

# Boldly Migrate to PostgreSQL with credativ-pg-migrator

Use our new Open Source Tool  
Your Data Deserves the Best

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2025-06-19 PostgreSQL MeetUp Berlin lightning talk

- Founded 1999 in Jülich, Germany
- Close ties to Open-Source Community
- More than 40 Open-Source experts
- Consulting, development, training, support (3rd-level / 24x7)
- Open-Source infrastructure with Linux, Kubernetes and Proxmox
- Open-Source databases with PostgreSQL
- DevSecOps with Ansible, Puppet, Terraform and others
- Since 2025 independent owner-managed company again



# Main Reasons for Migration

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- Growing licensing payments for proprietary databases
- Lack of support and new features for legacy DBs
- No plans for future development of some legacy DBs
- In some cases lack of administrators, shrinking community
- Legacy DBs often run on old hardware / outdated OS
- Knowledge is often lost
- "History became legend. Legend became myth."



AI images without credits  
created by the author  
using DeepDreamGenerator

# Different Migration Tools Exist

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- Different tools are available for migrations
- Open source, and commercial - with specific use cases
- Some use CDC (Change Data Capture) & minimal downtime
- Others require downtime and offline migration
  
- Changes in open source projects can be slow
- Some of them are not maintained anymore
- Our idea is to unify multiple migration use cases
- To dynamically address issues we created credativ-pg-migrator
- We can quickly add new features for specific use cases



# Meet credativ-pg-migrator

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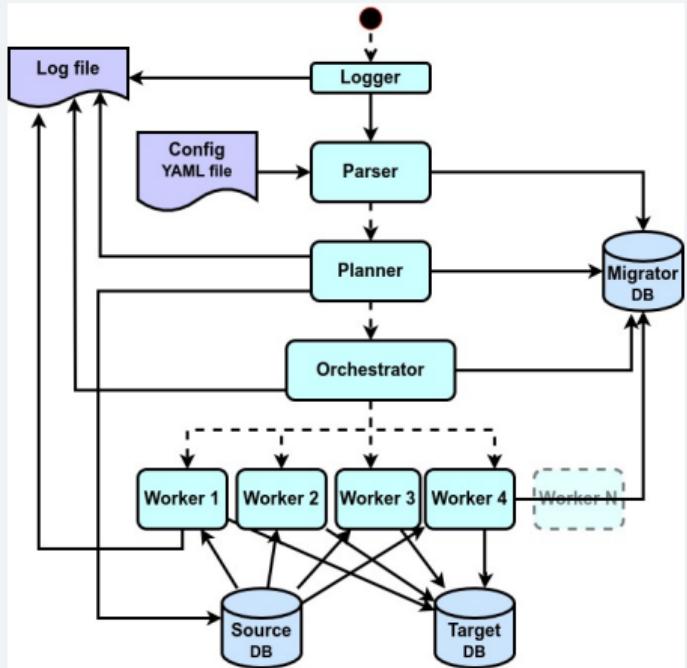


- Inspired by pgloader created by Dimitri Fontaine
- Intended for offline migrations, speed depends on hardware
- Written in Python - JDBC, ODBC or python native DB access
- Other languages have limited support for older DBs
- Written in classes, dynamically pluggable connectors
- Uses well documented and stable libraries
- Pyodbc, JayDeBeApi, cx\_Oracle, psycopg2, mysql, ...
- YAML configuration file, text log file



# credativ-pg-migrator - Architecture

- Modular structure: Parser, Planner, Orchestrator, Workers
- Runs parallel workers, one reader and writer per table
- Speed of migration depends mainly on the hardware
- Creates and fills migration protocol tables
- Protocol tables contain all details about migrated objects
- Outputs detailed INFO and DEBUG messages



# credativ-pg-migrator - Features

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- Target database is always PostgreSQL
- Supports 8 different source databases
- Informix, Oracle, Sybase ASE, SQL Anywhere,
- IBM DB2 LUW, MS SQL Server, MySQL/MariaDB
- PostgreSQL to PostgreSQL for special use cases
- Migrates complete data model from all of them
- Tables, data, indexes, constraints, views
- Allows multiple custom adjustments



# credativ-pg-migrator - Customizations

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- Configurable scope - only schema, only data, both
- Yes/No, Include/exclude - tables, views, funcs, triggers
- Custom defined adjustments:
- Replace Data types (numeric PKs to BIGINT, UDF to standard type)
- Replace Default values (different names of SQL funcs)
- Substitutions of Remote objects references (cross-db refs like db1@tab1)
- Limitatins for Data migrations (time limits: created\_at >=, ID in SELECT)



# credativ-pg-migrator - Other Features

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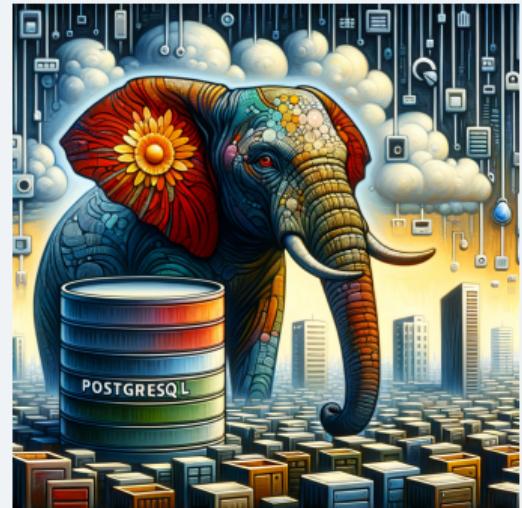
- From Informix can convert Functions, Procedures, Triggers
- Funcs, procs, triggers - yes/no, include/exclude
- Success rate of code conversion 80 to 90%
- Errors mostly due to missing tables, renamed objects/columns
- Some statements may require small manual adjustments
- Conversion of code can be easily added for other DBs too



# Future plans for credativ-pg-migrator

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- Currently we are adding:
- Pre-migration analysis of source database
- Analysis of source tables for partitioning/data
- Configurable partitioning for target tables
- Migration of materialized views for relevant DBs
- Conversion of procs, funcs, triggers for supported DBs on demand
- Other source databases on demand



# Open Source Version 0.9.0



GitHub repository - [github.com/credativ/credativ-pg-migrator](https://github.com/credativ/credativ-pg-migrator)

Released under the GNU General Public License, version 3 (or any later version)

Available also on PyPi - [pypi.org/project/credativ-pg-migrator/](https://pypi.org/project/credativ-pg-migrator/)

I created this tool and many thanks to my colleague Michael Banck  
for all the hard work with open sourcing & publishing it!

