OracleDB: Explorando Visões, V. Materializadas, Transações e Desempenho.

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# **Transações**

Transações São unidades lógicas atômicas de trabalho que contêm um ou mais comandos SQL.

As transações no oracle obedecem as propriedades ACID.

- Atomicidade.
- Consistência.
- Isolação.
- Durabilidade.

## Comandos de transações

```
COMMIT;

ROLLBACK;

SAVEPOINT 'nome';

ROLLBACK TO SAVEPOINT 'nome';

SET TRANSACTION NAME 'nome';
```

Comandos estruturais: CREATE, DROP, RENAME OU ALTER

### USUÁRIO 1;

```
Username? (''?) sh_usuario
Password? (********) ******
Connected to:
Oracle Database 21c Express Edition Release 21.0.0.0.0 - Production
Version 21.3.0.0.0
SQL> SELECT * FROM sh.channels;
  CHANNEL_ID CHANNEL_DESC
                             CHANNEL_CLASS
                                                 CHANNEL_CLASS_ID CHANNEL_TOTAL
                                                                                      CHAN
NEL_TOTAL_ID
           3 Direct Sales
                             Direct
                                                               12 Channel total
           9 Tele Sales
                             Direct
                                                               12 Channel total
                                                               13 Channel total
           5 Catalog
                             Indirect
                             Indirect
           4 Internet
                                                               13 Channel total
           2 Partners
                             Others
                                                               14 Channel total
SQL> INSERT INTO sh.channels VALUES ( 6, 'Subscriptions', 'Direct', 12, 'Channel total', 1 );
1 row inserted.
SQL>
```

## USUÁRIO 2;

Password? Connected Oracle Da Version 2		Edition Release 21	.0.0.0.0 - Production	n	
CHANNE NEL_TOTAL	EL_ID CHANNEL_DESC ID	CHANNEL_CLASS	CHANNEL_CLASS_ID	CHANNEL_TOTAL	CHAN
	3 Direct Sales	Direct	12	Channel total	
	1 9 Tele Sales	Direct	12	Channel total	
	1 5 Catalog	Indirect	13	Channel total	
	1 4 Internet	Indirect	13	Channel total	
	1 2 Partners 1	Others	14	Channel total	
SQL>					

USUÁRIO 1;

SQL> SELECT *	FROM sh.channels;				
CHANNEL_ID NNEL_TOTAL_ID	CHANNEL_DESC	CHANNEL_CLASS	CHANNEL_CLASS_ID	CHANNEL_TOTAL	CHA
	Direct Sales	Direct	12	Channel total	
9	Tele Sales	Direct	12	Channel total	
5 1	Catalog	Indirect	13	Channel total	
4 1	Internet	Indirect	13	Channel total	
2 1	Partners	Others	14	Channel total	
6 1	Subscriptions	Direct	12	Channel total	
6 rows selecte	ed.				

## USUÁRIO 2;

1	Inccinc	Indifect	13	chamice cocae
_	Partners	Others	14	Channel total
SQL> SELECT *	FROM sh.channel	s;		
CHANNEL_ID NEL_TOTAL_ID	CHANNEL_DESC	CHANNEL_CLASS	CHANNEL_CLASS_ID	CHANNEL_TOTAL
3 1	Direct Sales	Direct	12	Channel total
- 9 1	Tele Sales	Direct	12	Channel total
_	Catalog	Indirect	13	Channel total
_	Internet	Indirect	13	Channel total
_	Partners	Others	14	Channel total

## USUÁRIO 1;

SQL> SELECT *	FROM sh.channels	;			
CHANNEL_ID NNEL_TOTAL_ID	CHANNEL_DESC	CHANNEL_CLASS	CHANNEL_CLASS_ID	CHANNEL_TOTAL	CHA
	Direct Sales	Direct	12	Channel total	
9 1	Tele Sales	Direct	12	Channel total	
5 1	Catalog	Indirect	13	Channel total	
4 1	Internet	Indirect	13	Channel total	
2 1	Partners	Others	14	Channel total	
6 1	Subscriptions	Direct	12	Channel total	
6 rows select	ed.				

## USUÁRIO 2;

SQL> SELECT *	FROM sh.channels;			
CHANNEL_ID NNEL_TOTAL_ID	CHANNEL_DESC	CHANNEL_CLASS	CHANNEL_CLASS_ID	CHANNEL_TOTAL
3 1	Direct Sales	Direct	12	Channel total
9	Tele Sales	Direct	12	Channel total
5	Catalog	Indirect	13	Channel total
4	Internet	Indirect	13	Channel total
2	Partners	Others	14	Channel total
6	Subscriptions	Direct	12	Channel total
6 rows selecte	ed.			

