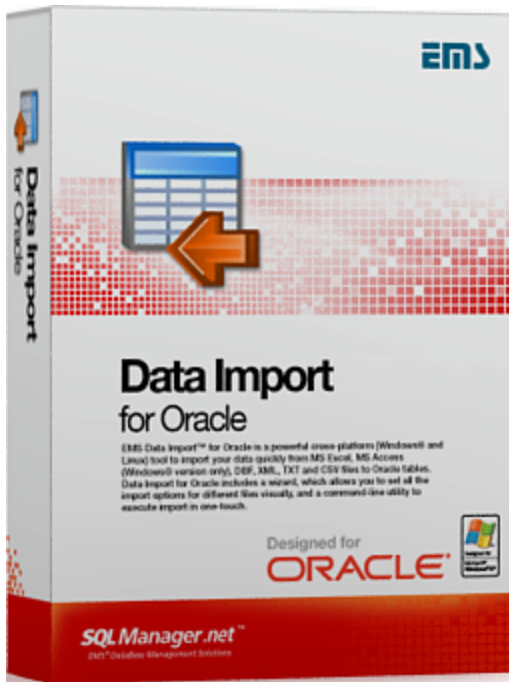


# SQL Manager.net™

EMS® Database Management Solutions



## Data Import for Oracle User's Manual

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# Data Import for Oracle User's Manual

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**Part**



# 1 Welcome to EMS Data Import utility!

**EMS Data Import for Oracle** is a powerful program to import your data quickly from MS Excel/Excel 2007, MS Word 2007, MS Access, DBF, TXT, CSV, Open Document, HTML files to Oracle tables. It provides adjustable import parameters, including source data formats for all the fields and destination data formats for the selected fields, commit options, number of records to skip, etc. Data Import for Oracle includes a wizard which allows you to set all the import options for different files visually, and a command-line utility to execute import in one-touch.

Visit our web-site: <http://www.sqlmanager.net/> for details.

## Key features:

- Import from most popular formats: MS Excel 97-2007, MS Access, XML, DBF, TXT, CSV, MS Word 2007, Open Document Format and HTML
- Importing data to one or several tables or views from different databases
- Automatically creates table structure
- Special batch insert commands allow to import data at the maximum possible speed
- A number of import modes - Insert All, Insert New, Insert or Update, and others
- Secure Shell (SSH) tunneling support
- Adjustable import parameters for each source file
- Saving all import parameters set on current wizard session
- Command-line utility to import data using the configuration file
- Powerful visual options module
- User-friendly localisable wizard interface

## Product information:

Homepage: <http://www.sqlmanager.net/en/products/oracle/dataimport>  
Support Ticket <http://www.sqlmanager.net/support>  
System:  
Register online at: <http://www.sqlmanager.net/en/products/oracle/dataimport/buy>

## 1.1 What's new

**Version****Data Import for Oracle 3.5****Release date**

November 11, 2011

**What's new in EMS Data Import?**

- Added the possibility to rollback the transaction, if an error occurs.
- The interface of the [third step](#)<sup>[22]</sup> for all types of the imported files is uniformed now.
- [Import console](#)<sup>[65]</sup>. Now the import process information is displayed after certain time intervals.
- Data Import Wizard. Now the import process information is displayed after certain time intervals.
- Now [localizations](#)<sup>[59]</sup> are loaded when the language directory is changed.
- On opening a new field editor is filled in with default values now.
- Now when importing to a new table, it is possible to determine the length of the string field by default.
- [Excel 2007](#)<sup>[24]</sup>. Added the possibility to configure Ranges when importing from Excel 2007, the same as importing from Excel 2003.
- Excel 2007. Import speed is increased.
- [XML Data packet](#)<sup>[31]</sup>. Added the possibility to select the file encoding.
- [Access](#)<sup>[28]</sup>. Added the dialog for entering a username.
- [XML](#)<sup>[31]</sup>. Importing to a new table caused an AV error. Fixed now.
- [Excel](#)<sup>[23]</sup>. Using the range of rows in Map caused the incorrect data import. Fixed now.
- Excel. When parsing a file with a field containing the SUM function with one argument, an error occurred. Fixed now.
- Excel. When opening the Map Range editor, the data in it displayed incorrectly. Fixed now.
- Other improvements and bugfixes.

---

**See also:**

Version history

## 1.2 System requirements

### System requirements for Data Import for Oracle

- 300-megahertz (MHz) processor; 600-megahertz (MHz) or faster processor recommended
- Microsoft® Windows NT4 with SP4 or later, Microsoft® Windows 2000, Microsoft® Windows 2000 Server, Microsoft® Windows XP, Microsoft® Windows 2003 Server, Windows® 2008 Server, Microsoft® Windows Vista, Microsoft® Windows 7.
- 64MB RAM or more; 128MB or more recommended
- 20MB of available HD space for program installation
- Super VGA (800x600) or higher-resolution video adapter and monitor; Super VGA (1024x768) or higher-resolution video adapter and monitor recommended
- Microsoft® Mouse or compatible pointing device
- Oracle Client 8.1.7 or higher
- Possibility to connect to any local or remote Oracle server
- Supported Oracle server versions: from 8.1.7 up to 11.1.0

## 1.3 Installation

If you are **installing Data Import for Oracle for the first time** on your PC:

- download the Data Import for Oracle distribution package from the [download page](#) available at our site;
- unzip the downloaded file to any local directory, e.g. *C:\unzipped*;
- run *OraImportSetup.exe* from the local directory and follow the instructions of the installation wizard;
- after the installation process is completed, find the Data Import shortcut in the corresponding group of Windows Start menu.

### [Installation FAQs](#)

If you want to **upgrade an installed copy of Data Import for Oracle** to the latest version:

- download the **Data Import for Oracle** distribution package from the [download page](#) available at our site;
- unzip the downloaded file to any local directory, e.g. *C:\unzipped*;
- close Data Import application if it is running;
- run *OraImportSetup.exe* from the local directory and follow the instructions of the installation wizard.

---

### See also:

[System requirements](#)

| 8 |

## 1.4 How to buy Data Import

To make it easier for you to purchase our products, we have contracted with share-it! registration service. The share-it! order process is protected via a secure connection and makes online ordering by credit/debit card quick and safe. The following information about share-it! is provided for your convenience.

**Share-it!** is a global e-commerce provider for software and shareware sales via the Internet. Share-it! accepts payments in US Dollars, Euros, Pounds Sterling, Japanese Yen, Australian Dollars, Canadian Dollars or Swiss Franks by Credit Card (Visa, MasterCard/ EuroCard, American Express, Diners Club), Bank/Wire Transfer, Check or Cash.

If you have ordered EMS software online and would like to review your order information, or if you have questions about ordering, payments, or shipping procedures, please visit our [Customer Care Center](#), provided by Share-it!

Please note that all of our products are delivered via ESD (Electronic Software Delivery) only. After purchase you will be able to immediately download the registration keys or passwords and download links for archives of full versions. Also you will receive a copy of registration keys or passwords by e-mail. Please make sure to enter a valid e-mail address in your order. If you have not received the keys within 2 hours, please, contact us at [sales@sqlmanager.net](mailto:sales@sqlmanager.net)

To obtain **MORE INFORMATION** on this product, visit us at <http://sqlmanager.net/en/products/oracle/dataimport>

<b>Product distribution</b>	
<b>Data Import for Oracle</b> (Business license) + 1-Year Maintenance*	<a href="#">Buy Now!</a>
<b>Data Import for Oracle</b> (Business license) + 2-Year Maintenance*	
<b>Data Import for Oracle</b> (Business license) + 3-Year Maintenance*	
<b>Data Import for Oracle</b> (Non-commercial license) + 1-Year Maintenance*	
<b>Data Import for Oracle</b> (Non-commercial license) + 2-Year Maintenance*	
<b>Data Import for Oracle</b> (Non-commercial license) + 3-Year Maintenance*	
<b>Data Import for Oracle</b> (Trial version)	<a href="#">Download Now!</a>

\***EMS Maintenance Program** provides the following benefits:

- Free software bug fixes, enhancements, updates and upgrades during the maintenance period
- Free unlimited communications with technical staff for the purpose of reporting Software failures
- Free reasonable number of communications for the purpose of consultation on operational aspects of the software
- Access to personalized sqlmanager.net account
- online, speed-through maintenance renewal
- Advanced and exclusive notification of software promotions
- "Maintenance Owner ONLY" product promotions

After your maintenance expires, you will not be able to update your software or get

technical support. To protect your investments and have your software up-to-date, you need to renew your maintenance.

