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# Database migration CLI

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# Intermediate Representation

- DBML;
- Hardware and Software independent;
- It can go beyond database archiving;
- It can help in data migrations into DBMS;

# Wiki page for CLI tool

- <http://redmine.keep.pt/projects/roda-dbpres/wiki/Info>
- Link for download at the end of the page

# Syntax

```
Synopsys: java -jar roda-common-convert-db.jar -i IMPORT_MODULE  
[options...] -o EXPORT_MODULE [options...]
```

Available import modules:

```
SQLServerJDBC serverName [port|instance] database username  
password useIntegratedSecurity encrypt  
PostgreSQLJDBC hostName database [port] username password  
encrypt  
MySQLJDBC hostName [port] database username password  
DBML baseDir
```

Available export modules:

```
SQLServerJDBC serverName [port|instance] database username  
password useIntegratedSecurity encrypt  
PostgreSQLJDBC hostName database [port] username password  
encrypt  
MySQLJDBC hostName [port] database username password  
PhpMyAdmin hostName [port] database username password  
DBML baseDir  
PostgreSQLFile sqlFile
```

# Setting up the environment

- CLI tool;
- MAMP, XAMPP or WAMP to access DIPs:
  - ▶ **The abbreviation "MAMP" stands for: Macintosh, Apache, Mysql and PHP. With just a few mouse-clicks, you can install Apache, PHP and MySQL for Mac OS X!**
  - ▶ **<http://www.mamp.info/en/index.html>**
  - ▶ **<http://www.apachefriends.org/en/xampp-windows.html>**
  - ▶ **<http://www.wampserver.com/en/>**

# From MS Access into DBML

There are several versions of MSAccess.

In order to extract DB structures we need to have access to the internal DB table Msysrelationships.

Microsoft published a white paper explaining how to do this for all versions: "Preparing a Microsoft Access Database for Migration" (look at the bottom of wiki page).

MyClass case study

- Log into the server: remote login to a Windows server;

```
java -jar roda-common-convert-db.jar  
-i MSAccess yourpath/MyClass.mdb  
-o DBML outpath/
```

Publish the result.

# From PostGres into DBML

With PostGres you have to ensure that TCP/IP connections to the server are allowed and that you have administration credentials.

Those points solved we can extract a database with a single command.

Inquiriões case study

- Log into the server: `ssh to my Linux server;`

```
java -jar roda-common-convert-db.jar  
-i PostgreSQLJDBC localhost inquiricoes jcr jc1015 false  
-o DBML outpath/
```

Publish the result.



# From MySQL into DBML

You are going to need administrator credentials to access the database.

With MAMP we have to use the port parameter: 8889.

Small case study: TABU

- Access MAMP server;

```
java -jar roda-common-convert-db.jar  
-i MySQLJDBC localhost 8889 database jcr dbml  
-o DBML outputdir/
```

Publish the result.

# From DBML to MySQL

You are going to need administrator credentials to access the database.

With MAMP we have to use the port parameter: 8889.

MyClass case study:

- Add 310 new records from XML file;
- Access MAMP server;

```
java -jar roda-common-convert-db.jar  
-i DBML DBMLdir  
-o PhpMyAdmin localhost 8889 MyClass jcr dbml
```

Use PhpMyAdmin to access MyClass database.

# From DBML to MySQL SQL

You are going to need administrator credentials to access the database.

With MAMP we have to use the port parameter: 8889.

MyClass case study:

- Add 310 new records from XML file;
- Access MAMP server;

```
java -jar roda-common-convert-db.jar  
-i DBML DBMLdir  
-o MySQLFile MyClass.sql
```

Use PhpMyAdmin to execute SQL statements.

# From DBML to PostGres

You are going to need administrator credentials to access the database.

Access PostGres and create database myclass:

```
$psql -U postgres  
>create database myclass;  
>\q
```

Inject database from DBML:

```
java -jar roda-common-convert-db.jar  
-i DBML DBMLdir  
-o PostgreSQLJDBC localhost myclass jcr jc1015 false
```

Use psql to access myclass database:

```
$psql -U postgres myclass  
>\dt      (display tables)  
>select * from students;    (display all records)
```

# Questions?



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