

Open Source Documentation at YottaDB: The Good, The Bad, and the Ugly

- <https://yottadb.com>
- A mature, high performance, hierarchical key-value NoSQL database whose code base scales up to mission-critical applications like large real-time core-banking and electronic health records, and also scales down to run on platforms like the Raspberry Pi Zero, as well as everything in-between.
- *Rock Solid. Lightning Fast. Secure. Pick any three.*

YottaDB is a registered trademark of YottaDB LLC.

- YottaDB is 100% free/open source
- Open Source Code and Documentation
- GitLab repositories
- <https://gitlab.com/YottaDB>



YottaDB

Group ID: 3262401



YottaDB "Not only SQL" database. Rock Solid. Lightning Fast. Secure. Pick any three.

Subgroups and projects		Shared projects	Archived projects	Search by name	Name
>	DB	0	3	1	
>	DBMS	1	3	1	
Subproject for database management systems that run on YottaDB					
>	Demo	0	1	1	
Demonstrate YottaDB					
>	Lang	0	3	1	
Language-specific wrappers for YottaDB					
>	Tools	0	1	1	
Repositories related to development using YottaDB and development for YottaDB					
>	UI	0	1	1	
User interface tools					
>	Util	0	6	1	
Generally useful utility programs					

- <https://yottadb.com/resources/documentation/>
- <https://gitlab.com/YottaDB/DB/YDBDoc>

Benefits of Open Source Documentation

- Freely available to view and use
- Individual contributions are recognized
- Commit history is preserved
- Review process to ensure accuracy
- Constant updates, ongoing development
- Community involvement, anyone can contribute

Documentation Toolchain

- reStructuredText

- Sphinx

<https://github.com/sphinx-doc/sphinx>

- ReadTheDocs theme

https://github.com/rtd/sphinx_rtd_theme

reStructuredText

- Plaintext markup syntax
- Easy to read and write
- Headers, quoted text, bullet points
- <http://docutils.sourceforge.net/docs/user/rst/quickstart.html>

reStructuredText Example

```
=====
Overview
=====
```

YottaDB is a multi-language NoSQL database. The daemonless database engine resides in the address space of the process, and can be accessed from any supported language. Functions in the supported languages can call one another to the extent that such calling is permitted by the Supported language implementations.

As C is the **lingua franca** of programming, the C API provides access to the YottaDB engine from any language.
As YottaDB adds standard APIs for other languages, additional sections will be added to the Programmers Guide.

```
=====
Quick Start
=====
```

```
Local Installation
=====
```

1. Install YottaDB.

- Create a temporary directory and change to it, e.g.: `:code:`mkdir /tmp/tmp ; cd /tmp/tmp``

Rendered HTML

Overview

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Quick Start

Local Installation

1. Install YottaDB.

- Create a temporary directory and change to it, e.g.: `mkdir /tmp/tmp ; cd /tmp/tmp`

Sphinx

- Tool that uses reStructuredText as its Markup language
- Produces HTML, PDF, epub, plaintext...
- <http://www.sphinx-doc.org/en/master/>
- `pip install -U Sphinx`

sphinx_rtd_theme

- Theme from ReadTheDocs
- “modern and mobile-friendly”
- Customizable
- https://github.com/rtd/sphinx_rtd_theme
- MIT license

Types of YottaDB documentation

- YDBDoc repository: YottaDB documentation, including:
- Administration and Operations Guide
- Programmers' Guide
- Multi-Language Programmer's Guide
- Messages and Recovery Procedures Manual
- Acculturation Guide

Types of YottaDB documentation

- YDBGo repository: Go API documentation
- Similar toolchain setup: reStructuredText, Sphinx and sphinx_rtd_theme.
- Integrated within the code repository

