

Database management with TOAD

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Database (database) is one of the important components of a software development project. Although there are specialized software to build databases of well-known firms in the world such as Oracle, SAP, IBM and Microsoft, but managers still often face many difficulties in checking and evaluating databases due to they create themselves, thereby affecting the quality of the software. TOAD is a tool that can help them get things done quickly, reliably and effectively.

TOAD (Tool for Oracle Application Developers), of Quest Software, based in Aliso Viejo, California, USA, is a database management tool and develops powerful applications and low operating costs. It helps increase user productivity and product quality.



TOAD is compatible with many types of databases.

TOAD is useful for users at all levels, from software development and application to database administration or business analysis, as it includes many features that meet their requirements. TOAD is compatible with database

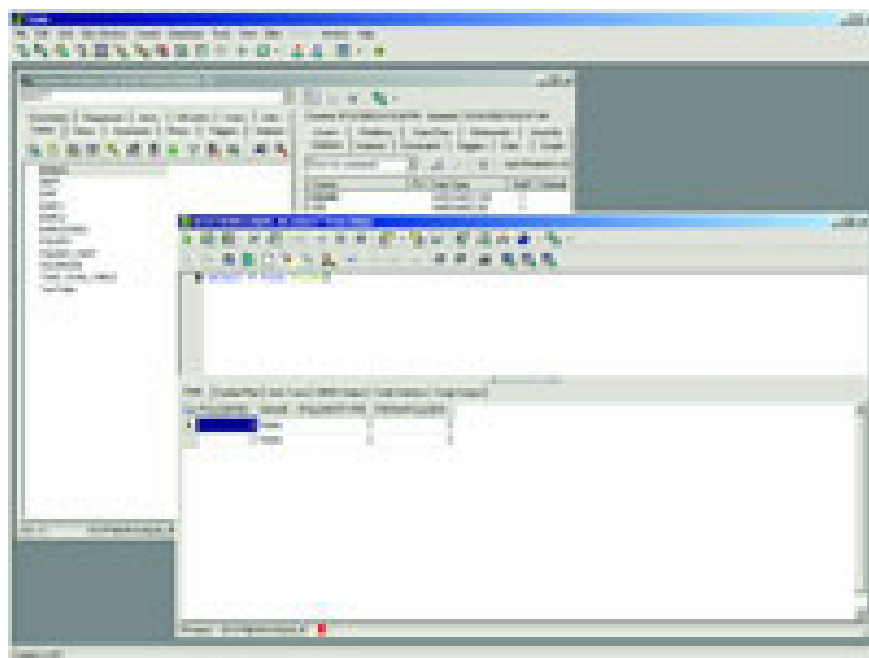
types of Oracle, SQL Server, IBM DB2 and MySQL.

Functions

The TOAD interface has three main parts: the database browser (Database Browser), the SQL editor (SQL Editor), and the PL / SQL (Procedural Language / Structured Query Language) debugger. To support the SQL development process, there is also a SQL Template window (SQL Modeller) that provides a graphical environment that helps users easily generate code based on a contact chart.

Before developing a software, it is necessary to set up a database for it. The program to create a new database (New Database Wizard) will help you quickly create a script to set up a database with the given parameters and sizes. TOAD supports creating databases in UNIX and Windows operating systems.

The next step is to create a schema. With the help of the 'Generate Schema Script' window, you can create a script that runs with the database just set to produce a development schema.



