



Openbravo Get Together

Technology
Openbravo development environment

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Agenda

Introduction

Database development management

Integrated development environment. Eclipse

Subversion repository

How to setup the environment. How to perform development tasks

- **What is the Openbravo Development Environment (ODE)**
 - ODE is the framework of tools, methodologies and processes that will help Openbravo developers to create new functionality, debug, test and deploy easier than ever, and will help developers contribute to Openbravo and create a bigger community around Openbravo.
- **ODE Components**
 - A common and unique Repository of code
 - A set of processes to interact with the repository: how to get the code, build from sources, update your environment, commit your changes to the Repository.
 - Based on Eclipse, an integrated and graphical environment to perform the development tasks.
- **Benefits from the new environment**
 - All the code managed in the same way using standard tools: just one integrated repository of plain text files for all the code, including database schema objects and metadata
 - Simplicity to start with development
 - Mechanism to update an Openbravo environment (development/production)
 - Innovative and best in class way to manage metadata. Allow remote development and packaging of metadata
 - Fully enable PostgreSQL as a development environment: build from sources, code development and commit changes to the repository

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- Definition of all database elements in XML files.
 - Structure objects: tables, constraints, procedures, triggers. Organized in folders and files. One file for each table, procedure, trigger... One folder for tables, one folder for procedures, ...
 - Metadata: windows, tabs, ... One file for each table data.
 - ERP data: products, bussiness parthers. One file for each table data.
- Common database definition for Oracle and PostgreSQL
 - Common definition for database structure objects
 - Common definition for types
 - Common definition for PL/SQL code.
 - Common definition for data.

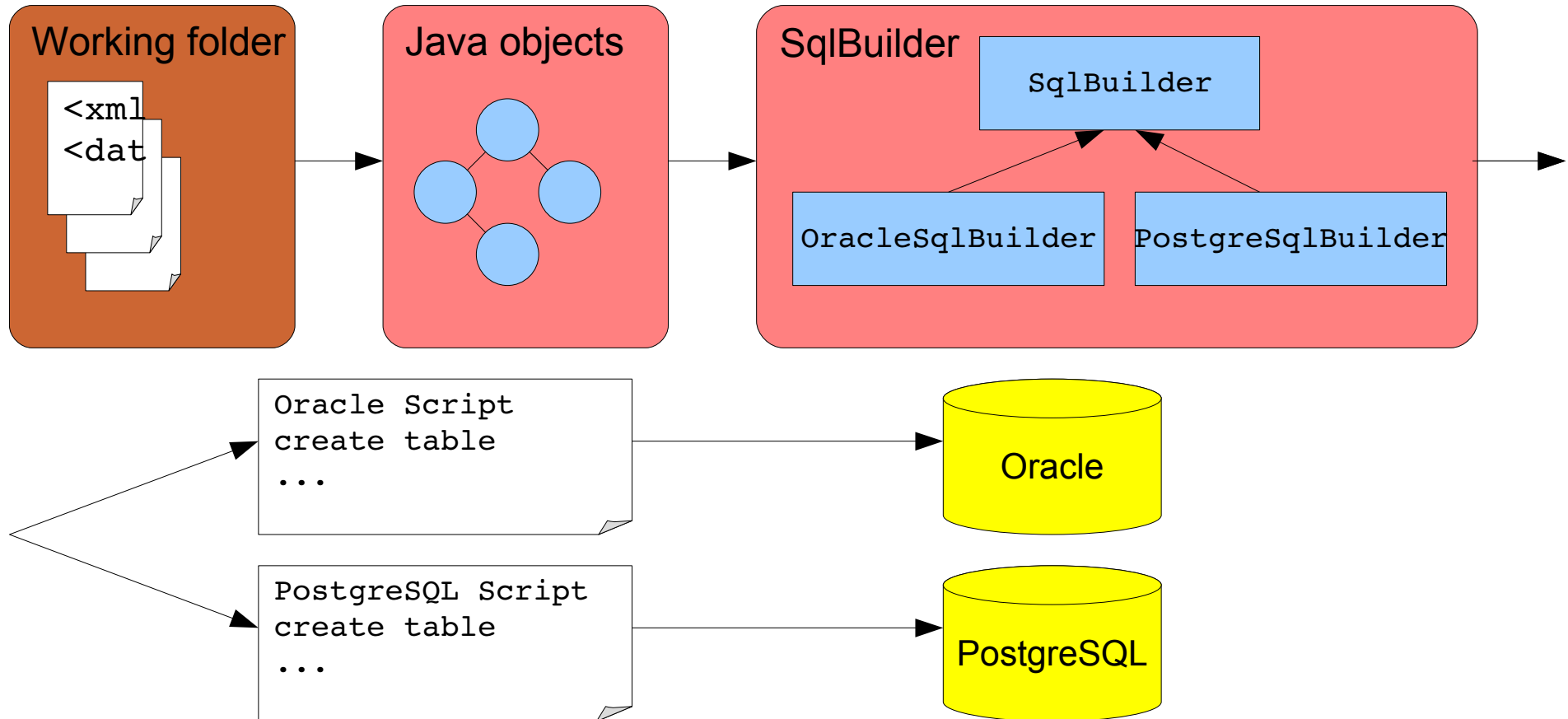
- DDLUtils.
 - DDLUtils is a small, easy-to-use component for working with Database Definition (DDL) files. These are XML files that contain the definition of a database schema, e.g. tables and columns. These files can be fed into DDLUtils via its Ant task or programmatically in order to create the corresponding database or alter it so that it corresponds to the DDL. Likewise, DDLUtils can generate a DDL file for an existing database.
- Improvements in DDLUtils developed by Openbravo
 - Support for check constraints, procedures, views, sequences.
 - Included PL/SQL translation from Oracle to PostgreSQL.
 - Support for functions in default values.
 - Support for more database types.
 - Support for data records update.
 - Ant tasks
 - (...)

