

## Session 1:

### Low TCO with SAP® MaxDB™ Database Technology from SAP



Roland Mallmann, SAP AG  
Jörg Hoffmeister, SAP AG

THE BEST-RUN BUSINESSES RUN SAP™



## Agenda



### The Enablement Cycle

SAP MaxDB in 15 Minutes

SAP MaxDB Installation Demo

Within today's session workshop we will look at some overall figures on SAP MaxDB and show, how easy the database can be set up. The database that we install today, will accompany us for the rest of this enablement cycle.

## Partner Services Delivery: SAP MaxDB Enablement Cycle 2009/2010



October 13, 2009	Session 1: SAP MaxDB - the low TCO Database
November 3, 2009	Session 2: Basic Administration with Database Studio
November 24, 2009	Session 3: Basic Administration with CCMS Transactions
December 8, 2009	Session 4: Performance Optimization with SAP MaxDB
Next to come, 2010	Further 4 or more sessions to follow on various topics, like e.g.: Checking structures, SAP MaxDB & BW, Upgrading, Features 7.7 & 7.8

© SAP AG 2009

Each session will be held twice a day to cover different timezones. As we are located in Germany we will have an early morning and a late afternoon session.

# Agenda

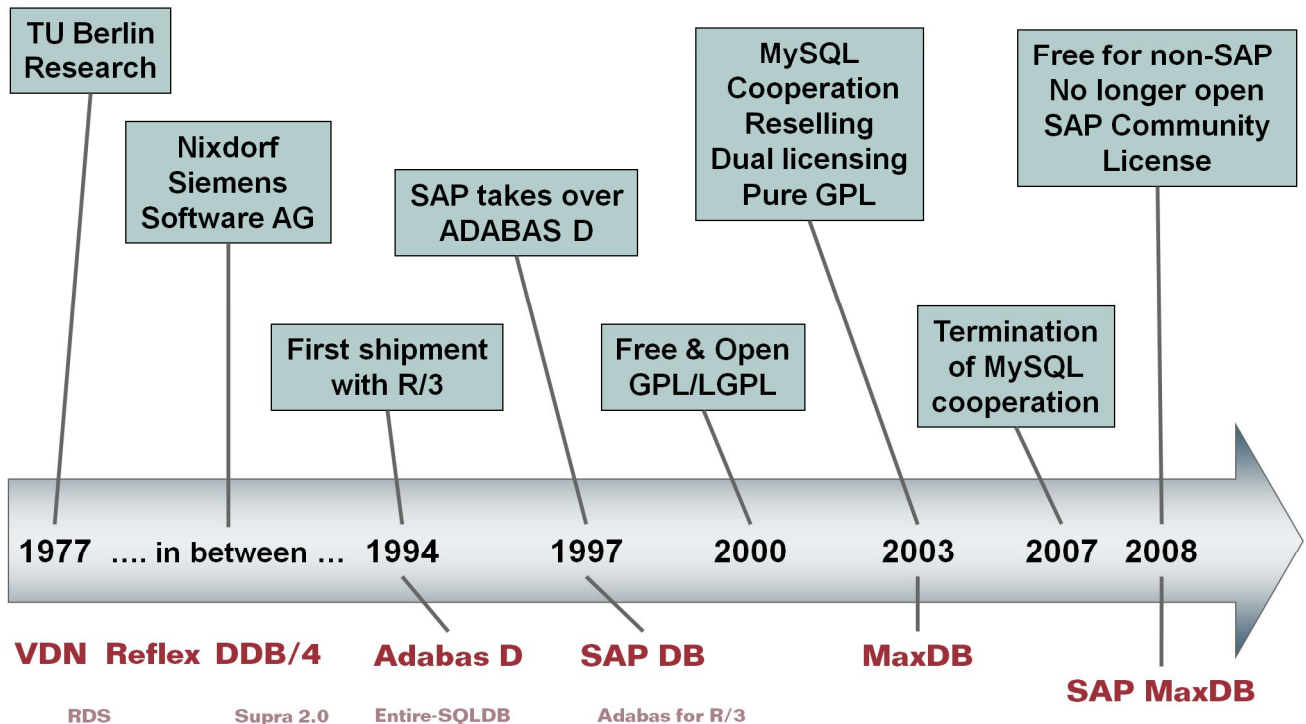


The Enablement Cycle

**SAP MaxDB in 15 Minutes**

SAP MaxDB Installation Demo

## History of SAP MaxDB



© SAP AG 2009

The cornerstone for SAP MaxDB was set in the late 70ties of the last century. It all started as an industry cooperation project between the Technical University of Berlin and Nixdorf Computers. As it pointed out to be of interest for the database market, Nixdorf took over full responsibility and ownership.

Over the years ownership changed repeatedly – passing Siemens-Nixdorf and Software AG – until the database reached SAP in 1997.

This was 4 years after the database started to serve as carrier for the SAP R/3 system. Thus today we look back to nearly 16 years of experience with SAP scenarios.

In 1997 the database appeared as SAP DB. Due to cooperation with MySQL, the database was branded to MaxDB in 2003. As this reselling agreement ended in 2007 the brand was changed to today's SAP MaxDB.

## SAP MaxDB is Affordable, Simple and Reliable



### ✓ Is affordable (lower cost of ownership)

- **Lower license costs:** as much as 50% of other databases
- **Lower maintenance costs:** works out of the box and is optimized for SAP solutions

### ✓ Is simple to use

- **Easy-to-use tools:** for minimal administration
- **Standards-based:** provides familiar SQL92, JDBC and ODBC interfaces
- **Completely integrated:** DBA Planning Calendar, Alert Monitor
- **Strongly automated:** Important administration tasks like e.g. backing up log entries to ensure that the database can be restored at all times, collecting and managing statistics for future analysis

### ✓ Is reliable

- **By SAP, for SAP:** rigorously tested with and fully integrated into SAP applications
- **Scalable:** works invisibly from desktop to very large servers

© SAP AG 2009

Let's look at some bulletpoints

SAP MaxDB is an affordable database according to low license costs – as much as 50% compared to other databases certified for SAP –

and in consequence lower maintenance costs as these correlate with the license and application value.

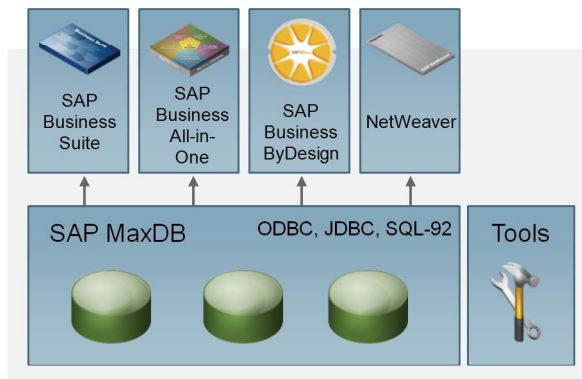
SAP MaxDB works out of the box and is optimized for SAP Solutions, further supported with its simplicity in use.

We offer easy-to-use tools for minimal administration – a lot of administration tasks are already automated.

MaxDB is highly integrated into SAP's monitoring and scheduling and offers standard based, familiar interfaces for extended application areas.

We are talking about a well scaling database from SAP for SAP, fully integrated and rigorously tested - a database for all system ranges , from desktops to very large servers.

## SAP MaxDB is Owned, Developed and Supported by SAP



**Application, platform and DBMS integrated and delivered by SAP**

- ✓ SAP MaxDB is SAP's own database - specifically designed to have lower TCO for SAP applications
- ✓ SAP is investing in the development of SAP MaxDB, a strategic and safe alternative for you
- ✓ SAP MaxDB is a robust and reliable technology, optimized to run on all major SAP solutions
- ✓ SAP MaxDB is SAP's preferred choice for SAP Business All-in-One fast-start program
- ✓ SAP MaxDB's performance is comparable to other databases
- ✓ SAP MaxDB is used in over 14,000 commercial installations at approximately 6,200 customer sites world-wide

© SAP AG 2009

SAP MaxDB is SAP's own database - specifically designed to have lower TCO for SAP applications

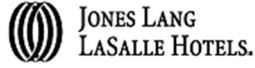
We are continuously investing in the development of SAP MaxDB to offer you a strategic and safe database alternative

It is robust and reliable technology, optimized to run on all major SAP solutions

SAP MaxDB is SAP's preferred choice for SAP Business All-in-One fast-start program

The database performance is comparable to other databases, proved in over 14,000 commercial installations at approximately 6,000 customer sites world-wide

## SAP MaxDB Customers (OLTP and BI)

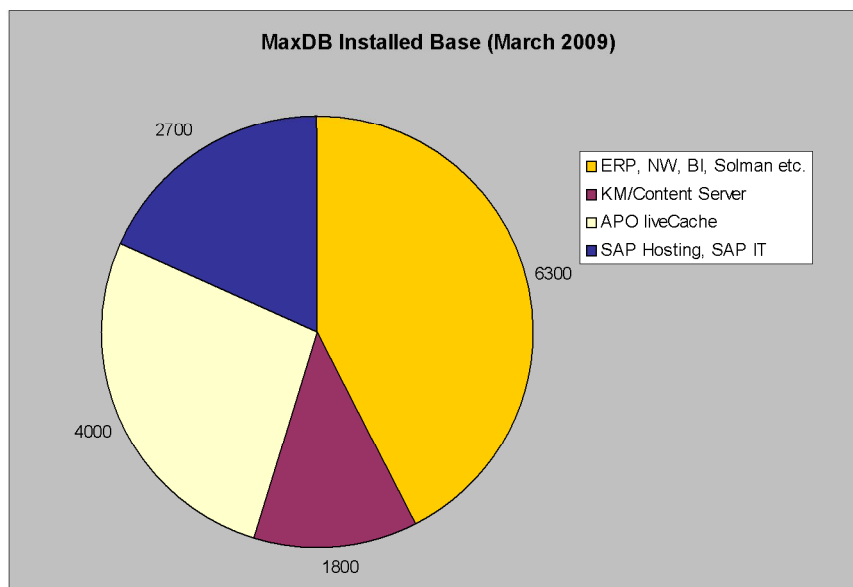


© SAP AG 2009

As you can see with this collection of logos, there are a lot of prominent customers that have chosen SAP MaxDB for their SAP systems.



