JSON by the other elephant
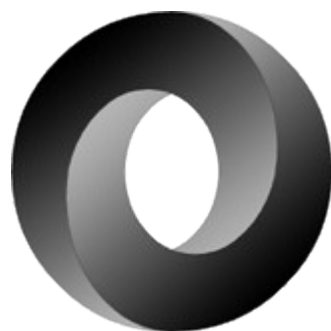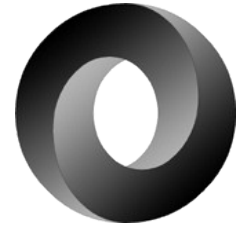

PHP Usergroup Berlin
July 2015
Stefanie Janine Stölting

JSON

- JavaScript Object Notation

- Don't have to care about encoding, it is always UTF8

- Used for data exchange in web application

- Currently two standards RFC 7159 by Douglas Crockford und ECMA-404

- PostgreSQL impementation is RFC 7159

CTE

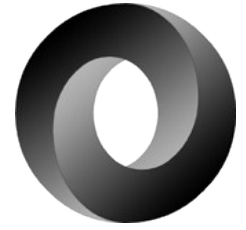*Common Table Expressions* will be used in examples

- Example:

```
WITH RECURSIVE t(n) AS (
    VALUES (1)
  UNION ALL
    SELECT n+1 FROM t WHERE n < 100
)
SELECT sum(n), min(n), max(n) FROM t;
```

- Result:

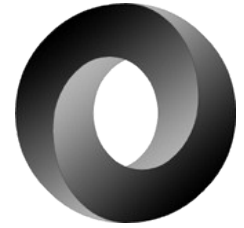|	sum bigint	min integer	max integer
1	5050	1	100

JSON Datatypes

- JSON
  - Available since 9.2
- JSONB
  - Available since 9.4
  - Crompessed JSON

JSON Functions

- row_to_json({row})
  Returns the row as JSON

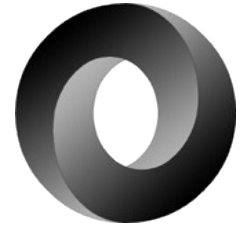- array_to_json({array})
  Returns the array as JSON

-

JSON Opertators

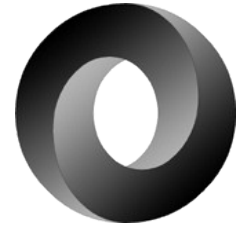- Array Element
  ->{int}

- Object Element
  ->> {text}

Index on JSON

- Index JSONB content for faster access with indexes
  - GIN index overall
    - CREATE INDEX idx_1 ON jsonb.actor USING GIN (jsondata);
  - Even unique B-Tree indexes are possible
    - CREATE UNIQUE INDEX actor_id_2 ON jsonb.actor((CAST(jsondata->>'actor_id' AS INTEGER)));

New JSON functions

- With the next version, 9.5, there will be new functions available.

  - jsonb_pretty

  - jsonb_set

- If you can't wait using them, you might be interested in the jsonbx extentsion available at PGXN

User Group / Conferences

PostgreSQL User Group Berlin

PostgreSQL Europe Conference 2015
Vienna, October 27-30

German PostgreSQL Conference 2015
Hamburg, November 26-27

Link List

Extended JSONB functions for 9.5

Extended JSONB functions as extension for 9.4
as extension from PGXN (jsonbx)

Sakila database from MySQL

pgloader to convert the Sakila database into
PostgreSQL

JSON by the other Elephant