_cmdline (const int *argc*, char *const * *argv*)

Populates options from the command line.

Parameters

<i>argc</i>	<i>argc</i> supplied to <code>main()</code> .
<i>argv</i>	<i>argv</i> supplied to <code>main()</code> .

Exceptions

<i>ConfigBadOption</i>	If an unsupported option is specified, or if a required argument is missing, or if an unexpected argument is found.
----------------------------------------	---------------------------------------------------------------------------------------------------------------------

7.1.3.5 void Config::populate_from_file (const std::string filename)

Populates options from a configuration file.

Parameters

<i>filename</i>	The name of the configuration file.
-----------------	-------------------------------------

Exceptions

<i>ConfigCouldNotOpenFile</i>	If the configuration file cannot be opened.
<i>ConfigBadConfigFile</i>	If the configuration file is badly formed.

7.1.4 Member Data Documentation

7.1.4.1 std::map<std::string, std::string> genleg::Config::m_opts_set [private]

Map of options which have been set

7.1.4.2 std::list<std::pair<std::string, enum Argument> > genleg::Config::m_opts_supp [private]

List of options which are supported

The documentation for this class was generated from the following files:

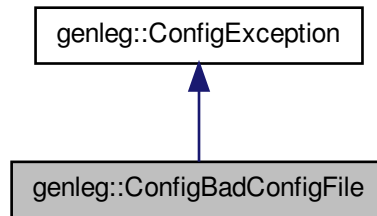
- lib/config/[config.h](#)
- lib/config/[config.cpp](#)
- lib/config/[config_getopt.cpp](#)

7.2 genleg::ConfigBadConfigFile Class Reference

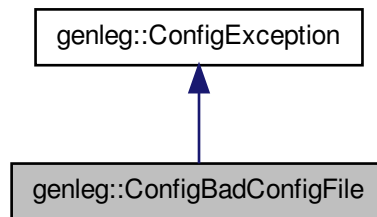
Exception class for badly formed configuration file.

```
#include <config.h>
```

Inheritance diagram for genleg::ConfigBadConfigFile:



Collaboration diagram for genleg::ConfigBadConfigFile:



7.2.1 Detailed Description

Exception class for badly formed configuration file.

The documentation for this class was generated from the following file:

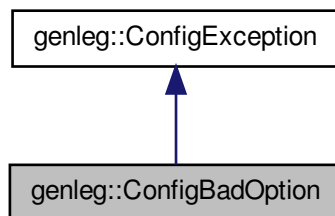
- lib/config/[config.h](#)

7.3 genleg::ConfigBadOption Class Reference

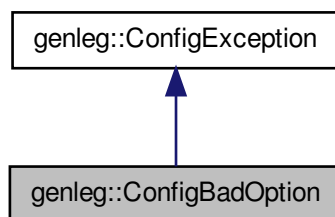
Exception class for bad provided option.

```
#include <config.h>
```

Inheritance diagram for genleg::ConfigBadOption:



Collaboration diagram for genleg::ConfigBadOption:



7.3.1 Detailed Description

Exception class for bad provided option.

The documentation for this class was generated from the following file:

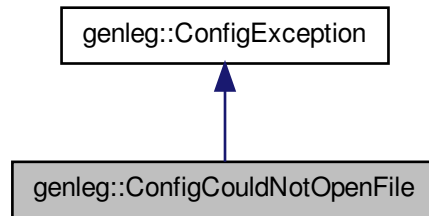
- lib/config/[config.h](#)

7.4 genleg::ConfigCouldNotOpenFile Class Reference

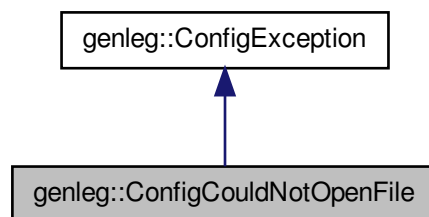
Exception class for when conf file cannot be opened.

```
#include <config.h>
```

Inheritance diagram for genleg::ConfigCouldNotOpenFile:



Collaboration diagram for genleg::ConfigCouldNotOpenFile:



7.4.1 Detailed Description

Exception class for when conf file cannot be opened.

The documentation for this class was generated from the following file:

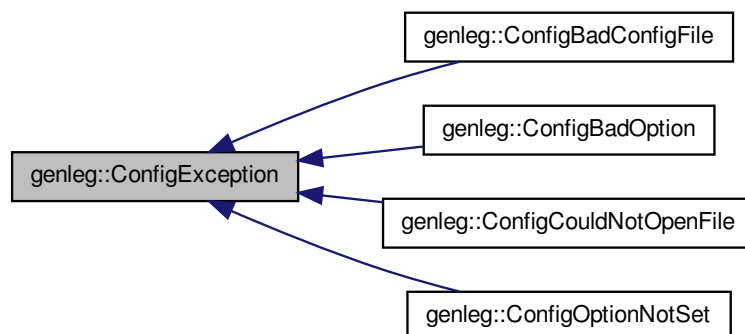
- lib/config/[config.h](#)

7.5 genleg::ConfigException Class Reference

Configuration module exception base class.

```
#include <config.h>
```

Inheritance diagram for genleg::ConfigException:



7.5.1 Detailed Description

Configuration module exception base class.

The documentation for this class was generated from the following file:

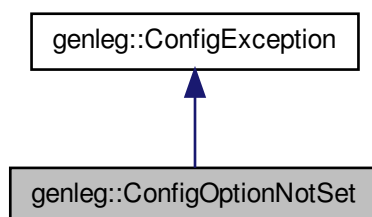
- `lib/config/config.h`

7.6 genleg::ConfigOptionNotSet Class Reference

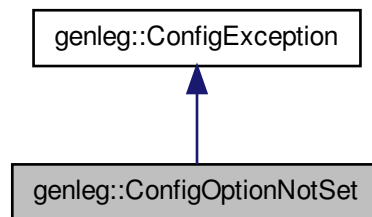
Exception class for option not set.

```
#include <config.h>
```

Inheritance diagram for genleg::ConfigOptionNotSet:



Collaboration diagram for genleg::ConfigOptionNotSet:



7.6.1 Detailed Description

Exception class for option not set.

The documentation for this class was generated from the following file:

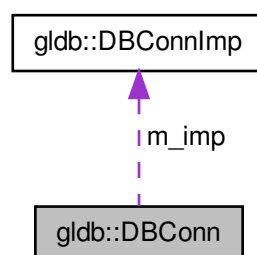
- `lib/config/config.h`

7.7 glldb::DBConn Class Reference

Database connection class.

```
#include <dbconn.h>
```

Collaboration diagram for glldb::DBConn:



Public Member Functions

- `DBConn (DBConnImp *imp)`
Constructor.
- `~DBConn ()`
Destructor..

- void [query](#) (std::string *sql_query*)
Runs an SQL query.
- [Table select](#) (std::string *query*)
Runs an SQL SELECT query.
- [DBConn](#) (const [DBConn](#) &)
- [DBConn](#) & [operator=](#) (const [DBConn](#) &)

Private Attributes

- [DBConnImp](#) * *m_imp*

7.7.1 Detailed Description

Database connection class.

7.7.2 Constructor & Destructor Documentation

7.7.2.1 [DBConn::DBConn](#) ([DBConnImp](#) * *imp*) [explicit]

Constructor.

Parameters

<i>imp</i>	Pointer to database implementation object.
------------	--------------------------------------------

7.7.2.2 [glldb::DBConn::DBConn](#) (const [DBConn](#) &)

Deleted copy constructor

7.7.3 Member Function Documentation

7.7.3.1 [DBConn& glldb::DBConn::operator=](#) (const [DBConn](#) &)

Deleted assignment operator

7.7.3.2 void [DBConn::query](#) (std::string *sql_query*)

Runs an SQL query.

Parameters

<i>sql_query</i>	The query.
------------------	------------

Returns

A [Table](#) object containing the results.

7.7.3.3 [Table](#) [DBConn::select](#) (std::string *query*)

Runs an SQL SELECT query.

Parameters

<i>query</i>	The query.
--------------	------------

Returns

A [Table](#) object containing the results.

7.7.4 Member Data Documentation

7.7.4.1 DBConnImp* gldb::DBConn::m_imp [private]

Pointer to database implementation object.

The documentation for this class was generated from the following files:

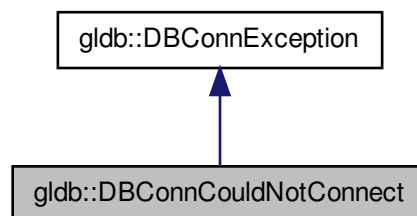
- lib/database/[dbconn.h](#)
- lib/database/[dbconn.cpp](#)

7.8 gldb::DBConnCouldNotConnect Class Reference

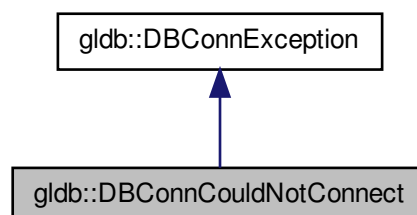
Could not connect to database exception class.

```
#include <dbconn.h>
```

Inheritance diagram for gldb::DBConnCouldNotConnect:



Collaboration diagram for gldb::DBConnCouldNotConnect:



Public Member Functions

- [DBConnCouldNotConnect](#) (const std::string &msg)
Constructor.

7.8.1 Detailed Description

Could not connect to database exception class.

7.8.2 Constructor & Destructor Documentation

7.8.2.1 `glldb::DBConnCouldNotConnect::DBConnCouldNotConnect (const std::string & msg) [inline], [explicit]`

Constructor.

Parameters

<i>msg</i>	Database error message
------------	------------------------

The documentation for this class was generated from the following file:

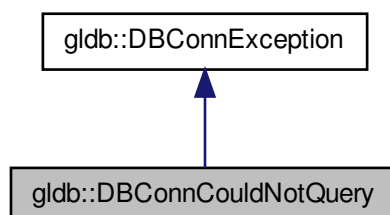
- lib/database/[dbconn.h](#)

7.9 glldb::DBConnCouldNotQuery Class Reference

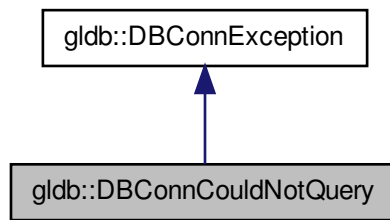
Could not execute database query exception class.

```
#include <dbconn.h>
```

Inheritance diagram for glldb::DBConnCouldNotQuery:



Collaboration diagram for `gldb::DBConnCouldNotQuery`:



Public Member Functions

- [`DBConnCouldNotQuery`](#) (`const std::string &msg`)
Constructor.

