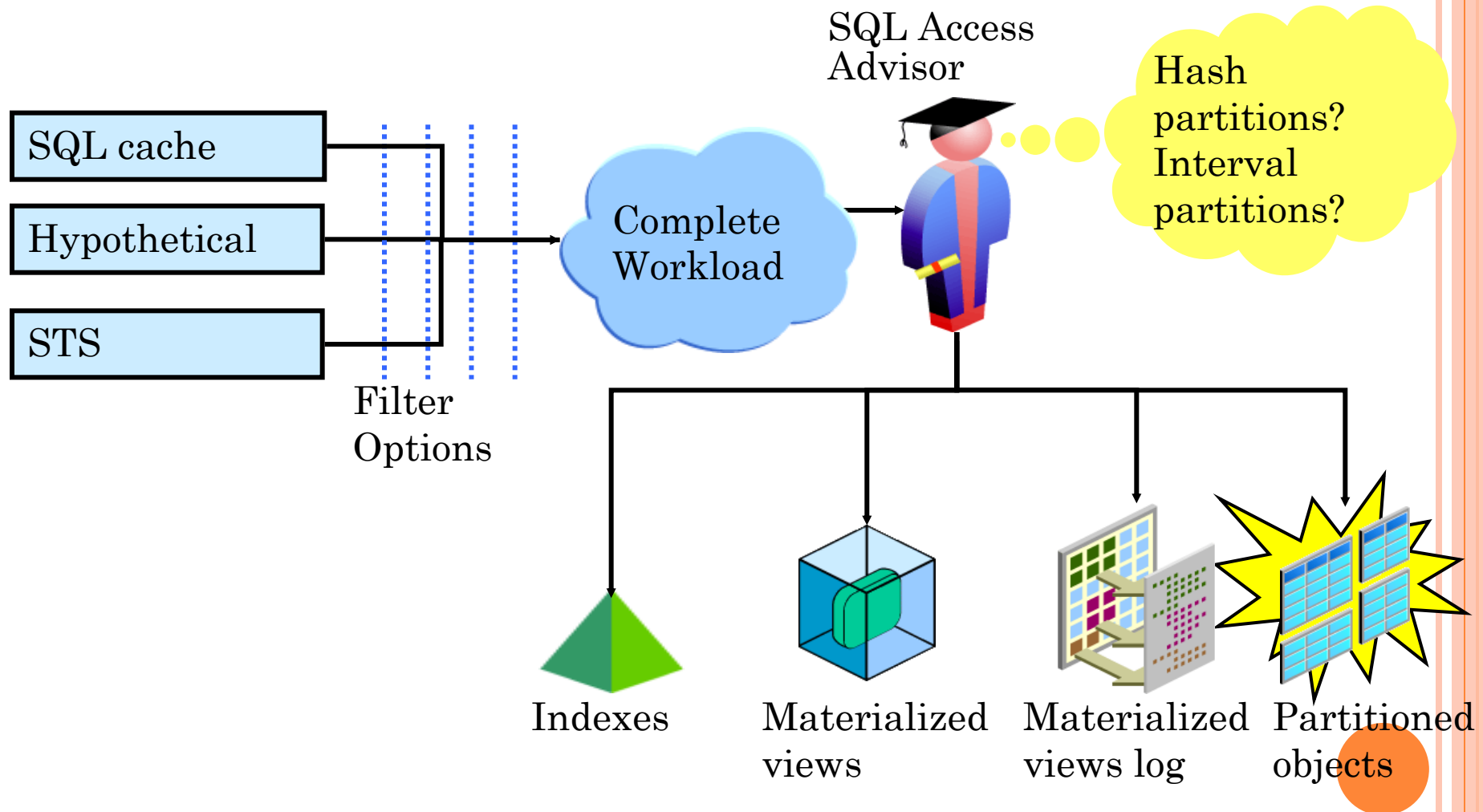


Oracle11g new Features

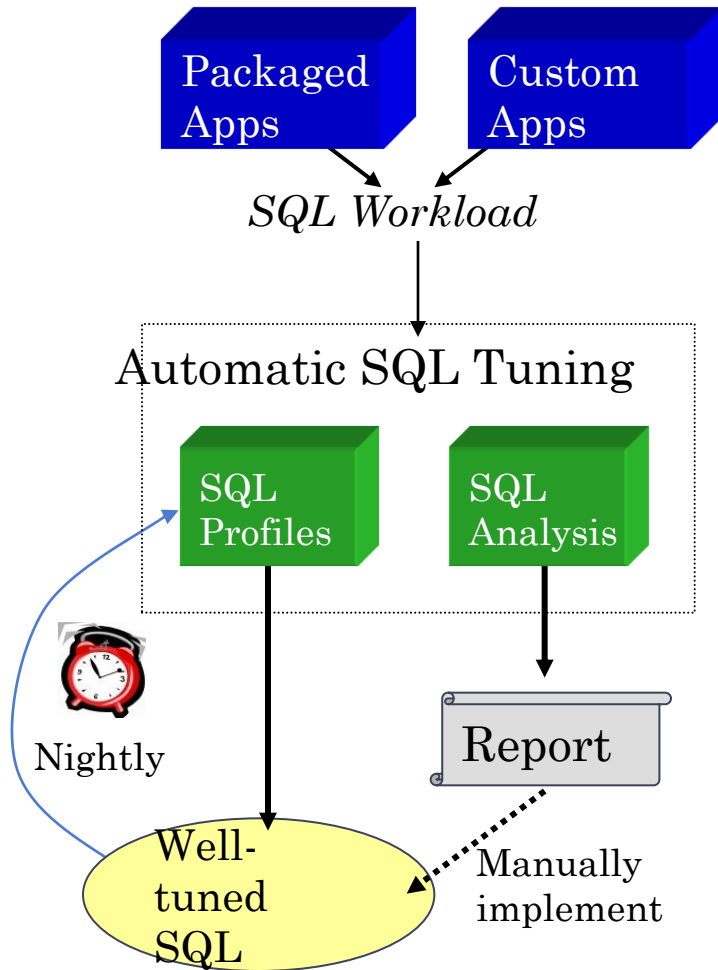
数据库吧
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<http://www.database8.com>

