VDBL (Vienna Database Library)

Version 1.0

Reference Manual

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Contents

1 Introduction

The Vienna Database Library (VDBL) is a in-memory database developed with generic programming in mind. It uses STL containers like `map` and `vector` to organize its internal structure. It structure is designed in such a way that the in-memory structure can be mixed with standard SQL databases.

Databases in the VDBL consist of tables, which are constructed from columns and rows as ordinary relational databases.

Columns can take arbitrary types, and their values need not be constant. Using function objects, called *methods*, the column values can change according to an *evaluation context*.

It is possible to construct *views* onto the tables of a database.

1.0.1 Database

A VDBL database consists of a number of tables which can be dynamically constructed, changed and destroyed. Every table (see Section Tables) has a unique **name** (a `std::string`) and a unique **table id**, which is used for organizing the internal structure.

There is a general table interface defined in `class table`, which defines the minimal functionality needed for implementing a VDBL table. The structure is defined in such a way that `SQL` interfaces could be written, as well as tables which keep all their data in memory.

In addition to tables, the database knows of *users*. There are access control lists (at the moment not fully implemented) for restricting the access of users to the tables on a global and a column-wise base. The users are defined in the `class user`.

Users can construct **views** onto tables (see Section Views). These views can restrict a table to a subset of columns and/or rows. Also, additional rows can be defined for a view, and it is even possible to *join* various tables into one view. All views onto tables are constructed within a prespecified *context* (see Section Contexts). Using this mechanism, columns can change their value automatically according to the evaluation context. This is, e.g., useful in the COCONUT project for organizing points, where some of the properties change from work node to work node, like whether the point is feasible or not.

1.0.2 Tables

A VDBL table consists of a number of columns and rows. The definition of a table is always done by specifying its columns (see Section Columns). The type of the columns value, which can be any C++ type, is fixed upon creating the column. This can be done dynamically, like modifying and removing. Optionally, for each column a *default value* can be given (this default value may also change w.r.t.\ the evaluation context). All columns within a table have a **name** (a `std::string`) and a **column id**, which is used for organizing the column structure of the table internally. A column of a table can be accessed by specifying its name or, equivalently, its column id.

In addition to the column structure, which determines the outline of the table, the table's data is organized in **rows** (see Section Rows). Every row has a **row id**, which is used for internal organization. Rows themselves consist of columns. When creating a new row, strict type checking is done between the row's column entries and the column type stored in the table. Column entries of a row can be left out, if a default value for the column is specified in the table definition.

It is possible to implement differently organized tables, as long as they are subclasses of the `class table`.

Implemented are two table subclasses:

- **Standard Table:** A table which keeps all data in memory, internally organized as STL maps (`vdbl::standard_table`).
- **View Table:** A table which is constructed from an arbitrary view using the view's internal structure to organize the data (`vdbl::view_table`).

1.0.3 Columns

VDBL columns are built in a very complicated way using three classes on top of each other, making it possible that arbitrary C++ types can be stored in a column.

There are two main column classes implemented:

- `typed_col`**:** This column holds constant values of arbitrary types. Their values are independent of the evaluation context (`class vdbl::typed_ol<_T>`).
- `method_col`**:** A column of this type holds data, whose value is computed whenever it is retrieved and may depend on the evaluation context (`vdbl::method_col<_T>`). Instead of holding data, its contents are function objects (methods), which are subclasses of `class vdbl::method<_T>`. These function objects are used to calculate the column value.

Within a table different column types can be mixed within different rows and the default value, as long as their content types (strict run-time type checking) coincide.

1.0.4 Rows

The VDBL rows (`class vdbl::row`) are internally defined as STL maps of columns, organized with **column id** keys and column entries.

In principle, different types of rows could be defined, but at the moment only standard rows are implemented.

Every row contains a number of columns, whose values can be retrieved within an evaluation context (see Section Contexts). The column type within a row is arbitrary. If you want to make sure, that type checking is used, you have to change the rows through the table methods.

1.0.5 Views

A **view** (`class vdbl::view_base`) onto a table is table-like construct built from table structures. They may be restricted to a subset of the rows and/or columns of the table.

The most important properties of a view is that it is always created within a given context (see Section Contexts). The contents of the view can vary depending on this context. Two different views to the same table can at the same time show different data in the same column of the same row.

Two different classes of views have been implemented:

- **Standard View:** This view (of `class vdbl::view`) is constructed over **one** table, and it can only be restricted to subsets of rows and columns of this table.
- **Hierarchical View:** A hierarchical view (in `class vdbl::hierarchical_view`) looks onto a **stack of tables**, the top ones "overlaying" the lower ones. This makes it possible to have, e.g., a globally valid table on bottom and a stack of locally valid tables on top of them.

Some views can hold an internal **cache** of table entries, which are used for fast access, reducing the number of calls to function objects within columns.

1.0.6 View Database

A **view database** is a view onto a complete database, automatically constructing views (standard or hierarchical) for every table defined in the database. These views can be accessed under the same names as the defining tables, having a subset of their columns (also with identical names). The defining class is `vdbl::viewdbase`.

1.0.7 Contexts

Evaluation contexts are subclasses of `class vdbl::context`. They may hold arbitrary data and are keeping a `const vdbl::table *` to their associated table.

This context is passed to every function object along with the row the column belongs to for constructing the columns value. The contexts have no influence on `typed_col` columns, whose values don't change within different contexts.

2 Vienna Database Library Module Index

2.1 Vienna Database Library Modules

Here is a list of all modules:

3 Vienna Database Library Hierarchical Index

3.1 Vienna Database Library Class Hierarchy

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

4 Vienna Database Library Compound Index

4.1 Vienna Database Library Compound List

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

5 Vienna Database Library File Index

5.1 Vienna Database Library File List

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

6 Vienna Database Library Module Documentation

6.1 Classes and types for external use

Compounds

- class alltype
  The templated alltype class.
- class col_base
  column base class
- class col_spec
  column specification
- class database
  the database class
- class hierarchical_view
  hierarchical view class onto a stack of tables
- class method
  base class for methods usable in `method` *columns.*
- class method_col
  external name for computed columns
- class row
  class implementing table rows
- class standard_table

standard table of a database

- class table
  base class for tables in a database
- class typed_col
  external name for constant data columns
- class view
  standard view class onto a single table
- class viewdbase
  a view to a complete database

Typedefs

- typedef _VDBL_date date
  the date type
- typedef _VDBL_dateinterval dateinterval
  the dateinterval type
- typedef _VDBL_mixtype mixtype
  a mixed type of various scalars and vectors
- typedef _VDBL_alltype_base alltype_base
  the base class of the alltype
- typedef _VDBL_col col
  the column class
- typedef _VDBL_stdcol< mixtype > standard_col
  the standard column class with constant `mixtype` *data*
- typedef _VDBL_context context
  evaluation context base class
- typedef _VDBL_userflags userflags
  user flags and permissions
- typedef _VDBL_viewflags viewflags
  view flags and ACLs
- typedef _VDBL_tableflags tableflags
  table flags and ACLs
- typedef _VDBL_aclentry aclentry
  entry in the access control list (ACL)

- typedef _VDBL_acl acl
  ACL for one user.
- typedef _VDBL_userid userid
  user id
- typedef _VDBL_viewid viewid
  view id
- typedef _VDBL_colid colid
  column id
- typedef _VDBL_rowid rowid
  row id
- typedef _VDBL_tableid tableid
  table id
- typedef _VDBL_colflags colflags
  additional column properties

Enumerations

- enum _V_enum
  different view properties

6.1.1 Detailed Description

The classes and types in this section are for external use.

6.1.2 Typedef Documentation

6.1.2.1 typedef _VDBL_acl acl

this is the external name for access control lists

Definition at line 957 of file vdbl_database.h.

6.1.2.2 typedef _VDBL_aclentry aclentry

this is the external name for access control list entries

Definition at line 951 of file vdbl_database.h.

6.1.2.3 typedef _VDBL_alltype_base alltype_base

The base class of the alltype templated classes

Definition at line 596 of file vdbl_alltype.h.

6.1.2.4 typedef _VDBL_col col

this is the external name of the column class

Definition at line 570 of file vdbl_col.h.

6.1.2.5 typedef _VDBL_colflags colflags

This type describes the additional properties of a column in a table.

Definition at line 138 of file vdbl_types.h.

6.1.2.6 typedef _VDBL_colid colid

The column id type

Definition at line 123 of file vdbl_types.h.

6.1.2.7 typedef _VDBL_context context

this is the external name of the base class for context objects

Definition at line 87 of file vdbl_context.h.

6.1.2.8 typedef _VDBL_date date

the 'official' name of the date class

Definition at line 577 of file vdbl_alltype.h.

6.1.2.9 typedef _VDBL_dateinterval dateinterval

the 'official' name of the dateinterval class

Definition at line 583 of file vdbl_alltype.h.

6.1.2.10 typedef _VDBL_mixtype mixtype

the official name of the mixtype class

Definition at line 589 of file vdbl_alltype.h.

6.1.2.11 typedef _VDBL_rowid rowid

The row id type

Definition at line 128 of file vdbl_types.h.

6.1.2.12 typedef _VDBL_stdcol<mixtype> standard_col

the standard column holds constant data of type mixtype

Definition at line 577 of file vdbl_col.h.

6.1.2.13 typedef _VDBL_tableflags tableflags

this is the external name for table flags

Definition at line 944 of file vdbl_database.h.

6.1.2.14 typedef _VDBL_tableid tableid

The table id type

Definition at line 133 of file vdbl_types.h.

6.1.2.15 typedef _VDBL_userflags userflags

this is the external name for user flags

Definition at line 932 of file vdbl_database.h.

6.1.2.16 typedef _VDBL_userid userid

The user id type

Definition at line 113 of file vdbl_types.h.

6.1.2.17 typedef _VDBL_viewflags viewflags

this is the external name for view flags

Definition at line 938 of file vdbl_database.h.

6.1.2.18 typedef _VDBL_viewid viewid

The view id type

Definition at line 118 of file vdbl_types.h.

6.1.3 Enumeration Type Documentation

6.1.3.1 enum _V_enum

This enum describes different view properties. Depending on this type, the view behaves differently.

- V_window: This view looks through to a table. It is possible to change the table contents through the view.
- V_transparent: This view does not change the underlying table. It can be expanded, but changes are not committed to the table
- V_frozen: This view is a constant view to a table. It does not change and cannot be changed.
- V_materialized: The view is the result of a select, and there is not an underlying table
- V_independent: The view is just a temporary collection of rows and columns w/o a table.

Definition at line 65 of file vdbl_view.h.

6.2 Classes and types for internal use

Compounds

- class __VDBL_colbase

  The base class of the internal column structure.

- class _VDBL_acl
  Access control list.
- class _VDBL_aclentry
  entry in the access control list
- class _VDBL_alltype
  The templated class for the all_type class.
- class _VDBL_alltype_base
  The base class for the all_type class.
- class _VDBL_col
  The generic column class (the external structure).
- class _VDBL_colbase
  The type dependent base class of the internal column structure.
- class _VDBL_colflags
  additional table information for a column
- class _VDBL_context
  base class for context objects
- class _VDBL_database
  the database class
- class _VDBL_date
  The VDBL date class.
- class _VDBL_dateinterval
  The VDBL date interval class.
- class _VDBL_hierarchicalview
  hierarchical view class
- class _VDBL_method
  base class for methods usable in `_VDBL_mthdcol` *columns.*
- class _VDBL_mixtype
  mixed type
- class _VDBL_mthdcol
  generic column class for methods
- class _VDBL_row
  row class
- class _VDBL_standardtable

standard table in databases, constructed from rows and columns

- class _VDBL_standardview
  standard view onto **one** *table*
- class _VDBL_stdcol
  generic column class for constant values
- class _VDBL_table
  the base class describing database tables
- class _VDBL_tableflags
  flags for one table
- class _VDBL_userflags
  The permission flags for a user.
- class _VDBL_view
  base class of all views.
- class _VDBL_viewdbase
  a view to a complete database
- class _VDBL_viewflags
  flags for one view

Typedefs

- typedef uint32_t _VDBL_userid
- typedef uint32_t _VDBL_viewid
- typedef uint64_t _VDBL_colid
- typedef uint64_t _VDBL_rowid
- typedef uint32_t _VDBL_tableid

Functions

- template<class _C> std::ostream & print_it (std::ostream &o, const _C &t)

6.2.1 Detailed Description

The classes and types in this section are used VDBL internally.

6.2.2 Typedef Documentation

6.2.2.1 typedef uint64_t _VDBL_colid

The column id type

Definition at line 92 of file vdbl_types.h.

6.2.2.2 typedef uint64_t _VDBL_rowid

The row id type

Definition at line 96 of file vdbl_types.h.

6.2.2.3 typedef uint32_t _VDBL_tableid

The table id type

Definition at line 100 of file vdbl_types.h.

6.2.2.4 typedef uint32_t _VDBL_userid

The user id type

Definition at line 84 of file vdbl_types.h.

6.2.2.5 typedef uint32_t _VDBL_viewid

The view id type

Definition at line 88 of file vdbl_types.h.

6.2.3 Function Documentation

6.2.3.1 template<class _C> std::ostream& print_it (std::ostream & *o*, const _C & *t*) [inline]

This internal function is called from operator<< for columns. This hack was necessary, because a direct call of the operator<< for the class _C did not work properly with g++ 3.2.

Definition at line 54 of file vdbl_col.h.

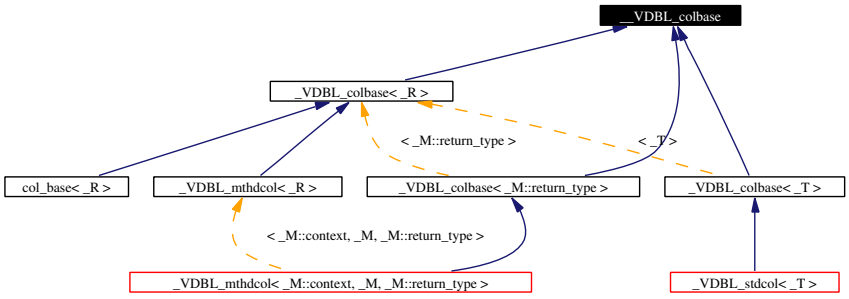
7 Vienna Database Library Class Documentation

7.1 __VDBL_colbase Class Reference

The base class of the internal column structure.

`#include <vdbl_col.h>`

Inheritance diagram for __VDBL_colbase:



Public Methods

- virtual __VDBL_colbase * new_copy () const

- __VDBL_colbase ()
- __VDBL_colbase (const __VDBL_colbase &__v)
- virtual ~__VDBL_colbase ()

7.1.1 Detailed Description

__VDBL_colbase is the base class of all columns. This class defines a few virtual functions needed for all columns independent of their type. Especially important is the overloading trick for the (not overloadable) copy-constructor. This is the type independent part of the column implementation

Definition at line 72 of file vdbl_col.h.

7.1.2 Constructor & Destructor Documentation

7.1.2.1 __VDBL_colbase::__VDBL_colbase () [inline]

Standard constructor, copy constructor, and destructor

Definition at line 79 of file vdbl_col.h.

7.1.2.2 __VDBL_colbase::__VDBL_colbase (const __VDBL_colbase & *__v*) [inline]

Standard constructor, copy constructor, and destructor

Definition at line 80 of file vdbl_col.h.

7.1.2.3 virtual __VDBL_colbase::~__VDBL_colbase () [inline, virtual]

Standard constructor, copy constructor, and destructor

Definition at line 81 of file vdbl_col.h.

7.1.3 Member Function Documentation

7.1.3.1 virtual __VDBL_colbase* __VDBL_colbase::new_copy () const [inline, virtual]

This function is used to overload the copy constructor.

Reimplemented in _VDBL_colbase< _R >, _VDBL_stdcol< _T >, _VDBL_mthdcol< _C, _M, _R >, _VDBL_colbase< _T >, _VDBL_colbase< _M::return_type >, and _VDBL_mthdcol< _M::context, _M, _M::return_type >.

Definition at line 87 of file vdbl_col.h.

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

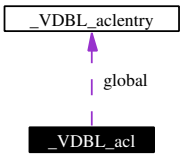
- vdbl_col.h

7.2 _VDBL_acl Class Reference

Access control list.

`#include <vdbl_database.h>`

Collaboration diagram for _VDBL_acl:



Public Methods

- _VDBL_acl (bool _gr=false, bool _ga=false, bool _gw=false, bool _gd=false, bool _gctp=false)
- _VDBL_acl (const _VDBL_acl &_a)
- virtual ~_VDBL_acl ()
- _VDBL_acl & operator= (const _VDBL_acl &__a)

Public Attributes

- _VDBL_aclentry global
- std::map< _VDBL_colid, _VDBL_aclentry > colwise

7.2.1 Detailed Description

This class defines an access control list There is an entry for global access (valid for all columns) and special permissions for various columns

Definition at line 169 of file vdbl_database.h.

7.2.2 Constructor & Destructor Documentation

7.2.2.1 _VDBL_acl::_VDBL_acl (bool *_gr* = false, bool *_ga* = false, bool *_gw* = false, bool *_gd* = false, bool *_gctp* = false) [inline]

standard constructor which optionally initializes the global ACL entry

Definition at line 185 of file vdbl_database.h.

7.2.2.2 _VDBL_acl::_VDBL_acl (const _VDBL_acl & *_a*) [inline]

copy constructor

Definition at line 192 of file vdbl_database.h.

7.2.2.3 virtual _VDBL_acl::~_VDBL_acl () [inline, virtual]

standard destructor

Definition at line 198 of file vdbl_database.h.

7.2.3 Member Function Documentation

7.2.3.1 _VDBL_acl& _VDBL_acl::operator= (const _VDBL_acl & *__a*) [inline]

assignment operator

Definition at line 203 of file vdbl_database.h.

7.2.4 Member Data Documentation

7.2.4.1 std::map<_VDBL_colid,_VDBL_aclentry> _VDBL_acl::colwise

this defines permissions for single columns

Definition at line 179 of file vdbl_database.h.

7.2.4.2 _VDBL_aclentry _VDBL_acl::global

this defines permissions for all columns

Definition at line 175 of file vdbl_database.h.

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

- vdbl_database.h

7.3 _VDBL_aclentry Class Reference

entry in the access control list

`#include <vdbl_database.h>`

Public Methods

- _VDBL_aclentry (bool _r=false, bool _a=false, bool _w=false, bool _d=false, bool _ctp=false)
- _VDBL_aclentry (const _VDBL_aclentry &_a)
- virtual ~_VDBL_aclentry ()
- _VDBL_aclentry & operator= (const _VDBL_aclentry &__a)

Public Attributes

- bool read
- bool write
- bool append
- bool drop
- bool commit_to_parent

7.3.1 Detailed Description

This class describes one entry in the access control list of the table or view.

Definition at line 111 of file vdbl_database.h.

7.3.2 Constructor & Destructor Documentation

7.3.2.1 _VDBL_aclentry::_VDBL_aclentry (bool _r = false, bool _a = false, bool _w = false, bool _d = false, bool _ctp = false) [inline]

standard constructor which optionally initializes the data members

Definition at line 129 of file vdbl_database.h.

7.3.2.2 _VDBL_aclentry::_VDBL_aclentry (const _VDBL_aclentry & _a) [inline]

copy constructor

Definition at line 138 of file vdbl_database.h.

7.3.2.3 virtual _VDBL_aclentry::~_VDBL_aclentry () [inline, virtual]

standard destructor

Definition at line 146 of file vdbl_database.h.

7.3.3 Member Function Documentation

7.3.3.1 _VDBL_aclentry& _VDBL_aclentry::operator= (const _VDBL_aclentry & __a) [inline]

assignment operator

Definition at line 151 of file vdbl_database.h.

7.3.4 Member Data Documentation

7.3.4.1 bool _VDBL_aclentry::append

These flags describe the permissions

Definition at line 120 of file vdbl_database.h.

7.3.4.2 bool _VDBL_aclentry::commit_to_parent

These flags describe the permissions

Definition at line 122 of file vdbl_database.h.

7.3.4.3 bool _VDBL_aclentry::drop

These flags describe the permissions

Definition at line 121 of file vdbl_database.h.

7.3.4.4 bool _VDBL_aclentry::read

These flags describe the permissions

Definition at line 118 of file vdbl_database.h.

7.3.4.5 bool _VDBL_aclentry::write

These flags describe the permissions

Definition at line 119 of file vdbl_database.h.

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

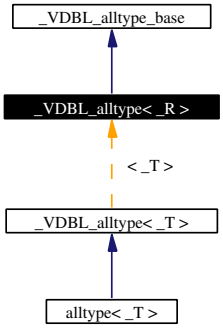
- vdbl_database.h

7.4 _VDBL_alltype< _R > Class Template Reference

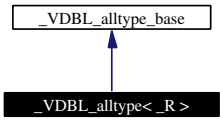
The templated class for the all_type class.

`#include <vdbl_alltype.h>`

Inheritance diagram for _VDBL_alltype< _R >:



Collaboration diagram for _VDBL_alltype< _R >:



Public Types

- typedef _R cont_type

  The type this object holds.

Public Methods

- _VDBL_alltype ()
- _VDBL_alltype (const cont_type &_p)
- _VDBL_alltype (cont_type *_p)
- virtual ~_VDBL_alltype ()
- const std::type_info & get_type () const

- const cont_type & content () const

- void operator= (const void *p)
- void operator= (const cont_type *p)

- bool operator== (const _Self &p)
- bool operator!= (const _Self &p)

7.4.1 Detailed Description

template<class _R> class _VDBL_alltype< _R >

This class is the templated part of the all_type class. Here the member functions are implemented for every possible type. The class is merely used if values (mostly columns) of unknown type have to be returned and later need to be referenced.

Definition at line 90 of file vdbl_alltype.h.

7.4.2 Constructor & Destructor Documentation

7.4.2.1 template<class _R> _VDBL_alltype< _R >::_VDBL_alltype () [inline]

This is the empty constructor which produces an empty all_type

Definition at line 110 of file vdbl_alltype.h.

7.4.2.2 template<class _R> _VDBL_alltype< _R >::_VDBL_alltype (const cont_type & _p) [inline]

The standard copy constructor allocates a new data member. Note, that valid data members must provide a copy constructor.

Definition at line 116 of file vdbl_alltype.h.

7.4.2.3 template<class _R> _VDBL_alltype< _R >::_VDBL_alltype (cont_type * _p) [inline]

this constructor is for direct setting of ALREADY allocated values! ONLY use this constructor with pointers whose contents have been allocated using new! This constructor is merely used VDBL internal.

Definition at line 123 of file vdbl_alltype.h.

7.4.2.4 template<class _R> virtual _VDBL_alltype< _R >::~_VDBL_alltype () [inline, virtual]

The destructor removes the allocated data to prevent memory leaks.

Definition at line 128 of file vdbl_alltype.h.

7.4.3 Member Function Documentation

7.4.3.1 template<class _R> const cont_type& _VDBL_alltype< _R >::content () const [inline]

This method returns a const reference to the stored data

Definition at line 139 of file vdbl_alltype.h.

7.4.3.2 template<class _R> const std::type_info& _VDBL_alltype< _R >::get_type () const [inline]

This member function is used for run-time type checking. It returns the @typeid of the @cont_type.

Definition at line 134 of file vdbl_alltype.h.

7.4.3.3 template<class _R> bool _VDBL_alltype< _R >::operator!= (const _Self & *p*) [inline]

The standard comparison operators are mainly used for expressions and selectors.

Definition at line 163 of file vdbl_alltype.h.

7.4.3.4 template<class _R> void _VDBL_alltype< _R >::operator= (const cont_type * *p*) [inline]

The assignment operators can take either pointers to the @cont_type or void pointers. Anyway, the data passed is copied and reallocated. So it is safe to use or destroy the data passed after the assignment operator has been called.

Definition at line 151 of file vdbl_alltype.h.

7.4.3.5 template<class _R> void _VDBL_alltype< _R >::operator= (const void * *p*) [inline]

The assignment operators can take either pointers to the @cont_type or void pointers. Anyway, the data passed is copied and reallocated. So it is safe to use or destroy the data passed after the assignment operator has been called.

Definition at line 148 of file vdbl_alltype.h.

7.4.3.6 template<class _R> bool _VDBL_alltype< _R >::operator== (const _Self & *p*) [inline]

The standard comparison operators are mainly used for expressions and selectors.

Definition at line 160 of file vdbl_alltype.h.

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

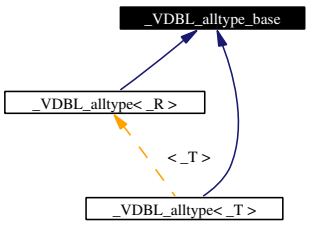
- vdbl_alltype.h

7.5 _VDBL_alltype_base Class Reference

The base class for the all_type class.

`#include <vdbl_alltype.h>`

Inheritance diagram for _VDBL_alltype_base:



Public Methods

- _VDBL_alltype_base ()
- virtual ~_VDBL_alltype_base ()

7.5.1 Detailed Description

This class is the base for all templated all_type classes. All important members are purely virtual. The class is merely used if values (mostly columns) of unknown type have to be returned.

Definition at line 54 of file vdbl_alltype.h.

7.5.2 Constructor & Destructor Documentation

7.5.2.1 _VDBL_alltype_base::_VDBL_alltype_base () [inline]

standard constructor

Definition at line 60 of file vdbl_alltype.h.

7.5.2.2 virtual _VDBL_alltype_base::~_VDBL_alltype_base () [inline, virtual]

standard destructor

Definition at line 64 of file vdbl_alltype.h.

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

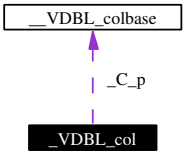
- vdbl_alltype.h

7.6 _VDBL_col Class Reference

The generic column class (the external structure).

`#include <vdbl_col.h>`

Collaboration diagram for _VDBL_col:



Public Methods

- _VDBL_col ()
  generic constructor
- _VDBL_col (const _VDBL_col &__c)
  copy constructor - using copy constructor overloading of the base class
- _VDBL_col (__VDBL_colbase *__p)
- template<class _RR> _VDBL_col (const _RR &_c)
- virtual ~_VDBL_col ()
  standard destructor
- void setcontext (const context *_c, const _VDBL_row *_r)
  set the context for value retrieval
- template<class _R> void set (_VDBL_colbase< _R > *_p)
- template<class _R> void get (_R &c) const
- template<class _R> void def (_R &d) const
- template<class _R> void get_ptr (_R const *&c) const
- template<class _R> void get_copy (_R *&p) const
- template<class _R> void def_copy (_R *&p) const
- void get_copy (_VDBL_alltype_base *&v) const
- void def_copy (_VDBL_alltype_base *&d) const
- const std::type_info & return_type_id () const
- const __VDBL_colbase * get_ptr_to_val () const

Friends

- std::ostream & operator<< (std::ostream &o, const _VDBL_col &c)

7.6.1 Detailed Description

`_VDBL_col` is the generic column class. It contains the actual data, and columns of this type are stored in rows. The copy constructor and operator<< are overloaded using the virtual functions defined in the `__VDBL_colbase` and afterwards in the `_VDBL_colbase<_T>` classes.

This is the third and final step in constructing columns of arbitrary type.

Definition at line 241 of file vdbl_col.h.

7.6.2 Constructor & Destructor Documentation

7.6.2.1 _VDBL_col::_VDBL_col (__VDBL_colbase * __p) [inline, explicit]

direct constructor - handle with care, no implicit copying is done, the destructor, however, will try to delete __p. This is mostly used VDBL internal. If you want to use it, you should KNOW WHAT YOU ARE DOING!

Definition at line 260 of file vdbl_col.h.

7.6.2.2 template<class _RR> _VDBL_col::_VDBL_col (const _RR & *c*) [inline, explicit]

This is a generic type independent constructor. It produces a column of type _RR. The column data is copied, so it is save to destroy the _c data afterwards.

Definition at line 365 of file vdbl_col.h.

7.6.3 Member Function Documentation

7.6.3.1 template<class _R> void _VDBL_col::def (_R & *d*) const [inline]

This function stores a copy of the column default value into d.

Definition at line 379 of file vdbl_col.h.

7.6.3.2 void _VDBL_col::def_copy (_VDBL_alltype_base *& *d*) const [inline]

This version of get_copy returns a copy of the columns default value within an alltype. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Definition at line 396 of file vdbl_col.h.

7.6.3.3 template<class _R> void _VDBL_col::def_copy (_R *& *p*) const [inline]

This function returns a pointer to a copy of the column's default value. The copy of the value is allocated by new. It has to be deleted by the user to avoid memory leaks.

Definition at line 390 of file vdbl_col.h.

7.6.3.4 template<class _R> void _VDBL_col::get (_R & *c*) const [inline]

This function stores a copy of the column value into c.

Definition at line 376 of file vdbl_col.h.

7.6.3.5 void _VDBL_col::get_copy (_VDBL_alltype_base *& *v*) const [inline]

This version of get_copy returns a copy of the columns value within an alltype. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Definition at line 393 of file vdbl_col.h.

7.6.3.6 template<class _R> void _VDBL_col::get_copy (_R *& *p*) const [inline]

This function returns a pointer to a copy of the column's value. The copy of the value is allocated by new. It has to be deleted by the user to avoid memory leaks.

Definition at line 386 of file vdbl_col.h.

7.6.3.7 template<class _R> void _VDBL_col::get_ptr (_R const *& *c*) const [inline]

This function sets c to a const pointer pointing to the column's actual value. Here, no copying is done.

Definition at line 382 of file vdbl_col.h.

7.6.3.8 const __VDBL_colbase* _VDBL_col::get_ptr_to_val () const [inline]

This function is needed for the operator<< for columns of type return_type.

Definition at line 348 of file vdbl_col.h.

7.6.3.9 const std::type_info& _VDBL_col::return_type_id () const [inline]

This function returns the type_info of the column type. This information is used during run-time type checking.

Definition at line 341 of file vdbl_col.h.

7.6.3.10 template<class _R> void _VDBL_col::set (_VDBL_colbase< _R > * *p*) [inline]

This function sets the data to the pointer passed. This is a direct set operation - handle with care, no implicit copying is done. The destructor, however, will try to delete __p. This is mostly used VDBL internal. If you want to use it, you should KNOW WHAT YOU ARE DOING!

Definition at line 284 of file vdbl_col.h.

7.6.4 Friends And Related Function Documentation

7.6.4.1 std::ostream& operator<< (std::ostream & *o*, const _VDBL_col & *c*) [friend]

The print operation for generic columns. This implicitely calls operator<< for the columns type. So it is necessary that this operator is indeed defined.

Definition at line 359 of file vdbl_col.h.

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

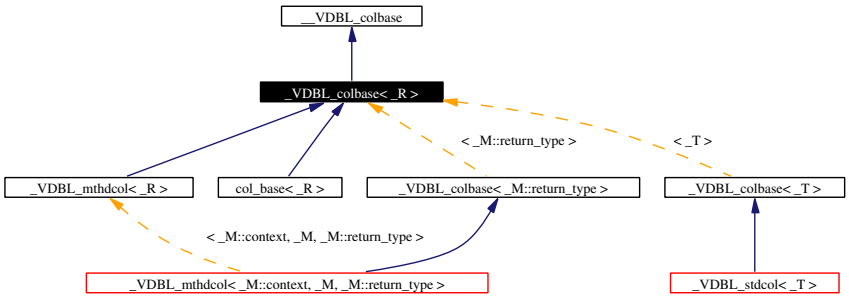
- vdbl_col.h

7.7 _VDBL_colbase< _R > Class Template Reference

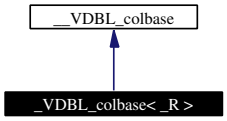
The type dependent base class of the internal column structure.

#include <vdbl_col.h>

Inheritance diagram for _VDBL_colbase< _R >:



Collaboration diagram for _VDBL_colbase< _R >:



Public Types

- typedef _R return_type
  `return_type` *is the type of object stored*

Public Methods

- virtual _Self * new_copy () const
- virtual void setcontext (const context *_c, const _VDBL_row *_r) VDBL_PURE_VIRTUAL virtual void get(return_type &c) const VDBL_PURE_VIRTUAL virtual void def(return_type &d) const VDBL_PURE_VIRTUAL virtual void get_ptr(return_type const *&c) const VDBL_PURE_VIRTUAL virtual void get_copy(return_type *&c) const
- virtual void def_copy (return_type *&d) const
- virtual void get_copy (_VDBL_alltype_base *&v) const
- virtual void def_copy (_VDBL_alltype_base *&v) const
- virtual const std::type_info & return_type_id () const

- _VDBL_colbase ()
- _VDBL_colbase (const _Self &__c)
- virtual ~_VDBL_colbase ()

7.7.1 Detailed Description

template<class _R> class _VDBL_colbase< _R >

`_VDBL_colbase` is the templated base class of all columns of the same type - for copy-constructor and get-operation overload. This class is the second step. The first step is done in __VDBL_colbase, which makes columns "type independent". The second step makes it possible to have different kinds of columns of the same type. All type dependent member functions are virtual in this class.

