

Oracle – PL/SQL

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Objectives

- ◆ Oracle SQL & PL/SQL concepts and examples
- ◆ Learning from the perspective of technical interviews
- ◆ Practice as much as possible
- ◆ Train heavily on interview questions

Timeline & Agenda

- ◆ Not yet decided, but I prefer to finish in 2-3 weeks
- ◆ Discuss concepts and practice around most interview questions
- ◆ Let's try to make this an interactive session
- ◆ One-on-one practice for interviews, if required
- ◆ Slightly unconventional learning sessions

Setup

- ◆ Oracle 21c + SQL Developer on Windows 10
- ◆ 6 GB memory, 4 cores, 50-75 GB disk space
- ◆ VirtualBox
- ◆ <https://oracle-training.lakshmananumolu.com/en/main/>

Few basics

Table: Countries

Few basics

Table: Countries

columns

ID	NAME	NUM_STATES	POPULATION	...

can be a
Primary key

VARCHAR2(32)

NUMBER

NUMBER

FOREIGN_KEY

AUDIT DATA

Few basics

Table types

- Default tables – Heap organized
 - Uses heap memory to store data
- Index organized
 - Uses index to insert data
- External tables
 - Used to load data from external files (non-DB files)
- Partitioned tables
- **Temporary tables**

Few basics

Datatypes

- CHAR
- VARCHAR2
- CLOB
- LONG
- NUMBER
- DATE
- TIMESTAMP
- BLOB
- RAW
- LONG RAW
- <https://docs.oracle.com/en/database/oracle/oracle-database/21/sqlrf/Data-Types.html#GUID-A3C0D836-BADB-44E5-A5D4-265BA5968483>

Few basics

Quick demo

Few basics

SQL command types

- DDL: Data Definition Language
- DML: Data Manipulation Language
- DQL: Data Query Language
- DCL: Data Control Language
- TCL: Transaction Control Language

Few basics

SQL command types

- **DDL: Data Definition Language**
 - CREATE, DROP, ALTER, TRUNCATE
- **DML: Data Manipulation Language**
 - INSERT, UPDATE, DELETE, ...
- **DQL: Data Query Language**
 - SELECT
- **DCL: Data Control Language**
 - GRANT, REVOKE

Few basics

SQL command types

- TCL: Transaction Control Language
 - COMMIT, SAVEPOINT, ROLLBACK, ...

Few basics

Sample PL/SQL structure

```
DECLARE
```

```
...
```

```
BEGIN
```

```
...
```

```
EXCEPTION
```

```
...
```

```
END;
```

```
/
```


Few basics

Sample PL/SQL structure

Quick demo

Few more topics

- SQL Joins
- Sub-queries
- Normalization
- Indexes
- Partitions
- Procedures & Functions
- Packages
- Triggers
- Cursors & their types
- Exceptions & types

Linux

Quick demo