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Presentation

数据字典

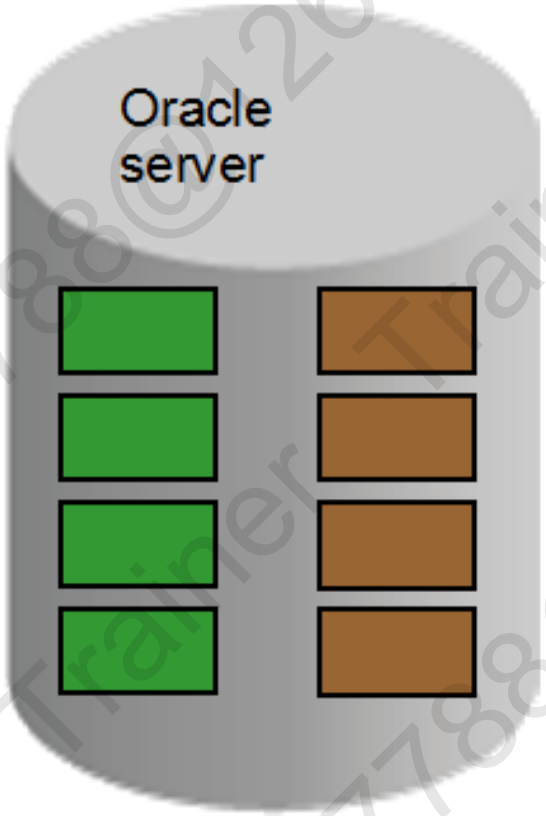
本章目标

1 使用数据字典获取数据

2 从数据字典中查询不同的数据

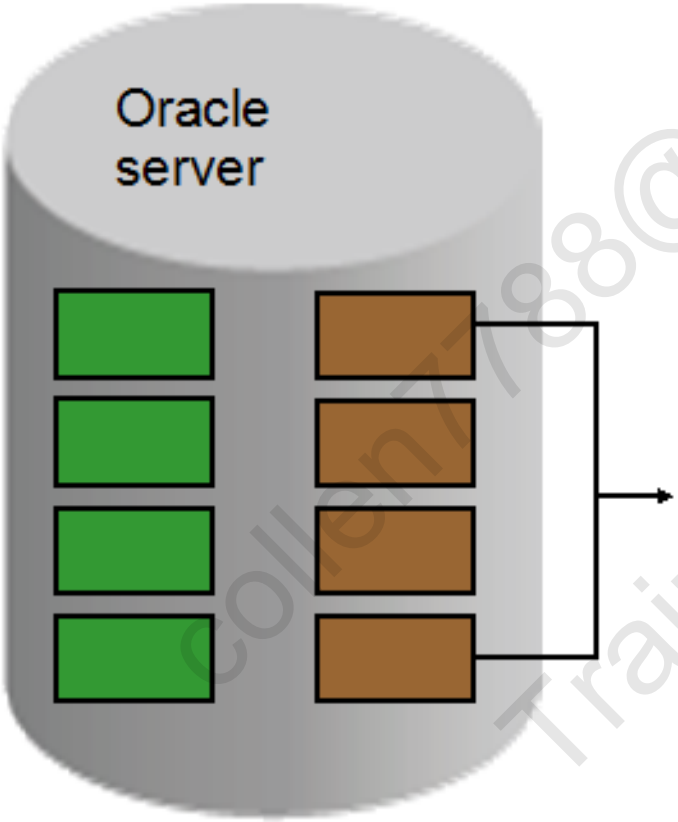
数据字典

表包含了商业数据:
EMPLOYEES
DEPARTMENTS
LOCATIONS
JOB_HISTORY
...



数据字典:
DICTIONARY
USER_OBJECTS
USER_TABLES
USER_TAB_COLUMNS
...

数据字典的结构



- 包括:
  - 基本表：描述数据库信息，只能由数据库服务器进行修改
  - 用户表：用户自定义表

数据字典命名规则

前缀	说明
USER	用户自己的
ALL	用户可以访问到的
DBA	管理员视图
V$	性能相关的数据

如何使用数据字典视图

- 从**DICTIONARY**开始，这个数据对象包含了数据字典的表名和说明

```
DESCRIBE DICTIONARY
```

Name	Null?	Type
TABLE_NAME		VARCHAR2(30)
COMMENTS		VARCHAR2(4000)

```
SELECT *
FROM   dictionary
WHERE  table_name = 'USER_OBJECTS';
```

TABLE_NAME	COMMENTS
USER_OBJECTS	Objects owned by the user

USER_OBJECTS 和ALL_OBJECTS

- **USER_OBJECTS:**
  - 通过查询USER_OBJECTS可以确定当前用户所有创建的对象
  - 可以获得如下信息:
    - Date created
    - Date of last modification
    - Status (valid or invalid)
- **ALL_OBJECTS:**
  - 可以通过查询ALL_OBJECTS来确定当前用户能访问的数据对象

