



TABEX4 TABLE MANAGER

TABEX4

TABEX4 is the leading cross-platform standard software for table access and maintenance. Highest performance and convenient data maintenance make TABEX4 an optimal tool for efficient and revision-proof table management.

TABEX4 TABLE MANAGER

TABEX4 makes table management easy and comfortable – administration as well as maintenance. Various types of tables can be used – relational database tables as well as other types. Various editing functionalities and the high-performance table access save CPU resources and ensure ideal data organization in your company.

The following data sources are supported:

- TABEX database
- Relationale databases
 - DB2
 - Oracle
 - MySQL
 - PostgreSQL
 - MS SQL
 - Informix
 - Progress
- Import/Export of
 - VSAM
 - Sequential files
 - xls, xlsx, csv

During a session, data from different sources can be viewed, maintained, and administered by the TABEX4 user interface. Various database types can be accessed - even across different databases. It is also possible to work simultaneously in several sessions.

Uniform web-based Table Management Dialog on all Platforms

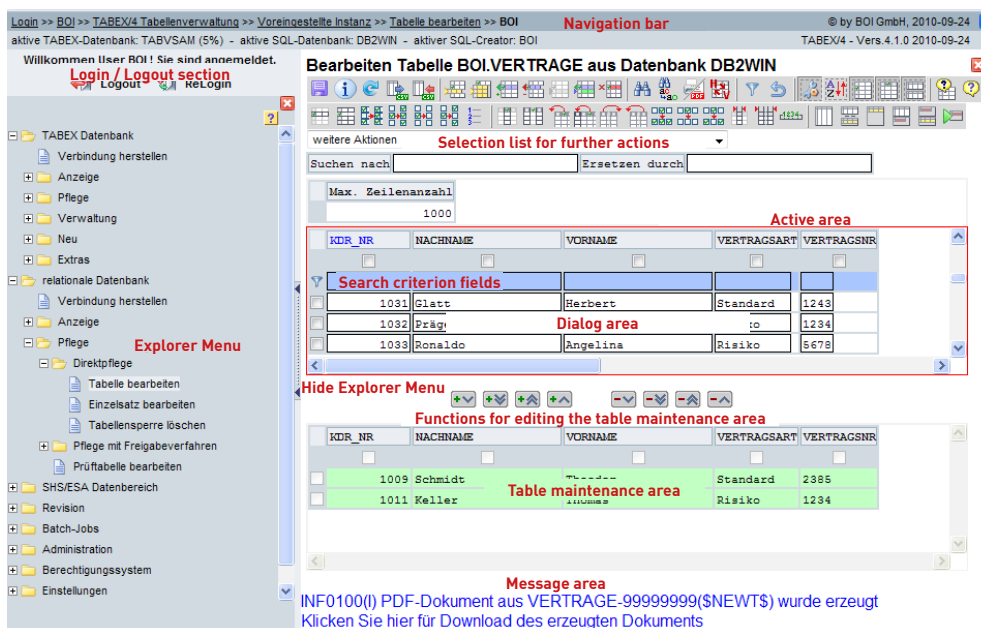
The handling of the TABEX4 User Interface is identical on every platform due to its platform independence. TABEX4 can be used company-wide. Its database independence ensures the unlimited deployment for all database systems used.

Every user can maintain data with every end device and every popular operating system by the TABEX4 User Interface. Just a web browser is required.

The user interface is structured in a logical and clear way and uses known elements of various operating systems, e.g. an explorer menu tree, icons, input fields, selection lists, and tool tips.

Icons and hotkeys are available for all common functions. Context sensitive controls increase the clarity.

The TABEX4 User Interface consists of the following parts:



- Navigation bar
- Login-/Logout area
- Explorer menu
- Icon bar and selection list „more actions“
- Area for system messages
- Dialog area with active table view
- Optional area for table maintenance or mass change modification formula

THE BENEFITS IN DETAIL

Various Editing Functions

Benefit from various editing functions. They include:

- reading, writing, and checking functions
- comfortable functions for sorting and filtering data for simple database queries
- table management per table row, for parts of the table or for the whole table
- copying of data entries to the Windows clipboard and transferring them to other applications (copy & paste)

Mass Changes

Define modification formulae for mass changes and execute them on selected table rows.

Lock Mechanism

Protect your tables during editing: The TABEX4 Locking Mechanism prevents concurrent table editing by different tasks (TABEX4 User Interface or utility functions). Thus, involuntary overwrites of your changes can reliably be avoided.

