postgresql

How to Convert SQL Server to PostgreSQL – Complete Migration Guide

A complete guide to migrating from Microsoft SQL Server to PostgreSQL — including schema conversion, data transfer, stored procedure rewriting, validation, and performance tuning. Includes tool comparison (pgloader, AWS SCT, DBConvert), ROI breakdown, and hands-on SQL examples.

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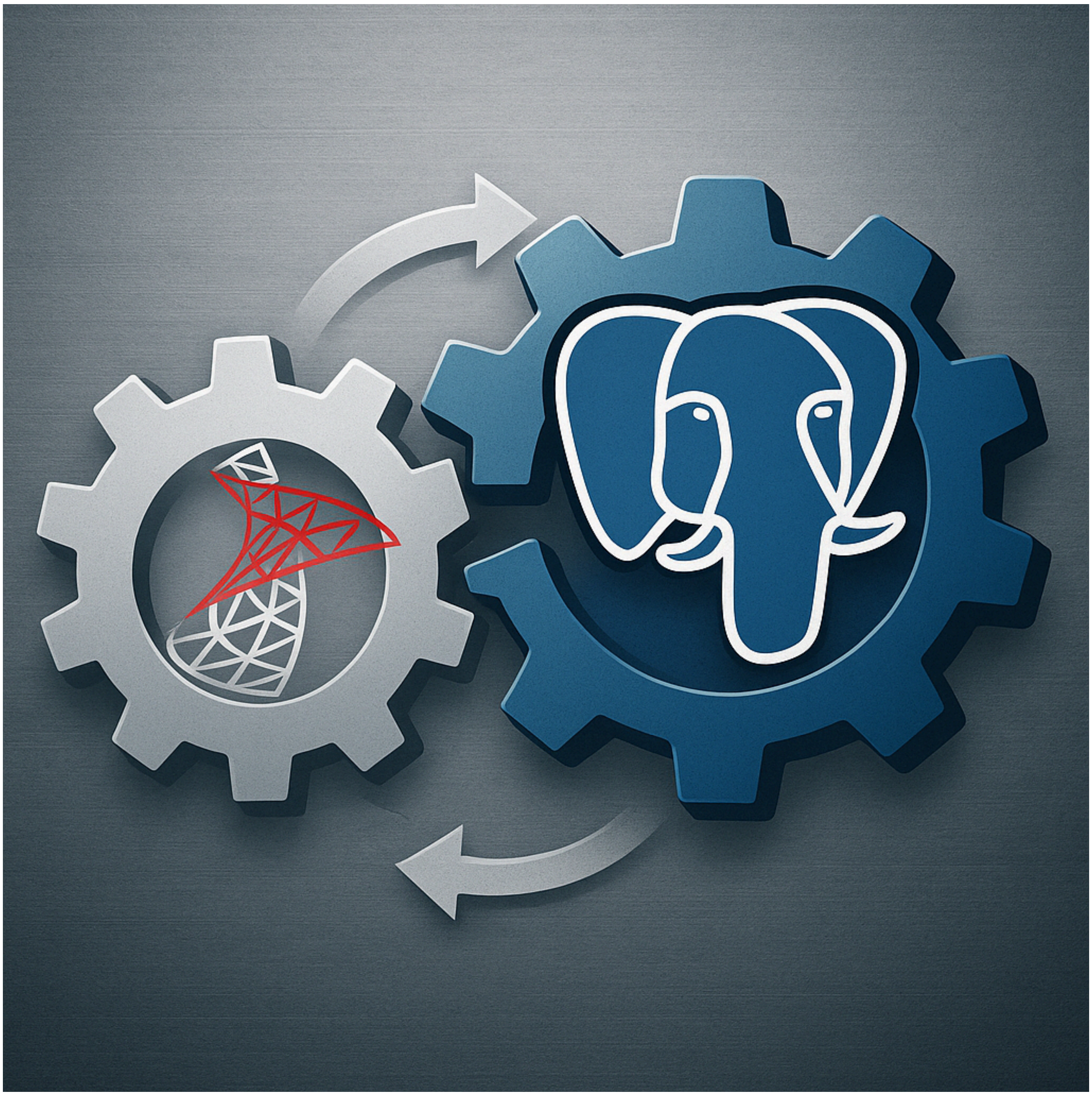
Assistance



convert sql server to postgres

Introduction

Migrating from Microsoft SQL Server to PostgreSQL requires careful planning due to differences in data types, T-SQL vs PL/pgSQL, and architectural approaches. These two database systems have distinct characteristics that impact migration strategies. PostgreSQL, as a leading open-source database, offers significant advantages including **cost savings, advanced features, extensibility, and**

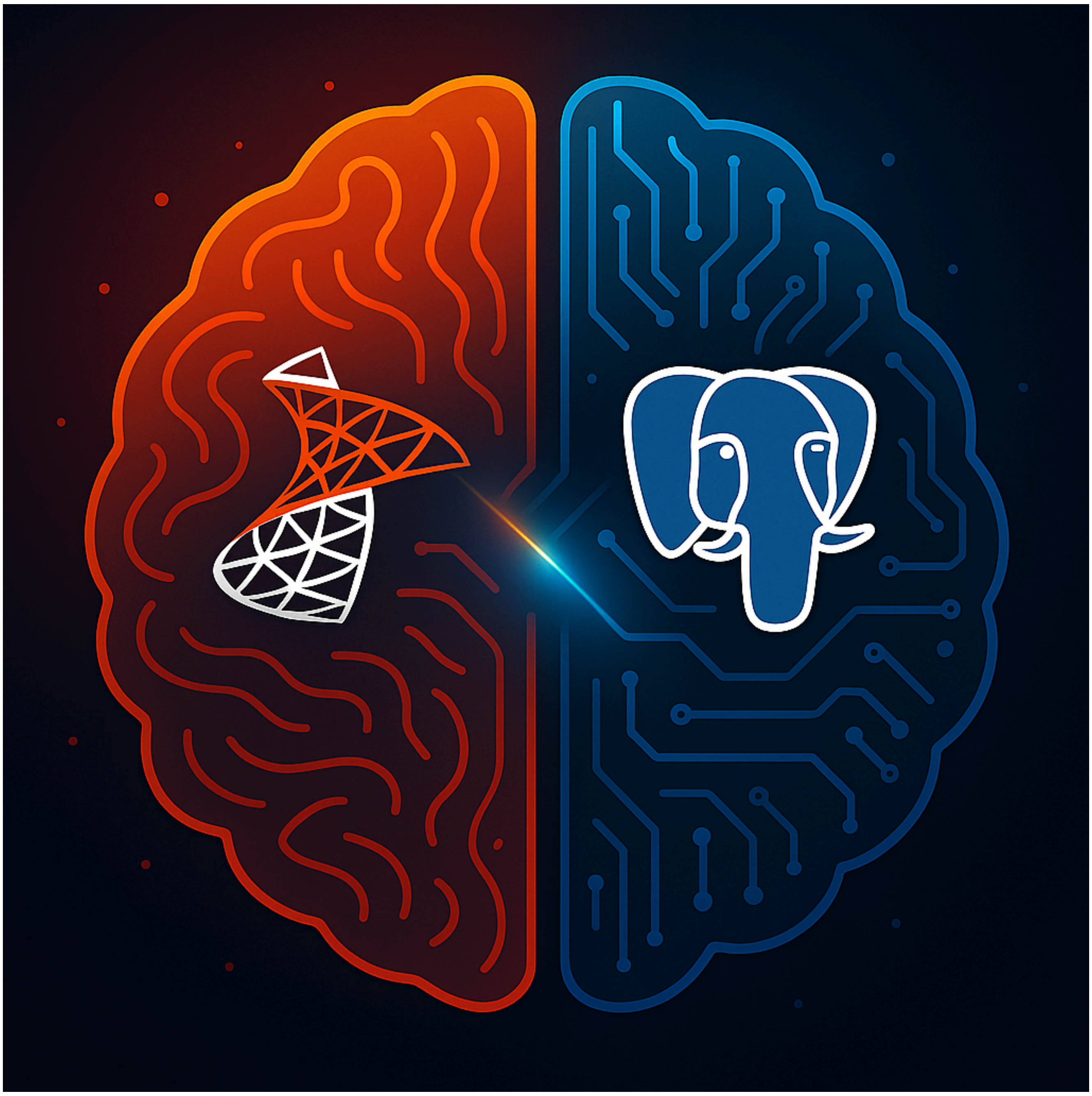
freedom from vendor lock-in. PostgreSQL is free and permits modification and distribution.

The fundamental difference: SQL Server, a Microsoft product, requires expensive commercial licensing (typically $3,500-$28,000+ per core annually), while PostgreSQL is completely free with no licensing fees or user limits. This often drives the decision to migrate, with organizations saving 60-90% on database costs immediately. PostgreSQL is highly scalable and supports parallel query execution, suitable for large-scale workloads.

Whether you're reducing licensing costs, embracing open-source flexibility, or leveraging PostgreSQL's advanced capabilities like JSONB and extensibility, this guide will walk you through each phase — from schema conversion and data transfer to validation and performance optimization.

