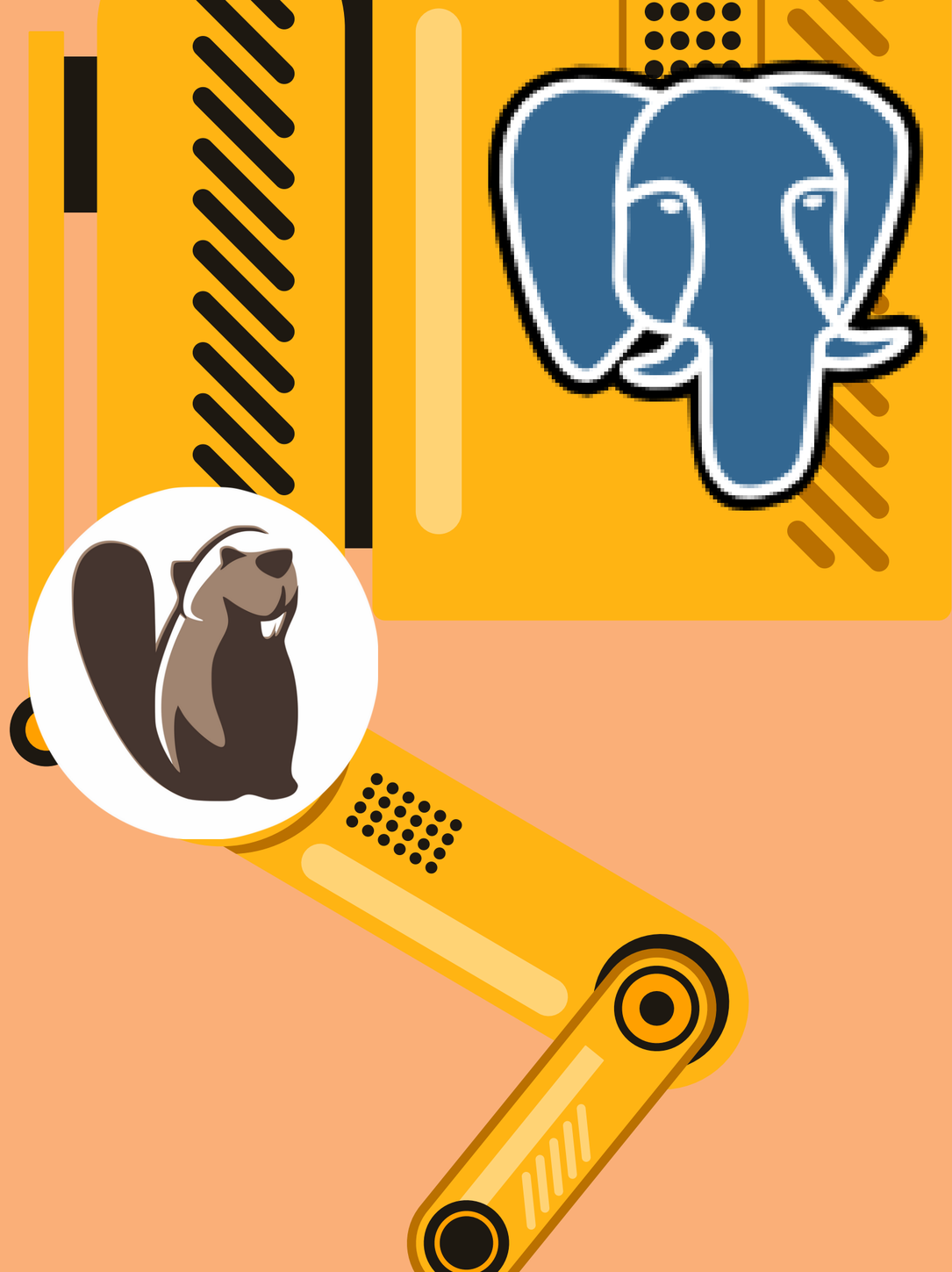
OPTIMIZING YOUR DATABASE WITH

ADVANCED DDL TECHNIQUES

A Guide to Managing Tables, Sequences, Indices, and Key



https://github.com/insightbuilder

SQL DDL QUERIES

CREATING TABLES & COLUMNS

MANAGE THE TABLES IN YOUR DATABASE

CREATING SEQUENCES

CREATING INDICES

MANAGING CONSTRAINTS

PURPOSES OF DDL QUERIES : CRISP INTRO

WHY CREATE TABLES & COLUMNS ?

TO MAKE THE DATA SELECTION EASY, AND THEN MOVING IT AROUND

WHY CREATE INDICES ON COLUMNS?

TO SPEED UP THE SORTING OF COLUMNS AND DATA RETRIEVAL

WHY CREATE SEQUENCES?

LET DATABASE SERVER HANDLE THE VALUE/KEY GENERATION AUTOMATEDLY

WHY CREATE CONSTRAINTS

WHEN NEW DATA ENTERS INTO TABLE, IT NEEDS TO FOLLOW THE CONSTRAINS SET

SUPPORTED CONSTRAINTS:

- NOT NULL CONSTRAINT
- CHECK CONSTRAINT
- UNIQUE CONSTRAINT
- PRIMARY KEY CONSTRAINT
- FOREIGN KEY CONSTRAINT

PRIMARY KEY AND ALTERING TABLES

- ONLY ONE PRIMARY KEY IN A TABLE BUT ANY NUMBER OF UNIQUE CONSTRAINTS.
- UNIQUE COLUMNS CAN HAVE NULL VALUES, PRIMARY KEY HAS TO BOTH UNIQUE AN NOT NULL
- FOREIGN KEY FROM A CHILD TABLE CAN BE DEFINED AGAINST PRIMARY KEY COLUMN OR UNIQUE COLUMN.
- PRIMARY KEY COLUMNS ARE SURROGATE KEYS WHICH ARE SUPPORTED BY SEQUENCE.
- PRIMARY KEY CAN BE COMPOSITE. MORE THAN ONE COLUMN USED TO DEFINE PRIMARY KEY OR UNIQUE CONSTRAINT.
