TEMENOS™



# TAFJ-DB Import

## R14/R15

10/3/2015

Temenos

Information in this document is subject to change without notice.

No part of this document may be reproduced or transmitted in any form or by any means,
electronic or mechanical, for any purpose, without the express written permission of TEMENOS Holdings NV.

**Amendment History:**

| Revision | Date Amended | Name | Description |
|---|---|---|---|
| 11 | 1st April 2011 | TAFJ team | Initial version |
| 12 | 7st February 2012 | H. Aubert | R12GA review |
| 13 | 16th January 2013 | R. Vincent | R13GA review |
| 14 | 24th January 2014 | R. Vincent | R14GA review |
| 15 | 15th April 2014 | H. Aubert | R14GA review |
| 16 | 24th February 2015 | R. Vincent | Update DBUpdate usage |
| 17 | 6th March 2015 | H. Aubert | R15 AMR review |
| 18 | 24th March 2015 | R. Vincent | Add IndexTablespace option |

## Copyright

Copyright (c) 2014 TEMENOS HOLDINGS NV
All rights reserved.
This document contains proprietary information that is protected by copyright. No part of this document may be reproduced, transmitted, or made available directly or indirectly to a third party without the express written agreement of TEMENOS UK Limited. Receipt of this material directly TEMENOS UK Limited constitutes its express permission to copy. Permission to use or copy this document expressly excludes modifying it for any purpose, or using it to create a derivative therefrom.

## Errata and Comments

If you have any comments regarding this manual or wish to report any errors in the documentation, please document them and send them to the address below:
Technology Department

Temenos Headquarters SA
2 Rue de l'Ecole-de-Chimie,
CH - 1205 Geneva,
Switzerland

Tel SB: +41 (0) 22 708 1150
Fax: +41 (0) 22 708 1160

Please include your name, company, address, and telephone and fax numbers, and email address if applicable. TAFJdev@temenos.com

# Table of Contents

Copyright....3
Errata and Comments....3
DBImport....5
Introduction....5
Setting up TAFJ....5
Importing the Database from J4 files....6
Importing the Database from another Database....6
TAFJDBImport.default configuration file....7
For J4 or Database to Database Imports....7
Specific to Database to Database Imports....8
Specific to Read-Only Database (applies to DBUpdate command only)....9
DBImport Options:....9
DB2 Special Considerations on zOS....10
DBImport GUI Option:....12
Syntax:....12
Screen Shots:....13
DBUpdate....20
Overview....20
Requirements....20
Syntax....20

# DBImport

## Introduction

TAFJ comes with it's own tool for migrating a jBASE database (J4 files) to a DBMS. The procedure is straightforward. An important point is to create your database with the correct options. Once this is done, this is just a matter of answering a few questions and letting the DBImport tool do the job.

## Setting up TAFJ

**!! WARNING !!**

Do not run live with the database drivers in **<TAFJ_HOME>/dbdrivers! They are there merely as a convenience. You should use the correct drivers from your database installation.**

In order to run DBImport. you need the specific database drivers you are targeting to go in **<TAFJ_HOME>/ext**. Please find these drivers in **<TAFJ_HOME>/dbdrivers** and copy them to <**TAFJ_HOME>/ext**

### i.e for oracle 11g database

```
<TAFJ_HOME>
    ├──dbdrivers
    │    ├──db2_v10.1
    │    ├──db2_v10_zOS
    │    ├──h2_1.3.161
    │    ├──h2_1.3.172
    │    ├──oracle-11g
    │    ├──oracle-12c
    │    └──sqljdbc_1.2
    ├──ext
    │    └──oracle-11g
```

## Importing the Database from J4 files

Before doing anything, make sure that the standard T24 file structure is available on your disk.

To run T24, you will need to have the following structure somewhere available.

```
<xxx>.root
    <xxx>.data
    <xxx>.dict
    <xxx>.run

    VOC
```

The important directories are data, dict and the File VOC. During the Database import, you will be prompted to specify where the VOC file is. Everything will be related to this file.

**We will concentrate on the Oracle import below**.

To install Oracle on a Windows ® machine, please check the Installing Oracle guide. You must then create a database with Oracle using an Oracle tool such as dbca.

**IMPORTANT: The database you will use must be created with the AL32UTF8 charset. There is no way to modify it afterwards (See TAFJ Oracle Install document).** Once your database has been successfully created, DBImport will transfer the data from your T24 structure to Oracle.

Before starting with the importation, you will need to create a TableSpace, a Schema (User) and load some functions. All of these procedures are detailed in the TAFJ Oracle Install document.