Version Management

Define tables as version tables. This enables:

- table data valid in a specific period of time
- scheduling future data changes
- access to older table versions
- reset to older table versions

Link Tables

Link data from different tables via JOIN – database-independently and across platforms.

Compare Tables

Compare your tables even across database boundaries: Table versions with identical structure can be compared anytime during maintenance – via user interface function or utilities. Database independently and across platforms.

Utilities for Table Management

Benefit from the TABEX4 Utility functions: Configure batch jobs for creating and changing tables. Similar to the table management via user interface, approval procedures and logging are integrated as well.

ENHANCED TABLE DEFINITIONS

The Enhanced Table Definitions allow extended table maintenance with highest usability.

1. Consistency and Plausibility Checks

Define validation rules as check tables, for example, to limit data input to special values or a range of values.

Logical operators and conditional execution allow the realization of more complex validation rules. An exit interface enables to embed user-defined program logic.

2. RI allocation (Referential Integrity Checks)

Check the referential integrity of your tables: By using an RI allocation, the referential integrity is automatically checked during table management.

3. Table Views

Enhance your tables visually: By using a VIEW it is possible to provide your data for optimal access and imaging, e.g. print output. By using a SELECT statement, views can be created temporarily or stored in the database. The SELECT syntax matches the SQL SELECT syntax mostly.

4. Table-specific Help function

Reduce your training requirements: For every table, a Help text can be written and embedded into the TABEX4 Application – e.g. input values for table fields, etc.

Thus, users are able to maintain tables without costly trainings or documentations.

5. Defining Table Sequences

Referenced tables are the essence of efficient data management. They contain various information – from address data to stock and item numbers. But changes in one of these tables usually induce changing the other referenced tables as well.

Defining Table Sequences with TABEX4 can simplify this procedure strikingly: It enables to define a workflow containing all involved tables. Every table forms a step of the sequence. The maintenance works just as the single table management; in addition, it is possible to navigate back and forth the sequence steps by using navigation buttons.

After defining tables, order, row limitations, etc. in a control table, it is then possible to configure a menu item for the sequence in the table manager.

The amount of provided rows for maintenance can be restricted for each step by defining selection criteria in the configuration table; for example, table rows can be selected: As a consequence, the following steps will only show table rows that are referenced to the selected rows.

Thus, it is possible to edit all necessary tables in one operational cycle efficiently and comfortably – always in accordance to validation rules and with logging.

INFRASTRUCTURE

1. Table Copying

TABEX4 allows to copy tables within a database or even across different databases.

2. Data Transfer

Benefit once again from TABEX4's various utility functions: Data transfer between tables and files of different types (TABEX4 Tables, RDB tables, sequential files, etc.) becomes a simple task. All combinations of source and target files are supported.

During the transfer to the target, file conversions can be executed. Filter functions for the source file rows are available as well.

3. Table Import / Export

Many TABEX4 customers use MS EXCEL and other programs for diagram generation, statistical analysis, presentations and reports. Thus, there is a need to manage table data of databases using such programs.

With TABEX4 this can be achieved easily:

Exporting whole tables or the active table maintenance area enables the transfer of table data from databases into other applications, e.g. MS EXCEL, to edit them onward.

It is also possible to import changed data from MS EXCEL or other programs to TABEX4 (again). The imported data can either replace the whole table or be added to the existing data.

When the table is saved, the imported data will be checked (check tables, RI checks, etc.).

4. Print

Table data and table selections can be exported as TEXT or PDF documents.

5. TABEX4 Mail

The TABEX4 Mail Program Interface enables sending generated PDF or CSV files, logs of batch programs, or any other data as e-mail attachment.

6. Replication of Data

The user-driven data replication enables to synchronize databases and data spaces company-wide.

Advantages of the automatic data replication are:

- central administration and supply of actual data for different project areas
- increased data availability through redundant and local storage
- Offline access to local replicates
- higher read access performance (shorter response time)

Extended Customizing

1. Various Configuration Options

Adjust TABEX4 according to your needs: Configure databases, batch jobs, menu items, import/export functions, and check routines precisely and optimally according to your corporate requirements.

Optimizing the user interface is another important task. TABEX4 offers the following features:

- Layout configuration
- Customer-specific menus
- Multilingualism
- Table- and user-specific settings

All configurations are saved in control tables.

2. Batch Job Interface

Start batch jobs easily and conveniently: The TABEX4 Batch Job interface allows to start preconfigured batch jobs directly from the user interface. Job parameters can be added as well to complete the job at runtime.

