Smooth Transition to PostgreSQL for Java Applications Using a JDBC Proxy

A seamless solution for database migration

Thorsten Reimers, SoftQuadrat GmbH

SoftQuadrat

The Challenge

Common obstacles when transitioning database systems:

- Transaction management differs significantly (e.g., compared to Oracle)
- SQL dialects vary even with ANSI SQL compliance
- Essential features like CLOB support might be missing
- Direct driver replacement rarely results in a working application

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Our Solution

- JDBC proxy driver as an intermediate layer between application and PostgreSQL
- Maps transaction management from various databases (MS SQL Server, Oracle, Exasol) to PostgreSQL
- Translates SQL dialects to PostgreSQL-compliant syntax
- Adds missing functionality like CLOB support

Implementation: Step 1

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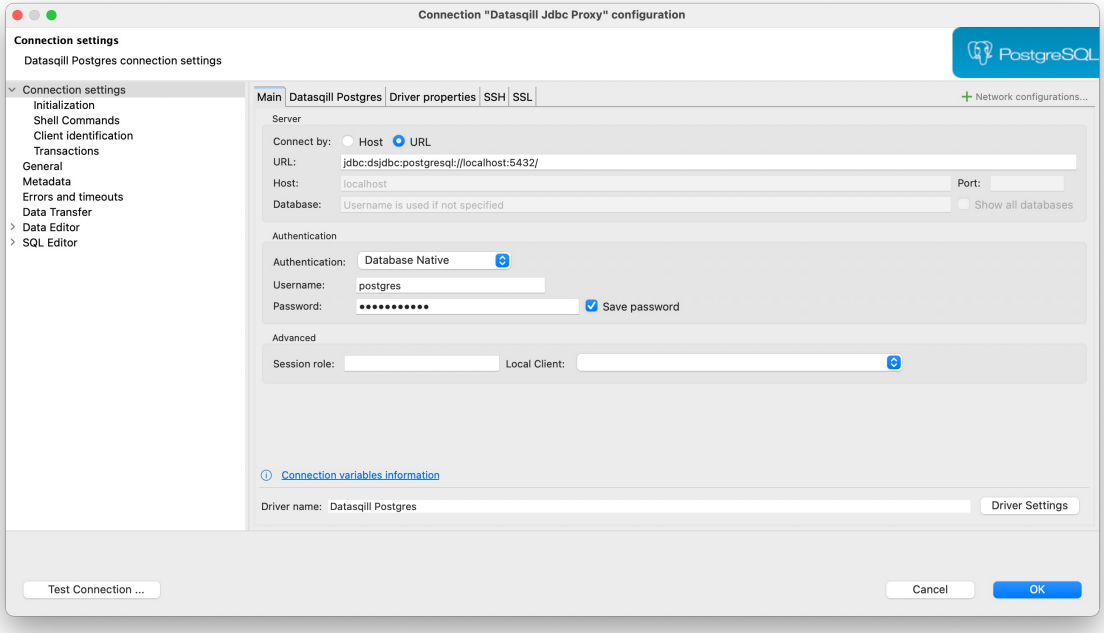
- Modify JDBC URL in your application
- Switch to the proxy driver format
- Example: jdbc:dsjdbc:postgresql://localhost:5432/
- No changes to your application code required

Example with DBeaver



Implementation: Step 2

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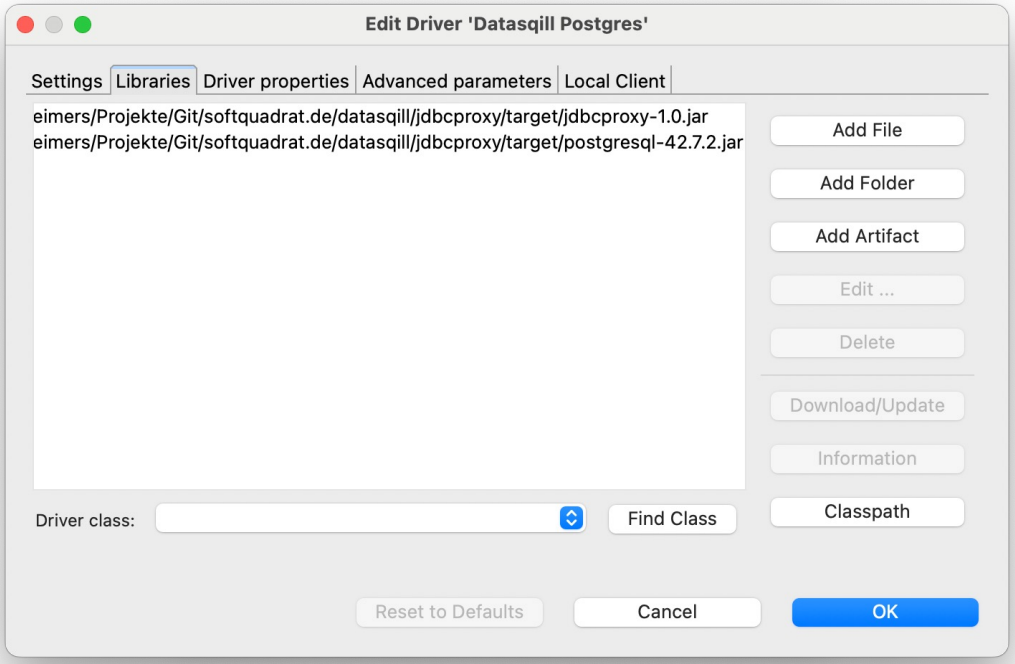
- Add dsjdbcproxy-1.0.jar to your Java classpath
- Compatible with existing connection management tools
- Works with tools like DBeaver (as shown in example)
- Seamless integration with your existing code

Example with DBeaver



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Under the Hood

```
@Override
public ResultSet executeQuery(String sql) throws SQLException {
  boolean error = true;
  Savepoint savepoint = null;
  if (!connection.getIsAutoCommit()) {
    savepoint = physicalConnection.setSavepoint("datasqill");
  }
  try {
    ResultSet resultSet = physicalStatement.executeQuery(sql);
    error = false;
    if (!connection.getIsAutoCommit())
      try {
        physicalConnection.releaseSavepoint(savepoint);
      } catch (Exception e) {}
        return createResultSet(resultSet);
  } finally {
    if (error) {
      if (!connection.getIsAutoCommit())
        try {
          physicalConnection.rollback(savepoint);
        } catch (Exception e) {}
    }
  }
}
```

- Transparent transaction handling
- Automatic savepoint management
- Error recovery mechanisms

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Contact Us

Interested in our solution?

Email: contact@softquadrat.de

We would be glad to share more information and support your transition.