

embarcadero®

Delphi Academy

Consejos prácticos, trucos y técnicas



Delphi CE

Primeros Pasos con Aplicaciones de Base de Datos

Fernando Rizzato
Lead Software Consultant, Latin America

AGENDA

- Bancos Relacionales X No Relacionales
- Client/Server X Flat-File X Embedded
- Visión general de los frameworks disponibles
 - FIREDAC Multi-Device Data Accesss Library
 - Plataformas y bases de datos soportadas
- Controles Data Aware X LiveBindings
- Ejemplos

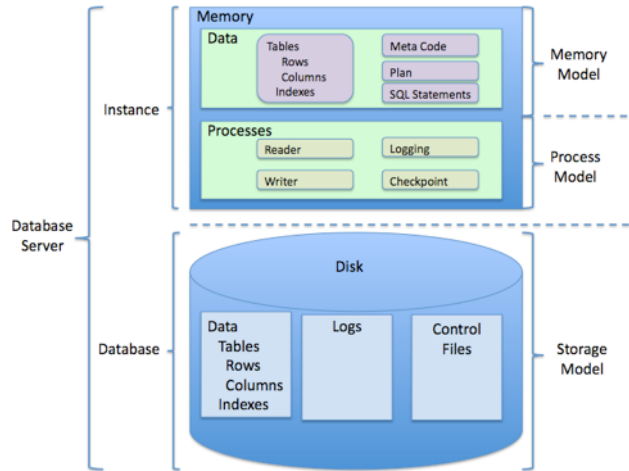
BANCOS RELACIONALES

- Basado en la teoría de los conjuntos
 - https://es.wikipedia.org/wiki/Teor%C3%ADa_de_conjuntos
- Almacena datos en Tablas, compuestas por columnas (atributos) y líneas (tuplas o registros)
- Los datos se manipulan a través de SQL
 - <https://www.w3schools.com/sql/default.asp>
 - <https://www.codecademy.com/learn/learn-sql>
- Implementan el concepto ACID
 - Atomicidad, Consistencia, Aislamiento, Durabilidad

BASES DE DATOS NO RELACIONALES

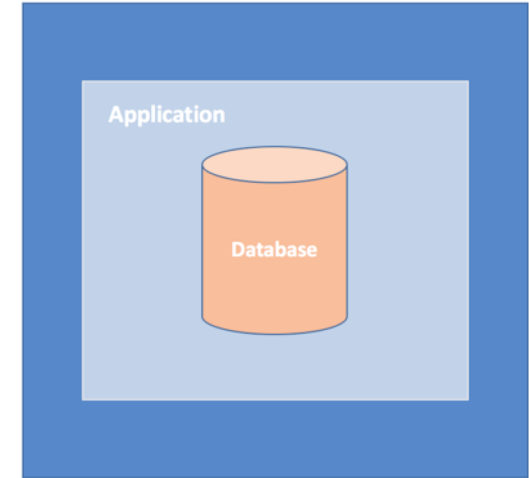
- Ideal para datos que no pueden ser fácilmente tabulados
- No requiere un esquema previamente definido
- Altamente escalable
- Ausencia de lenguaje común para el acceso
- Diferentes patrones de almacenamiento (graph-based, document-oriented, column-oriented, key-value)
- <https://www.bmc.com/blogs/sql-vs-nosql/>
- <https://db-engines.com/en/ranking>

CLIENT/SERVER X FLAT-FILE X EMBEDDED



Flat File Model

	Route No.	Miles	Activity
Record 1	I-95	12	Overlay
Record 2	I-495	05	Patching
Record 3	SR-301	33	Crack seal



- https://en.wikipedia.org/wiki/Client-server_model
- https://en.wikipedia.org/wiki/Flat-file_database
- https://en.wikipedia.org/wiki/Embedded_database

VISIÓN GENERAL DE LOS FRAMEWORKS DISPONIBLES

- **BDE** = migrar a FireDAC
 - **DBX** = permanecer / migrar a FireDAC
 - **IBX** = enfocado en Interbase
 - **ADO (dbGo)** = enfocado en SQL Server, funciona con otros
 - **Tercero:** ZeosLib, SynDB, UniDAC, RedisClient, Marshmallow
-
- <http://zeoslib.sourceforge.net/index.php>
 - <https://synopse.info/fossil/wiki/Synopse+OpenSource>
 - <https://github.com/danieleteti/delphiredisclient>
 - <https://bitbucket.org/soundvibe/marshmallow/wiki/Home>
 - <https://www.devart.com/unidac/>