Besides selecting jobs of a job list, it is also possible to configure menu items for starting a batch job. The menu items enable to select the tables or table rows for the batch job. You can use tables from TABEX4 databases or relational databases.

The batch job and menu item configuration itself is located in the administrator menu of the user interface.

3. BOI Administration Interface

The BOI Administration Interface (administration GUI) for TABEX4 is an extension to the TABEX4 Table Manager.

Each IT Administrator is challenged by the various and partly very complex tasks for administrating TABEX4. TABEX4's new Administration Interface minimizes that effort by providing simple and time-saving options.

Instead of having to maintain related control tables individually, the BOI Administration Interface provides you with information and prompts from the task's point of view. It executes logical checks to avoid invalid configurations. Well-known GUI features such as drag and drop and context menus are available as well.

4. Multi-tenant Instance Concept

Customize TABEX4 to your corporate structure: TABEX4 is multi-tenant and can serve multiple independent sub systems – the so-called TABEX4 Instances – on the same server.

The great benefits of this function are: Installation and maintenance can be executed centrally. Data used by multiple instances as well as configurations need to be stored, maintained and managed only once.

The instances themselves can be configured perfectly for your corporate structure: Disjoint units that have neither users nor data in common, are as well possible as instances with overlap (e.g. shared users, databases, authorizations, etc.).

This results in a wide range of possible applications: from the implementation of different specialist areas (e.g. insurance branches, like automobile, life, and property) to the realization of different environments, e.g. development, testing, production, etc.

Security and Compliance

Legal regulations oblige companies to describe and document corporate processes.

The most significant requirements concerning the IT are:

- Checking and controlling the logical and environmental security
- Schedule for corporate long-term preservation
- Creation of an emergency concept
- Monitoring the system maintenance, processing data and daily business
- Logging and archiving all relevant data, documents and records

1. Consistent logging of all changes

Transparent and secure editing of control and parameter tables is dealt with highest priority in TABEX4, as technical or content-related errors cause serious consequences for a company. Especially for banks and insurances, legal regulations are in place, concerning the traceability of data changes.

By logging all changes, both via user interface and batch table management functions, TABEX4 guarantees the traceability of all data changes. Useful analysis functions ease audit procedures.

2. Approval procedures

The TABEX4 Approval Procedure enables the synchronized approval and controlled transfer of changes. This guarantees that changes can only get effective after a check by a second person.

The approval procedure can be customized perfectly according to your corporate requirements – from the simple “N-Principle” to the high security “4-Eye-Principle”:

N-Principle:

A procedure without approval. The changed data becomes active directly after editing. This method is suitable, e.g., for internal tables that don't affect any corporate processes.

0-Eye-Principle:

A simple approval procedure consisting of a release, but no additional review. The changed data becomes active directly after release.

2-Eye-Principle:

An approval procedure consisting of release and review. The review can be done by the same person who released the changes. The information about which person released and/or reviewed the changes is logged automatically by TABEX4.

4-Eye-Principle:

The 4-Eye-Principle works like the 2-Eye-Principle, but with one important restriction: The review of the released changes must not be executed by the same user who released the changes. It has stringently to be another user. Again, the information about which person released or reviewed the changes is logged automatically by TABEX4. This method guarantees highest security.

3. Multi-level authorization system for secure access protection

TABEX4 comes with an own, exactly controllable authorization system. The access for single users as well as user groups can be set accurately for databases, tables, tenants (TABEX4 Instances), functions and menu items.

External security systems like RACF or ACF2 can easily be embedded as well. In these cases, security checks are routed to the external system.

A mixed configuration is also possible. This allows, for example, to check table security with an external system and all other rights within TABEX4.

For central user control, Single Sign-On (SSO) can be implemented. Thus, the user just needs to log in to the operating system and can proceed on to TABEX4 without entering username and password again. In order to protect the communication channel between the TABEX4 server and the web application server, Secure Shell (SSH) can be used.

4. Consistent logging and archiving of all active table states

TABEX4 provides consistent logging and archiving of all table states per common data space that are active for the application programs. This allows to archive all table versions that have been added or changed during the current common data space upload.

By appropriate analysis functions, it is possible at any time to reconstruct which data was active for application programs at a certain time point.

5. Comfortable report functions for audits

Comfortable report functions ease the audit procedures. Utility report functions are available for protocol databases as well as common data spaces and archive databases, supplying information about the specified selection criteria.