7.9.1 Detailed Description

Could not execute database query exception class.

7.9.2 Constructor & Destructor Documentation

7.9.2.1 `gldb::DBConnCouldNotQuery::DBConnCouldNotQuery (const std::string & msg) [inline], [explicit]`

Constructor.

Parameters

<code>msg</code>	Database error message
------------------	------------------------

The documentation for this class was generated from the following file:

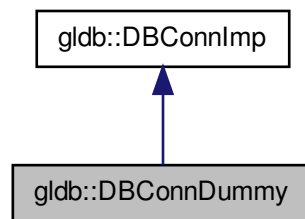
- `lib/database/dbconn.h`

7.10 gldb::DBConnDummy Class Reference

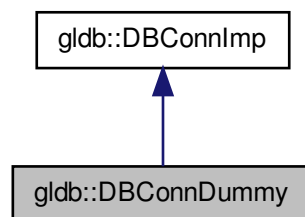
Dummy database implementation class.

```
#include <dbconn_dummy_imp.h>
```

Inheritance diagram for glldb::DBConnDummy:



Collaboration diagram for glldb::DBConnDummy:



Public Member Functions

- [DBConnDummy](#) (const std::string database, const std::string hostname, const std::string username, const std::string password)
Constructor.
- [DBConnDummy](#) (const [DBConnDummy](#) &)
- virtual [~DBConnDummy](#) ()
- [DBConnDummy](#) & [operator=](#) (const [DBConnDummy](#) &)
- [Table select](#) (std::string query)
Fakes running of an SQL SELECT query.

7.10.1 Detailed Description

Dummy database implementation class.

7.10.2 Constructor & Destructor Documentation

- 7.10.2.1 [DBConnDummy::DBConnDummy](#) (const std::string *database*, const std::string *hostname*, const std::string *username*, const std::string *password*)

Constructor.

Parameters

<i>database</i>	The name of the Dummy database.
<i>hostname</i>	The hostname of the server.
<i>username</i>	The username to log into the database.
<i>password</i>	The password to log into the database.

7.10.2.2 `gldb::DBConnDummy::DBConnDummy (const DBConnDummy &)`

Deleted copy constructor

7.10.2.3 `DBConnDummy::~~DBConnDummy () [virtual]`

Destructor

7.10.3 Member Function Documentation

7.10.3.1 `DBConnDummy& gldb::DBConnDummy::operator= (const DBConnDummy &)`

Deleted assignment operator

7.10.3.2 `Table DBConnDummy::select (std::string query) [virtual]`

Fakes running of an SQL SELECT query.

Parameters

<i>query</i>	Any query.
--------------	------------

Returns

A [Table](#) object containing dummy results.

Implements [gldb::DBConnImp](#).

The documentation for this class was generated from the following files:

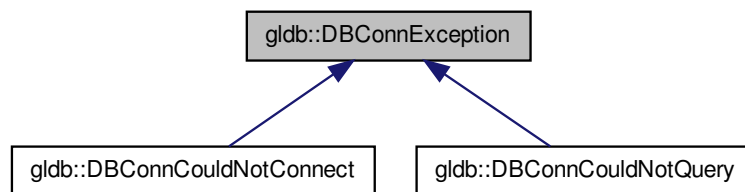
- [lib/database_imp/dummy/dbconn_dummy_imp.h](#)
- [lib/database_imp/dummy/dbconn_dummy_imp.cpp](#)

7.11 `gldb::DBConnException` Class Reference

Base database connection exception class.

```
#include <dbconn.h>
```

Inheritance diagram for glldb::DBConnException:



Public Member Functions

- [DBConnException](#) (const std::string &msg)
Constructor.

7.11.1 Detailed Description

Base database connection exception class.

7.11.2 Constructor & Destructor Documentation

7.11.2.1 `glldb::DBConnException::DBConnException (const std::string & msg)` `[inline], [explicit]`

Constructor.

Parameters

<i>msg</i>	Database error message
------------	------------------------

The documentation for this class was generated from the following file:

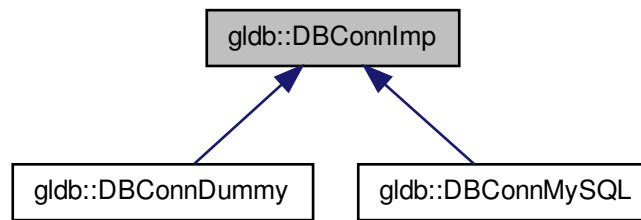
- lib/database/[dbconn.h](#)

7.12 glldb::DBConnImp Class Reference

Abstract database implementation base class.

```
#include <dbconnimp.h>
```

Inheritance diagram for `gldb::DBConnImp`:



Public Member Functions

- [DBConnImp](#) ()
- virtual [~DBConnImp](#) ()
- virtual void [query](#) (std::string sql_query)=0
Runs an SQL query.
- virtual [Table select](#) (std::string query)=0
Runs an SQL SELECT query.

7.12.1 Detailed Description

Abstract database implementation base class.

7.12.2 Constructor & Destructor Documentation

7.12.2.1 `gldb::DBConnImp::DBConnImp ()` `[inline]`

Constructor

7.12.2.2 `virtual glodb::DBConnImp::~~DBConnImp ()` `[inline], [virtual]`

Destructor

7.12.3 Member Function Documentation

7.12.3.1 `virtual void glodb::DBConnImp::query (std::string sql_query)` `[pure virtual]`

Runs an SQL query.

Parameters

<i>sql_query</i>	The query.
------------------	------------

Implemented in [gldb::DBConnMySQL](#).

7.12.3.2 virtual Table glldb::DBConnImp::select (std::string *query*) [pure virtual]

Runs an SQL SELECT query.

Parameters

<i>query</i>	The query.
--------------	------------

Returns

A [Table](#) object containing the results.

Implemented in [glldb::DBConnMySQL](#), and [glldb::DBConnDummy](#).

The documentation for this class was generated from the following file:

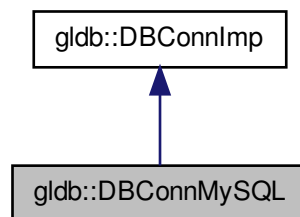
- lib/database/[dbconnimp.h](#)

7.13 glldb::DBConnMySQL Class Reference

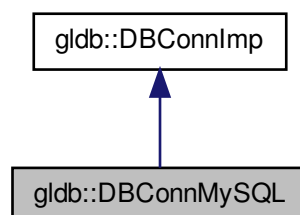
MySQL database implementation class.

```
#include <dbconn_mysql_imp.h>
```

Inheritance diagram for glldb::DBConnMySQL:



Collaboration diagram for glldb::DBConnMySQL:



Public Member Functions

- [DBConnMySQL](#) (const std::string database, const std::string hostname, const std::string username, const std::string password)
Constructor.
- [DBConnMySQL](#) (const [DBConnMySQL](#) &)
- virtual [~DBConnMySQL](#) ()
- [DBConnMySQL](#) & [operator=](#) (const [DBConnMySQL](#) &)
- virtual void [query](#) (std::string sql_query)
Runs an SQL query.
- virtual [Table select](#) (std::string query)
Runs an SQL SELECT query.

Private Attributes

- MySQL * [m_conn](#)

7.13.1 Detailed Description

MySQL database implementation class.

7.13.2 Constructor & Destructor Documentation

- 7.13.2.1 [DBConnMySQL::DBConnMySQL](#) (const std::string *database*, const std::string *hostname*, const std::string *username*, const std::string *password*)

Constructor.

Parameters

<i>database</i>	The name of the MySQL database.
<i>hostname</i>	The hostname of the server.
<i>username</i>	The username to log into the database.
<i>password</i>	The password to log into the database.

Exceptions

DBConnCouldNotConnect	If could not connect to database.
---------------------------------------	-----------------------------------

- 7.13.2.2 [gldb::DBConnMySQL::DBConnMySQL](#) (const [DBConnMySQL](#) &)

Deleted copy constructor

- 7.13.2.3 [DBConnMySQL::~~DBConnMySQL](#) () [virtual]

Destructor

7.13.3 Member Function Documentation

7.13.3.1 DBConnMySQL& glldb::DBConnMySQL::operator= (const DBConnMySQL &)

Deleted assignment operator

7.13.3.2 void DBConnMySQL::query (std::string *sql_query*) [virtual]

Runs an SQL query.

Parameters

<i>sql_query</i>	The query.
------------------	------------

Exceptions

DBConnCouldNotQuery	If could not successfully execute query.
-------------------------------------	------------------------------------------

Implements [glldb::DBConnImp](#).

7.13.3.3 Table DBConnMySQL::select (std::string *query*) [virtual]

Runs an SQL SELECT query.

Parameters

<i>query</i>	The query.
--------------	------------

Returns

A [Table](#) object containing the results.

Exceptions

DBConnCouldNotQuery	If could not successfully execute query.
-------------------------------------	------------------------------------------

Implements [glldb::DBConnImp](#).

7.13.4 Member Data Documentation

7.13.4.1 MYSQL* glldb::DBConnMySQL::m_conn [private]

The initialized MySQL handle.

The documentation for this class was generated from the following files:

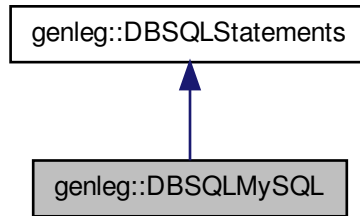
- lib/database_imp/mysql/[dbconn_mysql_imp.h](#)
- lib/database_imp/mysql/[dbconn_mysql_imp.cpp](#)

7.14 genleg::DBSQLMySQL Class Reference

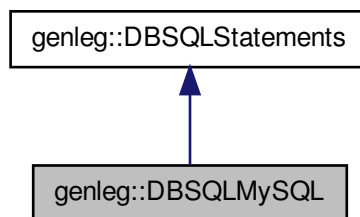
MySQL SQL statements class.

```
#include <dbsql_mysql.h>
```

Inheritance diagram for genleg::DBSQLMySQL:



Collaboration diagram for genleg::DBSQLMySQL:



Additional Inherited Members

7.14.1 Detailed Description

MySQL SQL statements class.