## Importing the Database from another Database

Sometimes you might want to copy one database to another and maintain the state. For example, an Oracle database can be exported to an H2 database. In the first screen of the GUI or in console mode, there is a choice of which type of import to do. If “DATABASE” is

chosen, a database to database import/export will occur. Please note that the TAFJ_VOC file is dropped each time a database to database import is done in the target database, so if you have a TAFJ_VOC table existing and you want to keep it, please check the checkbox on the first screen. Generally this is necessary when you stop a DB to DB import in the middle and quit DBImport. If one wants to begin again, one needs to use the –startwithfile option when recommencing the import.

## TAFJDBImport.default configuration file

Once your database, tablespace, and schema are created, and your TAFJ stored functions are in place (they are needed for view creation), you will optionally need to edit the TAFJDBImport.default configuration file to reflect what you just created. Values from this file will be used as defaults when the DBImport process runs. The TAFJDBImport.default file is in the directory conf/ of the tafj installation directory. The below lists the properties in this file.

### For J4 or Database to Database Imports

"**importType**" specifies which type of import will be performed. This refers to the source of the import. The value is either J4 (from j4 files) or DATABASE (another RDBMS database is the source of the import). The default is J4, and in most cases J4 will be faster.

"***URL"*** specifies "how" to connect. It is composed of a hostname (or IP address), a port and a database name (what you specified in the step 3 of the Database configuration assistant). If your database is installed locally, and the name you gave was tafjdb for an oracle database, then the value should be: ***jdbc:oracle:thin:@localhost:1521:tafjdb***

"***Driver***" tells what kind of database it is. Leave it to the default value unless you want another database other than Oracle. The default is ***oracle.jdbc.driver.OracleDriver***

"***User***" is the name of the database user you specified when you created your database.

"***Password***" is the database password you specified when you created your database.

Other parameters include:

"**Layout**" is Table types you want to create (XML, CLOB,STRING,MULTIPLE, TEXT).

TEXT is RECID VARCHAR, XMLRECORD VARCHAR

XML is RECID VARCHAR, XMLRECORD XMLTYPE

CLOB IS RECID VARCHAR, XMLRECORD CLOB

STRING is RECID VARCHAR, STRRECORD VARCHAR, XMLRECORD CLOB (ie if XMLRECORD > LENGTH of VARCHAR it is stored in the XMLRECORD CLOB column)

MULTIPLE is creating relational columns with relational types. Multi-Value columns stored with their multi-value markers

"**File**" = Files you want to import (comma separated list). Default is ALL

"**ExcludeFile**" = Files you don't want to import (comma separated list). Default is NONE

"**ExcludeFileButCreateFile**" = Files you don't want to insert but you do want to create (comma separated list). Default is NONE

"**ExcludeFileNoXML**" = Files you don't want to import as XML files (comma separated list, ignored if XML not specified as import type). This can be used with the % wildcard, ie. F.JOB.LIST% would apply to F.JOB.LIST .1, F.JOB.LIST.2, F.JOB.LIST .3, etc. Default is NONE

**"UserDirectories"** = Directory where to create UD type files. Must match what is in tafj.properties key temn.tafj.runtime.directory.current

"**CreateTables**" = Create the tables?

"**InsertRecords**" = Insert the records?

"**ClearTables**" = When using the ClearTables option which is in the GUI and console mode (if CreateTables is No and Insertrecords is Yes), the schema must already exist AND the TAFJ_VOC must be created and filled with data already. Otherwise, do not use it. It is really to be used to overwrite an existing database.

"**CreateViews**" = Create the views? To run T24 views are needed and are built off the tables that are imported.

"**VocFile**" = File that tells where J4 files are on disk. Data will be imported from these J4 files.

"**FileEncoding**" = UTF-8 or ISO-8859-1

**"CreateUDasTables"** = User directories get converted to database tables during the import

**"InsertUDRecords"** = Insert existing entries stored in directory structure into the database.

**"UDFileEncoding"** = Should match FileEncoding

**"OracleUseXMLBinary"** = Should oracle create XMLBinary datatype when Layout is XML?

**"IndexTableSpace"** = If you have a separate tablespace for primary keys and indexes, specify the name of it here. For MSSQL, this is the filegroup name that is not the primary.

There are other zOS DB2 specific parameters not covered. Please speak with a DBA regarding these.