You can easily reinitiate/renew your maintenance with our online, speed-through Maintenance Reinstatement/Renewal Interface. After reinitiating/renewal you will receive a confirmation e-mail with all the necessary information.

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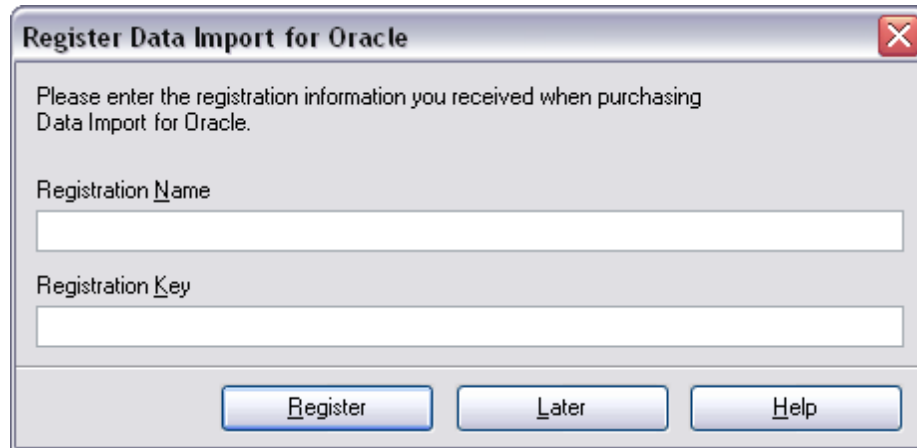
**See also:**

[How to register Data Import](#) <sup>[12]</sup>

## 1.5 How to register Data Import

To **register** your newly purchased copy of EMS Data Import for Oracle, perform the following:

- receive the notification letter from **Share-it!** with the registration info;
- enter the **Registration Name** and the **Registration Key** from this letter;
- make sure that the registration process has been completed successfully – check the registration information at the [startup page](#)<sup>[17]</sup>.



**Register Data Import for Oracle**

Please enter the registration information you received when purchasing Data Import for Oracle.

Registration Name

Registration Key

**Register**   **Later**   **Help**

---

**See also:**

[How to buy Data Import](#)<sup>[10]</sup>

## 1.6 EMS Data Import FAQ

Please read this page attentively if you have questions about Data Import for Oracle.

### Table of contents

- [What is EMS Data Import for Oracle?](#)<sup>[13]</sup>
- [What do I need to start working with EMS Data Import for Oracle?](#)<sup>[13]</sup>
- [What is the difference between the Import feature of SQL Manager for Oracle and the Data Import for Oracle utility?](#)<sup>[13]</sup>
- [Are there any limitations implied in the trial version as compared with the full one?](#)<sup>[13]</sup>
- [What is the easiest way to configure the template files for the Data Import console application?](#)<sup>[14]</sup>

### Question/answer list

*Q: What is EMS Data Import for Oracle?*

A: EMS Data Import for Oracle is a powerful tool to import your data quickly from MS Access, MS Excel, DBF, TXT, CSV, XML, MS Excel 2007, MS Word 2007, HTML, ODF files to Oracle tables. It provides adjustable import parameters, including source data formats for all the fields and destination data formats for the selected fields, commit options, number of records to skip, etc. Data Import includes a wizard which allows you to set all the import options for different files visually, and a command-line utility to execute import in one-touch.

*Q: What do I need to start working with EMS Data Import for Oracle?*

A: First of all, you must have a possibility to connect to some local or remote Oracle server to work with Data Import. You can download Oracle database server from <http://www.oracle.com/technology/software>. Besides, you need your workstation to satisfy the [system requirements](#)<sup>[8]</sup> for Data Import for Oracle.

*Q: What is the difference between the Import feature of SQL Manager for Oracle and the Data Import for Oracle utility?*

A: First of all, Data Import for Oracle works faster as it is a considerably lighter application. Besides, it provides additional features for query building, namely:

- import data from/to several tables simultaneously;
- import data to tables selected from different databases;
- the command-line version of the utility to import data using the configuration (template) file with all import settings;
- automatically creates table structure.

*Q: Are there any limitations implied in the trial version as compared with the full one?*

A: Actually the trial version of the utility only allows you to import 20% of records into each table. With this limitation, you can test all the features implemented in Data Import for Oracle within the 30-day trial period.

**Note:** There is a 100 records (instead of 20%) limitation when importing from CSV, TXT or MS Access files.

Q: *What is the easiest way to configure the template files for the Data Import console application?*

A: You can configure the template files for each table visually using the Data Import Wizard application. Set the required options and select the Tools | Save Template menu item. All the options will be saved to the template file which can be used by the console application.

[Scroll to top](#) 

If you still have any questions, contact us at [Support Center](#).

**Part**



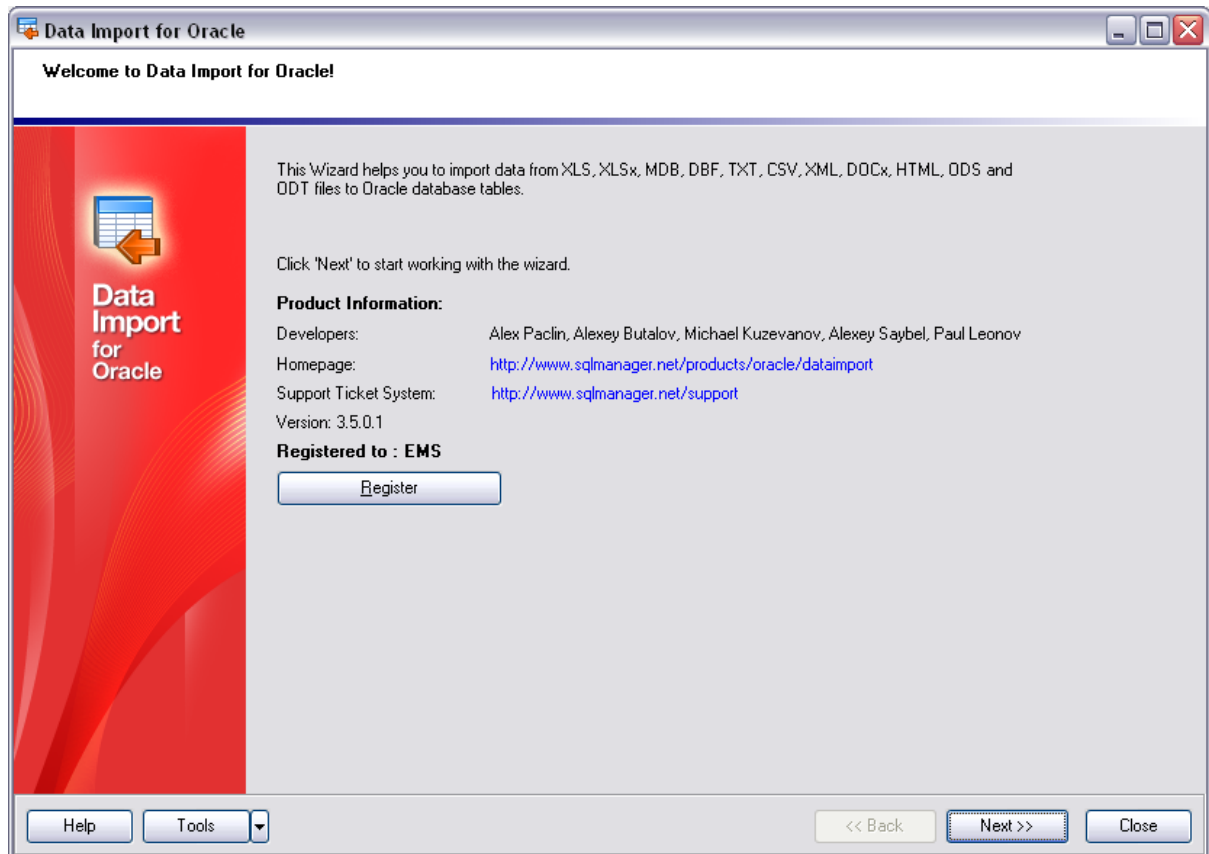
## 2 Wizard application

Data Import for Oracle wizard application provides easy-to-use wizard interface to set all data import parameters visually.