SQL ACCESS ADVISOR



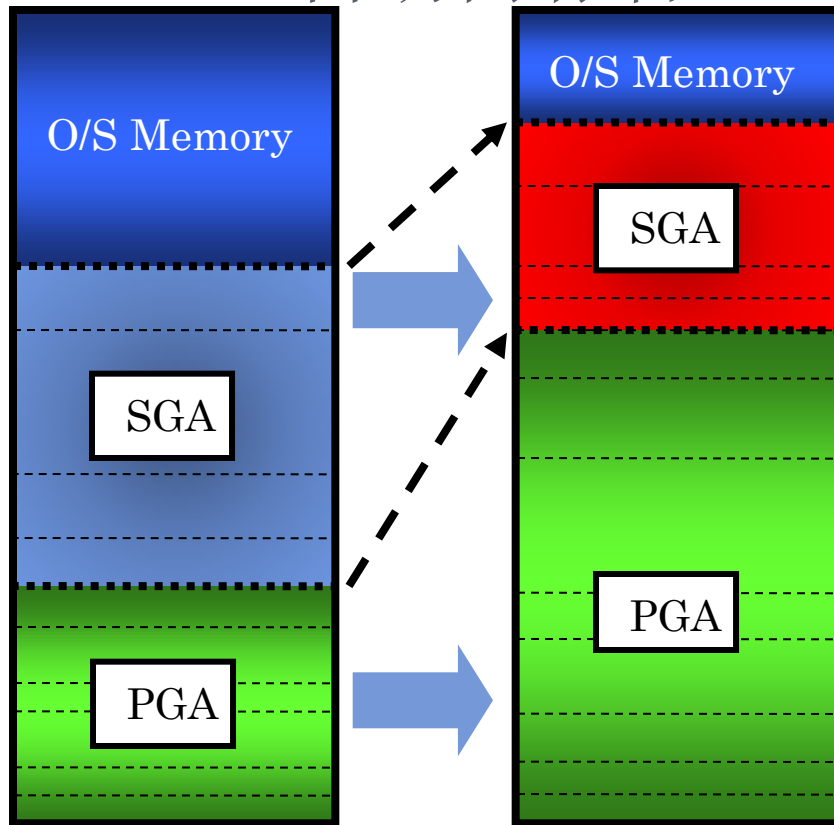
AUTOMATIC SQL TUNING



- Captures high-load SQL
- Tunes SQL by creating SQL profiles
- Optionally implements greatly improved SQL plans
- Reports analysis
- Runs runs in maintenance window



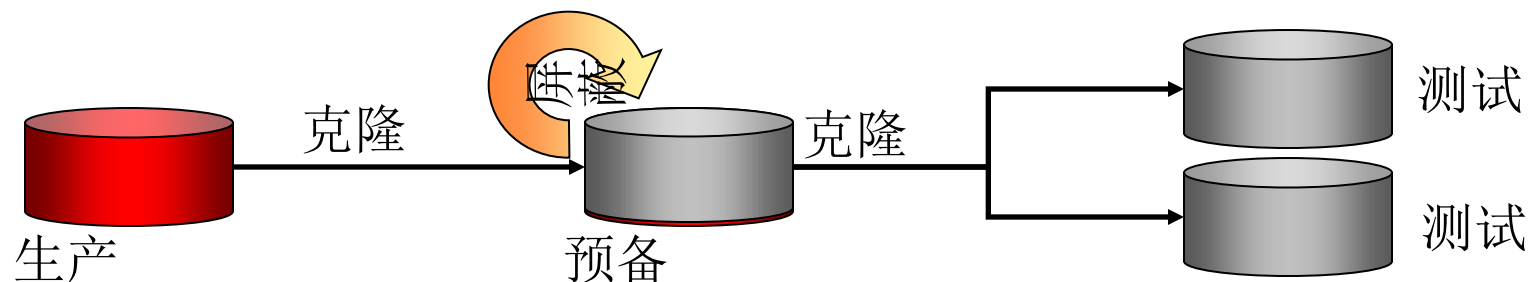
11G自动内存管理



- 一个动态参数 – MEMORY_TARGET
- 根据负载自动调整
- 适用于:
 - Linux
 - Windows
 - Solaris
 - HP-UX
 - AIX



数据屏蔽包



主要特性

- 屏蔽主键时自动进行数据库引用完整性检查
 - 隐式 — 在数据库中执行
 - 显式 — 在应用程序中执行
- 数据屏蔽格式库
- 屏蔽前查看示例数据
- 应用程序屏蔽模板
- 一次定义，多次执行



ORACLE DATABASE VAULT

减少内部威胁，加强合规性

○ 控制特权用户

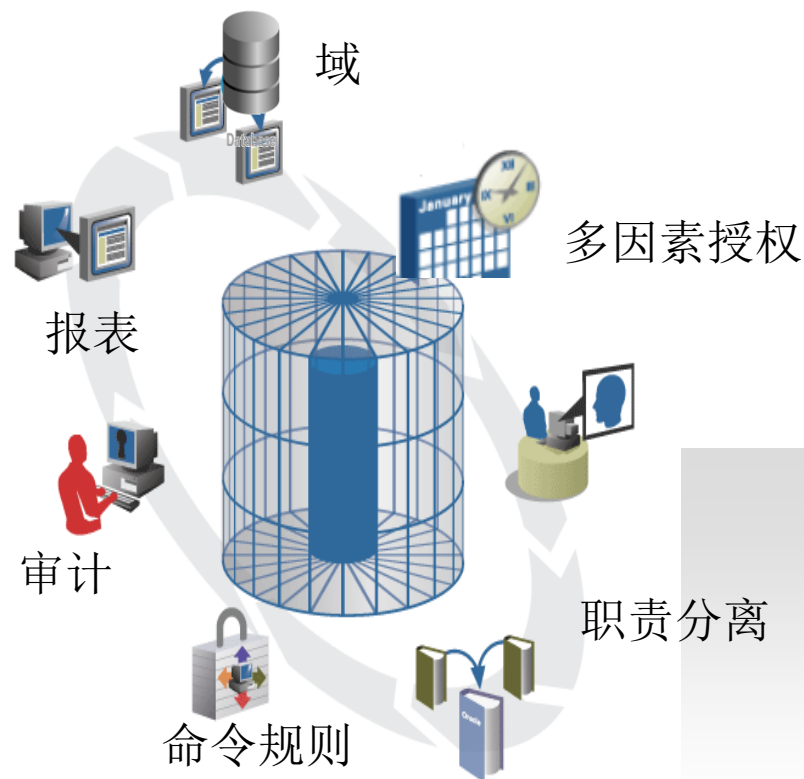
- 限制 DBA 访问应用程序数据
- 实现职责分离
- 数据库与信息整合的安全性