### Specific to Database to Database Imports

"***URLSourceDB"*** specifies "how" to connect **TO THE SOURCE DATABASE**. It is composed of a hostname (or IP address), a port and a database name (what you specified in the step 3 of the Database configuration assistant). If your database is Oracle and installed locally, and the name you gave was tafjdb, then the value should be:
***jdbc:oracle:thin:@localhost:1521:tafjdb***

"***DriverSourceDB***" tells what kind of **SOURCE DATABASE** driver it is. Use the default if it is an Oracle database. The default value is ***oracle.jdbc.driver.OracleDriver***

"***UserSourceDB***" is the name of the database user **FROM THE SOURCE DATABASE** you specify when you connect to your source database.

"***PasswordSourceDB***" is the database password you use **FROM THE SOURCE DATABASE**.

### Specific to Read-Only Database (applies to DBUpdate command only)

When the T24 read-only feature is enabled and the TAFJ_VOC has been updated to specify a read-only database, the DBUpdate command can be used to set up this read-only database. Below are the read-only database connection properties to fill out.

**"UrlRO"** is the connection url to the read-only database

**"DriverRO"** is the database driver and must be identical to the transactional database

**"UserRO"** is the name of the database user

**"PasswordRO"** is the database password

**"DatabaseLinkRO"** is the database link name you created in the transaction database to connect to the read-only database.

## DBImport Options:

DBImport Options:

`-d` Run DBImport in daemon mode. In this mode DBImport will run in the background using the TAFJDBImport.default file to receive its input. (example usage: $nohup DBImport –d &)

`–makeDDL` DBImport has the ability to create a text file with the DDL (create table and other database statements) without executing the commands on the database. In text mode,

specify the `-makeDDL` option when running DBImport (i.e. DBImport –makeDDL). The GUI mode has this as a question in the wizard and hence doesn't have to be specified.

`-startwithfile` DBImport can begin creating files from a particular starting point (ie. useful if your DBImport program crashed for some reason and you don't want to start from scratch). PLEASE NOTE THAT THE FILENAME AFTER THE OPTION IS THE VOC (J4 FILENAME) AND NOT THE ORACLE FILENAME

## DB2 Special Considerations on zOS

Note: For DB2 zOS there are special parameters:

Special LOB creation→ DB2 can create the LOB tables automatically for you. This is the default. If you do not want this and instead want them to be created by the DBImport program, say « yes ». If you are running in DDL mode, the create LOB table statements will appear in the DDL script.

STOGROUP→ is a parameter used in the CREATE TABLESPACE command for DB2. Check with your DBA what this should be.

Once these modification are done, save the file and run the script ***DBImport(.bat)*** in the ***<TAFJ_HOME/bin*** directory or DBImport –GUI for the GUI version of the tools.

The following section shows the typical dialog you will have for a full import

```
_____________________DBImport V4.0_____________________

      Welcome to the Database Import program
   This tool will import a T24 J4/RDBMS Database
in a other RDBMS using JDBC. It will also create the
  necessary views and populate the database VOC
 For J4 Files, only H4 and HR files are supported.
_____________________________________________________
Press <ENTER> to Continue ...


Please specify the type of the importation :
_____________________________________________________________________________
_______
```

```
        Choose the type of import (source of import) ? J4/DATABASE (Default :
'J4')


Please specify the actions to do :
_____________________________________________________________________________
_______

        Do you want to create tables ? Y/N (Default : 'Yes')

        Do you want to insert records ? Y/N (Default : 'Yes')

        Do you want to insert UD records ? Y/N (Default : 'Yes')

        Do you want to create views ? Y/N (Default : 'Yes')



Please specify the parameters for the source J4 :
_____________________________________________________________________________
_______
        Please enter the VOC file path : (Default : '<full_path_to_VOC_File>')
D:\Temenos\BNK\bnk\bnk.run\VOC
        _____________________________________________________
        J4 File Encoding :
           1) UTF-8
           2) ISO-8859-1
        _____________________________________________________
        Please choose (1-2)(Default : '1')


        _____________________________________________________
        UD File Encoding to read:
           1) UTF-8
           2) ISO-8859-1
           3) Cp1252
           4) IBM-1047
        _____________________________________________________
        Please choose (1-4)(Default : '2')


Please specify the parameters for the target RDBMS :
_____________________________________________________________________________
_______


        _____________________________________________________
        Available databases :
            1) Oracle
            2) MS-SQL Server
            3) DB2
            4) H2
        _____________________________________________________
        Please choose the database (1-4)(Default : '1')
4
        Please specify the connection URL, eg
(jdbc:h2:tcp://<host_or_ip>/<db_name>)
jdbc:h2:tcp://localhost/T24
        User Id  :
mbtafj
        Password :
```

```
mbtafj
        Connected to H2 with specified parameters.
        _____________________________________________________
        Data DestinationTable Layout :
            1) TEXT -> VARCHAR / VARCHAR
            2) STRING -> VARCHAR / VARCHAR / CLOB
        _____________________________________________________
        Please choose the table type (1-2)(Default : '1')

        Please enter where to create Tables TYPE=UD :
D:\data\temenos\src\Enterprise\dev\tafj\ReleaseDir\UD
        Do you want to create UD data (outsite .run) as tables ? Y/N (Default :
'Yes')



Please specify the options to process :
_____________________________________________________________________________
________

        Please enter the Tables to process (can be seperated by coma ',') :
(Default : 'All')

        Please enter the Tables file to exclude (can be seperated by coma ',') :

        Please enter the J4 files to not insert records for (can be seperated by
coma ',') :

        Please enter the J4 files to exclude from XML type table (can be
seperated by coma ',') : (Default : 'F.JOB.LIST.*')


_____________________________________________________________________________
Target Database     : H2
        URL               : jdbc:h2:tcp://localhost/T24
        Driver            : org.h2.Driver
        User ID           : mbtafj
        Password          : mbtafj
        Layout            : TEXT -> VARCHAR / VARCHAR
        Path UD           : D:\data\temenos\src\Enterprise\dev\tafj\ReleaseDir\UD
        UD Data as Table  : Yes
        mode zOS          : No

Source J4
        Voc File          : D:\Temenos\BNK\bnk\bnk.run\VOC
        J4 Encoding       : UTF-8
        UD Encoding       : ISO-8859-1

To Do
        Create tables     : Yes
        Inserting Records : Yes
        Creating Views    : Yes

Tables to
        process         : All
        exclude         :
        not insert      :
        exclude from XML: F.JOB.LIST.*
_____________________________________________________________________________
Press <ENTER> to Continue ...
```