Definition at line 131 of file vdbl_col.h.

7.7.2 Constructor & Destructor Documentation

7.7.2.1 template<class _R> _VDBL_colbase< _R >::_VDBL_colbase () [inline]

standard constructor, copy constructor, and destructor

Definition at line 143 of file vdbl_col.h.

7.7.2.2 template<class _R> _VDBL_colbase< _R >::_VDBL_colbase (const _Self & __c) [inline]

standard constructor, copy constructor, and destructor

Definition at line 144 of file vdbl_col.h.

7.7.2.3 template<class _R> virtual _VDBL_colbase< _R >::~_VDBL_colbase () [inline, virtual]

standard constructor, copy constructor, and destructor

Definition at line 145 of file vdbl_col.h.

7.7.3 Member Function Documentation

7.7.3.1 template<class _R> virtual void _VDBL_colbase< _R >::def_copy (_VDBL_alltype_base *& *v*) const [inline, virtual]

This version of `get_copy` returns a copy of the columns default value within an `alltype`. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Reimplemented in _VDBL_stdcol< _T >.

Definition at line 209 of file vdbl_col.h.

7.7.3.2 template<class _R> virtual void _VDBL_colbase< _R >::def_copy (return_type *& *d*) const [inline, virtual]

This function returns a pointer to a copy of the column's default value. The copy of the value is allocated by `new`. It has to be `deleted` by the user to avoid memory leaks.

Reimplemented in _VDBL_stdcol< _T >, _VDBL_mthdcol< _C, _M, _R >, and _VDBL_mthdcol< _M::context, _M, _M::return_type >.

Definition at line 187 of file vdbl_col.h.

7.7.3.3 template<class _R> virtual void _VDBL_colbase< _R >::get_copy (_VDBL_alltype_base *& *v*) const [inline, virtual]

This version of `get_copy` returns a copy of the columns value within an `alltype`. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Reimplemented in _VDBL_stdcol< _T >.

Definition at line 196 of file vdbl_col.h.

7.7.3.4 template<class _R> virtual _Self* _VDBL_colbase< _R >::new_copy () const [inline, virtual]

`new_copy` is the clone operation for copy-constructor overloading.

Reimplemented from __VDBL_colbase.

Reimplemented in _VDBL_stdcol< _T >, _VDBL_mthdcol< _C, _M, _R >, and _VDBL_mthdcol< _M::context, _M, _M::return_type >.

Definition at line 151 of file vdbl_col.h.

7.7.3.5 template<class _R> virtual const std::type_info& _VDBL_colbase< _R >::return_type_id () const [inline, virtual]

This function returns the `type_info` of the column type. This information is used during run-time type checking.

Definition at line 220 of file vdbl_col.h.

7.7.3.6 template<class _R> virtual void _VDBL_colbase< _R >::setcontext (const context * _c, const _VDBL_row * _r) const [inline, virtual]

This function returns a pointer to a copy of the column's value. The copy of the value is allocated by new. It has to be deleted by the user to avoid memory leaks.

Definition at line 156 of file vdbl_col.h.

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

- vdbl_col.h

7.8 _VDBL_colflags Class Reference

additional table information for a column

`#include <vdbl_types.h>`

Public Methods

- _VDBL_colflags (bool __d=false, bool __mi=false)
- ~_VDBL_colflags ()

Public Attributes

- bool master_index
- bool has_default

7.8.1 Detailed Description

_VDBL_colflags contains the additional table information for a column

- has_default does this column have a default value?
- master_index is this column a master_index, i.e. are all entries throughout the table unique?

Definition at line 65 of file vdbl_types.h.

7.8.2 Constructor & Destructor Documentation

7.8.2.1 _VDBL_colflags::_VDBL_colflags (bool __d = false, bool __mi = false) [inline]

standard constructor, optionally setting the entries

Definition at line 75 of file vdbl_types.h.

7.8.2.2 _VDBL_colflags::~_VDBL_colflags () [inline]

standard destructor

Definition at line 78 of file vdbl_types.h.

7.8.3 Member Data Documentation

7.8.3.1 bool _VDBL_colflags::has_default

see class description

Definition at line 71 of file vdbl_types.h.

7.8.3.2 bool _VDBL_colflags::master_index

see class description

Definition at line 70 of file vdbl_types.h.

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

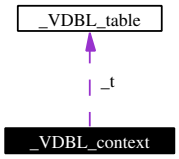
- vdbl_types.h

7.9 _VDBL_context Class Reference

base class for context objects

`#include <vdbl_context.h>`

Collaboration diagram for _VDBL_context:



Public Methods

- _VDBL_context (const _VDBL_table *t)
- const _VDBL_table * table () const
- void table (const _VDBL_table *t)

- _VDBL_context ()
- _VDBL_context (const _VDBL_context &_c)
- virtual ~_VDBL_context ()

7.9.1 Detailed Description

this is the base class for all context objects in the VDBL.

Definition at line 50 of file vdbl_context.h.

7.9.2 Constructor & Destructor Documentation

7.9.2.1 _VDBL_context::_VDBL_context () [inline]

standard constructor, copy constructor, and destructor.

Definition at line 61 of file vdbl_context.h.

7.9.2.2 _VDBL_context::_VDBL_context (const _VDBL_context & *_c*) [inline]

standard constructor, copy constructor, and destructor.

Definition at line 62 of file vdbl_context.h.

7.9.2.3 virtual _VDBL_context::~_VDBL_context () [inline, virtual]

standard constructor, copy constructor, and destructor.

Definition at line 63 of file vdbl_context.h.

7.9.2.4 _VDBL_context::_VDBL_context (const _VDBL_table * *t*) [inline]

constructor which explicitely sets the table pointer

Definition at line 69 of file vdbl_context.h.

7.9.3 Member Function Documentation

7.9.3.1 void _VDBL_context::table (const _VDBL_table * *t*) [inline]

set the table pointer

Definition at line 79 of file vdbl_context.h.

7.9.3.2 const _VDBL_table* _VDBL_context::table () const [inline]

retrieve a pointer to the table this object belongs to

Definition at line 74 of file vdbl_context.h.

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

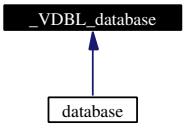
- vdbl_context.h

7.10 _VDBL_database Class Reference

the database class

`#include <vdbl_database.h>`

Inheritance diagram for _VDBL_database:



Public Methods

- bool create_table (const std::string &_C_i, const _VDBL_userid &_C_u, const _VDBL_tableflags &_-_f=_VDBL_tableflags())
- _VDBL_tableid get_tableid (const std::string &_C_i, const _VDBL_userid &_C_u) const
- bool drop_table (const _D_tables::iterator &__t, const _D_table_names::iterator &__tn, const _VDBL_-userid &_C_u)
- bool drop_table (const _VDBL_tableid &_C_i, const _VDBL_userid &_C_u)
- bool drop_table (const std::string &_C_i, const _VDBL_userid &_C_u)
- bool has_table (const _VDBL_tableid &_C_i, const _VDBL_userid &_C_u) const
- bool has_table (const std::string &_C_i, const _VDBL_userid &_C_u) const
- _VDBL_table * get_table (const _VDBL_tableid &_C_i, const _VDBL_userid &_C_u) const
- _VDBL_table * get_table (const std::string &_C_i, const _VDBL_userid &_C_u) const
- _VDBL_viewid get_viewid (const std::string &_C_i, const _VDBL_userid &_C_u) const
- bool create_view (const std::string &_C_i, const _VDBL_userid &_C_u, const _VDBL_context &__c, const std::string &_C_t, const _V_enum &__e)
- bool drop_view (const _D_views::iterator &__v, const _D_view_names::iterator &__vn, const _VDBL_-userid &_C_u)
- bool drop_view (const _VDBL_viewid &_C_i, const _VDBL_userid &_C_u)
- bool drop_view (const std::string &_C_i, const _VDBL_userid &_C_u)
- bool has_view (const _VDBL_viewid &_C_i, const _VDBL_userid &_C_u) const
- bool has_view (const std::string &_C_i, const _VDBL_userid &_C_u) const
- _VDBL_view * get_view (const _VDBL_viewid &_C_i, const _VDBL_userid &_C_u) const
- _VDBL_view * get_view (const std::string &_C_i, const _VDBL_userid &_C_u) const
- _VDBL_database ()
- _VDBL_database (const _VDBL_database &__t)
- virtual ~_VDBL_database ()

Protected Methods

- _VDBL_tableid get_tableid ()
- _VDBL_userid get_userid ()
- _VDBL_viewid get_viewid ()

7.10.1 Detailed Description

This is the base class for a whole database including tables and views.

Definition at line 336 of file vdbl_database.h.

7.10.2 Constructor & Destructor Documentation

7.10.2.1 _VDBL_database::_VDBL_database () [inline]

standard constructor

Definition at line 759 of file vdbl_database.h.

7.10.2.2 _VDBL_database::_VDBL_database (const _VDBL_database & __t) [inline]

copy constructor

Definition at line 765 of file vdbl_database.h.

7.10.2.3 virtual _VDBL_database::~_VDBL_database () [inline, virtual]

standard destructor

Definition at line 779 of file vdbl_database.h.

7.10.3 Member Function Documentation

7.10.3.1 bool _VDBL_database::create_table (const std::string & _C_i, const _VDBL_userid & _C_u, const _VDBL_tableflags & __f = _VDBL_tableflags()) [inline]

create a new table

- _C_i: name
- _C_u: user id
- __f: the table flags (if they are not default) return true, if creating the table was successful.

Reimplemented in database.

Definition at line 405 of file vdbl_database.h.

7.10.3.2 bool _VDBL_database::create_view (const std::string & _C_i, const _VDBL_userid & _C_u, const _VDBL_context & __c, const std::string & _C_t, const _V_enum & __e) [inline]

create a new standard view with name _C_i, evaluation context __c, for table _C_t, of type __e. return true if creating worked, and false otherwise.

Definition at line 640 of file vdbl_database.h.

7.10.3.3 bool _VDBL_database::drop_table (const std::string & _C_i, const _VDBL_userid & _C_u) [inline]

delete a table, whose name is provided. return true, if deleting the table has worked.

Definition at line 508 of file vdbl_database.h.

7.10.3.4 bool _VDBL_database::drop_table (const _VDBL_tableid & _C_i, const _VDBL_userid & _C_u) [inline]

delete a table, whose name is provided. return true, if deleting the table has worked.

Definition at line 495 of file vdbl_database.h.

7.10.3.5 bool _VDBL_database::drop_table (const _D_tables::iterator & __t, const _D_table_names::iterator & __tn, const _VDBL_userid & _C_u) [inline]

delete a table, internal function. The first argument is the iterator into the table map, the second argument is the iterator into the table names map, return true, if deleting the table has worked.

Definition at line 470 of file vdbl_database.h.

7.10.3.6 bool _VDBL_database::drop_view (const std::string & _C_i, const _VDBL_userid & _C_u) [inline]

delete a view, whose name is provided. return true, if deleting the table has worked.

Definition at line 707 of file vdbl_database.h.

7.10.3.7 bool _VDBL_database::drop_view (const _VDBL_viewid & _C_i, const _VDBL_userid & _C_u) [inline]

delete a view, whose id is provided. return `true`, if deleting the table has worked.

Definition at line 694 of file vdbl_database.h.

7.10.3.8 bool _VDBL_database::drop_view (const _D_views::iterator & __v, const _D_view_names::iterator & __vn, const _VDBL_userid & _C_u) [inline]

delete a view, internal function. The first argument is the iterator into the table map, the second argument is the iterator into the table names map, return `true`, if deleting the table has worked.

Definition at line 669 of file vdbl_database.h.

7.10.3.9 _VDBL_table* _VDBL_database::get_table (const std::string & _C_i, const _VDBL_userid & _C_u) const [inline]

return a pointer to the table with name `_C_i`.

Reimplemented in database.

Definition at line 549 of file vdbl_database.h.

7.10.3.10 _VDBL_table* _VDBL_database::get_table (const _VDBL_tableid & _C_i, const _VDBL_userid & _C_u) const [inline]

return a pointer to the table with id `_C_i`.

Definition at line 536 of file vdbl_database.h.

7.10.3.11 _VDBL_tableid _VDBL_database::get_tableid (const std::string & _C_i, const _VDBL_userid & _C_u) const [inline]

return the table id for a given name

Definition at line 447 of file vdbl_database.h.

7.10.3.12 _VDBL_tableid _VDBL_database::get_tableid () [inline, protected]

generate a new unique id for tables, views, and users

Definition at line 391 of file vdbl_database.h.

7.10.3.13 _VDBL_userid _VDBL_database::get_userid () [inline, protected]

generate a new unique id for tables, views, and users

Definition at line 392 of file vdbl_database.h.

7.10.3.14 _VDBL_view* _VDBL_database::get_view (const std::string & _C_i, const _VDBL_userid & _C_u) const [inline]

return a pointer to the view with name `_C_i`.

Definition at line 746 of file vdbl_database.h.

7.10.3.15 _VDBL_view* _VDBL_database::get_view (const _VDBL_viewid & _C_i, const _VDBL_userid & _C_u) const [inline]

return a pointer to the view with id _C_i.

Definition at line 734 of file vdbl_database.h.

7.10.3.16 _VDBL_viewid _VDBL_database::get_viewid (const std::string & _C_i, const _VDBL_userid & _C_u) const [inline]

return the view id of view _C_i.

Definition at line 626 of file vdbl_database.h.

7.10.3.17 _VDBL_viewid _VDBL_database::get_viewid () [inline, protected]

generate a new unique id for tables, views, and users

Definition at line 393 of file vdbl_database.h.

7.10.3.18 bool _VDBL_database::has_table (const std::string & _C_i, const _VDBL_userid & _C_u) const [inline]

check whether the table _C_i exists

Definition at line 529 of file vdbl_database.h.

7.10.3.19 bool _VDBL_database::has_table (const _VDBL_tableid & _C_i, const _VDBL_userid & _C_u) const [inline]

check whether the table _C_i exists

Definition at line 517 of file vdbl_database.h.

7.10.3.20 bool _VDBL_database::has_view (const std::string & _C_i, const _VDBL_userid & _C_u) const [inline]

check whether the view _C_i exists

Definition at line 728 of file vdbl_database.h.

7.10.3.21 bool _VDBL_database::has_view (const _VDBL_viewid & _C_i, const _VDBL_userid & _C_u) const [inline]

check whether the view with id _C_i exists

Definition at line 716 of file vdbl_database.h.

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

- vdbl_database.h

7.11 _VDBL_date Class Reference

The VDBL date class.

`#include <vdbl_alltype.h>`

Public Methods

- _VDBL_dateinterval operator- (const _VDBL_date &_v) const

- _VDBL_date & operator- (const _VDBL_dateinterval &_v) const
- _VDBL_date & operator-= (const _VDBL_dateinterval &_v)
- _VDBL_date & operator+ (const _VDBL_dateinterval &_v) const
- _VDBL_date & operator+= (const _VDBL_dateinterval &_v)

Public Attributes

- int timezone

- int year
- signed char month
- signed char day
- unsigned int seconds
- unsigned int microseconds

7.11.1 Detailed Description

The date base class for the database

Definition at line 175 of file vdbl_alltype.h.

7.11.2 Member Function Documentation

7.11.2.1 _VDBL_date& _VDBL_date::operator+ (const _VDBL_dateinterval & _v) const

These operators add or subtract time differences to a date

7.11.2.2 _VDBL_date& _VDBL_date::operator+= (const _VDBL_dateinterval & _v)

These operators add or subtract time differences to a date

7.11.2.3 _VDBL_date& _VDBL_date::operator- (const _VDBL_dateinterval & _v) const

These operators add or subtract time differences to a date

7.11.2.4 _VDBL_dateinterval _VDBL_date::operator- (const _VDBL_date & _v) const

This method computes the time difference between two dates.

7.11.2.5 _VDBL_date& _VDBL_date::operator-= (const _VDBL_dateinterval & _v)

These operators add or subtract time differences to a date

7.11.3 Member Data Documentation

7.11.3.1 signed char _VDBL_date::day

the date is stored as year, month, day with the time in seconds and microseconds.

Definition at line 188 of file vdbl_alltype.h.

7.11.3.2 unsigned int _VDBL_date::microseconds

the date is stored as year, month, day with the time in seconds and microseconds.

Definition at line 190 of file vdbl_alltype.h.

7.11.3.3 signed char _VDBL_date::month

the date is stored as year, month, day with the time in seconds and microseconds.

Definition at line 188 of file vdbl_alltype.h.

7.11.3.4 unsigned int _VDBL_date::seconds

the date is stored as year, month, day with the time in seconds and microseconds.

Definition at line 189 of file vdbl_alltype.h.

7.11.3.5 int _VDBL_date::timezone

This defines the timezone in minutes deviation from GMT.

Definition at line 181 of file vdbl_alltype.h.

7.11.3.6 int _VDBL_date::year

the date is stored as year, month, day with the time in seconds and microseconds.

Definition at line 187 of file vdbl_alltype.h.

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

- vdbl_alltype.h

7.12 _VDBL_dateinterval Class Reference

The VDBL date interval class.

`#include <vdbl_alltype.h>`

Public Methods

- _VDBL_date operator+ (const _VDBL_date &_d) const

- _VDBL_dateinterval operator * (double d) const
- _VDBL_dateinterval operator/ (double d) const
- _VDBL_dateinterval & operator *= (double d)
- _VDBL_dateinterval & operator/= (double d)

- _VDBL_dateinterval & operator- (const _VDBL_dateinterval &_v) const
- _VDBL_dateinterval & operator-= (const _VDBL_dateinterval &_v)
- _VDBL_dateinterval & operator+ (const _VDBL_dateinterval &_v) const
- _VDBL_dateinterval & operator+= (const _VDBL_dateinterval &_v)

Public Attributes

- int years
- short int days
- int seconds
- int microseconds

7.12.1 Detailed Description

The date interval base class for the database. This class describes the difference between two dates.

Definition at line 243 of file vdbl_alltype.h.

7.12.2 Member Function Documentation

7.12.2.1 _VDBL_dateinterval _VDBL_dateinterval::operator * (double *d*) const

Date differences can be multiplied by or divided through doubles. E.g., half the time between two dates would be (d1-d2)/2.

7.12.2.2 _VDBL_dateinterval& _VDBL_dateinterval::operator *= (double *d*)

Date differences can be multiplied by or divided through doubles. E.g., half the time between two dates would be (d1-d2)/2.

7.12.2.3 _VDBL_date _VDBL_dateinterval::operator+ (const _VDBL_date & *_d*) const

Add a date difference to a date

7.12.2.4 _VDBL_dateinterval& _VDBL_dateinterval::operator+ (const _VDBL_dateinterval & *_v*) const

Date differences can be added/subtracted using this operator

7.12.2.5 _VDBL_dateinterval& _VDBL_dateinterval::operator+= (const _VDBL_dateinterval & *_v*)

Date differences can be added/subtracted using this operator

7.12.2.6 _VDBL_dateinterval& _VDBL_dateinterval::operator- (const _VDBL_dateinterval & *_v*) const

Date differences can be added/subtracted using this operator

7.12.2.7 _VDBL_dateinterval& _VDBL_dateinterval::operator-= (const _VDBL_dateinterval & *_v*)

Date differences can be added/subtracted using this operator

7.12.2.8 _VDBL_dateinterval _VDBL_dateinterval::operator/ (double *d*) const

Date differences can be multiplied by or divided through doubles. E.g., half the time between two dates would be (d1-d2)/2.

7.12.2.9 _VDBL_dateinterval& _VDBL_dateinterval::operator/= (double *d*)

Date differences can be multiplied by or divided through doubles. E.g., half the time between two dates would be (d1-d2)/2.

7.12.3 Member Data Documentation

7.12.3.1 short int _VDBL_dateinterval::days

the date differencs is stored as year, day with the time difference in seconds and microseconds.

Definition at line 252 of file vdbl_alltype.h.

7.12.3.2 int _VDBL_dateinterval::microseconds

the date differencs is stored as year, day with the time difference in seconds and microseconds.

Definition at line 254 of file vdbl_alltype.h.

7.12.3.3 int _VDBL_dateinterval::seconds

the date differencs is stored as year, day with the time difference in seconds and microseconds.

Definition at line 253 of file vdbl_alltype.h.

7.12.3.4 int _VDBL_dateinterval::years

the date differencs is stored as year, day with the time difference in seconds and microseconds.

Definition at line 251 of file vdbl_alltype.h.

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

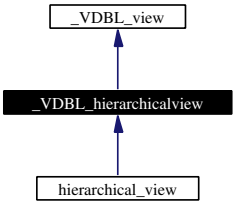
- vdbl_alltype.h

7.13 _VDBL_hierarchicalview Class Reference

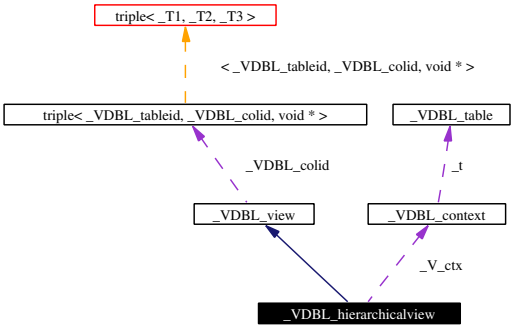
hierarchical view class

`#include <vdbl_hrview.h>`

Inheritance diagram for _VDBL_hierarchicalview:



Collaboration diagram for _VDBL_hierarchicalview:



Public Types

- typedef std::pair< std::string, _VDBL_col > _T_colspec

Public Methods

- _VDBL_hierarchicalview (const _VDBL_tableid &__ti, _VDBL_table *__t, const _VDBL_context &__c, _V_enum __en)
- _VDBL_hierarchicalview (const _VDBL_tableid &__ti, _VDBL_table *__t, const _VDBL_context &__c, _V_enum __en, const std::vector< _VDBL_rowid > &_rs)
- _VDBL_hierarchicalview (const _VDBL_hierarchicalview &__v)
- virtual ~_VDBL_hierarchicalview ()
- void push_table (const _VDBL_tableid &__ti, _VDBL_table *__t)
- void push_table (const _VDBL_tableid &__ti, _VDBL_table *__t, const std::vector< _VDBL_rowid > &_rs)
- _VDBL_tableid pop_table ()
- const std::type_info & get_colinfo (const std::string &_C_n, triple< bool, _VDBL_colid, _VDBL_colflags > &_r) const
- bool remove (std::pair< _VDBL_tableid, _VDBL_rowid > _r)
- std::ostream & print_col (std::ostream &o, const std::pair< _VDBL_tableid, _VDBL_rowid > &_ri, const _VDBL_colid &_ci, bool &printed) const
- template<class _R> bool get_raw_ptr (const std::pair< _VDBL_tableid, _VDBL_rowid > &_ri, const _VDBL_colid &_ci, _R const *&r) const
- template<class _R> bool get (const std::pair< _VDBL_tableid, _VDBL_rowid > &_ri, const _VDBL_colid &_ci, _R &r) const

Protected Types

- typedef _default_iterator< _VDBL_col, const _VDBL_col &, const _VDBL_col * > default_const_iterator
- typedef _col_iterator< _VDBL_col, const _VDBL_col &, const _VDBL_col * > col_const_iterator
- typedef _row_iterator< _VDBL_row, const _VDBL_row &, const _VDBL_row * > row_const_iterator

Protected Methods

- triple< _VDBL_tableid, _VDBL_colid, void * > _next_def_col (const _VDBL_tableid &_t, const _VDBL_colid &_c, void *_d) const
- triple< _VDBL_tableid, _VDBL_colid, void * > _prev_def_col (const _VDBL_tableid &_t, const _VDBL_colid &_c, void *_d) const
- void * _copy_def_data (void *_d) const
- triple< _VDBL_tableid, _VDBL_colid, void * > _next_col (const _VDBL_tableid &_t, const _VDBL_rowid &_r, const _VDBL_colid &_c, void *_d) const
- triple< _VDBL_tableid, _VDBL_colid, void * > _prev_col (const _VDBL_tableid &_t, const _VDBL_rowid &_r, const _VDBL_colid &_c, void *_d) const
- void * _copy_col_data (void *_d) const
- triple< _VDBL_tableid, _VDBL_rowid, void * > _next_row (const _VDBL_tableid &_t, const _VDBL_rowid &_r, void *_d) const
- triple< _VDBL_tableid, _VDBL_rowid, void * > _prev_row (const _VDBL_tableid &_t, const _VDBL_rowid &_r, void *_d) const
- void * _copy_row_data (void *_d) const
- void made_change ()

  increment the `change` *counter.*

- unsigned int get_change_ctr () const

  read the change counter

Protected Attributes

- _V_rows _V_r
- _V_cols _V_c
- _V_colxref _V_cx

7.13.1 Detailed Description

This class implements a hierarchical view onto various tables.

Definition at line 48 of file vdbl_hrview.h.

7.13.2 Member Typedef Documentation

7.13.2.1 typedef std::pair<std::string, _VDBL_col> _VDBL_view::_T_colspec [inherited]

This is the description of one column

Definition at line 84 of file vdbl_view.h.

7.13.2.2 typedef _col_iterator<_VDBL_col, const _VDBL_col&, const _VDBL_col*> _VDBL_view::col_const_iterator [protected, inherited]

const iterator over all columns

Definition at line 461 of file vdbl_view.h.

7.13.2.3 typedef _default_iterator<_VDBL_col, const _VDBL_col&, const _VDBL_col*> _VDBL_view::default_const_iterator [protected, inherited]

const iterator over all default columns

Definition at line 324 of file vdbl_view.h.

7.13.2.4 typedef _row_iterator<_VDBL_row, const _VDBL_row&, const _VDBL_row*> _VDBL_view::row_const_iterator [protected, inherited]

const iterator over all rows

Definition at line 590 of file vdbl_view.h.

7.13.3 Constructor & Destructor Documentation

7.13.3.1 _VDBL_hierarchicalview::_VDBL_hierarchicalview (const _VDBL_tableid & __ti, _VDBL_table * __t, const _VDBL_context & __c, _V_enum __en) [inline]

standard constructor which initalizes the table and the tableid of the master table, the evaluation context, and the view type.

Definition at line 341 of file vdbl_hrview.h.

7.13.3.2 _VDBL_hierarchicalview::_VDBL_hierarchicalview (const _VDBL_tableid & __ti, _VDBL_table * __t, const _VDBL_context & __c, _V_enum __en, const std::vector< _VDBL_rowid > & _rs) [inline]

standard constructor which initalizes the `table` and the `tableid` of the master table, the evaluation context, and the view type. In addition the vector `_rs` contains a list of rows, which should be visible in this view.

Definition at line 368 of file vdbl_hrview.h.

7.13.3.3 _VDBL_hierarchicalview::_VDBL_hierarchicalview (const _VDBL_hierarchicalview & __v) [inline]

copy constructor

Definition at line 394 of file vdbl_hrview.h.

7.13.3.4 virtual _VDBL_hierarchicalview::~_VDBL_hierarchicalview () [inline, virtual]

standard destructor

Definition at line 403 of file vdbl_hrview.h.

7.13.4 Member Function Documentation

7.13.4.1 void* _VDBL_hierarchicalview::_copy_col_data (void * _d) const [inline, protected, virtual]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the next row for a _row_iterator.

Reimplemented from _VDBL_view.

Definition at line 289 of file vdbl_hrview.h.

7.13.4.2 void* _VDBL_hierarchicalview::_copy_def_data (void * _d) const [inline, protected, virtual]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the next column for a _col_iterator.

Reimplemented from _VDBL_view.

Definition at line 232 of file vdbl_hrview.h.

7.13.4.3 void* _VDBL_hierarchicalview::_copy_row_data (void * _d) const [inline, protected, virtual]

This is the fundamental class for iterators over all default columns, defining basic in(de)crementation for overloading, and basic comparison.

Reimplemented from _VDBL_view.

Definition at line 326 of file vdbl_hrview.h.

7.13.4.4 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_hierarchicalview::_next_col (const _VDBL_tableid & _t, const _VDBL_rowid & _r, const _VDBL_colid & _c, void * _d) const [inline, protected]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous column for a _col_iterator.

Reimplemented from _VDBL_view.

Definition at line 237 of file vdbl_hrview.h.

7.13.4.5 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_hierarchicalview::_next_def_col (const _VDBL_tableid & _t, const _VDBL_colid & _c, void * _d) const [inline, protected, virtual]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous default of a column a _default_iterator.

Reimplemented from _VDBL_view.

Definition at line 180 of file vdbl_hrview.h.

7.13.4.6 triple<_VDBL_tableid,_VDBL_rowid,void*> _VDBL_hierarchicalview::_next_row (const _VDBL_tableid & _t, const _VDBL_rowid & _r, void * _d) const [inline, protected]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous row for a _row_iterator.

Reimplemented from _VDBL_view.

Definition at line 294 of file vdbl_hrview.h.

7.13.4.7 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_hierarchicalview::_prev_col (const _VDBL_tableid & _t, const _VDBL_rowid & _r, const _VDBL_colid & _c, void * _d) const [inline, protected]

This function destroys the additional data needed by a _col_iterator

Reimplemented from _VDBL_view.

Definition at line 259 of file vdbl_hrview.h.

7.13.4.8 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_hierarchicalview::_prev_def_col (const _VDBL_tableid & _t, const _VDBL_colid & _c, void * _d) const [inline, protected]

This function destroys the additional data needed by a _default_iterator

Reimplemented from _VDBL_view.

Definition at line 202 of file vdbl_hrview.h.

7.13.4.9 triple<_VDBL_tableid,_VDBL_rowid,void*> _VDBL_hierarchicalview::_prev_row (const _VDBL_tableid & _t, const _VDBL_rowid & _r, void * _d) const [inline, protected]

This function destroys the additional data needed by a _row_iterator

Reimplemented from _VDBL_view.

Definition at line 308 of file vdbl_hrview.h.

7.13.4.10 template<class _R> bool _VDBL_hierarchicalview::get (const std::pair< _VDBL_tableid, _VDBL_rowid > & _ri, const _VDBL_colid & _ci, _R & r) const [inline]

get the data from column _ci in row _ri.second of table _ri.first. The data stored in the column must be of type _R.

Definition at line 644 of file vdbl_hrview.h.

7.13.4.11 const std::type_info& _VDBL_hierarchicalview::get_colinfo (const std::string & _C_n, triple< bool, _VDBL_colid, _VDBL_colflags > & _r) const [inline, virtual]

return the type of this view

Reimplemented from _VDBL_view.

Definition at line 487 of file vdbl_hrview.h.

7.13.4.12 template<class _R> bool _VDBL_hierarchicalview::get_raw_ptr (const std::pair< _VDBL_tableid, _VDBL_rowid > & _ri, const _VDBL_colid & _ci, _R const *& r) const [inline]

get a const ptr to the data from column _ci in row _ri.second of table _ri.first. The data stored in the column must be of type _R. In this function no data copying is done. Note that this function returns a pointer to the columns raw data, so it can only be used to refer to constant columns.

Definition at line 625 of file vdbl_hrview.h.

7.13.4.13 _VDBL_tableid _VDBL_hierarchicalview::pop_table () [inline]

remove the topmost table from the view, and return its table id.

Definition at line 458 of file vdbl_hrview.h.

7.13.4.14 std::ostream& _VDBL_hierarchicalview::print_col (std::ostream & *o*, const std::pair< _VDBL_tableid, _VDBL_rowid > & *_ri*, const _VDBL_colid & *_ci*, bool & *printed*) const [inline]

print the contents od column _ci in row _ri.second of table _ri.first.

Definition at line 599 of file vdbl_hrview.h.

7.13.4.15 void _VDBL_hierarchicalview::push_table (const _VDBL_tableid & *__ti*, _VDBL_table * *__t*, const std::vector< _VDBL_rowid > & *_rs*) [inline]

This pushes a new table onto the top of the hierarchical view stack. Additionally, a subset of the table's rows, which are visible in the view, can be specified.

Definition at line 433 of file vdbl_hrview.h.

7.13.4.16 void _VDBL_hierarchicalview::push_table (const _VDBL_tableid & *__ti*, _VDBL_table * *__t*) [inline]

This pushes a new table onto the top of the hierarchical view stack.

Definition at line 408 of file vdbl_hrview.h.

7.13.4.17 bool _VDBL_hierarchicalview::remove (std::pair< _VDBL_tableid, _VDBL_rowid > *_r*) [inline]

for now window views can only make changes in the top table in the list of tables

Definition at line 519 of file vdbl_hrview.h.

7.13.5 Member Data Documentation

7.13.5.1 _V_cols _VDBL_hierarchicalview::_V_c [protected]

This contains all columns of the view

Definition at line 89 of file vdbl_hrview.h.