表的信息

- **USER_TABLES:**

```
DESCRIBE user_tables
```

Name	Null?	Type
TABLE_NAME	NOT NULL	VARCHAR2(30)
TABLESPACE_NAME		VARCHAR2(30)
CLUSTER_NAME		VARCHAR2(30)
IOT_NAME		VARCHAR2(30)

```
SELECT table_name
FROM   user_tables;
```

TABLE_NAME
JOB_GRADES
REGIONS
COUNTRIES
LOCATIONS
DEPARTMENTS

列的信息

- **USER_TAB_COLUMNS:**

```
DESCRIBE user_tab_columns
```

Name	Null?	Type
TABLE_NAME	NOT NULL	VARCHAR2(30)
COLUMN_NAME	NOT NULL	VARCHAR2(30)
DATA_TYPE		VARCHAR2(106)
DATA_TYPE_MOD		VARCHAR2(3)
DATA_TYPE_OWNER		VARCHAR2(30)
DATA_LENGTH	NOT NULL	NUMBER
DATA_PRECISION		NUMBER
DATA_SCALE		NUMBER
NULLABLE		VARCHAR2(1)
COLUMN_ID		NUMBER
DEFAULT_LENGTH		NUMBER
DATA_DEFAULT		LONG

约束

- **USER_CONSTRAINTS:当前用户表上的约束**
- **USER_CONS_COLUMNS 当前用户创建的列约束**

```
DESCRIBE user_constraints
```

Name	Null?	Type
OWNER	NOT NULL	VARCHAR2(30)
CONSTRAINT_NAME	NOT NULL	VARCHAR2(30)
CONSTRAINT_TYPE		VARCHAR2(1)
TABLE_NAME	NOT NULL	VARCHAR2(30)
SEARCH_CONDITION		LONG
R_OWNER		VARCHAR2(30)
R_CONSTRAINT_NAME		VARCHAR2(30)
DELETE_RULE		VARCHAR2(9)
STATUS		VARCHAR2(8)

视图

```
DESCRIBE user_views
```

Name	Null?	Type
VIEW_NAME	NOT NULL	VARCHAR2(30)
TEXT_LENGTH		NUMBER
TEXT		LONG

```
SELECT DISTINCT view_name FROM user_views;
```

VIEW_NAME
EMP_DETAILS_VIEW

```
SELECT text FROM user_views
WHERE view_name = 'EMP_DETAILS_VIEW';
```

TEXT
SELECT e.employee_id, e.job_id, e.manager_id, e.department_id, d.locat ion_id, l.country_id, e.first_name, e.last_name, e.salary, e.commissio n_pct, d.department_name, j.job_title, l.city, l.state_province, c.cou ntry_name, r.region_name FROM employees e, departments d, jobs j, loca tions l, countries c, regions r WHERE e.department_id = d.department_id AN D d.location_id = l.location_id AND l.country_id = c.country_id AND c.region _id = r.region_id AND j.job_id = e.job_id WITH READ ONLY

序列

```
DESCRIBE user_sequences
```

Name	Null?	Type
SEQUENCE_NAME	NOT NULL	VARCHAR2(30)
MIN_VALUE		NUMBER
MAX_VALUE		NUMBER
INCREMENT_BY	NOT NULL	NUMBER
CYCLE_FLAG		VARCHAR2(1)
ORDER_FLAG		VARCHAR2(1)
CACHE_SIZE	NOT NULL	NUMBER
LAST_NUMBER	NOT NULL	NUMBER

同义词

```
DESCRIBE user_synonyms
```

Name	Null?	Type
SYNONYM_NAME	NOT NULL	VARCHAR2(30)
TABLE_OWNER		VARCHAR2(30)
TABLE_NAME	NOT NULL	VARCHAR2(30)
DB_LINK		VARCHAR2(128)

```
SELECT *
FROM   user_synonyms;
```

SYNONYM_NAME	TABLE_OWNER	TABLE_NAME	DB_LINK
EMP	ORA1	EMPLOYEES	

给表添加注释

- 使用**COMMENT**语句给表或者列，添加注释：

```
COMMENT ON TABLE employees
IS 'Employee Information';
Comment created.
```

- 注释相关的视图：
  - ALL_COL_COMMENTS
  - USER_COL_COMMENTS
  - ALL_TAB_COMMENTS
  - USER_TAB_COMMENTS

- 查询表的注释
  - select * from user_tab_comments where table_name= '???';

总结

- DICTIONARY
- USER_OBJECTS
- USER_TABLES
- USER_TAB_COLUMNS
- USER_CONSTRAINTS
- USER_CONS_COLUMNS
- USER_VIEWS
- USER_SEQUENCES
- USER_TAB_SYNONYMS
- 表的注释

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Thank you