Migration Method Decision Tree

```
What's your primary migration driver?
├── Budget & Technical Expertise
│   ├── Free + Command Line Experience → pgloader
│   └── GUI + Professional Tools → DBConvert/DBConvert Studio
├── Sync & Testing Requirements
│   ├── One-time Migration → pgloader or DBConvert
│   └── Bidirectional Sync Needed → DBSync/DBConvert Studio
└── Enterprise & Cloud
    └── Large Scale → AWS SCT + DMS (for AWS targets)
```


mssql to postgresql decision

Comparing SQL Server and PostgreSQL – Key Differences

Enhanced Data Type Mapping

SQL SERVER	POSTGRESQL	MIGRATION NOTES
INT IDENTITY	SERIAL/BIGSERIAL	Auto-increment behavior preserved

SQL SERVER	POSTGRESQL	MIGRATION NOTES
BIT	BOOLEAN	1/0 → TRUE/FALSE
NVARCHAR(MAX)	TEXT	Unicode handling simplified; note differ
NVARCHAR(n)	VARCHAR(n)	UTF-8 native in PostgreSQL; be aware c
INT	INTEGER	Direct mapping
BIGINT	BIGINT	Direct mapping
DECIMAL	NUMERIC	Precision maintained
DATETIME2	TIMESTAMP	PostgreSQL has better timezone suppc
VARBINARY(MAX)	BYTEA	Binary storage
NVARCHAR(MAX) + JSON	JSONB	PostgreSQL's JSONB offers superior pe
No native equivalent	ARRAY	PostgreSQL supports native arrays
UNIQUEIDENTIFIER	UUID	PostgreSQL has native UUID support
No native equivalent	INTERVAL	PostgreSQL supports time intervals
CHECK constraints	ENUM	PostgreSQL has native enum types
User-defined types	Custom types	PostgreSQL offers more flexible typing

Advanced PostgreSQL Features Not in SQL Server

Native Arrays: PostgreSQL supports multi-dimensional arrays with indexing and operators.

```
-- PostgreSQL array example
CREATE TABLE products (
    id SERIAL,
    tags TEXT[],
    ratings INTEGER[]
);
```

JSONB Advantages: Binary JSON storage with advanced indexing and operators.

```
-- PostgreSQL JSONB with GIN indexing
CREATE INDEX idx_product_data ON products USING GIN (data);
SELECT * FROM products WHERE data @> '{"category": "electronics"}';
```

Extensibility: Custom data types, operators, and functions.
Advanced Indexing: GIN, GiST, SP-GiST, BRIN indexes for specialized use cases.

T-SQL to PL/pgSQL Migration Complexity

SQL Server's T-SQL differs significantly from PostgreSQL's PL/pgSQL:

- **Variable Declaration**: `DECLARE @var INT` → `DECLARE var INTEGER;`
- **Error Handling**: `TRY/CATCH` → `EXCEPTION WHEN`
- **Cursor Syntax**: Different loop structures and cursor handling
- **Functions**: SQL Server scalar/table functions → PostgreSQL functions with different syntax

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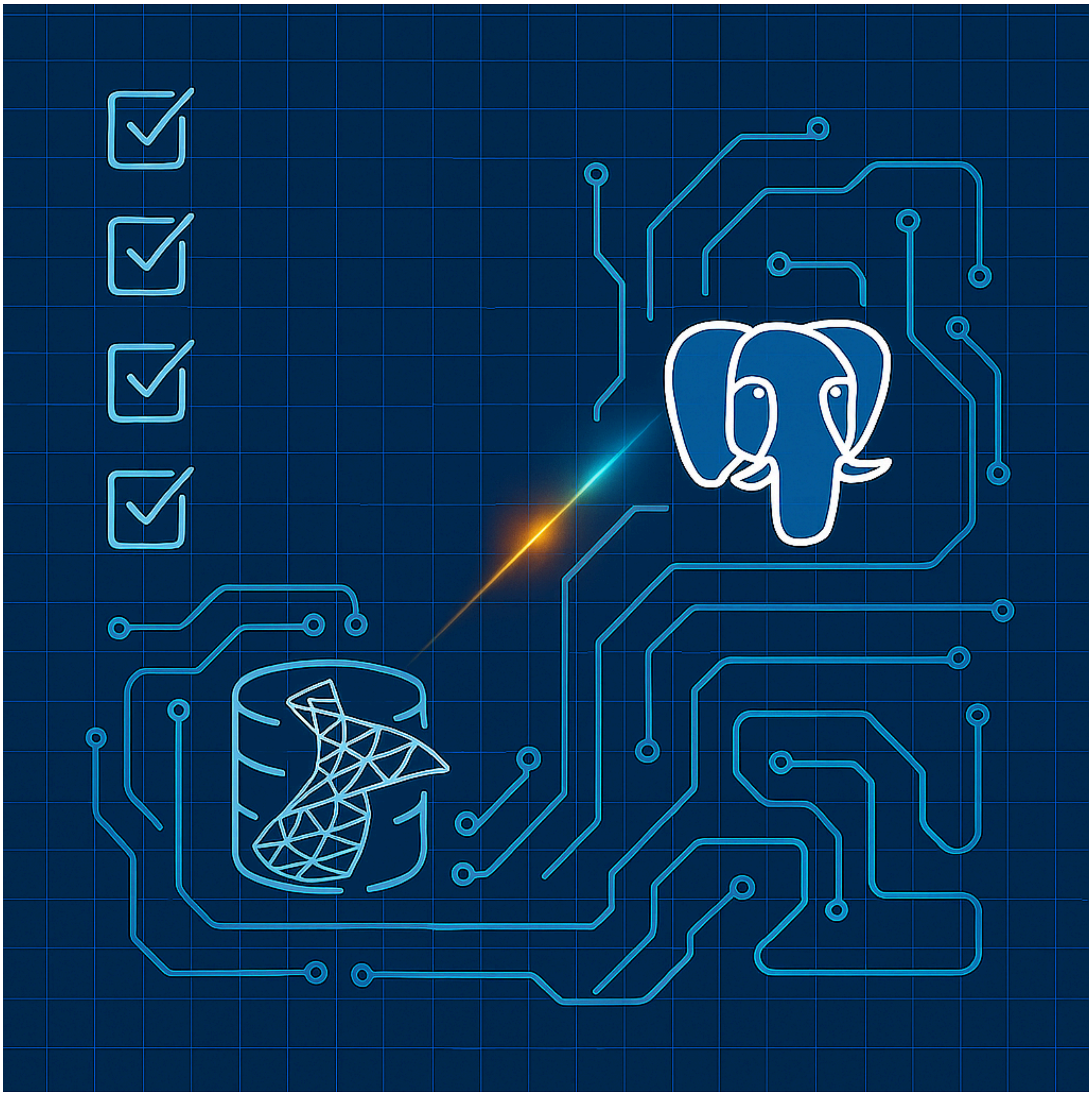
Pre-Migration Planning and Assessment Checklist

- [ ] Audit SQL Server licensing costs and identify savings opportunities
- [ ] Review SQL Server version and feature usage
- [ ] Inventory schema objects (tables, views, procedures, functions, triggers)
- [ ] Identify T-SQL specific features and dependencies
- [ ] Map data types to PostgreSQL equivalents

- [ ] Analyze stored procedure complexity for conversion effort
- [ ] Backup SQL Server database
- [ ] Set up target PostgreSQL instance (version 12+ recommended)
- [ ] Create and configure a database user with appropriate privileges in the target database
- [ ] Plan application connection string and driver updates
- [ ] Choose migration strategy based on downtime tolerance
- [ ] Understand data size and complexity to plan the migration strategy effectively



mssql to postgres checklist

Migration Cost Planning

Comprehensive Cost Analysis by Database Size:

SIZE	MANUAL LABOR	AWS SCT+DMS	DBCONVERT	PGLOADER	LICENSE SAVING
<10GB	2–3 days	$100–300*	$179 + 4hrs	4–8 hrs	$3,000–$10,(
10–100GB	1–2 weeks	$300–800*	$179 + 8hrs	8–16 hrs	$15,000–$50

SIZE	MANUAL LABOR	AWS SCT+DMS	DBCONVERT	PGLOADER	LICENSE SAVING
100GB–1TB	2–4 weeks	$800–3000*	$179 + 16hrs	1–2 days	$75,000–$25
>1TB	4–8 weeks	$3000+*	$179 + 24hrs	2–5 days	$250,000+

*AWS SCT is free; DMS pricing estimates shown above. Confirm current AWS DMS pricing via official AWS documentation as rates vary by region and usage patterns.

***Note1**: DBConvert tools include DBConvert ($179), DBSync ($179 for ongoing sync), and DBConvert Studio ($599 for universal database support).*

***Note2:** Azure Database Migration Service is not included as it does not support SQL Server to PostgreSQL migrations.*

ROI Calculation: Most organizations see full migration cost recovery within 3–12 months through eliminated SQL Server licensing fees.

Migration Success Example (Illustrative)

E-commerce Platform Migration Example

- Size: 750GB, 300 tables, extensive JSON usage
- Method: AWS SCT + DMS with DBConvert for final sync
- Timeline: 3 weeks prep, 6-hour cutover
- Key Benefits: 70% licensing cost reduction, improved JSON performance
- Result: 99.5% uptime, 40% faster JSON queries post-migration

Note: This is an illustrative example representing typical migration outcomes. Actual results may vary based on specific requirements and implementation.

Migration Tools and Strategies

AWS Schema Conversion Tool (SCT) + DMS

AWS provides enterprise-grade tools for large-scale migrations to AWS targets.