7.13.5.2 _V_colxref _VDBL_hierarchicalview::_V_cx [protected]

This is the cross reference: view col id -> <tableid, real col id>

Definition at line 93 of file vdbl_hrview.h.

7.13.5.3 _V_rows _VDBL_hierarchicalview::_V_r [protected]

This contains all rows of the view

Definition at line 85 of file vdbl_hrview.h.

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

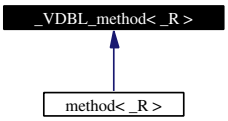
- vdbl_hrview.h

7.14 _VDBL_method< _R > Class Template Reference

base class for methods usable in _VDBL_mthdcol columns.

`#include <vdbl_method.h>`

Inheritance diagram for _VDBL_method< _R >:



Public Methods

- _VDBL_method ()
- _VDBL_method (const _VDBL_method &__m)
- virtual ~_VDBL_method ()
- virtual const return_type & operator() () VDBL_PURE_VIRTUAL virtual const return_type &def() VDBL_PURE_VIRTUAL virtual void setcontext(const context *_c

7.14.1 Detailed Description

template<class _R> class _VDBL_method< _R >

This is the base class, from which all methods should be derived that are used in _VDBL_mthdcol. Its virtual methods are those required from a method used for computing column names dynamically. Such a method is a function object with two additional methods described below.

Definition at line 55 of file vdbl_method.h.

7.14.2 Constructor & Destructor Documentation

7.14.2.1 template<class _R> _VDBL_method< _R >::_VDBL_method () [inline]

standard constructor

Definition at line 65 of file vdbl_method.h.

7.14.2.2 template<class _R> _VDBL_method< _R >::_VDBL_method (const _VDBL_method< _R > & *__m*) [inline]

copy constructor

Definition at line 69 of file vdbl_method.h.

7.14.2.3 template<class _R> virtual _VDBL_method< _R >::~_VDBL_method () [inline, virtual]

standard destructor

Definition at line 74 of file vdbl_method.h.

7.14.3 Member Function Documentation

7.14.3.1 template<class _R> virtual const return_type& _VDBL_method< _R >::operator() () const [virtual]

set the evaluation context and the evaluation row.

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

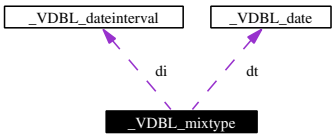
- vdbl_method.h

7.15 _VDBL_mixtype Class Reference

mixed type

`#include <vdbl_alltype.h>`

Collaboration diagram for _VDBL_mixtype:



Public Methods

- virtual ~_VDBL_mixtype ()
  destructor
- _VDBL_mixtype (const _VDBL_mixtype &__a)
  copy constructor
- _VDBL_mixtype & operator= (const _VDBL_mixtype &__a)
  assignment operator
- _VDBL_mixtype & clear ()
  deallocate all data and reset the `mixtype` *to its empty state*
- bool is_vector () const
  returns whether the mixtype stores a vector
- bool empty () const
  returns whether the mixtype is empty

- _VDBL_mixtype ()
- _VDBL_mixtype (bool __x)
- _VDBL_mixtype (int __x)

- _VDBL_mixtype (double __x)
- _VDBL_mixtype (unsigned int __x)
- _VDBL_mixtype (_VDBL_date __x)
- _VDBL_mixtype (_VDBL_dateinterval __x)
- _VDBL_mixtype (const char *__cp)
- _VDBL_mixtype (const std::string &__x)
- _VDBL_mixtype (const std::vector< bool > &__x)
- _VDBL_mixtype (const std::vector< int > &__x)
- _VDBL_mixtype (const std::vector< double > &__x)
- _VDBL_mixtype (const std::vector< unsigned int > &__x)

- _VDBL_mixtype & operator= (bool __x)
- _VDBL_mixtype & operator= (int __x)
- _VDBL_mixtype & operator= (double __x)
- _VDBL_mixtype & operator= (unsigned int __x)
- _VDBL_mixtype & operator= (const _VDBL_date &__x)
- _VDBL_mixtype & operator= (const _VDBL_dateinterval &__x)
- _VDBL_mixtype & operator= (const std::string &__x)
- _VDBL_mixtype & operator= (const char *__x)
- _VDBL_mixtype & operator= (const std::vector< bool > &__x)
- _VDBL_mixtype & operator= (const std::vector< int > &__x)
- _VDBL_mixtype & operator= (const std::vector< double > &__x)
- _VDBL_mixtype & operator= (const std::vector< unsigned int > &__x)

- bool nb () const
- int nn () const
- double nd () const
- unsigned int nu () const
- _VDBL_date dt () const
- _VDBL_dateinterval di () const
- std::string & s () const
- std::vector< bool > & b () const
- std::vector< int > & n () const
- std::vector< double > & d () const
- std::vector< unsigned int > & u () const

7.15.1 Detailed Description

This is an alternative definition of something like an all_type. It has a useful copy constructor and could be used as column type. The class can hold data of several basic types:

- bool
- int
- unsigned int
- double
- date
- dateinterval
- string
- vector<bool>
- vector<int>

- vector<unsigned int>
- vector<double>

Data is allocated and destroyed automatically.

Definition at line 316 of file vdbl_alltype.h.

7.15.2 Constructor & Destructor Documentation

7.15.2.1 _VDBL_mixtype::_VDBL_mixtype () [inline]

For every type which can be stored there exists a constructor. The constructor without arguments produces an empty _VDBL_mixtype, and a const char * argument is stored as a string.

Definition at line 418 of file vdbl_alltype.h.

7.15.2.2 _VDBL_mixtype::_VDBL_mixtype (bool __x) [inline]

For every type which can be stored there exists a constructor. The constructor without arguments produces an empty _VDBL_mixtype, and a const char * argument is stored as a string.

Definition at line 419 of file vdbl_alltype.h.

7.15.2.3 _VDBL_mixtype::_VDBL_mixtype (int __x) [inline]

For every type which can be stored there exists a constructor. The constructor without arguments produces an empty _VDBL_mixtype, and a const char * argument is stored as a string.

Definition at line 421 of file vdbl_alltype.h.

7.15.2.4 _VDBL_mixtype::_VDBL_mixtype (double __x) [inline]

For every type which can be stored there exists a constructor. The constructor without arguments produces an empty _VDBL_mixtype, and a const char * argument is stored as a string.

Definition at line 423 of file vdbl_alltype.h.

7.15.2.5 _VDBL_mixtype::_VDBL_mixtype (unsigned int __x) [inline]

For every type which can be stored there exists a constructor. The constructor without arguments produces an empty _VDBL_mixtype, and a const char * argument is stored as a string.

Definition at line 425 of file vdbl_alltype.h.

7.15.2.6 _VDBL_mixtype::_VDBL_mixtype (_VDBL_date __x) [inline]

For every type which can be stored there exists a constructor. The constructor without arguments produces an empty _VDBL_mixtype, and a const char * argument is stored as a string.

Definition at line 427 of file vdbl_alltype.h.

7.15.2.7 _VDBL_mixtype::_VDBL_mixtype (_VDBL_dateinterval __x) [inline]

For every type which can be stored there exists a constructor. The constructor without arguments produces an empty _VDBL_mixtype, and a const char * argument is stored as a string.

Definition at line 429 of file vdbl_alltype.h.

7.15.2.8 _VDBL_mixtype::_VDBL_mixtype (const char * __cp) [inline]

For every type which can be stored there exists a constructor. The constructor without arguments produces an empty _VDBL_mixtype, and a const char * argument is stored as a string.

Definition at line 431 of file vdbl_alltype.h.

7.15.2.9 _VDBL_mixtype::_VDBL_mixtype (const std::string & __x) [inline]

For every type which can be stored there exists a constructor. The constructor without arguments produces an empty _VDBL_mixtype, and a const char * argument is stored as a string.

Definition at line 433 of file vdbl_alltype.h.

7.15.2.10 _VDBL_mixtype::_VDBL_mixtype (const std::vector< bool > & __x) [inline]

For every type which can be stored there exists a constructor. The constructor without arguments produces an empty _VDBL_mixtype, and a const char * argument is stored as a string.

Definition at line 435 of file vdbl_alltype.h.

7.15.2.11 _VDBL_mixtype::_VDBL_mixtype (const std::vector< int > & __x) [inline]

For every type which can be stored there exists a constructor. The constructor without arguments produces an empty _VDBL_mixtype, and a const char * argument is stored as a string.

Definition at line 437 of file vdbl_alltype.h.

7.15.2.12 _VDBL_mixtype::_VDBL_mixtype (const std::vector< double > & __x) [inline]

For every type which can be stored there exists a constructor. The constructor without arguments produces an empty _VDBL_mixtype, and a const char * argument is stored as a string.

Definition at line 439 of file vdbl_alltype.h.

7.15.2.13 _VDBL_mixtype::_VDBL_mixtype (const std::vector< unsigned int > & __x) [inline]

For every type which can be stored there exists a constructor. The constructor without arguments produces an empty _VDBL_mixtype, and a const char * argument is stored as a string.

Definition at line 442 of file vdbl_alltype.h.

7.15.3 Member Function Documentation

7.15.3.1 std::vector<bool>& _VDBL_mixtype::b () const [inline]

Retrieve the value of the appropriate type. Note, that no internal type checking is done, whatsoever. So you should have a good idea what is stored in the mixtype, if you want to call one of the retrieval routines.

Definition at line 558 of file vdbl_alltype.h.

7.15.3.2 std::vector<double>& _VDBL_mixtype::d () const [inline]

Retrieve the value of the appropriate type. Note, that no internal type checking is done, whatsoever. So you should have a good idea what is stored in the mixtype, if you want to call one of the retrieval routines.

Definition at line 560 of file vdbl_alltype.h.

7.15.3.3 _VDBL_dateinterval _VDBL_mixtype::di () const [inline]

Retrieve the value of the appropriate type. Note, that no internal type checking is done, whatsoever. So you should have a good idea what is stored in the mixtype, if you want to call one of the retrieval routines.

Definition at line 556 of file vdbl_alltype.h.

7.15.3.4 _VDBL_date _VDBL_mixtype::dt () const [inline]

Retrieve the value of the appropriate type. Note, that no internal type checking is done, whatsoever. So you should have a good idea what is stored in the mixtype, if you want to call one of the retrieval routines.

Definition at line 555 of file vdbl_alltype.h.

7.15.3.5 std::vector<int>& _VDBL_mixtype::n () const [inline]

Retrieve the value of the appropriate type. Note, that no internal type checking is done, whatsoever. So you should have a good idea what is stored in the mixtype, if you want to call one of the retrieval routines.

Definition at line 559 of file vdbl_alltype.h.

7.15.3.6 bool _VDBL_mixtype::nb () const [inline]

Retrieve the value of the appropriate type. Note, that no internal type checking is done, whatsoever. So you should have a good idea what is stored in the mixtype, if you want to call one of the retrieval routines.

Definition at line 551 of file vdbl_alltype.h.

7.15.3.7 double _VDBL_mixtype::nd () const [inline]

Retrieve the value of the appropriate type. Note, that no internal type checking is done, whatsoever. So you should have a good idea what is stored in the mixtype, if you want to call one of the retrieval routines.

Definition at line 553 of file vdbl_alltype.h.

7.15.3.8 int _VDBL_mixtype::nn () const [inline]

Retrieve the value of the appropriate type. Note, that no internal type checking is done, whatsoever. So you should have a good idea what is stored in the mixtype, if you want to call one of the retrieval routines.

Definition at line 552 of file vdbl_alltype.h.

7.15.3.9 unsigned int _VDBL_mixtype::nu () const [inline]

Retrieve the value of the appropriate type. Note, that no internal type checking is done, whatsoever. So you should have a good idea what is stored in the mixtype, if you want to call one of the retrieval routines.

Definition at line 554 of file vdbl_alltype.h.

7.15.3.10 _VDBL_mixtype& _VDBL_mixtype::operator= (const std::vector< unsigned int > & *__x*) [inline]

For every type which can be stored there exists an assignment operator, and a `const char *` argument is stored as a `string`.

Definition at line 520 of file vdbl_alltype.h.

7.15.3.11 _VDBL_mixtype& _VDBL_mixtype::operator= (const std::vector< double > & __x) [inline]

For every type which can be stored there exists an assignment operator, and a `const char *` argument is stored as a `string`.

Definition at line 514 of file vdbl_alltype.h.

7.15.3.12 _VDBL_mixtype& _VDBL_mixtype::operator= (const std::vector< int > & __x) [inline]

For every type which can be stored there exists an assignment operator, and a `const char *` argument is stored as a `string`.

Definition at line 508 of file vdbl_alltype.h.

7.15.3.13 _VDBL_mixtype& _VDBL_mixtype::operator= (const std::vector< bool > & __x) [inline]

For every type which can be stored there exists an assignment operator, and a `const char *` argument is stored as a `string`.

Definition at line 502 of file vdbl_alltype.h.

7.15.3.14 _VDBL_mixtype& _VDBL_mixtype::operator= (const char * __x) [inline]

For every type which can be stored there exists an assignment operator, and a `const char *` argument is stored as a `string`.

Definition at line 496 of file vdbl_alltype.h.

7.15.3.15 _VDBL_mixtype& _VDBL_mixtype::operator= (const std::string & __x) [inline]

For every type which can be stored there exists an assignment operator, and a `const char *` argument is stored as a `string`.

Definition at line 490 of file vdbl_alltype.h.

7.15.3.16 _VDBL_mixtype& _VDBL_mixtype::operator= (const _VDBL_dateinterval & __x) [inline]

For every type which can be stored there exists an assignment operator, and a `const char *` argument is stored as a `string`.

Definition at line 485 of file vdbl_alltype.h.

7.15.3.17 _VDBL_mixtype& _VDBL_mixtype::operator= (const _VDBL_date & __x) [inline]

For every type which can be stored there exists an assignment operator, and a `const char *` argument is stored as a `string`.

Definition at line 480 of file vdbl_alltype.h.

7.15.3.18 _VDBL_mixtype& _VDBL_mixtype::operator= (unsigned int __x) [inline]

For every type which can be stored there exists an assignment operator, and a `const char *` argument is stored as a `string`.

Definition at line 475 of file vdbl_alltype.h.

7.15.3.19 _VDBL_mixtype& _VDBL_mixtype::operator= (double __x) [inline]

For every type which can be stored there exists an assignment operator, and a `const char *` argument is stored as a `string`.

Definition at line 470 of file vdbl_alltype.h.

7.15.3.20 _VDBL_mixtype& _VDBL_mixtype::operator= (int __x) [inline]

For every type which can be stored there exists an assignment operator, and a `const char *` argument is stored as a `string`.

Definition at line 465 of file vdbl_alltype.h.

7.15.3.21 _VDBL_mixtype& _VDBL_mixtype::operator= (bool __x) [inline]

For every type which can be stored there exists an assignment operator, and a `const char *` argument is stored as a `string`.

Definition at line 460 of file vdbl_alltype.h.

7.15.3.22 std::string& _VDBL_mixtype::s () const [inline]

Retrieve the value of the appropriate type. Note, that no internal type checking is done, whatsoever. So you should have a good idea what is stored in the mixtype, if you want to call one of the retrieval routines.

Definition at line 557 of file vdbl_alltype.h.

7.15.3.23 std::vector<unsigned int>& _VDBL_mixtype::u () const [inline]

Retrieve the value of the appropriate type. Note, that no internal type checking is done, whatsoever. So you should have a good idea what is stored in the mixtype, if you want to call one of the retrieval routines.

Definition at line 561 of file vdbl_alltype.h.

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

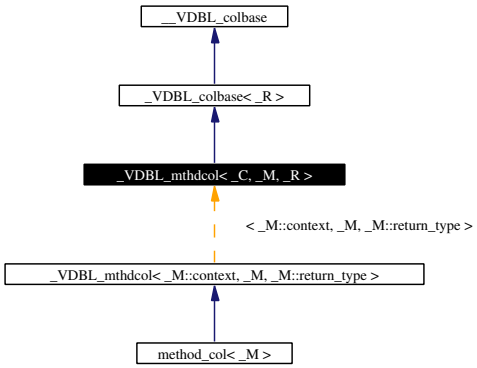
- vdbl_alltype.h

7.16 _VDBL_mthdcol< _C, _M, _R > Class Template Reference

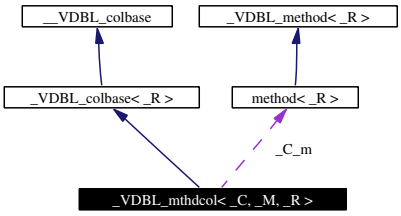
generic column class for methods

`#include <vdbl_col.h>`

Inheritance diagram for _VDBL_mthdcol< _C, _M, _R >:



Collaboration diagram for _VDBL_mthdcol< _C, _M, _R >:



Public Methods

- _VDBL_mthdcol (const method &__m)
- _Self * new_copy () const
- virtual void setcontext (const context *_c, const _VDBL_row *_r)
- void get (type &c) const

  the function object provides us with the retrieval method

- void get_ptr (type const *&c) const

  there is no way to get a pointer to the method's result properly

- void def (type &d) const

  the default value might be different, and might be computed differently

- void def_copy (return_type *&d) const
- virtual void setcontext (const context *_c, const _VDBL_row *_r) VDBL_PURE_VIRTUAL virtual void get(return_type &c) const VDBL_PURE_VIRTUAL virtual void def(return_type &d) const VDBL_PURE_VIRTUAL virtual void get_ptr(return_type const *&c) const VDBL_PURE_VIRTUAL virtual void get_copy(return_type *&c) const
- virtual void def_copy (_VDBL_alltype_base *&v) const
- virtual void get_copy (_VDBL_alltype_base *&v) const
- virtual const std::type_info & return_type_id () const

- _VDBL_mthdcol ()
- _VDBL_mthdcol (const _Self &__c)
- virtual ~_VDBL_mthdcol ()

7.16.1 Detailed Description

template<class _C, class _M, class _R> class _VDBL_mthdcol< _C, _M, _R >

`_VDBL_mthdcol` is the generic column class for computed values. It allows to define a method, which is called within the given context together with a reference to the row, whenever a column is accessed.

Definition at line 506 of file vdbl_col.h.

7.16.2 Constructor & Destructor Documentation

7.16.2.1 template<class _C, class _M, class _R> _VDBL_mthdcol< _C, _M, _R >::_VDBL_mthdcol () [inline]

standard constructor, copy constructor, and destructor

Definition at line 525 of file vdbl_col.h.

7.16.2.2 template<class _C, class _M, class _R> _VDBL_mthdcol< _C, _M, _R >::_VDBL_mthdcol (const _Self & *__c*) [inline]

standard constructor, copy constructor, and destructor

Definition at line 526 of file vdbl_col.h.

7.16.2.3 template<class _C, class _M, class _R> virtual _VDBL_mthdcol< _C, _M, _R >::~_VDBL_mthdcol () [inline, virtual]

standard constructor, copy constructor, and destructor

Definition at line 527 of file vdbl_col.h.

7.16.2.4 template<class _C, class _M, class _R> _VDBL_mthdcol< _C, _M, _R >::_VDBL_mthdcol (const method & *__m*) [inline]

constructor for explicitely setting the method

Definition at line 533 of file vdbl_col.h.

7.16.3 Member Function Documentation

7.16.3.1 template<class _R> virtual void _VDBL_colbase< _R >::def_copy (_VDBL_alltype_base *& *v*) const [inline, virtual, inherited]

This version of `get_copy` returns a copy of the columns default value within an `alltype`. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Reimplemented in _VDBL_stdcol< _T >.

Definition at line 209 of file vdbl_col.h.

7.16.3.2 template<class _C, class _M, class _R> void _VDBL_mthdcol< _C, _M, _R >::def_copy (return_type *& *d*) const [inline, virtual]

This function returns a pointer to a copy of the column's default value. The copy of the value is allocated by `new`. It has to be `delete`d by the user to avoid memory leaks.

Reimplemented from _VDBL_colbase< _R >.

Definition at line 559 of file vdbl_col.h.

7.16.3.3 template<class _R> virtual void _VDBL_colbase< _R >::get_copy (_VDBL_alltype_base *& *v*) const [inline, virtual, inherited]

This version of `get_copy` returns a copy of the columns value within an `alltype`. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Reimplemented in _VDBL_stdcol< _T >.

Definition at line 196 of file vdbl_col.h.

7.16.3.4 template<class _C, class _M, class _R> _Self* _VDBL_mthdcol< _C, _M, _R >::new_copy () const [inline, virtual]

`new_copy` is the clone operation for copy-constructor overloading.

Reimplemented from _VDBL_colbase< _R >.

Definition at line 535 of file vdbl_col.h.

7.16.3.5 template<class _R> virtual const std::type_info& _VDBL_colbase< _R >::return_type_id () const [inline, virtual, inherited]

This function returns the `type_info` of the column type. This information is used during run-time type checking.

Definition at line 220 of file vdbl_col.h.

7.16.3.6 template<class _R> virtual void _VDBL_colbase< _R >::setcontext (const context * *_c*, const _VDBL_row * *_r*) const [inline, virtual, inherited]

This function returns a pointer to a copy of the column's value. The copy of the value is allocated by `new`. It has to be `delete`d by the user to avoid memory leaks.

Definition at line 156 of file vdbl_col.h.

7.16.3.7 template<class _C, class _M, class _R> virtual void _VDBL_mthdcol< _C, _M, _R >::setcontext (const context * *_c*, const _VDBL_row * *_r*) [inline, virtual]

for setting the context, the setcontext method of the function object is used.

Definition at line 541 of file vdbl_col.h.

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

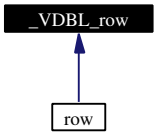
- vdbl_col.h

7.17 _VDBL_row Class Reference

row class

`#include <vdbl_row.h>`

Inheritance diagram for _VDBL_row:



Public Methods

- _VDBL_row ()
- _VDBL_row (const _VDBL_row &__r)
- virtual ~_VDBL_row ()
- const _VDBL_col & get_col (const _VDBL_colid &_id, bool &error) const
- _VDBL_col & get_col (const _VDBL_colid &_id, bool &error)
- bool has_col (const _VDBL_colid &_id) const
- bool insert (const _VDBL_colid &_id, const _VDBL_col &_col)
- bool drop (const _VDBL_colid &_id)
- void update (const _VDBL_colid &_id, const _VDBL_col &_col)

7.17.1 Detailed Description

This class implements rows of a table as a map column id -> column

Definition at line 53 of file vdbl_row.h.

7.17.2 Constructor & Destructor Documentation

7.17.2.1 _VDBL_row::_VDBL_row () [inline]

standard constructor which optionally initializes the global ACL entry

Definition at line 66 of file vdbl_row.h.

7.17.2.2 _VDBL_row::_VDBL_row (const _VDBL_row & __r) [inline]

copy constructor

Definition at line 70 of file vdbl_row.h.

7.17.2.3 virtual _VDBL_row::~_VDBL_row () [inline, virtual]

standard destructor

Definition at line 74 of file vdbl_row.h.

7.17.3 Member Function Documentation

7.17.3.1 bool _VDBL_row::drop (const _VDBL_colid & _id) [inline]

remove the column with id _id from this row. Return true if erasing was successful, and false if the column does not exist.

Definition at line 148 of file vdbl_row.h.

7.17.3.2 _VDBL_col& _VDBL_row::get_col (const _VDBL_colid & *_id*, bool & *error*) [inline]

get a reference to the column with id _id. If the column existed, error will be false, otherwise error will be true.

Definition at line 102 of file vdbl_row.h.

7.17.3.3 const _VDBL_col& _VDBL_row::get_col (const _VDBL_colid & *_id*, bool & *error*) const [inline]

get a const reference to the column with id _id. If the column existed, error will be false, otherwise error will be true.

Definition at line 81 of file vdbl_row.h.

7.17.3.4 bool _VDBL_row::has_col (const _VDBL_colid & *_id*) const [inline]

return whether a column with id _id exists in this row.

Definition at line 121 of file vdbl_row.h.

7.17.3.5 bool _VDBL_row::insert (const _VDBL_colid & *_id*, const _VDBL_col & *_col*) [inline]

insert the new column _col with id _id in this row. If this id exists, return false, otherwise return true.

Definition at line 131 of file vdbl_row.h.

7.17.3.6 void _VDBL_row::update (const _VDBL_colid & *_id*, const _VDBL_col & *_col*) [inline]

update the column with id _id with the value _col. If the column does not yet exist, insert it. Otherwise, change its value.

Definition at line 165 of file vdbl_row.h.

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

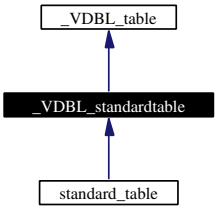
- vdbl_row.h

7.18 _VDBL_standardtable Class Reference

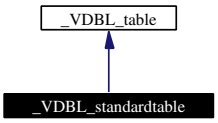
standard table in databases, constructed from rows and columns

`#include <vdbl_table.h>`

Inheritance diagram for _VDBL_standardtable:



Collaboration diagram for _VDBL_standardtable:



Public Types

- typedef std::pair< std::string, _VDBL_col > _T_colspec
- typedef std::pair< const std::string *, const _VDBL_col * > _T_ptrcolspec
- typedef _Base::col_const_iterator col_const_iterator
- typedef _row_iterator< _VDBL_rowid, const _VDBL_rowid &, const _VDBL_rowid * > row_const_iterator

Public Methods

- const std::type_info & get_colinfo (const std::string &_C_n, triple< bool, _VDBL_colid, _VDBL_colflags > &_r) const
- _VDBL_colid get_col_id (const std::string &_C_n) const
- _VDBL_standardtable ()
- _VDBL_standardtable (const _VDBL_standardtable &__t)
- template<template< class __Tp, class __AllocTp > class __SequenceCtr, class Allocator1> _VDBL_standardtable (const __SequenceCtr< triple< std::string, _VDBL_col, _VDBL_colflags >, Allocator1 > &__cc)
- virtual ~_VDBL_standardtable ()
- std::pair< std::string, _VDBL_colid > _next_col (const std::pair< std::string, _VDBL_colid > &_ci) const
- _VDBL_rowid _next_row (const _VDBL_rowid &_ci) const
- virtual bool add_col (const std::string &_C_n, const _VDBL_col &__c, const _VDBL_colflags &__f) VDBL_PURE_VIRTUAL virtual bool modify_col(const std
- template<template< class __Tp1, class __AllocTp1 > class __SequenceCtrOut, template< class __Tp2, class __AllocTp2 > class __SequenceCtrIn, class AllocatorOut, class AllocatorIn> bool insert_row (const __SequenceCtrOut< __SequenceCtrIn< _T_colspec, AllocatorIn >, AllocatorOut > &_rows)

Protected Methods

- void made_change ()

- _VDBL_colid get_colid ()
- _VDBL_rowid get_rowid ()

Friends

- class _VDBL_view

7.18.1 Detailed Description

This is the class describing standard tables as they usually appear in databases, constructed from rows and columns.

Definition at line 550 of file vdbl_table.h.

7.18.2 Member Typedef Documentation

7.18.2.1 typedef std::pair<std::string,_VDBL_col> _VDBL_standardtable::_T_colspec

specifier of one column, a pair of column name (`string`) and entry (`_VDBL_col`).

Reimplemented from _VDBL_table.

Definition at line 568 of file vdbl_table.h.

7.18.2.2 typedef std::pair<const std::string*,const _VDBL_col*> _VDBL_standardtable::_T_ptrcolspec

specifier of pointers to one column, a pair of column name (`string*`) and entry (`_VDBL_col*`).

Reimplemented from _VDBL_table.

Definition at line 573 of file vdbl_table.h.

7.18.2.3 typedef _Base::col_const_iterator _VDBL_standardtable::col_const_iterator

const iterator over all columns

Reimplemented from _VDBL_table.

Definition at line 578 of file vdbl_table.h.

7.18.2.4 typedef _row_iterator<_VDBL_rowid, const _VDBL_rowid&, const _VDBL_rowid*> _VDBL_table::row_const_iterator [inherited]

const iterator over all rows

Definition at line 320 of file vdbl_table.h.

7.18.3 Constructor & Destructor Documentation

7.18.3.1 _VDBL_standardtable::_VDBL_standardtable () [inline]

standard constructor which optionally initializes the global ACL entry

Definition at line 628 of file vdbl_table.h.

7.18.3.2 _VDBL_standardtable::_VDBL_standardtable (const _VDBL_standardtable & __t) [inline]

copy constructor

Definition at line 632 of file vdbl_table.h.

7.18.3.3 template<template< class __Tp, class __AllocTp > class __SequenceCtr, class Allocator1> _VDBL_standardtable::_VDBL_standardtable (const __SequenceCtr< triple< std::string, _VDBL_col, _VDBL_colflags >, Allocator1 > & __cc) [inline]

constructor which builds a table from a list of column definitions. This list can be contained in any sequential STL container.

Definition at line 642 of file vdbl_table.h.

7.18.3.4 virtual _VDBL_standardtable::~_VDBL_standardtable () [inline, virtual]

standard destructor

Definition at line 672 of file vdbl_table.h.

7.18.4 Member Function Documentation

7.18.4.1 std::pair<std::string,_VDBL_colid> _VDBL_standardtable::_next_col (const std::pair< std::string, _VDBL_colid > & _ci) const [inline, virtual]

This is the fundamental class for iterators over all rows, defining basic in(de)crementation for overloading, and basic comparison.

Reimplemented from _VDBL_table.

Definition at line 996 of file vdbl_table.h.

7.18.4.2 _VDBL_rowid _VDBL_standardtable::_next_row (const _VDBL_rowid & _ci) const [inline, virtual]

standard constructor

Reimplemented from _VDBL_table.

Definition at line 1031 of file vdbl_table.h.

7.18.4.3 virtual bool _VDBL_table::add_col (const std::string & _C_n, const _VDBL_col & __c, const _VDBL_colflags & __f) const [inline, virtual, inherited]

insert a new row of specification _row into the table, and return the row id of the newly created row in _r. Take any sequential STL container to hold the row entries of the column. The function returns true, if inserting was successful.

Definition at line 376 of file vdbl_table.h.

7.18.4.4 _VDBL_colid _VDBL_standardtable::get_col_id (const std::string & _C_n) const [inline]

return the column id of column _C_n

Definition at line 614 of file vdbl_table.h.

7.18.4.5 _VDBL_colid _VDBL_table::get_colid () [inline, protected, inherited]

generate new unique id's for rows and columns

Definition at line 98 of file vdbl_table.h.

7.18.4.6 const std::type_info& _VDBL_standardtable::get_colinfo (const std::string & *_C_n*, triple< bool, _VDBL_colid, _VDBL_colflags > & *_r*) const [inline, virtual]

what was the id of the last change to the table

Reimplemented from _VDBL_table.

Definition at line 591 of file vdbl_table.h.

7.18.4.7 _VDBL_rowid _VDBL_table::get_rowid () [inline, protected, inherited]

generate new unique id's for rows and columns

Definition at line 99 of file vdbl_table.h.

7.18.4.8 template<template< class __Tp1, class __AllocTp1 > class __SequenceCtrOut, template< class __Tp2, class __AllocTp2 > class __SequenceCtrIn, class AllocatorOut, class AllocatorIn> bool _VDBL_table::insert_row (const __SequenceCtrOut< __SequenceCtrIn< _T_colspec, AllocatorIn >, AllocatorOut > & *_rows*) [inline, inherited]

insert a many new rows of specifications `_rows` into the table. The list of rows can be contained in any sequential STL container, which holds any other sequential STL container of column entries. The function returns `true`, if inserting was successful for all rows.

Definition at line 457 of file vdbl_table.h.

7.18.4.9 void _VDBL_table::made_change () [inline, protected, inherited]

increment the `last_change` counter.

Definition at line 105 of file vdbl_table.h.