Types of YottaDB documentation

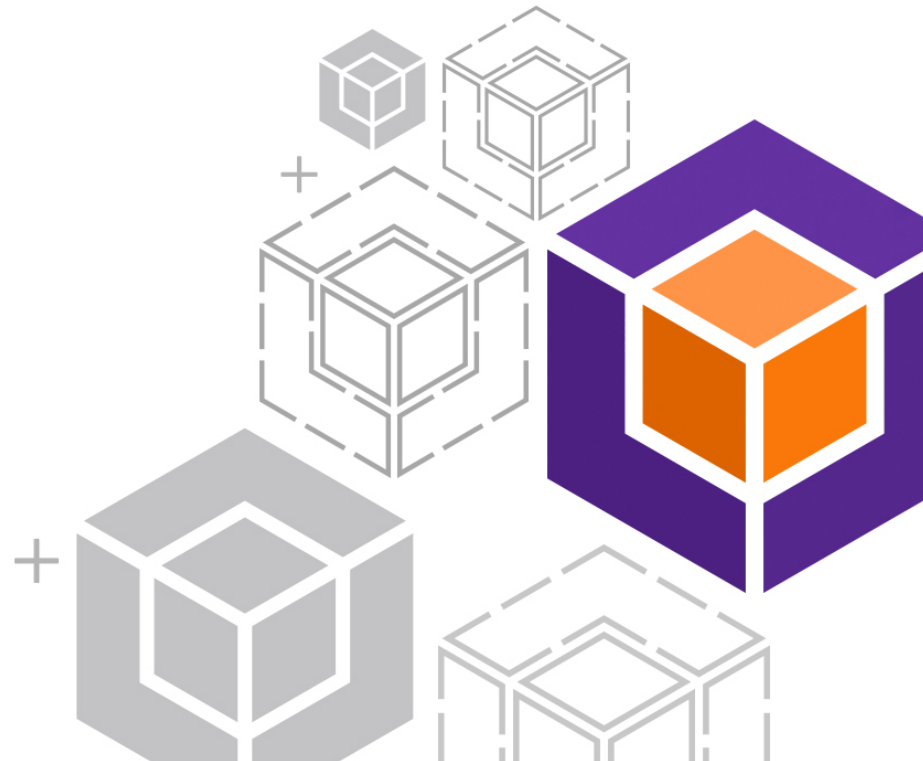
- YDBRust: Rust API documentation
- Fulfills Rust-specific documentation requirements
- Integrated with the code
- Generated using cargo, Rust's build tool

Keeping up with updates

- Documentation is always growing and changing
- Branches on GitLab- master, upcoming version
- Master branch published
- Issue tracking

The Good

What Worked Well



Document Generation

- reStructuredText is straightforward
- Sphinx is freely and easily available
- Conversion to publishable HTML is quick and easy to do
- Easy to create HTML and/or PDF versions of a document to preview and upload

Process of documentation

- Accessibility of documentation repository
- Contributions and contributors
- Review process ensures quality control
- Version control and branching
- Maintainability; labels for previous versions