The documentation for this class was generated from the following file:

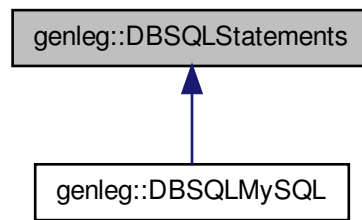
- lib/dbsql/[dbsql_mysql.h](#)

7.15 genleg::DBSQLStatements Class Reference

SQL statements class.

```
#include <dbsqlstatements.h>
```

Inheritance diagram for genleg::DBSQLStatements:



Public Member Functions

- [DBSQLStatements](#) ()
- virtual [~DBSQLStatements](#) ()
- virtual std::string [create_table](#) (const std::string table_name) const
Returns a SQL statement for creating a table.
- virtual std::string [drop_table](#) (const std::string table_name) const
Returns a SQL statement for dropping a table.
- virtual std::string [create_view](#) (const std::string view_name) const
Returns a SQL statement for creating a view.
- virtual std::string [drop_view](#) (const std::string view_name) const
Returns a SQL statement for dropping a view.

7.15.1 Detailed Description

SQL statements class.

7.15.2 Constructor & Destructor Documentation

7.15.2.1 DBSQLStatements::DBSQLStatements ()

Constructor

7.15.2.2 DBSQLStatements::~~DBSQLStatements () [virtual]

Destructor

7.15.3 Member Function Documentation

7.15.3.1 std::string DBSQLStatements::create_table (const std::string table_name) const [virtual]

Returns a SQL statement for creating a table.

Parameters

<i>table_name</i>	The table to create.
-------------------	----------------------

Returns

The SQL statement to create the table.

7.15.3.2 `std::string DBSQLStatements::create_view (const std::string view_name) const` [virtual]

Returns a SQL statement for creating a view.

Parameters

<i>view_name</i>	The view to create.
------------------	---------------------

Returns

The SQL statement to create the view.

7.15.3.3 `std::string DBSQLStatements::drop_table (const std::string table_name) const` [virtual]

Returns a SQL statement for dropping a table.

Parameters

<i>table_name</i>	The table to drop.
-------------------	--------------------

Returns

The SQL statement to drop the table.

7.15.3.4 `std::string DBSQLStatements::drop_view (const std::string view_name) const` [virtual]

Returns a SQL statement for dropping a view.

Parameters

<i>view_name</i>	The view to drop.
------------------	-------------------

Returns

The SQL statement to drop the view.

The documentation for this class was generated from the following files:

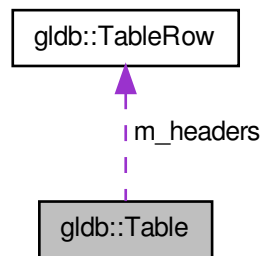
- [lib/dbsql/dbsqlstatements.h](#)
- [lib/dbsql/dbsqlstatements.cpp](#)

7.16 glldb::Table Class Reference

Database table class.

```
#include <table.h>
```

Collaboration diagram for glldb::Table:



Public Member Functions

- [Table](#) (const [TableRow](#) &headers)
Constructor.
- [~Table](#) ()
- size_t [num_fields](#) () const
Returns the number of fields in each row.
- size_t [num_records](#) () const
Returns the number of record in the table.
- const [TableRow](#) & [get_headers](#) () const
Returns the field names.
- const [TableRow](#) & [operator\[\]](#) (const size_t idx) const
Overloaded index operator.
- void [append_record](#) (const [TableRow](#) &new_record)
Appends a record to the table.

Private Attributes

- [TableRow](#) m_headers
- std::vector< [TableRow](#) > m_records

7.16.1 Detailed Description

Database table class.

7.16.2 Constructor & Destructor Documentation

7.16.2.1 [Table::Table](#) (const [TableRow](#) & headers) [explicit]

Constructor.

Parameters

<i>headers</i>	Table row containing field names.
----------------	---------------------------------------------------

7.16.2.2 Table::~~Table ()

Destructor

7.16.3 Member Function Documentation

7.16.3.1 void Table::append_record (const TableRow & new_record)

Appends a record to the table.

Parameters

<i>new_record</i>	The record to append.
-------------------	-----------------------

7.16.3.2 const TableRow & Table::get_headers () const

Returns the field names.

Returns

The field names.

7.16.3.3 size_t Table::num_fields () const

Returns the number of fields in each row.

Returns

The number of fields in each row.

7.16.3.4 size_t Table::num_records () const

Returns the number of record in the table.

Returns

The number of records in the table.

7.16.3.5 const TableRow & Table::operator[] (const size_t idx) const

Overloaded index operator.

Parameters

<i>idx</i>	The zero-based index of the record.
------------	-------------------------------------

Returns

The selected record.

7.16.4 Member Data Documentation

7.16.4.1 TableRow glldb::Table::m_headers [private]

The names of the fields

7.16.4.2 std::vector<TableRow> glldb::Table::m_records [private]

A vector of the records

The documentation for this class was generated from the following files:

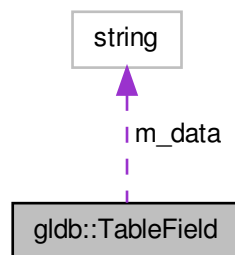
- lib/database/[table.h](#)
- lib/database/[table.cpp](#)

7.17 glldb::TableField Class Reference

Database table field class.

```
#include <tablefield.h>
```

Collaboration diagram for glldb::TableField:



Public Member Functions

- [TableField](#) (const char *data)
*Constructor accepting `const char * data`.*
- [TableField](#) (const std::string &data)
Constructor accepting `std::string data`.
- [~TableField](#) ()
- [size_t length](#) () const
Returns the length of the field.
- [operator std::string](#) () const
Overridden conversion operator.
- [TableField](#) & [operator=](#) (const char *data)
*Overridden assignment operator for `const char *`.*
- [TableField](#) & [operator=](#) (const std::string &data)
Overridden assignment operator for `std::string`.
- char & [operator\[\]](#) (const size_t idx)
Overridden index operator.

- `const char & operator[]` (`const size_t idx`) `const`
Overridden index operator.
- `TableField & operator+=` (`const char &c`)
Overridden compound assignment operator.
- `TableField & operator+=` (`const std::string &data`)
Overridden compound assignment operator.

Private Attributes

- `std::string m_data`

Friends

- `std::ostream & operator<<` (`std::ostream &out`, `const TableField &field`)
Overridden << operator for printing a field.

7.17.1 Detailed Description

Database table field class.

7.17.2 Constructor & Destructor Documentation

7.17.2.1 `TableField::TableField (const char * data)` `[explicit]`

Constructor accepting `const char * data`.

Parameters

<code>data</code>	The initial contents of the field.
-------------------	------------------------------------

7.17.2.2 `TableField::TableField (const std::string & data)` `[explicit]`

Constructor accepting `std::string data`.

Parameters

<code>data</code>	The initial contents of the field.
-------------------	------------------------------------

7.17.2.3 `TableField::~~TableField ()`

Destructor

7.17.3 Member Function Documentation

7.17.3.1 `size_t TableField::length () const`

Returns the length of the field.

Returns

The length of the field.

7.17.3.2 TableField::operator std::string () const

Overridden conversion operator.

Returns the field contents as a string.

7.17.3.3 TableField & TableField::operator+= (const char & c)

Overridden compound assignment operator.

Parameters

<i>c</i>	The character to append to the field.
----------	---------------------------------------

Returns

A reference to the same field.

7.17.3.4 TableField & TableField::operator+= (const std::string & data)

Overridden compound assignment operator.

Parameters

<i>data</i>	The string to append to the field.
-------------	------------------------------------

Returns

A reference to the same field.

7.17.3.5 TableField & TableField::operator= (const char * data)

Overridden assignment operator for `const char *`.

Parameters

<i>data</i>	The new contents of the field.
-------------	--------------------------------

Returns

A reference to the same field.

7.17.3.6 TableField & TableField::operator= (const std::string & data)

Overridden assignment operator for `std::string`.

Parameters

<i>data</i>	The new contents of the field.
-------------	--------------------------------

Returns

A reference to the same field.

7.17.3.7 char & TableField::operator[] (const size_t *idx*)

Overridden index operator.

Parameters

<i>idx</i>	The desired index.
------------	--------------------

Returns

A reference to the character at the specified index.

7.17.3.8 const char & TableField::operator[] (const size_t *idx*) const

Overridden index operator.

Parameters

<i>idx</i>	The desired index.
------------	--------------------

Returns

A const reference to the character at the specified index.

7.17.4 Friends And Related Function Documentation**7.17.4.1 std::ostream& operator<< (std::ostream & *out*, const TableField & *field*) [friend]**

Overridden << operator for printing a field.

Parameters

<i>out</i>	The ostream to which to print.
<i>field</i>	A reference to the field.

Returns

A reference to *out*.

7.17.5 Member Data Documentation**7.17.5.1 std::string glldb::TableField::m_data [private]**

The field contents

The documentation for this class was generated from the following files:

- lib/database/[tablefield.h](#)
- lib/database/[tablefield.cpp](#)

7.18 glldb::TableRow Class Reference

Database table row class.

```
#include <tablerow.h>
```

Public Member Functions

- [TableRow](#) ()
- [TableRow](#) (const size_t [size](#))
Constructor with initial number of fields.
- [~TableRow](#) ()
- size_t [size](#) () const
Returns the number of fields.
- [TableField](#) & [operator\[\]](#) (const size_t idx)
Overridden index operator.
- const [TableField](#) & [operator\[\]](#) (const size_t idx) const
Overridden index operator.
- void [append_field](#) (const char *new_field)
Appends a field to the row.
- void [append_field](#) (const std::string &new_field)
Appends a field to the row.
- void [append_field](#) (const [TableField](#) &new_field)
Appends a field to the row.
- void [print](#) (std::ostream &stream) const
Prints a row.

