

Dynamic Performance Views and Data Dictionary Views

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Objectives

In this lecture, you will learn how to perform the following:

- Describe and query the Dynamic Performance Views
- Describe and query the Data Dictionary Views



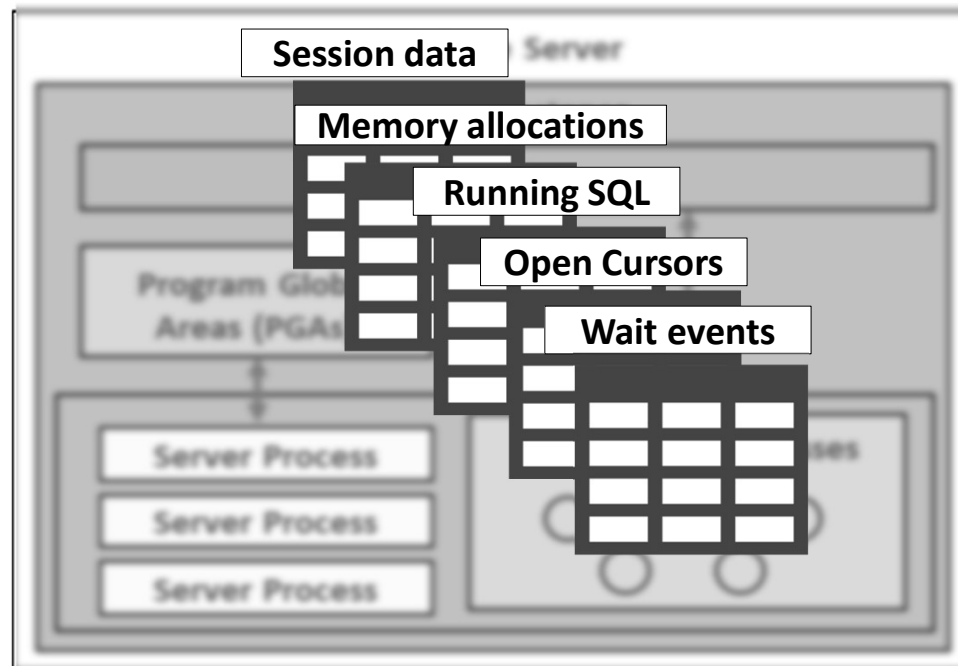
Obtaining Information About the Database

Most of the information about database operations can be obtained by submitting queries against:

- Dynamic Performance Views
- Data Dictionary Views



Dynamic Performance Views



About the Dynamic Performance Views

- Retrieves its data from virtual tables that reside in the memory
- Some of them might be available even when the database is in **NOMOUNT** or **MOUNT** states
- They are described as *dynamic* because they are continuously updated
- They are described as fixed because the DBA cannot modify them
- **SYS** owns the fixed tables, their names prefixed with **V_\$**
- The views names are prefixed with **V\$**
- The **V\$FIXED_TABLE** view contains information about all of the dynamic performance tables and views.
- Reference: Oracle Database Reference