[Working with wizard application](#)<sup>[17]</sup>

[Using configuration files](#)<sup>[55]</sup>

[Setting program preferences](#)<sup>[57]</sup>



### See also:

[Console Application](#)<sup>[65]</sup>

## 2.1 Working with wizard application

Follow the steps of the wizard to import data to Oracle tables for your needs.

[Getting started](#)<sup>[17]</sup>

[Step 1 - Setting connection properties](#)<sup>[18]</sup>

[Step 2 - Selecting files to import](#)<sup>[20]</sup>

[Step 3 - Mapping fields](#)<sup>[22]</sup>

[Step 4 - Setting base data formats](#)<sup>[41]</sup>

[Step 5 - Setting data formats for each field](#)<sup>[46]</sup>

[Step 6 - Specifying import mode](#)<sup>[48]</sup>

[Step 7 - Selecting key columns to exclude from import process](#)<sup>[50]</sup>

[Step 8 - Setting commit options](#)<sup>[51]</sup>

[Step 9 - Defining scripts to execute before and after import](#)<sup>[52]</sup>

[Step 10 - Start of data import process](#)<sup>[53]</sup>

---

### See also:

[Using data import configuration files](#)

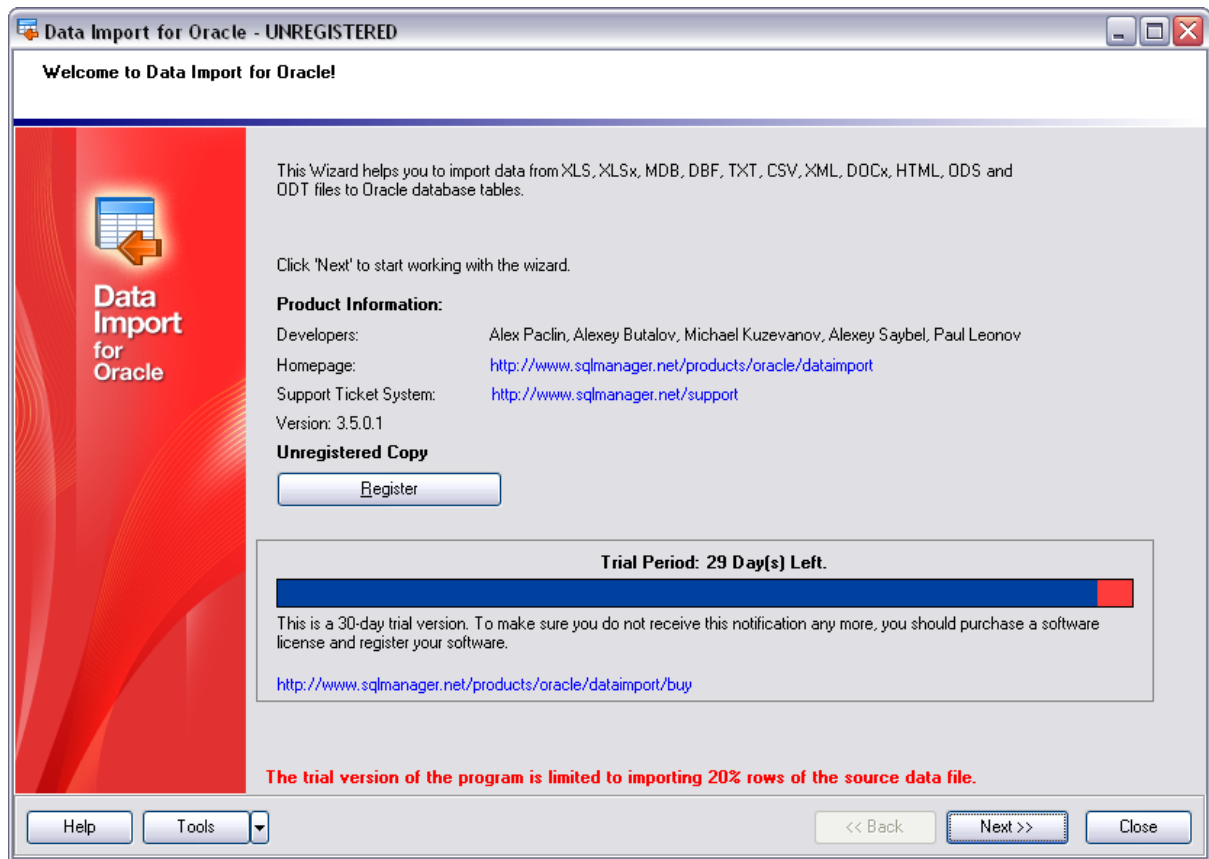
<sup>[55]</sup>

[Setting program preferences](#)<sup>[57]</sup>

### 2.1.1 Getting started

This is how Data Import for Oracle **wizard application** looks when you first start it.

This page allows you to view registration information. If you have not registered Data Import for Oracle yet, you can do it by pressing the **Register** button and [entering your registration information](#)<sup>[12]</sup>.



Press the **Next** button to proceed to [Setting connection properties](#)<sup>[18]</sup>.

#### See also:

[How to buy Data Import](#)<sup>[10]</sup>

## 2.1.2 Step 1 - Setting connection properties

At this step you should specify necessary settings to establish **connection** to the target Oracle database.

### Connection settings

#### Database Home

Specify your Oracle Home storage for this connection.

#### Connect as

Select the type of connection to be established: *Normal* (by default), *SYSDBA*, *SYSOPER*.

After that it is necessary to specify the database you are going to work with: type in the database name in the **Database** field or select one in the drop-down list (the drop-down list is only available if more than one Oracle database are registered in the TNS file).

**Note:** If no database are registered in Oracle Client (DB list is empty in this case), then

you need to [add registration info manually](#)<sup>[75]</sup>.

The screenshot shows the 'Data Import for Oracle' wizard at Step 1 of 10, titled 'Set Oracle server connection options'. The window is titled 'Data Import for Oracle' and has a red sidebar with the product logo. The main area is titled 'Connection Properties' and contains several sections:

- Connection options:**
  - Database home: OraDb10g\_home1
  - Connect as: SYSDBA
  - Optimize goal: Unchanged
  - Database: ORTOZ
- Authentication type:**
  - Windows:
  - Server:
- Authentication:**
  - Login: sys
  - Password: masked with asterisks
- Tunneling options:**
  - Don't use tunneling:
  - Connect through the Secure SHell (SSH) tunnel:
  - SSH host name: localhost
  - SSH port: 22
  - SSH user name: [empty]
  - SSH password: [empty]
  - Use Private Key for authentication:
  - SSH key file: [empty]

At the bottom, there are buttons for 'Help', 'Tools', '<< Back', 'Next >>', and 'Close'.

Please note that you need to have sufficient privileges to be able to write to the destination database on Oracle server.

### Tunneling settings

To setup the connection via **SSH tunnel**, input the following values in the corresponding fields:

- **SSH host name** is the name of the host (IP address) where SSH server is running
- **SSH port** indicates the port where SSH server is activated (default is "22")
- **SSH user name** stands for the user on the machine where SSH server is running (**Note:** it is a Linux/Windows user, not a user of Oracle server)
- **SSH password** is the Linux/Windows user password

### Use Private Key for authentication

If the SSH encryption is enabled on the SSH server, a user can generate a pair of cryptographic keys (the **Private key** and the **Public key**). The **Public key** is placed on the SSH server, and the **Private key** is the part you keep secret inside a secure box that can only be opened with the correct passphrase (or an empty string as the passphrase). When you wish to access the remote system, you open the secure box with your passphrase (if any), and use the private key to authenticate yourself with the Public key on the remote Linux computer.

### SSH Key file

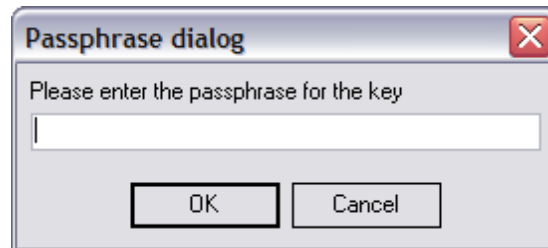
Specify the location (the secure box) of the **Private key** file on your local machine. Supported Private Key file formats are:

*OpenSSH*

*Putty*

*SSH.com*


Note that you need to trust your local machine not to scrape your passphrase or a copy of your Private key file while it is out of its secure box.



When you are done, press the **Next** button to proceed to the [next step](#)<sup>[20]</sup>.