Private Attributes

- std::vector< [TableField](#) > [m_fields](#)

7.18.1 Detailed Description

Database table row class.

7.18.2 Constructor & Destructor Documentation

7.18.2.1 TableRow::TableRow ()

Default constructor

7.18.2.2 TableRow::TableRow (const size_t [size](#)) [explicit]

Constructor with initial number of fields.

Parameters

size	The initial number of fields.
----------------------	-------------------------------

7.18.2.3 TableRow::~~TableRow ()

Destructor

7.18.3 Member Function Documentation

7.18.3.1 void TableRow::append_field (const char * *new_field*)

Appends a field to the row.

Parameters

<i>new_field</i>	The contents of the new field.
------------------	--------------------------------

7.18.3.2 void TableRow::append_field (const std::string & *new_field*)

Appends a field to the row.

Parameters

<i>new_field</i>	The contents of the new field.
------------------	--------------------------------

7.18.3.3 void TableRow::append_field (const TableField & *new_field*)

Appends a field to the row.

Parameters

<i>new_field</i>	A field from which to copy.
------------------	-----------------------------

7.18.3.4 TableField & TableRow::operator[] (const size_t *idx*)

Overridden index operator.

Parameters

<i>idx</i>	The zero-based index of the field.
------------	------------------------------------

Returns

A reference to the field at the specified index.

7.18.3.5 const TableField & TableRow::operator[] (const size_t *idx*) const

Overridden index operator.

Parameters

<i>idx</i>	The zero-based index of the field.
------------	------------------------------------

Returns

A const reference to the field at the specified index.

7.18.3.6 void TableRow::print (std::ostream & *stream*) const

Prints a row.

Parameters

<i>stream</i>	The ostream to which to print.
---------------	--------------------------------

7.18.3.7 size_t TableRow::size () const

Returns the number of fields.

Returns

The number of fields.

7.18.4 Member Data Documentation

7.18.4.1 std::vector<TableField> glldb::TableRow::m_fields [private]

A vector of fields

The documentation for this class was generated from the following files:

- lib/database/[tablerow.h](#)
- lib/database/[tablerow.cpp](#)

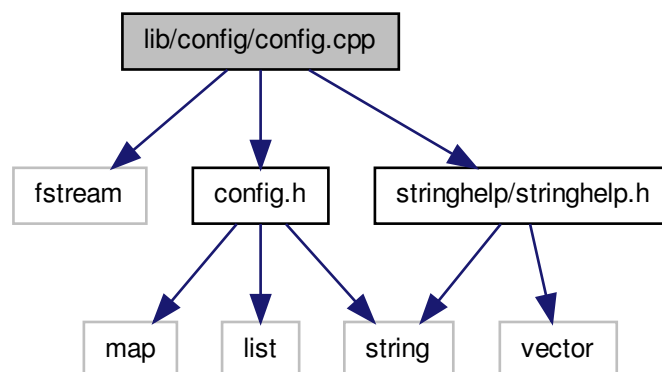
Chapter 8

File Documentation

8.1 lib/config/config.cpp File Reference

Implementation of program configurations class.

```
#include <fstream>
#include "config.h"
#include "stringhelp/stringhelp.h"
Include dependency graph for config.cpp:
```



8.1.1 Detailed Description

Implementation of program configurations class.

Author

Paul Griffiths

Copyright

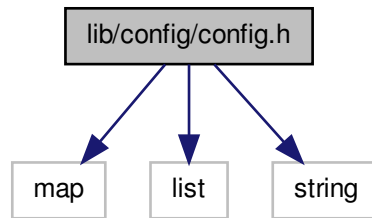
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8.2 lib/config/config.h File Reference

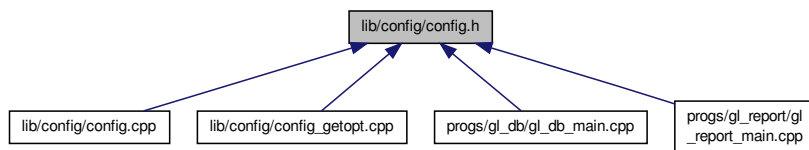
Interface to program configurations class.

```
#include <map>
#include <list>
#include <string>
```

Include dependency graph for config.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [genleg::ConfigException](#)
Configuration module exception base class.
- class [genleg::ConfigOptionNotSet](#)
Exception class for option not set.
- class [genleg::ConfigBadOption](#)
Exception class for bad provided option.
- class [genleg::ConfigCouldNotOpenFile](#)
Exception class for when conf file cannot be opened.
- class [genleg::ConfigBadConfigFile](#)
Exception class for badly formed configuration file.
- class [genleg::Config](#)
Configuration options class.

Enumerations

- enum [genleg::Argument](#)
Enumeration class for option argument specifications.

8.2.1 Detailed Description

Interface to program configurations class.

Author

Paul Griffiths

Copyright

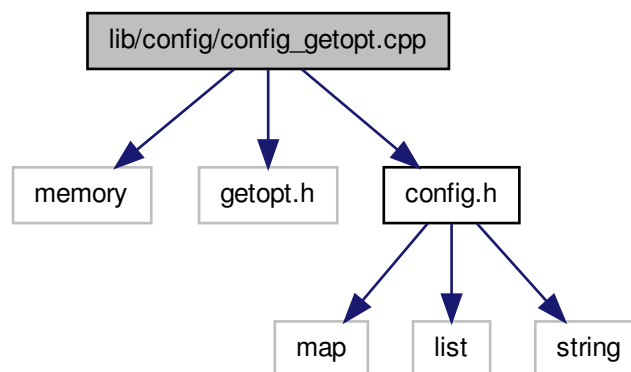
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8.3 lib/config/config_getopt.cpp File Reference

Implementation of command line functionality.

```
#include <memory>
#include <getopt.h>
#include "config.h"
```

Include dependency graph for config_getopt.cpp:



Macros

- `#define _XOPEN_SOURCE 600`

8.3.1 Detailed Description

Implementation of command line functionality. Included in separate file to isolate usage of non-standard getopt library.

Author

Paul Griffiths

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8.3.2 Macro Definition Documentation

8.3.2.1 `#define _XOPEN_SOURCE 600`

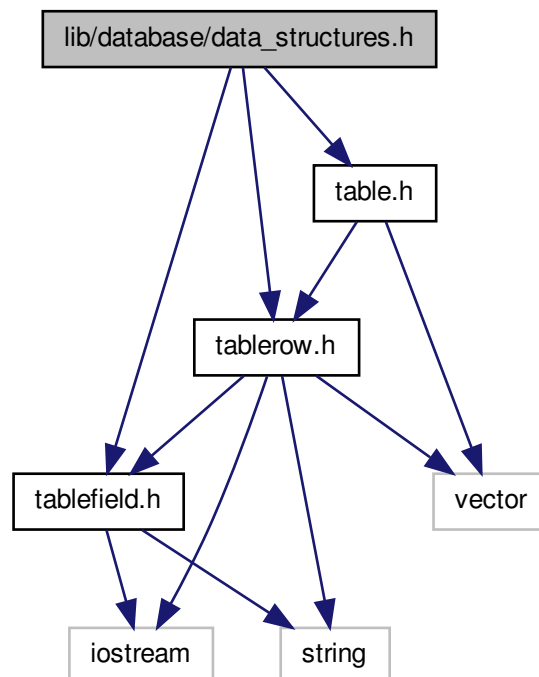
UNIX feature test macro for getopt library

8.4 `lib/database/data_structures.h` File Reference

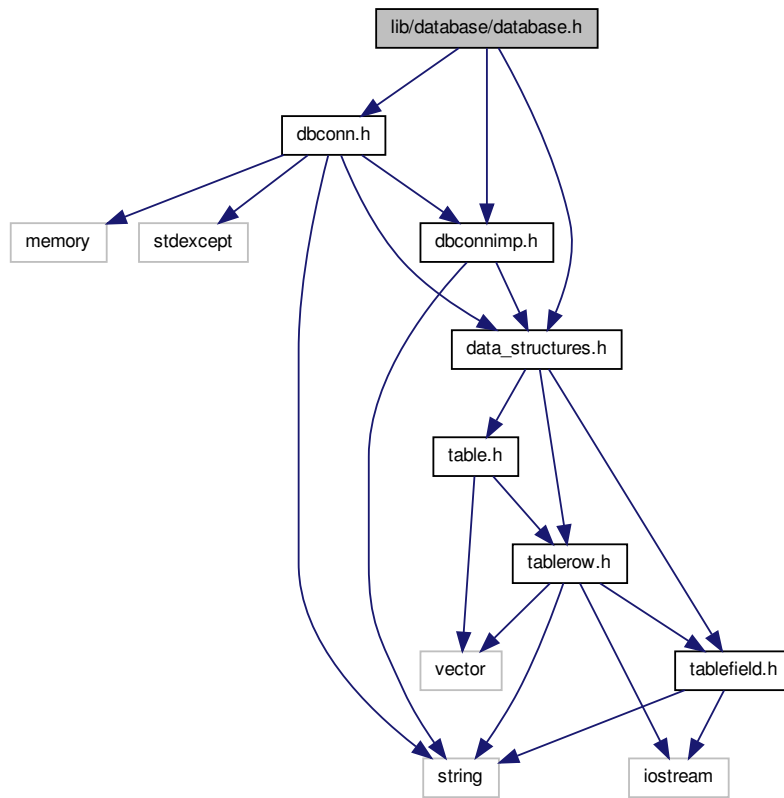
Main interface to database data structures.

```
#include "tablefield.h"  
#include "tablerow.h"  
#include "table.h"
```

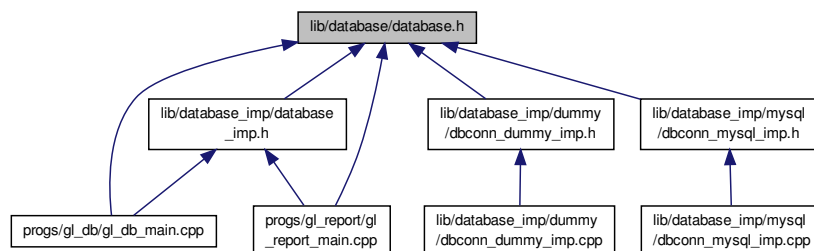
Include dependency graph for `data_structures.h`:



Include dependency graph for database.h:



This graph shows which files directly or indirectly include this file:



8.5.1 Detailed Description

User interface to database functionality.