○ 实施数据访问安全策略

- 控制进行数据访问的人员、时间、地点和方式
- 基于 IP 地址、时间等的安全策略

○ 应用程序无需调整

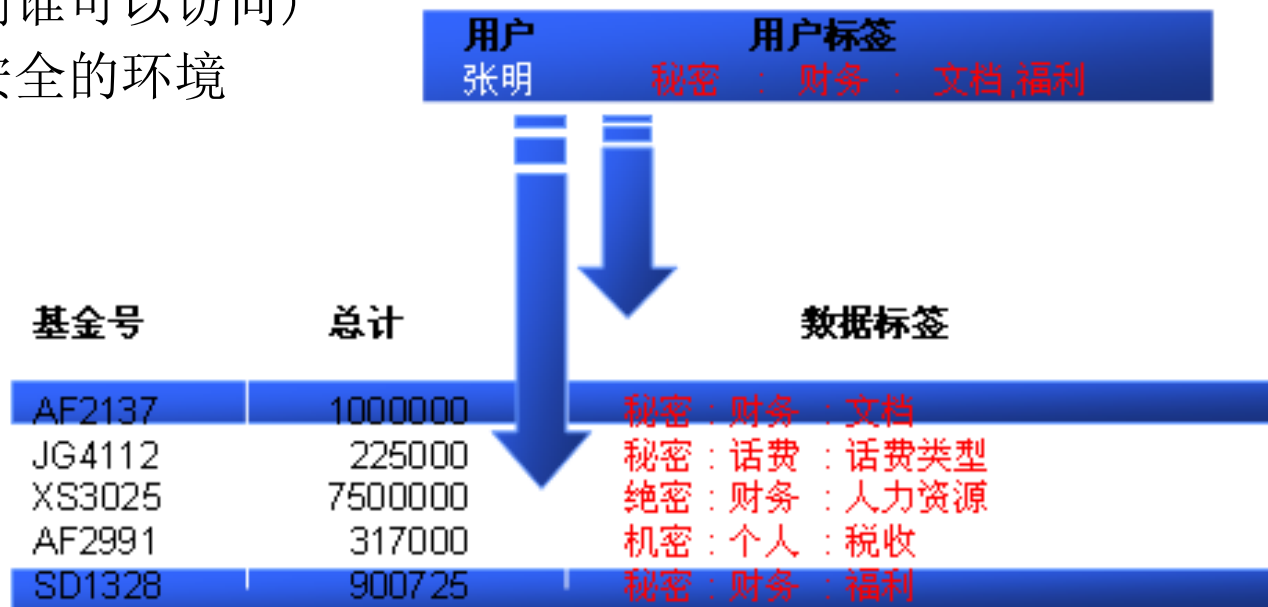
○ 内置审计和报告功能



ORACLE 标签安全性

LABEL SECURITY

- 开箱即用的**行级安全**
- 使用数据标签控制数据存取策略
- 提供标签的基础架构
- 用户标签（限制可以访问什么内容）
- 数据标签（限制谁可以访问）
- 已被证实高度安全的环境
- 无需编程！



ORACLE 高级安全

保护网络, 存储上的数据

- 透明数据加密 (TDE)实现存储和备份安全

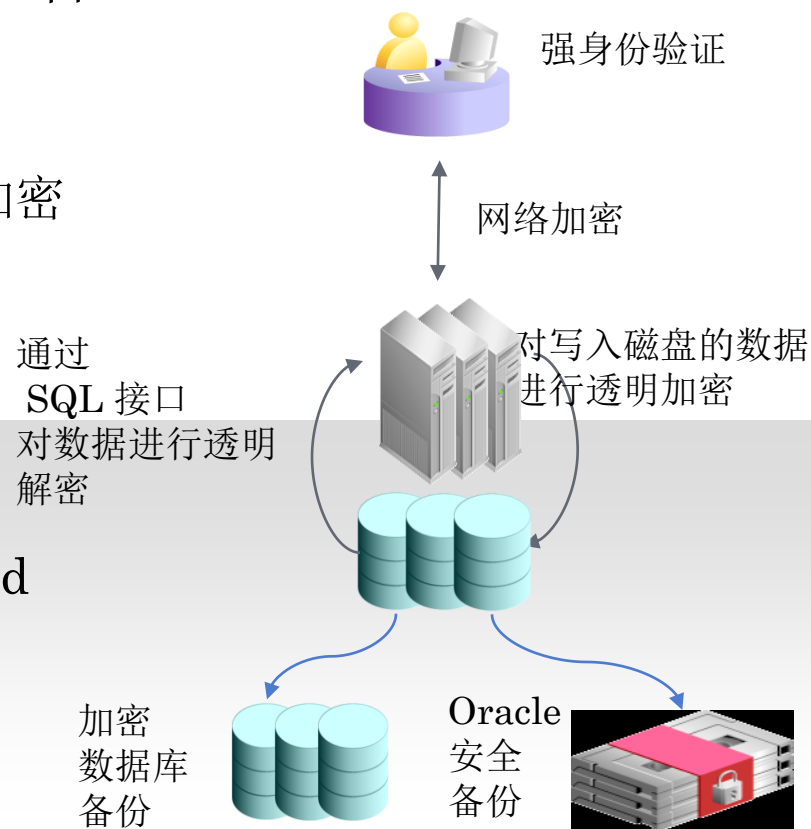
- 表空间以及列级的加密
- 备份加密 (RMAN) 以及数据泵加密
- 对非结构化数据加密
- 应用无需变化