### 2.1.3 Step 2 - Selecting files to import


At this step you should **select source file(s) to be imported**.



Click the  **Add File** button to select the source file name using the **Open file...** dialog. Repeat this operation to add more source files (if necessary).

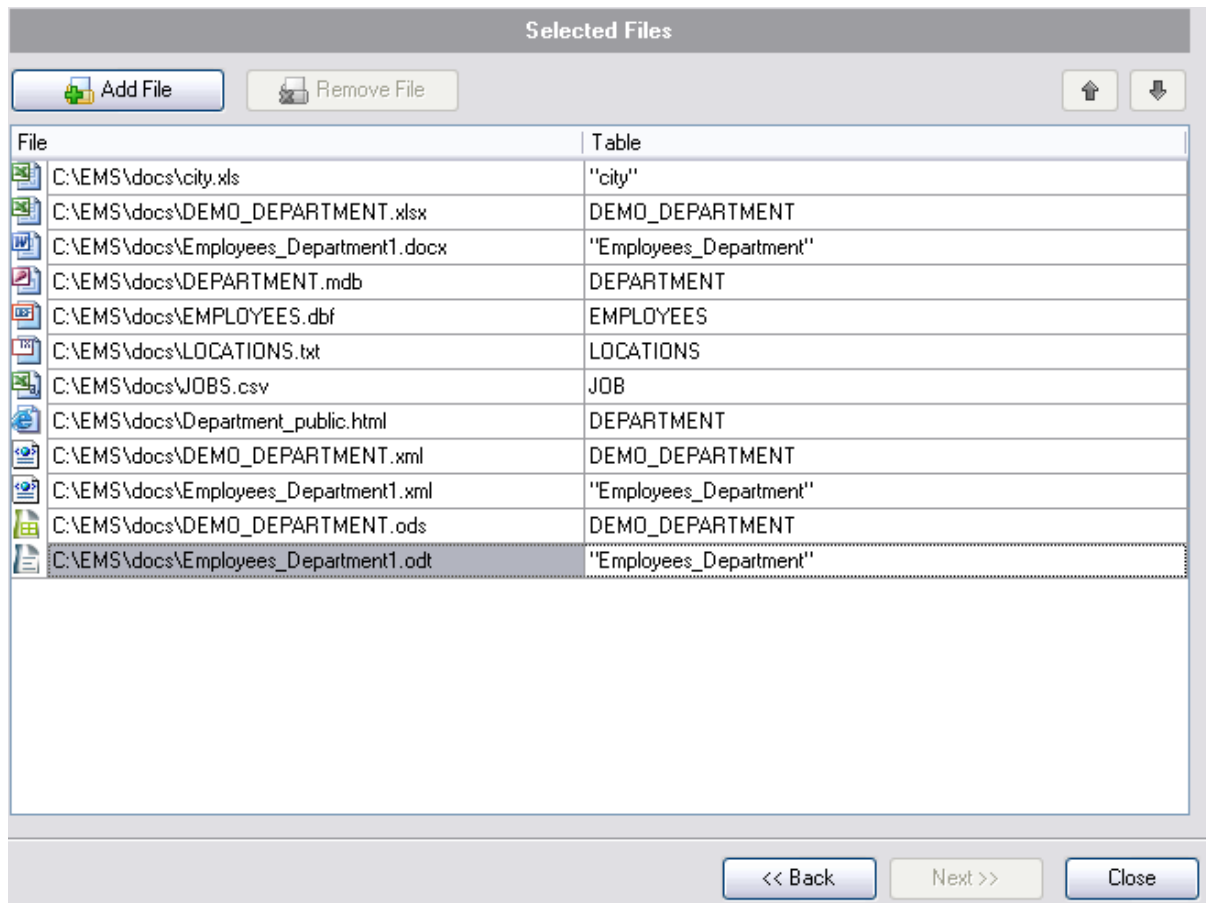
You can choose among the following types of the source data file:

- *MS Excel*
- *MS Excel 2007*
- *MS Word 2007*
- *MS Access*
- *DBF*
- *TXT*
- *CSV*
- *HTML*
- *XML Data Pack*
- *XML Doc*
- *ODS*
- *ODT*

The open file dialog allows you to set a filter on the source file format.

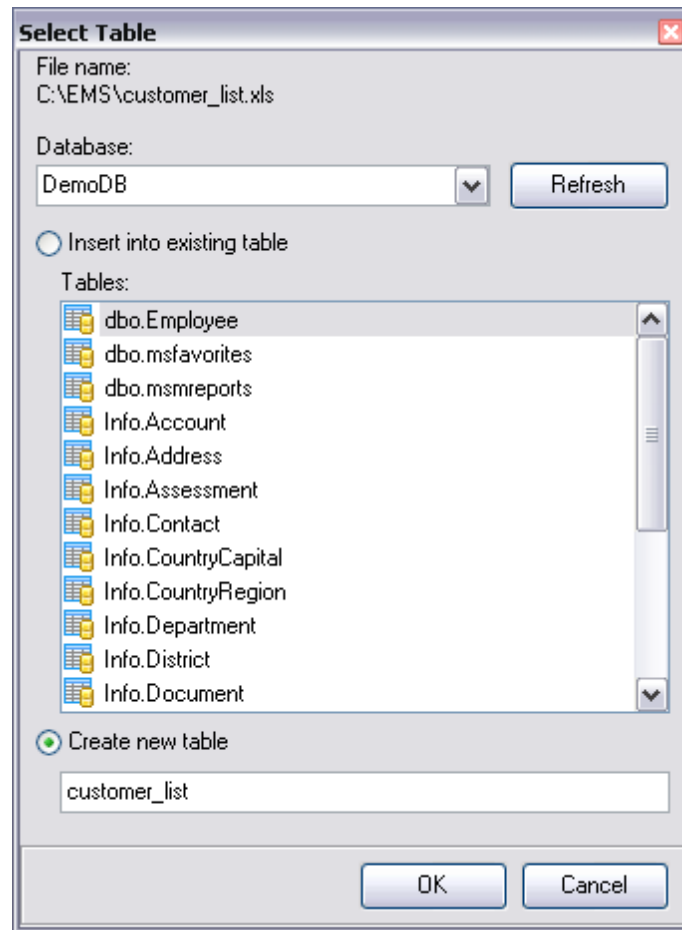
To delete a file from the list, select it and click the  **Remove File** button.

You can also change the order of the source files in the list using the **Up**  and the **Down**  buttons.



**Note:** For the spreadsheet files: if you need to import data from different sheets into different tables you are to include that multi-sheet spreadsheet file into the list several times (equal to the number of sheets to be imported to different tables).

When a file is selected the **Select Table** dialog appears:



**File name** field displays the selected file name and its location.


**Database** field allows you to specify the target database.

**Insert into existing table**

Select this option to import data to the existing table. **Tables** area contains the list of tables in the selected database. You can refresh the list by clicking the **Refresh** button.

**Create new table**

Use this option to create import destination table.

To change the target Oracle table that has been already assigned to a source data file, select the table in the list and press the ellipsis  button to call the **Select Table** dialog again.

When you are done, press the **Next** button to proceed to the [next step](#)<sup>[22]</sup>.

### 2.1.4 Step 3 - Mapping fields

This step of the wizard allows you **to set correspondence** between columns of the source file and fields of the target Oracle table, according to the source data format.

- [MS Excel mapping](#)<sup>[23]</sup>
- [MS Excel 2007 mapping](#)<sup>[24]</sup>
- [MS Word 2007 mapping](#)<sup>[27]</sup>
- [MS Access mapping](#)<sup>[28]</sup>
- [DBF mapping](#)<sup>[29]</sup>
- [XML mapping](#)<sup>[31]</sup>
- [XML Document mapping](#)<sup>[32]</sup>
- [TXT mapping](#)<sup>[34]</sup>
- [CSV mapping](#)<sup>[35]</sup>
- [HTML Document](#)<sup>[37]</sup>
- [ODS mapping](#)<sup>[38]</sup>
- [ODT mapping](#)<sup>[40]</sup>




To get more information about the file formats, see the [Supported file formats](#)<sup>[71]</sup> page.

When you are done, press the **Next** button to proceed to the [next step](#)<sup>[41]</sup>.