- ALL CONSTRAINTS CAN BE ADDED WHILE CREATING THE TABLE OR ON PRE-CREATED TABLES USING ALTER.
- NOT NULL CHECK CONSTRAINTS CREATED WITH TABLES.WE CAN ALTER TABLE AND SPECIFY
- FOREIGN KEY CONSTRAINTS ARE CREATED AFTER THE TABLES ARE CREATED. USED FOR ENFORCING RELATIONSHIP

PRACTICAL @ DBEAVER

DBEAVER SETUP AND CONNECTION IS EXPLAINED AT

HTTPS://YOUTU.BE/HTY4MOOQPJE

- USE AIRBNB DATABASE TABLES FOR LEARNING
- LEARN TO ADD COLUMNS
- LEARN TO ADD CONSTRAINTS
  - PRIMARY KEY
  - FOREIGN KEY AND REFERENCES
- LEARN TO CREATE INDEX
- LEARN TO CREATE SEQUENCES
- ATTACHING SEQUENCES TO THE COLUMNS
- TRUNCATING VS DROPPING TABLES

```
ALTER TABLE TBL
ADD CONSTRAINT
PK_NAME PRIMARY KEY
(COL)
```

```
ALTER TABLE TABL2
ADD FOREIGN KEY (COL_NAME)
REFERENCES TABL1(COL_NAME)
```

```
CREATE SEQUENCE TEST_SEQ
START WITH 101
MINVALUE 101
MAXVALUE 1000
INCREMENT BY 100
```

```
ALTER SEQUENCE TBL_COL_ID_SEQ
OWNED BY TBL.COL_ID
```

```
ALTER TABLE TBL
 ALTER COLUMN COL
SET DEFAULT
NEXTVAL('TBL_COL_ID_SEQ')
```

```
ALTER TABLE TBL1
ALTER COLUMN COL1 SET DEFAULT
NEXTVAL('TBL_COL_ID_SEQ'),
 ADD PRIMARY KEY (COL)
```

```
ALTER TABLE USERS
ADD UNIQUE (USER_EMAIL_ID)
```

```
CREATE INDEX TBL_COL_IDX
ON TBL(COL)
```

```
ALTER TABLE TBL
 ALTER COLUMN COL1 SET
DEFAULT FALSE,
ALTER COLUMN COL2 SET
DEFAULT FALSE
```

```
ALTER TABLE TBL
ADD COLUMN COL1 TIMESTAMP
DEFAULT CURRENT_TIMESTAMP
```

