

# Step-by-Step Guide: Migrating MySQL Data to PostgreSQL

## Introduction

This document provides a step-by-step guide to migrating databases from MySQL to PostgreSQL using a Python script. It is intended for DevOps engineers and other technical personnel who need to execute the migration without deep knowledge of Python.

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## Prerequisites

Before starting the migration, ensure the following:

- **Install MySQL & PostgreSQL:**
    - MySQL: [Download Here](#)
    - PostgreSQL: [Download Here](#)
  - **Install Python:**
    - Download & install from [Python Official Site](#)
    - Verify installation:  
`python --version`
  - **Install VS Code (Optional, Recommended for Editing the Script)**
    - [Download VS Code](#)
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## Step 1: Install Required Python Packages

Run the following command to install dependencies:

```
pip install sqlalchemy pandas pymysql psycopy2 tqdm
```

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## Step 2: Configure the Database Connections

Modify the database connection strings in the script:

```
MYSQL_BASE_URL = "mysql+pymysql://<mysql_user>:<mysql_password>@<mysql_host>"  
POSTGRES_BASE_URL = "postgresql+psycopy2://<postgres_user>:<postgres_password>@<postgres_host>"
```

Replace with appropriate credentials.

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## Step 3: Run the Migration Script

Execute the script using:

```
python migrate_mysql_to_postgres.py
```

The script will display progress, including: - Connection status - Databases identified for migration - Tables being created - Data being copied

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## Step 4: Verify the Migration

After the migration completes:

1. Check PostgreSQL for the newly created databases:

```
psql -U <postgres_user> -d <database_name>
```

2. Verify table structures:

```
\dt;
```

3. Check for migrated data:

```
SELECT COUNT(*) FROM <table_name>;
```

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## Step 5: Troubleshooting

- **Database Connection Issues:** Ensure MySQL and PostgreSQL are running.
  - **Table Creation Errors:** Verify schema compatibility.
  - **Data Copy Failures:** Check for data type mismatches.
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## Conclusion

This document outlines the steps to successfully migrate MySQL databases to PostgreSQL using a Python script. Follow each step carefully. If needed, consult your DevOps or database administration team.