TOAD is used with Oracle database management system

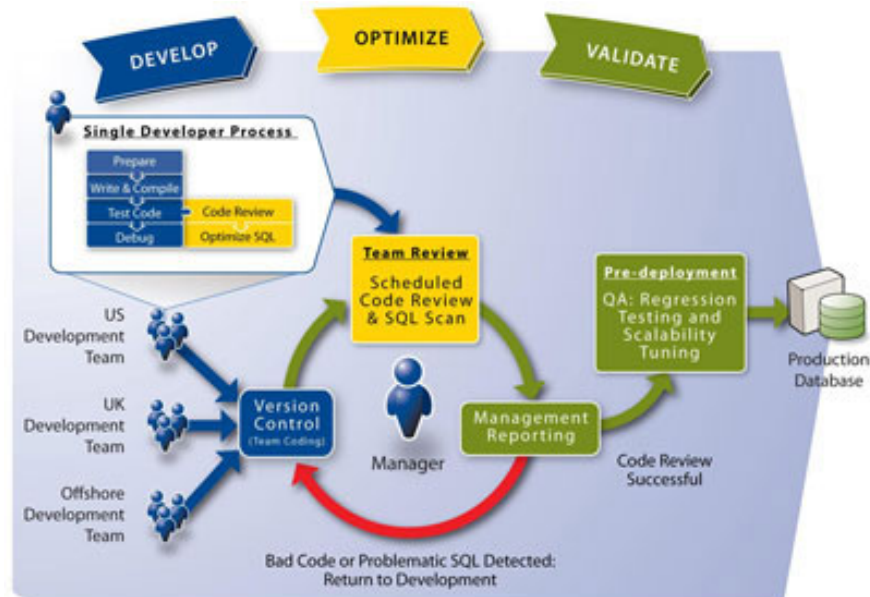
TOAD has many features to help build new database objects, as well as edit existing objects. Any questions that need to be answered during development can be found in the 'Knowledge Xpert' feature integrated for PL / SQL or for Oracle database administration. This feature is very useful because it contains information and instructions from leading Oracle experts. However, you must pay royalties for this feature.

Once the SQL code has been written, checked, and edited, it needs to be incorporated into the development language used in the direct user interaction section. The interfaces of TOAD with multiple source control systems ensure the process

This combination takes place quickly and in a controlled manner.

During development, the initial schema may be changed. The 'Compare Schemas' window helps developers identify these changes. It not only lists changes but also creates an SQL script to update these changes to the complete database.

The database manager helps administrators to monitor the entire development process remotely via e-mail and set up periodic checks of databases. The manager also has all the tools needed to monitor database usage, even monitoring the UNIX server on which the database is running.



Database development method

History of TOAD

TOAD is designed by Jim McDaniel, a developer of Oracle database tools. At first, many people could use TOAD as a shared software, but then McDaniel distributed this tool on the Internet as a free software.

The increasing number of TOAD users makes it more difficult to meet new needs. To continue maintaining and developing TOAD, McDaniel has partnered with Quest Software since November 1998. He explained: '*I choose Quest Software because it is a big company that always pays attention to product quality and is supported by many customers. Its products are similar to TOAD.*'

TOAD is assessed by the community of database administrators as one of the most successful Oracle database management tools. Currently, TOAD has been expanded to operate on other database platforms such as Microsoft SQL Server, IBM DB2 and MySQL.

The free version can be downloaded from <http://www.quest.com/toad/> or <http://www.toadsoft.com/>.

However, TOAD also has some limitations. It does not support all the latest Oracle features, such as ANSI Join syntax, or some less-used features such as clusters.

Method of development

Quest Software has developed a database development method for TOAD, focusing on three areas: development, optimization and quality control (see picture).

For developers, TOAD helps them write clearer, faster and fewer errors through the following steps:

- **Prepare** . Determine the criteria for establishing code that satisfies the performance requirements.
- **Write commands and compile** . Build code according to the proposed standards.
- **Check the code** . Use the TOAD code test function to identify shortcomings compared to feature requirements.
- **Fix errors** . Use the debugger to quickly identify and modify faulty code.

For managers, TOAD helps them to ensure the performance and scalability of the database before completing the product. It can optimize SQL by detecting faulty statements and making other changes that are most effective to avoid bottlenecks during data retrieval.

System requirements

TOAD runs on all 32 bit Windows platforms, including Windows 95, 98, NT, 2000, XP and Vista. The installation of this tool is quite simple, the requirement is about 38 MB of free space on the hard drive and 128 MB of RAM. Besides, Oracle software must be version 7.3.4 or higher.

Depending on the needs of users, TOAD has many versions from basic to advanced with many additional modules, provided free or commercialized. Of course, the commercial version includes more specialized features.

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