

A light blue world map is centered in the background of the slide. The title text is overlaid on the map.

# PostgreSQL: For Oracle DBAs

Ants Aasma

# Syntax differences

## No dual



- ▶ Oracle:

```
Select sysdate from dual
```

- ▶ PostgreSQL:

```
Select NOW()
```

- ▶ Oracle:

```
SELECT sequence_name.nextval FROM dual
```

- ▶ PostgreSQL:

```
SELECT nextval('sequence_name')
```

# Recursive queries



- ▶ Oracle: `CONNECT BY`
- ▶ PostgreSQL: `WITH RECURSIVE`

## Limiting number of rows returned



- ▶ Oracle:

```
SELECT * FROM (... ORDER BY x) WHERE rownum < 10
```

- ▶ PostgreSQL:

```
... ORDER BY x LIMIT 10
```

# Features

- ▶ Starting from 9.3 on PostgreSQL



## Materialized views



- ▶ Available from 9.3+
- ▶ No incremental updating.

# Flashback



- ▶ No flashback in PostgreSQL
- ▶ PITR and `recovery_min_apply_delay`

## Stored procedures



- ▶ PostgreSQL has PL/pgsql
- ▶ Mostly a superset of PL/sql
- ▶ No packages
- ▶ Single transaction only, no transaction control

## Parallel queries



- ▶ Not yet implemented on PostgreSQL.

- ▶ UPPER CASE IDENTIFIERS in Oracle, lower case in PostgreSQL
- ▶ WAL - redo log
- ▶ No separate Undo tablespace in PostgreSQL
- ▶ Shared buffers = SGA buffer cache
- ▶ Streaming replication = Dataguard
- ▶ " IS NOT NULL
- ▶ No partition clause, use inheriance,
- ▶ pctfree = fillfactor
- ▶ virtual column is missing, implemented with view

- ▶ varchar, varchar2, nvarchar, nvarchar2
  - ▶ varchar, text
- ▶ char, nchar
  - ▶ char
- ▶ clob, long
  - ▶ varchar, text

# TOAST



- ▶ PostgreSQL stores values larger than 2kB out of line.
- ▶ Compressed

- ▶ Number
  - ▶ bigint, int, smallint, real, double precision
  - ▶ Numeric
- ▶ Binary\_Integer, Binary\_Float
  - ▶ int, float
- ▶ Blob, Raw
  - ▶ bytea



- ▶ Date
  - ▶ Date or timestamp