- 网络加密保证传输安全

- SSL/TLS
- Native - no certificates required

- 强认证

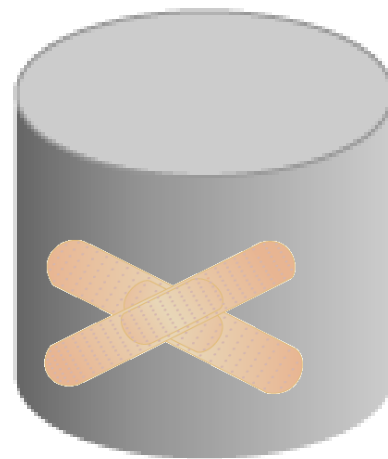
- Kerberos, PKI



管理补丁程序

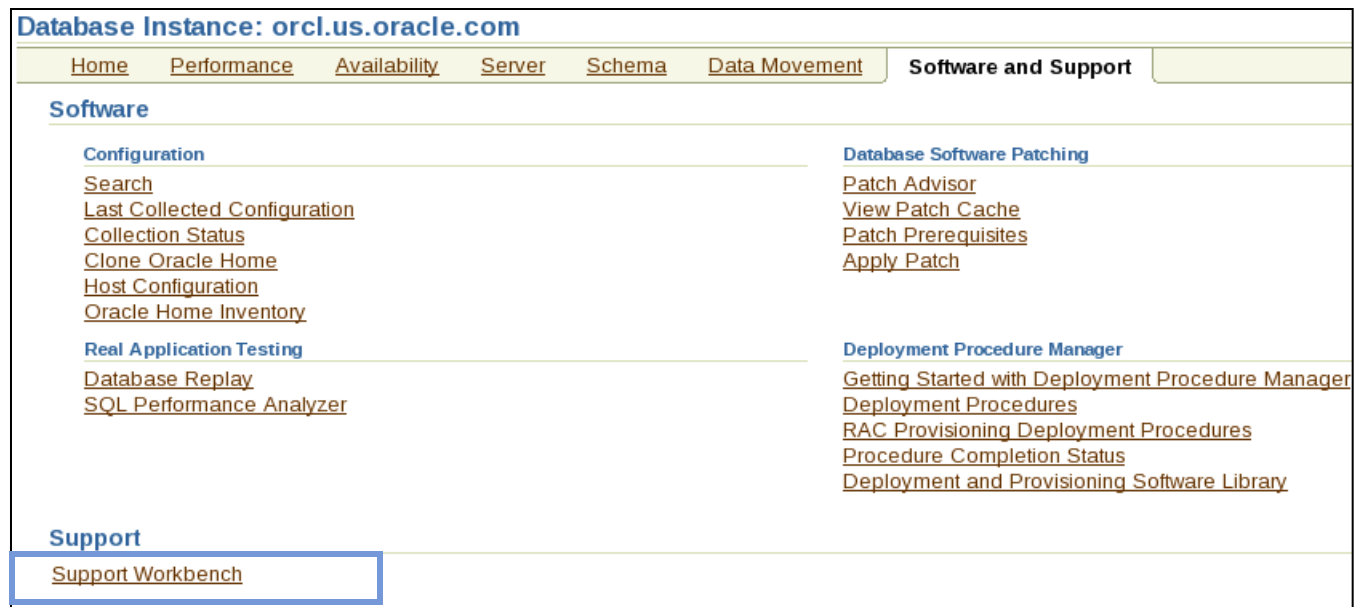
○ 补丁程序的种类

- 临时补丁程序
 - 用于特定问题
 - 无回归测试
- CPU（关键补丁程序更新）
 - 关键安全问题
 - 回归测试
 - 不会提高版本号
- 补丁程序集(Patch set)
 - 截至补丁程序集版本发布时间为止的 Bug 修复程序集合
- 补丁程序版本



USING THE ENTERPRISE MANAGER SUPPORT WORKBENCH

- Enterprise Manager Database Control includes the Support Workbench, which enables you to:
 - View and investigate critical database errors
 - Report errors to Oracle Support
 - Resolve some errors



USING THE SQL ACCESS ADVISOR

- Use the SQL Access Advisor to tune your schema and improve query performance.
- You must identify a SQL workload (a representative set of SQL statements that access the schema).
- Select your workload from the following resources:
 - Current and recent SQL activity
 - A SQL repository
 - User-defined workload (such as from a development environment)