The Bad

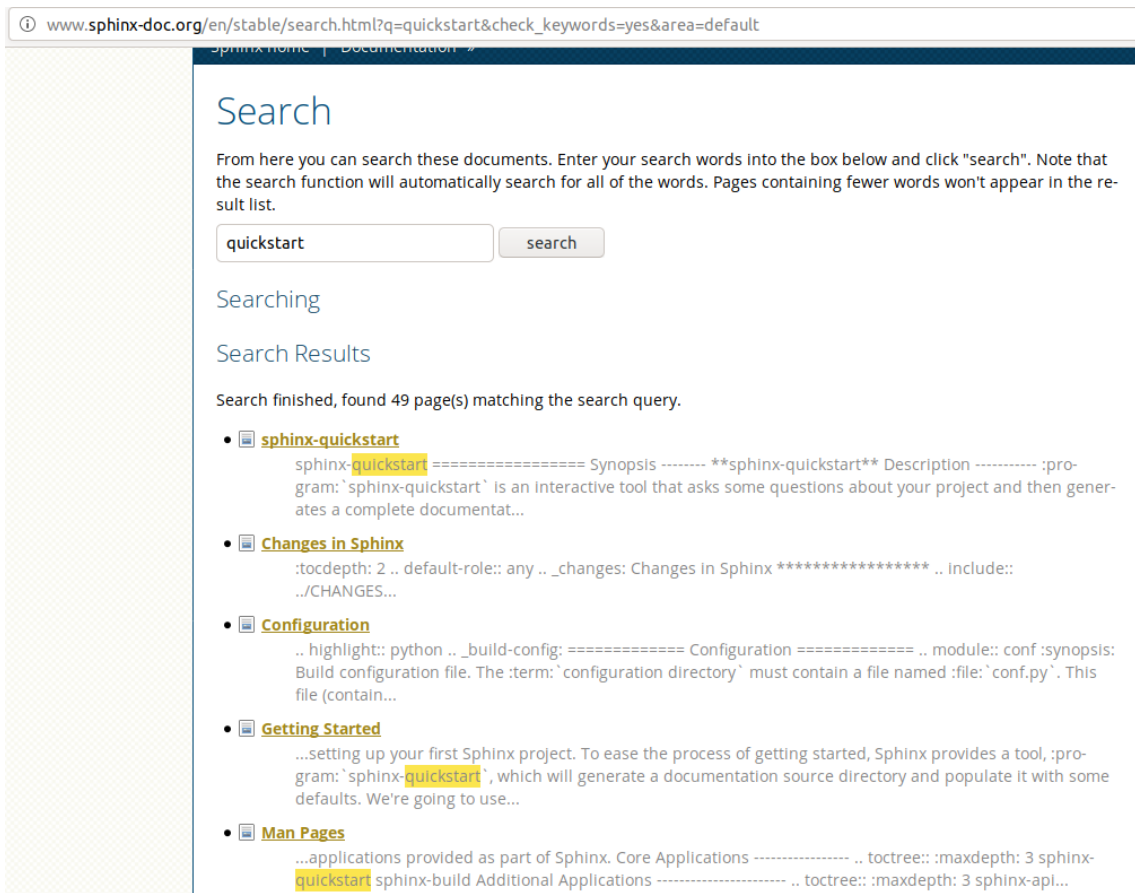
Ongoing struggles



Searching

- Sphinx search box in sidebar
- Not very pretty search results; was displaying raw restructured text
- Searches for pages and highlights word occurrences
- sphinx-pretty-search-results extension
- <https://github.com/sphinx-contrib/sphinx-pretty-searchresults>

Search results example



The screenshot shows a web browser window with the URL `www.sphinx-doc.org/en/stable/search.html?q=quickstart&check_keywords=yes&area=default`. The page title is "Search". Below the title, there is a text box containing the search query "quickstart" and a "search" button. The page then displays the search results under the heading "Search Results". A message states "Search finished, found 49 page(s) matching the search query." Below this, there is a list of search results, each preceded by a document icon. The results include:

- sphinx-quickstart**: sphinx-quickstart ===== Synopsis ----- **sphinx-quickstart** Description ----- :program: 'sphinx-quickstart' is an interactive tool that asks some questions about your project and then generates a complete documentat...
- Changes in Sphinx**: :tocdepth: 2 .. default-role:: any .. _changes: Changes in Sphinx ***** .. include:: ../CHANGES...
- Configuration**: .. highlight:: python .. _build-config: ===== Configuration ===== .. module:: conf : synopsis: Build configuration file. The :term: 'configuration directory' must contain a file named :file: 'conf.py'. This file (contain...
- Getting Started**: ...setting up your first Sphinx project. To ease the process of getting started, Sphinx provides a tool, :program: 'sphinx-quickstart', which will generate a documentation source directory and populate it with some defaults. We're going to use...
- Man Pages**: ...applications provided as part of Sphinx. Core Applications ----- .. toctree:: :maxdepth: 3 sphinx-quickstart sphinx-build Additional Applications ----- .. toctree:: :maxdepth: 3 sphinx-apl...

sphinx-pretty-search-results extension

Search Results

Search finished, found 5 page(s) matching the search query.

Reference Implementation Error Messages

...DB keys file <path> Plugin error: The plugin cannot find the master key file. Action: Set the \$gtm_dbkeys environment **variable** to point to the correct master key file. Cannot find MUMPS executable in <path> Plugin error: The plugin cann...

About This Manual

...nters Direct Mode. 4. Action: To redirect all I/O to the terminal, note the current device or save it in a temporary **variable** and USE \$P. If you decide to resume program execution, remember to restore the current device with a USE comman...

Error Message Quick Reference

...M5, _lineref_ less than zero TEXTARG, Invalid argument to \$TEXT function M6, Undefined _lvn_ UNDEF, Undefined local **variable**: xxxx M7, Undefined _gvn_ GVUNDEF, Global variable undefined: xxxx M8, Undefined _svn_ INVSVN, Invalid speci...

Error Messages

...zzzz command Compile Time Error: The command specifies incompatible deviceparameters (e.g., specifying both FIXED and **VARIABLE**). Action: Refer to Chapter 9 Input Output Processing in the Programmer's Guide and modify the list. ACOMPT...