#### 2.1.4.1 MS Excel

Select the needed source file from the list. Then specify ranges in the grid for the target and source fields:



- select a field of the target Oracle table in the **Fields** list;
- proceed to the **Sheet** grid: click a column caption to select the whole column or click the row number to select the whole row;
- the selected column/row of the source file gets green highlight, and a new range indicating the source and target fields correspondence appears in the **Ranges** list;
- repeat the operation for all the fields you need to be included in the import process.

If the source file and the destination Oracle table have the same order of columns, you can use the  **Auto Fill Columns** mode (default) to set correspondence between them automatically. If source file and destination Oracle table have different order of columns but identical names you can use the  **Auto Fill by Captions** mode to set the correspondence based on name's identity. You can also use the  **Auto fill Rows** to set the correspondence between destination table fields and source file rows.

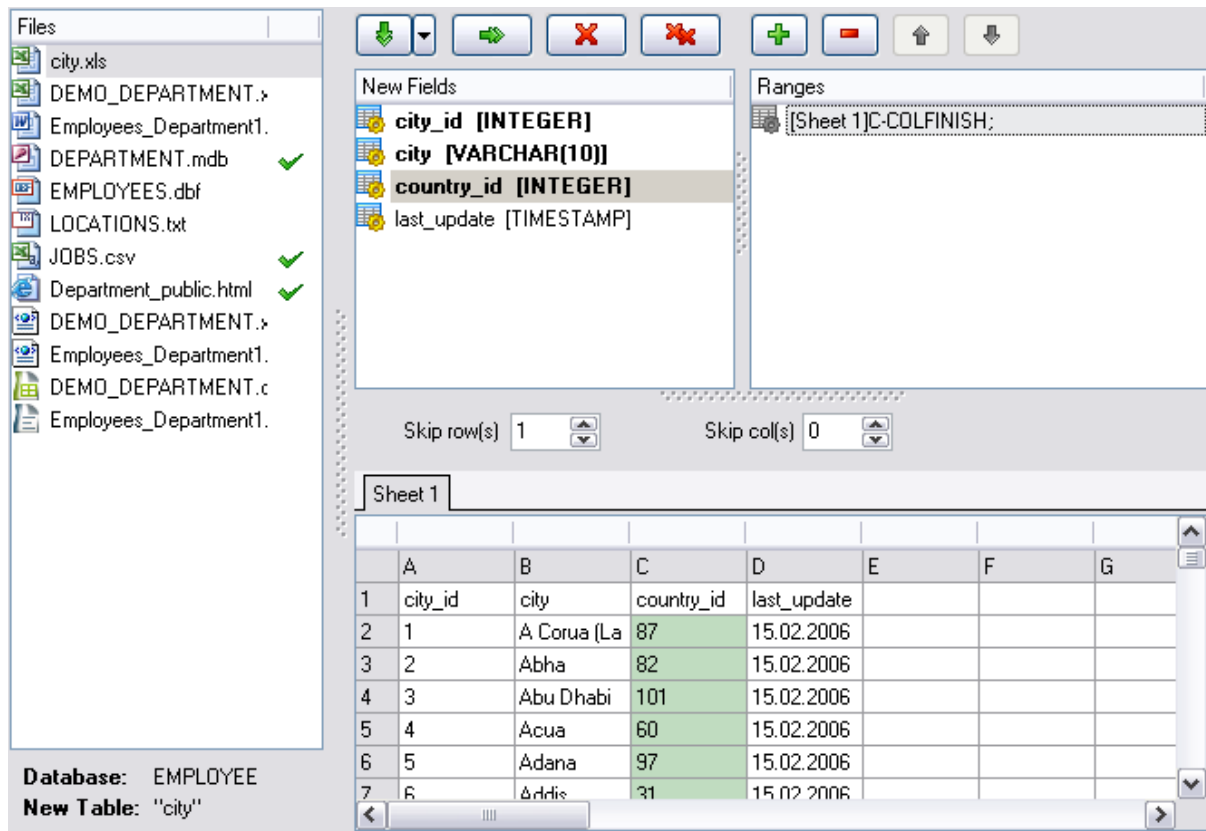
If new table creation was selected at the [previous step](#)<sup>[20]</sup>, then fields needed for the import procedure will be created automatically.

You can [manage destination table fields](#)<sup>[73]</sup> if needed. Use the corresponded context menu item to **Add/Edit/Drop** field.





**Note:** If table was properly created or already exist, it will be marked with a tick . If an error occur during table creation, this table will be marked with a cross .


If necessary, you can choose to **skip** a defined number of the source file columns and/or rows using the **Col(s)** and **Row(s)** spin-edits.



If your spreadsheet file contains several sheets, you are able to set different mapping for each sheet.

To clear ranges for a field, select the field in the **Fields** list and press the **Clear Field Ranges**  button.

To clear all ranges specified for the target table fields, press the **Clear All ranges**  button.

To [set a range of data](#)<sup>[74]</sup> to be imported from the file, use the **Add range**  button.

To remove a range, use the **Delete range**  button.

Using the **Move Up**  and the **Move Down**  buttons you can change the order of ranges applied to data.



Click the **Next** button to proceed to the [Setting base data formats](#)<sup>[41]</sup> step of the wizard.

#### 2.1.4.2 MS Excel 2007

Select the needed source file from the list. Then specify ranges in the grid for the target and source fields:

- select a field of the target Oracle table in the **Fields** list;

- proceed to the **Sheet** grid: click a column to assign the column to the selected target table field;
- the selected column of the source file gets gray highlight;
- repeat the operation for all the fields you need to be included in the import process.



If the source file and the destination Oracle table have the same order of columns, you can use the  **Auto Fill Columns** mode (default) to set correspondence between them automatically. If source file and destination Oracle table have different order of columns but identical names you can use the  **Auto Fill by Captions** mode to set the correspondence based on name's identity.

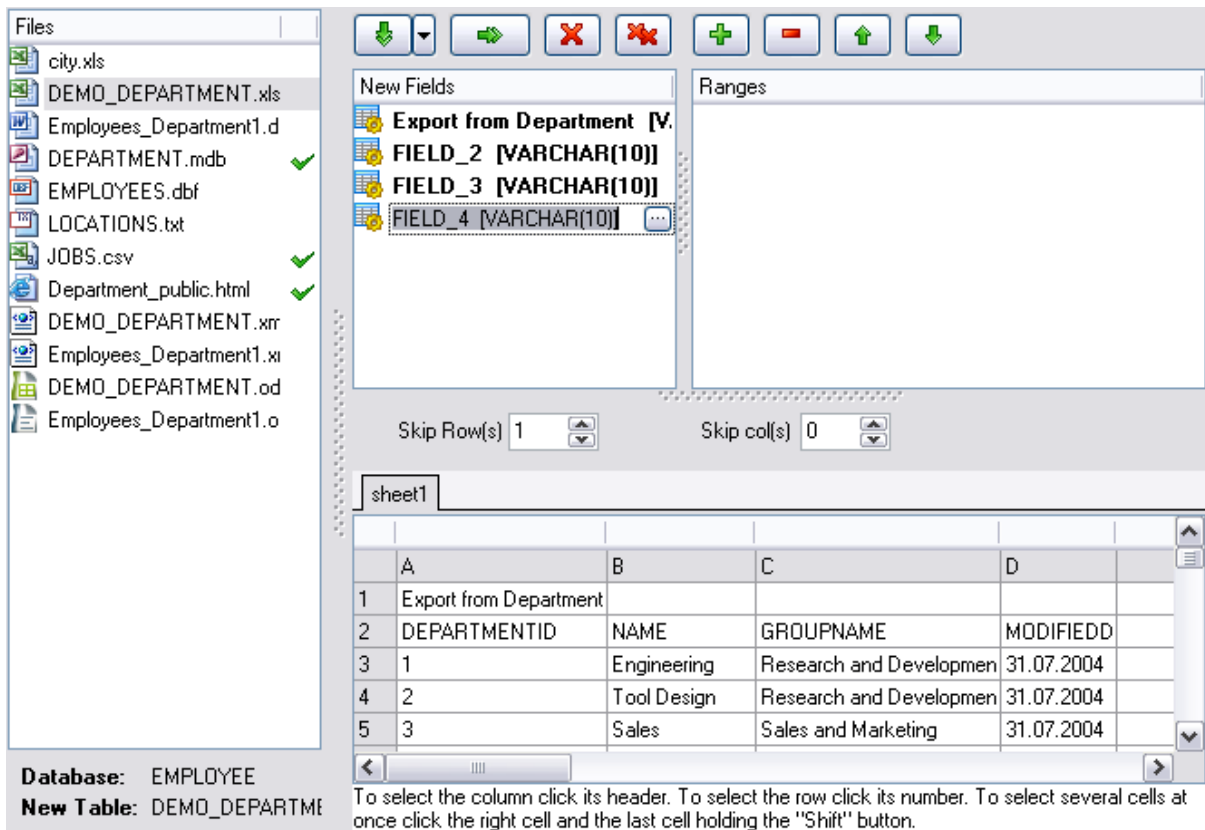
**Note:** The number of the column for which correspondence was set is displayed at the **Col.** control. You can use it for setting the fields correspondence as well.