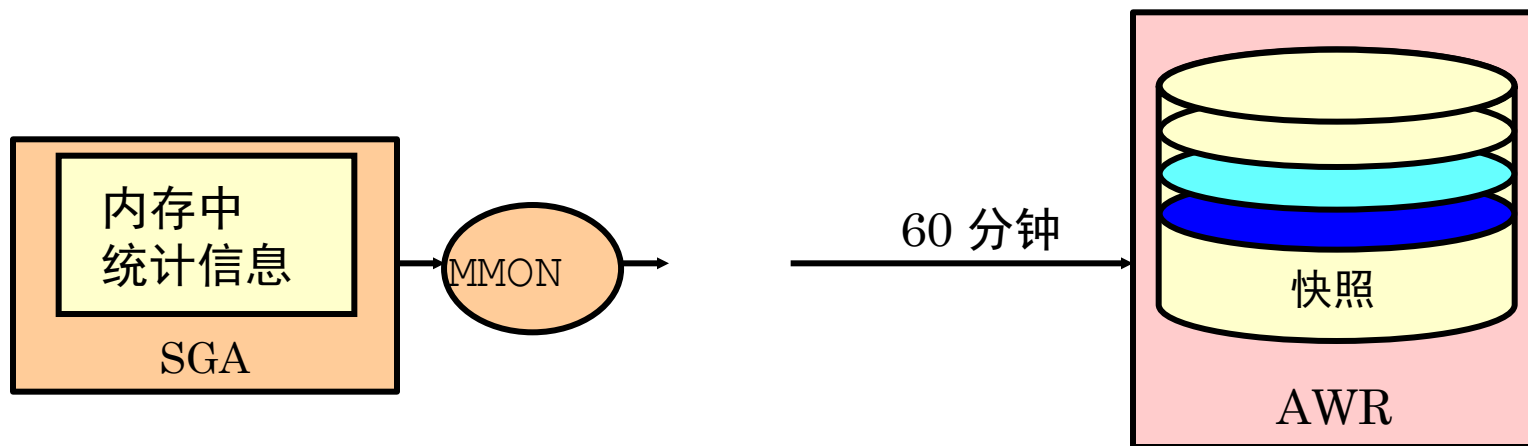
USING THE SQL TUNING ADVISOR

- Use the SQL Tuning Advisor to analyze SQL statements and obtain performance recommendations.
- This advisor is typically run in response to an ADDM performance finding.
- Run the SQL Tuning Advisor on the following sources:
 - Top activity: Analyzes the most resource-intensive SQL statements executed during the last hour
 - Historical SQL: Analyzes SQL statements over any 24-hour period
 - SQL tuning sets: Analyzes a set of SQL statements that you provide



自动工作量资料档案库 (AWR)

- 内置的性能信息资料档案库
- 每 60 分钟获取一次数据库度量快照，保留期为八天
- 所有自我管理功能的基础



闪回技术

对象级别	方案示例	闪回技术	依赖的对象	影响数据
数据库	截断表；发生了意外多表更改事件	数据库	闪回日志	是
表	删除表	删除	回收站	是
	使用了错误的 WHERE 子句进行更新	表	还原数据	是
	将当前数据与过去数据进行比较	查询	还原数据	否
	比较行版本	版本	还原数据	否
	保留历史事务处理数据	数据归档	还原数据	是
事务处理	调查并回退可疑事务处理	事务处理	来自归档日志的还原/重做数据	是

执行备份维护工作

- Crosschecking: Verifying whether the actual physical status of the backup matches the record of the backup in the RMAN repository
- Deleting expired backups: Deleting backups that RMAN has found to be inaccessible during a crosscheck operation
- Deleting obsolete backups: Deleting backups that are no longer needed based on your retention policy



TYPES OF BACKUPS

- Full backups of data files
- Incremental backups of data files
- Whole backups



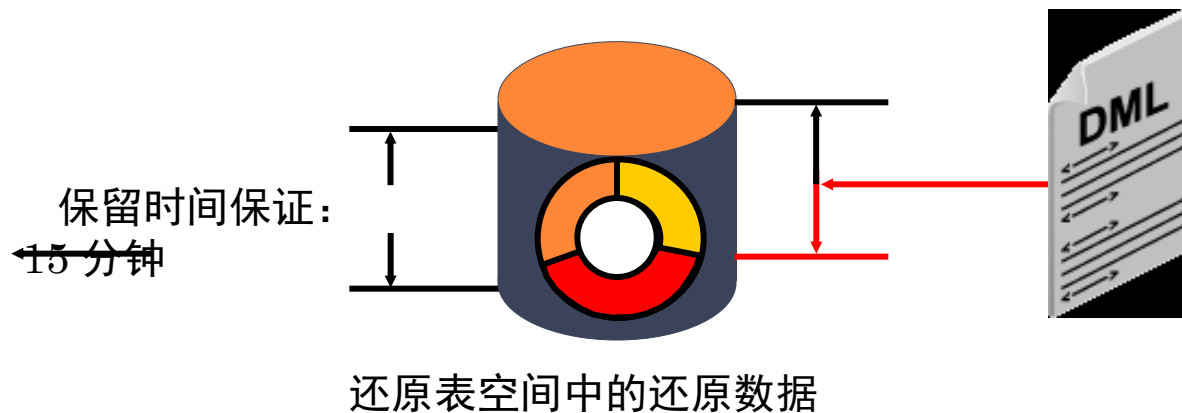
PROCEDURES,FUNCTIONS,PACKAGES

- **Procedures vs. Functions**

- Procedures do not have to return a value to the caller.Functions can return a value to the caller,and functions can be directly referenced in queries. This value is returned through the use of the **return keyword within the function**
- **Procedures vs. Packages**
- Packages are groups of procedures, functions, variables, and SQL statements grouped together into a single unit.



保证还原保留时间



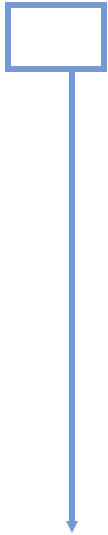
始终满足SELECT 语句运行
15 分钟或更少时间。

如果生成的还原数据
超过了可用空间，
则事务处理会失败。

```
ALTER TABLESPACE undotbs1 RETENTION GUARANTEE;
```

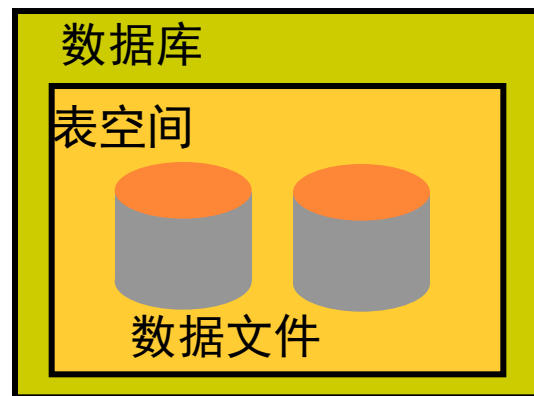


DROPPING A TABLESPACE



表空间和数据文件

- Oracle DB 在逻辑上将数据存储于表空间中，在物理上将数据存储于数据文件中。
 - 表空间：
 - 只能属于一个数据库
 - 包括一个或多个数据文件
 - 可进一步划分为逻辑存储单元
 - 数据文件：
 - 只能属于一个表空间和一个数据库
 - 是存储方案对象数据的资料档案库



定义中断周期

- Blackouts enable you to suspend monitoring on one or more targets to perform maintenance operations.
- Define blackout time periods to prevent alert notifications when shutting down your database for maintenance.