Author

Paul Griffiths

Copyright

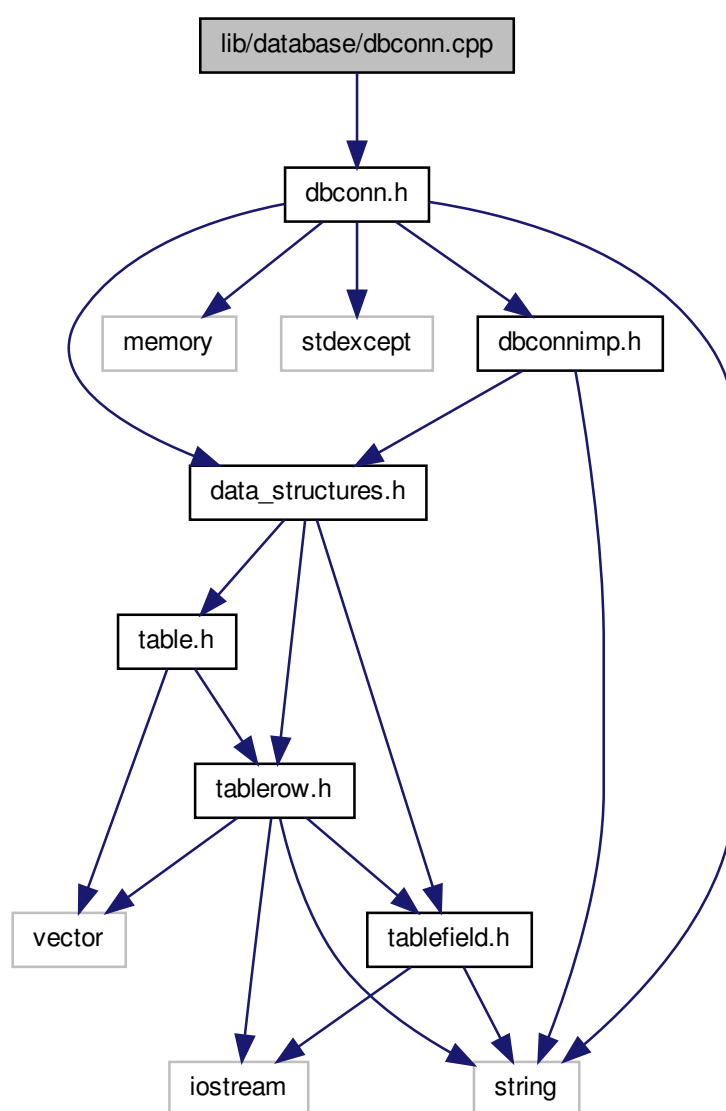
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8.6 lib/database/dbconn.cpp File Reference

Implementation of database connection class.

```
#include "dbconn.h"
```

Include dependency graph for dbconn.cpp:



8.6.1 Detailed Description

Implementation of database connection class.

Author

Paul Griffiths

Copyright

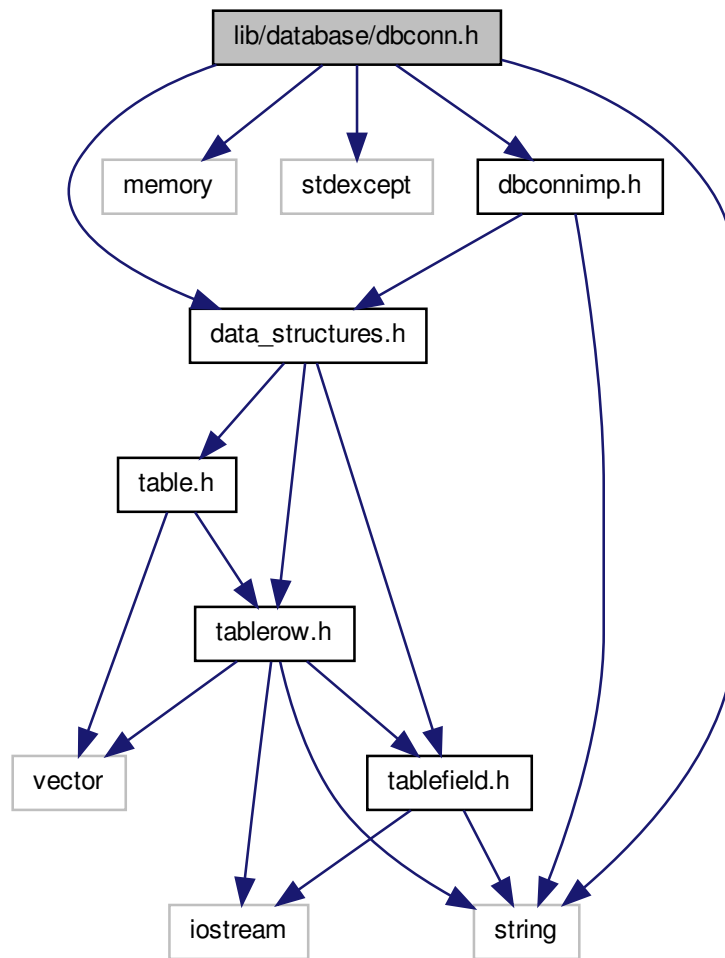
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8.7 lib/database/dbconn.h File Reference

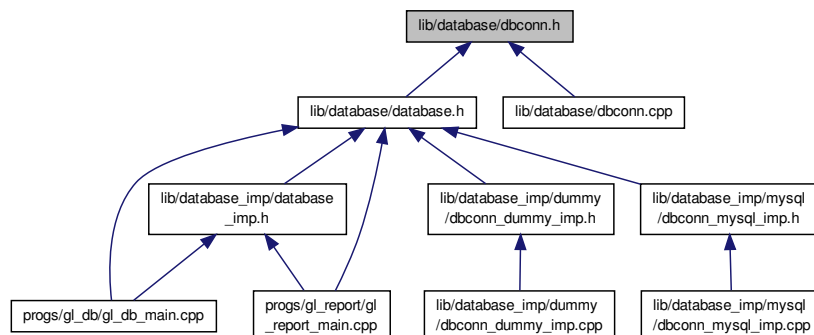
Interface to database connection base class.

```
#include <string>
#include <memory>
#include <stdexcept>
#include "data_structures.h"
#include "dbconnimp.h"
```

Include dependency graph for dbconn.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [gldb::DBConnException](#)

Base database connection exception class.

- class [gldb::DBConnCouldNotConnect](#)

Could not connect to database exception class.

- class [gldb::DBConnCouldNotQuery](#)

Could not execute database query exception class.

- class [gldb::DBConn](#)

Database connection class.

8.7.1 Detailed Description

Interface to database connection base class.

Author

Paul Griffiths

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8.8 lib/database/dbconnimp.h File Reference

Interface to abstract database implementation base class.

```
#include <string>
#include "data_structures.h"
```


Classes

- class `gldb::DBConnImp`

Abstract database implementation base class.

8.8.1 Detailed Description

Interface to abstract database implementation base class.

Author

Paul Griffiths

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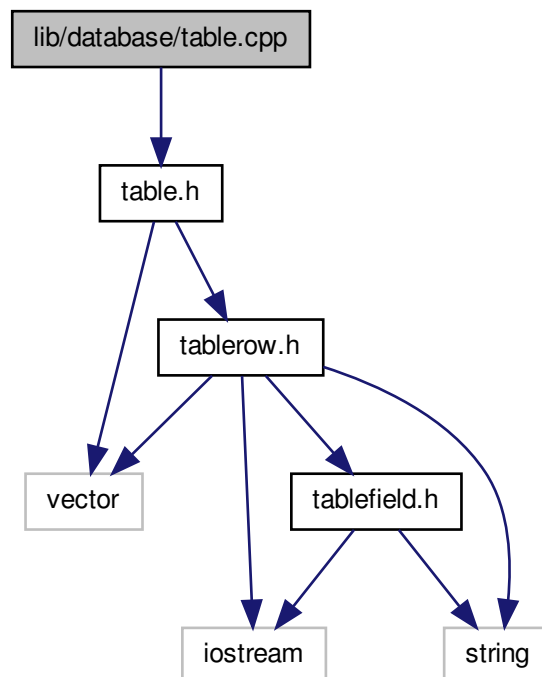
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8.9 lib/database/table.cpp File Reference

Implementation of database table data structure.

```
#include "table.h"
```

Include dependency graph for table.cpp:



8.9.1 Detailed Description

Implementation of database table data structure.

Author

Paul Griffiths

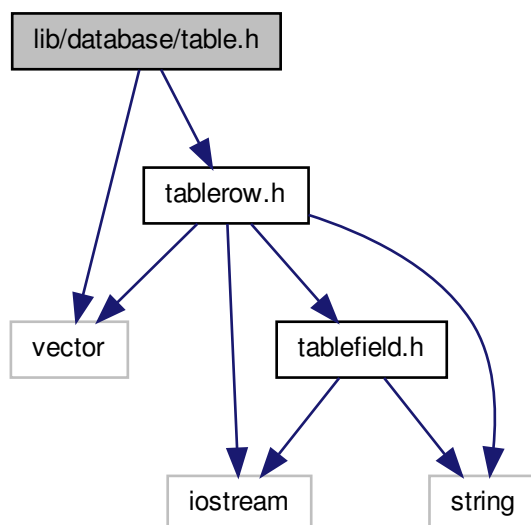
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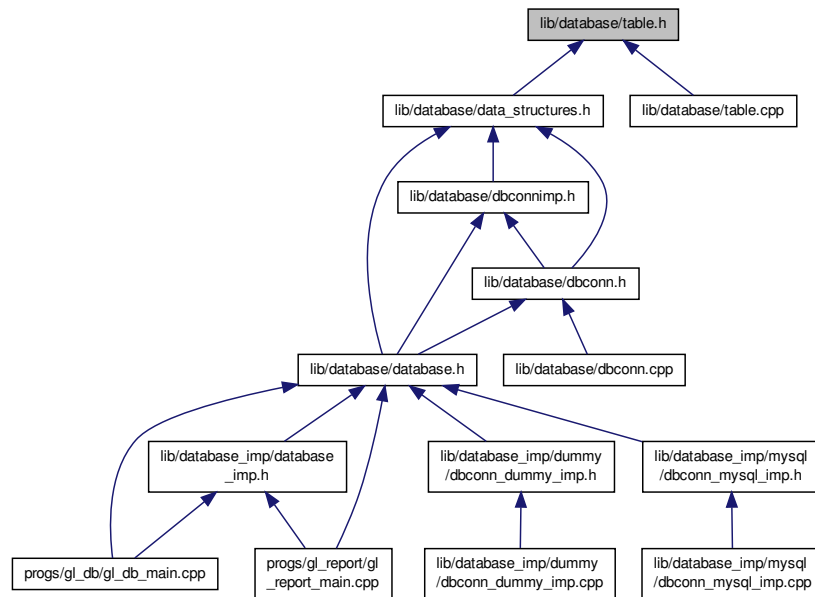
8.10 lib/database/table.h File Reference

Interface to database table data structure.

```
#include <vector>
#include "tablerow.h"
Include dependency graph for table.h:
```



This graph shows which files directly or indirectly include this file:



Classes

- class `gldb::Table`

Database table class.