- ✅ **Enterprise-grade** schema conversion with automation
- ✅ **Handles complex T-SQL** to PL/pgSQL conversion
- ✅ **Integrated with DMS** for seamless data transfer
- ✅ **Minimal downtime** with change data capture
- ✅ **Adds linked servers** to the object tree when Amazon RDS is the target
- ✅ **Converts user-defined table types** into temporary table structures
- ❌ **AWS-specific** - requires AWS cloud infrastructure and targets
- ❌ **Limited to AWS ecosystem** migrations

Best for: Large enterprise migrations to AWS RDS PostgreSQL or Aurora PostgreSQL.

***Note**: **Azure Database Migration Service** does **NOT** support SQL Server to PostgreSQL migrations. Azure DMS supports PostgreSQL-to-PostgreSQL migrations and SQL Server to Azure SQL targets, but not cross-platform scenarios like SQL Server to PostgreSQL.*

pgloader

Open-source command-line tool for SQL Server to PostgreSQL data migration.

- ✅ Fast, reliable, and completely free
- ✅ Handles basic schema creation and data transfer
- ✅ Automatic data type conversion
- ✅ **Supports importing data from flat file formats** such as CSV files
- ✅ Good for straightforward migrations
- ❌ **Command-line only** - requires technical expertise
- ❌ **No GUI interface** for visual mapping
- ❌ **No bidirectional sync** - one-direction only
- ❌ **Limited customization** compared to commercial tools

Best for: Budget-conscious migrations where you have command-line expertise and don't need ongoing sync.

DBConvert

Commercial tool specifically designed for SQL Server ↔ PostgreSQL migrations.

- ✅ **Visual mapping interface** with customizable type mapping
- ✅ **Automatic schema conversion** - handles complex schemas intelligently
- ✅ **Bidirectional sync** for testing and validation phases

- ✅ **GUI-based** - no command-line expertise required
- ✅ **Professional support** and documentation
- ❌ Commercial license required ($179)

Best for: Professional migrations requiring visual control, bidirectional sync, or GUI interface.

DBSync

Specialized synchronization tool designed specifically for ongoing database replication.

- ✅ **Dedicated synchronization** - purpose-built for keeping databases in sync
- ✅ **Bidirectional replication** - changes sync in both directions automatically
- ✅ **Continuous operation** - runs as ongoing service, not one-time migration
- ✅ **Real-time sync** - minimal latency between database changes
- ✅ **Professional monitoring** and error handling
- ❌ Commercial license required ($179)

Best for: Post-migration scenarios where you need to keep SQL Server and PostgreSQL synchronized long-term, testing phases, or hybrid deployments.

DBConvert Studio

Universal migration and synchronization tool supporting 40+ database types.

- ✅ **Everything DBConvert offers** plus universal database support
- ✅ **Future-proof** - supports migrations between any database types
- ✅ **Same bidirectional sync** and visual mapping capabilities
- ✅ **Enterprise features** and scalability
- ❌ Higher cost ($599) but covers all database migration needs

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Consolidated Data Transfer Methods

Method 1: pgloader

pgloader is an open-source tool specifically designed for SQL Server to PostgreSQL data migration:

```
# Install pgloader
apt-get install pgloader  # Ubuntu/Debian
brew install pgloader     # macOS

# Basic migration command
pgloader mssql://user:pass@sqlserver/database postgresql://user:pass@pgserve

# Advanced configuration file
load database
  from mssql://user:pass@sqlserver/database
  into postgresql://user:pass@pgserver/database

WITH include drop, create tables, create indexes, reset sequences

SET work_mem to '256MB',
    maintenance_work_mem to '512MB';
```

pgloader usage

Method 2: Native Export/Import

SQL Server Export:

```
-- Export using BCP
bcp "SELECT * FROM tablename" queryout "data.csv" -c -t"," -r"\n" -S server -

-- Or use SQLCMD with formatted output
SQLCMD -S server -d database -Q "SELECT * FROM tablename" -o "data.csv" -s",'

-- Generate scripts for schema migration via SQL Server Management Studio
```

Use bcp or sqlcmd for mssql export

PostgreSQL Import:

```
-- Import using COPY
COPY tablename FROM '/path/to/data.csv' WITH CSV HEADER DELIMITER ',';

-- Or use \copy in psql or pgAdmin for client-side files
\copy tablename FROM 'data.csv' WITH CSV HEADER DELIMITER ','
```

import data to postgres db

Method 3: AWS DMS with Change Data Capture

For minimal downtime migrations using AWS Database Migration Service:

1. **Initial Load**: Migrate existing data
2. **CDC (Change Data Capture)**: Capture ongoing changes
3. **Cutover**: Switch applications to PostgreSQL

Step-by-Step Migration Execution

Phase 1: Schema Conversion

Export table and schema definitions from SQL Server, then convert to PostgreSQL-compatible syntax.

Convert SQL Server DDL to PostgreSQL:

```
-- SQL Server
CREATE TABLE Products (
    ProductID INT IDENTITY(1,1) PRIMARY KEY,
    ProductName NVARCHAR(100) NOT NULL,
    Price DECIMAL(10,2),
    IsActive BIT DEFAULT 1,
    CreatedDate DATETIME2 DEFAULT GETDATE()
);

-- PostgreSQL equivalent
CREATE TABLE products (
    product_id SERIAL PRIMARY KEY,
    product_name VARCHAR(100) NOT NULL,
    price NUMERIC(10,2),
    is_active BOOLEAN DEFAULT TRUE,
    created_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

Phase 2: Data Transfer

- Export data from SQL Server using appropriate methods (manual export, SSIS, SQLCMD, bcp)
- Import into PostgreSQL with proper encoding (UTF-8)
- Validate row counts and data integrity
- Update sequence values for SERIAL columns

Phase 3: Stored Procedure Conversion

Convert T-SQL stored procedures to PL/pgSQL functions, adjusting parameter handling and result sets.

T-SQL to PL/pgSQL Example:

```
-- SQL Server T-SQL
CREATE PROCEDURE GetProductsByCategory
    @CategoryID INT
AS
BEGIN
    SELECT * FROM Products
    WHERE CategoryID = @CategoryID
    ORDER BY ProductName;
END

-- PostgreSQL PL/pgSQL
CREATE OR REPLACE FUNCTION get_products_by_category(category_id INTEGER)
RETURNS TABLE (
    product_id INTEGER,
    product_name VARCHAR,
    price NUMERIC
) AS $$
BEGIN
    RETURN QUERY
    SELECT p.product_id, p.product_name, p.price
    FROM products p
    WHERE p.category_id = category_id
    ORDER BY p.product_name;
END;
$$ LANGUAGE plpgsql;
```

Phase 4: Application Updates

- Update connection strings to PostgreSQL
- Replace SQL Server database drivers with PostgreSQL drivers for your programming language
- Modify queries for PostgreSQL syntax differences
- Update any SQL Server-specific function calls

Performance Considerations

Indexing Strategy Migration

SQL SERVER INDEX	POSTGRESQL EQUIVALENT	MIGRATION NOTES
Clustered Index	❌ No direct equivalent	Use PRIMARY KEY with CLUSTER comr
Non-clustered Index	✅ **B-tree Index**	Standard PostgreSQL indexes (default)
Filtered Index	✅ **Partial Index**	WHERE clause conditions supported
Full-text Index	✅ **GIN Index + tsvector**	More powerful text search capabilities
Spatial Index	✅ **GiST Index + PostGIS**	Enhanced spatial features via extensior
Columnstore Index	✅ **BRIN Index**	For large tables with natural ordering
XML Index	❌ Limited equivalent	Use GIN indexes on extracted data

PostgreSQL Performance Advantages

Better JSONB Performance:

```
-- PostgreSQL JSONB with native operators
SELECT * FROM products
WHERE data @> '{"category": "electronics"}'
AND data ? 'discount';

-- Create GIN index for fast JSON queries
CREATE INDEX idx_products_data ON products USING GIN (data);
```

Advanced Query Planning:

- PostgreSQL's query planner often outperforms SQL Server on complex queries
- Better handling of large result sets
- More sophisticated join algorithms

Enhanced Validation and Testing

Data Integrity Verification

Row Count Comparison:

```
-- SQL Server
SELECT COUNT(*) FROM tablename;

-- PostgreSQL
SELECT COUNT(*) FROM tablename;
```

Checksum Verification:

```
-- PostgreSQL data validation
SELECT
    schemaname,
    tablename,
    n_tup_ins - n_tup_del as row_count
FROM pg_stat_user_tables
ORDER BY schemaname, tablename;
```

Performance Testing

Query Performance Comparison:

- Migrate top 20 most critical queries
- Compare execution plans using `EXPLAIN ANALYZE`
- Test with production-like data volumes
- Validate that PostgreSQL performance meets or exceeds SQL Server

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Common Migration Pitfalls and Solutions

Character Encoding Differences

SQL Server: Uses UTF-16 encoding by default
PostgreSQL: Uses UTF-8 encoding natively

Migration considerations:

```
-- Ensure UTF-8 encoding during database creation
CREATE DATABASE mydb
    WITH ENCODING = 'UTF8'
    LC_COLLATE = 'en_US.UTF-8'
    LC_CTYPE = 'en_US.UTF-8';
```

Identity Column Migration

Problem: SQL Server IDENTITY doesn't transfer sequence values
Solution:

```
-- After data import, reset sequences
SELECT setval('tablename_id_seq', (SELECT MAX(id) FROM tablename));
```

Case Sensitivity Differences

Problem: PostgreSQL is case-sensitive by default
Solution: Use consistent naming conventions or quoted identifiers

NULL Handling in Unique Constraints

SQL Server: Multiple NULLs allowed in unique indexes
PostgreSQL: Also allows multiple NULLs (similar behavior)

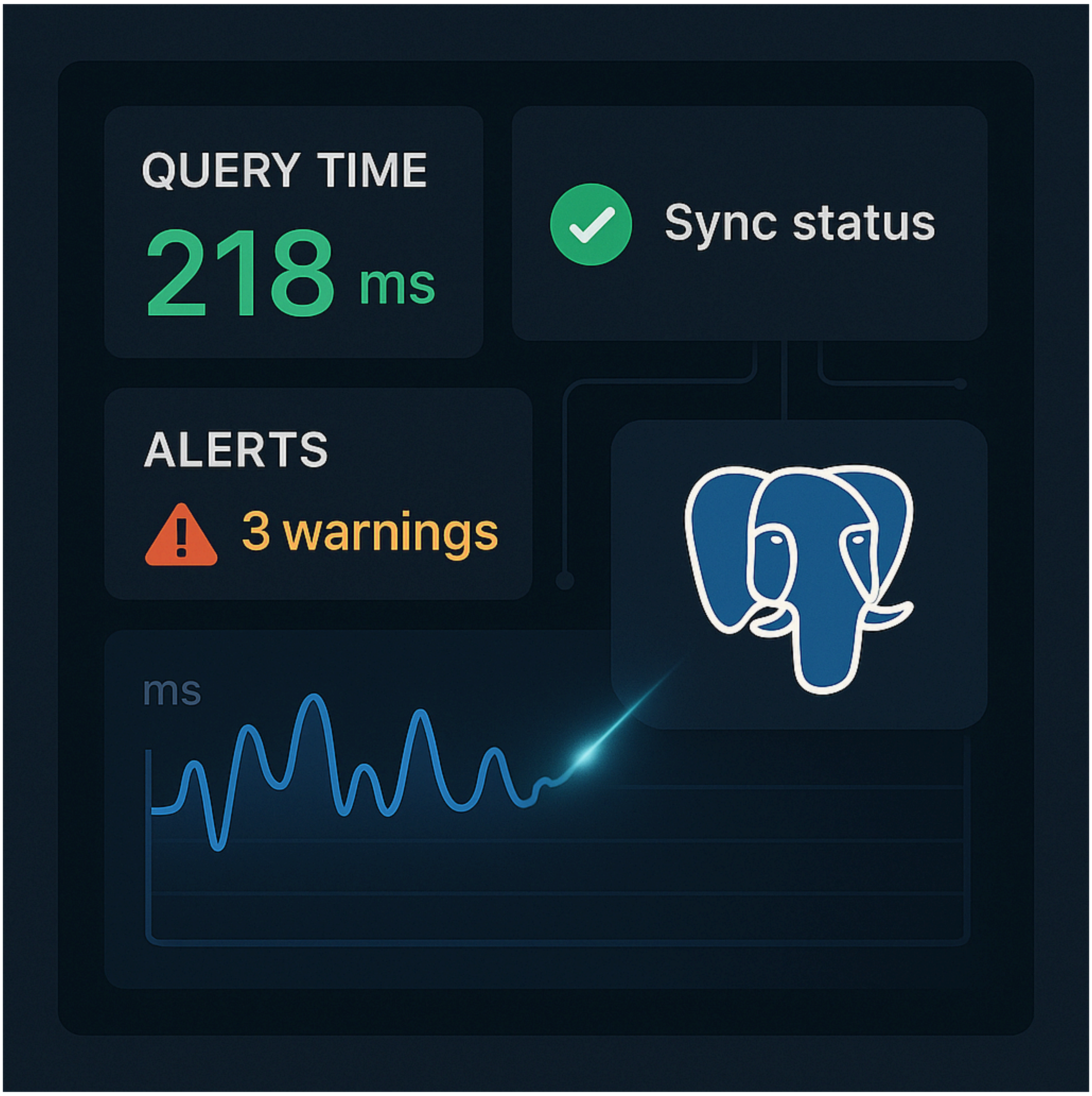
JSON Migration Advantages

SQL Server JSON → **PostgreSQL JSONB** provides significant benefits:

- Better performance with binary storage
- Native operators (`, ->>, #>, @>, ?`)

- Advanced indexing with GIN
- JSONPath support in newer versions

Post-Migration Optimization



PostgreSQL-Specific Optimizations

1. Vacuum and Analyze:

```
-- Set up automatic vacuum and analyze
ALTER SYSTEM SET autovacuum = on;
SELECT pg_reload_conf();

-- Manual vacuum for immediate optimization
VACUUM ANALYZE;
```

2. Connection Pooling:

```
-- Configure connection pooling (pgbouncer recommended)
-- PostgreSQL handles connections differently than SQL Server
```

3. Memory Configuration:

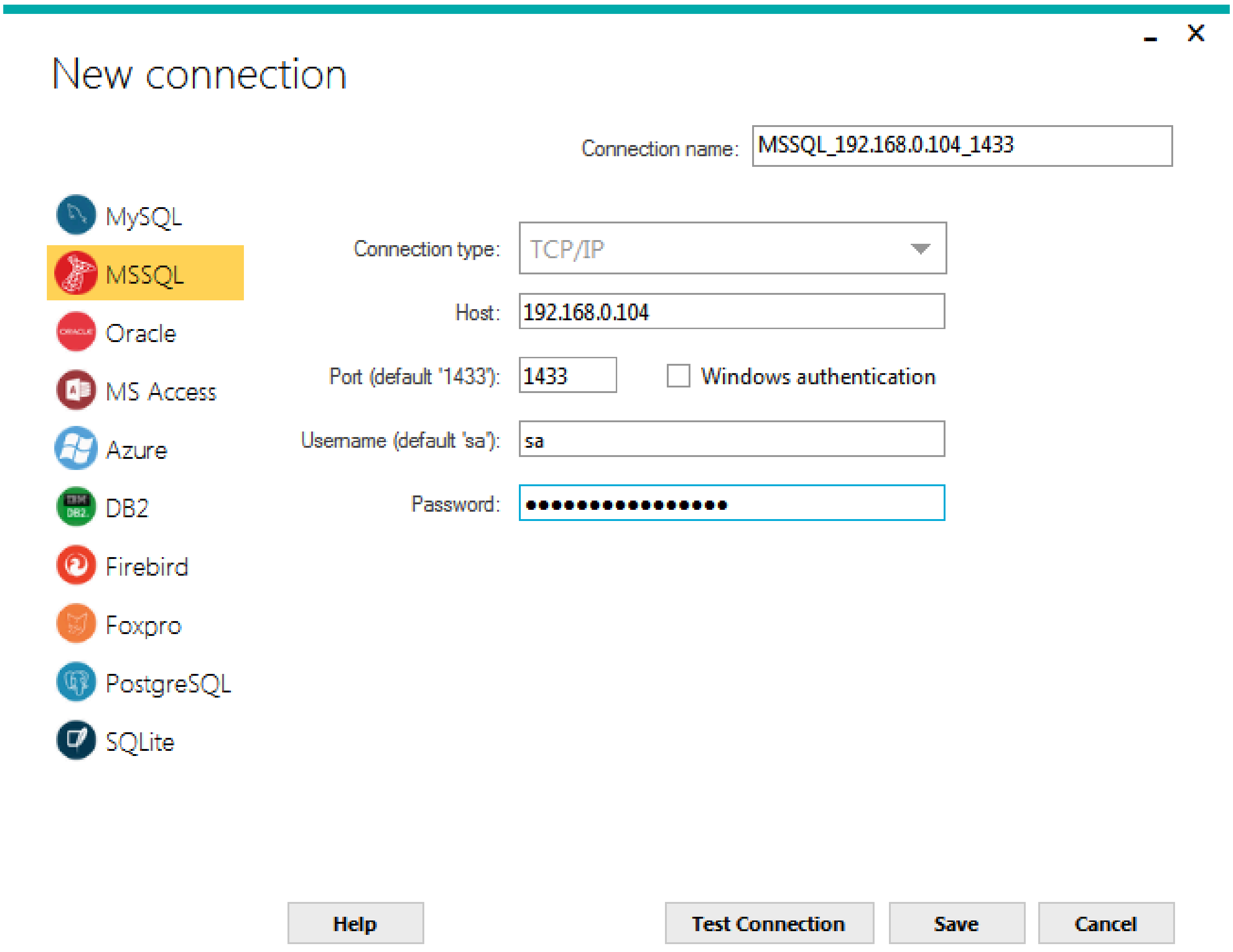
```
-- Optimize PostgreSQL memory settings
ALTER SYSTEM SET shared_buffers = '25% of RAM';
ALTER SYSTEM SET effective_cache_size = '75% of RAM';
ALTER SYSTEM SET work_mem = '256MB';
SELECT pg_reload_conf();
```

Walkthrough: Migrating SQL Server to PostgreSQL Using DBConvert Studio

DBConvert Studio provides a comprehensive solution for SQL Server to PostgreSQL migration with universal database support.

Step 1 – Connect Databases

- Launch DBConvert Studio
- Configure SQL Server source connection (Windows or SQL Authentication)


New connection

Connection name: MSSQL_192.168.0.104_1433

Connection type: TCP/IP

Host: 192.168.0.104

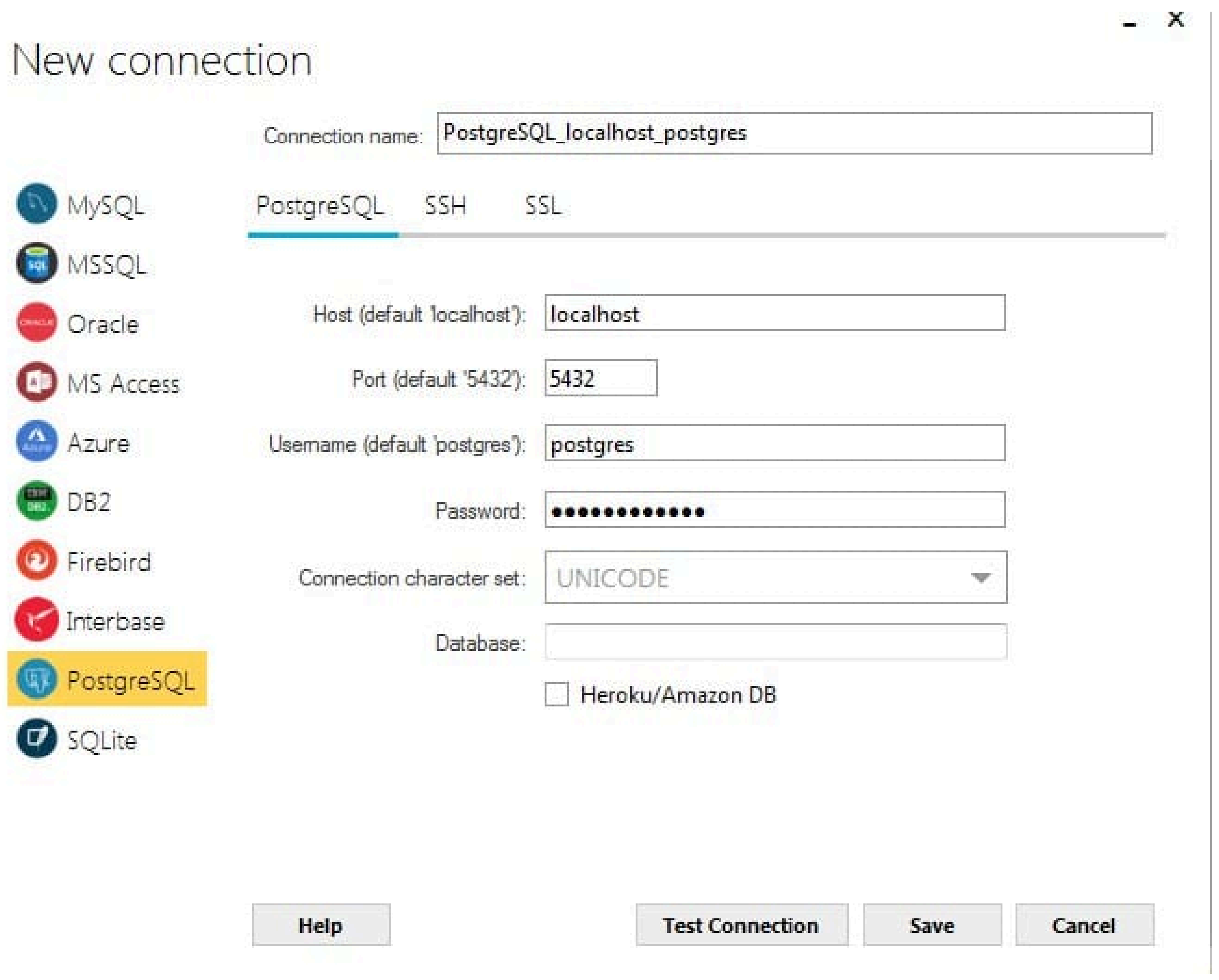
Port (default '1433'): 1433 ☐ Windows authentication

Username (default 'sa'): sa

Password: ●●●●●●●●●●●●●●●●

new SQL Server connection

- Set up PostgreSQL target connection


New connection

Connection name: PostgreSQL_localhost_postgres

PostgreSQL | SSH | SSL

Host (default 'localhost'): localhost

Port (default '5432'): 5432

Username (default 'postgres'): postgres

Password: •••••••••••••

Connection character set: UNICODE

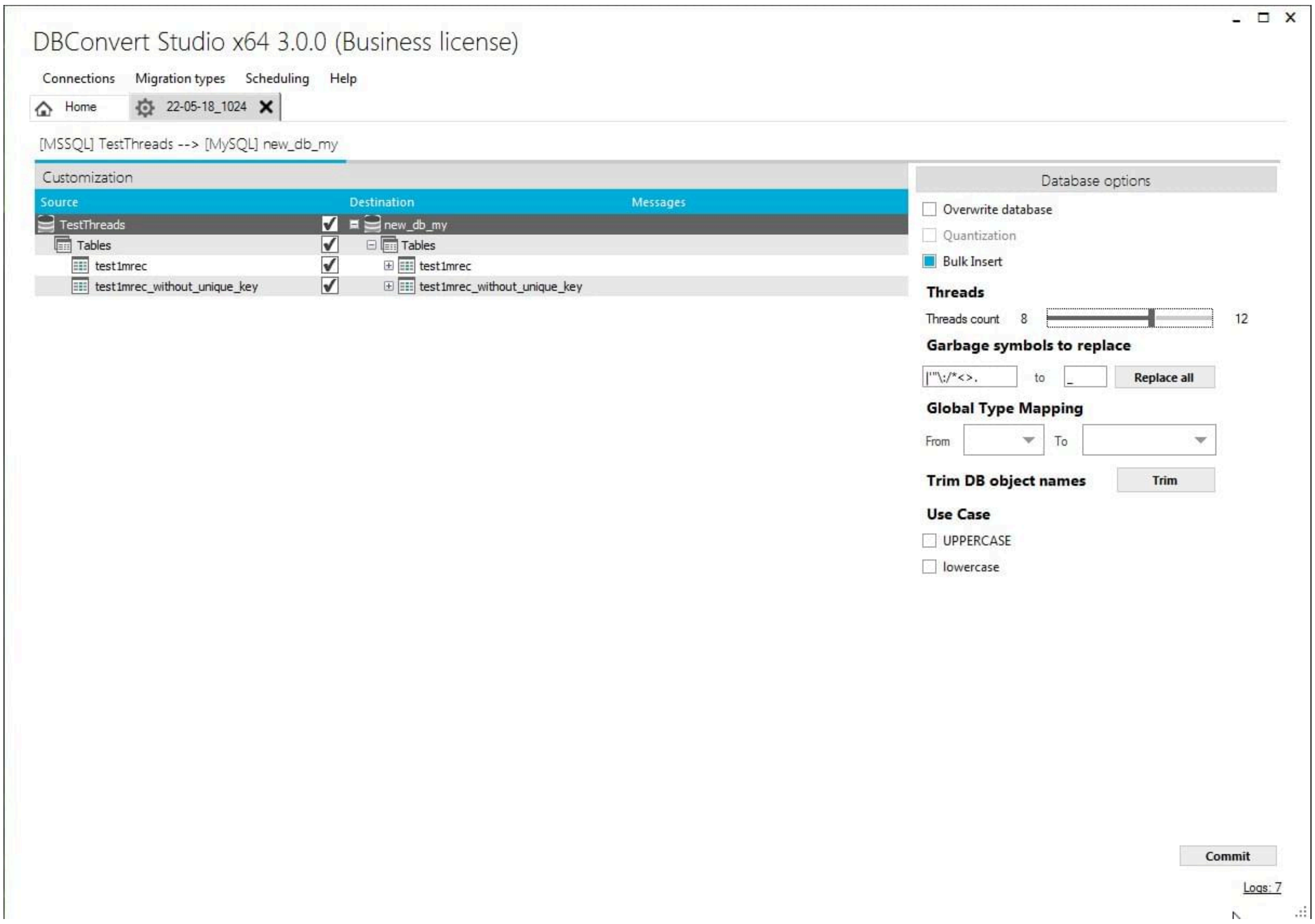
Database:

☐ Heroku/Amazon DB

- Test both connections.

Step 2 – Customize options for conversion/ sync.

- Configure database objects.



[MSSQL] TestThreads --> [MySQL] new_db_my

Source		Destination	Messages
TestThreads	✓	new_db_my	
Tables	✓	Tables	
test1mrec	✓	test1mrec	
test1mrec_without_unique_key	✓	test1mrec_without_unique_key	

- [ ] Overwrite database
- [ ] Quantization
- [x] Bulk Insert

Threads

Threads count 8 12

Garbage symbols to replace

|"\:/*<>. to _

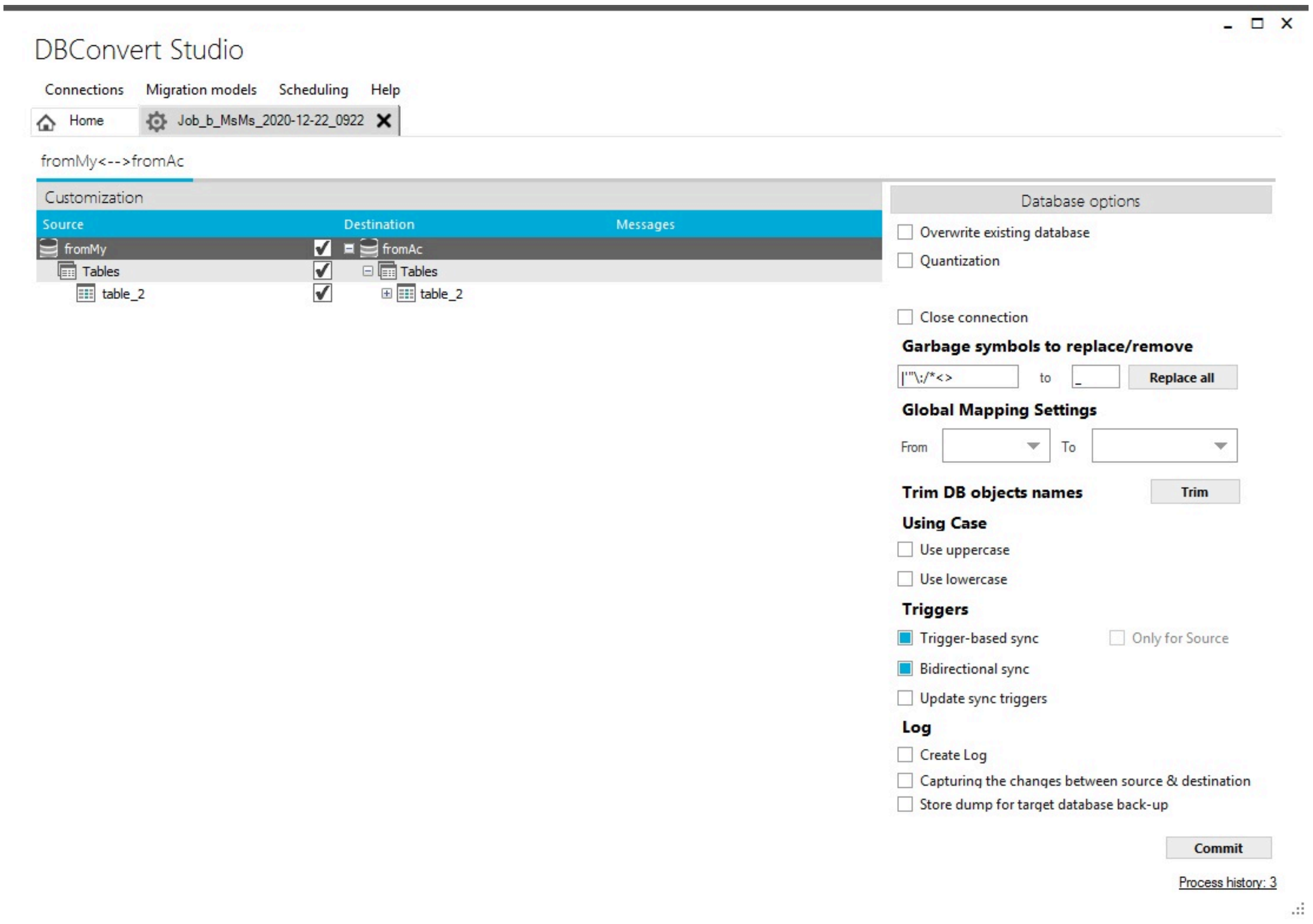
Global Type Mapping

From To

Trim DB object names

Use Case

- [ ] UPPERCASE
- [ ] lowercase



Source		Destination	Messages
fromMy	✓	fromAc	
Tables	✓	Tables	
table_2	✓	table_2	

Database options

- [ ] Overwrite existing database
- [ ] Quantization
- [ ] Close connection

Garbage symbols to replace/remove

|"\:/*<> to _ Replace all

Global Mapping Settings

From [ ] To [ ]

Trim DB objects names Trim

Using Case

- [ ] Use uppercase
- [ ] Use lowercase

Triggers

- [✓] Trigger-based sync
- [ ] Only for Source
- [✓] Bidirectional sync
- [ ] Update sync triggers

Log

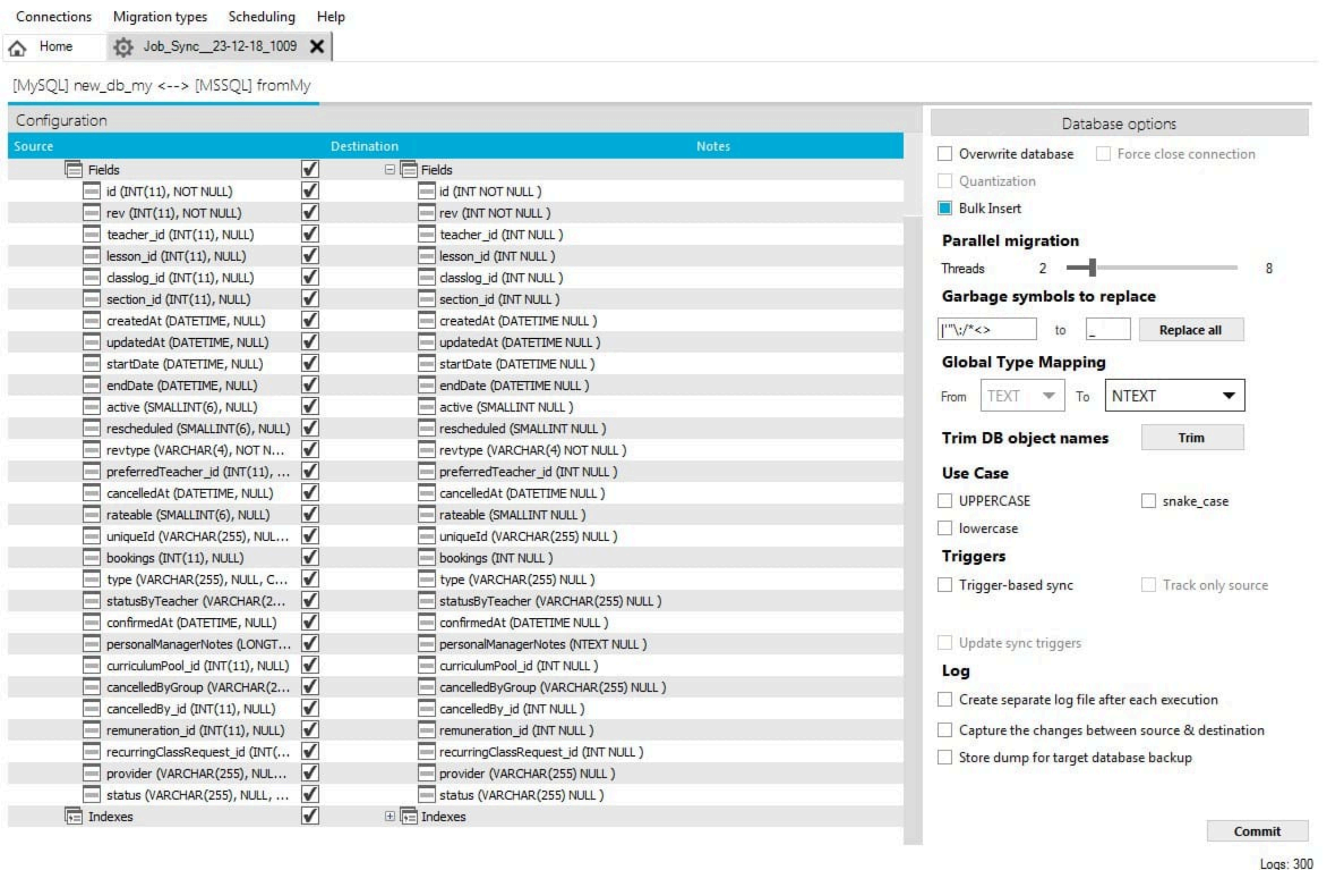
- [ ] Create Log
- [ ] Capturing the changes between source & destination
- [ ] Store dump for target database back-up

Commit

Process history: 3

Step 3 – Data Type Mapping Customization

- Customize NVARCHAR → VARCHAR mappings
- Configure IDENTITY → SERIAL conversions
- Set up JSON → JSONB transformations