The full import will take about 1 ½ hours, depending on your hardware.

### DBImport GUI Option:

Previously we saw the DBImport in normal text mode. We have another option for this DBImport in GUI mode which will get user inputs by few wizard slides and shows the transaction in progress bar.

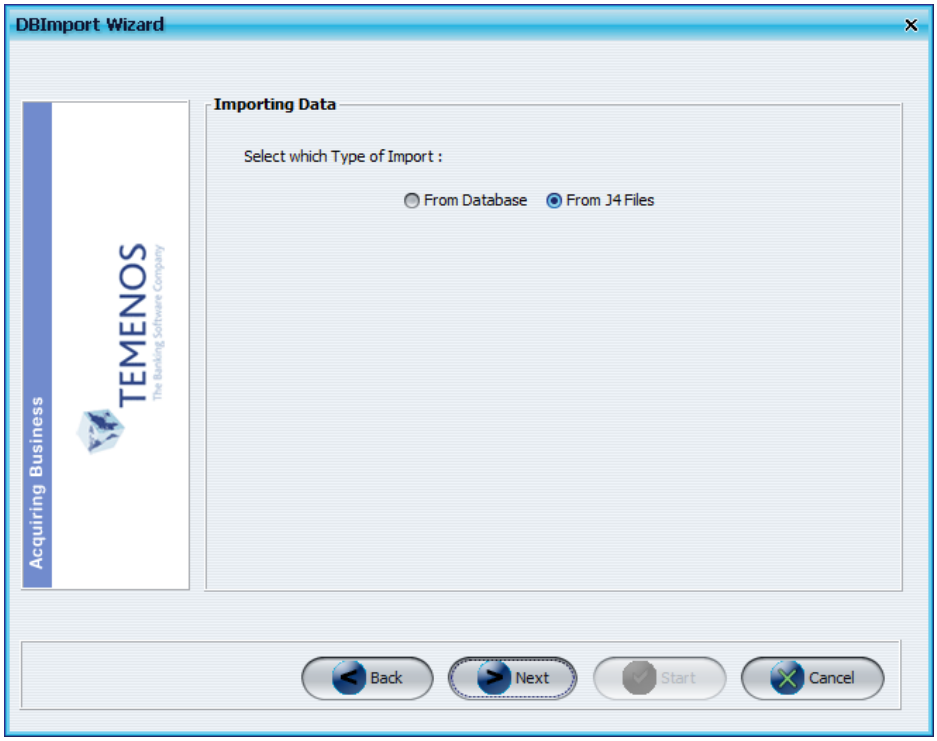
### Syntax:

Run the DBImport.bat file under TAFJ_HOME/bin by using the below arguments:

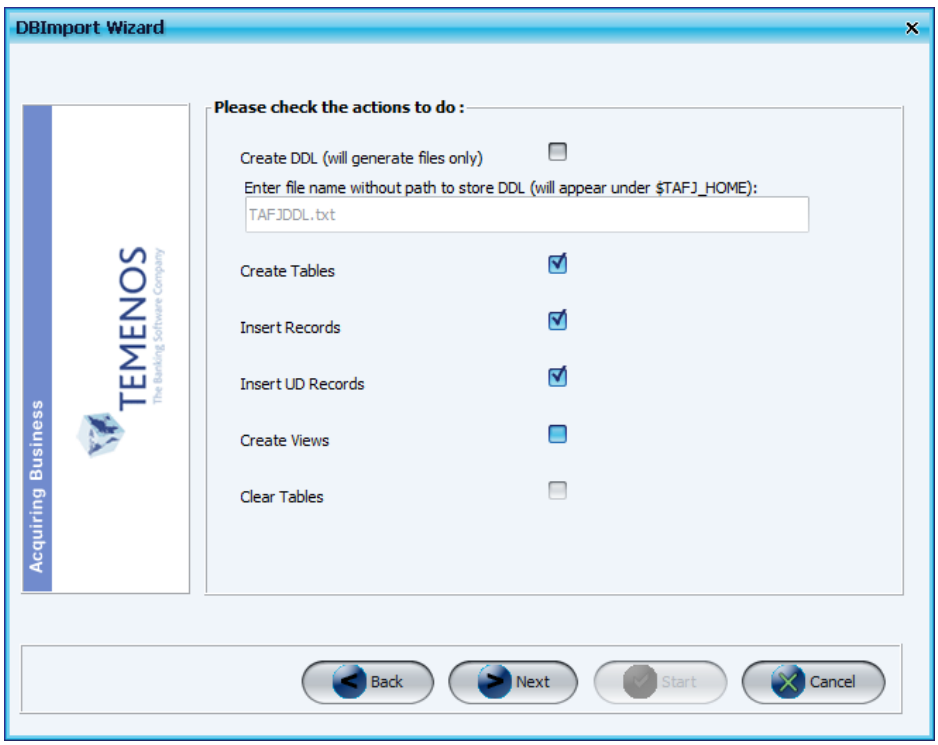
**DBImport.bat –cf tafj.properties –GUI**

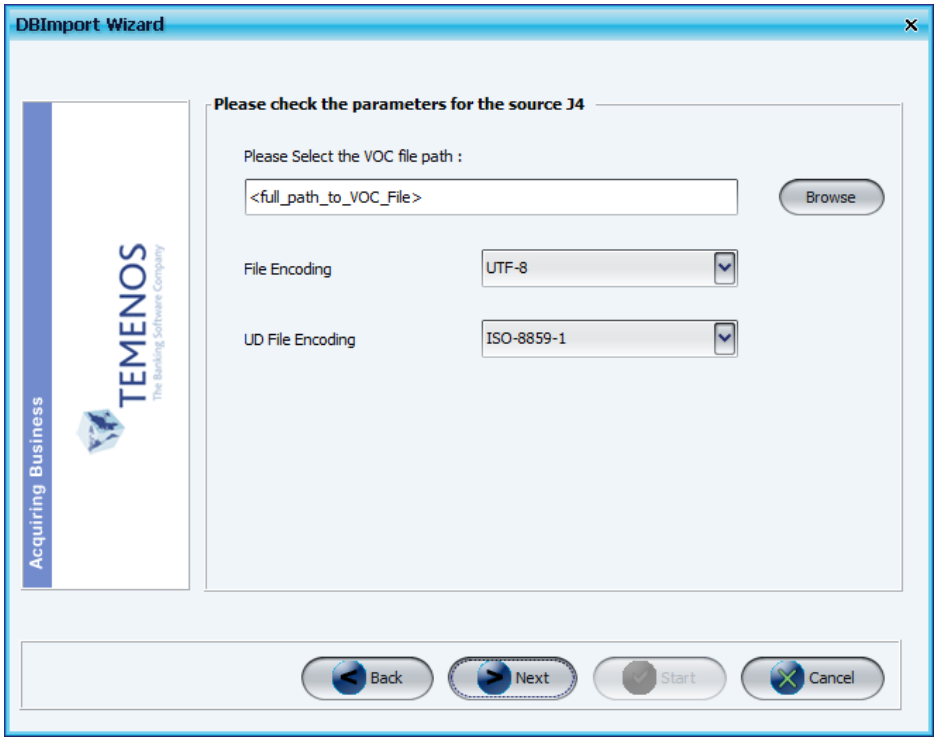
Here '-GUI' is a flag to run DBImport in GUI mode.