## SAP MaxDB Technology Installation Base



© SAP AG 2009

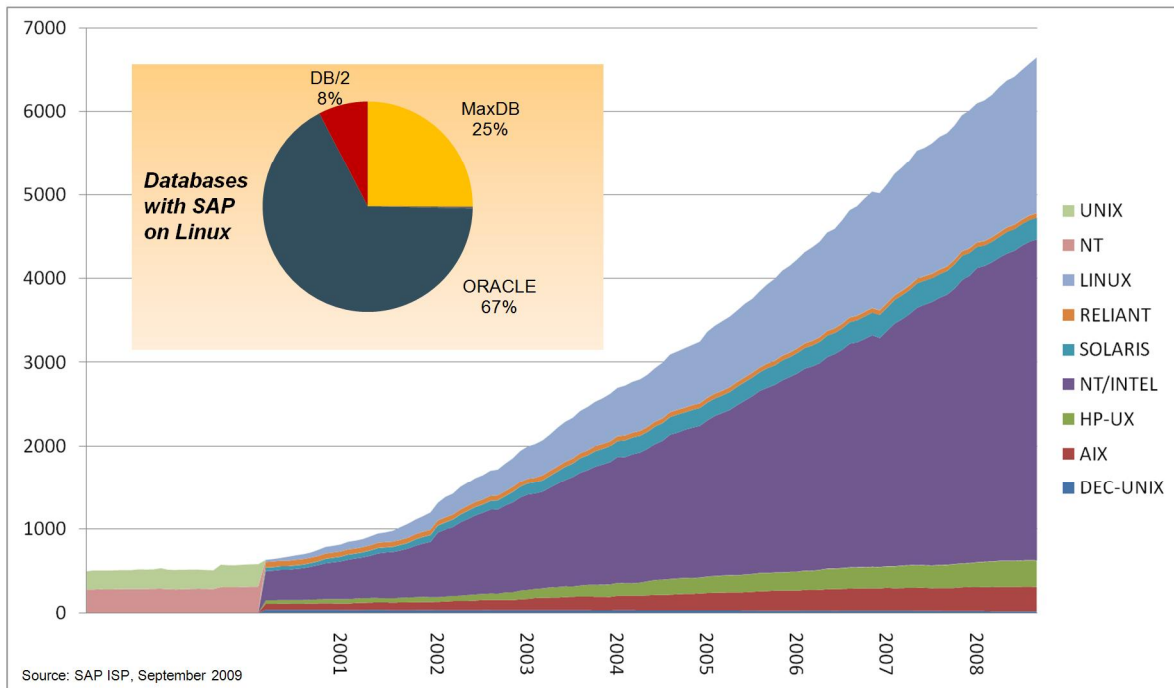
If we look around where we can find SAP MaxDB technology installed, we are facing several areas of utilization all based on the same technology.

The database counts around 6300 installations in standard scenarios like ERP, BI, CRM etc, as well as 4000 installations as APO liveCache, a high-speed, in-memory application scenario of the SAP Supply Chain Management.

Additionally there are roughly 1800 installations as Content Server in SAP Knowledge Management and also roughly 2700 installations at SAP Hosting for different purposes.

All these are customer scenarios distributed among ~6200 customers worldwide – many other installations are not included.

## SAP MaxDB Customer Installations Timeline and Linux Share



Source: SAP ISP, September 2009

liveCache and Content Server installations (KM) not included

© SAP AG 2009

Here's some graphics on the MaxDB installation base. Please be aware that the numbers given only relate to standard application profiles and do not reflect liveCache and Content Server installations.

Since the year 2000, from the beginning of Linux within SAP, SAP MaxDB has evolved a base of more than 1800 installations – equal to more than a quarter of all Linux-based installations of SAP solutions.

The increase shows the same figure like the overall increase of SAP MaxDB installations and also shows that MaxDB/Linux is a major share of all MaxDB installations.

# SAP MaxDB Instances – Examples on FAQs



Are there size restrictions in SAP MaxDB?

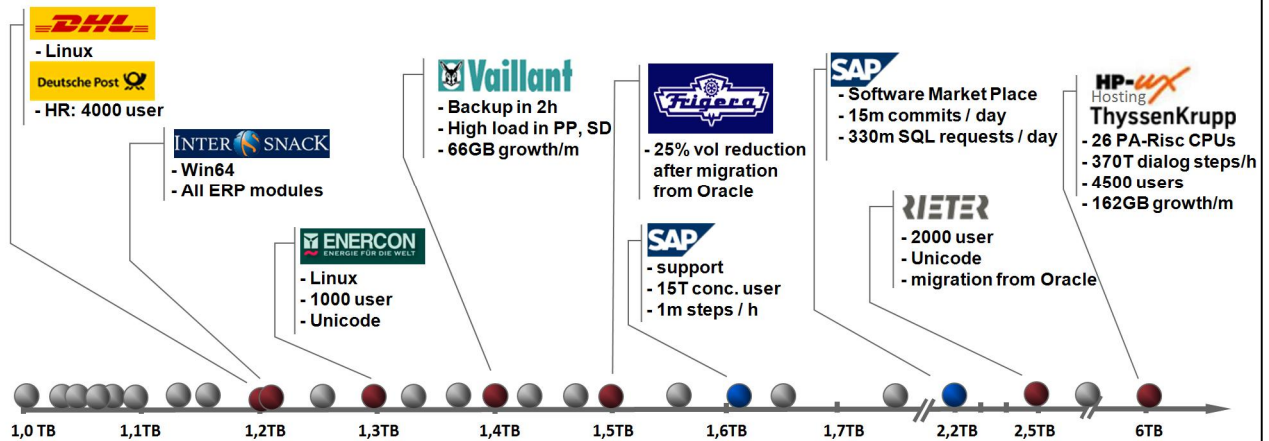
- Yes, the maximum size of current releases is 32TB

Are there customers using SAP MaxDB with data volumes bigger than 1 TB?

- Yes, many customers and SAP installations have databases with 1TB and beyond.

Are there customers using SAP MaxDB with data volumes bigger than 5 TB?

- Yes, we have even one reference customer with a database size of 5,3 TB.



© SAP AG 2009

## What is minimal Cost of Ownership ?



### DBA HR planning at SAP Hosting (2005)

DB Size/Instance	SAP MaxDB	System A	System B	System C
0 - 30 GB	0.1	0.2	0.2	0.2
30 - 100 GB	0.1	0.2	0.5	0.5
100 - 500 GB	0.2	0.4	0.5	0.5
500 GB – 1 TB	0.2	0.5	1.0	1.0
> 1 TB	0.3	1.0	1.5	1.5

### Customer View (End customer and Hosters)

DBMS license costs	Low impact
DBMS maintenance costs	Low impact
Hardware resources	Medium impact
DBA resources	High impact

**TCO means people !**

© SAP AG 2009

Looking at the planning of SAP Hosting in terms of DBA capacities it showed out that they plan only one fifth of resources compared to more administration intensive databases.

SAP MaxDB is known for its easy administration and efficient and low resource requirements related to storage and servers, but on the long run, people drive the costs up.

Customer interviews showed that neither license nor maintenance fees have big cost impact, hardware has medium –

but first and foremost, TCO means people.

## Low License Costs



With only **5% of your SAP application value**, SAP MaxDB license costs are considerably lower than license costs for other databases.

	SAP MaxDB	Oracle	IBM DB/2	Microsoft SQL Server
License Costs* (Percentage of SAP Application Value)	5%	11%	8%	8%

\* according to SAP Master Pricelist 2008

© SAP AG 2009

According to the SAP master price list, with only 5% of your SAP application value, SAP MaxDB license costs are considerably lower than license costs for other databases

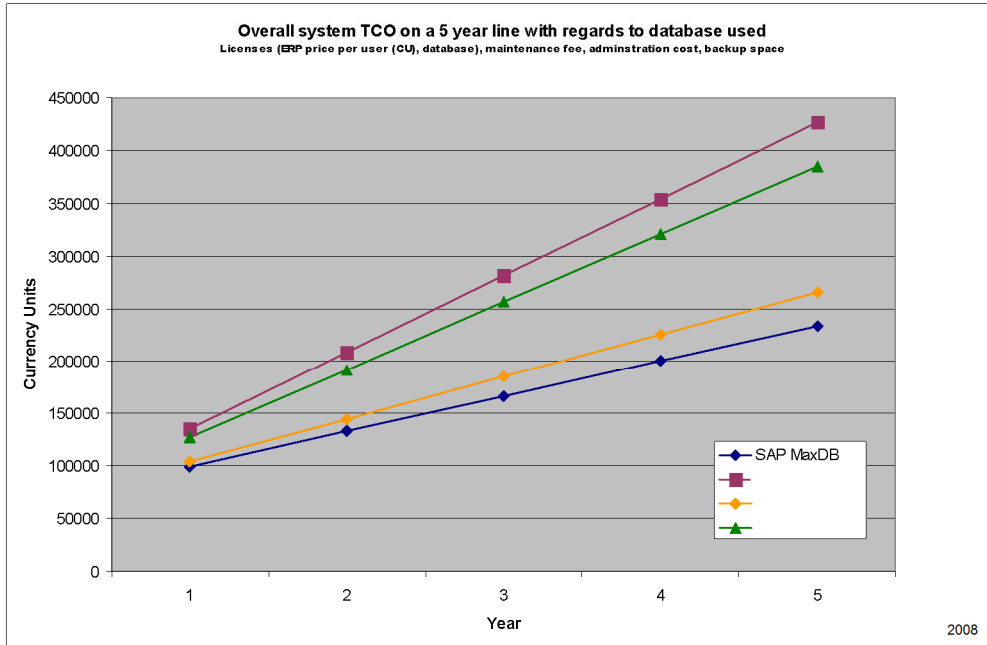
-

leading to less maintenance costs in the next calculation step.

## Save up to 60% With SAP MaxDB



SAP MaxDB is **considerably cheaper** in comparison to other available databases (5 year cost estimate for databases as part of SAP Business All-in-One).



SAP MaxDB is considerably cheaper in comparison to other available databases. On a 5 year scale for databases within Business All-in-One you could save up to 60% when utilizing SAP MaxDB, for example).

## You Have the Choice: Broad Platform Support, Low Hardware Costs



Hardware is an important cost factor, and it comes with vastly different price tags.

SAP MaxDB runs on all major operating systems. This means that you are free to choose the platform that suits your business needs best.

Vendor	Operating System	Architectures
Hewlett Packard	HP-UX 11.11, 11.23, 11.31	PA-RISC, IA64
IBM	AIX 5.1, 5.2, 5.3, 6.1	Power
Linux (Novell, Red Hat)	SUSE Linux Enterprise Server 9, 10, 11 Red Hat Enterprise Linux 4, 5	IA32, IA64, X64, Power
Microsoft	Windows 2000, XP Windows Server 2003, 2008	IA32, IA64, X64
SUN	Solaris 9, 10	Sparc, X64

© SAP AG 2009

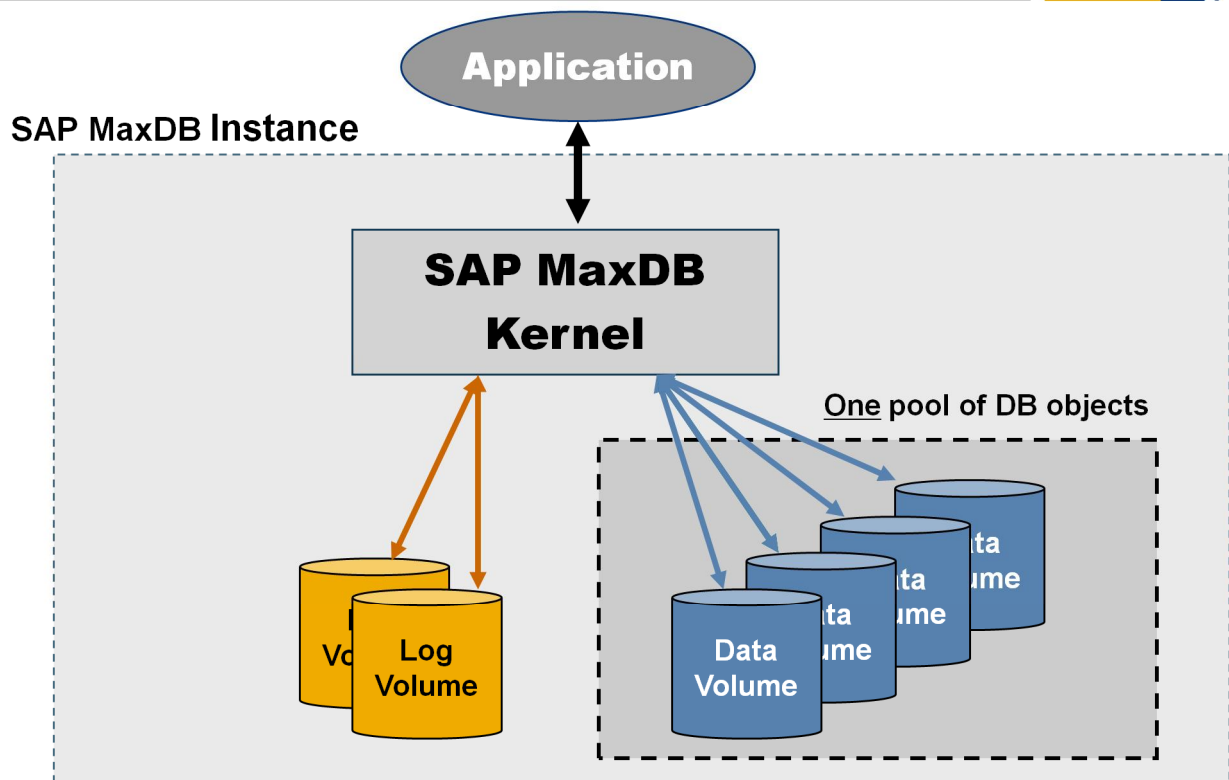
Hardware is an important cost factor, and it comes with vastly different price tags.

