

Open Source Database Options

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What I'll cover today

- Context:
 - Desktop database management systems
 - Server database management systems
- Open Source Desktop Database options
 - OpenOffice.org Base
 - Kexi
- Server database management systems
 - MySQL
 - PostgreSQL
 - Others
- Open Source Database administration front ends
 - phpMyAdmin
 - phpPGAdmin

Context

- Desktop database management systems
 - Provide relatively easy way for users to create small to medium sized databases
 - Can interface with server database back-ends
 - Provide for easy reporting
 - Import/Export straightforward
- Proprietary examples:
 - Access (Windows)
 - Filemaker Pro (Macintosh and Windows)

Context (continued)

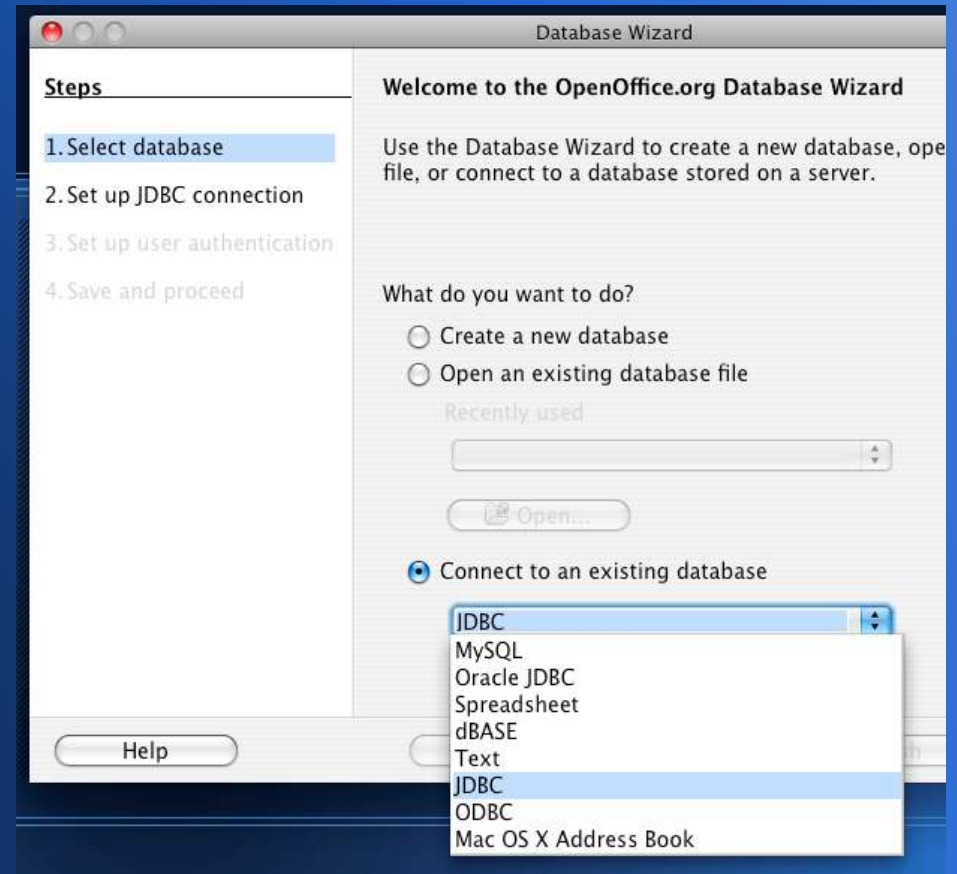
- Server database systems
 - Provide robust, scalable management for large systems
 - User interface and reporting must be built on top (or use pre-existing desktop systems)
- Proprietary Examples:
 - Microsoft SQL Server
 - Oracle

OpenOffice.org

- OpenOffice.org is a mature office suite
 - Word processor, spreadsheet, presentation package, database, other tools
 - Very active development, supported by major companies like IBM and Sun
 - Cross-platform (Windows, Mac OS, and Linux)
 - Uses open standards: Open Document Format (ODF)
 - Database component the least mature
 - Now at version 3.0

OpenOffice.org Base

- Back end
 - HSQLDB: an open source, java-based database management system
 - Other DBMS via ODBC or JDBC or other methods
 - Windows: can import Access2007



Basic interface

- Like Access, there are tables, forms, queries and reports
- It is clearly meant to imitate Access in features and layout
- Like Access, it has wizards that allow you to create new tables, forms, etc.

Forms and Reports

- OOo Base uses OOo Writer for forms and reports
- Can be a bit clunky, but provides a large advantage

Queries, Views and Relationships

- Basically, this provides the same sort of interface for these as MS Access
 - Wizard or design modes
- You can create specific views of individual tables
- You can view and create relationships between tables

Macros and Events

- You can record macros, as well as code macros
- You can assign macros to specific events

DEMO

Overall

- OOo Base is a good possible strategy for small databases if you are migrating from MS Office to OOo.
- OOo Base integrates well with OpenOffice.org
- OOo is behind Access if you are a sophisticated database builder
- OOo is really an Access clone – hard to compare with FileMaker Pro

Kexi

- Part of KOffice Suite, which is part of the whole K Development Environment project
- Linux only
- Also designed to be an Access alternative
- In active development with a large development team
- Popular in Europe

Test Database - Kexi

File Edit View Insert Format Data Tools Window Settings Help

Open Design

Project Navigator

- Tables
- Queries
- Forms
- Scripts

Field Caption	Data Type	Comments
ID	Integer Number	
FirstName	Text	
LastName	Text	
Address	Text	
City	Text	
StateProvince	Text	
Country	Text	
PostalCode	Text	

Properties

Table field "ID"

Name	Value
Name	id
Unsigned Number	✓ Yes
Default Value	
Primary Key	✓ Yes
Unique	✓ Yes
Required	✓ Yes
Autonumber	✓ Yes
Indexed	✓ Yes

Open Source Server-based DBMS

- MySQL
 - Most popular by far
 - Anchor member of the “LAMP” stack
 - Owned by Sun Microsystems (bought for \$1B)
 - Cross-platform (runs on Linux, Windows, Mac, and other platforms)
 - Mature, under active development

Open Source Server-based DBMS

- PostgreSQL
 - Around longer
 - More robust
 - More “enterprise-strength”
 - Had important features like transactions and stored procedures before MySQL
 - Also under active development

Others

- Firebird: Fork of Borland's Interbase
- Apache Derby: Java
- HSQLDB: Java
- SQLite (very popular light database engine)

Open Source DB Admin front ends

- Useful admin tools for MySQL and PostgreSQL
- Create databases, tables, query with SQL, pretty much everything you can do natively with the database
- Can run on the same server as the database

phpMyAdmin Demo

phpPgAdmin: pg8.2: pagila:

Schemas SQL Find Variables Processes Locks Admin Privileges Languages Casts Export

Servers

- pg8.1
- pg8.2
 - pagila
 - Schemas
 - information_scher
 - pg_catalog
 - public
 - Languages
 - Casts
 - postgres
 - template1

Schema	Owner	Actions			Comment
information_schema	postgres	Drop	Privileges	Alter	
pg_catalog	postgres	Drop	Privileges	Alter	System catalog schema
public	postgres	Drop	Privileges	Alter	Standard public schema

Create schema

Conclusions

- There are a myriad of open source database options.
- Server database options are ubiquitous, as popular as proprietary options, and mature. There are good open source administration tools
- Desktop database options are not as mature as proprietary versions, but moving forward quickly (ironically at the same time as people are moving away from desktop databases.)
- No proprietary options on Linux – OpenOffice.org Base or Kexi are your best bets.