Cognixia™

Oracle SQL

Day 5

Day 5

- Recap
- DML
  - INSERT
  - DELETE
  - UPDATE
- Security
- Optimization
- Catch-up
- Test

INSERT

```
INSERT INTO table_name (list_of_columns)
       VALUES (list_of_values);
```

To insert multiple rows,repeat list_of_values

E.g.

```
INSERT INTO people (person_id, given_name, family_name, title)
WITH names AS (
        SELECT 4, 'Ruth', 'Fox', 'Mrs'              FROM dual UNION ALL
        SELECT 5, Jon', 'Squirrel', 'Miss'          FROM dual UNION ALL
        SELECT 6, 'Justin', 'Frog', 'Master'        FROM dual UNION ALL
        SELECT 7, 'Lisa', 'Owl', 'Dr'               FROM dual
        )
SELECT * FROM names
```

DELETE

```
DELETE
FROM      table_name
WHERE     condition;
```

Deletes all rows satifying the condition

To delete all rows from a large table, it is more efficient to use TRUNCATE TABLE *name*

UPDATE

```
UPDATE table_name
       SET column_name = value [, column_name = value]...
       [ WHERE condition ];
```

WHERE is optional, but if not supplied, all rows in the database will be updated.

Database Security

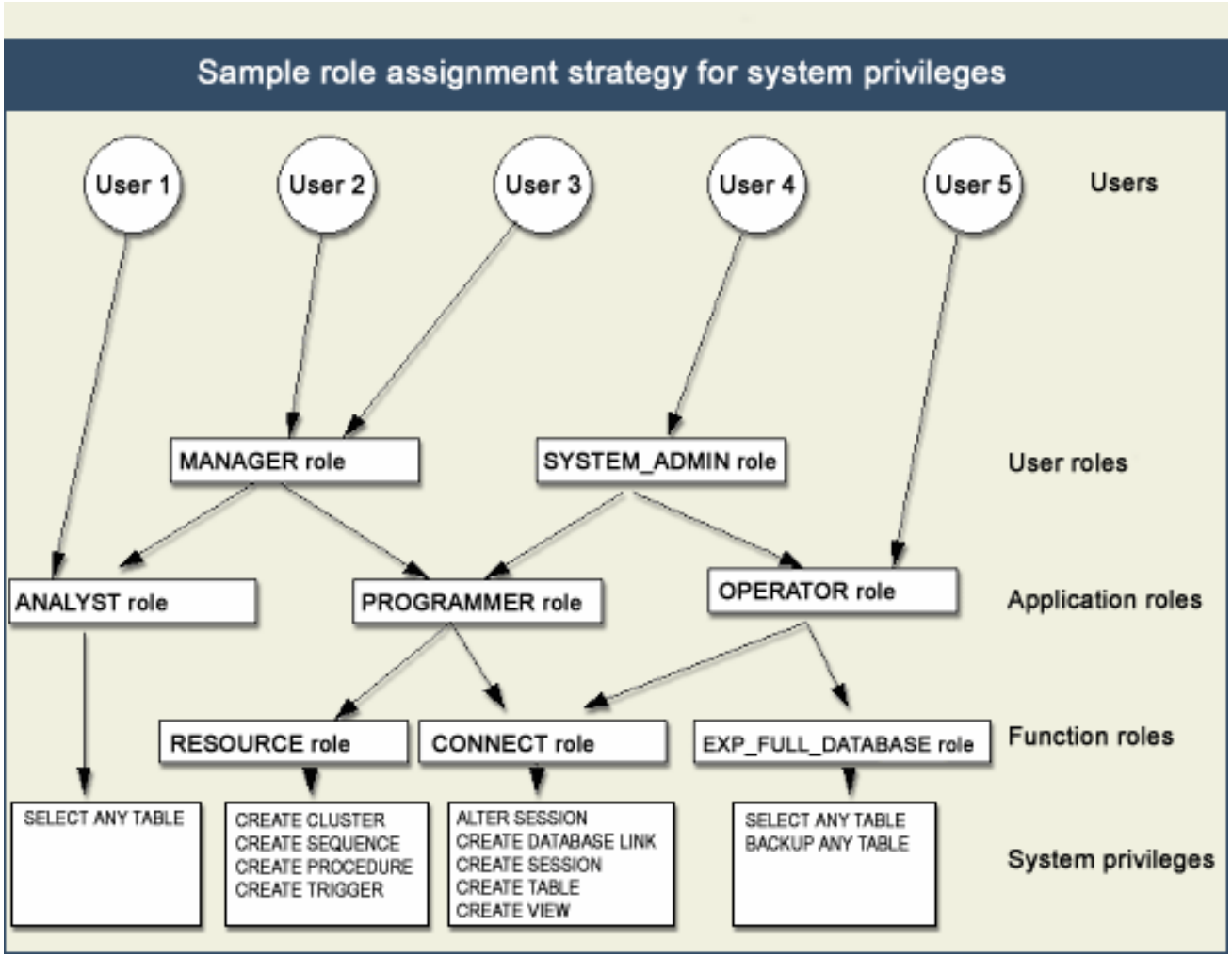
- Users, user accounts
- Privileges
- Roles - named groups of related system and object privileges. DBAs create roles and assign them to users or to other roles.