8.10.1 Detailed Description

Interface to database table data structure.

Author

Paul Griffiths

Copyright

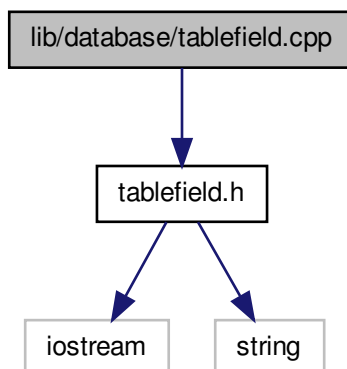
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8.11 lib/database/tablefield.cpp File Reference

Implementation of database table field class.

```
#include "tablefield.h"
```

Include dependency graph for tablefield.cpp:



8.11.1 Detailed Description

Implementation of database table field class.

Author

Paul Griffiths

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8.12 lib/database/tablefield.h File Reference

Interface to database table field class.

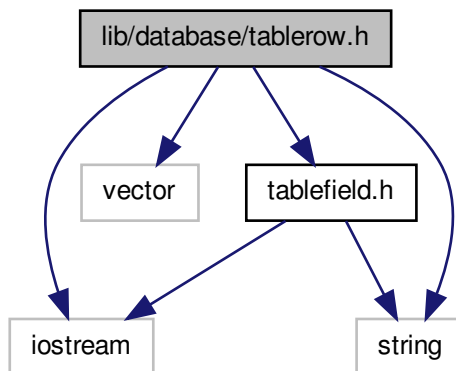
```
#include <iostream>
#include <string>
```


8.14 lib/database/tablerow.h File Reference

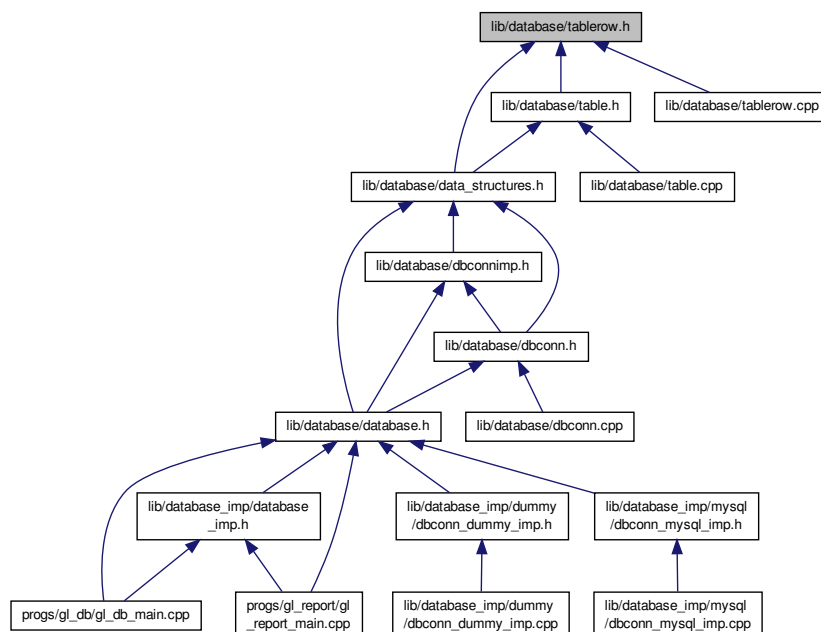
Interface to database table row data structure.

```
#include <iostream>
#include <vector>
#include <string>
#include "tablefield.h"
```

Include dependency graph for tablerow.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [gldb::TableRow](#)

Database table row class.

8.14.1 Detailed Description

Interface to database table row data structure.

Author

Paul Griffiths

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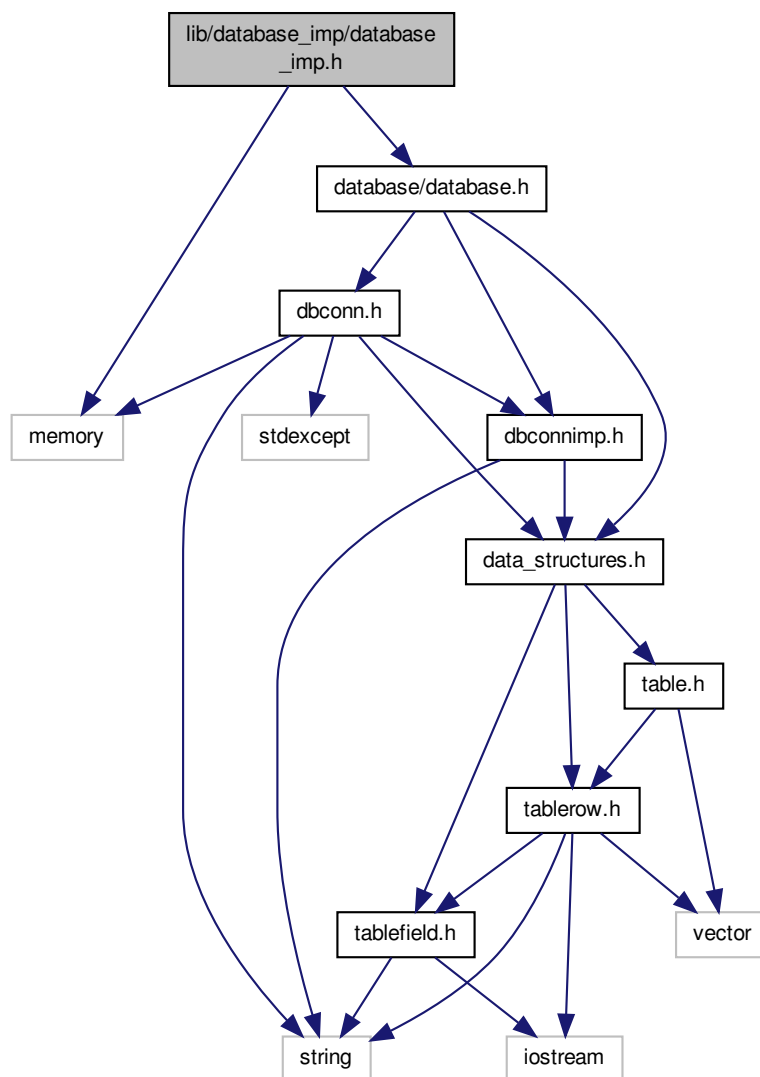
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8.15 lib/database_imp/database_imp.h File Reference

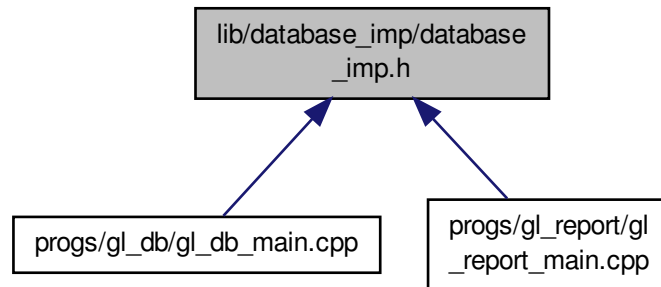
Interface to database implementation factory function.

```
#include <memory>
#include "database/database.h"
```

Include dependency graph for database_imp.h:



This graph shows which files directly or indirectly include this file:



Functions

- `DBConnImp * glldb::get_connection` (const std::string database, const std::string hostname, const std::string username, const std::string password)

Creates and returns a pointer to a database implementation.

- `std::string glldb::get_database_type` ()

Returns the name of the compiled-in database type.

8.15.1 Detailed Description

Interface to database implementation factory function.