If new table creation was selected at the [previous step](#)<sup>[20]</sup>, then fields needed for the import procedure will be created automatically. You can [manage destination table fields](#)<sup>[73]</sup> if needed. Use the corresponded context menu item to **Add/Edit/Drop** field.




If necessary, you can choose to **skip** a defined number of the source file rows or columns using the **Skip lines** or **Skip cols** spin-edit.


**Note:** If table was properly created or already exist, it will be marked with a tick . If an error occur during table creation, this table will be marked with a cross .





To remove a correspondence, select the field in the **Fields** list and press the  **Clear Field Ranges** button.

To remove all correspondences, press the  **Clear All Ranges** button.

If your spreadsheet file contains several sheets, you are able to set different mapping for each sheet.

To clear ranges for a field, select the field in the **Fields** list and press the **Clear Field Ranges**  button.

To clear all ranges specified for the target table fields, press the **Clear All ranges**  button.

To [set a range of data](#)<sup>[74]</sup> to be imported from the file, use the **Add range**  button.

To remove a range, use the **Delete range**  button.

Using the **Move Up**  and the **Move Down**  buttons you can change the order of ranges applied to data.


Click the **Next** button to proceed to the [Setting base data formats](#)<sup>[41]</sup> step of the wizard.


### 2.1.4.3 MS Word 2007

Specify ranges in the grid for the target and source fields:

- select a field of the target Oracle table in the **Fields** list;
- proceed to the **Table** grid: click a column to assign the column to the selected target table field;
- the selected column of the source file gets gray highlight;
- repeat the operation for all the fields you need to be included in the import process.

If the source file and the destination Oracle table have the same order of columns, you

can use the  **Auto Fill Columns** mode (default) to set correspondence between them automatically. If source file and destination Oracle table have different order of

columns but identical names you can use the  **Auto Fill by Captions** mode to set the correspondence based on name's identity.



The number and name of the column which correspondence is set for are displayed at the **Grid column** and **Field Name** controls. You can use it for setting the fields correspondence as well.

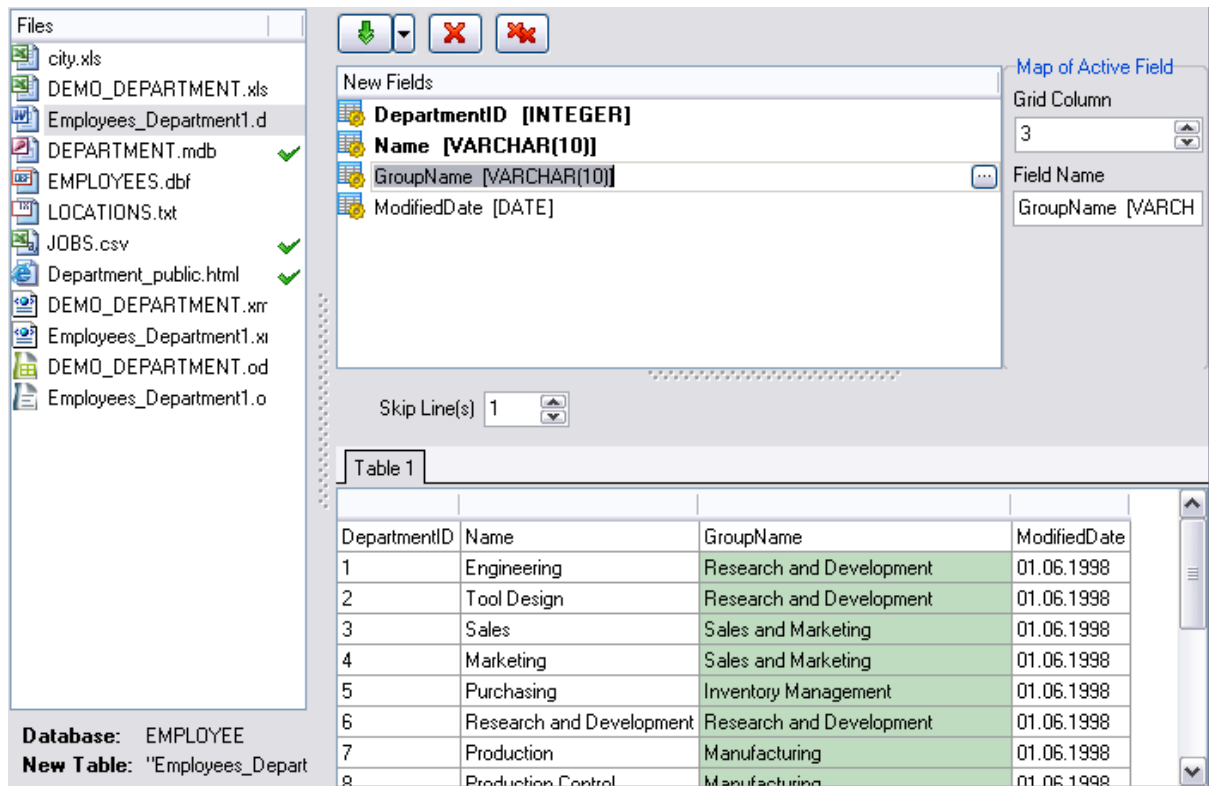
If new table creation was selected at the [previous step](#)<sup>[20]</sup>, then fields needed for the import procedure will be created automatically.


You can [manage destination table fields](#)<sup>[73]</sup> if needed. Use the corresponded context menu item to **Add/Edit/Drop** field.




If necessary, you can choose to **skip** a defined number of the source file rows using the **Skip lines** spin-edit.

**Note:** If table was properly created or already exist, it will be marked with a tick . If an error occur during table creation, this table will be marked with a cross .



To remove a correspondence, select the field in the **Fields** list and press the  **Clear Field Ranges** button.

To remove all correspondences, press the  **Clear All Ranges** button.

Click the **Next** button to proceed to the [Setting base data formats](#)<sup>[41]</sup> step of the wizard.

#### 2.1.4.4 MS Access

Set correspondence between the source MS Access fields and the target Oracle table fields:

- select a field of the target Oracle table in the **Table Fields** list;
- select the corresponding field of the source MS Access table in the **Access Fields** list;
- click the **Add** button to set correspondence between the selected fields;
- the pair of fields appears in the list below;
- repeat the operation for all the fields you need to be included in the import process.

If new table creation was selected at the [previous step](#)<sup>[20]</sup>, then fields needed for the import procedure will be created automatically.