- Preview conversion results



[MySQL] new_db_my <--> [MSSQL] fromMy

Configuration

Source		Destination	Notes
Fields	✓	Fields	
id (INT(11), NOT NULL)	✓	id (INT NOT NULL)	
rev (INT(11), NOT NULL)	✓	rev (INT NOT NULL)	
teacher_id (INT(11), NULL)	✓	teacher_id (INT NULL)	
lesson_id (INT(11), NULL)	✓	lesson_id (INT NULL)	
classlog_id (INT(11), NULL)	✓	classlog_id (INT NULL)	
section_id (INT(11), NULL)	✓	section_id (INT NULL)	
createdAt (DATETIME, NULL)	✓	createdAt (DATETIME NULL)	
updatedAt (DATETIME, NULL)	✓	updatedAt (DATETIME NULL)	
startDate (DATETIME, NULL)	✓	startDate (DATETIME NULL)	
endDate (DATETIME, NULL)	✓	endDate (DATETIME NULL)	
active (SMALLINT(6), NULL)	✓	active (SMALLINT NULL)	
rescheduled (SMALLINT(6), NULL)	✓	rescheduled (SMALLINT NULL)	
revtype (VARCHAR(4), NOT N…	✓	revtype (VARCHAR(4) NOT NULL)	
preferredTeacher_id (INT(11), …	✓	preferredTeacher_id (INT NULL)	
cancelledAt (DATETIME, NULL)	✓	cancelledAt (DATETIME NULL)	
rateable (SMALLINT(6), NULL)	✓	rateable (SMALLINT NULL)	
uniqueId (VARCHAR(255), NUL…	✓	uniqueId (VARCHAR(255) NULL)	
bookings (INT(11), NULL)	✓	bookings (INT NULL)	
type (VARCHAR(255), NULL, C…	✓	type (VARCHAR(255) NULL)	
statusByTeacher (VARCHAR(2…	✓	statusByTeacher (VARCHAR(255) NULL)	
confirmedAt (DATETIME, NULL)	✓	confirmedAt (DATETIME NULL)	
personalManagerNotes (LONGT…	✓	personalManagerNotes (NTEXT NULL)	
curriculumPool_id (INT(11), NULL)	✓	curriculumPool_id (INT NULL)	
cancelledByGroup (VARCHAR(2…	✓	cancelledByGroup (VARCHAR(255) NULL)	
cancelledBy_id (INT(11), NULL)	✓	cancelledBy_id (INT NULL)	
remuneration_id (INT(11), NULL)	✓	remuneration_id (INT NULL)	
recurringClassRequest_id (INT(…	✓	recurringClassRequest_id (INT NULL)	
provider (VARCHAR(255), NUL…	✓	provider (VARCHAR(255) NULL)	
status (VARCHAR(255), NULL, …	✓	status (VARCHAR(255) NULL)	
Indexes	✓	Indexes	

Database options

- [ ] Overwrite database
- [ ] Force close connection
- [ ] Quantization
- [x] Bulk Insert

Parallel migration

Threads 2 8

Garbage symbols to replace

|"\:/*<> to _ Replace all

Global Type Mapping

From TEXT To NTEXT

Trim DB object names Trim

Use Case

- [ ] UPPERCASE
- [ ] snake_case
- [ ] lowercase

Triggers

- [ ] Trigger-based sync
- [ ] Track only source
- [ ] Update sync triggers

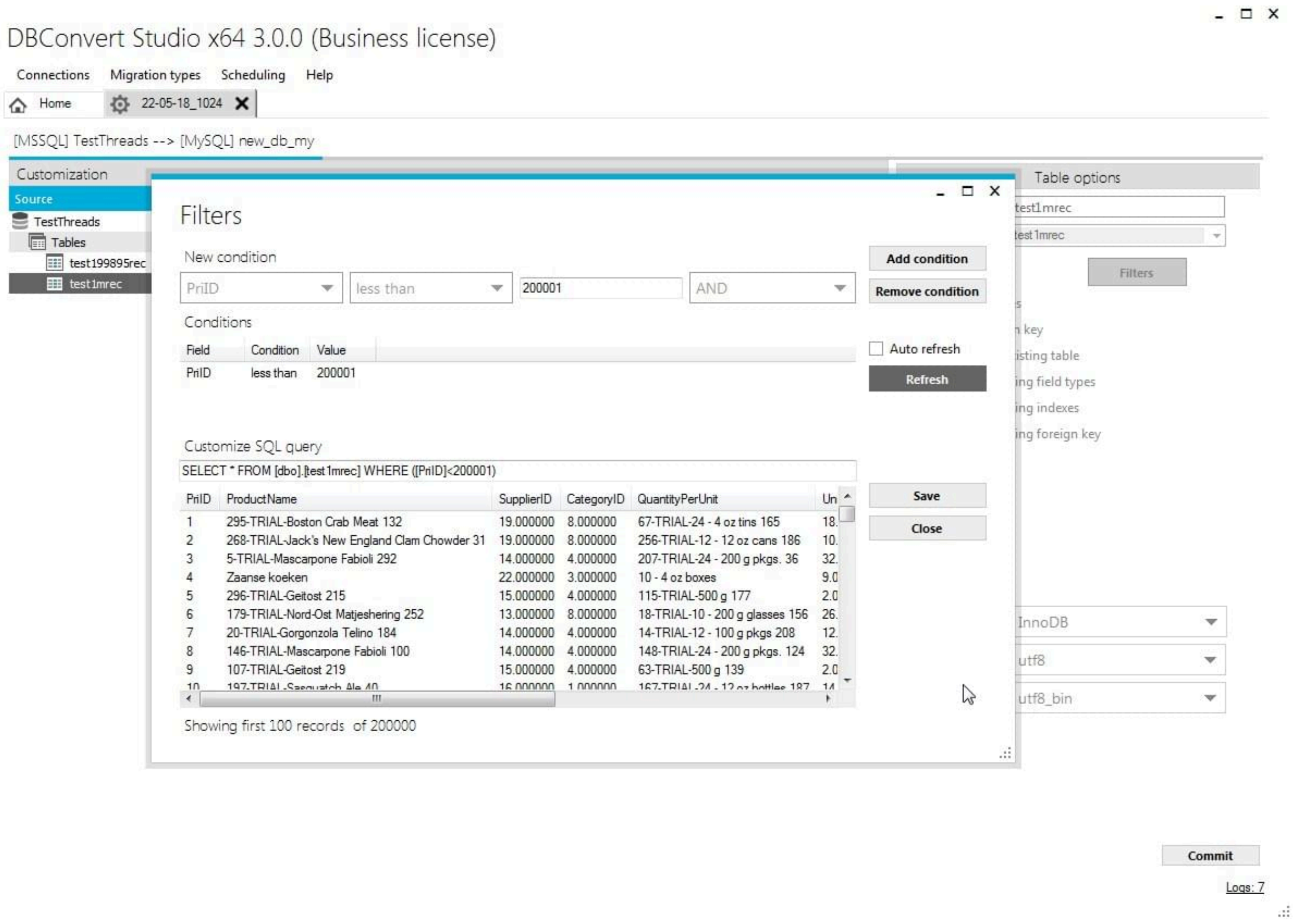
Log

- [ ] Create separate log file after each execution
- [ ] Capture the changes between source & destination
- [ ] Store dump for target database backup

Commit

Logs: 300

Step 4 – Configure Data Filters (optional)



[MSSQL] TestThreads --> [MySQL] new_db_my

Customization

Source

TestThreads
Tables
test199895rec
test1mrec

Filters

New condition

PriID | less than | 200001 | AND

Add condition
Remove condition

Conditions

Field	Condition	Value
PriID	less than	200001

- [ ] Auto refresh

Refresh

Customize SQL query