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- DDLUtils model
 - Independent XML language for database definition structures
 - Neutral set of database type: CHAR, VARCHAR, DATE
 - Neutral set of database functions: SYSDATE
 - Neutral PL/SQL language
- DDLUtils SQL script generator. The base class SQLBuilder
 - SQLBuilder contains methods to generate SQL script
 - createTable(), dropTable(), createFunction(), dropFunction(), ...
 - SQLBuilder contains methods to translate database types and database functions.
 - SQLBuilder contains methods to create PL/SQL code translators
- Derived classes PostgreSqlBuilder and OracleBuilder
 - These classes contains all the concrete implementations for PostgreSQL and Oracle of the methods of SQLBuilder.

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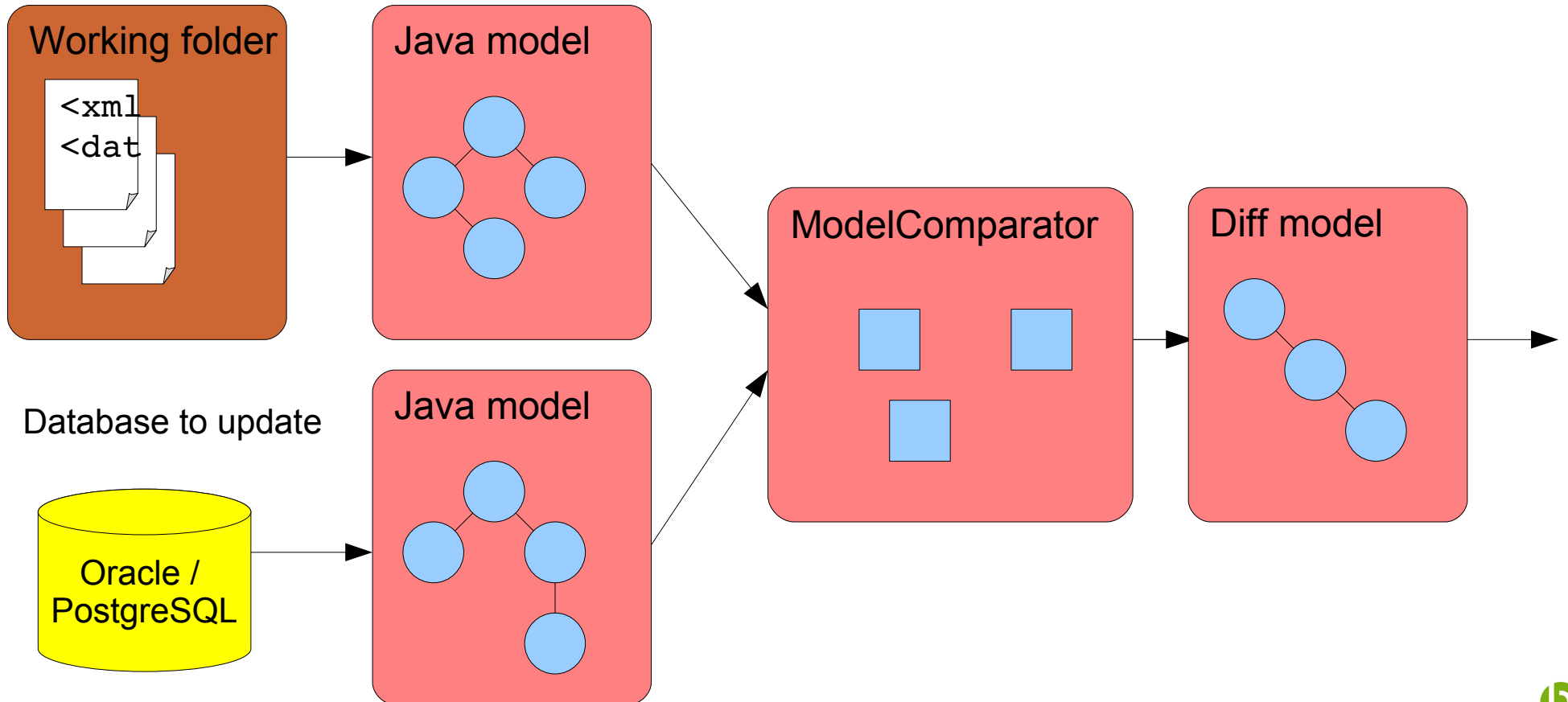
- Database creation



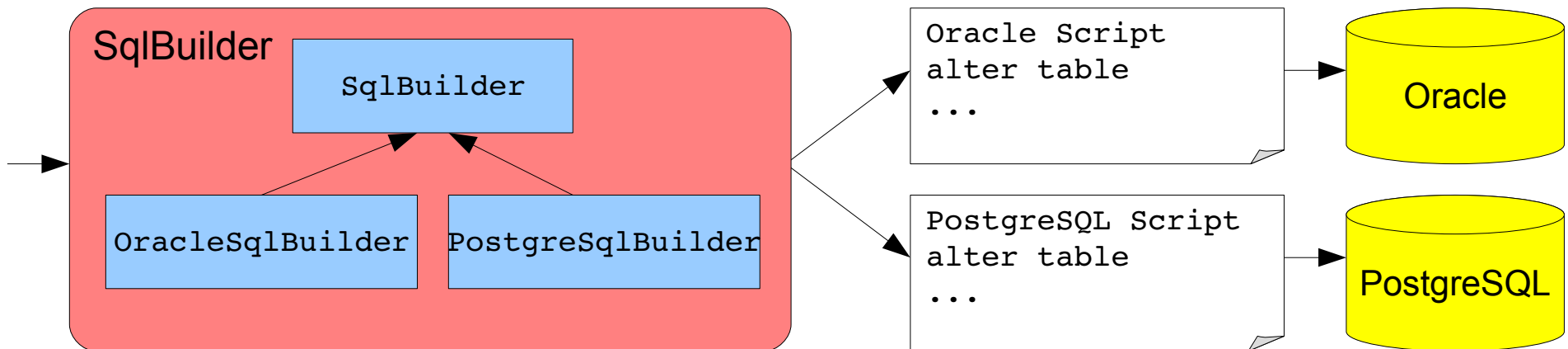
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- Database update

