ODABA Releases TODBMS and Tools 14.0.0

ODABA is a Terminology-Oriented Database Management System (TODBMS) based on standards for object-oriented databases (ODMG 2003). In contrast to other databases that are focused on big data processing, ODABA stands for smart data processing, i.e. it is intended to be used for complex problems and complex data structures in combination with complex processing rules.

The latest version of the Terminology-Oriented Database Management System (TODBMS) ODABA has been released on Tuesday, October 4th, 2016. The new version ODABA 14.0.0 provides support for VIEW definitions and SELECT queries.

Tools have been extended by creating and checking view definitions in **ClassEditor**. The ODABA API has been extended by mathematical operations and aggregation functions as well as getting view details from type definitions.

Finally, some bugs have been detected and removed. More details are described in change logs and in notices delivered with the development databases (ODE tools: **Object/Notices**). Notices delivered with the databases also contain a list of open topics planned for next releases. Notices are stored separately for basic functions (**sos.dev**), database kernel (**opa.dev**), GUI framework (**gui.dev**) and ODE tools (**ode.dev**).

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Detailed changes (ODABA)

Essential extensions are several features for defining and running database views. This is a first step toward to the aggregation model planned for this version. Even though the system model has been extended, no database upgrade is required for development databases.

ODABA Database kernel (base)

This version provides several changes and extensions for the kernel functionality:

- View definitions

  The ODABA system model has been extended in order to support view definitions (class **ODC_View**).

- Check functionality

  The schema check functionality has been extended by checking View definitions.

- Query operations

Query operations have been provided as standalone operations that may be called in operation paths.

- Select Statement

  Besides query operations, SELECT statements are supported for running ad-hoc queries.

- Extent definitions in name spaces

Extent definitions may be defined in name spaces, now (e.g. in classes or data types). This has not been working properly, so far.

ODABA Application Program Interface (base/opa)

Focus for this release was extending features in order to support views and query operations. In addition, interface functions to mathematical operations and collection operations (statistic functions) have been provided. In order to avoid multiple collection iteration when calling different aggregation functions, optimizing features have been provided.

Interface extensions:

Interface extensions mainly refer to statistical and mathematical functions supported in order to support sophisticates analysis also by means of OSI functions.

- **TypeDefinition**
    - select (new)
    - view (new)
    - viewFrom (new)
    - viewGroup (new)
    - viewHaving (new)
    - viewOrder (new)
    - viewWhere (new)

- **Application**
    - workDictionary (new)

- **Property**
    - average (new)
    - deviation (new)
    - maximum (new)
    - minimum (new)
    - sum (new)
    - variance (new)

- **Value**
    - abs (new)
    - acos (new)
    - asin (new)
    - atan (new)
    - cos (new)
    - cosh (new)
    - exp (new)
    - log (new)
    - log10 (new)
    - pow (new)
    - sin (new)
    - sinh (new)
    - sqrt (new)
    - tan (new)
    - tanh (new)

More details are described in ODABA online documentation: **Reference documentation/ODABA Application Program Interface.**

ODABA Script Interface OSI

Besides supporting SELECT statement and query operations, OSI supports new matematical and statistical interface functions as well as new functions for type definitions.

Detailed changes (ODE and GUI framework)

Some changes and improvements have been made on existing tools. Important extensions are:

- VIEW editor

In order to support VIEW definition and checking via ClassEditor, a view editor has been provided.

Besides, some minor bugs have been removed, which are reported in the change log.

GUI Framework (gui)

The GUI framework kernel has not been changed.

ODE tools (ode)

ClassEditor has been extended. Most important extensions are:

- View definition

Allows creating new view definitions (by selecting Insert on a View item in the tree). The view mask supports creating and editing new view elements and data sources. Finally, view checking is supported.

ODABA GUI Application Program Interface (gui/ode)

No changes made.

ODABA Documentation

Documentation has been updated. Documentation for new features has been provided.

Installing ODABA

ODABA, including applications and libraries, is available for free under Open Source licenses (GPL). ODABA runs on various hardware configurations, operating systems and works on many desktop environments. ODABA can be obtained as source code distribution and in various binary formats from http://sourceforge.net/downloads/odaba/.

Several features require third party components, which have to be installed before installing ODABA. When the corresponding libraries are not available, one may install ODABA, but the features referenced below will not work.

- libzip - required for LibreOffice document generation
- zlib - required for data compression and database backup and restore)
- curl - required for enhanced email support)
- hunspell - required for spell check in ODE tools, like terminus

Previous Releases

When running ODABA 11.x.x or higher, no upgrade is necessary. When still using ODABA 10.x.x, resource databases and databases referring to ODABA system data types need to be upgraded. Details about how to call a database upgrade are described in the readme file for the ODABA 11.0.0 installation.

With the release of ODABA 14.0.0 we declare the end of live for all previous released ODABA versions. Bug fixes on 13.1.x version are provided on demand.

System model has been changed (extended), but no version upgrade is required. However, development tools do not run with old resource database (ode.dev).

System Requirements

In order to get the most out of this release, we recommend to use a recent computer with at least 1 GB of memory and 2 GHz CPU or better. In order to install the binaries, about 100 MB are required. Installing sources requires about 50 MB. 80 MB are required in addition, when installing the documentation locally.

About RUN-Software

RUN-Software develops database management system ODABA and tools since 1994. Besides general and particular software solutions, RUN-Software publishes theoretical works about database theory and terminology in connection with data modeling.

See also: www.run-software.com