```
SELECT * FROM [dbo].[test1mrec] WHERE ([PriID]<200001)
```

PriID	ProductName	SupplierID	CategoryID	QuantityPerUnit	Un
1	295-TRIAL-Boston Crab Meat 132	19.000000	8.000000	67-TRIAL-24 - 4 oz tins 165	18.
2	268-TRIAL-Jack's New England Clam Chowder 31	19.000000	8.000000	256-TRIAL-12 - 12 oz cans 186	10.
3	5-TRIAL-Mascarpone Fabioli 292	14.000000	4.000000	207-TRIAL-24 - 200 g pkgs. 36	32.
4	Zaanse koeken	22.000000	3.000000	10 - 4 oz boxes	9.0
5	296-TRIAL-Geitost 215	15.000000	4.000000	115-TRIAL-500 g 177	2.0
6	179-TRIAL-Nord-Ost Matjeshering 252	13.000000	8.000000	18-TRIAL-10 - 200 g glasses 156	26.
7	20-TRIAL-Gorgonzola Telino 184	14.000000	4.000000	14-TRIAL-12 - 100 g pkgs 208	12.
8	146-TRIAL-Mascarpone Fabioli 100	14.000000	4.000000	148-TRIAL-24 - 200 g pkgs. 124	32.
9	107-TRIAL-Geitost 219	15.000000	4.000000	63-TRIAL-500 g 139	2.0
10	197-TRIAL-Sasquatch Ale 40	16.000000	1.000000	167-TRIAL-24 - 12 oz bottles 187	14

Showing first 100 records of 200000

Save
Close

Table options

test1mrec

test1mrec

Filters

key

isting table

ing field types

ing indexes

ing foreign key

InnoDB

utf8

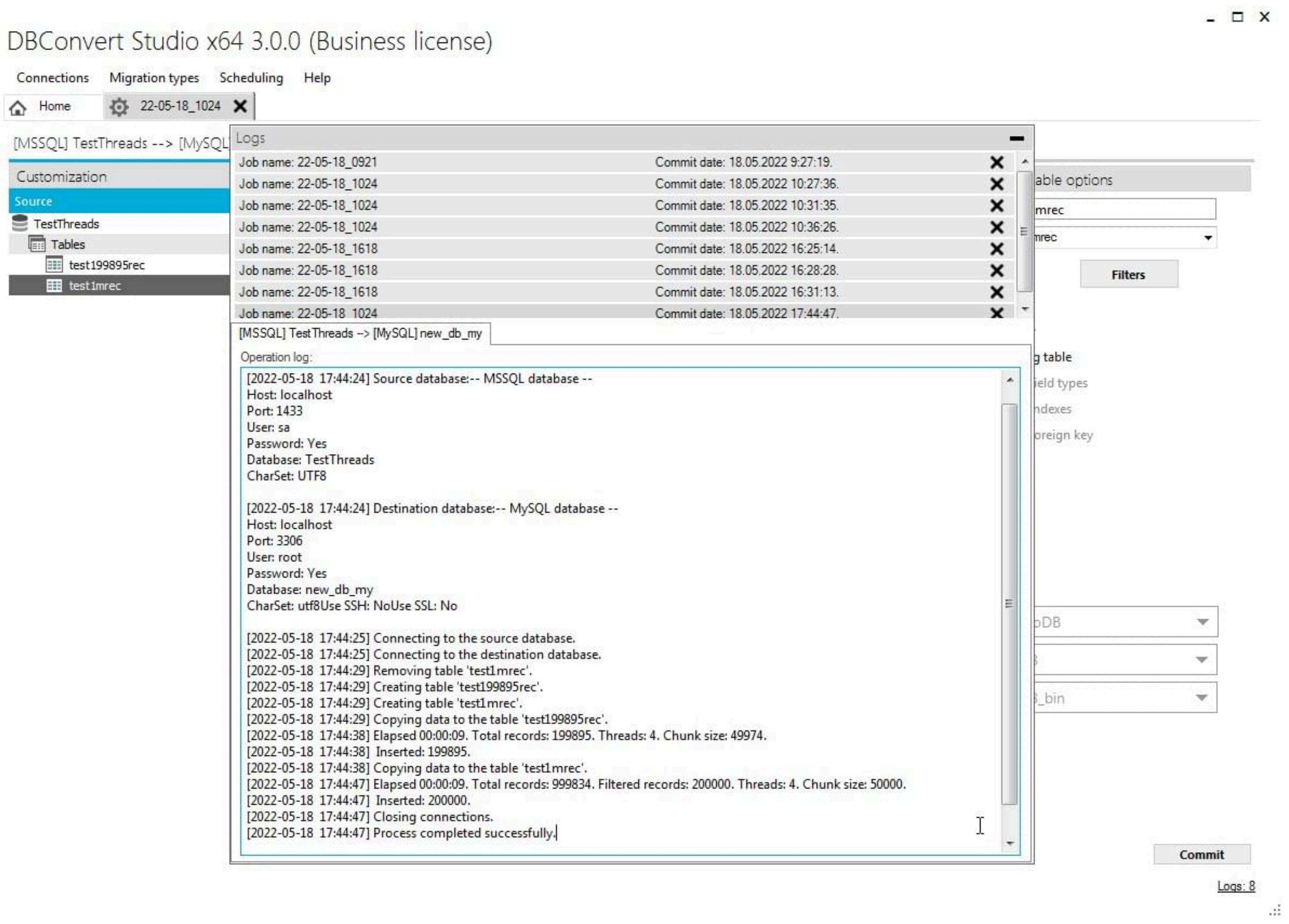
utf8_bin

Commit

Logs: 7

Step 5 – Execute Migration

- Choose full migration or sync mode
- Monitor real-time progress and logs
- Handle any conversion errors or warnings
- Verify data integrity during transfer