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

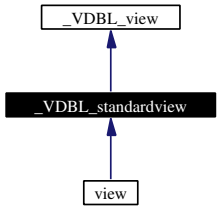
- vdbl_table.h

7.19 _VDBL_standardview Class Reference

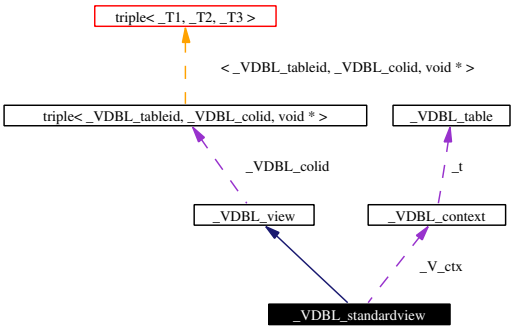
standard view onto **one** table

`#include <vdbl_stview.h>`

Inheritance diagram for _VDBL_standardview:



Collaboration diagram for _VDBL_standardview:



Public Types

- typedef _Base::default_const_iterator defaults_const_iterator

  iterator over all default columns

- typedef std::pair< std::string, _VDBL_col > _T_colspec

Public Methods

- _VDBL_standardview (const _VDBL_tableid &__ti, _VDBL_table *__t, const _VDBL_context &__c, _V_enum __e)
- _VDBL_standardview (const _VDBL_tableid &__ti, _VDBL_table *__t, const _VDBL_context &__c, _V_enum __e, const std::vector< _VDBL_rowid > &_rs)
- _VDBL_standardview (const _VDBL_standardview &__v)
- virtual ~_VDBL_standardview ()
- const std::type_info & get_colinfo (const std::string &_C_n, triple< bool, _VDBL_colid, _VDBL_colflags > &_r) const
- bool remove (std::pair< _VDBL_tableid, _VDBL_rowid > _r)
- std::ostream & print_col (std::ostream &o, const std::pair< _VDBL_tableid, _VDBL_rowid > &_ri, const _VDBL_colid &_ci, bool &printed) const
- template<class _R> bool get (const std::pair< _VDBL_tableid, _VDBL_rowid > &_ri, const _VDBL_colid &_ci, _R &r) const
- template<class _R> bool get_raw_ptr (const std::pair< _VDBL_tableid, _VDBL_rowid > &_ri, const _VDBL_colid &_ci, _R const *&r) const

Protected Types

- typedef _default_iterator< _VDBL_col, const _VDBL_col &, const _VDBL_col * > default_const_iterator
- typedef _col_iterator< _VDBL_col, const _VDBL_col &, const _VDBL_col * > col_const_iterator
- typedef _row_iterator< _VDBL_row, const _VDBL_row &, const _VDBL_row * > row_const_iterator

Protected Methods

- triple< _VDBL_tableid, _VDBL_colid, void * > _next_def_col (const _VDBL_tableid &_t, const _VDBL_colid &_c, void *_d) const
- triple< _VDBL_tableid, _VDBL_colid, void * > _prev_def_col (const _VDBL_tableid &_t, const _VDBL_colid &_c, void *_d) const
- void * _copy_def_data (void *_d) const
- triple< _VDBL_tableid, _VDBL_colid, void * > _next_col (const _VDBL_tableid &_t, const _VDBL_rowid &_r, const _VDBL_colid &_c, void *_d) const
- triple< _VDBL_tableid, _VDBL_colid, void * > _prev_col (const _VDBL_tableid &_t, const _VDBL_rowid &_r, const _VDBL_colid &_c, void *_d) const
- void * _copy_col_data (void *_d) const
- triple< _VDBL_tableid, _VDBL_rowid, void * > _next_row (const _VDBL_tableid &_t, const _VDBL_rowid &_r, void *_d) const
- triple< _VDBL_tableid, _VDBL_rowid, void * > _prev_row (const _VDBL_tableid &_t, const _VDBL_rowid &_r, void *_d) const
- void * _copy_row_data (void *_d) const
- void made_change ()

  increment the `change` *counter.*

- unsigned int get_change_ctr () const

  read the change counter

Protected Attributes

- _V_rows _V_r
- _V_cols _V_c

7.19.1 Detailed Description

This class implements views onto a single table.

Definition at line 48 of file vdbl_stview.h.

7.19.2 Member Typedef Documentation

7.19.2.1 typedef std::pair<std::string,_VDBL_col> _VDBL_view::_T_colspec [inherited]

This is the description of one column

Definition at line 84 of file vdbl_view.h.

7.19.2.2 typedef _col_iterator<_VDBL_col, const _VDBL_col&, const _VDBL_col*> _VDBL_view::col_const_iterator [protected, inherited]

const iterator over all columns

Definition at line 461 of file vdbl_view.h.

7.19.2.3 typedef _default_iterator<_VDBL_col, const _VDBL_col&, const _VDBL_col*> _VDBL_view::default_const_iterator [protected, inherited]

const iterator over all default columns

Definition at line 324 of file vdbl_view.h.

7.19.2.4 typedef _row_iterator<_VDBL_row, const _VDBL_row&, const _VDBL_row*> _VDBL_view::row_const_iterator [protected, inherited]

const iterator over all rows

Definition at line 590 of file vdbl_view.h.

7.19.3 Constructor & Destructor Documentation

7.19.3.1 _VDBL_standardview::_VDBL_standardview (const _VDBL_tableid & __ti, _VDBL_table * __t, const _VDBL_context & __c, _V_enum __e) [inline]

standard constructor which initalizes the `table` and the `tableid`, the evaluation context, and the view type.

Definition at line 246 of file vdbl_stview.h.

7.19.3.2 _VDBL_standardview::_VDBL_standardview (const _VDBL_tableid & __ti, _VDBL_table * __t, const _VDBL_context & __c, _V_enum __e, const std::vector< _VDBL_rowid > & _rs) [inline]

standard constructor which initalizes the `table` and the `tableid`, the evaluation context, and the view type. In addition the vector `_rs` contains a list of rows, which should be visible in this view.

Definition at line 269 of file vdbl_stview.h.

7.19.3.3 _VDBL_standardview::_VDBL_standardview (const _VDBL_standardview & __v) [inline]

copy constructor

Definition at line 288 of file vdbl_stview.h.

7.19.3.4 virtual _VDBL_standardview::~_VDBL_standardview () [inline, virtual]

standard destructor

Definition at line 298 of file vdbl_stview.h.

7.19.4 Member Function Documentation

7.19.4.1 void* _VDBL_standardview::_copy_col_data (void * _d) const [inline, protected, virtual]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the next row for a _row_iterator.

Reimplemented from _VDBL_view.

Definition at line 194 of file vdbl_stview.h.

7.19.4.2 void* _VDBL_standardview::_copy_def_data (void * _d) const [inline, protected, virtual]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the next column for a _col_iterator.

Reimplemented from _VDBL_view.

Definition at line 144 of file vdbl_stview.h.

7.19.4.3 void* _VDBL_standardview::_copy_row_data (void * _d) const [inline, protected, virtual]

This is the fundamental class for iterators over all default columns, defining basic in(de)crementation for overloading, and basic comparison.

Reimplemented from _VDBL_view.

Definition at line 230 of file vdbl_stview.h.

7.19.4.4 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_standardview::_next_col (const _VDBL_tableid & _t, const _VDBL_rowid & _r, const _VDBL_colid & _c, void * _d) const [inline, protected]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous column for a _col_iterator.

Reimplemented from _VDBL_view.

Definition at line 149 of file vdbl_stview.h.

7.19.4.5 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_standardview::_next_def_col (const _VDBL_tableid & _t, const _VDBL_colid & _c, void * _d) const [inline, protected, virtual]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous default of a column a _default_iterator.

Reimplemented from _VDBL_view.

Definition at line 100 of file vdbl_stview.h.

7.19.4.6 triple<_VDBL_tableid,_VDBL_rowid,void*> _VDBL_standardview::_next_row (const _VDBL_tableid & _t, const _VDBL_rowid & _r, void * _d) const [inline, protected]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous row for a _row_iterator.

Reimplemented from _VDBL_view.

Definition at line 199 of file vdbl_stview.h.

7.19.4.7 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_standardview::_prev_col (const _VDBL_tableid & *_t*, const _VDBL_rowid & *_r*, const _VDBL_colid & *_c*, void * *_d*) const [inline, protected]

This function destroys the additional data needed by a _col_iterator

Reimplemented from _VDBL_view.

Definition at line 169 of file vdbl_stview.h.

7.19.4.8 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_standardview::_prev_def_col (const _VDBL_tableid & *_t*, const _VDBL_colid & *_c*, void * *_d*) const [inline, protected]

This function destroys the additional data needed by a _default_iterator

Reimplemented from _VDBL_view.

Definition at line 120 of file vdbl_stview.h.

7.19.4.9 triple<_VDBL_tableid,_VDBL_rowid,void*> _VDBL_standardview::_prev_row (const _VDBL_tableid & *_t*, const _VDBL_rowid & *_r*, void * *_d*) const [inline, protected]

This function destroys the additional data needed by a _row_iterator

Reimplemented from _VDBL_view.

Definition at line 213 of file vdbl_stview.h.

7.19.4.10 template<class _R> bool _VDBL_standardview::get (const std::pair< _VDBL_tableid, _VDBL_rowid > & *_ri*, const _VDBL_colid & *_ci*, _R & *r*) const [inline]

get the data from column _ci in row _ri.second of table _ri.first. The data stored in the column must be of type _R.

Definition at line 414 of file vdbl_stview.h.

7.19.4.11 const std::type_info& _VDBL_standardview::get_colinfo (const std::string & *_C_n*, triple< bool, _VDBL_colid, _VDBL_colflags > & *_r*) const [inline, virtual]

return the type of this view

Reimplemented from _VDBL_view.

Definition at line 301 of file vdbl_stview.h.

7.19.4.12 template<class _R> bool _VDBL_standardview::get_raw_ptr (const std::pair< _VDBL_tableid, _VDBL_rowid > & *_ri*, const _VDBL_colid & *_ci*, _R const *& *r*) const [inline]

get a const ptr to the data from column _ci in row _ri.second of table _ri.first. The data stored in the column must be of type _R. In this function no data copying is done. Note that this function returns a pointer to the columns raw data, so it can only be used to refer to constant columns.

Definition at line 436 of file vdbl_stview.h.

7.19.4.13 std::ostream& _VDBL_standardview::print_col (std::ostream & *o*, const std::pair< _VDBL_tableid, _VDBL_rowid > & *_ri*, const _VDBL_colid & *_ci*, bool & *printed*) const [inline]

print the contents of column _ci in row _ri.second of table _ri.first.

Definition at line 391 of file vdbl_stview.h.

7.19.4.14 bool _VDBL_standardview::remove (std::pair< _VDBL_tableid, _VDBL_rowid > _r) [inline]

for now window views can only have one table in the list of tables

Definition at line 330 of file vdbl_stview.h.

7.19.5 Member Data Documentation

7.19.5.1 _V_cols _VDBL_standardview::_V_c [protected]

This contains all columns of the view

Definition at line 86 of file vdbl_stview.h.

7.19.5.2 _V_rows _VDBL_standardview::_V_r [protected]

This contains all rows of the view

Definition at line 82 of file vdbl_stview.h.

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

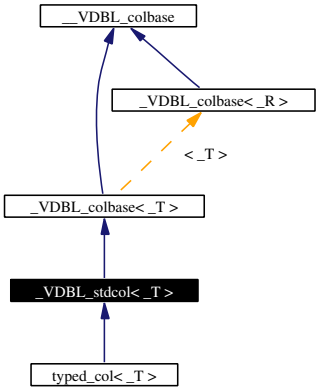
- vdbl_stview.h

7.20 _VDBL_stdcol< _T > Class Template Reference

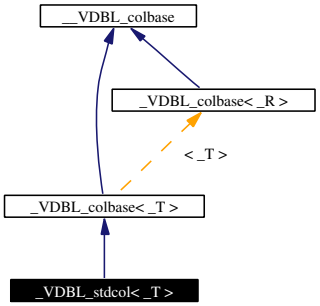
generic column class for constant values

`#include <vdbl_col.h>`

Inheritance diagram for _VDBL_stdcol< _T >:



Collaboration diagram for _VDBL_stdcol< _T >:



Public Methods

- _VDBL_stdcol (const type &__t)
- _Self * new_copy () const
- void set (const _Self &_p)
- void setcontext (const context *_c, const _VDBL_row *_r)
- void def (type &d) const
- void def_copy (return_type *&d) const
- void get_copy (_VDBL_alltype_base *&v) const
- void def_copy (_VDBL_alltype_base *&v) const
- void set (const type &__t)
- void set_default (const type &__t)
- const type & get_val () const
- virtual void setcontext (const context *_c, const _VDBL_row *_r) VDBL_PURE_VIRTUAL virtual void get(return_type &c) const VDBL_PURE_VIRTUAL virtual void def(return_type &d) const VDBL_PURE_VIRTUAL virtual void get_ptr(return_type const *&c) const VDBL_PURE_VIRTUAL virtual void get_copy(return_type *&c) const
- virtual const std::type_info & return_type_id () const

- _VDBL_stdcol ()
- _VDBL_stdcol (const _Self &__c)
- virtual ~_VDBL_stdcol ()

7.20.1 Detailed Description

template<class _T> class _VDBL_stdcol< _T >

`_VDBL_stdcol` is the generic column class for constant values.

Definition at line 405 of file vdbl_col.h.

7.20.2 Constructor & Destructor Documentation

7.20.2.1 template<class _T> _VDBL_stdcol< _T >::_VDBL_stdcol () [inline]

standard constructor, copy constructor, destructor

Definition at line 422 of file vdbl_col.h.

7.20.2.2 template<class _T> _VDBL_stdcol< _T >::_VDBL_stdcol (const _Self & __c) [inline]

standard constructor, copy constructor, destructor

Definition at line 423 of file vdbl_col.h.

7.20.2.3 template<class _T> virtual _VDBL_stdcol< _T >::~_VDBL_stdcol () [inline, virtual]

standard constructor, copy constructor, destructor

Definition at line 424 of file vdbl_col.h.

7.20.2.4 template<class _T> _VDBL_stdcol< _T >::_VDBL_stdcol (const type & __t) [inline]

explicit constructor setting the column's value

Definition at line 430 of file vdbl_col.h.

7.20.3 Member Function Documentation

7.20.3.1 template<class _T> void _VDBL_stdcol< _T >::def (type & *d*) const [inline]

the default for the constant value coincides with the value, since in the table definition the reference object of this class will hold the default, then. There have to be different access methods `get` and `def` for more complicated column types

Definition at line 453 of file vdbl_col.h.

7.20.3.2 template<class _T> void _VDBL_stdcol< _T >::def_copy (_VDBL_alltype_base *& *v*) const [inline, virtual]

This version of `get_copy` returns a copy of the columns default value within an `alltype`. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Reimplemented from _VDBL_colbase< _T >.

Definition at line 470 of file vdbl_col.h.

7.20.3.3 template<class _T> void _VDBL_stdcol< _T >::def_copy (return_type *& *d*) const [inline, virtual]

This function returns a pointer to a copy of the column's default value. The copy of the value is allocated by `new`. It has to be `delete`d by the user to avoid memory leaks.

Reimplemented from _VDBL_colbase< _T >.

Definition at line 460 of file vdbl_col.h.

7.20.3.4 template<class _T> void _VDBL_stdcol< _T >::get_copy (_VDBL_alltype_base *& *v*) const [inline, virtual]

This version of `get_copy` returns a copy of the columns value within an `alltype`. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Reimplemented from _VDBL_colbase< _T >.

Definition at line 463 of file vdbl_col.h.

7.20.3.5 template<class _T> const type& _VDBL_stdcol< _T >::get_val () const [inline]

get a const reference to the column value

Definition at line 492 of file vdbl_col.h.

7.20.3.6 template<class _T> _Self* _VDBL_stdcol< _T >::new_copy () const [inline, virtual]

`new_copy` is the clone operation for copy-constructor overloading.

Reimplemented from _VDBL_colbase< _T >.

Definition at line 432 of file vdbl_col.h.

7.20.3.7 virtual const std::type_info& _VDBL_colbase< _T >::return_type_id () const [inline, virtual, inherited]

This function returns the `type_info` of the column type. This information is used during run-time type checking.

Definition at line 220 of file vdbl_col.h.

7.20.3.8 template<class _T> void _VDBL_stdcol< _T >::set (const type & _t) [inline]

set the column value

Definition at line 480 of file vdbl_col.h.

7.20.3.9 template<class _T> void _VDBL_stdcol< _T >::set (const _Self & _p) [inline]

explicit copy operation

Definition at line 437 of file vdbl_col.h.

7.20.3.10 template<class _T> void _VDBL_stdcol< _T >::set_default (const type & _t) [inline]

set the default value for this column. This is actually equivalent to `set`, since default and standard columns coincide for constant values.

Definition at line 487 of file vdbl_col.h.

7.20.3.11 virtual void _VDBL_colbase< _T >::setcontext (const context * _c, const _VDBL_row * _r) const [inline, virtual, inherited]

This function returns a pointer to a copy of the column's value. The copy of the value is allocated by `new`. It has to be `delete`d by the user to avoid memory leaks.

Definition at line 156 of file vdbl_col.h.

7.20.3.12 template<class _T> void _VDBL_stdcol< _T >::setcontext (const context * _c, const _VDBL_row * _r) [inline]

this method is empty, since constant values are independend of the context.

Definition at line 443 of file vdbl_col.h.

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

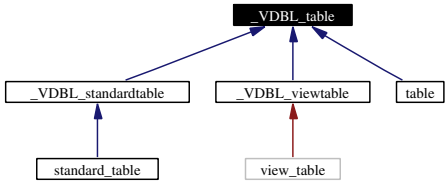
- vdbl_col.h

7.21 _VDBL_table Class Reference

the base class describing database tables

`#include <vdbl_table.h>`

Inheritance diagram for _VDBL_table:



Public Types

- typedef std::pair< std::string, _VDBL_col > _T_colspec
- typedef std::pair< const std::string *, const _VDBL_col * > _T_ptrcolspec
- typedef _col_iterator< std::pair< std::string, _VDBL_colid >, const std::pair< std::string, _VDBL_colid > &, const std::pair< std::string, _VDBL_colid > * > col_const_iterator
- typedef _row_iterator< _VDBL_rowid, const _VDBL_rowid &, const _VDBL_rowid * > row_const_iterator

Public Methods

- virtual const std::type_info & get_colinfo (const std::string &_C_n, triple< bool, _VDBL_colid, _VDBL_colflags > &_r) const VDBL_PURE_VIRTUAL public
- virtual std::pair< std::string, _VDBL_colid > _next_col (const std::pair< std::string, _VDBL_colid > &_ci) const VDBL_PURE_VIRTUAL virtual std
- virtual _VDBL_rowid _next_row (const _VDBL_rowid &_ci) const VDBL_PURE_VIRTUAL virtual _VDBL_rowid _prev_row(const _VDBL_rowid &_ci) const VDBL_PURE_VIRTUAL virtual row_const _iterator row_begin() const VDBL_PURE_VIRTUAL virtual row_ const _iterator row_end() const VDBL_PURE_VIRTUAL public
- _VDBL_table (const _VDBL_table &__t)
- template<template< class __Tp, class __AllocTp > class __SequenceCtr, class Allocator1> _VDBL_table (const __SequenceCtr< triple< std::string, _VDBL_col, _VDBL_colflags >, Allocator1 > &__cc)
- virtual ~_VDBL_table ()
- virtual bool add_col (const std::string &_C_n, const _VDBL_col &__c, const _VDBL_colflags &__f) VDBL_PURE_VIRTUAL virtual bool modify_col(const std

- template<template< class __Tp1, class __AllocTp1 > class __SequenceCtrOut, template< class __Tp2, class __AllocTp2 > class __SequenceCtrIn, class AllocatorOut, class AllocatorIn> bool insert_row (const __SequenceCtrOut< __SequenceCtrIn< _T_colspec, AllocatorIn >, AllocatorOut > &_rows)

Protected Methods

- void made_change ()

- _VDBL_colid get_colid ()
- _VDBL_rowid get_rowid ()

7.21.1 Detailed Description

This is the base class of all tables within a database. A table is defined by a set of columns, which can be added and removed dynamically. The columns might have default values. Those are stored with the table, as well. The columns all consist of objects of class `_VDBL_col`.

The whole table then consists of a set of rows (`_VDBL_row` objects), organized in a map rowid -> row.

Definition at line 67 of file vdbl_table.h.

7.21.2 Member Typedef Documentation

7.21.2.1 typedef std::pair<std::string,_VDBL_col> _VDBL_table::_T_colspec

specifier of one column, a pair of column name (`string`) and entry (`_VDBL_col`).

Reimplemented in _VDBL_standardtable, and _VDBL_viewtable.

Definition at line 77 of file vdbl_table.h.

7.21.2.2 typedef std::pair<const std::string*,const _VDBL_col*> _VDBL_table::_T_ptrcolspec

specifier of pointers to one column, a pair of column name (`string*`) and entry (`_VDBL_col*`).

Reimplemented in _VDBL_standardtable.

Definition at line 82 of file vdbl_table.h.

7.21.2.3 typedef _col_iterator<std::pair<std::string,_VDBL_colid>, const std::pair<std::string,_VDBL_colid>&, const std::pair<std::string,_VDBL_colid>*> _VDBL_table::col_const_iterator

const iterator over all columns

Reimplemented in _VDBL_standardtable.

Definition at line 213 of file vdbl_table.h.

7.21.2.4 typedef _row_iterator<_VDBL_rowid, const _VDBL_rowid&, const _VDBL_rowid*> _VDBL_table::row_const_iterator

const iterator over all rows

Definition at line 320 of file vdbl_table.h.

7.21.3 Constructor & Destructor Documentation

7.21.3.1 _VDBL_table::_VDBL_table (const _VDBL_table & __t) [inline]

copy constructor

Definition at line 353 of file vdbl_table.h.

7.21.3.2 template<template< class __Tp, class __AllocTp > class __SequenceCtr, class Allocator1> _VDBL_table::_VDBL_table (const __SequenceCtr< triple< std::string, _VDBL_col, _VDBL_colflags >, Allocator1 > & __cc) [inline]

constructor which builds a table from a list of column definitions. This list can be contained in any sequential STL container.

Definition at line 362 of file vdbl_table.h.

7.21.3.3 virtual _VDBL_table::~_VDBL_table () [inline, virtual]

standard destructor

Definition at line 369 of file vdbl_table.h.

7.21.4 Member Function Documentation

7.21.4.1 virtual std::pair<std::string,_VDBL_colid> _VDBL_table::_next_col (const std::pair< std::string, _VDBL_colid > & _ci) const [inline, virtual]

This is the fundamental class for iterators over all rows, defining basic in(de)crementation for overloading, and basic comparison.

Reimplemented in _VDBL_standardtable.

Definition at line 220 of file vdbl_table.h.

7.21.4.2 virtual _VDBL_rowid _VDBL_table::_next_row (const _VDBL_rowid & _ci) const [inline, virtual]

standard constructor

Reimplemented in _VDBL_standardtable.

Definition at line 327 of file vdbl_table.h.

7.21.4.3 virtual bool _VDBL_table::add_col (const std::string & _C_n, const _VDBL_col & __c, const _VDBL_colflags & __f) const [inline, virtual]

insert a new row of specification _row into the table, and return the row id of the newly created row in _r. Take any sequential STL container to hold the row entries of the column. The function returns true, if inserting was successful.

Definition at line 376 of file vdbl_table.h.

7.21.4.4 _VDBL_colid _VDBL_table::get_colid () [inline, protected]

generate new unique id's for rows and columns

Definition at line 98 of file vdbl_table.h.

7.21.4.5 virtual const std::type_info& _VDBL_table::get_colinfo (const std::string & *_C_n*, triple< bool, _VDBL_colid, _VDBL_colflags > & *_r*) const [inline, virtual]

what was the id of the last change to the table

Reimplemented in _VDBL_standardtable.

Definition at line 115 of file vdbl_table.h.

7.21.4.6 _VDBL_rowid _VDBL_table::get_rowid () [inline, protected]

generate new unique id's for rows and columns

Definition at line 99 of file vdbl_table.h.

7.21.4.7 template<template< class __Tp1, class __AllocTp1 > class __SequenceCtrOut, template< class __Tp2, class __AllocTp2 > class __SequenceCtrIn, class AllocatorOut, class AllocatorIn> bool _VDBL_table::insert_row (const __SequenceCtrOut< __SequenceCtrIn< _T_colspec, AllocatorIn >, AllocatorOut > & *_rows*) [inline]

insert a many new rows of specifications `_rows` into the table. The list of rows can be contained in any sequential STL container, which holds any other sequential STL container of column entries. The function returns `true`, if inserting was successful for all rows.

Definition at line 457 of file vdbl_table.h.

7.21.4.8 void _VDBL_table::made_change () [inline, protected]

increment the `last_change` counter.

Definition at line 105 of file vdbl_table.h.

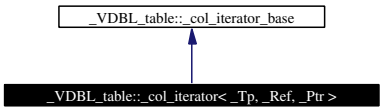
The documentation for this class was generated from the following file:

- vdbl_table.h

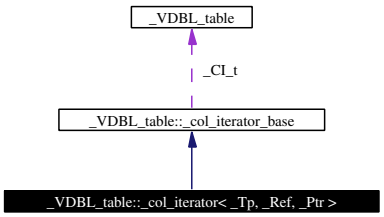
7.22 _VDBL_table::_col_iterator< _Tp, _Ref, _Ptr > Struct Template Reference

`#include <vdbl_table.h>`

Inheritance diagram for _VDBL_table::_col_iterator< _Tp, _Ref, _Ptr >:



Collaboration diagram for _VDBL_table::_col_iterator< _Tp, _Ref, _Ptr >:



7.22.1 Detailed Description

template<typename _Tp, typename _Ref, typename _Ptr> struct _VDBL_table::_col_iterator< _Tp, _Ref, _Ptr >

This is the base class for iterators over all columns, defining constructors, in(de)crement operations, and dereference operations

Definition at line 168 of file vdbl_table.h.

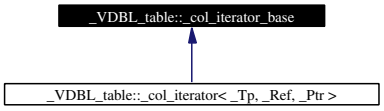
The documentation for this struct was generated from the following file:

- vdbl_table.h

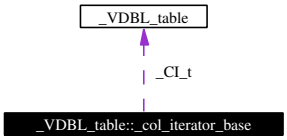
7.23 _VDBL_table::_col_iterator_base Class Reference

`#include <vdbl_table.h>`

Inheritance diagram for _VDBL_table::_col_iterator_base:



Collaboration diagram for _VDBL_table::_col_iterator_base:



7.23.1 Detailed Description

This is the fundamental class for iterators over all columns, defining basic in(de)crementation for overloading, and basic comparison.

Definition at line 131 of file vdbl_table.h.

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

- vdbl_table.h

7.24 _VDBL_table::_row_iterator< _Tp, _Ref, _Ptr > Struct Template Reference

`#include <vdbl_table.h>`

7.24.1 Detailed Description

template<typename _Tp, typename _Ref, typename _Ptr> struct _VDBL_table::_row_iterator< _Tp, _Ref, _Ptr >

This is the base class for iterators over all rows, defining constructors, in(de)crement operations, and dereference operations

Definition at line 282 of file vdbl_table.h.

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

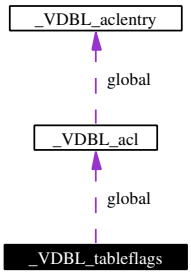
- vdbl_table.h

7.25 _VDBL_tableflags Class Reference

flags for one table

`#include <vdbl_database.h>`

Collaboration diagram for _VDBL_tableflags:



Public Methods

- _VDBL_tableflags (bool _temp=false, bool _unrest=true)
- _VDBL_tableflags (const _VDBL_acl &_gacl, bool _temp=false, bool _unrest=true)
- _VDBL_tableflags (const _VDBL_tableflags &__t)
- virtual ~_VDBL_tableflags ()
- _VDBL_tableflags & operator= (const _VDBL_tableflags &__t)

Public Attributes

- bool temporary
- bool unrestricted
- _VDBL_acl global
- std::map< _VDBL_userid, _VDBL_acl > ACLs

7.25.1 Detailed Description

This class describes the additional information for a table within a database, including access control

Definition at line 217 of file vdbl_database.h.

7.25.2 Constructor & Destructor Documentation

7.25.2.1 _VDBL_tableflags::_VDBL_tableflags (bool *_temp* = false, bool *_unrest* = true) [inline]

standard constructor which optionally initializes some members

Definition at line 242 of file vdbl_database.h.

7.25.2.2 _VDBL_tableflags::_VDBL_tableflags (const _VDBL_acl & *_gacl*, bool *_temp* = false, bool *_unrest* = true) [inline]

constructor which initializes the global ACL and optionally some members

Definition at line 249 of file vdbl_database.h.

7.25.2.3 _VDBL_tableflags::_VDBL_tableflags (const _VDBL_tableflags & *__t*) [inline]

copy constructor

Definition at line 257 of file vdbl_database.h.

7.25.2.4 virtual _VDBL_tableflags::~_VDBL_tableflags () [inline, virtual]

standard destructor

Definition at line 265 of file vdbl_database.h.

7.25.3 Member Function Documentation

7.25.3.1 _VDBL_tableflags& _VDBL_tableflags::operator= (const _VDBL_tableflags & *__t*) [inline]

assignment operator

Definition at line 270 of file vdbl_database.h.

7.25.4 Member Data Documentation

7.25.4.1 std::map<_VDBL_userid,_VDBL_acl> _VDBL_tableflags::ACLs

this is an access control list for every single user

Definition at line 236 of file vdbl_database.h.

7.25.4.2 _VDBL_acl _VDBL_tableflags::global

this is the global access control list (valid for all users)

Definition at line 232 of file vdbl_database.h.

7.25.4.3 bool _VDBL_tableflags::temporary

decides whether this is a temporary table

Definition at line 224 of file vdbl_database.h.

7.25.4.4 bool _VDBL_tableflags::unrestricted

decides whether this is table is completely unrestricted

Definition at line 228 of file vdbl_database.h.

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

- vdbl_database.h

7.26 _VDBL_userflags Class Reference

The permission flags for a user.

`#include <vdbl_database.h>`

Public Methods

- _VDBL_userflags ()
- _VDBL_userflags (const _VDBL_userflags &_a)
- virtual ~_VDBL_userflags ()

Public Attributes

- struct {
  } table_privileges
- struct {
  } view_privileges

7.26.1 Detailed Description

This class describes the global privileges of a user w.r.t. tables and views.

Definition at line 59 of file vdbl_database.h.

7.26.2 Constructor & Destructor Documentation

7.26.2.1 _VDBL_userflags::_VDBL_userflags () [inline]

standard constructor

Definition at line 92 of file vdbl_database.h.

7.26.2.2 _VDBL_userflags::_VDBL_userflags (const _VDBL_userflags & *_a*) [inline]

copy constructor

Definition at line 96 of file vdbl_database.h.

7.26.2.3 virtual _VDBL_userflags::~_VDBL_userflags () [inline, virtual]

standard destructor

Definition at line 102 of file vdbl_database.h.

7.26.3 Member Data Documentation

7.26.3.1 struct { ... } _VDBL_userflags::table_privileges

The global table privileges

- read
- write
- modify
- append
- delete

7.26.3.2 struct { ... } _VDBL_userflags::view_privileges

The global view privileges

- commit to parent table through the view

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

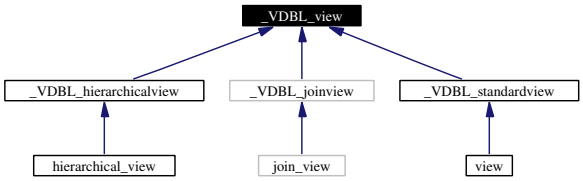
- vdbl_database.h

7.27 _VDBL_view Class Reference

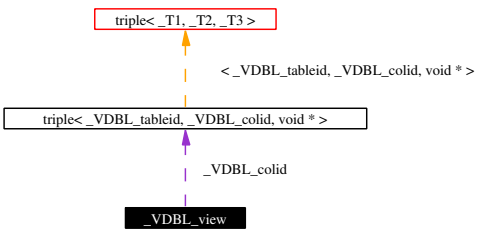
base class of all views.

`#include <vdbl_view.h>`

Inheritance diagram for _VDBL_view:



Collaboration diagram for _VDBL_view:



Public Types

- typedef std::pair< std::string, _VDBL_col > _T_colspec

Public Methods

- _VDBL_view (_V_enum __e=V_independent)
- _VDBL_view (const _VDBL_view &__v)
- virtual ~_VDBL_view ()
- virtual const std::type_info & get_colinfo (const std::string &_C_n, triple< bool, _VDBL_colid, _VDBL_colflags > &_r) const VDBL_PURE_VIRTUAL virtual bool insert(const std

Protected Types

- typedef _default_iterator< _VDBL_col, const _VDBL_col &, const _VDBL_col * > default_const_iterator
- typedef _col_iterator< _VDBL_col, const _VDBL_col &, const _VDBL_col * > col_const_iterator
- typedef _row_iterator< _VDBL_row, const _VDBL_row &, const _VDBL_row * > row_const_iterator

Protected Methods

- void made_change ()

  increment the change *counter.*

- unsigned int get_change_ctr () const

  read the change counter

- virtual triple< _VDBL_tableid, _VDBL_colid, void * > _next_def_col (const _VDBL_tableid &_t, const _VDBL_colid &_c, void *_d) const VDBL_PURE_VIRTUAL virtual triple< _VDBL_tableid
- virtual triple< _VDBL_tableid, _VDBL_colid, void * > void * _prev_def_col (const _VDBL_tableid &_t, const _VDBL_colid &_c, void *_d) const VDBL_PURE_VIRTUAL virtual void _destroy_def_data(void *&_d) const
- virtual void * _copy_def_data (void *_d) const VDBL_PURE_VIRTUAL virtual triple< _VDBL_tableid
- virtual void void * _next_col (const _VDBL_tableid &_t, const _VDBL_rowid &_r, const _VDBL_colid &_c, void *_d) const VDBL_PURE_VIRTUAL virtual triple< _VDBL_tableid
- virtual void void void * _prev_col (const _VDBL_tableid &_t, const _VDBL_rowid &_r, const _VDBL_colid &_c, void *_d) const VDBL_PURE_VIRTUAL virtual void _destroy_col_data(void *&_d) const
- virtual void * _copy_col_data (void *_d) const VDBL_PURE_VIRTUAL virtual triple< _VDBL_tableid
- virtual void void * _next_row (const _VDBL_tableid &_t, const _VDBL_rowid &_c, void *_d) const VDBL_PURE_VIRTUAL virtual triple< _VDBL_tableid
- virtual void void void * _prev_row (const _VDBL_tableid &_t, const _VDBL_rowid &_c, void *_d) const VDBL_PURE_VIRTUAL virtual void _destroy_row_data(void *&_d) const
- virtual void * _copy_row_data (void *_d) const VDBL_PURE_VIRTUAL public

7.27.1 Detailed Description

This is the base class of all views. A view in the database must be a subclass of this class.