Privileges

- **System privilege** - Gives a user the ability to perform a particular action, or to perform an action on any schema objects of a particular type. For example, the system privilege CREATE TABLE permits a user to create tables in the schema associated with that user, and the system privilege CREATE USER permits a user to create database users.
- **Object privilege** - Gives a user the ability to perform a particular action on a specific schema object. Different object privileges are available for different types of schema objects. The privilege to select rows from the EMPLOYEES table or to delete rows from the DEPARTMENTS table are examples of object privileges.

- Privileges:
  - Data Operations: SELECT, INSERT, UPDATE, DELETE
  - Object Operations: CREATE, DROP, ALTER

Database Security



Listing user privileges

```
SELECT *
FROM
  USER_SYS_PRIVS;
```

SQL Optimization

Oracle is performing advanced query optimization behind the scenes. Some features:

- **Automatic reoptimization**: Starting in 12c, when Oracle notices that the real cardinality in the first execution differs greatly from the estimation, the optimizer calculates a new execution plan in which the cardinality gained in the first execution is taken into consideration. It then uses this plan in the next executions.
- **Adaptive plans**: At the time of execution, Oracle decides which join method it is best to use (nested loop or hash join).

Tips

EXISTS vs. IN

- EXISTS is much faster than IN when the sub-query result set is very large
- IN is faster than EXISTS when the sub-query result set is very small.

Why:

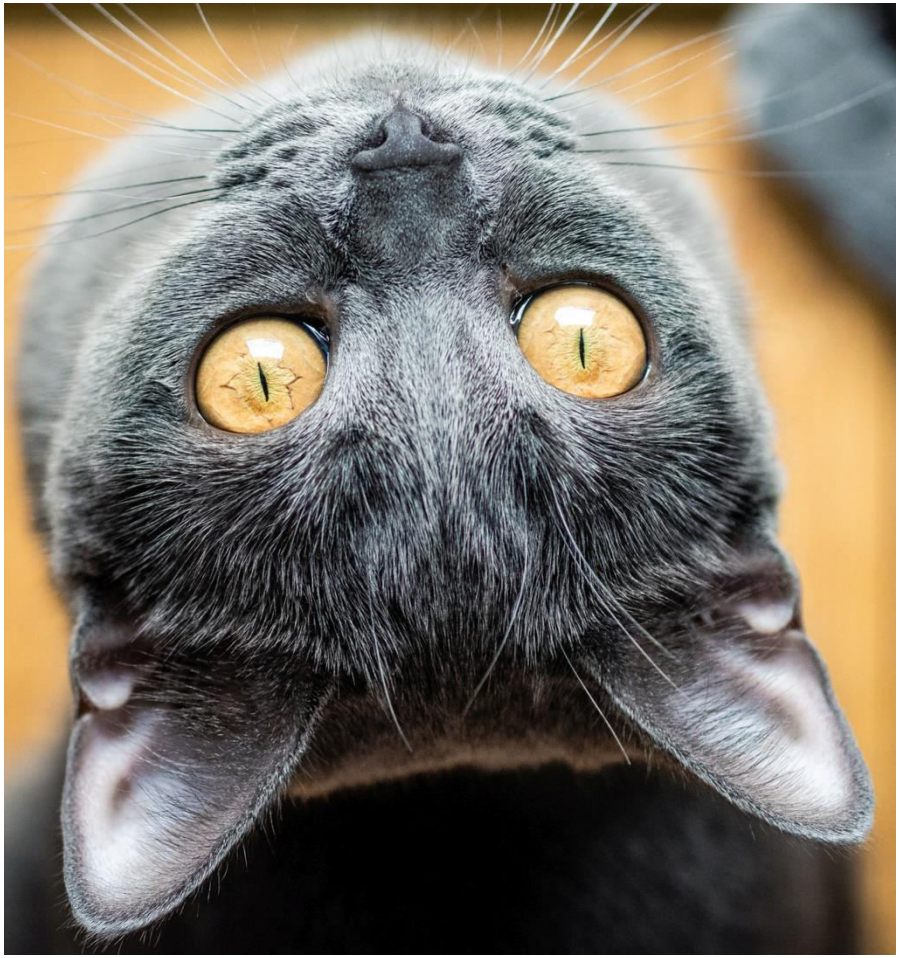
- EXISTS exits comparison when a match is found, whereas IN compares every value in the result.

Conclusion

Parting thoughts:

- There is no substitute for experience. Get your hands dirty – you will learn a lot and reinforce your knowledge.
- The data that you analyze today will change tomorrow. Code for the unexpected, not just what happens to be there today.
- Understand the data structures, their relationships, and the logic and business processes that created the data. This knowledge is invaluable.
- Always check for NULLs.
- Relax. Practice russian yoga

TEST



References

Resource	Location
Oracle SQL Reference	
Oracle Code Library	https://livesql.oracle.com/apex/f?p=590:49:0::NO:RP,49:P49_TYPES:C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THANK YOU