```
Job name: 22-05-18_0921        Commit date: 18.05.2022 9:27:19.
Job name: 22-05-18_1024        Commit date: 18.05.2022 10:27:36.
Job name: 22-05-18_1024        Commit date: 18.05.2022 10:31:35.
Job name: 22-05-18_1024        Commit date: 18.05.2022 10:36:26.
Job name: 22-05-18_1618        Commit date: 18.05.2022 16:25:14.
Job name: 22-05-18_1618        Commit date: 18.05.2022 16:28:28.
Job name: 22-05-18_1618        Commit date: 18.05.2022 16:31:13.
Job name: 22-05-18_1024        Commit date: 18.05.2022 17:44:47.
```

[MSSQL] TestThreads --> [MySQL] new_db_my

Operation log:

```
[2022-05-18  17:44:24] Source database:-- MSSQL database --
Host: localhost
Port: 1433
User: sa
Password: Yes
Database: TestThreads
CharSet: UTF8

[2022-05-18  17:44:24] Destination database:-- MySQL database --
Host: localhost
Port: 3306
User: root
Password: Yes
Database: new_db_my
CharSet: utf8Use SSH: NoUse SSL: No

[2022-05-18  17:44:25] Connecting to the source database.
[2022-05-18  17:44:25] Connecting to the destination database.
[2022-05-18  17:44:29] Removing table 'test1mrec'.
[2022-05-18  17:44:29] Creating table 'test199895rec'.
[2022-05-18  17:44:29] Creating table 'test1mrec'.
[2022-05-18  17:44:29] Copying data to the table 'test199895rec'.
[2022-05-18  17:44:38] Elapsed 00:00:09. Total records: 199895. Threads: 4. Chunk size: 49974.
[2022-05-18  17:44:38]  Inserted: 199895.
[2022-05-18  17:44:38] Copying data to the table 'test1mrec'.
[2022-05-18  17:44:47] Elapsed 00:00:09. Total records: 999834. Filtered records: 200000. Threads: 4. Chunk size: 50000.
[2022-05-18  17:44:47]  Inserted: 200000.
[2022-05-18  17:44:47] Closing connections.
[2022-05-18  17:44:47] Process completed successfully.
```

Frequently Asked Questions (FAQ)

Q: Can I migrate T-SQL stored procedures automatically?
A: Tools like AWS SCT can convert many procedures, but complex T-SQL often requires manual rewriting. PostgreSQL's PL/pgSQL is powerful but syntactically different.

Q: How does PostgreSQL licensing compare to SQL Server?
A: PostgreSQL is completely free and open-source with no licensing fees, no core limits, or CAL requirements. When factoring in total database operational costs (including optional support, training, and migration), most organizations still save 60-90% overall.

Q: Will my applications need major changes?
A: It depends on your application architecture. Simple applications using basic SQL may need only minor changes (connection strings, drivers). However, applications heavily relying on T-SQL stored procedures, SQL Server-specific functions, or proprietary features may require significant modifications.

Q: How does PostgreSQL JSON compare to SQL Server JSON?
A: PostgreSQL JSONB significantly outperforms SQL Server JSON with binary storage, native operators, and advanced indexing capabilities.

Q: Can I maintain both systems during migration?
A: Yes. Tools like DBSync support bidirectional sync, allowing parallel operation during testing and gradual transition.

Q: What about performance compared to SQL Server?
A: PostgreSQL often performs better, especially for complex queries, JSON operations, and analytical workloads. Proper tuning is essential for both systems.

Q: Is PostgreSQL enterprise-ready?
A: Absolutely. PostgreSQL powers major enterprises worldwide including Apple, Instagram, Netflix, and many Fortune 500 companies.

Q: How do I handle SQL Server-specific features?
A: Most SQL Server features have PostgreSQL equivalents or better

alternatives. Some proprietary features may require application logic changes.

Ready to Migrate from SQL Server to PostgreSQL?

Breaking free from SQL Server licensing costs while gaining PostgreSQL's advanced features and flexibility is a strategic decision that pays dividends immediately. Whether you're driven by cost savings, feature requirements, or open-source principles, the migration path is well-established and supported by excellent tooling.

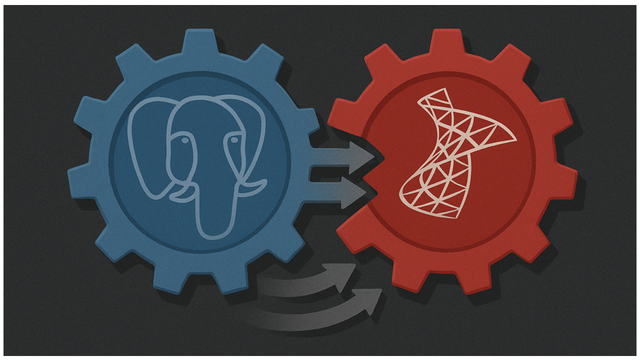
For SQL Server to PostgreSQL migrations with **visual mapping and professional features**, try **DBConvert for MSSQL & PostgreSQL** starting at $179 — providing cost-effective migration with trusted technology used by thousands of organizations worldwide.

For ongoing synchronization after migration, **DBSync** at $179 specializes in **bidirectional real-time replication** between SQL Server and PostgreSQL, perfect for:

- Maintaining hybrid environments during extended transition periods
- Real-time data synchronization for testing and validation
- Long-term dual-database deployments
- Disaster recovery and backup strategies

For universal database migrations supporting 40+ database types beyond just SQL Server and PostgreSQL, explore **DBConvert Studio** — the comprehensive platform for enterprise migrations. Studio provides the same intuitive interface and sync capabilities across the entire database ecosystem.

Start your journey to database freedom and immediate cost savings today.



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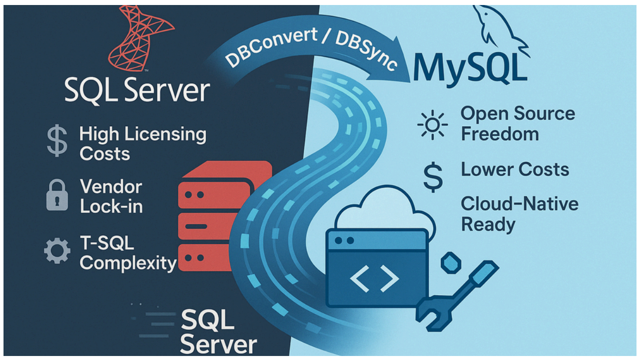

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