Definition at line 78 of file vdbl_view.h.

7.27.2 Member Typedef Documentation

7.27.2.1 typedef std::pair<std::string,_VDBL_col> _VDBL_view::_T_colspec

This is the description of one column

Definition at line 84 of file vdbl_view.h.

7.27.2.2 typedef _col_iterator<_VDBL_col, const _VDBL_col&, const _VDBL_col*> _VDBL_view::col_const_iterator [protected]

const iterator over all columns

Definition at line 461 of file vdbl_view.h.

7.27.2.3 typedef _default_iterator<_VDBL_col, const _VDBL_col&, const _VDBL_col*> _VDBL_view::default_const_iterator [protected]

const iterator over all default columns

Definition at line 324 of file vdbl_view.h.

7.27.2.4 typedef _row_iterator<_VDBL_row, const _VDBL_row&, const _VDBL_row*> _VDBL_view::row_const_iterator [protected]

const iterator over all rows

Definition at line 590 of file vdbl_view.h.

7.27.3 Constructor & Destructor Documentation

7.27.3.1 _VDBL_view::_VDBL_view (_V_enum __e = V_independent) [inline]

standard constructor which optionally initializes the view type

Definition at line 596 of file vdbl_view.h.

7.27.3.2 _VDBL_view::_VDBL_view (const _VDBL_view & __v) [inline]

copy constructor

Definition at line 600 of file vdbl_view.h.

7.27.3.3 virtual _VDBL_view::~_VDBL_view () [inline, virtual]

standard destructor

Definition at line 604 of file vdbl_view.h.

7.27.4 Member Function Documentation

7.27.4.1 virtual void* _VDBL_view::_copy_col_data (void * _d) const [protected, virtual]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the next row for a _row_iterator.

Reimplemented in _VDBL_hierarchicalview, and _VDBL_standardview.

7.27.4.2 virtual void* _VDBL_view::_copy_def_data (void * _d) const [protected, virtual]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the next column for a _col_iterator.

Reimplemented in _VDBL_hierarchicalview, and _VDBL_standardview.

7.27.4.3 virtual void* _VDBL_view::_copy_row_data (void * _d) const [inline, protected, virtual]

This is the fundamental class for iterators over all default columns, defining basic in(de)crementation for overloading, and basic comparison.

Reimplemented in _VDBL_hierarchicalview, and _VDBL_standardview.

Definition at line 193 of file vdbl_view.h.

7.27.4.4 virtual void void* _VDBL_view::_next_col (const _VDBL_tableid & _t, const _VDBL_rowid & _r, const _VDBL_colid & _c, void * _d) const [protected]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous column for a _col_iterator.

Reimplemented in _VDBL_hierarchicalview, and _VDBL_standardview.

7.27.4.5 virtual triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_view::_next_def_col (const _VDBL_tableid & _t, const _VDBL_colid & _c, void * _d) const [protected, virtual]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous default of a column a _default_iterator.

Reimplemented in _VDBL_hierarchicalview, and _VDBL_standardview.

7.27.4.6 virtual void void* _VDBL_view::_next_row (const _VDBL_tableid & _t, const _VDBL_rowid & _c, void * _d) const [protected]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous row for a _row_iterator.

Reimplemented in _VDBL_hierarchicalview, and _VDBL_standardview.

7.27.4.7 virtual void void void* _VDBL_view::_prev_col (const _VDBL_tableid & _t, const _VDBL_rowid & _r, const _VDBL_colid & _c, void * _d) const [inline, protected]

This function destroys the additional data needed by a _col_iterator

Reimplemented in _VDBL_hierarchicalview, and _VDBL_standardview.

Definition at line 147 of file vdbl_view.h.

7.27.4.8 virtual triple<_VDBL_tableid,_VDBL_colid,void*> void* _VDBL_view::_prev_def_col (const _VDBL_tableid & _t, const _VDBL_colid & _c, void * _d) const [inline, protected]

This function destroys the additional data needed by a _default_iterator

Reimplemented in _VDBL_hierarchicalview, and _VDBL_standardview.

Definition at line 115 of file vdbl_view.h.

7.27.4.9 virtual void void void* _VDBL_view::_prev_row (const _VDBL_tableid & _t, const _VDBL_rowid & _c, void * _d) const [inline, protected]

This function destroys the additional data needed by a _row_iterator

Reimplemented in _VDBL_hierarchicalview, and _VDBL_standardview.

Definition at line 179 of file vdbl_view.h.

7.27.4.10 virtual const std::type_info& _VDBL_view::get_colinfo (const std::string & _C_n, triple< bool, _VDBL_colid, _VDBL_colflags > & _r) const [inline, virtual]

return the type of this view

Reimplemented in _VDBL_hierarchicalview, and _VDBL_standardview.

Definition at line 613 of file vdbl_view.h.

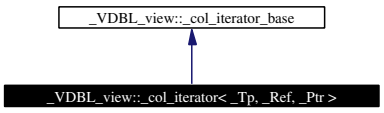
The documentation for this class was generated from the following file:

- vdbl_view.h

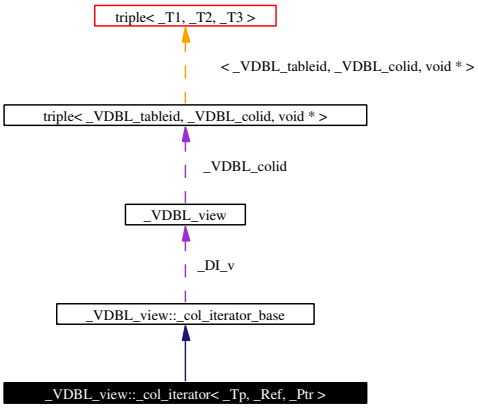
7.28 _VDBL_view::_col_iterator< _Tp, _Ref, _Ptr > Struct Template Reference

`#include <vdbl_view.h>`

Inheritance diagram for _VDBL_view::_col_iterator< _Tp, _Ref, _Ptr >:



Collaboration diagram for _VDBL_view::_col_iterator< _Tp, _Ref, _Ptr >:



7.28.1 Detailed Description

template<typename _Tp, typename _Ref, typename _Ptr> struct _VDBL_view::_col_iterator< _Tp, _Ref, _Ptr >

This is the base class for iterators over all columns, defining constructors, in(de)crement operations, and dereference operations

Definition at line 410 of file vdbl_view.h.

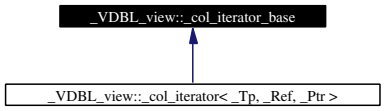
The documentation for this struct was generated from the following file:

- vdbl_view.h

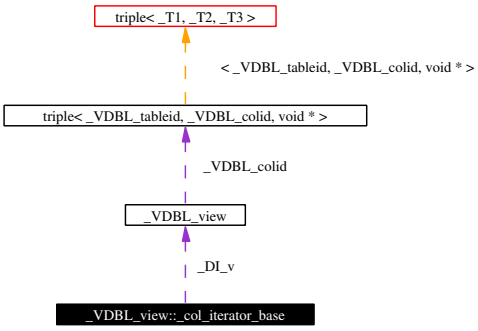
7.29 _VDBL_view::_col_iterator_base Class Reference

`#include <vdbl_view.h>`

Inheritance diagram for _VDBL_view::_col_iterator_base:



Collaboration diagram for _VDBL_view::_col_iterator_base:



7.29.1 Detailed Description

This is the fundamental class for iterators over all columns, defining basic in(de)crementation for overloading, and basic comparison.

Definition at line 331 of file vdbl_view.h.

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

- vdbl_view.h

7.30 _VDBL_view::_default_iterator< _Tp, _Ref, _Ptr > Struct Template Reference

`#include <vdbl_view.h>`

7.30.1 Detailed Description

template<typename _Tp, typename _Ref, typename _Ptr> struct _VDBL_view::_default_iterator< _Tp, _Ref, _Ptr >

This is the base class for iterators over all default columns, defining constructors, in(de)crement operations, and dereference operations

Definition at line 274 of file vdbl_view.h.

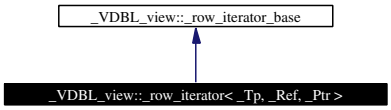
The documentation for this struct was generated from the following file:

- vdbl_view.h

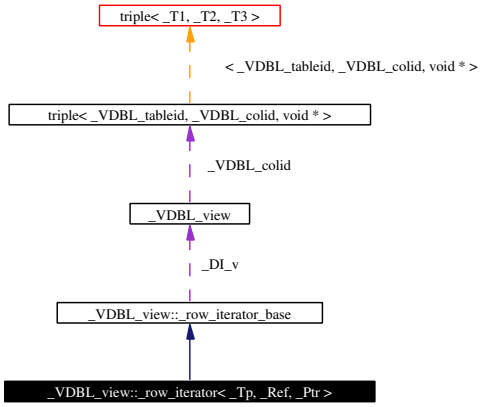
7.31 _VDBL_view::_row_iterator< _Tp, _Ref, _Ptr > Struct Template Reference

`#include <vdbl_view.h>`

Inheritance diagram for _VDBL_view::_row_iterator< _Tp, _Ref, _Ptr >:



Collaboration diagram for _VDBL_view::_row_iterator< _Tp, _Ref, _Ptr >:



7.31.1 Detailed Description

template<typename _Tp, typename _Ref, typename _Ptr> struct _VDBL_view::_row_iterator< _Tp, _Ref, _Ptr >

This is the base class for iterators over all rows, defining constructors, in(de)crement operations, and dereference operations

Definition at line 542 of file vdbl_view.h.

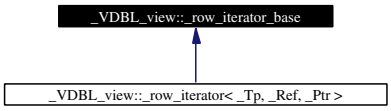
The documentation for this struct was generated from the following file:

- vdbl_view.h

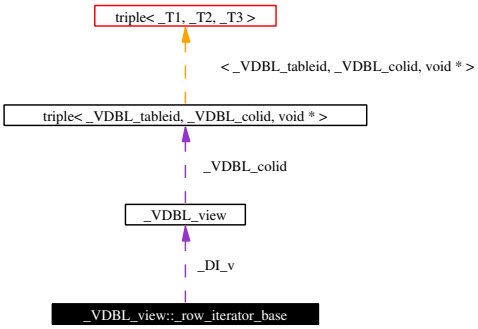
7.32 _VDBL_view::_row_iterator_base Class Reference

`#include <vdbl_view.h>`

Inheritance diagram for _VDBL_view::_row_iterator_base:



Collaboration diagram for _VDBL_view::_row_iterator_base:



7.32.1 Detailed Description

This is the fundamental class for iterators over all columns, defining basic in(de)crementation for overloading, and basic comparison.

Definition at line 468 of file vdbl_view.h.

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

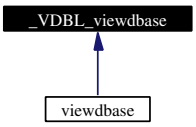
- vdbl_view.h

7.33 _VDBL_viewdbase Class Reference

a view to a complete database

`#include <vdbl_viewdbase.h>`

Inheritance diagram for _VDBL_viewdbase:



Public Methods

- _VDBL_tableid get_tableid (const std::string &_C_i) const
- bool has_view (const _VDBL_tableid &_C_i) const
- bool has_view (const std::string &_C_i) const
- _VDBL_view * get_view (const _VDBL_tableid &_C_i) const
- _VDBL_view * get_view (const std::string &_C_i) const
- _VDBL_viewdbase ()
- _VDBL_viewdbase (const _VDBL_database &_db, const _VDBL_userid &uid, const _VDBL_context &__c)
- template<template< class _C, class _A > class _SqCtr, class _Al> _VDBL_viewdbase (const _VDBL_database &_db, const _VDBL_userid &uid, const _VDBL_context &__c, const _SqCtr< std::pair< _VDBL_tableid, _VDBL_rowid >, _Al > &__an)
- virtual ~_VDBL_viewdbase ()

7.33.1 Detailed Description

This class implements a view onto a complete database. The view names correspond to the names of all existing tables.

Definition at line 50 of file vdbl_viewdbase.h.

7.33.2 Constructor & Destructor Documentation

7.33.2.1 _VDBL_viewdbase::_VDBL_viewdbase () [inline]

standard constructor

Definition at line 115 of file vdbl_viewdbase.h.

7.33.2.2 _VDBL_viewdbase::_VDBL_viewdbase (const _VDBL_database & *_db*, const _VDBL_userid & *uid*, const _VDBL_context & *__c*) [inline]

constructor which builds a view to the database from

- _db – the database
- __c – the evaluation context for all views

Definition at line 122 of file vdbl_viewdbase.h.

7.33.2.3 template<template< class _C, class _A > class _SqCtr, class _Al> _VDBL_viewdbase::_VDBL_viewdbase (const _VDBL_database & *_db*, const _VDBL_userid & *uid*, const _VDBL_context & *__c*, const _SqCtr< std::pair< _VDBL_tableid, _VDBL_rowid >, _Al > & *__an*) [inline]

constructor which builds a view to the database from

- _db – the database
- __c – the evaluation context for all views The third argument is any sequential container of table,row pairs to which the view shall be restricted.

Definition at line 143 of file vdbl_viewdbase.h.

7.33.2.4 virtual _VDBL_viewdbase::~_VDBL_viewdbase () [inline, virtual]

standard destructor

Definition at line 160 of file vdbl_viewdbase.h.

7.33.3 Member Function Documentation

7.33.3.1 _VDBL_tableid _VDBL_viewdbase::get_tableid (const std::string & *_C_i*) const [inline]

return the table id (and view id) of table _C_i

Definition at line 65 of file vdbl_viewdbase.h.

7.33.3.2 _VDBL_view* _VDBL_viewdbase::get_view (const std::string & *_C_i*) const [inline]

this method returns a pointer to the view _C_i.

Reimplemented in viewdbase.

Definition at line 109 of file vdbl_viewdbase.h.

7.33.3.3 _VDBL_view* _VDBL_viewdbase::get_view (const _VDBL_tableid & *_C_i*) const [inline]

this method returns a pointer to the view associated to id _C_i.

Definition at line 97 of file vdbl_viewdbase.h.

7.33.3.4 bool _VDBL_viewdbase::has_view (const std::string & *_C_i*) const [inline]

check whether the view _C_i exists

Definition at line 91 of file vdbl_viewdbase.h.

7.33.3.5 bool _VDBL_viewdbase::has_view (const _VDBL_tableid & *_C_i*) const [inline]

check whether a given view (associated to table id _C_i) exists

Definition at line 79 of file vdbl_viewdbase.h.

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

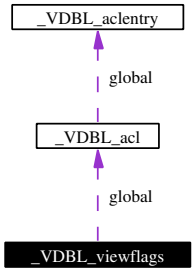
- vdbl_viewdbase.h

7.34 _VDBL_viewflags Class Reference

flags for one view

`#include <vdbl_database.h>`

Collaboration diagram for _VDBL_viewflags:



Public Methods

- _VDBL_viewflags ()
- _VDBL_viewflags (const _VDBL_acl &_gacl)
- _VDBL_viewflags (const _VDBL_viewflags &__v)
- virtual ~_VDBL_viewflags ()
- _VDBL_viewflags & operator= (const _VDBL_viewflags &__v)

Public Attributes

- _VDBL_acl global
- std::map< _VDBL_userid, _VDBL_acl > ACLs

7.34.1 Detailed Description

This class describes the additional information for a view within a database, including access control

Definition at line 286 of file vdbl_database.h.

7.34.2 Constructor & Destructor Documentation

7.34.2.1 _VDBL_viewflags::_VDBL_viewflags () `[inline]`

standard constructor

Definition at line 302 of file vdbl_database.h.

7.34.2.2 _VDBL_viewflags::_VDBL_viewflags (const _VDBL_acl & *_gacl*) `[inline]`

constructor which initializes the global ACL entry

Definition at line 307 of file vdbl_database.h.

7.34.2.3 _VDBL_viewflags::_VDBL_viewflags (const _VDBL_viewflags & *__v*) [inline]

copy constructor

Definition at line 312 of file vdbl_database.h.

7.34.2.4 virtual _VDBL_viewflags::~_VDBL_viewflags () [inline, virtual]

standard destructor

Definition at line 317 of file vdbl_database.h.

7.34.3 Member Function Documentation

7.34.3.1 _VDBL_viewflags& _VDBL_viewflags::operator= (const _VDBL_viewflags & *__v*) [inline]

assignment operator

Definition at line 322 of file vdbl_database.h.

7.34.4 Member Data Documentation

7.34.4.1 std::map<_VDBL_userid,_VDBL_acl> _VDBL_viewflags::ACLs

this is an access control list for every single user

Definition at line 296 of file vdbl_database.h.

7.34.4.2 _VDBL_acl _VDBL_viewflags::global

this is the global access control list (valid for all users)

Definition at line 292 of file vdbl_database.h.

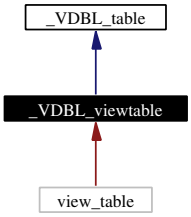
The documentation for this class was generated from the following file:

- vdbl_database.h

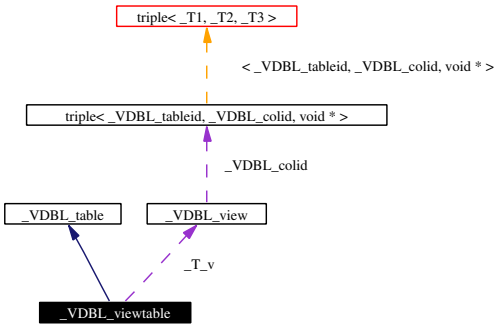
7.35 _VDBL_viewtable Class Reference

`#include <vdbl_vtable.h>`

Inheritance diagram for _VDBL_viewtable:



Collaboration diagram for _VDBL_viewtable:



Public Types

- typedef std::pair< std::string, _VDBL_col > _T_colspec
- typedef std::pair< const std::string *, const _VDBL_col * > _T_ptrcolspec
- typedef _col_iterator< std::pair< std::string, _VDBL_colid >, const std::pair< std::string, _VDBL_colid > &, const std::pair< std::string, _VDBL_colid > * > col_const_iterator
- typedef _row_iterator< _VDBL_rowid, const _VDBL_rowid &, const _VDBL_rowid * > row_const_iterator

Public Methods

- virtual std::pair< std::string, _VDBL_colid > _next_col (const std::pair< std::string, _VDBL_colid > &_ci) const VDBL_PURE_VIRTUAL virtual std
- virtual _VDBL_rowid _next_row (const _VDBL_rowid &_ci) const VDBL_PURE_VIRTUAL virtual _VDBL_rowid _prev_row(const _VDBL_rowid &_ci) const VDBL_PURE_VIRTUAL virtual row_const _iterator row_begin() const VDBL_PURE_VIRTUAL virtual row_ const _iterator row_end() const VDBL_PURE_VIRTUAL public
- virtual bool add_col (const std::string &_C_n, const _VDBL_col &__c, const _VDBL_colflags &__f) VDBL_PURE_VIRTUAL virtual bool modify_col(const std
- template<template< class __Tp1, class __AllocTp1 > class __SequenceCtrOut, template< class __Tp2, class __AllocTp2 > class __SequenceCtrIn, class AllocatorOut, class AllocatorIn> bool insert_row (const __SequenceCtrOut< __SequenceCtrIn< _T_colspec, AllocatorIn >, AllocatorOut > &_rows)

Protected Methods

- void made_change ()

- _VDBL_colid get_colid ()
- _VDBL_rowid get_rowid ()

Friends

- class _VDBL_view

7.35.1 Detailed Description

this is a table on top of a view. The view can be used like a table later. This is especially useful for constructing a hierarchy of tables. Depending on the ”transparency” of the view rows are automatically updated or ”overshadowed”.

Definition at line 46 of file vdbl_vtable.h.

7.35.2 Member Typedef Documentation

7.35.2.1 typedef std::pair<std::string,_VDBL_col> _VDBL_viewtable::_T_colspec

specifier of one column, a pair of column name (`string`) and entry (`_VDBL_col`).

Reimplemented from _VDBL_table.

Definition at line 62 of file vdbl_vtable.h.

7.35.2.2 typedef std::pair<const std::string*,const _VDBL_col*> _VDBL_table::_T_ptrcolspec [inherited]

specifier of pointers to one column, a pair of column name (`string*`) and entry (`_VDBL_col*`).

Reimplemented in _VDBL_standardtable.

Definition at line 82 of file vdbl_table.h.

7.35.2.3 typedef _col_iterator<std::pair<std::string,_VDBL_colid>, const std::pair<std::string,_VDBL_colid>&, const std::pair<std::string,_VDBL_colid>*> _VDBL_table::col_const_iterator [inherited]

const iterator over all columns

Reimplemented in _VDBL_standardtable.

Definition at line 213 of file vdbl_table.h.

7.35.2.4 typedef _row_iterator<_VDBL_rowid, const _VDBL_rowid&, const _VDBL_rowid*> _VDBL_table::row_const_iterator [inherited]

const iterator over all rows

Definition at line 320 of file vdbl_table.h.

7.35.3 Member Function Documentation

7.35.3.1 virtual std::pair<std::string,_VDBL_colid> _VDBL_table::_next_col (const std::pair<std::string, _VDBL_colid > & *_ci*) const [inline, virtual, inherited]

This is the fundamental class for iterators over all rows, defining basic in(de)crementation for overloading, and basic comparison.

Reimplemented in _VDBL_standardtable.

Definition at line 220 of file vdbl_table.h.

7.35.3.2 virtual _VDBL_rowid _VDBL_table::_next_row (const _VDBL_rowid & *_ci*) const [inline, virtual, inherited]

standard constructor

Reimplemented in _VDBL_standardtable.

Definition at line 327 of file vdbl_table.h.

7.35.3.3 virtual bool _VDBL_table::add_col (const std::string & *_C_n*, const _VDBL_col & *__c*, const _VDBL_colflags & *__f*) const [inline, virtual, inherited]

insert a new row of specification _row into the table, and return the row id of the newly created row in _r. Take any sequential STL container to hold the row entries of the column. The function returns true, if inserting was successful.

Definition at line 376 of file vdbl_table.h.

7.35.3.4 _VDBL_colid _VDBL_table::get_colid () [inline, protected, inherited]

generate new unique id's for rows and columns

Definition at line 98 of file vdbl_table.h.

7.35.3.5 _VDBL_rowid _VDBL_table::get_rowid () [inline, protected, inherited]

generate new unique id's for rows and columns

Definition at line 99 of file vdbl_table.h.

7.35.3.6 template<template< class __Tp1, class __AllocTp1 > class __SequenceCtrOut, template< class __Tp2, class __AllocTp2 > class __SequenceCtrIn, class AllocatorOut, class AllocatorIn> bool _VDBL_table::insert_row (const __SequenceCtrOut< __SequenceCtrIn< _T_colspec, AllocatorIn >, AllocatorOut > & *_rows*) [inline, inherited]

insert a many new rows of specifications _rows into the table. The list of rows can be contained in any sequential STL container, which holds any other sequential STL container of column entries. The function returns true, if inserting was successful for all rows.

Definition at line 457 of file vdbl_table.h.

7.35.3.7 void _VDBL_table::made_change () [inline, protected, inherited]

increment the last_change counter.

Definition at line 105 of file vdbl_table.h.

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

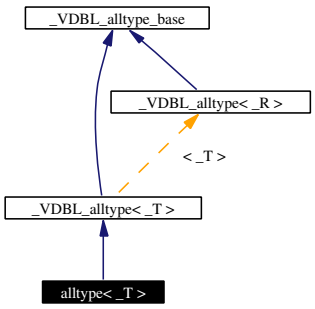
- vdbl_vtable.h

7.36 alltype< _T > Class Template Reference

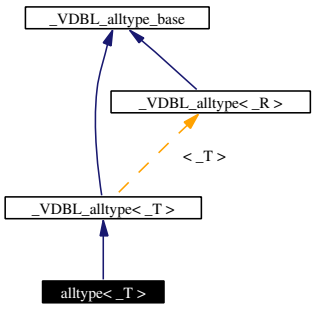
The templated alltype class.

`#include <vdbl_alltype.h>`

Inheritance diagram for alltype< _T >:



Collaboration diagram for alltype< _T >:



Public Types

- typedef _Base::cont_type cont_type

  the type of the internally stored data

Public Methods

- const std::type_info & get_type () const
- const cont_type & content () const
- bool operator== (const _Self &p)

7.36.1 Detailed Description

template<class _T> class alltype< _T >

This class is used to hold data of arbitrary types. It is manly used as return value.

Data stored in this class has to provide a copy constructor, an assignment operator.

Finaly, it would be useful if the stored type has a '<<'operator.

Definition at line 611 of file vdbl_alltype.h.

7.36.2 Member Function Documentation

7.36.2.1 const cont_type& _VDBL_alltype< _T >::content () const [inline, inherited]

This method returns a const reference to the stored data

Definition at line 139 of file vdbl_alltype.h.

7.36.2.2 const std::type_info& _VDBL_alltype< _T >::get_type () const [inline, inherited]

This member function is used for run-time type checking. It returns the @typeid of the @cont_type.

Definition at line 134 of file vdbl_alltype.h.

7.36.2.3 bool _VDBL_alltype< _T >::operator== (const _Self & *p*) [inline, inherited]

The standard comparison operators are mainly used for expressions and selectors.

Definition at line 160 of file vdbl_alltype.h.

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

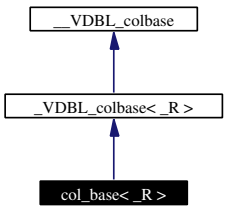
- vdbl_alltype.h

7.37 col_base< _R > Class Template Reference

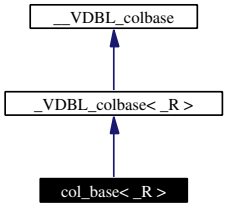
column base class

`#include <vdbl_col.h>`

Inheritance diagram for col_base< _R >:



Collaboration diagram for col_base< _R >:



Public Types

- typedef _R return_type

  `return_type` *is the type of object stored*

Public Methods

- virtual _Self * new_copy () const
- virtual void setcontext (const context *_c, const _VDBL_row *_r) VDBL_PURE_VIRTUAL virtual void get(return_type &c) const VDBL_PURE_VIRTUAL virtual void def(return_type &d) const VDBL_PURE_VIRTUAL virtual void get_ptr(return_type const *&c) const VDBL_PURE_VIRTUAL virtual void get_copy(return_type *&c) const
- virtual void def_copy (return_type *&d) const
- virtual void def_copy (_VDBL_alltype_base *&v) const
- virtual void get_copy (_VDBL_alltype_base *&v) const
- virtual const std::type_info & return_type_id () const

7.37.1 Detailed Description

template<class _R> class col_base< _R >

this is the external name of the column base class

Definition at line 585 of file vdbl_col.h.

7.37.2 Member Function Documentation

7.37.2.1 template<class _R> virtual void _VDBL_colbase< _R >::def_copy (_VDBL_alltype_base *& *v*) const [inline, virtual, inherited]

This version of `get_copy` returns a copy of the columns default value within an `alltype`. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Reimplemented in _VDBL_stdcol< _T >.

Definition at line 209 of file vdbl_col.h.

7.37.2.2 template<class _R> virtual void _VDBL_colbase< _R >::def_copy (return_type *& *d*) const [inline, virtual, inherited]

This function returns a pointer to a copy of the column's default value. The copy of the value is allocated by `new`. It has to be `delete`d by the user to avoid memory leaks.

Reimplemented in _VDBL_stdcol< _T >, _VDBL_mthdcol< _C, _M, _R >, and _VDBL_mthdcol< _M::context, _M, _M::return_type >.

Definition at line 187 of file vdbl_col.h.

7.37.2.3 template<class _R> virtual void _VDBL_colbase< _R >::get_copy (_VDBL_alltype_base *& *v*) const [inline, virtual, inherited]

This version of `get_copy` returns a copy of the columns value within an `alltype`. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Reimplemented in _VDBL_stdcol< _T >.

Definition at line 196 of file vdbl_col.h.

7.37.2.4 template<class _R> virtual _Self* _VDBL_colbase< _R >::new_copy () const [inline, virtual, inherited]

`new_copy` is the clone operation for copy-constructor overloading.

Reimplemented from __VDBL_colbase.

Reimplemented in _VDBL_stdcol< _T >, _VDBL_mthdcol< _C, _M, _R >, and _VDBL_mthdcol< _M::context, _M, _M::return_type >.

Definition at line 151 of file vdbl_col.h.

7.37.2.5 template<class _R> virtual const std::type_info& _VDBL_colbase< _R >::return_type_id () const [inline, virtual, inherited]

This function returns the `type_info` of the column type. This information is used during run-time type checking.

Definition at line 220 of file vdbl_col.h.

7.37.2.6 template<class _R> virtual void _VDBL_colbase< _R >::setcontext (const context * _c, const _VDBL_row * _r) const [inline, virtual, inherited]

This function returns a pointer to a copy of the column's value. The copy of the value is allocated by `new`. It has to be `delete`d by the user to avoid memory leaks.

Definition at line 156 of file vdbl_col.h.

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

- vdbl_col.h

7.38 col_spec Class Reference

column specification

`#include <vdbl_table.h>`

Public Methods

- col_spec (const col_spec &__c)
- virtual ~col_spec ()

- col_spec (const std::string &__s, const _VDBL_col &__c)
- col_spec (const char *__s, const _VDBL_col &__c)

- template<class _CR> col_spec (const std::string &__s, const _CR &__c)
- template<class _CR> col_spec (const char *__s, const _CR &__c)

7.38.1 Detailed Description

This class is used to specify columns of a table.

Definition at line 1087 of file vdbl_table.h.

7.38.2 Constructor & Destructor Documentation

7.38.2.1 col_spec::col_spec (const std::string & __s, const _VDBL_col & __c) [inline]

constructor building a column description with a name (__s) and column data (__c).

Definition at line 1098 of file vdbl_table.h.

7.38.2.2 col_spec::col_spec (const char * __s, const _VDBL_col & __c) [inline]

constructor building a column description with a name (__s) and column data (__c).

Definition at line 1101 of file vdbl_table.h.

7.38.2.3 template<class _CR> col_spec::col_spec (const std::string & __s, const _CR & __c) [inline]

constructor building a column description with a name (__s) and arbitrary data (__c) which is converted to column data.

Definition at line 1111 of file vdbl_table.h.

7.38.2.4 template<class _CR> col_spec::col_spec (const char * __s, const _CR & __c) [inline]

constructor building a column description with a name (__s) and arbitrary data (__c) which is converted to column data.

Definition at line 1115 of file vdbl_table.h.

7.38.2.5 col_spec::col_spec (const col_spec & __c) [inline]

copy constructor

Definition at line 1122 of file vdbl_table.h.

7.38.2.6 virtual col_spec::~col_spec () [inline, virtual]

standard destructor

Definition at line 1127 of file vdbl_table.h.