## Visões

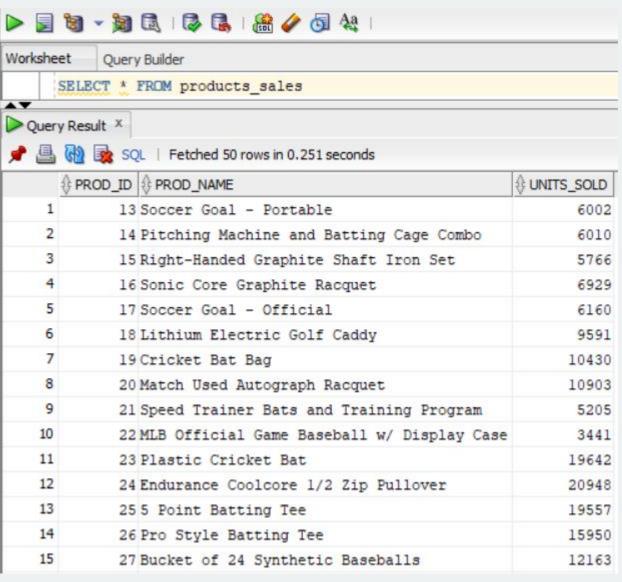
Visões são representações lógicas de uma ou mais tabelas.

Sintaxe:

CREATE VIEW 'nome' AS ...

### VIEW;

### RESULTADO;



## Visões materializadas

Visões materializadas são o resultado de uma query que fou 'materializada' como um objeto de um schema.

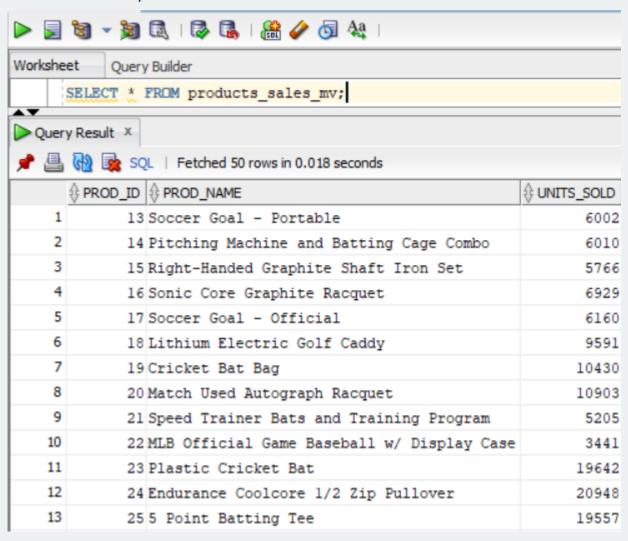
#### Sintaxe:

```
CREATE MATERIALIZED VIEW view-name
BUILD [IMMEDIATE | DEFERRED]
REFRESH [FAST | COMPLETE | FORCE ]
ON [COMMIT | DEMAND ]
[[ENABLE | DISABLE] QUERY REWRITE]
AS
SELECT ...;
```

BEGIN DBMS\_SNAPSHOT.REFRESH( '"SCHEMA"."MATERIALIZED\_VIEW"','F'); end;

### VIEW MATERIALIZADA;

#### **RESULTADO**;



# Desempenho

Sitaxe e funcionamento:

EXPLAIN PLAN;

DBMS\_XPLAN.DISPLAY;

SELECT \* FROM TABLE (DBMS\_XPLAN.DISPLAY);

### CONSULTA DE DESEMPENHO;

```
EXPLAIN PLAN FOR SELECT * FROM products_sales;

SELECT * FROM TABLE(DBMS_XPLAN.DISPLAY);
```

### RESULTADO;

Worksheet Query Builder									
EXPLAIN PLAN FOR SELECT * FROM products_sales;									
CRIBAR + PROM MARIE / DRAC VRIAN DICRIAVA									
SELECT * FROM TABLE (DBMS_XPLAN.DISPLAY);									
Script Output × Query Result ×									
🗸 🖺 🔞 🙀 SQL   All Rows Fetched: 22 in 0.344	4 seconds								
1 Plan hash value: 2879616603									
2									
3									
4   Id   Operation		1	Rows	Bytes	Cost	(%CPU)	Time	Pstart	Pstop
5									
6   0   SELECT STATEMENT	-						00:00:01		l
	PRODUCTS_SALES	I							l
8   2   MERGE JOIN	1	I		3168			00:00:01		l
9   3   SORT JOIN	•	I		1224	3896	(3)	00:00:01	I	l I
	VW_GBC_6			1224	3896	(3)	00:00:01	I	l I
11   5   HASH GROUP BY	•	1	72	504	3896	(3)	00:00:01	I	
12   6   PARTITION RANGE ALI	LI .	1	918K	6281K	3839	(1)	00:00:01	1	15
13   7   TABLE ACCESS FULL	SALES	1	918K	6281K	3839	(1)	00:00:01	1	15
14  * 8   SORT JOIN	I	1	72	1944	1 4	(25)	00:00:01	I	l I
15   9   TABLE ACCESS FULL	PRODUCTS	1	72	1944	1 3	(0)	00:00:01	I	l
16									
17									
18 Predicate Information (identified	d by operation id	):							
19									
20									
<pre>21 8 - access("ITEM_1"="P"."PROD_ID")</pre>									
filter("ITEM_1"="P"."PROD_	_ID")								