## Screen Shots:

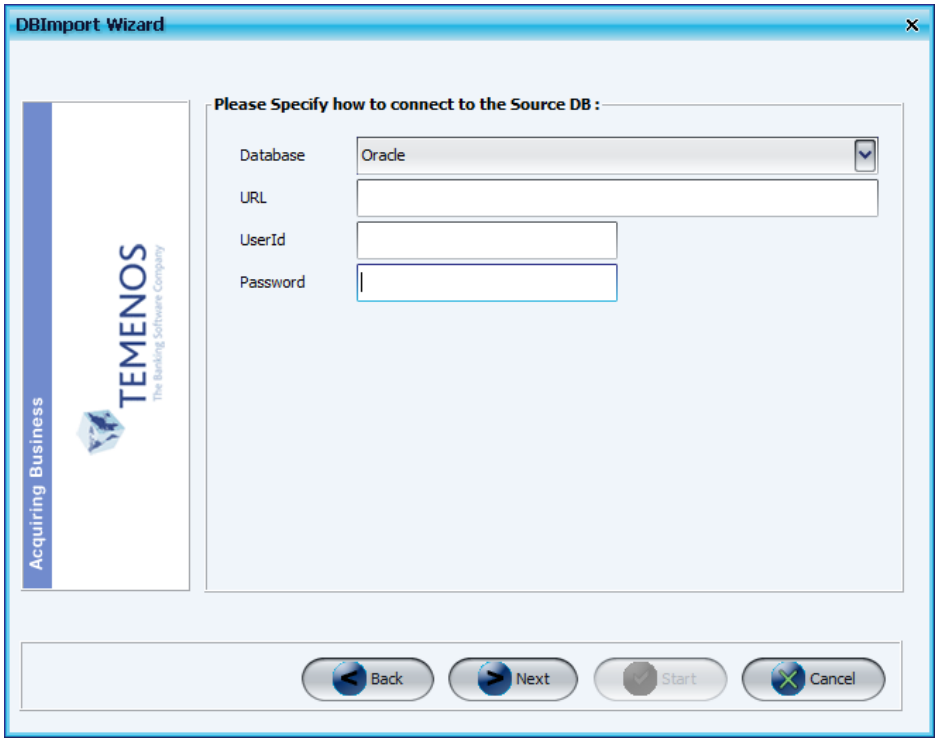


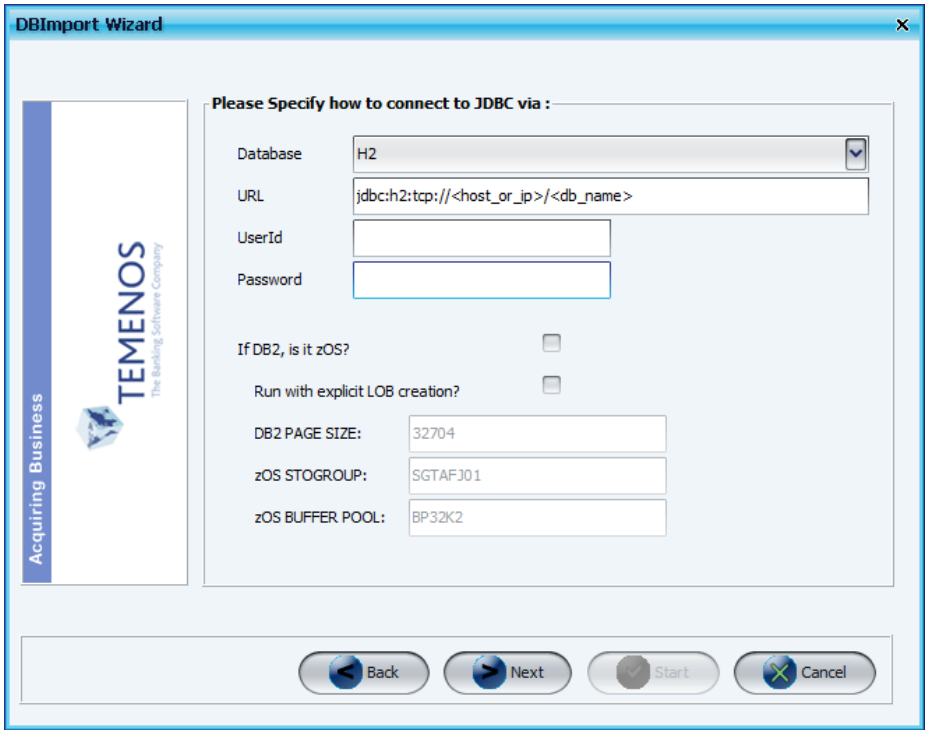

For J4 File as Source

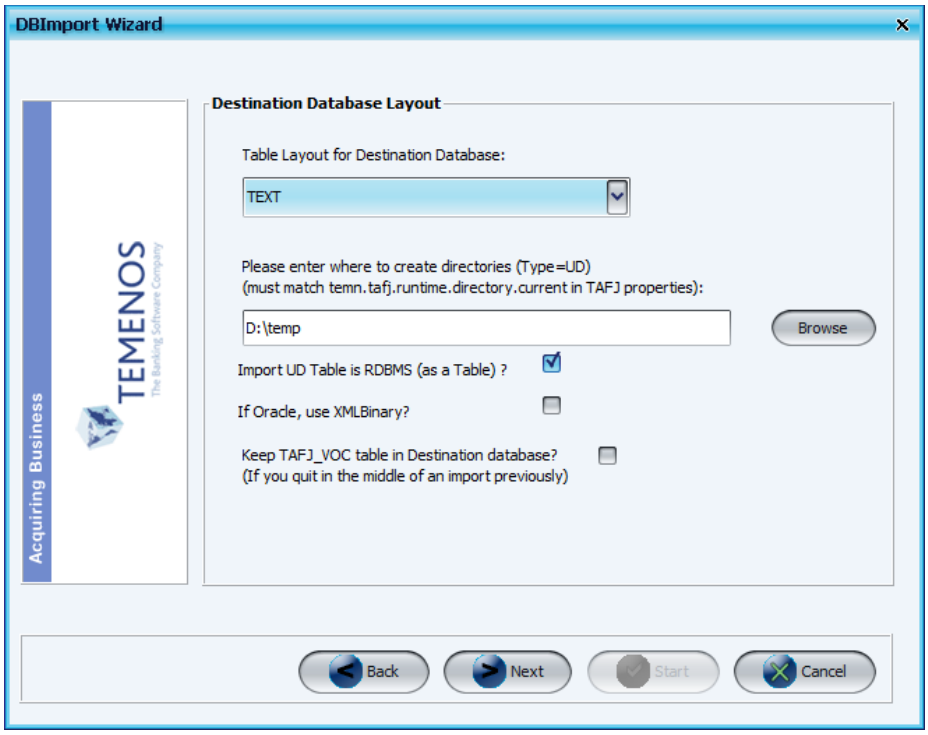




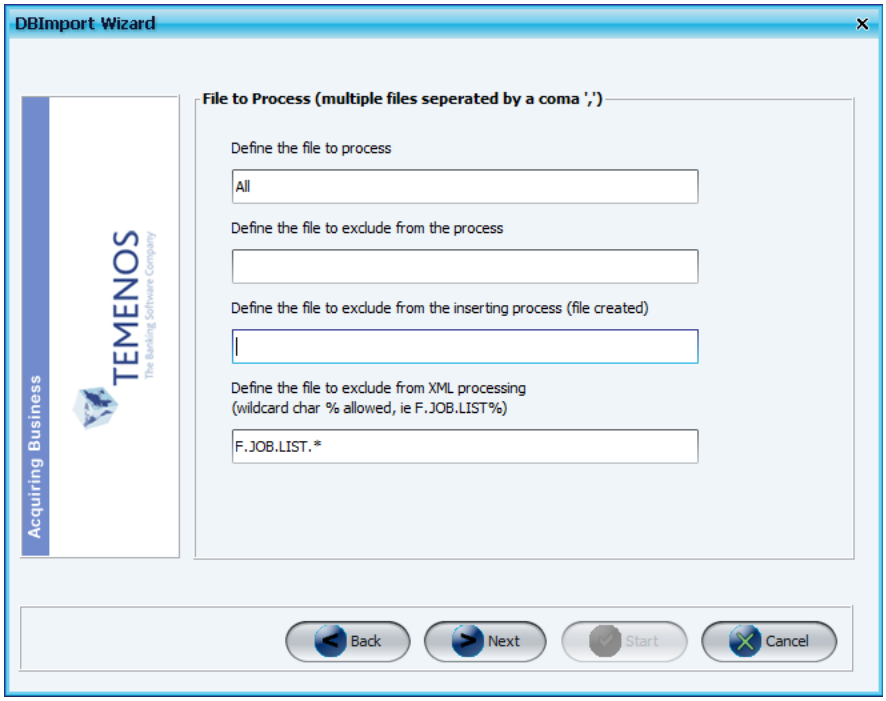

For Database as Source

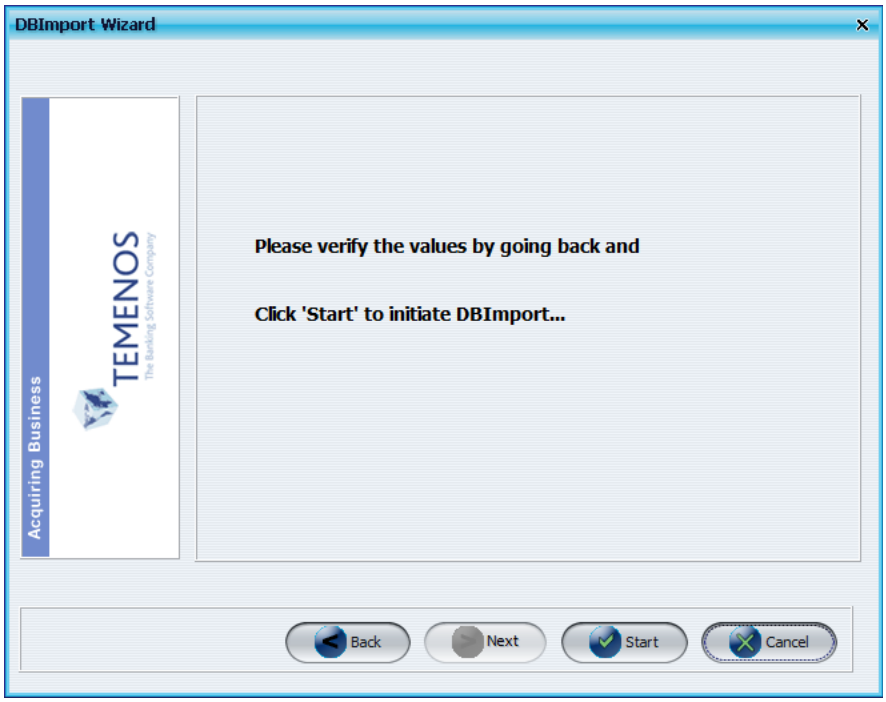





Note : DBImport will create user directories for those entries in the VOC table that are directories (if “Import UD Table in RDBMS (as a Table)” is unchecked). The directory specified must match that of the temn.tafj.runtime.directory.current property in your TAFJ properties file. If it doesn’t, these directories will not be opened correctly in the T24 code base.


DBImport Wizard
File to Process (multiple files seperated by a coma ',')
Define the file to process
All
Define the file to exclude from the process
Define the file to exclude from the inserting process (file created)
Define the file to exclude from XML processing
(wildcard char % allowed, ie F.JOB.LIST%)
F.JOB.LIST.*
Acquiring Business
TEMENOS
Back
Next