Welcome to the Messages and Recovery Procedures Reference Manual!

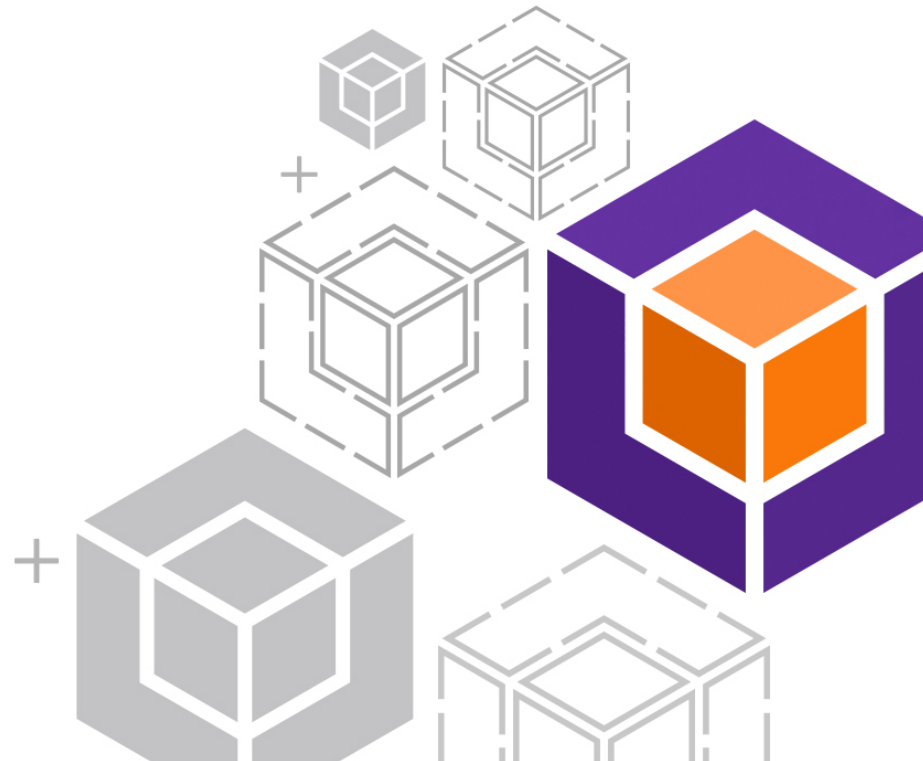
Welcome to the Messages and Recovery Procedures Reference Manual! Indices and tables Index Search Page...

Searching

- DuckDuckGo search box in footer
- Was not responsive or accurate
- Yandex, Bing, Google indexing, sitemap generation
- Footer template needed to be modified
- Still not the best it can be

The Ugly

Workarounds and hacks



Theme Modifications

- YottaDB theme : Raleway and Inconsolata are company standard fonts
- Had to write a shell script to generate CSS to be applied to the HTML generated from Sphinx
- Applies fonts, colors and changes color on admonition boxes

Scroll bar addition

- Sidebar navigation scroll bar
- Theme intentionally does not include scroll bar
- Jared Dillard - CSS workaround to add in a scroll bar
- https://github.com/rtd/sphinx_rtd_theme/issues/468#issuecomment-468354356

Other Tool Chains

Open Source Documentation
options



mkdocs

<https://www.mkdocs.org/>

- Takes markdown source files to convert to HTML
- Multiple themes
- Built in server to preview documentation as it's being written

ReadTheDocs

- Automates building, versioning, and hosting of docs
- Sphinx and makedocs compatible
- sphinx_rtd_theme – we use this!
- No support for custom installation or custom theme changes.

Docbook

<https://github.com/docbook/>

- Markup language for technical documentation extended from XML
- Uses XSLT stylesheets to transform Docbook documents into formats such as HTML and PDF.

DITA-OT

- <https://www.dita-ot.org/>
- Darwin Information Typing Architecture – Open Toolkit
- DITA is an XML data model
- DITA-OT is a publishing tool that converts DITA content into other formats
- Released under Apache License 2.0

Contribute to our documentation!

- <https://gitlab.com/YottaDB/DB/YDBDoc>
- Enhancements, corrections, contributions, suggestions, graphic design...



Thank You!

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