ORACLE Enterprise Manager 11g Database Control

Setup Preferences Help Logout

Database

Enterprise Manager Configuration | Management Services and Repository | Agents

Overview of Setup

Administrators

Notification Methods

Patching Setup

Blackouts

Management Pack Access

Monitoring Templates

Corrective Action Library

Confirmation

Blackout "Blackout-Jul 28 2009 6:30:01 PM" modified successfully.

Blackouts

Blackouts allow you to suspend monitoring on one or more targets in order to perform maintenance operations. To black out a target, you need to have at least Operator privileges on the target.

View By: Targets in Blackout

Search: All target types

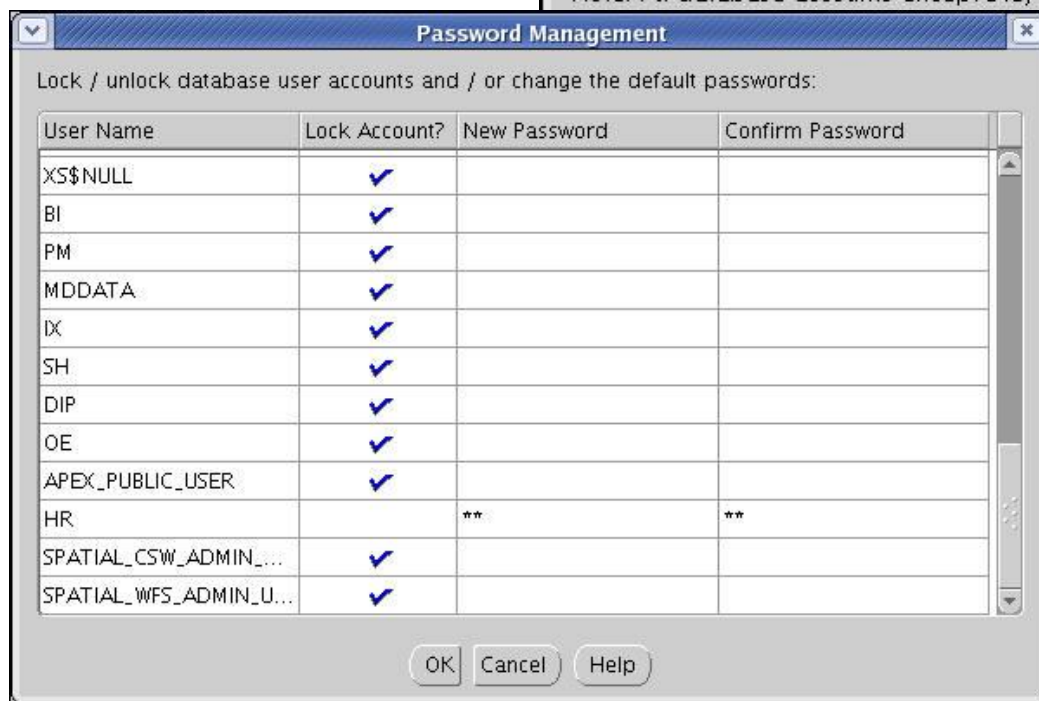
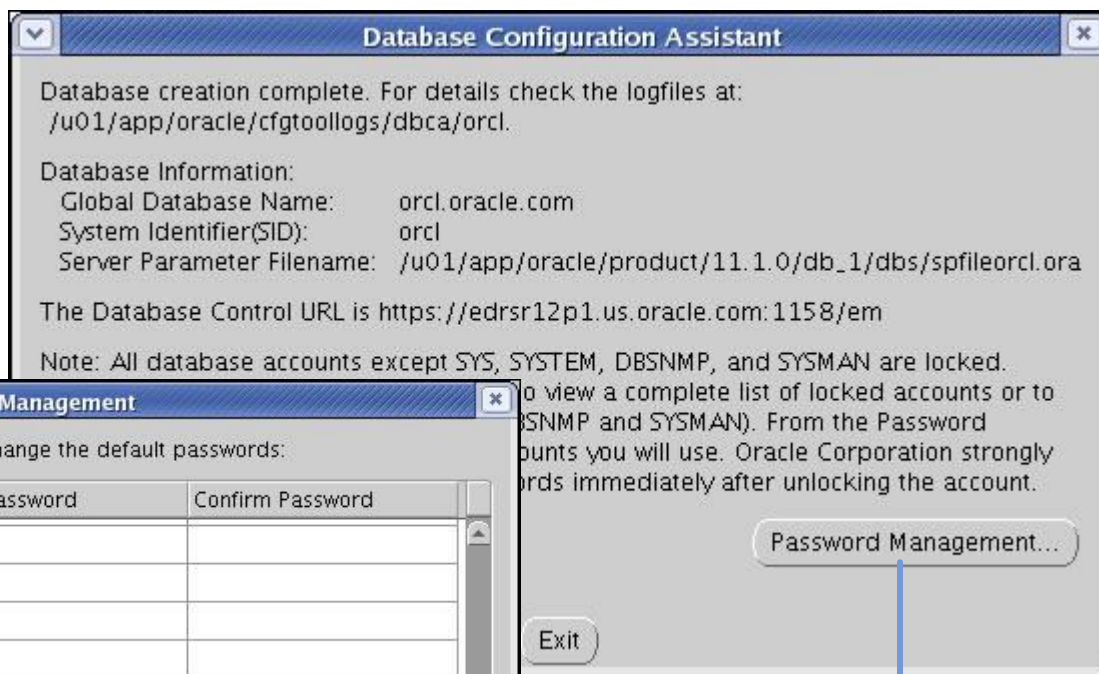
Parent: None

Show: Active ☒ Show all included targets

Create Like Edit View Stop Create

Select	Target	Type	Status	Full Blackout	Start Date	Duration	Repeat	Reason	Created By	Last Updated By
<input checked="" type="radio"/>	orcl.us.oracle.com	Database Instance	Started	n/a	Jul 28, 2009 4:34:27 AM PDT	1 Hours	Do Not Repeat	DB: Database Emergency	SYS	SYS