Start
Cancel


DBImport Wizard
Please verify the values by going back and
Click 'Start' to initiate DBImport...
Acquiring Business
TEMENOS
Back
Next
Start
Cancel

# DBUpdate

## Overview

The process to update a TAF-C format database is to load stored functions and create a TAFJ_VOC table and views matching specific tables. This is also used to create read-only database views in a separate instance from what is defined in a TAFC voc file.

## Requirements

First load stored functions. Please see the TAFJ-Oracle documentation sections for setting up java stored functions (the files to run are javaloadsingle and javafunctions_single_oracle.sql as TAFC uses single byte seperators). This has to be done before a DBUpdate as TAFJ views are dependent on them. Next, it is necessary to put TAFJ in single byte mode. To this:

-> Change TAFJ_HOME\bin\tafj_conf

-> Uncomment : "JAVA_OPTS=%JAVA_OPTS% -Dsinglebytesep"

After this is done, run DBUpdate from <TAFJ_HOME>/bin.

### Syntax

The DBUpdate syntax is the following:

```
DBUpdate –d –importType [number] -skipTAFJVOCcreation
```

-d --> run in daemon mode

-importType --> A number between 1-3:

1) Update a TAFC database

2) Update an R13 release

3) Update a TAFC database and change data to double byte");

-skipTAFJVOCcreation --> used with Import type 3) above: to skip the VOC creation if already done

```
____________________DBUpdate V3.0____________________

   Welcome in the Database Update program  This tools will Update an T24 Oracle
database to
  Make it compliant with TAFJ.
_____________________________________________________
Press <ENTER> to Continue ...


_____________________________________________________________
Available databases :
    1) Oracle
    2) MS-SQL Server
    3) DB2
    4) H2
_____________________________________________________________
Please choose the database (1-6)(Default : '1')
```

Answer step by step to all question and let it work....
At the end Backup the database.
The database is ready to work with TAFJ.