

# PostgreSQL is even better than you might think.

Lightning Talk by Holger Jakobs  
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# Compare to other „big“ RDBMS

## **ISO Standard Data Types** missing in other RDBMS

- BOOLEAN does not exist in Oracle or in MS SQL.  
MS SQL knows a BIT type which can accommodate 0 or 1.
- Oracle can store VARCHAR only up to 32767 bytes.
- Oracle has no means to store a pure DATE or a pure TIME.
- MS SQL has no means to store an INTERVAL.
- Max. length of NUMERIC type is 38 digits in MS SQL and Oracle.

# Compare to other „big“ RDBMS

## Important Features lacking in Oracle

- Oracle now recommends “AL32UTF8”, which actually is UTF-8, but their own UTF8 is deprecated. Confusing!
- You cannot create a new schema with `CREATE SCHEMA purchasing`, because schema names are tied to user names.
- Every DDL statement commits an open transaction without asking and is itself committed immediately. DDL commands cannot be part of a transaction.
- Quoted object (table, view, schema, constraint ...) names – like `"Table_1"` – cannot contain punctuation characters.

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## Important Features lacking in Oracle

- Constraints not explicitly named by the user are called something like `SYS123456789087`.
- You cannot use `CURRENT` functions in `CHECK` constraints, for instance to check that customers must be 18 years old, which is easy in PostgreSQL using SQL standard syntax:  
`CHECK (birthdate + INTERVAL '18-0' YEAR TO MONTH  
 <= CURRENT_DATE)`
- There is no `ON UPDATE CASCADE` in foreign keys.

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## Important Features lacking in Oracle

- Oracle sees an empty string as a NULL value.  
A PostgreSQL equivalent would be  

```
colName VARCHAR(100) NOT NULL  
CHECK (colName <> '')
```
- Adding two intervals with 12 hours results in 1 day, although there is a technical difference. There is no means to express 30 hours.
- INTERVAL DAY TO SECOND takes 24 hours always as 1 day, even at the beginning or end of daylight saving time.

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## Important Features lacking in MS SQL

- It has known how to handle UTF-8 strings since 2019, but lengths are given in bytes, not in characters. If you have a VARCHAR(10) and try to save 10 characters with at least one character beyond ASCII, it will be truncated without error or warning.
- Its bcp (bulk copy) tool doesn't mask tabs or newlines when exporting data in tab separated files making the output almost useless.
- Quoted Object (table, view, schema, constraint ...) names – like "Table\_1" – aren't case sensitive.

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## Important Features lacking in MS SQL

- JOIN operations have to use ON condition.  
The forms with USING or NATURAL are unknown.
- It offers MVCC only for READ COMMITTED transactions, not for REPEATABLE READ or SERIALZABLE.  
In order to use it, you have to turn on READ\_COMMITTED\_SNAPSHOT.
- It cannot defer constraints (until the end of the transaction).
- The timezone can only be set for the server, not for the session.

Of course this hasn't been a complete list of all flaws of the commercial database systems, but a Lightning Talk is given only 5 minutes.