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

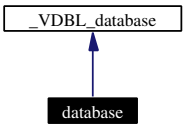
- vdbl_table.h

7.39 database Class Reference

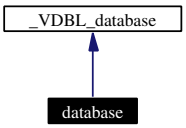
the database class

`#include <vdbl_database.h>`

Inheritance diagram for database:



Collaboration diagram for database:



Public Methods

- bool create_table (const std::string &_C_i, const _VDBL_userid &_C_u, const _VDBL_tableflags &_-_f=_VDBL_tableflags())
- bool create_table (const char *_C_i, const _VDBL_userid &_C_u, const _VDBL_tableflags &__f=_-VDBL_tableflags())
- bool drop_table (const char *_C_i, const _VDBL_userid &_C_u)
- bool has_table (const char *_C_i, const _VDBL_userid &_C_u) const
- bool create_view (const char *_C_i, const _VDBL_userid &_C_u, const _VDBL_context &__c, const std::string &_C_t, const _V_enum &__e)
- bool create_view (const std::string &_C_i, const _VDBL_userid &_C_u, const _VDBL_context &__c, const char *_C_t, const _V_enum &__e)
- bool create_view (const char *_C_i, const _VDBL_userid &_C_u, const _VDBL_context &__c, const char *_C_t, const _V_enum &__e)
- bool drop_view (const char *_C_i, const _VDBL_userid &_C_u)
- bool has_view (const char *_C_i, const _VDBL_userid &_C_u) const
- viewbase * get_view (const char *_C_i, const _VDBL_userid &_C_u) const
- table * get_table (const tableid &_C_i, const _VDBL_userid &_C_u) const
- table * get_table (const std::string &_C_i, const _VDBL_userid &_C_u) const
- table * get_table (const char *_C_i, const _VDBL_userid &_C_u) const
- _VDBL_tableid get_tableid (const std::string &_C_i, const _VDBL_userid &_C_u) const
- _VDBL_viewid get_viewid (const std::string &_C_i, const _VDBL_userid &_C_u) const
- bool drop_table (const _D_tables::iterator &__t, const _D_table_names::iterator &__tn, const _VDBL_-userid &_C_u)
- bool drop_table (const _VDBL_tableid &_C_i, const _VDBL_userid &_C_u)
- bool drop_table (const std::string &_C_i, const _VDBL_userid &_C_u)
- bool has_table (const _VDBL_tableid &_C_i, const _VDBL_userid &_C_u) const
- bool has_table (const std::string &_C_i, const _VDBL_userid &_C_u) const
- _VDBL_table * get_table (const _VDBL_tableid &_C_i, const _VDBL_userid &_C_u) const
- bool create_view (const std::string &_C_i, const _VDBL_userid &_C_u, const _VDBL_context &__c, const std::string &_C_t, const _V_enum &__e)

- bool drop_view (const _D_views::iterator &__v, const _D_view_names::iterator &__vn, const _VDBL_-userid &_C_u)
- bool drop_view (const _VDBL_viewid &_C_i, const _VDBL_userid &_C_u)
- bool drop_view (const std::string &_C_i, const _VDBL_userid &_C_u)
- bool has_view (const _VDBL_viewid &_C_i, const _VDBL_userid &_C_u) const
- bool has_view (const std::string &_C_i, const _VDBL_userid &_C_u) const
- _VDBL_view * get_view (const _VDBL_viewid &_C_i, const _VDBL_userid &_C_u) const
- _VDBL_view * get_view (const std::string &_C_i, const _VDBL_userid &_C_u) const

Protected Methods

- _VDBL_tableid get_tableid ()
- _VDBL_userid get_userid ()
- _VDBL_viewid get_viewid ()

7.39.1 Detailed Description

This is the class describing a whole database including users, tables and views.

Definition at line 796 of file vdbl_database.h.

7.39.2 Member Function Documentation

7.39.2.1 bool database::create_table (const char * *_C_i*, const _VDBL_userid & *_C_u*, const _VDBL_-tableflags & *__f* = _VDBL_tableflags()) [inline]

create a new table

- _C_i: name
- _C_u: user id
- __f: the table flags (if they are not default) return `true`, if creating the table was successful.

Definition at line 824 of file vdbl_database.h.

7.39.2.2 bool database::create_table (const std::string & *_C_i*, const _VDBL_userid & *_C_u*, const _VDBL_tableflags & *__f* = _VDBL_tableflags()) [inline]

create a new table

- _C_i: name
- _C_u: user id
- __f: the table flags (if they are not default) return `true`, if creating the table was successful.

Reimplemented from _VDBL_database.

Definition at line 814 of file vdbl_database.h.

7.39.2.3 bool _VDBL_database::create_view (const std::string & _C_i, const _VDBL_userid & _C_u, const _VDBL_context & __c, const std::string & _C_t, const _V_enum & __e) [inline, inherited]

create a new standard view with name _C_i, evaluation context __c, for table _C_t, of type __e. return true if creating worked, and false otherwise.

Definition at line 640 of file vdbl_database.h.

7.39.2.4 bool database::create_view (const char * _C_i, const _VDBL_userid & _C_u, const _VDBL_context & __c, const char * _C_t, const _V_enum & __e) [inline]

create a new standard view with name _C_i, evaluation context __c, for table _C_t, of type __e. return true if creating worked, and false otherwise.

Definition at line 877 of file vdbl_database.h.

7.39.2.5 bool database::create_view (const std::string & _C_i, const _VDBL_userid & _C_u, const _VDBL_context & __c, const char * _C_t, const _V_enum & __e) [inline]

create a new standard view with name _C_i, evaluation context __c, for table _C_t, of type __e. return true if creating worked, and false otherwise.

Definition at line 868 of file vdbl_database.h.

7.39.2.6 bool database::create_view (const char * _C_i, const _VDBL_userid & _C_u, const _VDBL_context & __c, const std::string & _C_t, const _V_enum & __e) [inline]

create a new standard view with name _C_i, evaluation context __c, for table _C_t, of type __e. return true if creating worked, and false otherwise.

Definition at line 859 of file vdbl_database.h.

7.39.2.7 bool _VDBL_database::drop_table (const std::string & _C_i, const _VDBL_userid & _C_u) [inline, inherited]

delete a table, whose name is provided. return true, if deleting the table has worked.

Definition at line 508 of file vdbl_database.h.

7.39.2.8 bool _VDBL_database::drop_table (const _VDBL_tableid & _C_i, const _VDBL_userid & _C_u) [inline, inherited]

delete a table, whose name is provided. return true, if deleting the table has worked.

Definition at line 495 of file vdbl_database.h.

7.39.2.9 bool _VDBL_database::drop_table (const _D_tables::iterator & __t, const _D_table_names::iterator & __tn, const _VDBL_userid & _C_u) [inline, inherited]

delete a table, internal function. The first argument is the iterator into the table map, the second argument is the iterator into the table names map, return true, if deleting the table has worked.

Definition at line 470 of file vdbl_database.h.

7.39.2.10 bool database::drop_table (const char * _C_i, const _VDBL_userid & _C_u) [inline]

delete a table, whose name is provided. return `true`, if deleting the table has worked.

Definition at line 847 of file vdbl_database.h.

7.39.2.11 bool _VDBL_database::drop_view (const std::string & _C_i, const _VDBL_userid & _C_u) [inline, inherited]

delete a view, whose name is provided. return `true`, if deleting the table has worked.

Definition at line 707 of file vdbl_database.h.

7.39.2.12 bool _VDBL_database::drop_view (const _VDBL_viewid & _C_i, const _VDBL_userid & _C_u) [inline, inherited]

delete a view, whose id is provided. return `true`, if deleting the table has worked.

Definition at line 694 of file vdbl_database.h.

7.39.2.13 bool _VDBL_database::drop_view (const _D_views::iterator & __v, const _D_view_names::iterator & __vn, const _VDBL_userid & _C_u) [inline, inherited]

delete a view, internal function. The first argument is the iterator into the table map, the second argument is the iterator into the table names map, return `true`, if deleting the table has worked.

Definition at line 669 of file vdbl_database.h.

7.39.2.14 bool database::drop_view (const char * _C_i, const _VDBL_userid & _C_u) [inline]

delete a view, whose name is provided. return `true`, if deleting the table has worked.

Definition at line 888 of file vdbl_database.h.

7.39.2.15 _VDBL_table* _VDBL_database::get_table (const _VDBL_tableid & _C_i, const _VDBL_userid & _C_u) const [inline, inherited]

return a pointer to the table with id `_C_i`.

Definition at line 536 of file vdbl_database.h.

7.39.2.16 table* database::get_table (const char * _C_i, const _VDBL_userid & _C_u) const [inline]

return a pointer to the table with name `_C_i`.

Definition at line 923 of file vdbl_database.h.

7.39.2.17 table* database::get_table (const std::string & _C_i, const _VDBL_userid & _C_u) const [inline]

return a pointer to the table with name `_C_i`.

Reimplemented from _VDBL_database.

Definition at line 918 of file vdbl_database.h.

7.39.2.18 table* database::get_table (const tableid & _C_i, const _VDBL_userid & _C_u) const [inline]

return a pointer to the table with id _C_i.

Definition at line 913 of file vdbl_database.h.

7.39.2.19 _VDBL_tableid _VDBL_database::get_tableid (const std::string & _C_i, const _VDBL_userid & _C_u) const [inline, inherited]

return the table id for a given name

Definition at line 447 of file vdbl_database.h.

7.39.2.20 _VDBL_tableid _VDBL_database::get_tableid () [inline, protected, inherited]

generate a new unique id for tables, views, and users

Definition at line 391 of file vdbl_database.h.

7.39.2.21 _VDBL_userid _VDBL_database::get_userid () [inline, protected, inherited]

generate a new unique id for tables, views, and users

Definition at line 392 of file vdbl_database.h.

7.39.2.22 _VDBL_view* _VDBL_database::get_view (const std::string & _C_i, const _VDBL_userid & _C_u) const [inline, inherited]

return a pointer to the view with name _C_i.

Definition at line 746 of file vdbl_database.h.

7.39.2.23 _VDBL_view* _VDBL_database::get_view (const _VDBL_viewid & _C_i, const _VDBL_userid & _C_u) const [inline, inherited]

return a pointer to the view with id _C_i.

Definition at line 734 of file vdbl_database.h.

7.39.2.24 viewbase* database::get_view (const char * _C_i, const _VDBL_userid & _C_u) const [inline]

return a pointer to the view with name _C_i.

Definition at line 898 of file vdbl_database.h.

7.39.2.25 _VDBL_viewid _VDBL_database::get_viewid (const std::string & _C_i, const _VDBL_userid & _C_u) const [inline, inherited]

return the view id of view _C_i.

Definition at line 626 of file vdbl_database.h.

7.39.2.26 _VDBL_viewid _VDBL_database::get_viewid () [inline, protected, inherited]

generate a new unique id for tables, views, and users

Definition at line 393 of file vdbl_database.h.

7.39.2.27 bool _VDBL_database::has_table (const std::string & *_C_i*, const _VDBL_userid & *_C_u*) const [inline, inherited]

check whether the table _C_i exists

Definition at line 529 of file vdbl_database.h.

7.39.2.28 bool _VDBL_database::has_table (const _VDBL_tableid & *_C_i*, const _VDBL_userid & *_C_u*) const [inline, inherited]

check whether the table _C_i exists

Definition at line 517 of file vdbl_database.h.

7.39.2.29 bool database::has_table (const char * *_C_i*, const _VDBL_userid & *_C_u*) const [inline]

check whether the table _C_i exists

Definition at line 852 of file vdbl_database.h.

7.39.2.30 bool _VDBL_database::has_view (const std::string & *_C_i*, const _VDBL_userid & *_C_u*) const [inline, inherited]

check whether the view _C_i exists

Definition at line 728 of file vdbl_database.h.

7.39.2.31 bool _VDBL_database::has_view (const _VDBL_viewid & *_C_i*, const _VDBL_userid & *_C_u*) const [inline, inherited]

check whether the view with id _C_i exists

Definition at line 716 of file vdbl_database.h.

7.39.2.32 bool database::has_view (const char * *_C_i*, const _VDBL_userid & *_C_u*) const [inline]

check whether the view _C_i exists

Definition at line 893 of file vdbl_database.h.

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

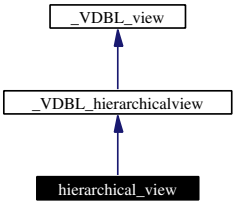
- vdbl_database.h

7.40 hierarchical_view Class Reference

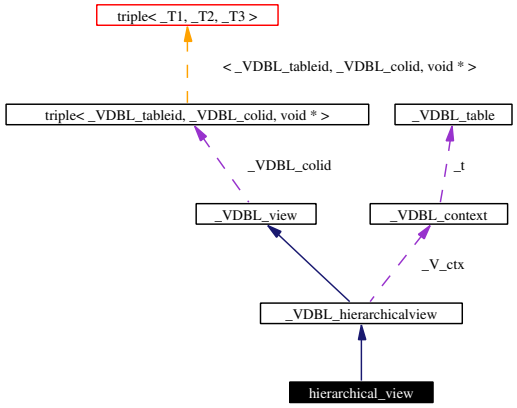
hierarchical view class onto a stack of tables

`#include <vdbl_hrview.h>`

Inheritance diagram for hierarchical_view:



Collaboration diagram for hierarchical_view:



Public Types

- typedef std::pair< std::string, _VDBL_col > _T_colspec

Public Methods

- hierarchical_view (const _VDBL_tableid &__ti, _VDBL_table *__t, const _VDBL_context &__c, _V_enum __e=V_window)
- hierarchical_view (const hierarchical_view &_v)
- template<class _R> bool get (const tableid &_ti, const rowid &_ri, const colid &_ci, _R &r) const
- template<class _R> bool get_raw_ptr (const tableid &_ti, const rowid &_ri, const colid &_ci, _R const *&r) const
- void push_table (const _VDBL_tableid &__ti, _VDBL_table *__t)
- void push_table (const _VDBL_tableid &__ti, _VDBL_table *__t, const std::vector< _VDBL_rowid > &_rs)
- _VDBL_tableid pop_table ()
- const std::type_info & get_colinfo (const std::string &_C_n, triple< bool, _VDBL_colid, _VDBL_colflags > &_r) const
- bool remove (std::pair< _VDBL_tableid, _VDBL_rowid > _r)
- std::ostream & print_col (std::ostream &o, const std::pair< _VDBL_tableid, _VDBL_rowid > &_ri, const _VDBL_colid &_ci, bool &printed) const

- template<class _R> bool get_raw_ptr (const std::pair< _VDBL_tableid, _VDBL_rowid > &_ri, const _VDBL_colid &_ci, _R const *&r) const
- template<class _R> bool get (const std::pair< _VDBL_tableid, _VDBL_rowid > &_ri, const _VDBL_colid &_ci, _R &r) const

- template<class _R> bool get (const rowid &_ri, const std::string &_c, _R &r) const
- template<class _R> bool get (const rowid &_ri, const char *_c, _R &r) const

Protected Types

- typedef _default_iterator< _VDBL_col, const _VDBL_col &, const _VDBL_col * > default_const_iterator
- typedef _col_iterator< _VDBL_col, const _VDBL_col &, const _VDBL_col * > col_const_iterator
- typedef _row_iterator< _VDBL_row, const _VDBL_row &, const _VDBL_row * > row_const_iterator

Protected Methods

- triple< _VDBL_tableid, _VDBL_colid, void * > _next_def_col (const _VDBL_tableid &_t, const _VDBL_colid &_c, void *_d) const
- triple< _VDBL_tableid, _VDBL_colid, void * > _prev_def_col (const _VDBL_tableid &_t, const _VDBL_colid &_c, void *_d) const
- void * _copy_def_data (void *_d) const
- triple< _VDBL_tableid, _VDBL_colid, void * > _next_col (const _VDBL_tableid &_t, const _VDBL_rowid &_r, const _VDBL_colid &_c, void *_d) const
- triple< _VDBL_tableid, _VDBL_colid, void * > _prev_col (const _VDBL_tableid &_t, const _VDBL_rowid &_r, const _VDBL_colid &_c, void *_d) const
- void * _copy_col_data (void *_d) const
- triple< _VDBL_tableid, _VDBL_rowid, void * > _next_row (const _VDBL_tableid &_t, const _VDBL_rowid &_r, void *_d) const
- triple< _VDBL_tableid, _VDBL_rowid, void * > _prev_row (const _VDBL_tableid &_t, const _VDBL_rowid &_r, void *_d) const
- void * _copy_row_data (void *_d) const
- void made_change ()

  increment the change *counter.*

- unsigned int get_change_ctr () const

  read the change counter

Protected Attributes

- _V_rows _V_r
- _V_cols _V_c
- _V_colxref _V_cx

7.40.1 Detailed Description

This is the hierarchical view. It is an in-memory view onto a stack of VDBL tables.

In a hierachical view the **master table** (the table lowest in the stack) determines the columns valid in this view. The tables upwards in the stack add rows and can change the default values of columns. The upmost definition of a column counts.

Definition at line 731 of file vdbl_hrview.h.

7.40.2 Member Typedef Documentation

7.40.2.1 typedef std::pair<std::string,_VDBL_col> _VDBL_view::_T_colspec [inherited]

This is the description of one column

Definition at line 84 of file vdbl_view.h.

7.40.2.2 typedef _col_iterator<_VDBL_col, const _VDBL_col&, const _VDBL_col*> _VDBL_view::col_const_iterator [protected, inherited]

const iterator over all columns

Definition at line 461 of file vdbl_view.h.

7.40.2.3 typedef _default_iterator<_VDBL_col, const _VDBL_col&, const _VDBL_col*> _VDBL_view::default_const_iterator [protected, inherited]

const iterator over all default columns

Definition at line 324 of file vdbl_view.h.

7.40.2.4 typedef _row_iterator<_VDBL_row, const _VDBL_row&, const _VDBL_row*> _VDBL_view::row_const_iterator [protected, inherited]

const iterator over all rows

Definition at line 590 of file vdbl_view.h.

7.40.3 Constructor & Destructor Documentation

7.40.3.1 hierarchical_view::hierarchical_view (const _VDBL_tableid & __ti, _VDBL_table * __t, const _VDBL_context & __c, _V_enum __e = V_window) [inline]

standard constructor which initalizes the `table` and the `tableid` of the master table, the evaluation context, and the view type.

Definition at line 743 of file vdbl_hrview.h.

7.40.3.2 hierarchical_view::hierarchical_view (const hierarchical_view & _v) [inline]

copy constructor

Definition at line 750 of file vdbl_hrview.h.

7.40.4 Member Function Documentation

7.40.4.1 void* _VDBL_hierarchicalview::_copy_col_data (void * _d) const [inline, protected, virtual, inherited]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the next row for a _row_iterator.

Reimplemented from _VDBL_view.

Definition at line 289 of file vdbl_hrview.h.

7.40.4.2 void* _VDBL_hierarchicalview::_copy_def_data (void * _d) const [inline, protected, virtual, inherited]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the next column for a _col_iterator.

Reimplemented from _VDBL_view.

Definition at line 232 of file vdbl_hrview.h.

7.40.4.3 void* _VDBL_hierarchicalview::_copy_row_data (void * _d) const [inline, protected, virtual, inherited]

This is the fundamental class for iterators over all default columns, defining basic in(de)crementation for overloading, and basic comparison.

Reimplemented from _VDBL_view.

Definition at line 326 of file vdbl_hrview.h.

7.40.4.4 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_hierarchicalview::_next_col (const _VDBL_tableid & _t, const _VDBL_rowid & _r, const _VDBL_colid & _c, void * _d) const [inline, protected, inherited]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous column for a _col_iterator.

Reimplemented from _VDBL_view.

Definition at line 237 of file vdbl_hrview.h.

7.40.4.5 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_hierarchicalview::_next_def_col (const _VDBL_tableid & _t, const _VDBL_colid & _c, void * _d) const [inline, protected, virtual, inherited]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous default of a column a _default_iterator.

Reimplemented from _VDBL_view.

Definition at line 180 of file vdbl_hrview.h.

7.40.4.6 triple<_VDBL_tableid,_VDBL_rowid,void*> _VDBL_hierarchicalview::_next_row (const _VDBL_tableid & _t, const _VDBL_rowid & _r, void * _d) const [inline, protected, inherited]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous row for a _row_iterator.

Reimplemented from _VDBL_view.

Definition at line 294 of file vdbl_hrview.h.

7.40.4.7 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_hierarchicalview::_prev_col (const _VDBL_tableid & _t, const _VDBL_rowid & _r, const _VDBL_colid & _c, void * _d) const [inline, protected, inherited]

This function destroys the additional data needed by a _col_iterator

Reimplemented from _VDBL_view.

Definition at line 259 of file vdbl_hrview.h.

7.40.4.8 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_hierarchicalview::_prev_def_col (const _VDBL_tableid & _t, const _VDBL_colid & _c, void * _d) const [inline, protected, inherited]

This function destroys the additional data needed by a _default_iterator

Reimplemented from _VDBL_view.

Definition at line 202 of file vdbl_hrview.h.

7.40.4.9 triple<_VDBL_tableid,_VDBL_rowid,void*> _VDBL_hierarchicalview::_prev_row (const _VDBL_tableid & _t, const _VDBL_rowid & _r, void * _d) const [inline, protected, inherited]

This function destroys the additional data needed by a _row_iterator

Reimplemented from _VDBL_view.

Definition at line 308 of file vdbl_hrview.h.

7.40.4.10 template<class _R> bool _VDBL_hierarchicalview::get (const std::pair< _VDBL_tableid, _VDBL_rowid > & _ri, const _VDBL_colid & _ci, _R & r) const [inline, inherited]

get the data from column _ci in row _ri.second of table _ri.first. The data stored in the column must be of type _R.

Definition at line 644 of file vdbl_hrview.h.

7.40.4.11 template<class _R> bool hierarchical_view::get (const rowid & _ri, const char * _c, _R & r) const [inline]

get the data from column _c in row _ri. The data stored in the column must be of type _R.

Definition at line 782 of file vdbl_hrview.h.

7.40.4.12 template<class _R> bool hierarchical_view::get (const rowid & _ri, const std::string & _c, _R & r) const [inline]

get the data from column _c in row _ri. The data stored in the column must be of type _R.

Definition at line 777 of file vdbl_hrview.h.

7.40.4.13 template<class _R> bool hierarchical_view::get (const tableid & _ti, const rowid & _ri, const colid & _ci, _R & r) const [inline]

get the data from column _ci in row _ri of table _ti. The data stored in the column must be of type _R.

Definition at line 757 of file vdbl_hrview.h.

7.40.4.14 const std::type_info& _VDBL_hierarchicalview::get_colinfo (const std::string & _C_n, triple< bool, _VDBL_colid, _VDBL_colflags > & _r) const [inline, virtual, inherited]

return the type of this view

Reimplemented from _VDBL_view.

Definition at line 487 of file vdbl_hrview.h.

7.40.4.15 template<class _R> bool _VDBL_hierarchicalview::get_raw_ptr (const std::pair< _VDBL_tableid, _VDBL_rowid > & _ri, const _VDBL_colid & _ci, _R const *& r) const [inline, inherited]

get a const ptr to the data from column _ci in row _ri.second of table _ri.first. The data stored in the column must be of type _R. In this function no data copying is done. Note that this function returns a pointer to the columns raw data, so it can only be used to refer to constant columns.

Definition at line 625 of file vdbl_hrview.h.

7.40.4.16 template<class _R> bool hierarchical_view::get_raw_ptr (const tableid & _ti, const rowid & _ri, const colid & _ci, _R const *& r) const [inline]

get a const pointer to the data from column _ci in row _ri of table _ti. The data stored in the column must be of type _R. This only works if the column's data is constant. There is no implicit copying performed.

Definition at line 767 of file vdbl_hrview.h.

7.40.4.17 _VDBL_tableid _VDBL_hierarchicalview::pop_table () [inline, inherited]

remove the topmost table from the view, and return its table id.

Definition at line 458 of file vdbl_hrview.h.

7.40.4.18 std::ostream& _VDBL_hierarchicalview::print_col (std::ostream & o, const std::pair< _VDBL_tableid, _VDBL_rowid > & _ri, const _VDBL_colid & _ci, bool & printed) const [inline, inherited]

print the contents od column _ci in row _ri.second of table _ri.first.

Definition at line 599 of file vdbl_hrview.h.

7.40.4.19 void _VDBL_hierarchicalview::push_table (const _VDBL_tableid & __ti, _VDBL_table * __t, const std::vector< _VDBL_rowid > & _rs) [inline, inherited]

This pushes a new table onto the top of the hierarchical view stack. Additionally, a subset of the table's rows, which are visible in the view, can be specified.

Definition at line 433 of file vdbl_hrview.h.

7.40.4.20 void _VDBL_hierarchicalview::push_table (const _VDBL_tableid & __ti, _VDBL_table * __t) [inline, inherited]

This pushes a new table onto the top of the hierarchical view stack.

Definition at line 408 of file vdbl_hrview.h.

7.40.4.21 bool _VDBL_hierarchicalview::remove (std::pair< _VDBL_tableid, _VDBL_rowid > _r) [inline, inherited]

for now window views can only make changes in the top table in the list of tables

Definition at line 519 of file vdbl_hrview.h.

7.40.5 Member Data Documentation

7.40.5.1 _V_cols _VDBL_hierarchicalview::_V_c [protected, inherited]

This contains all columns of the view

Definition at line 89 of file vdbl_hrview.h.

7.40.5.2 _V_colxref _VDBL_hierarchicalview::_V_cx [protected, inherited]

This is the cross reference: view col id -> <tableid, real col id>

Definition at line 93 of file vdbl_hrview.h.

7.40.5.3 _V_rows _VDBL_hierarchicalview::_V_r [protected, inherited]

This contains all rows of the view

Definition at line 85 of file vdbl_hrview.h.

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

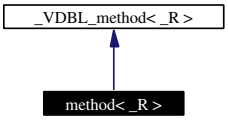
- vdbl_hrview.h

7.41 method< _R > Class Template Reference

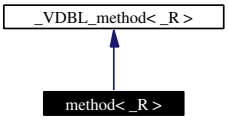
base class for methods usable in `method` columns.

`#include <vdbl_method.h>`

Inheritance diagram for method< _R >:



Collaboration diagram for method< _R >:



Public Types

- typedef _R return_type

Public Methods

- virtual const return_type & operator() () VDBL_PURE_VIRTUAL virtual const return_type &def() VDBL_PURE_VIRTUAL virtual void setcontext(const context *_c

7.41.1 Detailed Description

template<class _R> class method< _R >

This is the base class, from which all methods should be derived that are used in `method_col` columns. Its virtual methods are those required from a method used for computing column names dynamically. Such a method is a function object with two additional methods described below.

Definition at line 100 of file vdbl_method.h.

7.41.2 Member Typedef Documentation

7.41.2.1 template<class _R> typedef _R method< _R >::return_type

This is the type of the return value of the evaluation methods. Note that this type has to coincide with the column type.

Reimplemented from _VDBL_method< _R >.

Definition at line 107 of file vdbl_method.h.

7.41.3 Member Function Documentation

7.41.3.1 template<class _R> virtual const return_type& _VDBL_method< _R >::operator() () const [virtual, inherited]

set the evaluation context and the evaluation row.

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

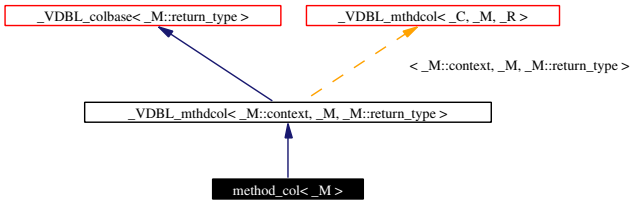
- vdbl_method.h

7.42 method_col< _M > Class Template Reference

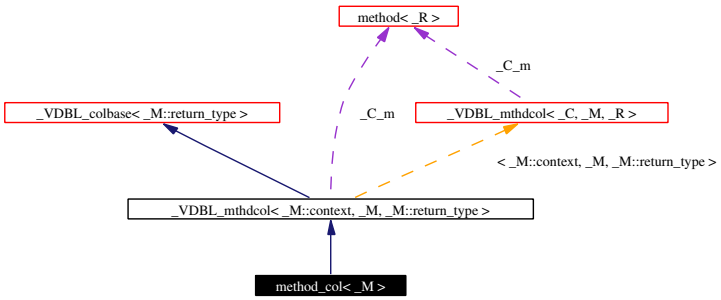
external name for computed columns

`#include <vdbl_col.h>`

Inheritance diagram for method_col< _M >:



Collaboration diagram for method_col< _M >:



Public Types

- typedef _M::return_type return_type

  `return_type` *is the type of object stored*

Public Methods

- _Self * new_copy () const
- virtual void setcontext (const context *_c, const _VDBL_row *_r)
- virtual void setcontext (const context *_c, const _VDBL_row *_r) VDBL_PURE_VIRTUAL virtual void get(return_type &c) const VDBL_PURE_VIRTUAL virtual void def(return_type &d) const VDBL_PURE_VIRTUAL virtual void get_ptr(return_type const *&c) const VDBL_PURE_VIRTUAL virtual void get_copy(return_type *&c) const
- void get (type &c) const

  the function object provides us with the retrieval method

- void get_ptr (type const *&c) const

  there is no way to get a pointer to the method's result properly

- void def (type &d) const

  the default value might be different, and might be computed differently

- virtual void get_copy (_VDBL_alltype_base *&v) const
- void def_copy (return_type *&d) const
- virtual void def_copy (_VDBL_alltype_base *&v) const
- virtual const std::type_info & return_type_id () const

7.42.1 Detailed Description

template<class _M> class method_col< _M >

this is the external name of the standard column for methods.

a method can only be used if it provides at least the following

- type definitions: # context specifies the context class for evaluation # return_type specifies the return value type of the evaluation
- methods: # const return_type& operator()() const for evaluation # const return_type& def() const for evaluation of the default value # void setcontext(const context* _c, const _VDBL_row* _r) for setting the evaluation context

usually, a method will be a class derived from the `method` base class.

Definition at line 631 of file vdbl_col.h.

7.42.2 Member Function Documentation

7.42.2.1 virtual void _VDBL_colbase< _M::return_type >::def_copy (_VDBL_alltype_base *& *v*) const [inline, virtual, inherited]

This version of `get_copy` returns a copy of the columns default value within an `alltype`. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Definition at line 209 of file vdbl_col.h.

7.42.2.2 void _VDBL_mthdcol< _M::context, _M, _M::return_type >::def_copy (return_type *& *d*) const [inline, virtual, inherited]

This function returns a pointer to a copy of the column's default value. The copy of the value is allocated by `new`. It has to be `deleted` by the user to avoid memory leaks.

Reimplemented from _VDBL_colbase< _M::return_type >.

Definition at line 559 of file vdbl_col.h.

7.42.2.3 virtual void _VDBL_colbase< _M::return_type >::get_copy (_VDBL_alltype_base *& *v*) const [inline, virtual, inherited]

This version of `get_copy` returns a copy of the columns value within an `alltype`. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Definition at line 196 of file vdbl_col.h.

7.42.2.4 _Self* _VDBL_mthdcol< _M::context, _M, _M::return_type >::new_copy () const [inline, virtual, inherited]

`new_copy` is the clone operation for copy-constructor overloading.

Reimplemented from _VDBL_colbase< _M::return_type >.

Definition at line 535 of file vdbl_col.h.

7.42.2.5 virtual const std::type_info& _VDBL_colbase< _M::return_type >::return_type_id () const [inline, virtual, inherited]

This function returns the `type_info` of the column type. This information is used during run-time type checking.

Definition at line 220 of file vdbl_col.h.

7.42.2.6 virtual void _VDBL_colbase< _M::return_type >::setcontext (const context * *_c*, const _VDBL_row * *_r*) const [inline, virtual, inherited]

This function returns a pointer to a copy of the column's value. The copy of the value is allocated by `new`. It has to be `deleted` by the user to avoid memory leaks.

Definition at line 156 of file vdbl_col.h.

7.42.2.7 virtual void _VDBL_mthdcol< _M::context, _M, _M::return_type >::setcontext (const context * *_c*, const _VDBL_row * *_r*) [inline, virtual, inherited]

for setting the context, the setcontext method of the function object is used.

Definition at line 541 of file vdbl_col.h.

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

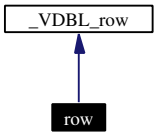
- vdbl_col.h

7.43 row Class Reference

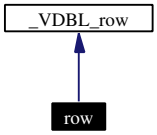
class implementing table rows

`#include <vdbl_row.h>`

Inheritance diagram for row:



Collaboration diagram for row:



Public Methods

- row ()
- row (const row &_r)

- row (const _Base &__r)
- row & operator= (const row &_x)
- row & operator= (const _Base &_x)
- const _VDBL_col & get_col (const _VDBL_colid &_id, bool &error) const
- _VDBL_col & get_col (const _VDBL_colid &_id, bool &error)
- bool has_col (const _VDBL_colid &_id) const
- bool insert (const _VDBL_colid &_id, const _VDBL_col &_col)
- bool drop (const _VDBL_colid &_id)
- void update (const _VDBL_colid &_id, const _VDBL_col &_col)

7.43.1 Detailed Description

This class implements the rows of a table

Definition at line 179 of file vdbl_row.h.

7.43.2 Constructor & Destructor Documentation

7.43.2.1 row::row () [inline]

standard constructor

Definition at line 190 of file vdbl_row.h.

7.43.2.2 row::row (const row & __r) [inline]

copy constructor

Definition at line 194 of file vdbl_row.h.

7.43.2.3 row::row (const _Base & __r) [inline]

copy constructor from internal class

Definition at line 198 of file vdbl_row.h.