Querying Dynamic Performance Views Examples

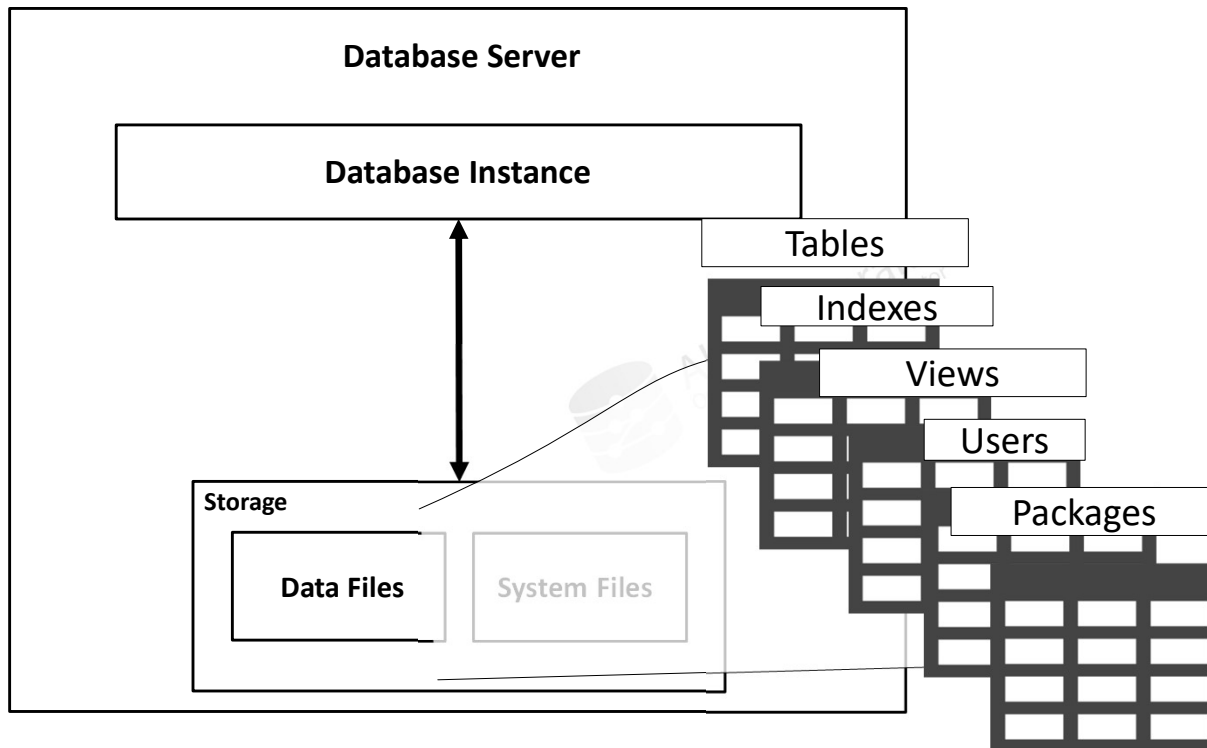
```
SELECT SID, CTIME FROM V$LOCK WHERE BLOCK > 0;
```

```
SELECT * FROM V$SESSION  
WHERE MACHINE = 'EDRSR9P1' AND LOGON_TIME > SYSDATE - 1;
```

```
SELECT * FROM V$MEMORY_DYNAMIC_COMPONENTS ;
```

```
SELECT LOG_MODE, OPEN_MODE, DATABASE_ROLE FROM V$DATABASE ;
```

Dictionary Views



About Data Dictionary Views

- Data Dictionary Views store its data in the base tables that are maintained by the Oracle database.
- That is why data dictionary views are accessible only when the database is open.
- Data Dictionary views provide information about the database users, objects, constraints, storage, database configuration, and so on.
- The data dictionary table and view names and descriptions can be retrieved from the **DICTIONARY** view (synonym **DICT**)
- The **DICT_COLUMNS** view retrieves the data dictionary view columns and their definitions
- Reference: Oracle Database Reference

About Data Dictionary Views

Dictionary View Types	Who can query	Contents	Subset of	Notes
DBA_*	DBA	All the objects in db	n/a	Normally accessible only by DBAs
ALL_*	Everyone	All the objects that user can see	DBA_* views	Includes user's own objects and other objects the user has been granted privileges to see
USER_*	Everyone	Objects owned by the querying user	ALL_* views	Their structures are usually the same as ALL_* except for the missing OWNER column

More about Data Dictionary Views

- **DBA_*** and **ALL_*** views have **OWNER** column
- By default, the **DBA_*** views can only be queried by users with the **SYSDBA** or **SELECT ANY DICTIONARY** privilege
- Not all views in a given view set have a corresponding view in the other view sets, for example: we have **DBA_LOCK** but not **ALL_LOCK**
- Some views have abbreviated names as **PUBLIC** synonyms
- Multitenant environment have a fourth view data set (**CDB_***)
- Few views do not follow the data dictionary view naming convention, like: **AUDIT_ACTIONS**, and **CHANGE_PROPAGATIONS**.
- Reference: Oracle Database Reference

Querying Data Dictionary Views

```
SELECT TABLE_NAME, TABLESPACE_NAME FROM USER_TABLES ORDER BY 1;
```

```
SELECT SEQUENCE_NAME, MIN_VALUE, MAX_VALUE, INCREMENT_BY  
FROM ALL_SEQUENCES;
```

```
SELECT USERNAME, ACCOUNT_STATUS  
FROM DBA_USERS  
WHERE ACCOUNT_STATUS = 'OPEN';
```

```
DESCRIBE DBA_INDEXES
```

Summary

In this lecture, you should have learnt how to perform the following:

- Describe and query the Dynamic Performance Views
- Describe and query the Data Dictionary Views