SAP MaxDB runs on all major operating systems. This means that you are free to choose the platform that suits best: to your business needs and to your budget.

Take the time and have a look to the table with our platform set for SAP MaxDB.

Please refer to the SAP Product Availability Matrix in [service.sap.com](http://service.sap.com) to check your individual solution settings and platform support.

## Simple Anatomy of a SAP MaxDB Instance



© SAP AG 2009

SAP MaxDB is simple – it operates on a high level of abstraction.

The application talks to an SAP MaxDB Kernel as part of an SAP MaxDB instance. The kernel operates a set of log volumes and data volumes.

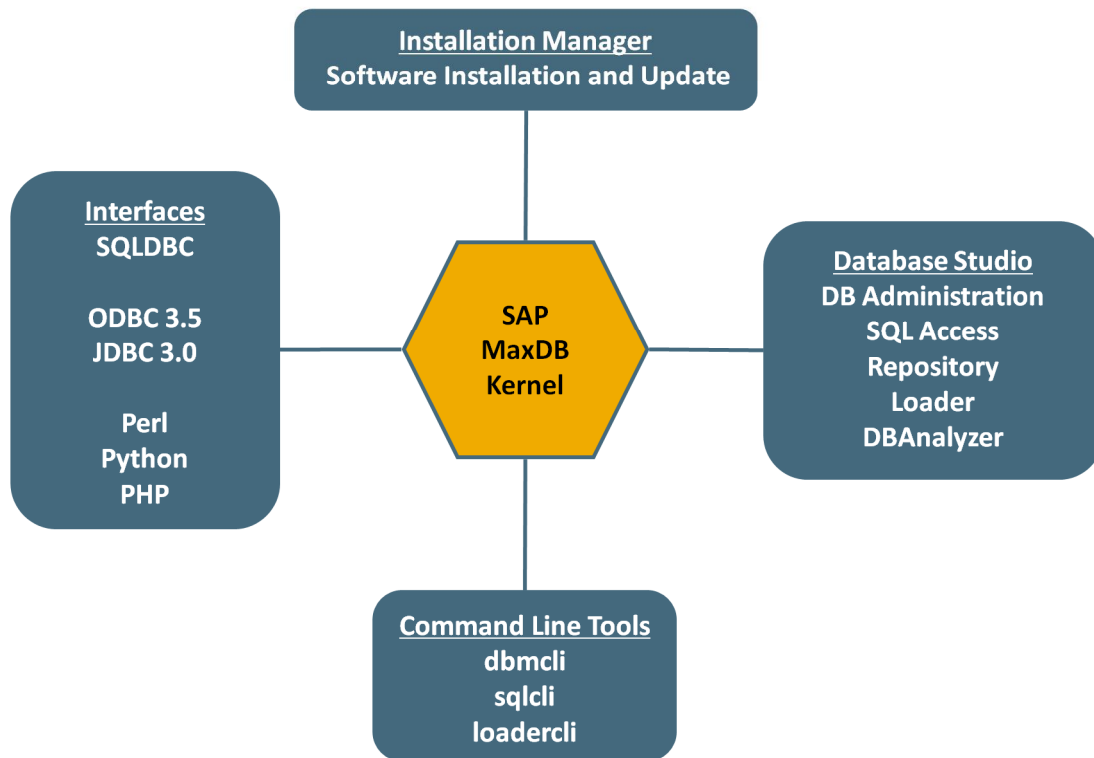
SAP MaxDB virtualizes all data volumes as an opaque block of storage space. Space management is fully automated and kept away from the SQL users and administrators.

Specifying SQL objects does not require any attribute specification about storage location and size.

SAP MaxDB is free of reorganization needs. There is nothing left to be done.



## SAP MaxDB Component Portfolio



© SAP AG 2009

SAP MaxDB offers a tough and pragmatic portfolio.

The Installation Manager to set up and update SAP MaxDB instances.

SAP MaxDB offers familiar public interfaces like ODBC and JDBC, together with scripting interfaces for Perl, Python and PHP - and SAP MaxDB's standard interface SQLDBC being the base for the aforementioned interfaces.

With SAP MaxDB version 7.7, rollout of the Database Studio has started. It is an Eclipse-based tool that collects several components as plugins under a single frontend. Database Studio is downward compatible and can be used to operate SAP MaxDB 7.6 as well. The DBAnalyzer to collect and evaluate monitoring data to find bottlenecks is also integrated to Database Studio.

For commandline use there are tools for administration (dbmcli), sql access and simple reporting (sqlcli) and for loader access (loadercli).

# SAP MaxDB Installation Manager



## Few-clicks-only installation

- Mobile clients / Laptop
- Workstations / PC
- Embedded DBMS

## Template-based installation & configuration

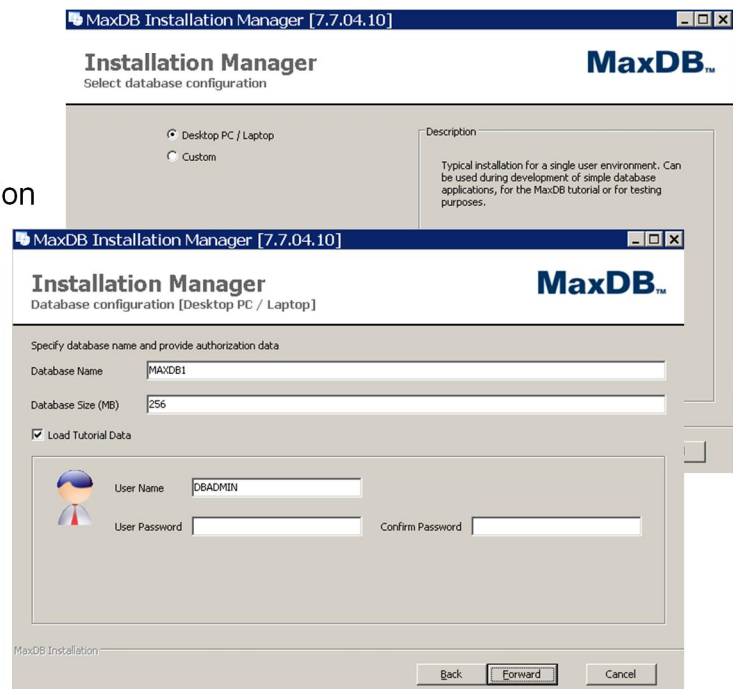
- Silent mode
- Template selection
- Optional demo data

## Automatic operation option

- Restart, shutdown
- Backup, recovery
- Database extension

## GUI

- Platform-independent



© SAP AG 2009

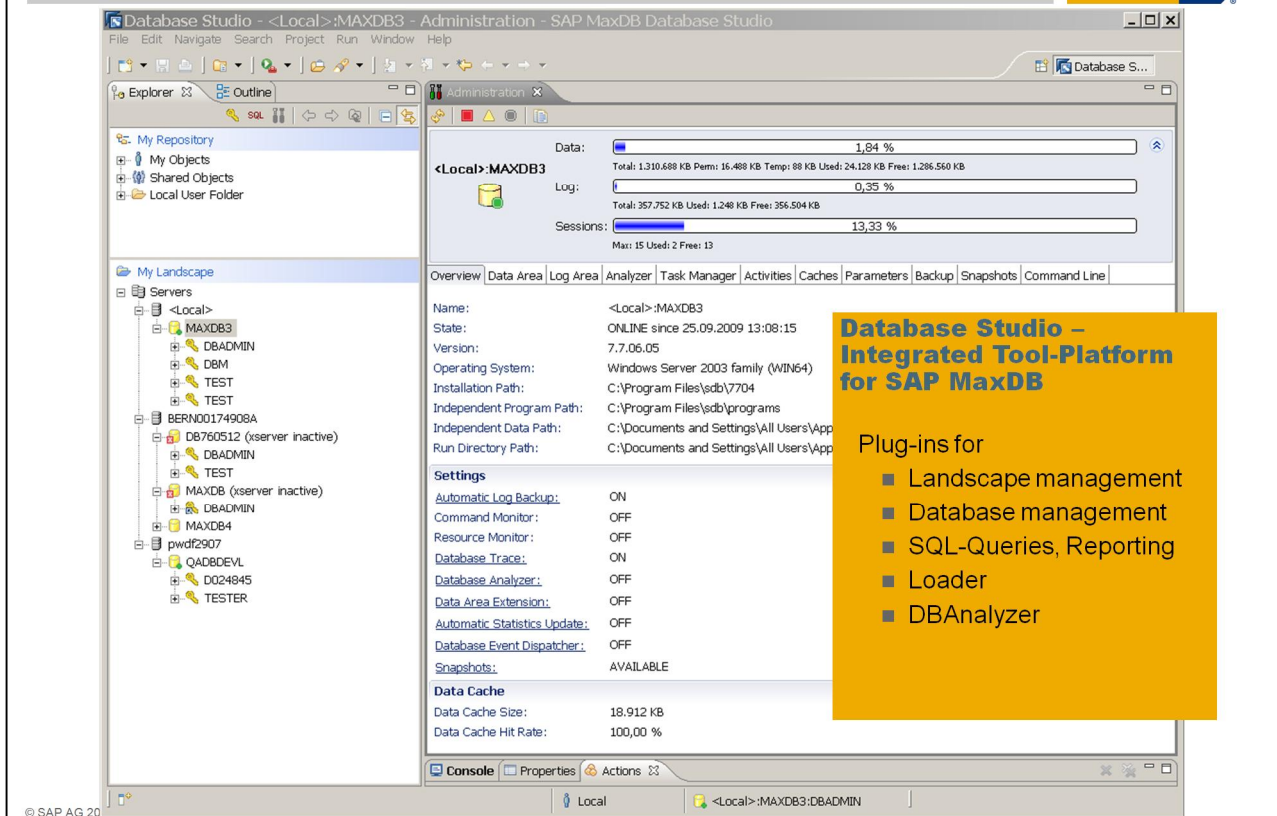
The SAP MaxDB Installation Manager focuses on installing MaxDB as standalone database. Only a little amount of time and a few clicks lead to an up-and-running database. The base can be a laptop, a workstation, or a mature server.