HTTPS://GITHUB.COM/INSIGHTBUILDER

PRACTICE

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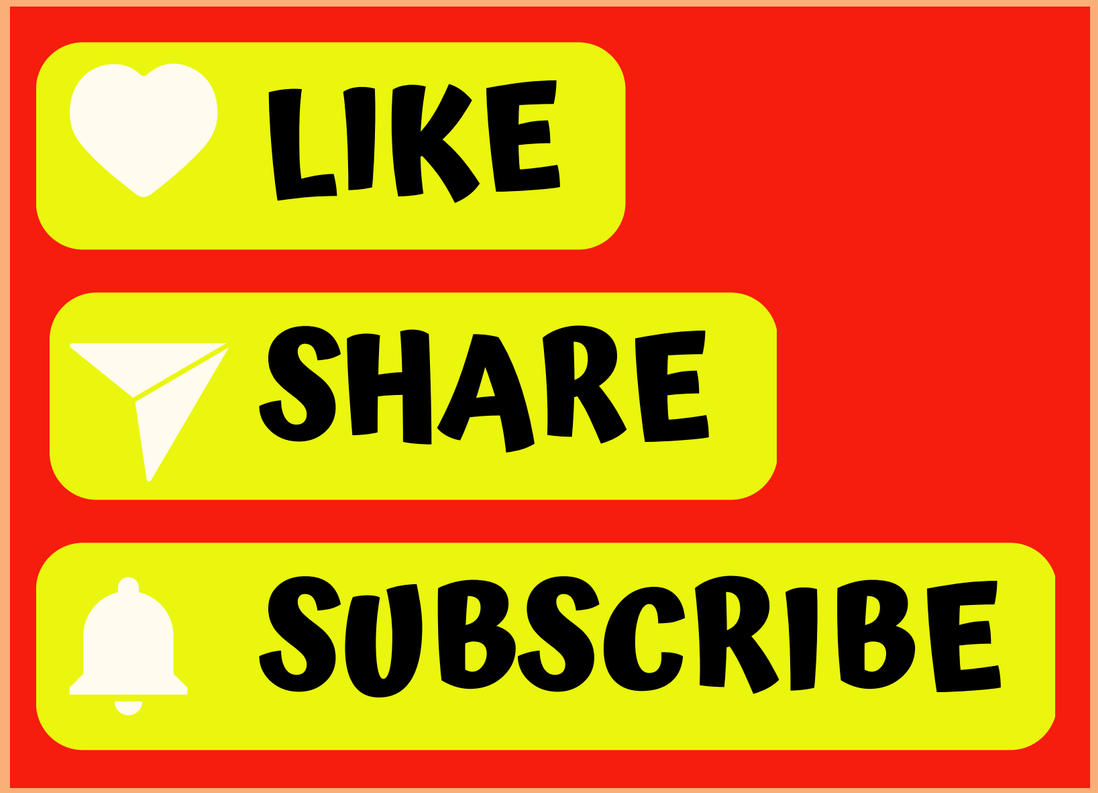

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