



Energy Efficient Safe SHip OPERAtion

Database for results of WP2 and WP4

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- ▶ Model tests
- ▶ Why a Database for model test results ?
- ▶ Technical aspects
- ▶ Getting access and retrieving data
- ▶ Database input

Facility	Number of modeltests
EVFH	565
TUB	183
CEHIPAR	217
Marintek Offshore Basin	221
Marintek Towing Tank	167
Summe	1353

- ▶ For validation purposes model test data are needed
- ▶ Each model test or calculation is resolved in more than 5 quantities
- ▶ Do you want to search in ascii-files?

- ▶ Provide data for partners in an easy and systematic way
 - Time series
 - Averaged values
- ▶ Fast access to the data
- ▶ Allow flexible use of the data
 - Retrieved quantities and order can be individually selected
 - No text-file transfer, but text-files can be created if necessary
- ▶ Use normalized nomenclature and unit system
 - Minimizes failures in data processing
- ▶ Provide a central storage with actual results

- ▶ Uniform structure of storage
 - All data are stored in the same way
- ▶ Data structure and storage is organized by UDE
 - service for data management is available
- ▶ Fast search for results
 - Ask a query for getting results
- ▶ Easy comparison of existing data
- ▶ Access can be granted and restricted based on confidentiality requirements

▶ MariaDB Server

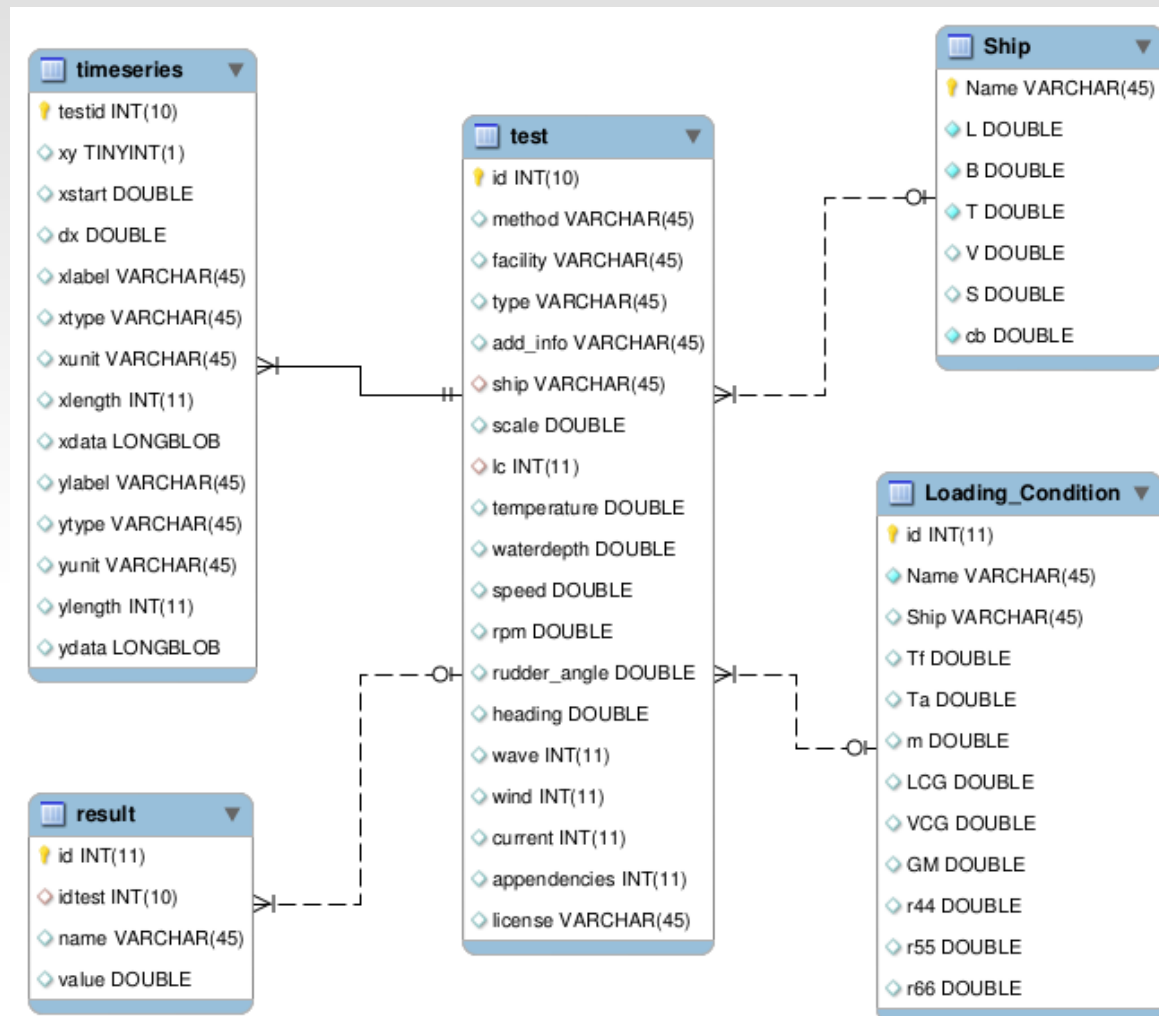
- Fast and lightweight server for hosting databases accessible using MySQL-commands
- The server is under the GPL-License



- ▶ Databases are fully compatible with MySQL queries
- ▶ All common MySQL-Tools can be used for databases hosted on MariaDB servers



- ▶ General framework data:
 - Ship data (LPP, B, T, ...)
 - Loading conditions (Mass distribution related data, draft, ...)
- ▶ Single value results: Multiple quantities per test, but no time series
- ▶ X-Y value results: Time series, RAO's, ...
- ▶ Test conditions (model test type, scale factor, speed, ...)
 - Linked to ship data
 - Linked to loading conditions
 - Linked to single value results
 - Linked to X-Y value results



Database

- ▶ Access:
 - MySQL-Workbench
 - Python
 - MS-Access
 - LibreOffice Base
 - Any self written Tool in C++ or any other programming language
- ▶ Access is restricted to SHOPERA-partners
- ▶ Database server will be accessible over the Internet
- ▶ Examples for getting access and retrieving data will be provided

- ▶ Define parameters to search and quantities to retrieve:
 - Parameters: Ship='DTC', Testtype='Added Resistance', ...
 - Quantities: resistance, heave motion,

Procedure:

1. Connect to the server
2. Use a provided function with the parameters and quantities or submit an own search query
3. Retrieve results
4. Repeat steps 2 and 3 if required or disconnect from the server

- ▶ Overview of result data:
 - Nomenclature and units of measured / calculated quantities
 - Sampling frequencies
 - Loading conditions
- ▶ Overview of performed tests and conditions as CSV or Excel File (No PDF!)
- ▶ Results / Time series in ascii-format, columns separated by tab or semicolon, including column headers
- ▶ Use “.” as decimal separator

- ▶ Result data stored in a server hosted database are better sorted and accessible for all
- ▶ Nobody has to search for result data in more than 5000 result quantities
- ▶ Database structure and data provision is organized by a service available on the server
- ▶ Results are provided based on your search parameters
- ▶ More effort to store results, but much more faster and easier access to results for all



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Thank you for your attention

Any Questions???