One can choose the degree of automation e.g. for restart and shutdown, for backup and for extending the dataspace whenever needed.

The installation manager is capable to comfortably install new instances as well as to upgrade existing ones – bringing them from online mode back to online mode again with only minimal interaction. Upgrading SAP MaxDB versions is only a question of a few minutes.

To ease installation, preconfigured templates can be used and demo data can be loaded during installation to follow the examples of the SAP MaxDB tutorial.

# Database Studio



We already talked about Database Studio when looking at the SAP MaxDB portfolio.

Database Studio is our new integrated tool platform for SAP MaxDB, based on Eclipse, with a comfortable user interface.

Functionality is embedded as Plug-Ins for example for:

- Database management
- Landscape management
- SQL-Queries with reporting
- Loader functionality
- DBAnalyzer

So future requirements can be added easily, as well.

Database Studio supplements and completes the integrated administration and monitoring capabilities of SAP MaxDB as part of SAP.

It is available as of Version 7.7 but with minor restrictions it can also be applied for use with older SAP MaxDB versions.

# SAP MaxDB @ SAP Community Network Our Information Pool



<http://www.sdn.sap.com/irj/sdn/maxdb>

**SAP MAXDB - THE SAP DATABASE SYSTEM**

**REGISTER NOW FOR FREE ONLINE TRAINING ABOUT SAP MAXDB NEW!**  
A new series of online training sessions about SAP MaxDB will start in October. The sessions will be held in English and impart basic knowledge about the database.  
For details about the training topics, registration and the course schedule, see the blog by Melanie Handreck, member of the SAP MaxDB support team.  
07 Sep 2009

**ENGLISH VERSION OF BOOK ON SAP MAXDB ADMINISTRATION PUBLISHED**  
The English version of the "SAP MaxDB-Administration" book by Bögersack, Gradl, Mayer, Krcmar has been published at Galileo Press.  
For the table of contents, an excerpt and the order data of the English version, see <http://www.sap-press.de/2129-press.de/1127>.

**ENSURING A SUCCESSFUL DATABASE MIGRATION TO SAP MAXDB (PDF 178 KB)**  
Your impending migration to MaxDB is an important step toward improving your company's operations. Is your SAP implementation well prepared? Are you? To ensure that your database migration goes smoothly, take advantage of our support service. We help with performance tuning, database monitoring, and SQL performance optimization for MaxDB during the migration process.

**SAP MAXDB KNOWLEDGE CENTER**

**General Information**

- [About SAP MaxDB](#)
- [SAP MaxDB Components](#)
- [Supported Platforms](#)
- [Product Availability](#)
- [SAP MaxDB Licenses](#)

**Key Topics**

- [Installation on MS Windows and Linux](#)
- [Getting Started with SAP MaxDB](#)

**Documentation**

- [The Complete SAP MaxDB Documentation Set](#) (Last updated in Nov. 2008)
- [Important SAP Notes](#)
- [Feature Lists per Database Version](#)

**Training**

- [SAP MaxDB Learning Map](#)
- [SAP Training Courses on SAP MaxDB](#)

**DOWNLOADS**

- [SAP MaxDB - Community Edition](#)

**FORUM**

- [SAP MaxDB/SAP liveCache](#)

**WIKI**

- [SAP MaxDB](#) (FAQ included)

This is a screenshot of our entry page about SAP MaxDB in our SAP network. Make this page your anchor to information about the database.

From here you can navigate to

- download the free SAP MaxDB version for non-SAP use,
- to the forum SAP MaxDB/liveCache where people help each other around SAP MaxDB topics,
- to the wiki, offering a bunch of information like FAQ, tuning guides and support guides
- to the complete and newest documentation sets available,
- to training materials and much more.

# SAP Partner Edge: Channel Partner Portal

## SAP MaxDB & Fast Start



SAP PartnerEdge

CHANNEL PARTNER PORTAL

[German](#) | [Contact Us](#) | [Using the Portal](#) | Search  [»](#)

[Home](#) | [My Partnership](#) | [Solutions](#) | [Partner Networking](#) | [Education](#) | [News & Events](#) | [Business Insider](#) |

[SAP Business One](#) | [SAP Business ByDesign](#) | [SAP Business All-in-One](#) | [Business Objects](#) | [Duet](#) |

**SAP Business All-in-One**

- Hot Topics
- Solution Overview
- CRM Functionality
- Fast-Start
- MaxDB**
- SAP Productivity Composer
- SAP Best Practices
- SAP Analytics
- ☐ Sell
- ☐ Market
- ☐ Develop
- ☐ Implement
- ☐ Support
- ☐ Manage
- ☐ A-Z Index

SAP MAXDB - THE DATABASE CHOICE FOR SAP BUSINESS ALL-IN-ONE

Lower Your Total Cost of Ownership

A database is a solution requirement for SAP Business All-in-One, so why not select a reliable product backed by the same vendor that provides your solution? SAP MaxDB provides reliable database functionality to store both application logic and business data; it is a central component of any SAP Business All-in-One solution.

**Simple & Reliable - Ideally Suited for the Midsize Company**  
 Midsize companies need a solid, affordable, low-maintenance database that works seamlessly with SAP and non-SAP applications. That's MaxDB! This database scales to let your customers manage their growing business and changing markets. And, because SAP developed this database it's been optimized for SAP applications.

When it comes to purchasing the database component of a solution your customers may see similar prices from competitive database products, but due to its simplicity SAP MaxDB administration costs are considerably lower. SAP MaxDB works out of the box, is completely integrated with SAP solutions and only requires minimal administration resulting in low training and staffing costs.

**For Channel Partners - MaxDB Means Greater Margins & Easier Sales!**  
 Channel partners will greatly benefit by selling MaxDB as the database with their solution. With your SAP PartnerEdge discount you can make more money selling MaxDB than third-party vendors' databases. And when you're talking to prospects MaxDB gives you a competitive edge, because now you're able to offer integrated ERP and CRM functionality that is affordable, will scale with their business and a database that is fully supported by SAP.

**Additional Resources**

- [Overview - From SAPPHIRE](#)
- [Solution Brief](#)
- [Solution in Detail](#)
- [Success Story – Media](#)
- [Success Story – Mills Products](#)

© SAP AG 2009

21

## Summary



### SAP MaxDB is

- ✓ a low-cost enterprise-class DBMS,
- ✓ developed intensively,
- ✓ fit for the job and tuned for SAP applications,
- ✓ and means one-stop-shopping.

**Supportability**

SIMPLE

**Self-Tuning**

ROBUST

**Adaptiveness**

FLEXIBLE

Enterprise Class Database Technology from SAP for SAP

© SAP AG 2009

Here is the summary on the benefits of SAP MaxDB

SAP MaxDB is a low-cost enterprise-class DBMS,  
is developed intensively,  
is fit for the job and tuned for SAP applications  
and means one-stop-shopping.

It is simple, robust and flexible enterprise class database technology from SAP for SAP.

# Agenda



The Enablement Cycle

SAP MaxDB in 15 Minutes

SAP MaxDB Installation Demo

## Installation / Upgrade Tools



Purpose	Tool
Installation of an SAP system including the SAP MaxDB Software	SAPINST
Installation of a standby instance or system copy	SDBSETUP (graphical) or SDBINST (commandline)
Updating an existing database instance to a newer Build	SDBSETUP or SDBUPD (commandline)
Upgrading the database instance to a new major release	see upgrade guide
Removing all SAP MaxDB software from your server	SDBSETUP or SDBUNINST (commandline)

© SAP AG 2009

When you install an SAP system, the SAP MaxDB Software is installed automatically during the SAP installation with SAPINST.

However, when you would like to set up a standby instance or create a system copy, you might want to install just the database software – without an SAP system.

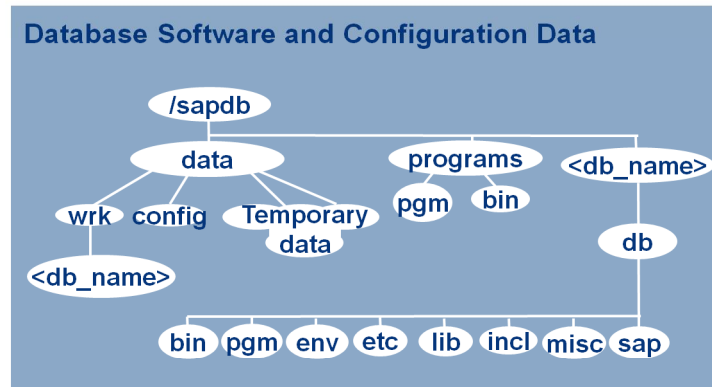
In this case you can use either SDBSETUP or SDBINST.

For updating an existing database to a newer Build of the *same* major database version, use SDBSETUP or SDBUPD.

For upgrading the database to a *new* major release, please follow the instructions in the upgrade guide.

If you want to remove all SAP MaxDB software from your server, then use SDBUNINST.





© SAP AG 2009

The *IndepData* directory (e.g. /sapdb/data) contains the configuration data and rundirectories of SAP MaxDB instances.

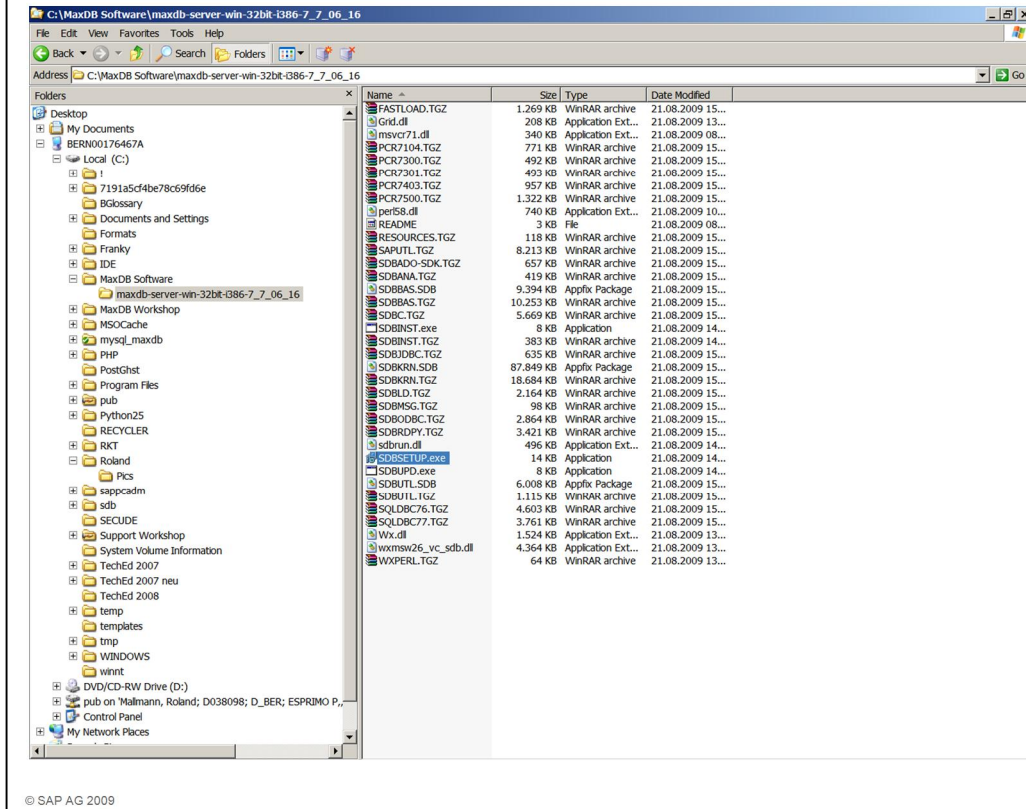
The *IndepPrograms* directory (e.g. /sapdb/programs) contains programs and libraries shared by the SAP MaxDB instances and SAP MaxDB applications. These programs are downwards compatible.