New database model

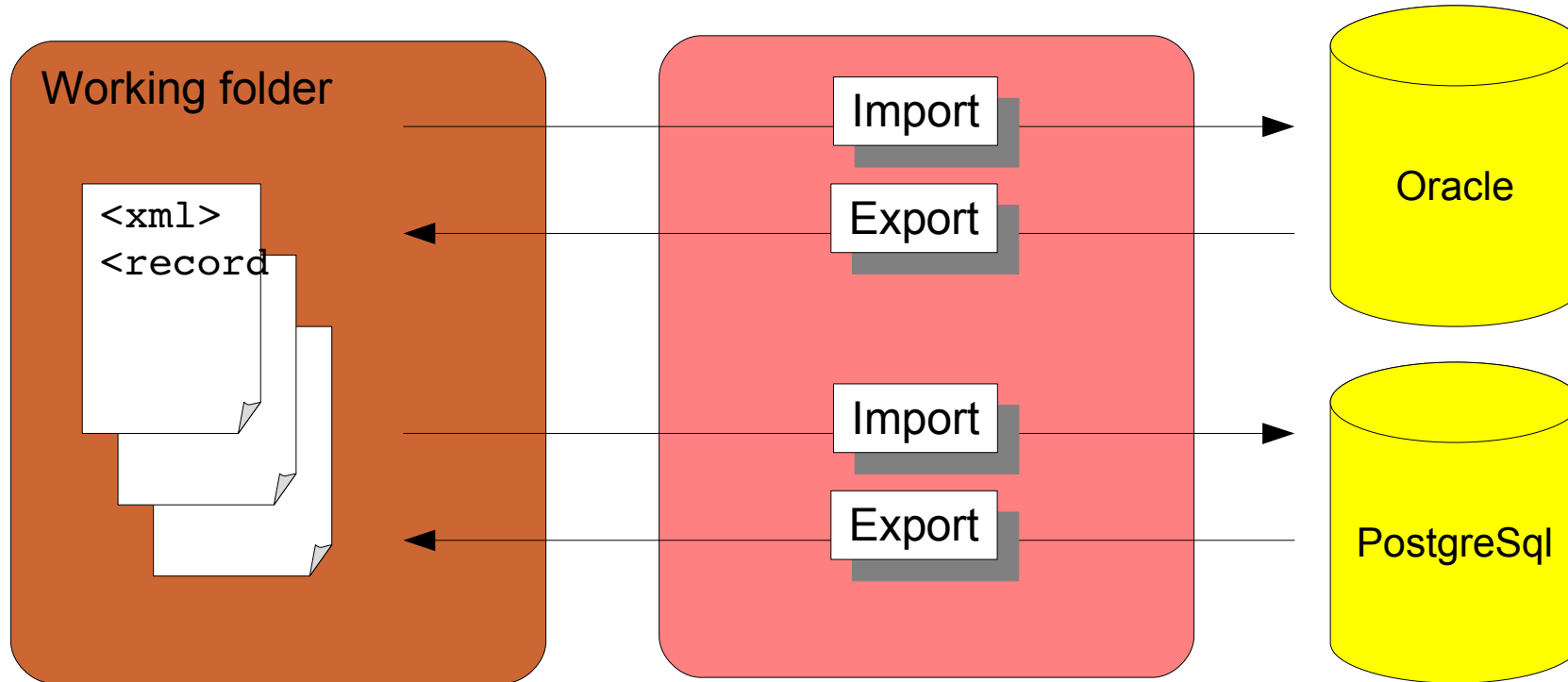


- Database update



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- Insertion and update of metadata and data



