

Oracle – PL/SQL

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Recap

- ◊ Introduction & Goals of these sessions
- ◊ Quick run of few basics

Setup – Quick recap

- ◆ 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/>

Git & VSCode

- ◇ <https://git-scm.com/download/win>
- ◇ <https://github.com/exaslate-courses/oracle-sql-plsql-b2>
- ◇ <https://code.visualstudio.com/download>
 - ◇ Extensions:
 - ◇ Gitlens
 - ◇ Oracle devtools

PL/SQL

Sample PL/SQL structure

```
DECLARE
```

```
...
```

```
BEGIN
```

```
...
```

```
EXCEPTION
```

```
...
```

```
END;
```

```
/
```


PL/SQL

```
1 DECLARE
2     v_num NUMBER := 1;
3 BEGIN
4     v_num := v_num / 0;
5     DBMS_OUTPUT.PUT_LINE('hello');
6 EXCEPTION
7     WHEN OTHERS THEN
8         DBMS_OUTPUT.PUT_LINE(sqlcode || ' ' || sqlerrm);
9 END;
10 /
```

Anonymous PL/SQL block

PL/SQL

➤ Assignment operator

➤ Variables

➤ User assigned name to a memory location

```
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10 /
```

PL/SQL

- ◆ Variable

- ◆ Declare in “DECLARE” section

- ◆ Initialize in “DECLARE” or “BEGIN” or “EXCEPTION” sections

PL/SQL

◆ String

◆ `v_str VARCHAR2(10) := 'PLSQL';`

◆ `v_char CHAR(10) := 'PLSQL';`

PL/SQL

- ◆ CREATE a sample table to demo CHAR and VARCHAR2
 - ◆ CREATE TABLE tab_datatypes(...);
- ◆ Difference in memory allocation
 - ◆ Using LENGTH or LENGTHB
- ◆ Query all fields and display LENGTH

PL/SQL

```
18 CREATE TABLE tab_datatypes(  
19     code_char CHAR(10) NOT NULL,  
20     code_var VARCHAR2(10) NOT NULL,  
21     n NUMBER(10,2) NOT NULL  
22 );  
23  
24 SELECT code_char, LENGTH(code_char), code_var, LENGTH(code_var), n, LENGTH(n) FROM tab_datatypes;  
25
```

Sample reference

Exercise

- ◆ Clone oracle-plsql training repository
- ◆ Modify anonymous pl/sql block from 2a-vars.sql:
 - ◆ Add another variable of type VARCHAR2.
 - ◆ Initialize in “BEGIN” but not in “DECLARE” section.
 - ◆ Print length of the variable

Exercise

- ◇ Create a table with fields
 - ◇ “ID” of type NUMBER and autoincrements using SEQUENCE, starts with 1.
 - ◇ “country_code_3” -> CHAR(3) NOT NULL
 - ◇ “country_code_2” -> VARCHAR(2) NOT NULL
 - ◇ “country_name” -> VARCHAR2(50) NULL
 - ◇ “num_states” -> NUMBER(2) NULL
 - ◇ “population” -> NUMBER(10) NULL
- ◇ INSERT values of your choice
- ◇ Print “all” fields, along with “LENGTH” of each field.

References

- ◇ https://docs.oracle.com/en/database/oracle/oracle-database/21/sqlug/index.html#SQL*Plus%C2%AE
- ◇ <https://docs.oracle.com/en/database/oracle/oracle-database/21/lnpls/index.html#Oracle%C2%AE-Database>