口令管理



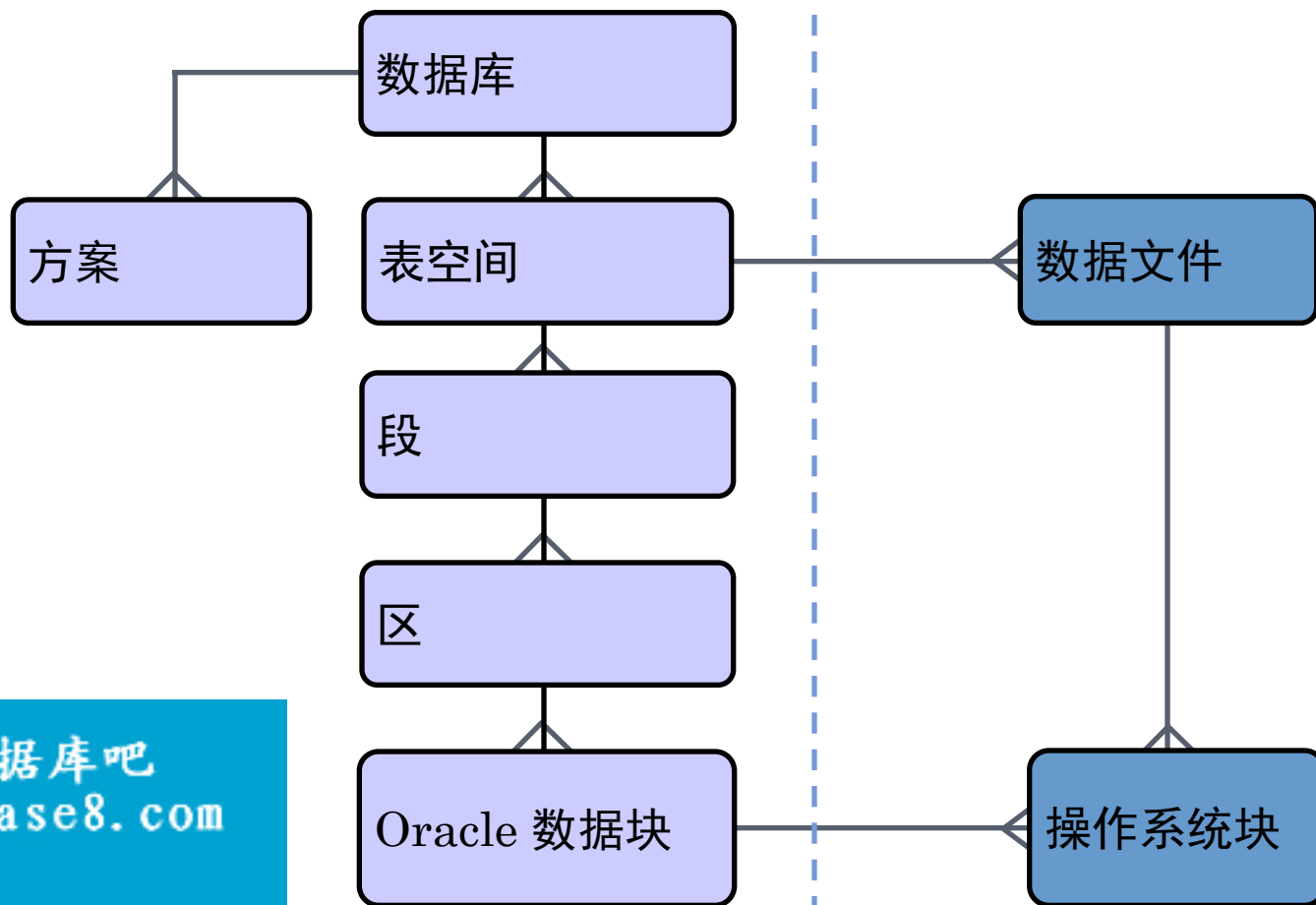
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逻辑和物理数据库结构

逻辑

物理

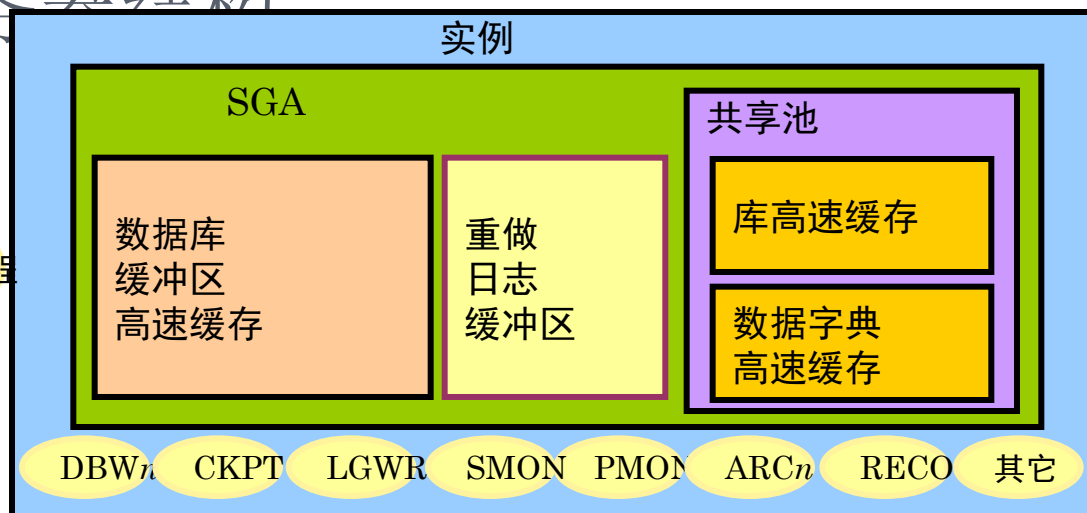
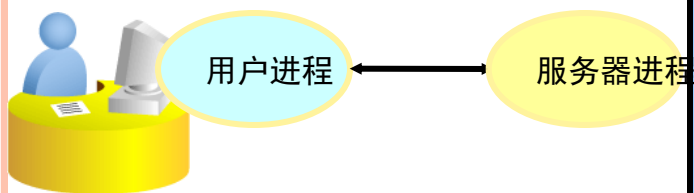