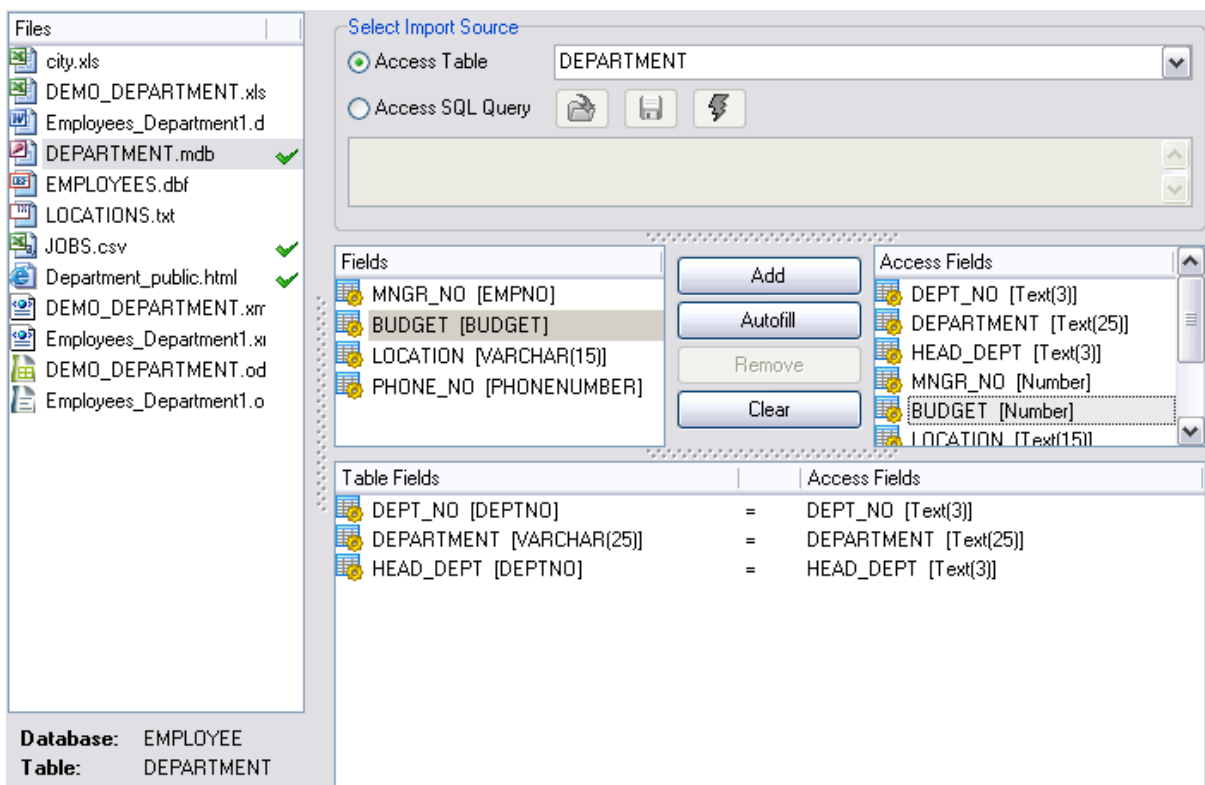
You can [manage destination table fields](#)<sup>[73]</sup> if needed. Use the corresponded context menu item to **Add/Edit/Drop** field.



**Note:** If table was properly created or already exist, it will be marked with a tick ✓. If an error occur during table creation, this table will be marked with a cross ✗.

If you choose a query as the data source, you also can load a SQL query from a \*.sql file or save the current query text to a file using the **Load from File...** and the **Save to File...** buttons correspondingly.

Use the **Autofill** button to set correspondence between the source and target fields automatically on the basis of their order.



To remove a correspondence, select a pair of fields in the list below and press the **Remove** button.

To remove all correspondences, press the **Clear** button.

Click the **Next** button to proceed to the [Setting base data formats](#)<sup>[41]</sup> step of the wizard.

#### 2.1.4.5 DBF

Set correspondence between the source DBF columns and the target Oracle table fields:

- select a field of the target Oracle table in the **Table Fields** list;
- select the corresponding column of the source DBF table in the **DBF Fields** list;

- click the **Add** button to set correspondence between the selected fields;
- the pair of fields appears in the list below;
- repeat the operation for all the fields you need to be included in the import process.

If new table creation was selected at the [previous step](#)<sup>[20]</sup>, then fields needed for the import procedure will be created automatically.

You can [manage destination table fields](#)<sup>[73]</sup> if needed. Use the corresponded context menu item to **Add/Edit/Drop** field.



**Note:** If table was properly created or already exist, it will be marked with a tick ✓. If an error occur during table creation, this table will be marked with a cross ✗.

Use the **Autofill** button to set correspondence between the source and target fields automatically on the basis of their order.

### Charset

Use this field to specify the source file character set.

### Skip deleted rows

Use the option to exclude records marked as deleted in source DBF file.

The screenshot displays the 'Data Import for Oracle' interface. On the left, a 'Files' list includes various source files, with 'EMPLOYEES.dbf' and 'Employees\_Deptment1.o' marked with green checkmarks. The 'New Fields' list contains database fields like 'PHONE\_NUMB [VARCHAR(20)]', 'HIRE\_DATE [TIMESTAMP]', 'JOB\_ID [VARCHAR(10)]', 'SALARY [DOUBLE PRECISION]', 'COMMISSION [DOUBLE PRECISION]', 'MANAGER\_ID [DOUBLE PRECISION]', and 'DEPARTMENT [DOUBLE PRECISION]'. The 'DBF Fields' list includes 'EMPLOYEE\_I [Number(11, 0)]', 'FIRST\_NAME [Char(20)]', 'LAST\_NAME [Char(25)]', 'EMAIL [Char(25)]', 'PHONE\_NUMB [Char(20)]', 'HIRE\_DATE [Date]', 'JOB\_ID [Char(10)]', 'SALARY [Number(15, 4)]', and 'COMMISSION [Number(15, 4)]'. A 'Table Fields' table shows the mapping between the two lists:

Table Fields		DBF Fields
EMPLOYEE_I [DOUBLE PRECISION]	=	EMPLOYEE_I [Number(11, 0)]
FIRST_NAME [VARCHAR(20)]	=	FIRST_NAME [Char(20)]
LAST_NAME [VARCHAR(25)]	=	LAST_NAME [Char(25)]
EMAIL [VARCHAR(25)]	=	EMAIL [Char(25)]

At the bottom, the 'Database' is set to 'EMPLOYEE' and the 'New Table' is 'EMPLOYEES'. The 'Skip Deleted Rows' checkbox is checked. The 'Charset' dropdown is set to 'None'.

To remove a correspondence, select the pair of fields in the list below and press the **Remove** button.

To remove all correspondences, press the **Clear** button.

Click the **Next** button to proceed to the [Setting base data formats](#)<sup>[41]</sup> step of the wizard.

#### 2.1.4.6 XML

Set correspondence between the source XML columns and the target Oracle table fields:

- select a field of the target Oracle table in the **Table Fields** list;
- select the corresponding column of the source XML table in the **XML Fields** list;
- click the **Add** button to set correspondence between the selected fields;
- the pair of fields appears in the list below;
- repeat the operation for all the fields you need to be included in the import process.

If new table creation was selected at the [previous step](#)<sup>[20]</sup>, then fields needed for the import procedure will be created automatically.

You can [manage destination table fields](#)<sup>[73]</sup> if needed. Use the corresponded context menu item to **Add/Edit/Drop** field.



**Note:** If table was properly created or already exist, it will be marked with a tick ✓. If an error occur during table creation, this table will be marked with a cross ✗.

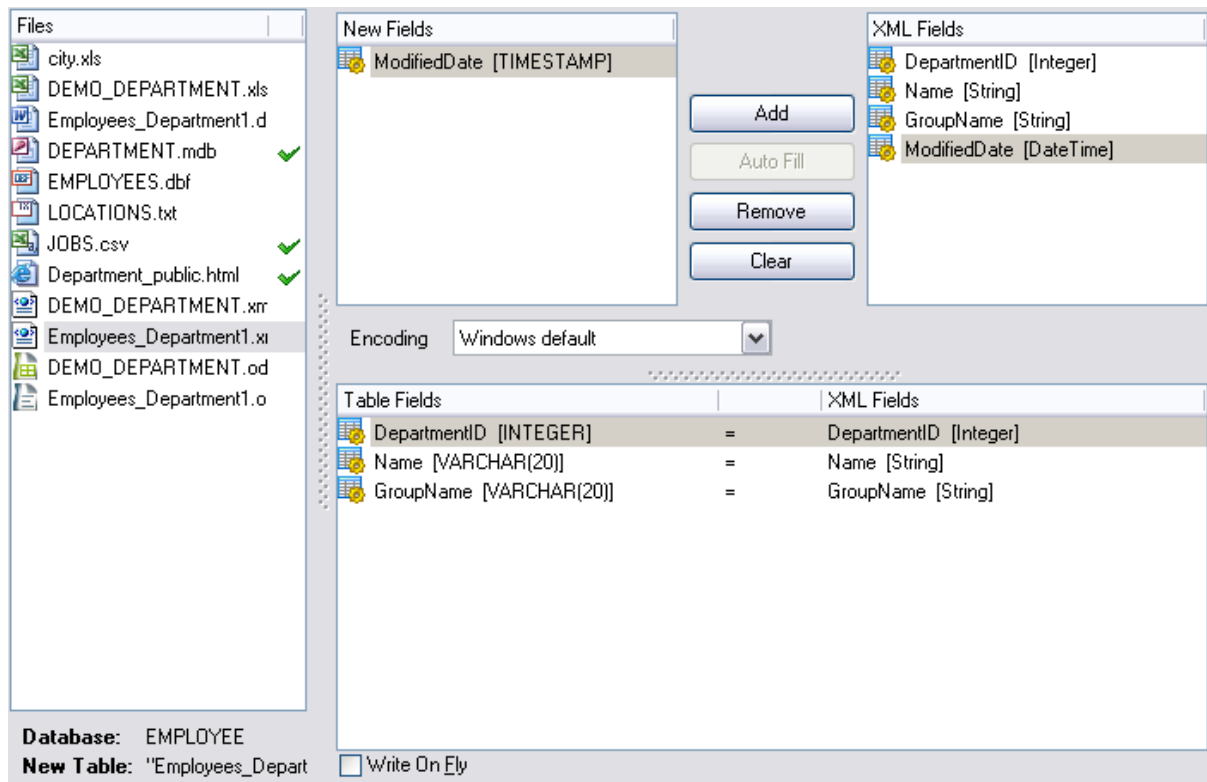
Use the **Autofill** button to set correspondence between the source and target fields automatically on the basis of their order.