Author

Paul Griffiths

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8.16 lib/database_imp/dummy/dbconn_dummy_imp.cpp File Reference

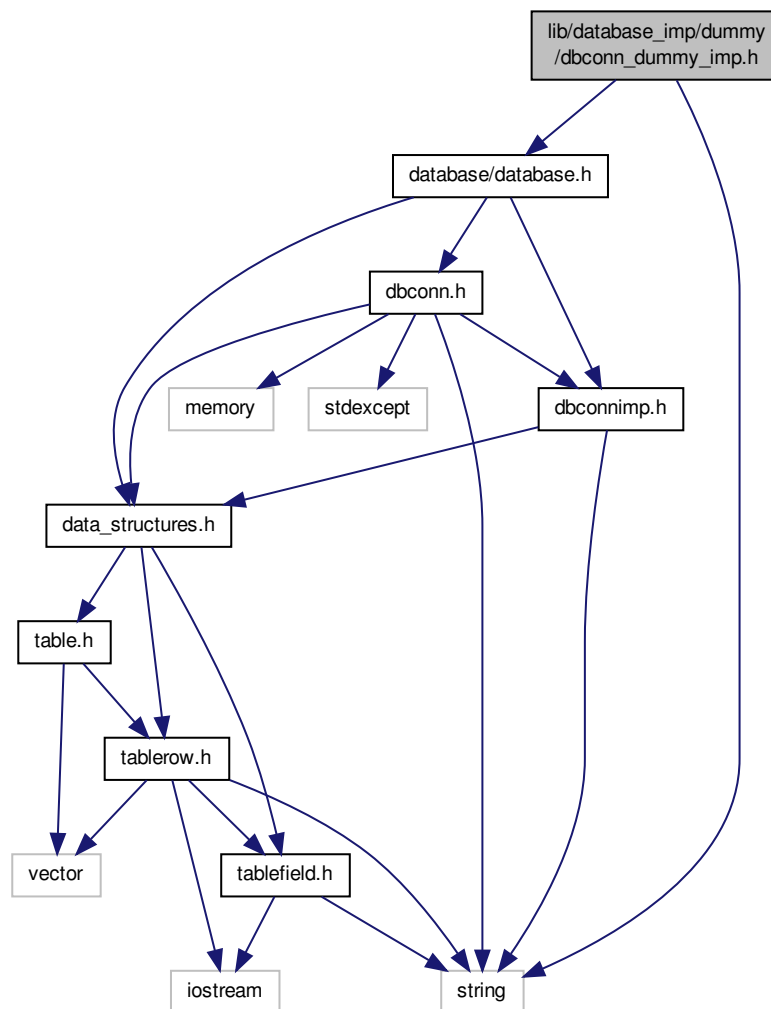
Implementation of Dummy database connection implementation class.

```
#include <sstream>
#include "dbconn_dummy_imp.h"
```

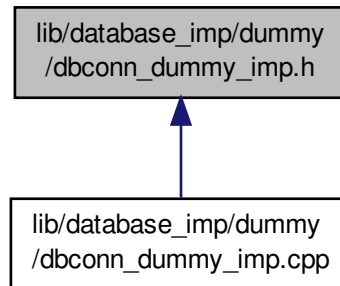

8.17 lib/database_imp/dummy/dbconn_dummy_imp.h File Reference

Interface to dummy database connection implementation class.

```
#include <string>
#include "database/database.h"
Include dependency graph for dbconn_dummy_imp.h:
```



This graph shows which files directly or indirectly include this file:



Classes

- class [gldb::DBConnDummy](#)

Dummy database implementation class.

8.17.1 Detailed Description

Interface to dummy database connection implementation class.

Author

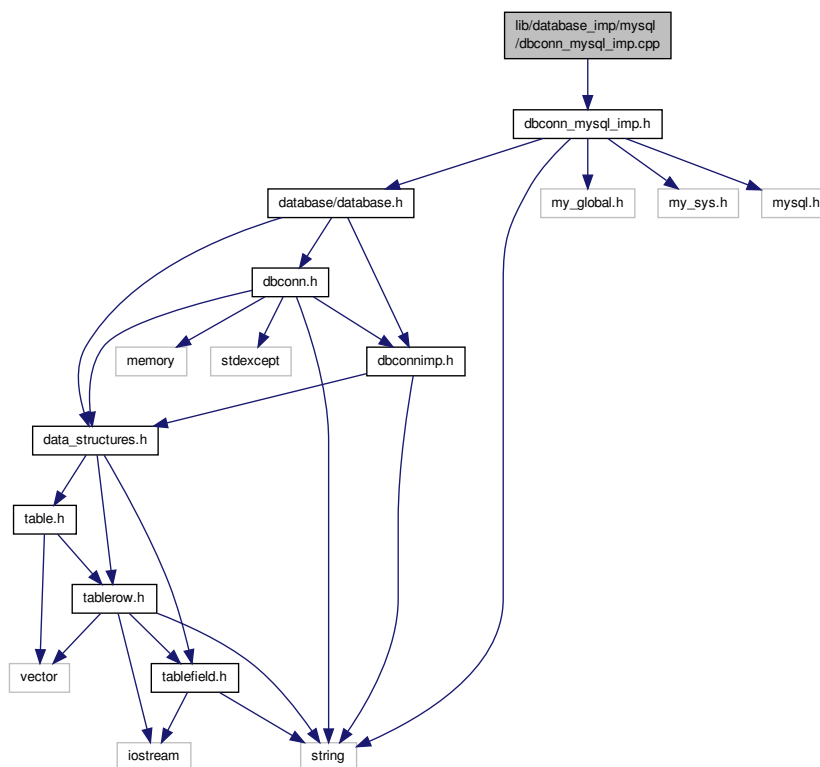
Paul Griffiths

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Implementation of MySQL database connection implementation class.

```
#include "dbconn_mysql_imp.h"
```

Include dependency graph for dbconn_mysql_imp.cpp:



Implementation of MySQL database connection implementation class.

Paul Griffiths

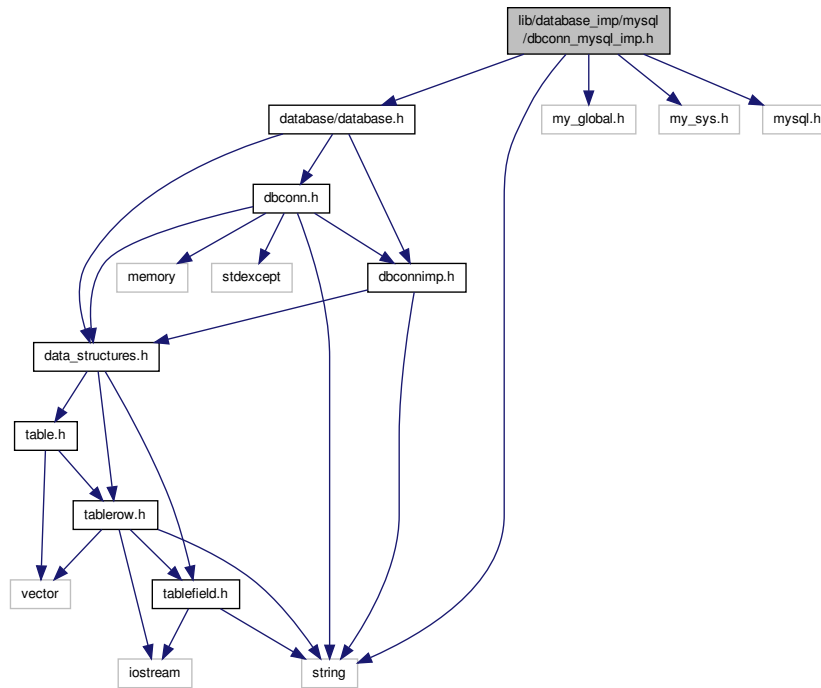
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8.19 lib/database_imp/mysql/dbconn_mysql_imp.h File Reference

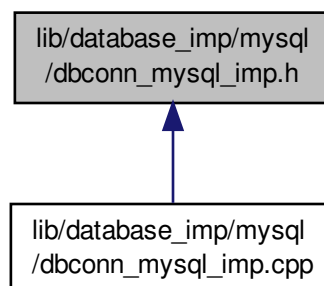
Interface to MySQL database connection implementation class.

```
#include <string>
#include "database/database.h"
#include <my_global.h>
#include <my_sys.h>
#include <mysql.h>
```

Include dependency graph for dbconn_mysql_imp.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [gldb::DBConnMySQL](#)

MySQL database implementation class.

8.19.1 Detailed Description

Interface to MySQL database connection implementation class.

Author

Paul Griffiths

Copyright

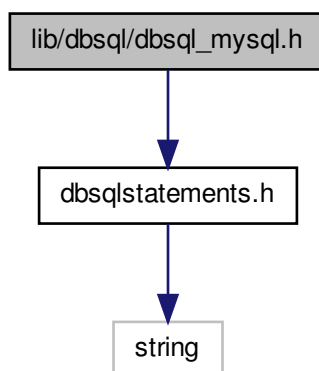
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8.20 lib/dbsql/dbsql_mysql.h File Reference

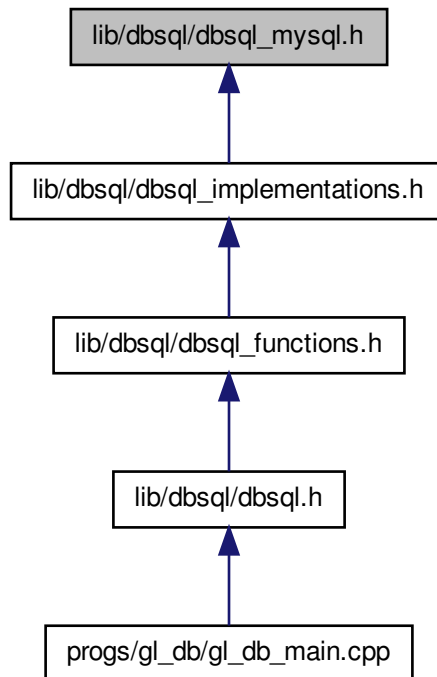
Interface to MySQL SQL statement class.

```
#include "dbsqlstatements.h"
```

Include dependency graph for `dbsql_mysql.h`:



This graph shows which files directly or indirectly include this file:



Classes

- class [genleg::DBSQLMySQL](#)
MySQL SQL statements class.