The location of these directories is specified during the first installation of SAP MaxDB software. They exist only once on the server.

The *InstallationPath* (e.g. /sapdb/<db\_name>/db) contains the server software that depends on the database version (e.g. kernel). Several dependent directories can exist alongside each other.

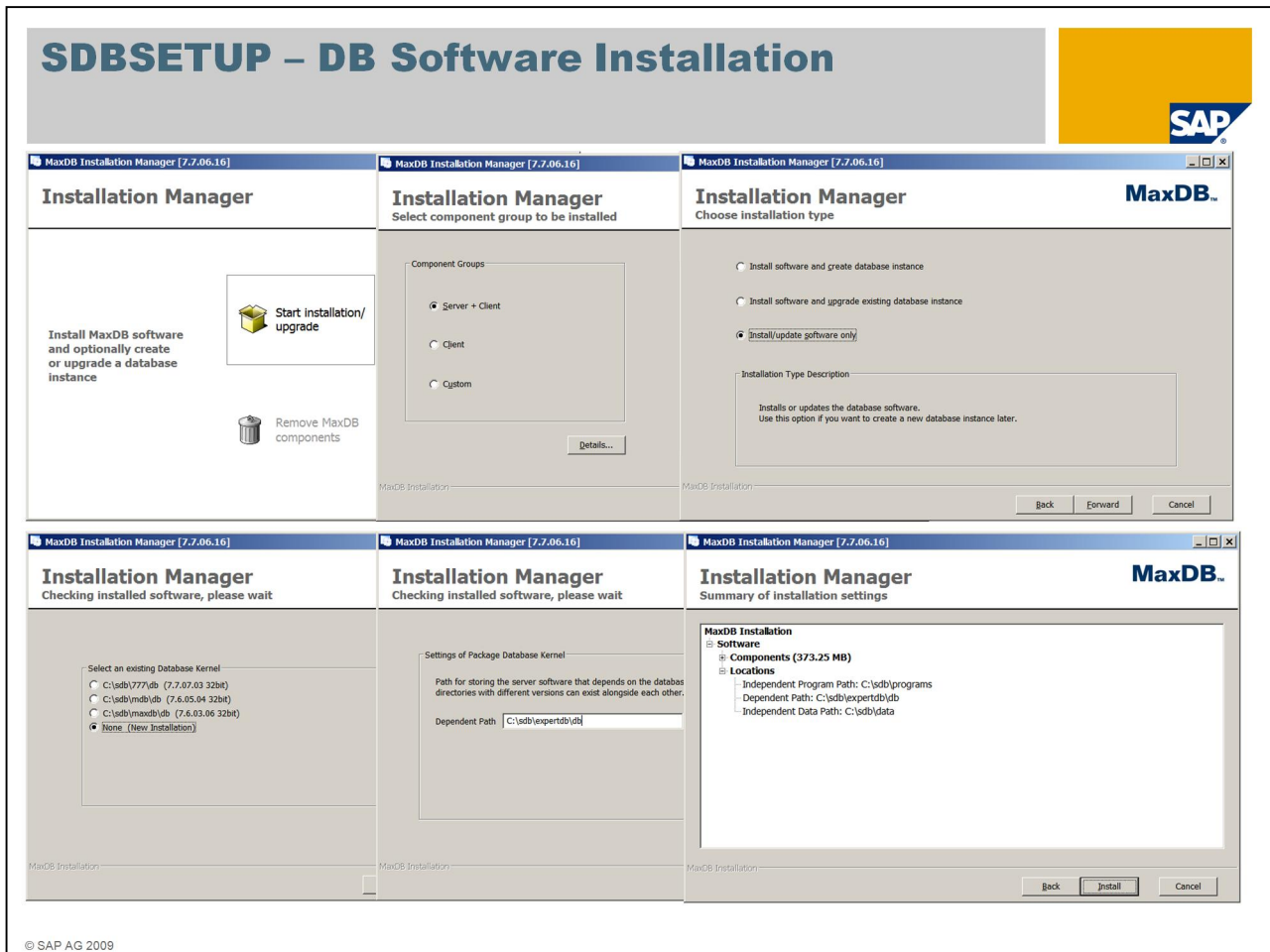
The *rundirectory* (e.g. /sapdb/data/wrk/<db\_name>) contains the status files of a SAP MaxDB instance and is the most important directory for monitoring and error analysis.

# Calling SDBSETUP



© SAP AG 2009

After having extracted the SAP MaxDB software package, SDBSETUP.exe can be called from the newly created subdirectory.



If you use SDBSETUP for a database upgrade, choose *Start Installation/upgrade* to start the installation or upgrade

In the next window choose *Server + Client*

In our case, we will only install the database software and afterwards use Databas Studio to create a database instance, so we pick *Install/upgrade software only*.

An existing software installation can be upgraded, but we will install the new software in parallel to the existing ones. We therefore need to specify a new name for the new software: *C:\sdb\expertdb\db*.

## Installation Logfiles



- MaxDBInstanceCreation\_install-08.09.2006-15.08.log
- MaxDBInstanceCreation\_install-25.09.2006-10.46.log
- MaxDBInstanceCreation\_install-25.09.2006-11.03.log
- MaxDBRuntimeForSAPAS\_install-17.08.2006-10.35.log
- MaxDBServer\_install-17.08.2006-10.36.log
- MaxDBSoftware\_install-03.07.2006-11.36.log
- MaxDBSoftware\_install-06.06.2006-17.48.log
- MaxDBSoftware\_install-10.07.2006-16.57.log
- MaxDBSoftware\_install-10.07.2006-17.01.log
- MaxDBSoftware\_install-15.08.2006-11.54.log
- MaxDBSoftware\_install-19.07.2006-11.17.log
- MaxDBSoftware\_install-25.09.2006-10.52.log
- MaxDBSoftware\_install-25.09.2006-10.56.log
- MaxDBSoftware\_install-26.07.2006-08.39.log
- MaxDBSoftware\_install-26.07.2006-13.44.log
- MaxDBUninstall\_install-10.07.2006-16.57.log
- MaxDBUninstall\_install-10.07.2006-16.58.log
- MaxDBUninstall\_install-25.09.2006-11.00.log

```
CALL: SDBINST
STDOUT:
```

```
Installation of MaxDB Software
STDOUT: *****
```

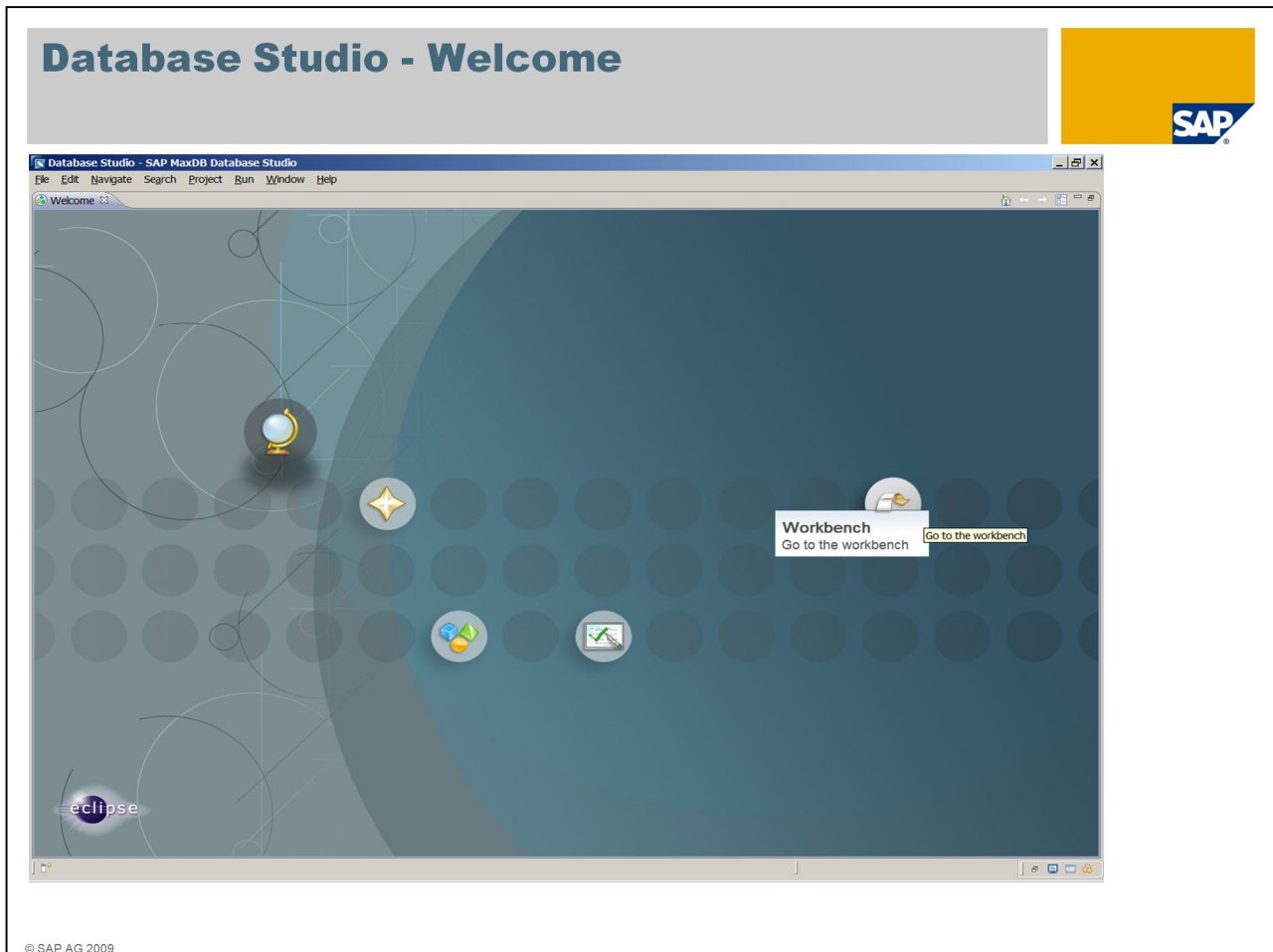
```
STDOUT: starting installation Tu, Jun 06, 2006 at 17:43:04
STDOUT: operating system: Windows I386 NT 5.1 Service Pack 2
STDOUT: callers working directory: C:/temp/Install/760029001
STDOUT: installer directory: C:/temp/Install/760029001
Can't open registry key "HKEY_LOCAL_MACHINE\SOFTWARE\SAP\SAP
DBTech": No such file or directory
STDOUT: archive directory: C:/temp/Install/760029001
STDOUT:
```

```
STDOUT: existing component groups:
STDOUT: 0: Server + Client
STDOUT: 1: Client
STDOUT: 2: Custom
STDOUT: 3: none
STDOUT: please enter component group id:
STDIN: 0
STDOUT:
```

```
...
STDOUT: installation of MaxDB Software finished successfully
Tu, Jun 06, 2006 at 17:44:43
STDOUT: Rebooting ensures that the MaxDB software can be
started from any command line window!
```

© SAP AG 2009

All SAP MaxDB installation tools write their log files into directory *<indep\_data\_path>/wrk*  
The name of the log file depends on the kind of installation and contains the timestamp.