## **Utilizando índices**

• B-tree

```
CREATE INDEX index_name ON table_name (column_name);
```

• Bitmap

```
CREATE INDEX index_name ON table_name (column_name);
```

Hash

```
CREATE INDEX index_name
ON table_name (column_name)
INDEXTYPE IS HASH;
```

Função

```
CREATE INDEX index_name ON table_name (function_name(column_name));
```

DROP INDEX index\_name;

## Hints

Hints são 'sugestões' para especificar se um índice deve ser usado ou ignorado.

#### Sintaxes:

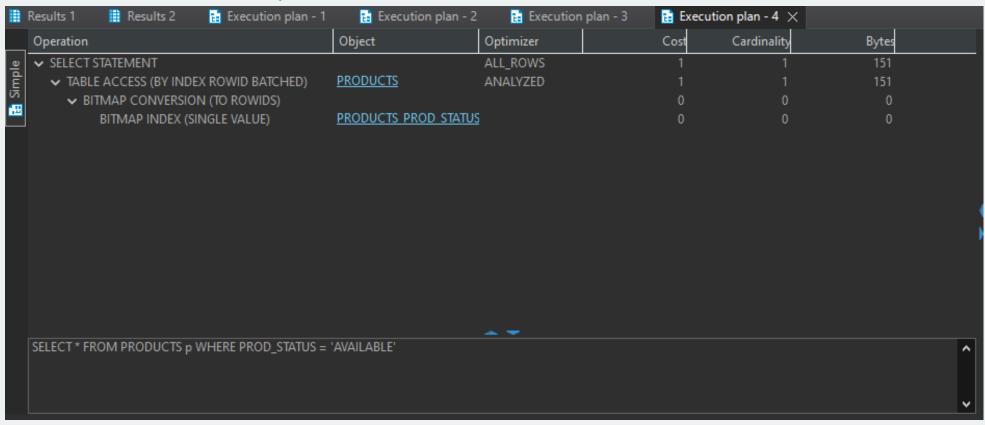
INDEX(table\_name index\_name);

NO\_INDEX(table\_name index\_name)

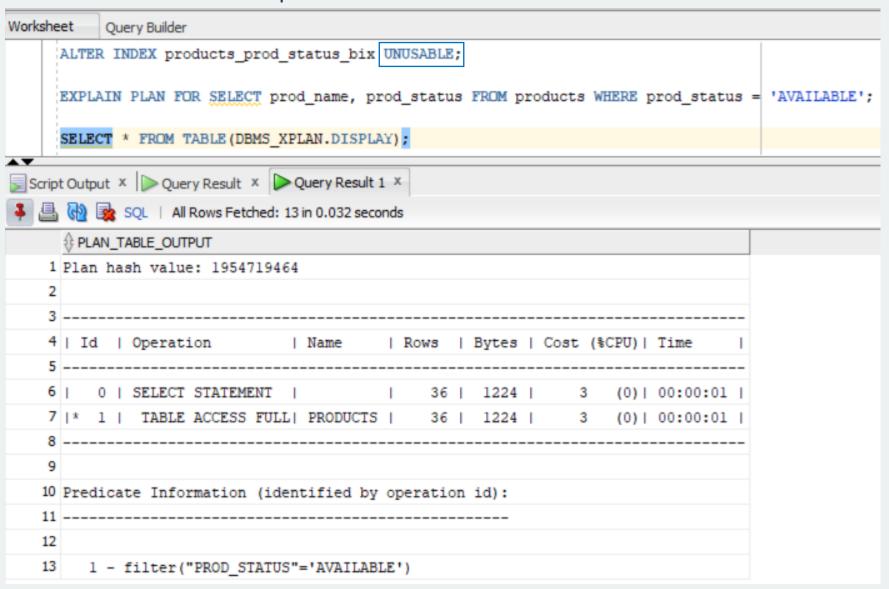
ALTER INDEX index\_name UNUSABLE;

ALTER INDEX index\_name REBUILD;

### Consulta com índice Bitmap;



### Consulta sem índice Bitmap;



#### 0

### Trabalho de Banco de Dados 2

**Tema: Oracle DB** 

Conteúdos: transações, visões, visões materializadas e desempenho

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### Sumário

- 1. Definição do Banco de Dados
- 2. Análise da Viabilidade
- 3. Definição do Esquema e Carga de Dados
- 4. Consultas Simples
- 5. Transações
- 6. Visões (views)
- 7. Visões materializadas (materialized views)
- 8. Desempenho
- 9. Conclusão
- 10. Referências

# Obrigado



VictorPLopes / Projeto-BADC5-Oracle

github.com/VictorPLopes/Projeto-BADC5-Oracle