7.43.3 Member Function Documentation

7.43.3.1 bool _VDBL_row::drop (const _VDBL_colid & *_id*) [inline, inherited]

remove the column with id `_id` from this row. Return `true` if erasing was successful, and `false` if the column does not exist.

Definition at line 148 of file vdbl_row.h.

7.43.3.2 _VDBL_col& _VDBL_row::get_col (const _VDBL_colid & *_id*, bool & *error*) [inline, inherited]

get a reference to the column with id `_id`. If the column existed, `error` will be `false`, otherwise `error` will be `true`.

Definition at line 102 of file vdbl_row.h.

7.43.3.3 const _VDBL_col& _VDBL_row::get_col (const _VDBL_colid & *_id*, bool & *error*) const [inline, inherited]

get a const reference to the column with id _id. If the column existed, error will be false, otherwise error will be true.

Definition at line 81 of file vdbl_row.h.

7.43.3.4 bool _VDBL_row::has_col (const _VDBL_colid & *_id*) const [inline, inherited]

return whether a column with id _id exists in this row.

Definition at line 121 of file vdbl_row.h.

7.43.3.5 bool _VDBL_row::insert (const _VDBL_colid & *_id*, const _VDBL_col & *_col*) [inline, inherited]

insert the new column _col with id _id in this row. If this id exists, return false, otherwise return true.

Definition at line 131 of file vdbl_row.h.

7.43.3.6 row& row::operator= (const _Base & *_x*) [inline]

assignment operator from internal class

Definition at line 211 of file vdbl_row.h.

7.43.3.7 row& row::operator= (const row & *_x*) [inline]

assignment operator

Definition at line 203 of file vdbl_row.h.

7.43.3.8 void _VDBL_row::update (const _VDBL_colid & *_id*, const _VDBL_col & *_col*) [inline, inherited]

update the column with id _id with the value _col. If the column does not yet exist, insert it. Otherwise, change its value.

Definition at line 165 of file vdbl_row.h.

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

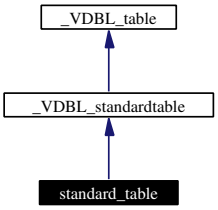
- vdbl_row.h

7.44 standard_table Class Reference

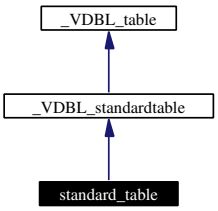
standard table of a database

#include <vdbl_table.h>

Inheritance diagram for standard_table:



Collaboration diagram for standard_table:



Public Types

- typedef std::pair< std::string, _VDBL_col > _T_colspec
- typedef std::pair< const std::string *, const _VDBL_col * > _T_ptrcolspec
- typedef _Base::col_const_iterator col_const_iterator
- typedef _row_iterator< _VDBL_rowid, const _VDBL_rowid &, const _VDBL_rowid * > row_const_iterator

Public Methods

- standard_table ()
- standard_table (const standard_table &__t)
- template<template< class __Tp, class __AllocTp > class __SequenceCtr, class Allocator1> standard_table (const __SequenceCtr< triple< std::string, _VDBL_col, _VDBL_colflags >, Allocator1 > &__cc)
- virtual ~standard_table ()
- bool insert (const std::vector< _T_ptrcolspec > &_row, rowid &_ri)
- bool insert (const std::vector< _T_ptrcolspec > &_row)
- template<template< class __Tp, class __AllocTp > class __SequenceCtr, class Allocator1> bool insert_row (const __SequenceCtr< col_spec, Allocator1 > &_row, rowid &_ri)
- template<template< class __Tp, class __AllocTp > class __SequenceCtr, class Allocator1> bool insert_row (const __SequenceCtr< col_spec, Allocator1 > &_row)
- template<template< class __Tp1, class __AllocTp1 > class __SequenceCtrOut, template< class __Tp2, class __AllocTp2 > class __SequenceCtrIn, class AllocatorOut, class AllocatorIn> bool insert_row (const __SequenceCtrOut< __SequenceCtrIn< col_spec, AllocatorIn >, AllocatorOut > &_rows)
- const row & get_row (const rowid &_ri, bool &error) const
- const row * get_row_ptr (const rowid &_ri) const
- row & get_row (const rowid &_ri, bool &error)
- const std::type_info & get_colinfo (const std::string &_C_n, triple< bool, _VDBL_colid, _VDBL_colflags > &_r) const

- _VDBL_colid get_col_id (const std::string &_C_n) const
- virtual bool add_col (const std::string &_C_n, const _VDBL_col &__c, const _VDBL_colflags &__f) VDBL_PURE_VIRTUAL virtual bool modify_col(const std
- std::pair< std::string, _VDBL_colid > _next_col (const std::pair< std::string, _VDBL_colid > &_ci) const
- _VDBL_rowid _next_row (const _VDBL_rowid &_ci) const
- template<template< class __Tp1, class __AllocTp1 > class __SequenceCtrOut, template< class __Tp2, class __AllocTp2 > class __SequenceCtrIn, class AllocatorOut, class AllocatorIn> bool insert_row (const __SequenceCtrOut< __SequenceCtrIn< _T_colspec, AllocatorIn >, AllocatorOut > &_rows)

- template<class _CB> bool add_col (const char *_C_n, const _CB &__c, const _VDBL_colflags &__f)
- template<class _CB> bool add_col (const std::string &_C_n, const _CB &__c, const _VDBL_colflags &__f)

- colid get_colid (const std::string &_C_n) const
- colid get_colid (const char *_C_n) const

Protected Methods

- void made_change ()

- _VDBL_colid get_colid ()
- _VDBL_rowid get_rowid ()

7.44.1 Detailed Description

This class describes the standard table of a database, consisting of rows and columns.

Definition at line 1136 of file vdbl_table.h.

7.44.2 Member Typedef Documentation

7.44.2.1 typedef std::pair<std::string,_VDBL_col> _VDBL_standardtable::_T_colspec [inherited]

specifier of one column, a pair of column name (`string`) and entry (`_VDBL_col`).

Reimplemented from _VDBL_table.

Definition at line 568 of file vdbl_table.h.

7.44.2.2 typedef std::pair<const std::string*,const _VDBL_col*> _VDBL_standardtable::_T_ptrcolspec [inherited]

specifier of pointers to one column, a pair of column name (`string*`) and entry (`_VDBL_col*`).

Reimplemented from _VDBL_table.

Definition at line 573 of file vdbl_table.h.

7.44.2.3 typedef _Base::col_const_iterator _VDBL_standardtable::col_const_iterator [inherited]

const iterator over all columns

Reimplemented from _VDBL_table.

Definition at line 578 of file vdbl_table.h.

7.44.2.4 typedef _row_iterator<_VDBL_rowid, const _VDBL_rowid&, const _VDBL_rowid*> _VDBL_table::row_const_iterator [inherited]

const iterator over all rows

Definition at line 320 of file vdbl_table.h.

7.44.3 Constructor & Destructor Documentation

7.44.3.1 standard_table::standard_table () [inline]

standard constructor

Definition at line 1149 of file vdbl_table.h.

7.44.3.2 standard_table::standard_table (const standard_table & __t) [inline]

copy constructor

Definition at line 1153 of file vdbl_table.h.

7.44.3.3 template<template< class __Tp, class __AllocTp > class __SequenceCtr, class Allocator1> standard_table::standard_table (const __SequenceCtr< triple< std::string, _VDBL_col, _VDBL_colflags >, Allocator1 > & __cc) [inline]

constructor defining a table using a list of columns. This list can be contained in any STL sequence container.

Definition at line 1161 of file vdbl_table.h.

7.44.3.4 virtual standard_table::~standard_table () [inline, virtual]

standard destructor

Definition at line 1167 of file vdbl_table.h.

7.44.4 Member Function Documentation

7.44.4.1 std::pair<std::string,_VDBL_colid> _VDBL_standardtable::_next_col (const std::pair< std::string, _VDBL_colid > & _ci) const [inline, virtual, inherited]

This is the fundamental class for iterators over all rows, defining basic in(de)crementation for overloading, and basic comparison.

Reimplemented from _VDBL_table.

Definition at line 996 of file vdbl_table.h.

7.44.4.2 _VDBL_rowid _VDBL_standardtable::_next_row (const _VDBL_rowid & _ci) const [inline, virtual, inherited]

standard constructor

Reimplemented from _VDBL_table.

Definition at line 1031 of file vdbl_table.h.

7.44.4.3 virtual bool _VDBL_table::add_col (const std::string & _C_n, const _VDBL_col & __c, const _VDBL_colflags & __f) const [inline, virtual, inherited]

insert a new row of specification _row into the table, and return the row id of the newly created row in _r. Take any sequential STL container to hold the row entries of the column. The function returns true, if inserting was successful.

Definition at line 376 of file vdbl_table.h.

7.44.4.4 template<class _CB> bool standard_table::add_col (const std::string & _C_n, const _CB & __c, const _VDBL_colflags & __f) [inline]

add a new column of name _C_n, with data __c, and column flags __f. The function returns true, if adding the column was successful.

Definition at line 1180 of file vdbl_table.h.

7.44.4.5 template<class _CB> bool standard_table::add_col (const char * _C_n, const _CB & __c, const _VDBL_colflags & __f) [inline]

add a new column of name _C_n, with data __c, and column flags __f. The function returns true, if adding the column was successful.

Definition at line 1176 of file vdbl_table.h.

7.44.4.6 _VDBL_colid _VDBL_standardtable::get_col_id (const std::string & _C_n) const [inline, inherited]

return the column id of column _C_n

Definition at line 614 of file vdbl_table.h.

7.44.4.7 _VDBL_colid _VDBL_table::get_colid () [inline, protected, inherited]

generate new unique id's for rows and columns

Definition at line 98 of file vdbl_table.h.

7.44.4.8 colid standard_table::get_colid (const char * _C_n) const [inline]

return the column id of column _C_n

Definition at line 1285 of file vdbl_table.h.

7.44.4.9 colid standard_table::get_colid (const std::string & _C_n) const [inline]

return the column id of column _C_n

Definition at line 1282 of file vdbl_table.h.

7.44.4.10 const std::type_info& _VDBL_standardtable::get_colinfo (const std::string & _C_n, triple< bool, _VDBL_colid, _VDBL_colflags > & _r) const [inline, virtual, inherited]

what was the id of the last change to the table

Reimplemented from _VDBL_table.

Definition at line 591 of file vdbl_table.h.

7.44.4.11 row& standard_table::get_row (const rowid & _ri, bool & error) [inline]

return a reference to the row with id `_ri`. If an error occurs, set `error` to `true`, otherwise to `false`.

Definition at line 1275 of file vdbl_table.h.

7.44.4.12 const row& standard_table::get_row (const rowid & _ri, bool & error) const [inline]

return a const reference to the row with id `_ri`. If an error occurs, set `error` to `true`, otherwise to `false`.

Definition at line 1261 of file vdbl_table.h.

7.44.4.13 const row* standard_table::get_row_ptr (const rowid & _ri) const [inline]

return a const pointer to the row with id `_ri`. If an error occurs, return NULL

Definition at line 1268 of file vdbl_table.h.

7.44.4.14 _VDBL_rowid _VDBL_table::get_rowid () [inline, protected, inherited]

generate new unique id's for rows and columns

Definition at line 99 of file vdbl_table.h.

7.44.4.15 bool standard_table::insert (const std::vector< _T_ptrcolspec > & _row) [inline]

insert a new row of specification `_row` into the table. The function returns `true`, if inserting was successful.

Reimplemented from _VDBL_standardtable.

Definition at line 1197 of file vdbl_table.h.

7.44.4.16 bool standard_table::insert (const std::vector< _T_ptrcolspec > & _row, rowid & _ri) [inline]

insert a new row of specification `_row` into the table, and return the row id of the newly created row in `_r`. The function returns `true`, if inserting was successful.

Definition at line 1190 of file vdbl_table.h.

7.44.4.17 template<template< class __Tp1, class __AllocTp1 > class __SequenceCtrOut, template< class __Tp2, class __AllocTp2 > class __SequenceCtrIn, class AllocatorOut, class AllocatorIn> bool _VDBL_table::insert_row (const __SequenceCtrOut< __SequenceCtrIn< _T_colspec, AllocatorIn >, AllocatorOut > & _rows) [inline, inherited]

insert a many new rows of specifications _rows into the table. The list of rows can be contained in any sequential STL container, which holds any other sequential STL container of column entries. The function returns true, if inserting was successful for all rows.

Definition at line 457 of file vdbl_table.h.

7.44.4.18 template<template< class __Tp1, class __AllocTp1 > class __SequenceCtrOut, template< class __Tp2, class __AllocTp2 > class __SequenceCtrIn, class AllocatorOut, class AllocatorIn> bool standard_table::insert_row (const __SequenceCtrOut< __SequenceCtrIn< col_spec, AllocatorIn >, AllocatorOut > & *_rows*) [inline]

insert a many new rows of specifications _rows into the table. The list of rows can be contained in any sequential STL container, which holds any other sequential STL container of column entries. The function returns true, if inserting was successful for all rows.

Definition at line 1243 of file vdbl_table.h.

7.44.4.19 template<template< class __Tp, class __AllocTp > class __SequenceCtr, class Allocator1> bool standard_table::insert_row (const __SequenceCtr< col_spec, Allocator1 > & *_row*) [inline]

insert a new row of specification _row into the table. Take any sequential STL container to hold the row entries of the column. The function returns true, if inserting was successful.

Definition at line 1227 of file vdbl_table.h.

7.44.4.20 template<template< class __Tp, class __AllocTp > class __SequenceCtr, class Allocator1> bool standard_table::insert_row (const __SequenceCtr< col_spec, Allocator1 > & *_row*, rowid & *_ri*) [inline]

insert a new row of specification _row into the table, and return the row id of the newly created row in _r. Take any sequential STL container to hold the row entries of the column. The function returns true, if inserting was successful.

Definition at line 1209 of file vdbl_table.h.

7.44.4.21 void _VDBL_table::made_change () [inline, protected, inherited]

increment the last_change counter.

Definition at line 105 of file vdbl_table.h.

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

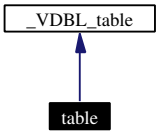
- vdbl_table.h

7.45 table Class Reference

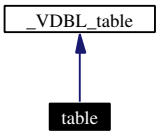
base class for tables in a database

#include <vdbl_table.h>

Inheritance diagram for table:



Collaboration diagram for table:



Public Types

- typedef std::pair< std::string, _VDBL_col > _T_colspec
- typedef std::pair< const std::string *, const _VDBL_col * > _T_ptrcolspec
- typedef _col_iterator< std::pair< std::string, _VDBL_colid >, const std::pair< std::string, _VDBL_colid > &, const std::pair< std::string, _VDBL_colid > * > col_const_iterator
- typedef _row_iterator< _VDBL_rowid, const _VDBL_rowid &, const _VDBL_rowid * > row_const_iterator

Public Methods

- virtual const std::type_info & get_colinfo (const std::string &_C_n, triple< bool, _VDBL_colid, _VDBL_colflags > &_r) const VDBL_PURE_VIRTUAL public
- virtual std::pair< std::string, _VDBL_colid > _next_col (const std::pair< std::string, _VDBL_colid > &_ci) const VDBL_PURE_VIRTUAL virtual std
- virtual _VDBL_rowid _next_row (const _VDBL_rowid &_ci) const VDBL_PURE_VIRTUAL virtual _VDBL_rowid _prev_row(const _VDBL_rowid &_ci) const VDBL_PURE_VIRTUAL virtual row_const _iterator row_begin() const VDBL_PURE_VIRTUAL virtual row_ const _iterator row_end() const VDBL_PURE_VIRTUAL public
- virtual bool add_col (const std::string &_C_n, const _VDBL_col &__c, const _VDBL_colflags &__f) VDBL_PURE_VIRTUAL virtual bool modify_col(const std
- template<template< class __Tp1, class __AllocTp1 > class __SequenceCtrOut, template< class __Tp2, class __AllocTp2 > class __SequenceCtrIn, class AllocatorOut, class AllocatorIn> bool insert_row (const __SequenceCtrOut< __SequenceCtrIn< _T_colspec, AllocatorIn >, AllocatorOut > &_rows)

Protected Methods

- void made_change ()

- _VDBL_colid get_colid ()
- _VDBL_rowid get_rowid ()

7.45.1 Detailed Description

This is the base class for all tables in a database

Definition at line 1070 of file vdbl_table.h.

7.45.2 Member Typedef Documentation

7.45.2.1 typedef std::pair<std::string,_VDBL_col> _VDBL_table::_T_colspec [inherited]

specifier of one column, a pair of column name (`string`) and entry (`_VDBL_col`).

Reimplemented in _VDBL_standardtable, and _VDBL_viewtable.

Definition at line 77 of file vdbl_table.h.

7.45.2.2 typedef std::pair<const std::string*,const _VDBL_col*> _VDBL_table::_T_ptrcolspec [inherited]

specifier of pointers to one column, a pair of column name (`string*`) and entry (`_VDBL_col*`).

Reimplemented in _VDBL_standardtable.

Definition at line 82 of file vdbl_table.h.

7.45.2.3 typedef _col_iterator<std::pair<std::string,_VDBL_colid>, const std::pair<std::string,_VDBL_colid>&, const std::pair<std::string,_VDBL_colid>*> _VDBL_table::col_const_iterator [inherited]

const iterator over all columns

Reimplemented in _VDBL_standardtable.

Definition at line 213 of file vdbl_table.h.

7.45.2.4 typedef _row_iterator<_VDBL_rowid, const _VDBL_rowid&, const _VDBL_rowid*> _VDBL_table::row_const_iterator [inherited]

const iterator over all rows

Definition at line 320 of file vdbl_table.h.

7.45.3 Member Function Documentation

7.45.3.1 virtual std::pair<std::string,_VDBL_colid> _VDBL_table::_next_col (const std::pair<std::string, _VDBL_colid > & *_ci*) const [inline, virtual, inherited]

This is the fundamental class for iterators over all rows, defining basic in(de)crementation for overloading, and basic comparison.

Reimplemented in _VDBL_standardtable.

Definition at line 220 of file vdbl_table.h.

7.45.3.2 virtual _VDBL_rowid _VDBL_table::_next_row (const _VDBL_rowid & *_ci*) const [inline, virtual, inherited]

standard constructor

Reimplemented in _VDBL_standardtable.

Definition at line 327 of file vdbl_table.h.

7.45.3.3 virtual bool _VDBL_table::add_col (const std::string & _C_n, const _VDBL_col & __c, const _VDBL_colflags & __f) const [inline, virtual, inherited]

insert a new row of specification _row into the table, and return the row id of the newly created row in _r. Take any sequential STL container to hold the row entries of the column. The function returns true, if inserting was successful.

Definition at line 376 of file vdbl_table.h.

7.45.3.4 _VDBL_colid _VDBL_table::get_colid () [inline, protected, inherited]

generate new unique id's for rows and columns

Definition at line 98 of file vdbl_table.h.

7.45.3.5 virtual const std::type_info& _VDBL_table::get_colinfo (const std::string & _C_n, triple< bool, _VDBL_colid, _VDBL_colflags > & _r) const [inline, virtual, inherited]

what was the id of the last change to the table

Reimplemented in _VDBL_standardtable.

Definition at line 115 of file vdbl_table.h.

7.45.3.6 _VDBL_rowid _VDBL_table::get_rowid () [inline, protected, inherited]

generate new unique id's for rows and columns

Definition at line 99 of file vdbl_table.h.

7.45.3.7 template<template< class __Tp1, class __AllocTp1 > class __SequenceCtrOut, template< class __Tp2, class __AllocTp2 > class __SequenceCtrIn, class AllocatorOut, class AllocatorIn> bool _VDBL_table::insert_row (const __SequenceCtrOut< __SequenceCtrIn< _T_colspec, AllocatorIn >, AllocatorOut > & _rows) [inline, inherited]

insert a many new rows of specifications _rows into the table. The list of rows can be contained in any sequential STL container, which holds any other sequential STL container of column entries. The function returns true, if inserting was successful for all rows.

Definition at line 457 of file vdbl_table.h.

7.45.3.8 void _VDBL_table::made_change () [inline, protected, inherited]

increment the last_change counter.

Definition at line 105 of file vdbl_table.h.

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

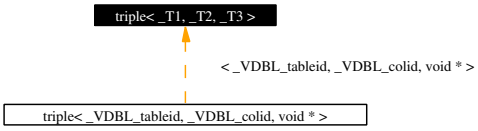
- vdbl_table.h

7.46 triple< _T1, _T2, _T3 > Struct Template Reference

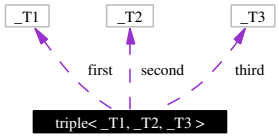
triple holds three objects of arbitrary type.

`#include <vdbl_triple.h>`

Inheritance diagram for triple< _T1, _T2, _T3 >:



Collaboration diagram for triple< _T1, _T2, _T3 >:



Public Types

- typedef _T1 first_type

  type of first entry

- typedef _T2 second_type
- typedef _T3 third_type

  `third_type` *is the second bound type*

Public Methods

- triple (const _T1 &__a, const _T2 &__b, const _T3 &__c)
- template<class _U1, class _U2, class _U3> triple (const triple< _U1, _U2, _U3 > &__t)

Public Attributes

- _T1 first

  first entry

- _T2 second
- _T3 third

  `third` *is a copy of the second object*

7.46.1 Detailed Description

template<class _T1, class _T2, class _T3> struct triple< _T1, _T2, _T3 >

This class is used to hold three objects of arbitrary types. It is a slight generalization of `std::pair`.

Definition at line 41 of file vdbl_triple.h.

7.46.2 Member Typedef Documentation

7.46.2.1 template<class _T1, class _T2, class _T3> typedef _T1 triple< _T1, _T2, _T3 >::first_type

`first_type` is the first bound type type of second entry

Definition at line 43 of file vdbl_triple.h.

7.46.2.2 template<class _T1, class _T2, class _T3> typedef _T2 triple< _T1, _T2, _T3 >::second_type

`second_type` is the second bound type type of third entry

Definition at line 45 of file vdbl_triple.h.

7.46.3 Constructor & Destructor Documentation

7.46.3.1 template<class _T1, class _T2, class _T3> triple< _T1, _T2, _T3 >::triple (const _T1 & *__a*, const _T2 & *__b*, const _T3 & *__c*) [inline]

Three objects may be passed to a `triple` constructor to be copied.

Definition at line 68 of file vdbl_triple.h.

7.46.3.2 template<class _T1, class _T2, class _T3> template<class _U1, class _U2, class _U3> triple< _T1, _T2, _T3 >::triple (const triple< _U1, _U2, _U3 > & *__t*) [inline]

There is also a templated copy constructor for the `triple` class itself.

Definition at line 75 of file vdbl_triple.h.

7.46.4 Member Data Documentation

7.46.4.1 template<class _T1, class _T2, class _T3> _T1 triple< _T1, _T2, _T3 >::first

`first` is a copy of the first object second entry

Definition at line 50 of file vdbl_triple.h.

7.46.4.2 template<class _T1, class _T2, class _T3> _T2 triple< _T1, _T2, _T3 >::second

`second` is a copy of the second object third entry

Definition at line 52 of file vdbl_triple.h.

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

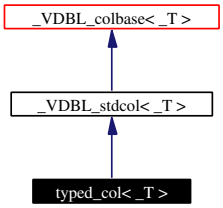
- vdbl_triple.h

7.47 typed_col< _T > Class Template Reference

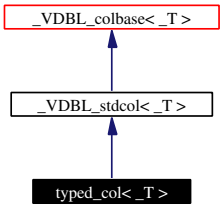
external name for constant data columns

`#include <vdbl_col.h>`

Inheritance diagram for typed_col< _T >:



Collaboration diagram for typed_col< _T >:



Public Types

- typedef _T return_type

  `return_type` *is the type of object stored*

Public Methods

- _Self * new_copy () const
- void set (const _Self &_p)
- void set (const type &__t)
- void setcontext (const context *_c, const _VDBL_row *_r)
- virtual void setcontext (const context *_c, const _VDBL_row *_r) VDBL_PURE_VIRTUAL virtual void get(return_type &c) const VDBL_PURE_VIRTUAL virtual void def(return_type &d) const VDBL_PURE_VIRTUAL virtual void get_ptr(return_type const *&c) const VDBL_PURE_VIRTUAL virtual void get_copy(return_type *&c) const
- void def (type &d) const
- void get_copy (_VDBL_alltype_base *&v) const
- void def_copy (return_type *&d) const
- void def_copy (_VDBL_alltype_base *&v) const
- void set_default (const type &__t)
- const type & get_val () const
- virtual const std::type_info & return_type_id () const

7.47.1 Detailed Description

template<class _T> class typed_col< _T >

this is the external name of the standard column for constant data all methods are implemented in class _VDBL_stdcol<_T>.

Definition at line 598 of file vdbl_col.h.

7.47.2 Member Function Documentation

7.47.2.1 template<class _T> void _VDBL_stdcol< _T >::def (type & *d*) const [inline, inherited]

the default for the constant value coincides with the value, since in the table definition the reference object of this class will hold the default, then. There have to be different access methods `get` and `def` for more complicated column types

Definition at line 453 of file vdbl_col.h.

7.47.2.2 template<class _T> void _VDBL_stdcol< _T >::def_copy (_VDBL_alltype_base *& *v*) const [inline, virtual, inherited]

This version of `get_copy` returns a copy of the columns default value within an `alltype`. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Reimplemented from _VDBL_colbase< _T >.

Definition at line 470 of file vdbl_col.h.

7.47.2.3 template<class _T> void _VDBL_stdcol< _T >::def_copy (return_type *& *d*) const [inline, virtual, inherited]

This function returns a pointer to a copy of the column's default value. The copy of the value is allocated by `new`. It has to be `deleted` by the user to avoid memory leaks.

Reimplemented from _VDBL_colbase< _T >.

Definition at line 460 of file vdbl_col.h.

7.47.2.4 template<class _T> void _VDBL_stdcol< _T >::get_copy (_VDBL_alltype_base *& *v*) const [inline, virtual, inherited]

This version of `get_copy` returns a copy of the columns value within an `alltype`. This is useful for passing on column values. It can also be used to circumvent the strict run-time type checking. The user is, however, DISCOURAGED to do so.

Reimplemented from _VDBL_colbase< _T >.

Definition at line 463 of file vdbl_col.h.

7.47.2.5 template<class _T> const type& _VDBL_stdcol< _T >::get_val () const [inline, inherited]

get a const reference to the column value

Definition at line 492 of file vdbl_col.h.

7.47.2.6 template<class _T> _Self* _VDBL_stdcol< _T >::new_copy () const [inline, virtual, inherited]

new_copy is the clone operation for copy-constructor overloading.

Reimplemented from _VDBL_colbase< _T >.

Definition at line 432 of file vdbl_col.h.

7.47.2.7 virtual const std::type_info& _VDBL_colbase< _T >::return_type_id () const [inline, virtual, inherited]

This function returns the type_info of the column type. This information is used during run-time type checking.

Definition at line 220 of file vdbl_col.h.

7.47.2.8 template<class _T> void _VDBL_stdcol< _T >::set (const type & _t) [inline, inherited]

set the column value

Definition at line 480 of file vdbl_col.h.

7.47.2.9 template<class _T> void _VDBL_stdcol< _T >::set (const _Self & _p) [inline, inherited]

explicit copy operation

Definition at line 437 of file vdbl_col.h.

7.47.2.10 template<class _T> void _VDBL_stdcol< _T >::set_default (const type & _t) [inline, inherited]

set the default value for this column. This is actually equivalent to set, since default and standard columns coincide for constant values.

Definition at line 487 of file vdbl_col.h.

7.47.2.11 virtual void _VDBL_colbase< _T >::setcontext (const context * _c, const _VDBL_row * _r) const [inline, virtual, inherited]

This function returns a pointer to a copy of the column's value. The copy of the value is allocated by new. It has to be deleted by the user to avoid memory leaks.

Definition at line 156 of file vdbl_col.h.

7.47.2.12 template<class _T> void _VDBL_stdcol< _T >::setcontext (const context * _c, const _VDBL_row * _r) [inline, inherited]

this method is empty, since constant values are independend of the context.

Definition at line 443 of file vdbl_col.h.

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

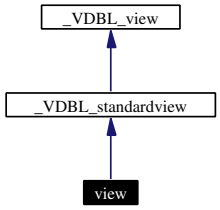
- vdbl_col.h

7.48 view Class Reference

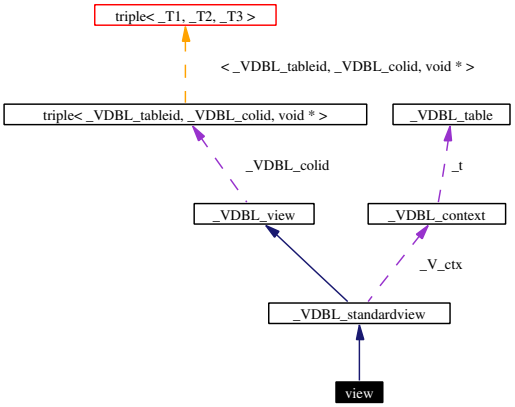
standard view class onto a single table

`#include <vdbl_stview.h>`

Inheritance diagram for view:



Collaboration diagram for view:



Public Types

- typedef _Base::default_const_iterator defaults_const_iterator

  iterator over all default columns

- typedef std::pair< std::string, _VDBL_col > _T_colspec

Public Methods

- view (const _VDBL_tableid &__ti, _VDBL_table *__t, const _VDBL_context &__c, _V_enum __e=V_-window)
- view (const view &_v)
- template<class _R> bool get (const tableid &_ti, const rowid &_ri, const colid &_ci, _R &r) const
- template<class _R> bool get_raw_ptr (const tableid &_ti, const rowid &_ri, const colid &_ci, _R const *&r) const
- const col & get_raw_col (const std::pair< tableid, rowid > &_ri, const colid &_ci, row const *&_rr, bool &error) const

- const std::type_info & get_colinfo (const std::string &_C_n, triple< bool, _VDBL_colid, _VDBL_colflags > &_r) const
- bool remove (std::pair< _VDBL_tableid, _VDBL_rowid > _r)
- std::ostream & print_col (std::ostream &o, const std::pair< _VDBL_tableid, _VDBL_rowid > &_ri, const _VDBL_colid &_ci, bool &printed) const
- template<class _R> bool get (const std::pair< _VDBL_tableid, _VDBL_rowid > &_ri, const _VDBL_colid &_ci, _R &r) const
- template<class _R> bool get_raw_ptr (const std::pair< _VDBL_tableid, _VDBL_rowid > &_ri, const _VDBL_colid &_ci, _R const *&r) const

- template<class _R> bool get (const rowid &_ri, const std::string &_c, _R &r) const
- template<class _R> bool get (const rowid &_ri, const char *_c, _R &r) const

Protected Types

- typedef _default_iterator< _VDBL_col, const _VDBL_col &, const _VDBL_col * > default_const_iterator
- typedef _col_iterator< _VDBL_col, const _VDBL_col &, const _VDBL_col * > col_const_iterator
- typedef _row_iterator< _VDBL_row, const _VDBL_row &, const _VDBL_row * > row_const_iterator

Protected Methods

- triple< _VDBL_tableid, _VDBL_colid, void * > _next_def_col (const _VDBL_tableid &_t, const _VDBL_colid &_c, void *_d) const
- triple< _VDBL_tableid, _VDBL_colid, void * > _prev_def_col (const _VDBL_tableid &_t, const _VDBL_colid &_c, void *_d) const
- void * _copy_def_data (void *_d) const
- triple< _VDBL_tableid, _VDBL_colid, void * > _next_col (const _VDBL_tableid &_t, const _VDBL_rowid &_r, const _VDBL_colid &_c, void *_d) const
- triple< _VDBL_tableid, _VDBL_colid, void * > _prev_col (const _VDBL_tableid &_t, const _VDBL_rowid &_r, const _VDBL_colid &_c, void *_d) const
- void * _copy_col_data (void *_d) const
- triple< _VDBL_tableid, _VDBL_rowid, void * > _next_row (const _VDBL_tableid &_t, const _VDBL_rowid &_r, void *_d) const
- triple< _VDBL_tableid, _VDBL_rowid, void * > _prev_row (const _VDBL_tableid &_t, const _VDBL_rowid &_r, void *_d) const
- void * _copy_row_data (void *_d) const
- void made_change ()

  increment the change *counter.*

- unsigned int get_change_ctr () const

  read the change counter

Protected Attributes

- _V_rows _V_r
- _V_cols _V_c

7.48.1 Detailed Description

This is the standard view. It is an in-memory view onto a single VDBL table.

Definition at line 514 of file vdbl_stview.h.

7.48.2 Member Typedef Documentation

7.48.2.1 typedef std::pair<std::string,_VDBL_col> _VDBL_view::_T_colspec [inherited]

This is the description of one column

Definition at line 84 of file vdbl_view.h.