Database Studio is SAP's new tool for managing SAP MaxDB databases.

As of SAP MaxDB version 7.7, Database Studio replaces the Database Manager GUI, SQL Studio and Synchronization Manager tools. It also provides new functions, such as a graphical user interface for the Loader tool.

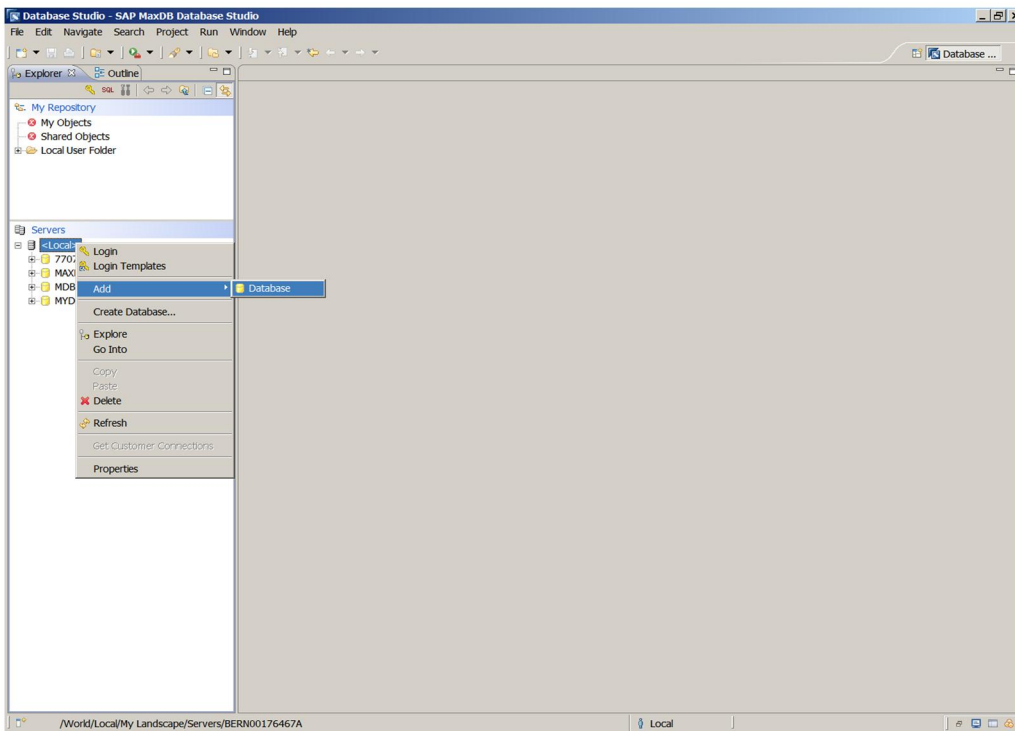
With Database Studio, you can create and configure databases, define database objects (data model), monitor databases, backup and restore databases, import and export data, and much more.

Database Studio is currently available for Linux as well as for Windows.

When you start Database Studio for the first time, the *Welcome Page* is displayed. It provides access to the SAP MaxDB website and the SAP MaxDB documentation. Choose *Workbench* to start working with your databases.

Attention: when you install Database Studio, parts of the independent software are updated to the version of Database Studio ( $\geq 7.7$ ). If you want to avoid this, install Database Studio on a server where no SAP MaxDB software is installed yet.

## Database Studio – Add Database



© SAP AG 2009

This is the actual workbench of Database Studio, new servers, databases and more can be integrated into your landscape.

The context menu (right mouse click on an item) is essential to use the Database Studio.

The options in the context menu depend on the item on which it was opened.

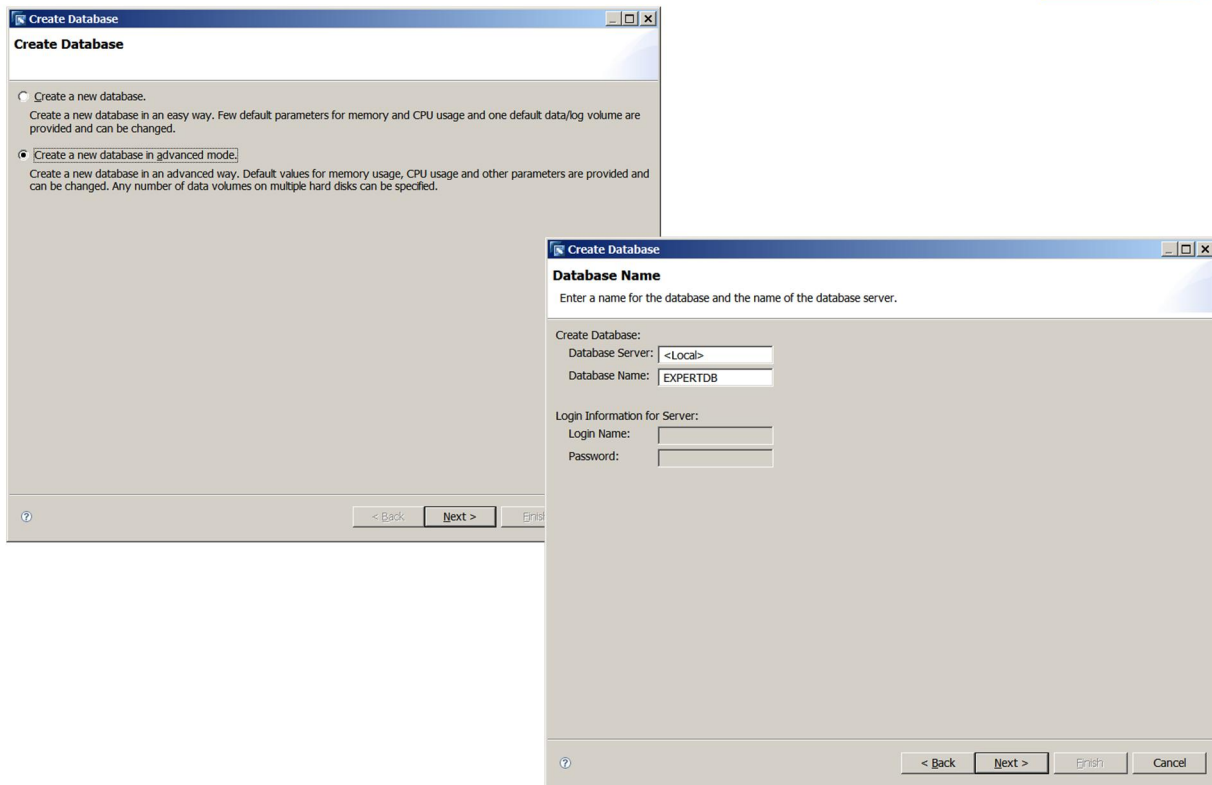
A right mouse click on *Servers* allows to register a new database server to Database Studio, the context menu on a server name allows to register databases which are installed on this server.

In the list of databases you can select which should be added to the Database Studio.

SAP MaxDB databases as of version 7.5 can be administered with Database Studio. As of SAP MaxDB version 7.7 Database Studio is required for managing databases.

Database Studio, DBMGUI und SQLStudio can be installed on the same server.

## Database Studio – Create Database Advanced



© SAP AG 2009

In the *Create Database Wizard*, you can choose to use either a simple or an advanced mode for the installation.

In the *simple installation mode* only a few database parameters have to be set. The database is installed with one data and one log volume.

In the *advanced mode* all parameters can be set and any number of volumes can be configured.

To be able to restore a backup during the installation process, the advanced mode is required.

In the next step specify on which server the database should be installed and how it is called. If you install the database on the same server on which the Database Studio is running, you don't have to enter a *Database Server*.

## Database Studio – Select Software



**Installations**  
Select the software version to be used.

Version	Installation Path
<input type="checkbox"/> 7.7.07...	C:\sdb\777\pdb
<input checked="" type="checkbox"/> 7.7.05...	C:\sdb\lex\pstr\pdb
<input type="checkbox"/> 7.6.05...	C:\sdb\mdb\pdb
<input type="checkbox"/> 7.6.03...	C:\sdb\maxdb\pdb

**Authorization**  
Enter the user name and password for the database manager operator.

**Database Manager Operator**

User Name:

Password:

Confirm Password:

The *Database Manager Operator* is the user used to administer the database. Make sure to remember this password!

< Back Next > Finish

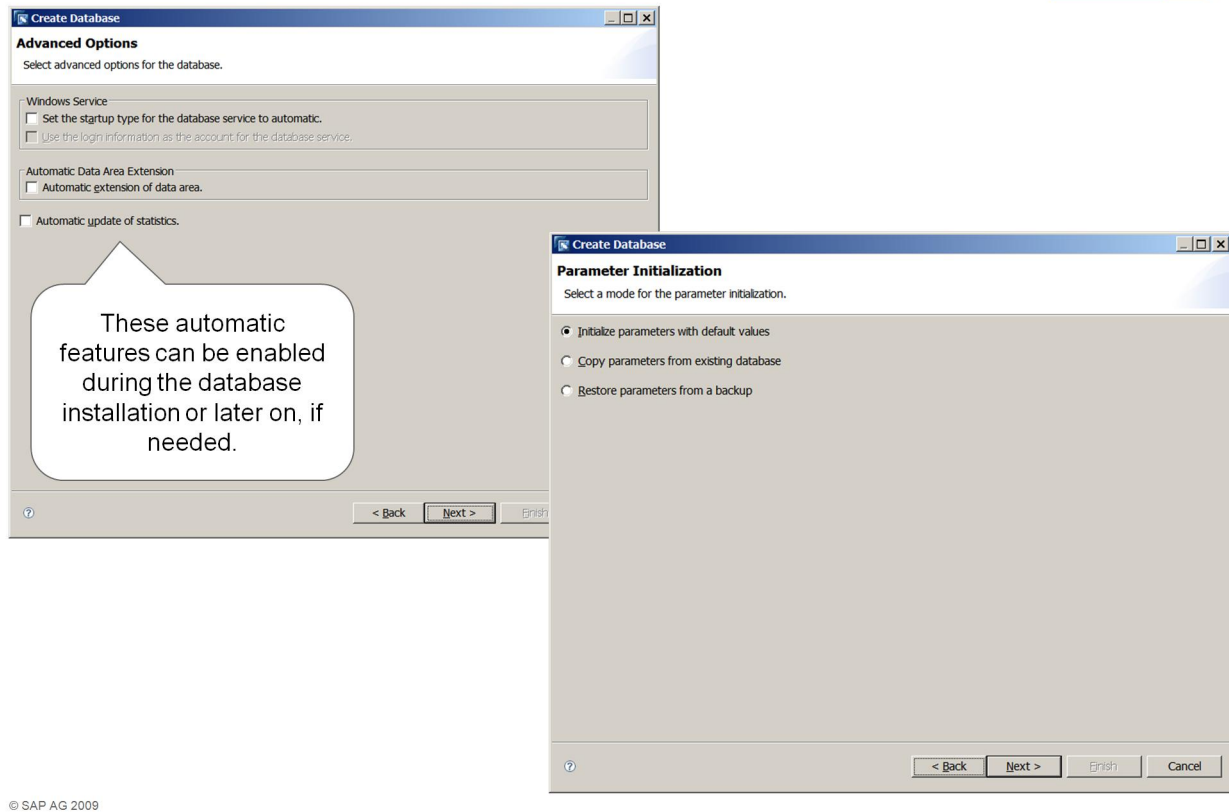
© SAP AG 2009

After you have selected the software version for your database, you have to specify the *Database Manager Operator*. This is the user used to connect with the Database Studio to the database.