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The screenshot displays an IDE interface with three main panels:

- Project Explorer (Left):** Shows a project structure for 'openbravo 1365 firiazabal'. The 'database' folder (1355) is expanded, showing various SQL files like 'AD_ALERTRULE_TRL.xml', 'AD_ALERTRULE.xml', etc.
- Editor (Center):** Displays the 'build.xml' file. The 'create.database' target is highlighted, showing an Ant call to 'create.database' with 'inheritAll="true"'. Below it, the 'update.database' target is also shown with 'inheritAll="true"'. Further down, the 'create.database.script' and 'update.database.script' targets are visible, each with an 'inheritAll="true"' attribute. The 'export.database.data' target is also present.
- Console (Bottom):** Shows the output of the Ant build process. The title is 'openbravo build.xml [create.database] [Ant Build] C:\openbravo\build.xml'. The output includes:


```

[sql] 1 of 1 SQL statements executed successfully

prepare.database:

ORACLE.structure:
    [sql] Executing commands
    [sql] 1 of 1 SQL statements executed successfully
    [sql] Executing commands
    [sql] 1 of 1 SQL statements executed successfully
    [sql] Executing commands
    [sql] 2 of 2 SQL statements executed successfully

create.database.structure:
      
```

Openbravo Get Together – Openbravo development environment Integrated development environment. Eclipse.

- Eclipse is an open-source software framework written primarily in Java. In its default form it is a Java IDE, consisting of the Java Development Tools (JDT) and compiler (ECJ). Users can extend its capabilities by installing plug-ins.
 - Organization of Openbravo source files in projects.
 - Editor for java files, XML files, reports, html...
 - Subversion integration.
 - Team development.
 - Commit / Update.
 - Conflicts resolution.
 - Revisions verification.
 - Ant tasks integration.
 - Tomcat server integration.
 - Execution / Debug integration.

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Openbravo Get Together – Openbravo development environment Subversion repository.

- Openbravo Subversion repository
 - Internal subversion server synchronized with Sourceforge.
 - Registered developers will be provided with a developer.id and a branch.
 - Change log generation based on commit comments.
 - Tracker bugs synchronized with commit comments

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- Openbravo will deliver an installer for ODE: eclipse with all the stuff (plugins, environment variables, project structure) pre-configured to develop in Openbravo project
- Each developer should register in dev.openbravo.com to get a developer.id and a branch (optional) in the repository
- Development tasks:
 - Check-out the project from dev.openbravo.com
 - Create the database (ant database.create)
 - Build the four projects (build openbravo.core, ant eclipse.trl.lib and eclipse.wad.lib, build src-trl & src-wad, ant eclipse.compile.complete, build openbravo)
 - Launch the server (optionally in debug mode) to run Openbravo
 - Modify the source code from eclipse or Openbravo itself (just for metadata)
 - Ant export.database.data, update from svn, ant database.update, commit to svn

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How to setup the environment. How to perform development tasks.

- Openbravo subversion repository
 - SVN access: <https://dev.openbravo.com/svn/openbravo/>
 - Web access. <https://dev.openbravo.com/websvn/openbravo/>
- Eclipse
 - Eclipse Web Tools Platform: <http://www.eclipse.org/webtools/>
 - Subclipse plugin: <http://subclipse.tigris.org/>
 - Subversive plugin: <http://www.eclipse.org/subversive/>
- DDLUtils
 - Apache DDLUtils: <http://db.apache.org/ddlutils/>
- Subversion
 - Subversion main page: <http://subversion.tigris.org/>
 - Subversion book: <http://svnbook.red-bean.com/>
- Documentation at Openbravo Wiki
 - Using Eclipse: http://wiki.openbravo.com/wiki/index.php/Rapid_Openbravo_Development
 - Using Subversion: <http://wiki.openbravo.com/wiki/index.php/Subversion>

Questions and answers

Questions and Answers

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Thank you!

www.openbravo.com