FIREDAC MULTI-DEVICE DATA ACCESS LIBRARY

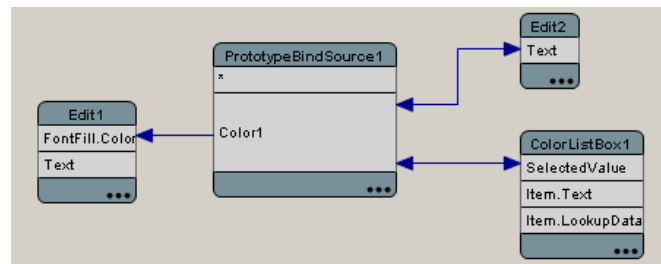
- Todo sobre FireDAC en Delphi Academy :
 - Acceso a datos con FireDAC
 - Migración de BDE y DBX a FireDAC
 - FireDAC Cached Updates y Campos Auto-Inc
 - FireDAC TFDMemTable - DataSets en Memoria
 - FireDAC Tracing y Monitoring
 - FireDAC Local SQL Cache
 - FireDAC en aplicaciones móviles
 - FireDAC con Interbase Change Views
 - <http://embt.co/AcademyLA>
- <http://docwiki.embarcadero.com/RADStudio/Tokyo/en/FireDAC>

PLATAFORMAS Y BANCOS SOPORTADOS POR FIREDAC

- Windows, MacOS, iOS, Android, Linux (solamente Enterprise+)
- **Ediciones Community/Professional**
 - Bases de datos locales : Microsoft Access, SQLite, MariaDB, InterBase, Advantage Database, PostgreSQL, Firebird
 - Bases de datos integradas (embedded) : IBLite e SQLite
- **Ediciones Enterprise+**
 - Todos del CE / Pro y más MySQL, MariaDB, Microsoft SQL Server, Oracle Database, InterBase, PostgreSQL, Informix, Sybase SQL Anywhere, Microsoft Access, IBM DB2 Server, Firebird, Advantage Database, generic ODBC driver

CONTROLES DATA AWARE X LIVEBINDINGS

Control	Description
 Vcl.DBGrids.TDBGrid	TDBGrid displays and manipulates records from a dataset in a tabular grid.
 Vcl.DBCtrls.TDBNavigator	TDBNavigator is used to move through the data in a dataset and perform operations on the data, such as inserting a blank record or posting a record.
 Vcl.DBCtrls.TDBText	TDBText represents a data-aware control that displays the value of a field on a form.
 Vcl.DBCtrls.TDBEdit	TDBEdit represents a single-line edit control that can display and edit a field in a dataset.
 Vcl.DBCtrls.TDBMemo	TDBMemo represents a multiline edit control that can display and edit a field in a dataset.
 Vcl.DBCtrls.TDBImage	TDBImage represents a graphic image from a BLOB (binary large object) field of the current record of a dataset.
 Vcl.DBCtrls.TDBListBox	TDBListBox represents a data-aware list box that allows users to change field values by selecting an item from a list.
 Vcl.DBCtrls.TDBComboBox	TDBComboBox represents a data-aware combo box control.
 Vcl.DBCtrls.TDBCheckBox	TDBCheckBox is a data-aware control that allows the user to select or deselect a single value.
 Vcl.DBCtrls.TDBRadioGroup	TDBRadioGroup represents a group of radio buttons connected to a database.
 Vcl.DBCtrls.TDBLookupListBox	TDBLookupListBox provides a list of lookup items for filling in fields that require data from another dataset.
 Vcl.DBCtrls.TDBLookupComboBox	TDBLookupComboBox represents a combo box that identifies a set of field values in one dataset with a corresponding set of values from another dataset.
 Vcl.DBCtrls.TDBRichEdit	TDBRichEdit represents a multiline edit control that can display and edit a rich text memo field in a dataset.
 Vcl.DBGrids.TDBCtrlGrid	TDBCtrlGrid displays records from a data source in a free-form layout.



- http://docwiki.embarcadero.com/RADStudio/Tokyo/en/Data_Controls
- http://docwiki.embarcadero.com/RADStudio/Tokyo/en/LiveBindings_in_RAD_Studio

DEMOS

RECURSOS ADICIONALES

- [http://docwiki.embarcadero.com/RADStudio/Tokyo/en/Developing Database Applications](http://docwiki.embarcadero.com/RADStudio/Tokyo/en/Developing_Database_Applications)
- [http://docwiki.embarcadero.com/RADStudio/Tokyo/en/Database and LiveBindings Tutorials](http://docwiki.embarcadero.com/RADStudio/Tokyo/en/Database_and_LiveBindings_Tutorials)
- [http://docwiki.embarcadero.com/RADStudio/Tokyo/en/Using data controls Index](http://docwiki.embarcadero.com/RADStudio/Tokyo/en/Using_data_controls_Index)
- <https://github.com/FrOsT-Brutal/awesome-delphi>

GRACIAS!

Preguntas?

Me puedes encontrar en:
@FernandoRizzato
fernando.rizzato@embarcadero.com

Síguenos en
fb.com/EMBTLatAm