As this user is essential to administer the database, make sure to remember its password!



## Database Studio – Advanced Options



The *Create Database Wizard* allows to activate some automated features like

- automatic start of the database during server reboot
- automatic extension of the data area in case a specific filling level is reached
- automatic update of the optimizer statistics – not recommended for SAP systems.

These features can also be activated after the database has been installed.

The database parameters can either be initialized with default values, can be copied from from another database instance or restored from a data backup.

## Database Studio – Instance Type



**Create Database**

**Instance Type**

Select the instance type.

**OLTP**

MaxDB is a relational database system that was developed for OLTP (Online Transaction Processing). This database type is optimized to process individual transactions fast in environments with a high number of users and large databases.

**liveCache**

The database type liveCache is only used in SAP applications. SAP liveCache is an enhancement of the relational database system MaxDB. You can use it for an easier and more effective representation of your data structures and data streams (such as networks and relationships). SAP liveCache is object-oriented and, unlike MaxDB, works with its data only in the main memory of the database system, if the system is configured optimally. Supply Chain Management, for example, makes particular use of this, since its large volumes of data need to be constantly accessible and modifiable.

© SAP AG 2009

The instance type is required to differentiate between an OLTP (SAP MaxDB) or a liveCache instance.

# Database Studio – Adjust Parameters



The screenshot shows the 'Adjust Parameters' dialog in SAP Database Studio. The main window displays a list of parameters for the database '<Local>:EXPERTDB'. The 'CacheMemorySize' parameter is selected, and its details are shown in a separate window.

Name	Value	Description
BACKUPRECOVERY		
DATACACHE		
DBMANAGEMENT		
DIAGNOSTICS		
EVENTADMIN		
EXTENDED		
GENERAL		
CacheMemorySize	3000	Size of the data cache and converter in pages
MCODIndicator	NO	Multiple Components One Database
MaxBackupMedia	2	Maximum number of backup devices used in parallel
MaxCPUs	1	Maximum number of CPUs used for distributing the work
MaxDataVolumes	11	Maximum number of data volumes (including reserved)
MaxLogVolumes	2	Maximum number of log volumes, mirrored log volumes
MaxSQLLocks	4680	Maximum number of current and requested row locks
MaxUserTasks	50	Maximum number of simultaneously active users (default)
RunDirectoryPath	C:\sdb\data\wrk\EXPERTDB	Path where context and diagnosis information is stored
UseMirroredLog	NO	
HIGHAVAILABILITY		
IOMANAGEMENT		

**Parameter for <Local>:EXPERTDB**

**CacheMemorySize**  
Size of the data cache and converter in pages

<Local>:EXPERTDB Data: Log: Sessions:

Name: CacheMemorySize  
Value: 3000  
New Value: 3000  
Comment:

The value specifies the i/o capable memory used by the data cache and the converter. It is very important for the performance of the database.

The converter transforms a logical page number into a physical block address on the data volumes. Caused by the importance the converter resides completely in the memory. The remaining memory is used by the data cache.

Use the database monitoring to obtain information about the data cache hit rate and the performance of the system.

The lower and upper limits are:  
800 <= CacheMemorySize <= 2147483640  
(4 bytes integer)

© SAP AG 2009

To change a parameter value double-click the parameter in the list and enter the new value. Whenever you change a parameter value, it is recommended to enter a comment that you can check later on why a specific parameter has been changed (e.g. because of a parameter recommendation from SAP).

# Database Studio – Adjust Volumes



**Volumes**  
Specify data and log volumes.

Data Volumes: Total Size 80.000 KB

Name	Size	Ty...	Device/File
DATA000	80.000 KB	FILE	C:\sdb\data\EXPERTDB\data\DISKD0001
DATA000			
DATA000			
DATA000			
DATA000			
DATA000			
DATA000			
DATA000			

Log Volumes: Total Size 20.480 KB

Name	Size	Ty...	Device/File
LOG001	20.480 KB	FILE	C:\sdb\data\EXPERTDB\log\DISKL001
LOG002			

**DATA Volume for <Local>:EXPERTDB**

**DATA Volume**  
Edit the properties for the DATA volume.

<Local>:EXPERTDB Data:  Log:  Sessions:

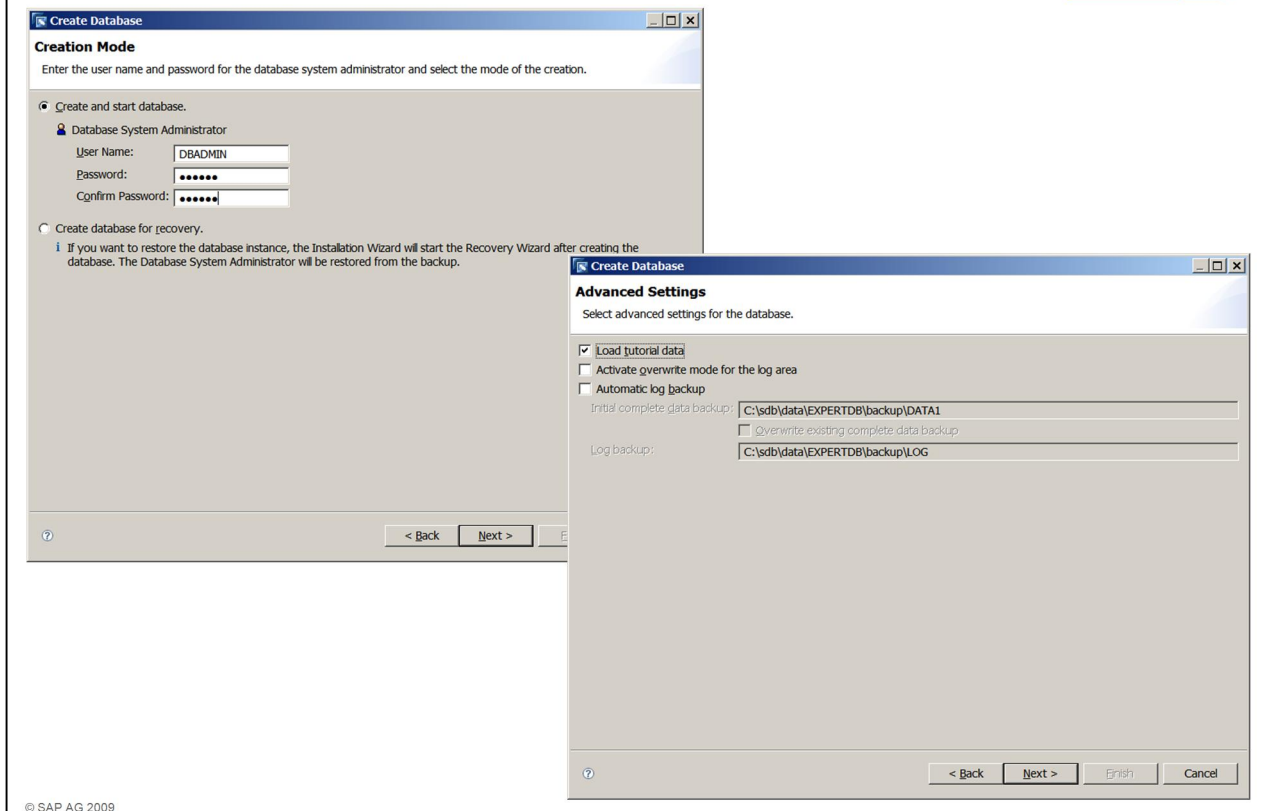
Name: DATA0001  
Size: 80000 KB  
Device/File: C:\sdb\data\EXPERTDB\data\DISKD0001  
Type: FILE

OK Cancel

© SAP AG 2009

In this step the data and log volumes are listed and can be (re)configured. To do so simply double-click an entry in the list.

## Database Studio – Set DBA User

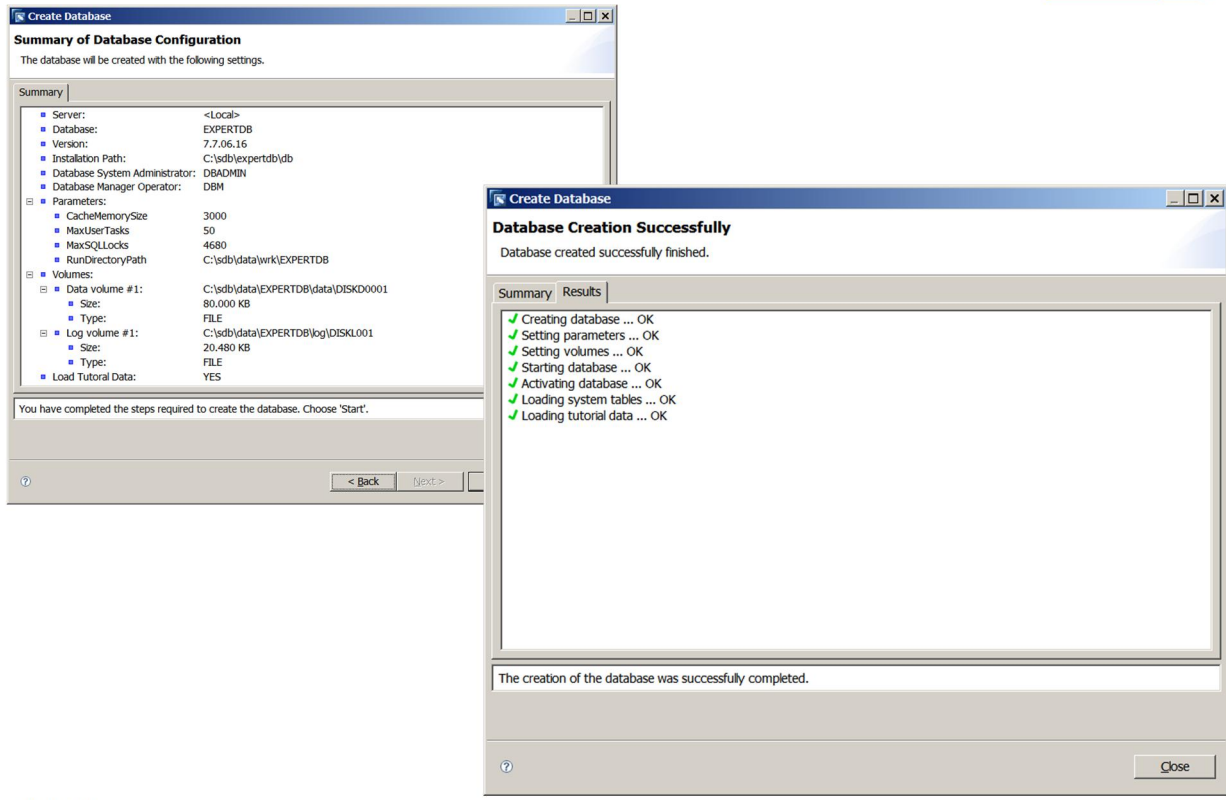


Next you have to specify if you would like to create an empty database or if you would like to restore the data from an existing backup. If an empty database should be installed, you have to specify the *Database System Administrator*. This user is the first SQL user and the owner of the system tables.