数据库吧
database8.com

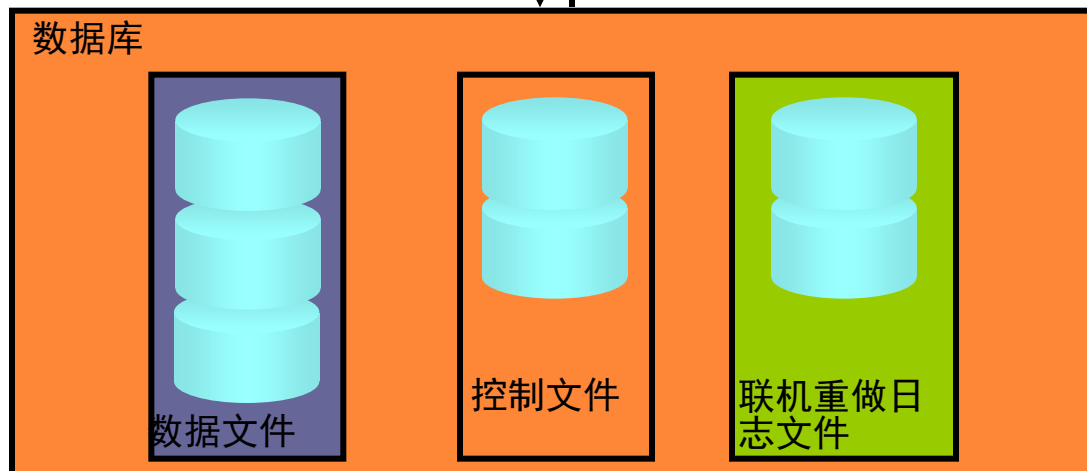
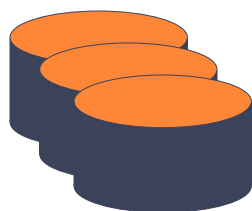
<http://www.database8.com>

ORACLE DB 服务架构

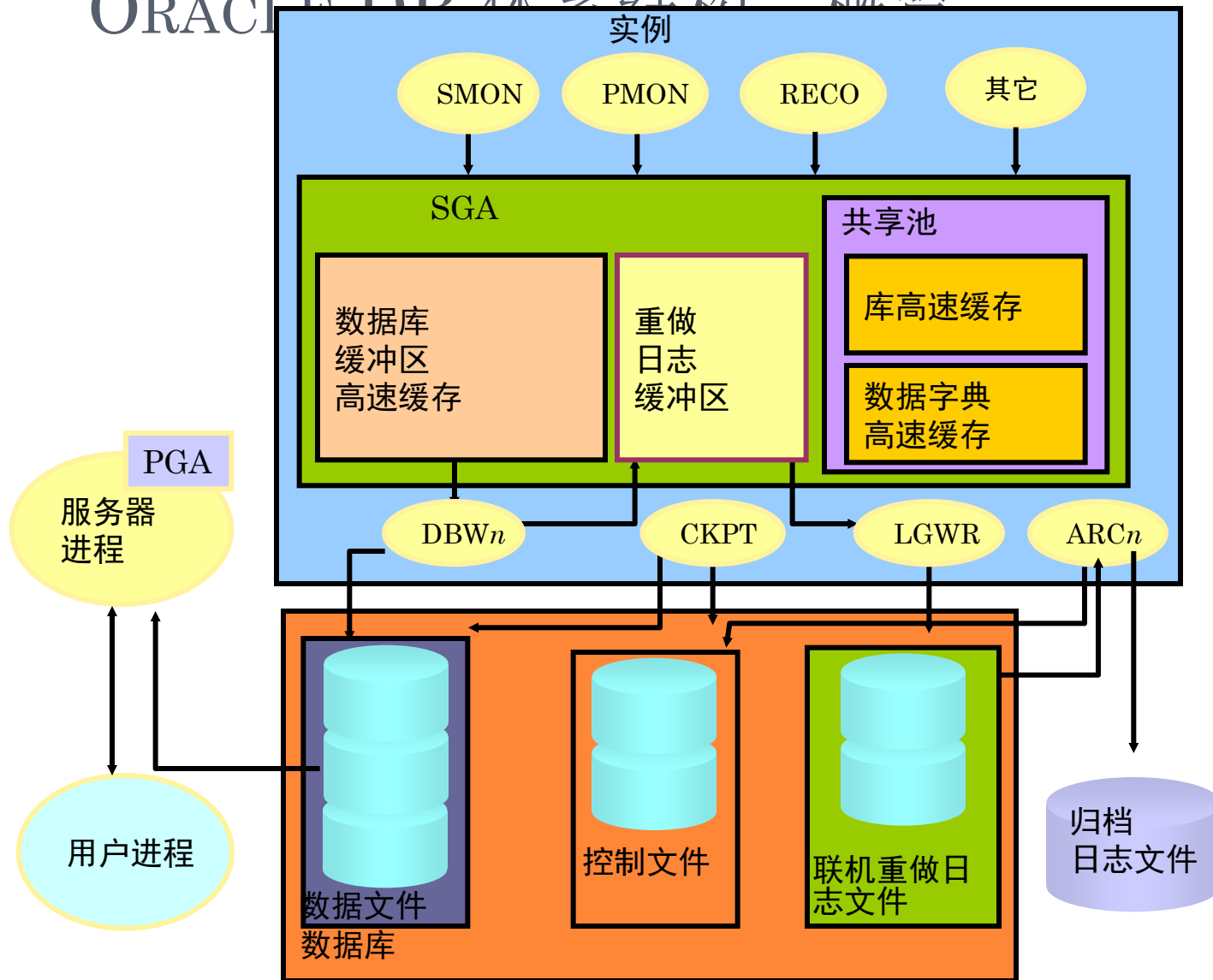
内存结构



存储结构



ORACLE DB 体系结构 概览



SQL Statements

SELECT	Data retrieval
INSERT UPDATE DELETE MERGE	Data manipulation language (DML)
CREATE ALTER DROP RENAME TRUNCATE	Data definition language (DDL)
COMMIT ROLLBACK SAVEPOINT	Transaction control
GRANT REVOKE	Data control language (DCL)

<http://www.database8.com>