7.48.2.2 typedef _col_iterator<_VDBL_col, const _VDBL_col&, const _VDBL_col*> _VDBL_view::col_const_iterator [protected, inherited]

const iterator over all columns

Definition at line 461 of file vdbl_view.h.

7.48.2.3 typedef _default_iterator<_VDBL_col, const _VDBL_col&, const _VDBL_col*> _VDBL_view::default_const_iterator [protected, inherited]

const iterator over all default columns

Definition at line 324 of file vdbl_view.h.

7.48.2.4 typedef _row_iterator<_VDBL_row, const _VDBL_row&, const _VDBL_row*> _VDBL_view::row_const_iterator [protected, inherited]

const iterator over all rows

Definition at line 590 of file vdbl_view.h.

7.48.3 Constructor & Destructor Documentation

7.48.3.1 view::view (const _VDBL_tableid & __ti, _VDBL_table * __t, const _VDBL_context & __c, _V_enum __e = V_window) [inline]

standard constructor which initalizes the `table` and the `tableid`, the evaluation context, and the view type.

Definition at line 526 of file vdbl_stview.h.

7.48.3.2 view::view (const view & _v) [inline]

copy constructor

Definition at line 533 of file vdbl_stview.h.

7.48.4 Member Function Documentation

7.48.4.1 void* _VDBL_standardview::_copy_col_data (void * _d) const [inline, protected, virtual, inherited]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the next row for a _row_iterator.

Reimplemented from _VDBL_view.

Definition at line 194 of file vdbl_stview.h.

7.48.4.2 void* _VDBL_standardview::_copy_def_data (void * _d) const [inline, protected, virtual, inherited]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the next column for a _col_iterator.

Reimplemented from _VDBL_view.

Definition at line 144 of file vdbl_stview.h.

7.48.4.3 void* _VDBL_standardview::_copy_row_data (void * _d) const [inline, protected, virtual, inherited]

This is the fundamental class for iterators over all default columns, defining basic in(de)crementation for overloading, and basic comparison.

Reimplemented from _VDBL_view.

Definition at line 230 of file vdbl_stview.h.

7.48.4.4 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_standardview::_next_col (const _VDBL_tableid & _t, const _VDBL_rowid & _r, const _VDBL_colid & _c, void * _d) const [inline, protected, inherited]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous column for a _col_iterator.

Reimplemented from _VDBL_view.

Definition at line 149 of file vdbl_stview.h.

7.48.4.5 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_standardview::_next_def_col (const _VDBL_tableid & _t, const _VDBL_colid & _c, void * _d) const [inline, protected, virtual, inherited]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous default of a column a _default_iterator.

Reimplemented from _VDBL_view.

Definition at line 100 of file vdbl_stview.h.

7.48.4.6 triple<_VDBL_tableid,_VDBL_rowid,void*> _VDBL_standardview::_next_row (const _VDBL_tableid & _t, const _VDBL_rowid & _r, void * _d) const [inline, protected, inherited]

This virtual function has to be overloaded by the derived view classes, and it performs the step to the previous row for a _row_iterator.

Reimplemented from _VDBL_view.

Definition at line 199 of file vdbl_stview.h.

7.48.4.7 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_standardview::_prev_col (const _VDBL_tableid & _t, const _VDBL_rowid & _r, const _VDBL_colid & _c, void * _d) const [inline, protected, inherited]

This function destroys the additional data needed by a _col_iterator

Reimplemented from _VDBL_view.

Definition at line 169 of file vdbl_stview.h.

7.48.4.8 triple<_VDBL_tableid,_VDBL_colid,void*> _VDBL_standardview::_prev_def_col (const _VDBL_tableid & _t, const _VDBL_colid & _c, void * _d) const [inline, protected, inherited]

This function destroys the additional data needed by a _default_iterator

Reimplemented from _VDBL_view.

Definition at line 120 of file vdbl_stview.h.

7.48.4.9 triple<_VDBL_tableid,_VDBL_rowid,void*> _VDBL_standardview::_prev_row (const _VDBL_tableid & _t, const _VDBL_rowid & _r, void * _d) const [inline, protected, inherited]

This function destroys the additional data needed by a _row_iterator

Reimplemented from _VDBL_view.

Definition at line 213 of file vdbl_stview.h.

7.48.4.10 template<class _R> bool _VDBL_standardview::get (const std::pair< _VDBL_tableid, _VDBL_rowid > & _ri, const _VDBL_colid & _ci, _R & r) const [inline, inherited]

get the data from column _ci in row _ri.second of table _ri.first. The data stored in the column must be of type _R.

Definition at line 414 of file vdbl_stview.h.

7.48.4.11 template<class _R> bool view::get (const rowid & _ri, const char * _c, _R & r) const [inline]

get the data from column _c in row _ri. The data stored in the column must be of type _R.

Definition at line 565 of file vdbl_stview.h.

7.48.4.12 template<class _R> bool view::get (const rowid & _ri, const std::string & _c, _R & r) const [inline]

get the data from column _c in row _ri. The data stored in the column must be of type _R.

Definition at line 560 of file vdbl_stview.h.

7.48.4.13 template<class _R> bool view::get (const tableid & _ti, const rowid & _ri, const colid & _ci, _R & r) const [inline]

get the data from column _ci in row _ri of table _ti. The data stored in the column must be of type _R.

Definition at line 540 of file vdbl_stview.h.

7.48.4.14 const std::type_info& _VDBL_standardview::get_colinfo (const std::string & *_C_n*, triple< bool, _VDBL_colid, _VDBL_colflags > & *_r*) const [inline, virtual, inherited]

return the type of this view

Reimplemented from _VDBL_view.

Definition at line 301 of file vdbl_stview.h.

7.48.4.15 const col& view::get_raw_col (const std::pair< tableid, rowid > & *_ri*, const colid & *_ci*, row const *& *_rr*, bool & *error*) const [inline]

get a const reference to column _ci in row _ri.second of table _ri.first. If the retrieval was successful, set error to @false, otherwise to true.

Definition at line 574 of file vdbl_stview.h.

7.48.4.16 template<class _R> bool _VDBL_standardview::get_raw_ptr (const std::pair< _VDBL_tableid, _VDBL_rowid > & *_ri*, const _VDBL_colid & *_ci*, _R const *& *r*) const [inline, inherited]

get a const ptr to the data from column _ci in row _ri.second of table _ri.first. The data stored in the column must be of type _R. In this function no data copying is done. Note that this function returns a pointer to the columns raw data, so it can only be used to refer to constant columns.

Definition at line 436 of file vdbl_stview.h.

7.48.4.17 template<class _R> bool view::get_raw_ptr (const tableid & *_ti*, const rowid & *_ri*, const colid & *_ci*, _R const *& *r*) const [inline]

get a const pointer to the data from column _ci in row _ri of table _ti. The data stored in the column must be of type _R. This only works if the column's data is constant. There is no implicit copying performed.

Definition at line 550 of file vdbl_stview.h.

7.48.4.18 std::ostream& _VDBL_standardview::print_col (std::ostream & *o*, const std::pair< _VDBL_tableid, _VDBL_rowid > & *_ri*, const _VDBL_colid & *_ci*, bool & *printed*) const [inline, inherited]

print the contents of column _ci in row _ri.second of table _ri.first.

Definition at line 391 of file vdbl_stview.h.

7.48.4.19 bool _VDBL_standardview::remove (std::pair< _VDBL_tableid, _VDBL_rowid > *_r*) [inline, inherited]

for now window views can only have one table in the list of tables

Definition at line 330 of file vdbl_stview.h.

7.48.5 Member Data Documentation

7.48.5.1 _V_cols _VDBL_standardview::_V_c [protected, inherited]

This contains all columns of the view

Definition at line 86 of file vdbl_stview.h.

7.48.5.2 _V_rows _VDBL_standardview::_V_r [protected, inherited]

This contains all rows of the view

Definition at line 82 of file vdbl_stview.h.

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

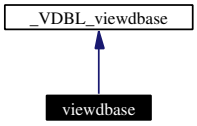
- vdbl_stview.h

7.49 viewdbase Class Reference

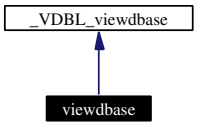
a view to a complete database

`#include <vdbl_viewdbase.h>`

Inheritance diagram for viewdbase:



Collaboration diagram for viewdbase:



Public Methods

- bool has_view (const char *_C_i) const
- viewbase * get_view (const char *_C_i) const
- viewbase * get_view (const std::string &_C_i) const
- viewdbase ()
- viewdbase (const database &db, const userid &uid, const context &c)
- template<template< class _C, class _A > class _SqCtr, class _Al> viewdbase (const database &db, const userid &uid, const context &c, const _SqCtr< std::pair< tableid, rowid >, _Al > &__an)
- virtual ~viewdbase ()
- _VDBL_tableid get_tableid (const std::string &_C_i) const
- bool has_view (const _VDBL_tableid &_C_i) const
- bool has_view (const std::string &_C_i) const
- _VDBL_view * get_view (const _VDBL_tableid &_C_i) const

7.49.1 Detailed Description

This class implements a view onto a complete database. The view names correspond to the names of all existing tables. Optionally, the views can be restricted to subsets of the tables. All constructed views are standard views.

Definition at line 175 of file vdbl_viewdbase.h.

7.49.2 Constructor & Destructor Documentation

7.49.2.1 viewdbase::viewdbase () [inline]

standard constructor

Definition at line 203 of file vdbl_viewdbase.h.

7.49.2.2 viewdbase::viewdbase (const database & *db*, const userid & *uid*, const context & *c*) [inline]

constructor which builds a view to the database from

- db – the database
- c – the evaluation context for all views

Definition at line 210 of file vdbl_viewdbase.h.

7.49.2.3 template<template< class _C, class _A > class _SqCtr, class _Al> viewdbase::viewdbase (const database & *db*, const userid & *uid*, const context & *c*, const _SqCtr< std::pair< tableid, rowid >, _Al > & *__an*) [inline]

constructor which builds a view to the database from

- db – the database
- c – the evaluation context for all views
- uid – the user id of the user who owns the view The fourth argument is any sequential container of table,row pairs to which the view shall be restricted.

Definition at line 222 of file vdbl_viewdbase.h.

7.49.2.4 virtual viewdbase::~viewdbase () [inline, virtual]

standard destructor

Definition at line 229 of file vdbl_viewdbase.h.

7.49.3 Member Function Documentation

7.49.3.1 _VDBL_tableid _VDBL_viewdbase::get_tableid (const std::string & *_C_i*) const [inline, inherited]

return the table id (and view id) of table _C_i

Definition at line 65 of file vdbl_viewdbase.h.

7.49.3.2 _VDBL_view* _VDBL_viewdbase::get_view (const _VDBL_tableid & *_C_i*) const [inline, inherited]

this method returns a pointer to the view associated to id _C_i.

Definition at line 97 of file vdbl_viewdbase.h.

7.49.3.3 viewbase* viewdbase::get_view (const std::string & _C_i) const [inline]

this method returns a pointer to the view _C_i.

Reimplemented from _VDBL_viewdbase.

Definition at line 197 of file vdbl_viewdbase.h.

7.49.3.4 viewbase* viewdbase::get_view (const char * _C_i) const [inline]

this method returns a pointer to the view _C_i.

Definition at line 192 of file vdbl_viewdbase.h.

7.49.3.5 bool _VDBL_viewdbase::has_view (const std::string & _C_i) const [inline, inherited]

check whether the view _C_i exists

Definition at line 91 of file vdbl_viewdbase.h.

7.49.3.6 bool _VDBL_viewdbase::has_view (const _VDBL_tableid & _C_i) const [inline, inherited]

check whether a given view (associated to table id _C_i) exists

Definition at line 79 of file vdbl_viewdbase.h.

7.49.3.7 bool viewdbase::has_view (const char * _C_i) const [inline]

check whether the view _C_i exists

Definition at line 187 of file vdbl_viewdbase.h.

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

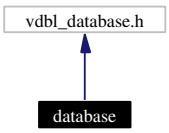
- vdbl_viewdbase.h

8 Vienna Database Library File Documentation

8.1 database File Reference

`#include <vdbl_database.h>`

Include dependency graph for database:



8.1.1 Detailed Description

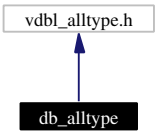
This is the external header file intended for direct use.

Definition in file database.

8.2 db_alltype File Reference

`#include <vdbl_alltype.h>`

Include dependency graph for db_alltype:



8.2.1 Detailed Description

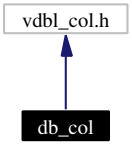
This is the external header file intended for direct use.

Definition in file db_alltype.

8.3 db_col File Reference

`#include <vdbl_col.h>`

Include dependency graph for db_col:



8.3.1 Detailed Description

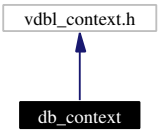
This is the external header file intended for direct use.

Definition in file db_col.

8.4 db_context File Reference

`#include <vdbl_context.h>`

Include dependency graph for db_context:



8.4.1 Detailed Description

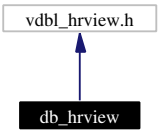
This is the external header file intended for direct use.

Definition in file db_context.

8.5 db_hrview File Reference

`#include <vdbl_hrview.h>`

Include dependency graph for db_hrview:



8.5.1 Detailed Description

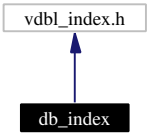
This is the external header file intended for direct use.

Definition in file db_hrview.

8.6 db_index File Reference

`#include <vdbl_index.h>`

Include dependency graph for db_index:



8.6.1 Detailed Description

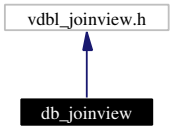
This is the external header file intended for direct use.

Definition in file db_index.

8.7 db_joinview File Reference

`#include <vdbl_joinview.h>`

Include dependency graph for db_joinview:



8.7.1 Detailed Description

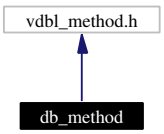
This is the external header file intended for direct use.

Definition in file db_joinview.

8.8 db_method File Reference

`#include <vdbl_method.h>`

Include dependency graph for db_method:



8.8.1 Detailed Description

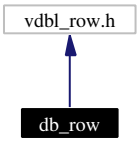
This is the external header file intended for direct use.

Definition in file db_method.

8.9 db_row File Reference

`#include <vdbl_row.h>`

Include dependency graph for db_row:



8.9.1 Detailed Description

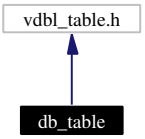
This is the external header file intended for direct use.

Definition in file db_row.

8.10 db_table File Reference

`#include <vdbl_table.h>`

Include dependency graph for db_table:



8.10.1 Detailed Description

This is the external header file intended for direct use.

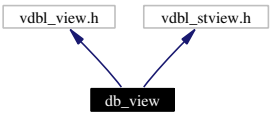
Definition in file db_table.

8.11 db_view File Reference

`#include <vdbl_view.h>`

`#include <vdbl_stview.h>`

Include dependency graph for db_view:



8.11.1 Detailed Description

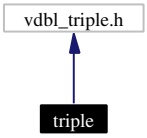
This is the external header file intended for direct use.

Definition in file db_view.

8.12 triple File Reference

`#include <vdbl_triple.h>`

Include dependency graph for triple:



8.12.1 Detailed Description

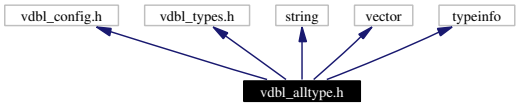
This is the external header file intended for direct use.

Definition in file triple.

8.13 vdbl_alltype.h File Reference

```
#include <vdbl_config.h>
#include <vdbl_types.h>
#include <string>
#include <vector>
#include <typeinfo>
```

Include dependency graph for vdbl_alltype.h:



Compounds

- class _VDBL_alltype
  The templated class for the all_type class.
- class _VDBL_alltype_base
  The base class for the all_type class.
- class _VDBL_date
  The VDBL date class.
- class _VDBL_dateinterval
  The VDBL date interval class.
- class _VDBL_mixtype
  mixed type
- class alltype
  The templated alltype class.

Typedefs

- typedef _VDBL_date date
  the date type
- typedef _VDBL_dateinterval dateinterval

the dateinterval type

- typedef _VDBL_mixtype mixtype
  a mixed type of various scalars and vectors
- typedef _VDBL_alltype_base alltype_base
  the base class of the alltype

8.13.1 Detailed Description

This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_alltype.h.

8.13.2 Define Documentation

8.13.2.1 #define VDBL_MIXTYPE_ALLOCED_B 1

These defines internally describe which kind of vector has been allocated for a mixtype, or whether it is scalar or empty.

Definition at line 326 of file vdbl_alltype.h.

8.13.2.2 #define VDBL_MIXTYPE_ALLOCED_D 3

These defines internally describe which kind of vector has been allocated for a mixtype, or whether it is scalar or empty.

Definition at line 328 of file vdbl_alltype.h.

8.13.2.3 #define VDBL_MIXTYPE_ALLOCED_N 2

These defines internally describe which kind of vector has been allocated for a mixtype, or whether it is scalar or empty.

Definition at line 327 of file vdbl_alltype.h.

8.13.2.4 #define VDBL_MIXTYPE_ALLOCED_NONE 0

These defines internally describe which kind of vector has been allocated for a mixtype, or whether it is scalar or empty.

Definition at line 325 of file vdbl_alltype.h.

8.13.2.5 #define VDBL_MIXTYPE_ALLOCED_S 5

These defines internally describe which kind of vector has been allocated for a mixtype, or whether it is scalar or empty.

Definition at line 330 of file vdbl_alltype.h.

8.13.2.6 #define VDBL_MIXTYPE_ALLOCED_U 4

These defines internally describe which kind of vector has been allocated for a mixtype, or whether it is scalar or empty.

Definition at line 329 of file vdbl_alltype.h.

8.13.2.7 #define VDBL_MIXTYPE_EMPTY -1

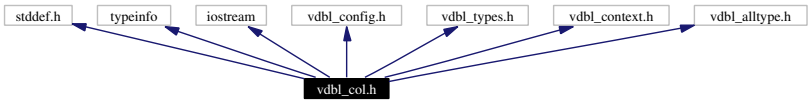
These defines internally describe which kind of vector has been allocated for a mixtype, or whether it is scalar or empty.

Definition at line 324 of file vdbl_alltype.h.

8.14 vdbl_col.h File Reference

```
#include <stddef.h>
#include <typeinfo>
#include <iostream>
#include <vdbl_config.h>
#include <vdbl_types.h>
#include <vdbl_context.h>
#include <vdbl_alltype.h>
```

Include dependency graph for vdbl_col.h:



Compounds

- class __VDBL_colbase
  The base class of the internal column structure.
- class _VDBL_col
  The generic column class (the external structure).
- class _VDBL_colbase
  The type dependent base class of the internal column structure.
- class _VDBL_mthdcol
  generic column class for methods
- class _VDBL_stdcol
  generic column class for constant values
- class col_base

column base class

- class method_col

  external name for computed columns

- class typed_col

  external name for constant data columns

Typedefs

- typedef _VDBL_col col

  the column class

- typedef _VDBL_stdcol< mixtype > standard_col

  the standard column class with constant `mixtype` *data*

Functions

- template<class _C> std::ostream & print_it (std::ostream &o, const _C &t)
- std::ostream & operator<< (std::ostream &o, const _VDBL_col &c)

8.14.1 Detailed Description

This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_col.h.

8.14.2 Function Documentation

8.14.2.1 std::ostream& operator<< (std::ostream & *o*, const _VDBL_col & *c*) [inline]

The print operation for generic columns. This implicitely calls operator<< for the columns type. So it is necessary that this operator is indeed defined.

Definition at line 359 of file vdbl_col.h.

8.15 vdbl_config.h File Reference

8.15.1 Detailed Description

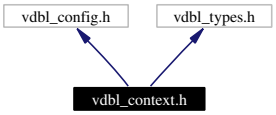
This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_config.h.

8.16 vdbl_context.h File Reference

```
#include <vdbl_config.h>
#include <vdbl_types.h>
```

Include dependency graph for vdbl_context.h:



Compounds

- class _VDBL_context
  base class for context objects

Typedefs

- typedef _VDBL_context context
  evaluation context base class

8.16.1 Detailed Description

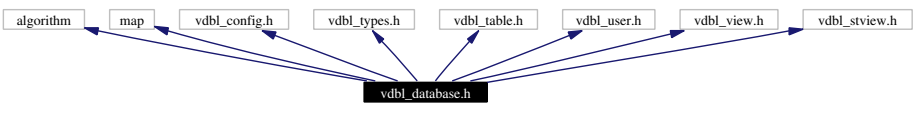
This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_context.h.

8.17 vdbl_database.h File Reference

```
#include <algorithm>
#include <map>
#include <vdbl_config.h>
#include <vdbl_types.h>
#include <vdbl_table.h>
#include <vdbl_user.h>
#include <vdbl_view.h>
#include <vdbl_stview.h>
```

Include dependency graph for vdbl_database.h:



Compounds

- class _VDBL_acl

Access control list.

- class _VDBL_aclentry
  entry in the access control list
- class _VDBL_database
  the database class
- class _VDBL_tableflags
  flags for one table
- class _VDBL_userflags
  The permission flags for a user.
- class _VDBL_viewflags
  flags for one view
- class database
  the database class

Typedefs

- typedef _VDBL_userflags userflags
  user flags and permissions
- typedef _VDBL_viewflags viewflags
  view flags and ACLs
- typedef _VDBL_tableflags tableflags
  table flags and ACLs
- typedef _VDBL_aclentry aclentry
  entry in the access control list (ACL)
- typedef _VDBL_acl acl
  ACL for one user.

8.17.1 Detailed Description

This is an internal header file, included by other library headers. You should not attempt to use it directly.

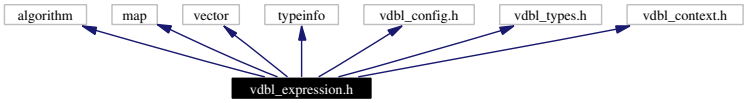
Definition in file vdbl_database.h.

8.18 vdbl_expression.h File Reference

```
#include <algorithm>
#include <map>
```

```
#include <vector>
#include <typeinfo>
#include <vdbl_config.h>
#include <vdbl_types.h>
#include <vdbl_context.h>
```

Include dependency graph for vdbl_expression.h:



Compounds

- class **_VDBL_eval_expr**
- class **_VDBL_exprcol**
- class **_VDBL_exprequal**
- class **_VDBL_exprneql**
- class **_VDBL_exprrow**

8.18.1 Detailed Description

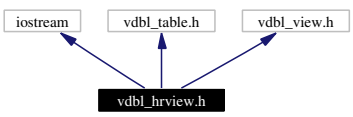
This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_expression.h.

8.19 vdbl_hrview.h File Reference

```
#include <iostream>
#include <vdbl_table.h>
#include <vdbl_view.h>
```

Include dependency graph for vdbl_hrview.h:



Compounds

- class _VDBL_hierarchicalview
  hierarchical view class
- class hierarchical_view
  hierarchical view class onto a stack of tables

8.19.1 Detailed Description

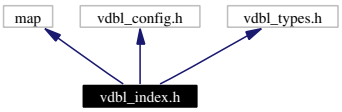
This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_hrview.h.

8.20 vdbl_index.h File Reference

```
#include <map>
#include <vdbl_config.h>
#include <vdbl_types.h>
```

Include dependency graph for vdbl_index.h:



Compounds

- class __**VDBL_index**
- class _**VDBL_index**
- class **index**

8.20.1 Detailed Description

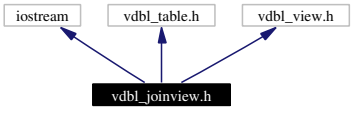
This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_index.h.

8.21 vdbl_joinview.h File Reference

```
#include <iostream>
#include <vdbl_table.h>
#include <vdbl_view.h>
```

Include dependency graph for vdbl_joinview.h:



Compounds

- class _**VDBL_joinview**
- class **join_view**

8.21.1 Detailed Description

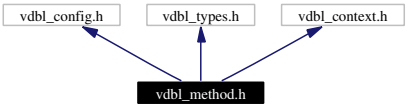
This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_joinview.h.

8.22 vdbl_method.h File Reference

```
#include <vdbl_config.h>
#include <vdbl_types.h>
#include <vdbl_context.h>
```

Include dependency graph for vdbl_method.h:



Compounds

- class _VDBL_method
  base class for methods usable in `_VDBL_mthdcol` *columns.*
- class method
  base class for methods usable in `method` *columns.*

8.22.1 Detailed Description

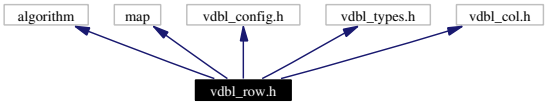
This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_method.h.

8.23 vdbl_row.h File Reference

```
#include <algorithm>
#include <map>
#include <vdbl_config.h>
#include <vdbl_types.h>
#include <vdbl_col.h>
```

Include dependency graph for vdbl_row.h:



Compounds

- class _VDBL_row
  row class
- class row
  class implementing table rows

8.23.1 Detailed Description

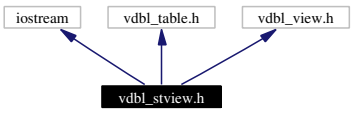
This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_row.h.

8.24 vdbl_stview.h File Reference

```
#include <iostream>
#include <vdbl_table.h>
#include <vdbl_view.h>
```

Include dependency graph for vdbl_stview.h:



Compounds

- class _VDBL_standardview
  standard view onto **one** *table*
- class view
  standard view class onto a single table

8.24.1 Detailed Description

This is an internal header file, included by other library headers. You should not attempt to use it directly.

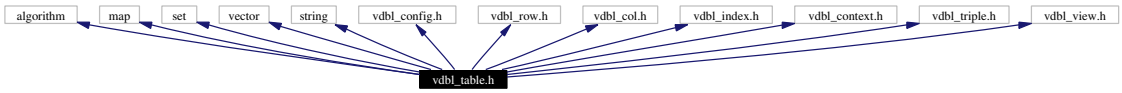
Definition in file vdbl_stview.h.

8.25 vdbl_table.h File Reference

```
#include <algorithm>
#include <map>
#include <set>
```

```
#include <vector>
#include <string>
#include <vdbl_config.h>
#include <vdbl_row.h>
#include <vdbl_col.h>
#include <vdbl_index.h>
#include <vdbl_context.h>
#include <vdbl_triple.h>
#include <vdbl_view.h>
```

Include dependency graph for vdbl_table.h:



Compounds

- class _VDBL_standardtable

  standard table in databases, constructed from rows and columns

- struct _row_iterator
- struct _col_iterator
- class _col_iterator_base
- class _VDBL_table

  the base class describing database tables

- class col_spec

  column specification

- class standard_table

  standard table of a database

- class table

  base class for tables in a database

8.25.1 Detailed Description

This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_table.h.

8.26 vdbl_triple.h File Reference

Compounds

- struct triple

  triple holds three objects of arbitrary type.

Functions

- template<class _T1, class _T2, class _T3> bool operator== (const triple< _T1, _T2, _T3 > &__x, const triple< _T1, _T2, _T3 > &__y)

  Two triples of the same type are equal iff their members are equal.

- template<class _T1, class _T2, class _T3> bool operator< (const triple< _T1, _T2, _T3 > &__x, const triple< _T1, _T2, _T3 > &__y)

  This is lexicographic ordering of triples.

- template<class _T1, class _T2, class _T3> bool operator!= (const triple< _T1, _T2, _T3 > &__x, const triple< _T1, _T2, _T3 > &__y)

  Uses `operator==` *to find the result.*

- template<class _T1, class _T2, class _T3> bool operator> (const triple< _T1, _T2, _T3 > &__x, const triple< _T1, _T2, _T3 > &__y)

  Uses `operator<` *to find the result.*

- template<class _T1, class _T2, class _T3> bool operator<= (const triple< _T1, _T2, _T3 > &__x, const triple< _T1, _T2, _T3 > &__y)

  Uses `operator<` *to find the result.*

- template<class _T1, class _T2, class _T3> bool operator>= (const triple< _T1, _T2, _T3 > &__x, const triple< _T1, _T2, _T3 > &__y)

  Uses `operator<` *to find the result.*

- template<class _T1, class _T2, class _T3> triple< _T1, _T2, _T3 > make_triple (const _T1 &__x, const _T2 &__y, const _T3 &__z)

  A convenience wrapper for creating a triple from three objects.

8.26.1 Detailed Description

This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_triple.h.

8.26.2 Function Documentation

8.26.2.1 template<class _T1, class _T2, class _T3> triple<_T1, _T2, _T3> make_triple (const _T1 &__x, const _T2 &__y, const _T3 &__z) [inline]

Parameters:

x The first object.

y The second object.

z The third object.

Returns:

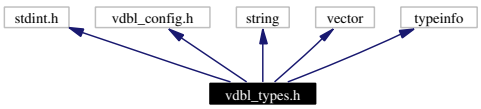
A newly-constructed triple<> object of the appropriate type.

Definition at line 140 of file vdbl_triple.h.

8.27 vdbl_types.h File Reference

```
#include <stdint.h>
#include <vdbl_config.h>
#include <string>
#include <vector>
#include <typeinfo>
```

Include dependency graph for vdbl_types.h:



Compounds

- class _VDBL_colflags

  additional table information for a column

Typedefs

- typedef uint32_t _VDBL_userid
- typedef uint32_t _VDBL_viewid
- typedef uint64_t _VDBL_colid
- typedef uint64_t _VDBL_rowid
- typedef uint32_t _VDBL_tableid
- typedef _VDBL_userid userid

  user id

- typedef _VDBL_viewid viewid

  view id

- typedef _VDBL_colid colid

  column id

- typedef _VDBL_rowid rowid
  row id
- typedef _VDBL_tableid tableid
  table id
- typedef _VDBL_colflags colflags
  additional column properties

8.27.1 Detailed Description

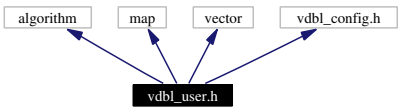
This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_types.h.

8.28 vdbl_user.h File Reference

```
#include <algorithm>
#include <map>
#include <vector>
#include <vdbl_config.h>
```

Include dependency graph for vdbl_user.h:



Compounds

- class **_VDBL_user**

8.28.1 Detailed Description

This is an internal header file, included by other library headers. You should not attempt to use it directly.

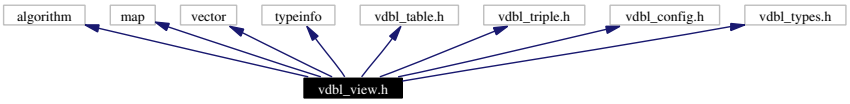
Definition in file vdbl_user.h.

8.29 vdbl_view.h File Reference

```
#include <algorithm>
#include <map>
#include <vector>
#include <typeinfo>
```

```
#include <vdbl_table.h>
#include <vdbl_triple.h>
#include <vdbl_config.h>
#include <vdbl_types.h>
```

Include dependency graph for vdbl_view.h:



Compounds

- struct _row_iterator
- class _row_iterator_base
- struct _col_iterator
- class _col_iterator_base
- struct _default_iterator
- class _VDBL_view

  base class of all views.

Enumerations

- enum _V_enum

  different view properties

8.29.1 Detailed Description

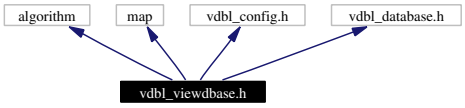
This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_view.h.

8.30 vdbl_viewdbase.h File Reference

```
#include <algorithm>
#include <map>
#include <vdbl_config.h>
#include <vdbl_database.h>
```

Include dependency graph for vdbl_viewdbase.h:



Compounds

- class _VDBL_viewdbase
  a view to a complete database
- class viewdbase
  a view to a complete database

8.30.1 Detailed Description

This is an internal header file, included by other library headers. You should not attempt to use it directly.

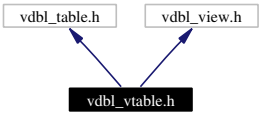
Definition in file vdbl_viewdbase.h.

8.31 vdbl_vtable.h File Reference

`#include <vdbl_table.h>`

`#include <vdbl_view.h>`

Include dependency graph for vdbl_vtable.h:



Compounds

- class _VDBL_viewtable
- class **view_table**

8.31.1 Detailed Description

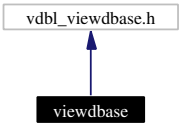
This is an internal header file, included by other library headers. You should not attempt to use it directly.

Definition in file vdbl_vtable.h.

8.32 viewdbase File Reference

`#include <vdbl_viewdbase.h>`

Include dependency graph for viewdbase:



8.32.1 Detailed Description

This is the external header file intended for direct use.

Definition in file viewdbase.