If you want to set up a standby instance, you have to choose the second option – *Create database for recovery*. In this case the *Database System Administrator* is taken from the backup – as well as all other SQL users and all data. You have to know the user name and password specified in the source database for this user!

At the last step, you can either load the tutorial data, active overwrite mode for the log or enable the automatic saving of the log. Both latter options will enable you to avoid a possible logfull situation. For productive environments, we either recommend to regularly save the log manually, or switch on the automatic saving of the log.

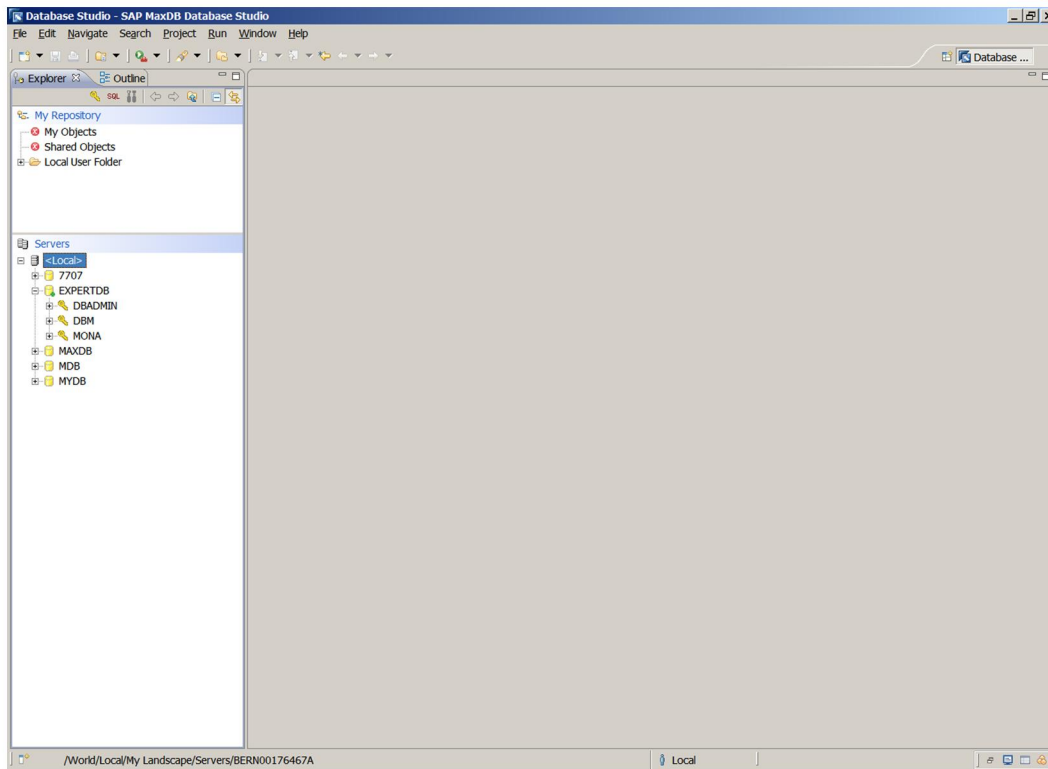
# Database Studio – Configuration Summary



In the summary check if all entered data is correct. Choose *Back* to correct any settings. If everything is OK, start the installation.

After a short while, the database instance has been created.

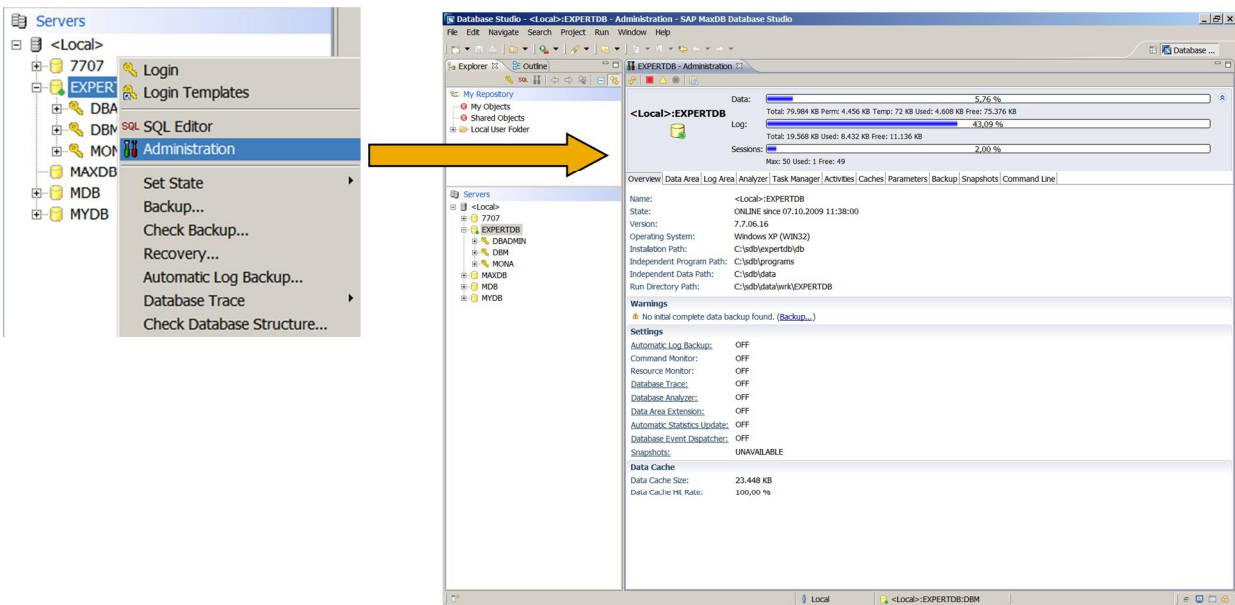
## Database Studio – New DB Created



© SAP AG 2009

Now the ExpertDB instance has been created, it can be accessed from the Workbench. All users that were created during the installation are now available within the Usermanagement of Database Studio.

# Database Studio – Administration



© SAP AG 2009

The *Administration* window can be opened from the user's context menu.

The user needs to be a DBM operator or the database system administrator – SQL users are not permitted to administer the database instance.

In this window you can start and stop the database, monitor it, change the configuration and create backups.



**Thank You!**  
**Bye, Bye – And Remember Next Session**



November 3, 2009	Session 2: Basic Administration with Database Studio



**This presentation reflects current planning.**

**Contents may be changed  
without prior notice, and are in no way  
binding upon SAP.**



No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP AG. The information contained herein may be changed without prior notice.

Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors.

SAP, R/3, mySAP, mySAP.com, xApps, xApp, SAP NetWeaver, Duet, Business ByDesign, ByDesign, PartnerEdge and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and in several other countries all over the world. All other product and service names mentioned and associated logos displayed are the trademarks of their respective companies. Data contained in this document serves informational purposes only. National product specifications may vary.

The information in this document is proprietary to SAP. This document is a preliminary version and not subject to your license agreement or any other agreement with SAP. This document contains only intended strategies, developments, and functionalities of the SAP® product and is not intended to be binding upon SAP to any particular course of business, product strategy, and/or development. SAP assumes no responsibility for errors or omissions in this document. SAP does not warrant the accuracy or completeness of the information, text, graphics, links, or other items contained within this material. This document is provided without a warranty of any kind, either express or implied, including but not limited to the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

SAP shall have no liability for damages of any kind including without limitation direct, special, indirect, or consequential damages that may result from the use of these materials. This limitation shall not apply in cases of intent or gross negligence.

The statutory liability for personal injury and defective products is not affected. SAP has no control over the information that you may access through the use of hot links contained in these materials and does not endorse your use of third-party Web pages nor provide any warranty whatsoever relating to third-party Web pages.

Weitergabe und Vervielfältigung dieser Publikation oder von Teilen daraus sind, zu welchem Zweck und in welcher Form auch immer, ohne die ausdrückliche schriftliche Genehmigung durch SAP AG nicht gestattet. In dieser Publikation enthaltene Informationen können ohne vorherige Ankündigung geändert werden.

Einige von der SAP AG und deren Vertriebspartnern vertriebene Softwareprodukte können Softwarekomponenten umfassen, die Eigentum anderer Softwarehersteller sind.

SAP, R/3, mySAP, mySAP.com, xApps, xApp, SAP NetWeaver, Duet, Business ByDesign, ByDesign, PartnerEdge und andere in diesem Dokument erwähnte SAP-Produkte und Services sowie die dazugehörigen Logos sind Marken oder eingetragene Marken der SAP AG in Deutschland und in mehreren anderen Ländern weltweit. Alle anderen in diesem Dokument erwähnten Namen von Produkten und Services sowie die damit verbundenen Firmenlogos sind Marken der jeweiligen Unternehmen. Die Angaben im Text sind unverbindlich und dienen lediglich zu Informationszwecken. Produkte können länderspezifische Unterschiede aufweisen.

Die in diesem Dokument enthaltenen Informationen sind Eigentum von SAP. Dieses Dokument ist eine Vorabversion und unterliegt nicht Ihrer Lizenzvereinbarung oder einer anderen Vereinbarung mit SAP. Dieses Dokument enthält nur vorgesehene Strategien, Entwicklungen und Funktionen des SAP®-Produkts und ist für SAP nicht bindend, einen bestimmten Geschäftsweg, eine Produktstrategie bzw. -entwicklung einzuschlagen. SAP übernimmt keine Verantwortung für Fehler oder Auslassungen in diesen Materialien. SAP garantiert nicht die Richtigkeit oder Vollständigkeit der Informationen, Texte, Grafiken, Links oder anderer in diesen Materialien enthaltenen Elemente. Diese Publikation wird ohne jegliche Gewähr, weder ausdrücklich noch stillschweigend, bereitgestellt. Dies gilt u. a., aber nicht ausschließlich, hinsichtlich der Gewährleistung der Marktgängigkeit und der Eignung für einen bestimmten Zweck sowie für die Gewährleistung der Nichtverletzung geltenden Rechts.

SAP übernimmt keine Haftung für Schäden jeglicher Art, einschließlich und ohne Einschränkung für direkte, spezielle, indirekte oder Folgeschäden im Zusammenhang mit der Verwendung dieser Unterlagen. Diese Einschränkung gilt nicht bei Vorsatz oder grober Fahrlässigkeit.

Die gesetzliche Haftung bei Personenschäden oder die Produkthaftung bleibt unberührt. Die Informationen, auf die Sie möglicherweise über die in diesem Material enthaltenen Hotlinks zugreifen, unterliegen nicht dem Einfluss von SAP, und SAP unterstützt nicht die Nutzung von Internetseiten Dritter durch Sie und gibt keinerlei Gewährleistungen oder Zusagen über Internetseiten Dritter ab.

Alle Rechte vorbehalten.