8.20.1 Detailed Description

Interface to MySQL SQL statement class. Interface to MySQL SQL statement class

Author

Paul Griffiths

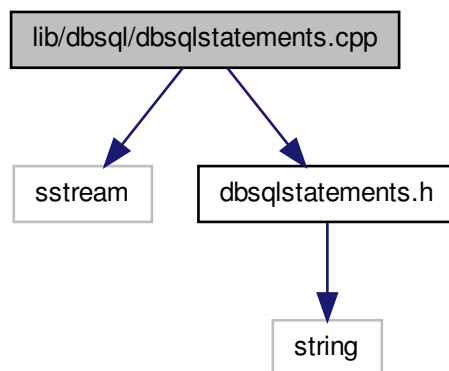
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8.21 lib/dbsql/dbsqlstatements.cpp File Reference

Implementation of SQL statement class.

```
#include <sstream>
#include "dbsqlstatements.h"
Include dependency graph for dbsqlstatements.cpp:
```



8.21.1 Detailed Description

Implementation of SQL statement class. Implementation of SQL statement class

Author

Paul Griffiths

Copyright

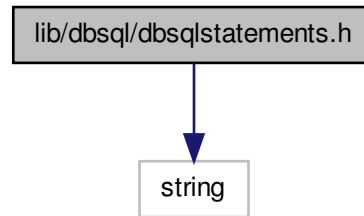
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8.22 lib/dbsql/dbsqlstatements.h File Reference

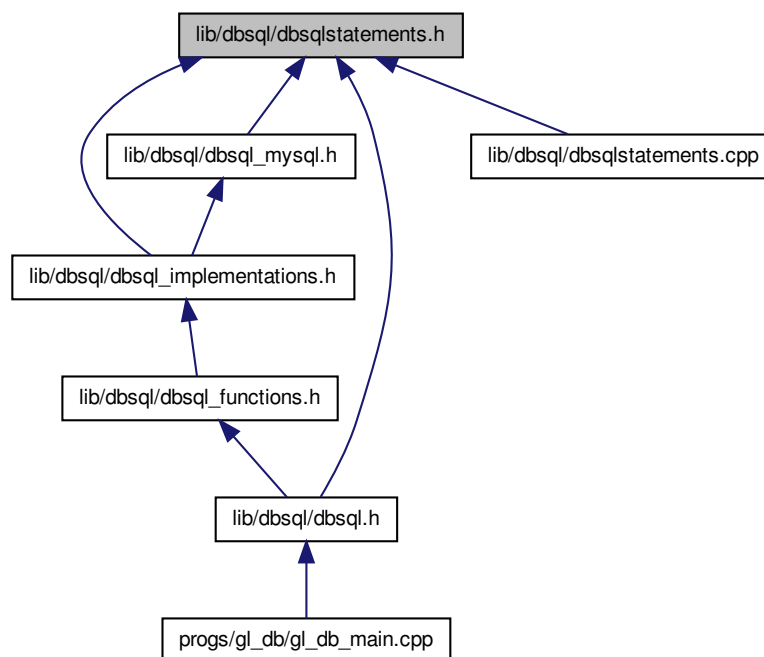
Interface to SQL statement class.

```
#include <string>
```

Include dependency graph for dbsqlstatements.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [genleg::DBSQLStatements](#)
SQL statements class.

8.22.1 Detailed Description

Interface to SQL statement class.

Author

Paul Griffiths

Copyright

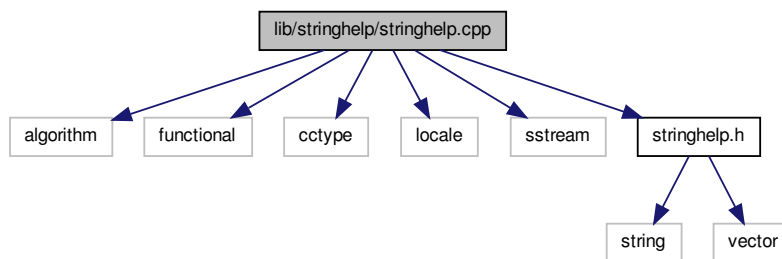
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8.23 lib/stringhelp/stringhelp.cpp File Reference

Implementation of string helper functions.

```
#include <algorithm>
#include <functional>
#include <cctype>
#include <locale>
#include <sstream>
#include "stringhelp.h"
```

Include dependency graph for stringhelp.cpp:



8.23.1 Detailed Description

Implementation of string helper functions.

Author

Paul Griffiths

Copyright

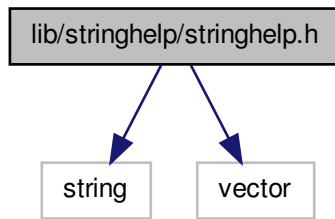
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8.24 lib/stringhelp/stringhelp.h File Reference

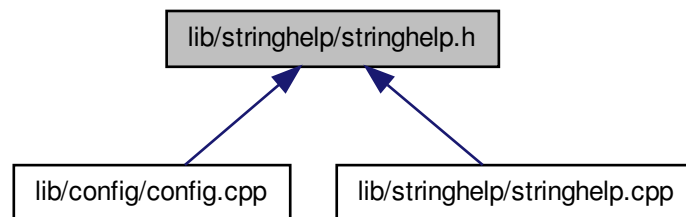
Interface to string helper functions.

```
#include <string>
#include <vector>
```

Include dependency graph for stringhelp.h:



This graph shows which files directly or indirectly include this file:



Functions

- `std::string & pgstring::trim_front (std::string &s)`
Trims leading whitespace from a string.
- `std::string & pgstring::trim_back (std::string &s)`
Trims trailing whitespace from a string.
- `std::string & pgstring::trim (std::string &s)`
Trims leading and trailing whitespace from a string.
- `std::vector< std::string > pgstring::split (const std::string &s, const char delim)`
Splits a delimited string into tokens.

8.24.1 Detailed Description

Interface to string helper functions.

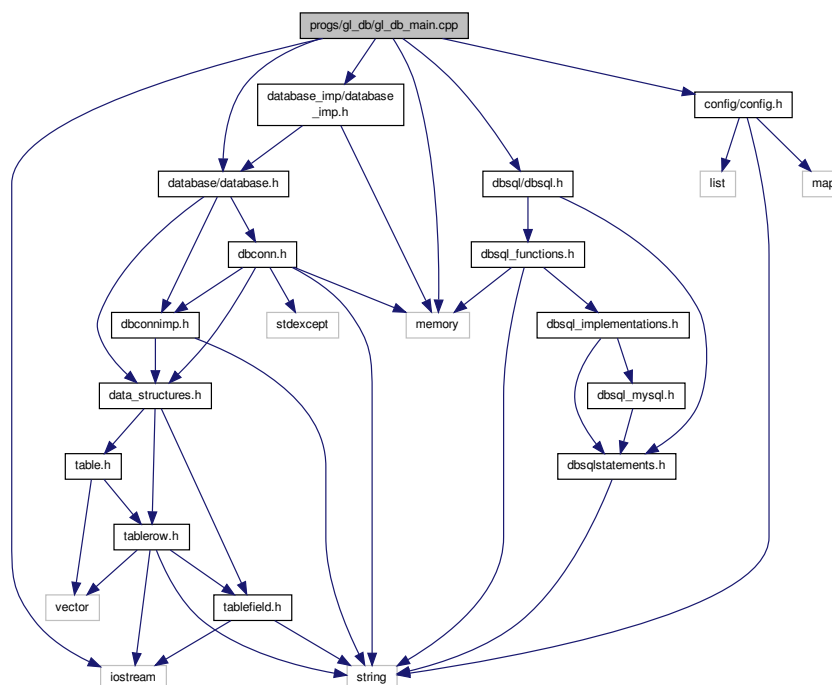
Author

Paul Griffiths

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Main functionality for gl_db program.

```
#include <iostream>
#include <memory>
#include "database/database.h"
#include "database_imp/database_imp.h"
#include "dbsql/dbsql.h"
#include "config/config.h"
Include dependency graph for gl_db_main.cpp:
```



- static void `Config` (`Config` &config, int argc, char *argv[])
Sets program configuration options.
- static void `print_usage_message` ()
Prints a program usage message.
- static void `print_version_message` ()
Prints a program version message.
- static void `print_help_message` ()
Prints a program help message.
- static std::string `login` (void)
Gets a password from the terminal.

- `int main (int argc, char *argv[])`

Main function.

Variables

- `static const char * proptime = "gl_db"`

Static variable for program name.

8.25.1 Detailed Description

Main functionality for gl_db program.

Author

Paul Griffiths

Copyright

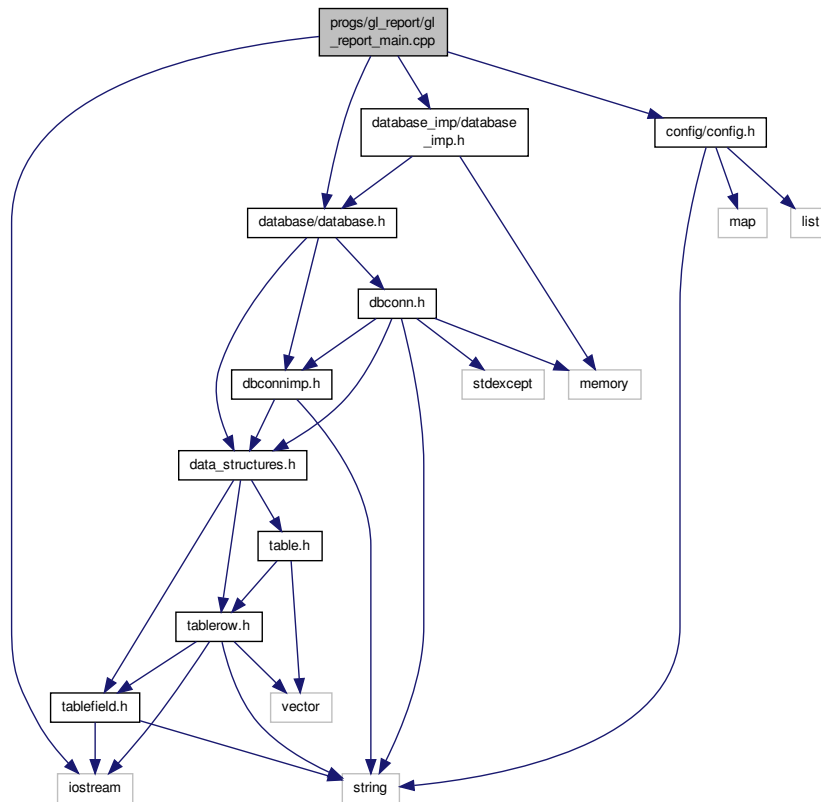
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8.26 progs/gl_report/gl_report_main.cpp File Reference

Main functionality for gl_report program.

```
#include <iostream>
#include "database/database.h"
#include "database_imp/database_imp.h"
#include "config/config.h"
```


Include dependency graph for gl_report_main.cpp:



Functions

- static void [set_configuration](#) ([genleg::Config](#) &config, int argc, char *argv[])
Sets program configuration options.
- static void [print_usage_message](#) ()
Prints a program usage message.
- static void [print_version_message](#) ()
Prints a program version message.
- static void [print_help_message](#) ()
Prints a program help message.
- static std::string [login](#) (void)
Gets a password from the terminal.
- int [main](#) (int argc, char *argv[])
Main function.

Variables

- static const char * [progrname](#) = "gl_report"
Static variable for program name.

8.26.1 Detailed Description

Main functionality for gl_report program.

Author

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