Restore

John Aspinall

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Introduction

ReStore is a framework for Dolphin Smalltalk and Pharo which enables objects to be stored in and read from relational databases (SQLite, PostgreSQL, MySQL etc.).

ReStore aims to make relational persistency as simple as possible, creating and maintaining the database structure itself and providing access to stored objects via familiar Smalltalk messages. This allows you to take advantage of the power and flexibility of relational storage with no specialist knowledge beyond the ability to install and configure your chosen database.

CHAPTER 2

Getting Started

To install ReStore in your image follow the instructions on the GitHub project page for your Smalltalk dialect:

- Dolphin Smalltalk - https://github.com/rko281/ReStore
- Pharo - https://github.com/rko281/ReStoreForPharo

The class `SSWReStore` represents a ReStore session/connection; following installation a default singleton instance of `SSWReStore` is created and assigned to the global variable `ReStore`. We will use this global default throughout most of this document (see chapter 8 for information on working with multiple ReStore instances).

2.1 Choosing a Database

ReStore supports several different databases via the SSWSQLDialect class hierarchy. Currently defined SQL Dialects are:

- SQLite
- MySQL / MariaDB
- PostgreSQL
- SQL Server
- Access

Each subclass defines the different behavior, data types, functions etc. supported by a particular database. ReStore automatically selects the appropriate subclass after connecting to your chosen database; this ensures your application code is independent of database choice, enabling you to switch

databases easily if required. For example, for simplicity and speed you may use SQLite during development, then deploy to PostgreSQL for better scalability.

2.2 Configuring ReStore

After choosing and installing your database you must tell ReStore how to connect to it; the method for doing this varies by Smalltalk dialect:

Dolphin Smalltalk

ReStore for Dolphin accesses databases via ODBC. You must first create a Data Source Name (DSN) using the driver for your chosen database via the ODBC control panel. Since Dolphin is a 32-bit application ensure that you use the 32-bit ODBC control panel – you can open this from your Dolphin image by evaluating

```
ReStore openODBC
```

Once the DSN is created you can configure ReStore to use it as follows:

```
ReStore dsn: ‘’MyDataSourceName
```

Pharo

Pharo currently supports SQLite, MySQL and PostgreSQL. You must create the appropriate connection object then assign this to ReStore as follows:

```
"SQLite – see https://github.com/pharo-rdbms/Pharo-SQLite3 for more
    information"
ReStore connection: (SSWSQLite3Connection on: (Smalltalk
    imageDirectory / 'test.db') fullName)
```

```
"PostgreSQL – see https://github.com/svenvc/P3 for more information"
ReStore connection: (SSWP3Connection new url:
    'psql://user:pwd@192.168.1.234:5432/database')
```

```
"MySQL – see https://github.com/pharo-rdbms/Pharo-MySQL for more
    information"
ReStore connection:
(SSWMySQLConnection new
  connectionSpec:
    (MySQLDriverSpec new
      db: 'database'; host: '192.168.1.234'; port: 3306;
      user: 'user'; password: 'pwd';
    yourself);
yourself)
```

2.3 Connecting and Disconnecting

Once you have configured ReStore for your chosen database you may connect to and disconnect from the database as follows:

```
ReStore connect.
ReStore disconnect.
```

Bibliography