#### Encoding

Use this field to select the file encoding.

#### Write on fly

Use this option to import data directly to the database. It should increase the import process speed, when importing large data files.



To remove a correspondence, select the pair of fields in the list below and press the **Remove** button.

To remove all correspondences, press the **Clear** button.

Click the **Next** button to proceed to the [Setting base data formats](#)<sup>[47]</sup> step of the wizard.


#### 2.1.4.7 XML Document

In order to set mapping of a Generic XML document, you should first select the desired XML Document in the **Files** list, then press the **Build Tree** button to get the tree-like structure of source document in the area located to the right from the **Fields** list. Select a node in the tree to get its relative path or type the path manually in the editor below (the path must be specified in the XPath format). Upon pressing the **Fill grid** button the grid gets filled with *Sub Nodes Text* or *Attributes* values of the selected node.

**Note:** if the source XML document contains huge amount of data, building the tree may take a long time.

Set correspondence between the source XML file columns and the target Oracle table fields:

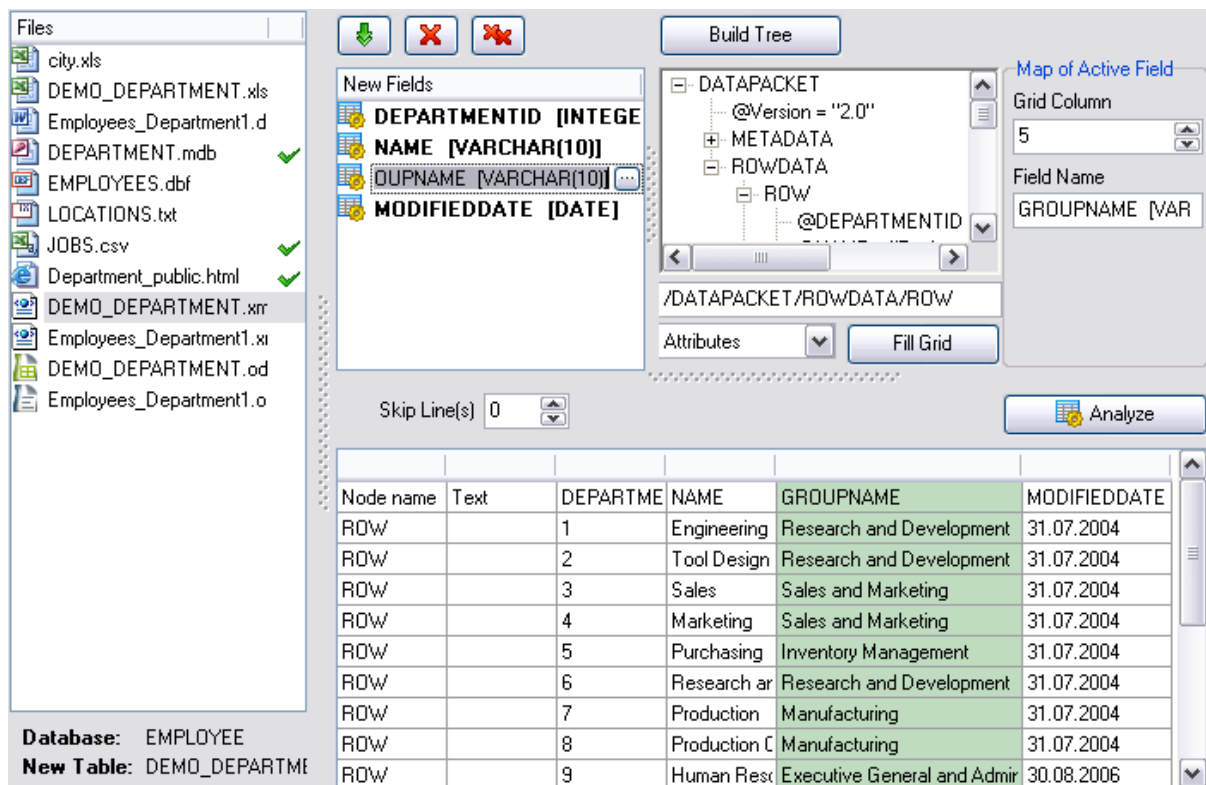
- select a field of the target Oracle table in the **Fields** list;
- proceed to the source grid viewer area: click a column to assign the column to the selected target table field;
- the selected column of the source file gets gray highlight;
- repeat the operation for all the fields you need to be included in the import process.

You can use the  **Autofill** button to set correspondence between the source and target fields automatically according to their order (mapping is started from the first attribute value in this case).

When you import data to a newly created table, the **Analyze** button appears. Use this button for automatic field creation.


The number and name of the column which correspondence is set for are displayed at the **Grid column** and **Field Name** controls. You can use it for setting the fields correspondence as well.

If necessary, you can choose to **skip** a defined number of the source file lines using the **Skip Lines** spin-edit.



The screenshot displays the Data Import for Oracle interface. On the left, a file list includes 'city.xls', 'DEMO\_DEPARTMENT.xls', 'Employees\_Department1.d', 'DEPARTMENT.mdb', 'EMPLOYEES.dbf', 'LOCATIONS.txt', 'JOBS.csv', 'Department\_public.html', 'DEMO\_DEPARTMENT.xr', 'Employees\_Department1.xi', 'DEMO\_DEPARTMENT.od', and 'Employees\_Department1.o'. The 'DEPARTMENT.mdb' and 'EMPLOYEES.dbf' files are marked with green checkmarks. The 'Database' is set to 'EMPLOYEE' and the 'New Table' is 'DEMO\_DEPARTME'. The 'New Fields' section lists: DEPARTMENTID [INTEGE], NAME [VARCHAR(10)], DEPARTMENTID [VARCHAR(10)], and MODIFIEDDATE [DATE]. The 'Map of Active Field' section shows 'Grid Column' set to 5 and 'Field Name' set to 'GROUPNAME [VAR]'. The 'Skip Line(s)' is set to 0. The 'Analyze' button is visible. Below the interface is a data grid with the following content:


Node name	Text	DEPARTME	NAME	GROUPNAME	MODIFIEDDATE
ROW		1	Engineering	Research and Development	31.07.2004
ROW		2	Tool Design	Research and Development	31.07.2004
ROW		3	Sales	Sales and Marketing	31.07.2004
ROW		4	Marketing	Sales and Marketing	31.07.2004
ROW		5	Purchasing	Inventory Management	31.07.2004
ROW		6	Research ar	Research and Development	31.07.2004
ROW		7	Production	Manufacturing	31.07.2004
ROW		8	Production C	Manufacturing	31.07.2004
ROW		9	Human Reso	Executive General and Adm	30.08.2006

To remove all correspondences, press the  **Clear All Ranges** button.

If you choose to import data to the newly created table, at this step you need to create necessary fields. Use the corresponded context menu item to [manage fields](#) <sup>73</sup>.



**Note:** If table was properly created or already exist, it will be marked with a tick ✓. If an

error occurs during table creation, this table will be marked with a cross .

Click the **Next** button to proceed to the [Setting base data formats](#)<sup>[41]</sup> step of the wizard.

#### 2.1.4.8 TXT

Set correspondence between the source text file columns and the target Oracle table fields:

- select a field of the target Oracle table in the **Fields** list;
- double-click in the text viewer area to add vertical separators delimiting the source column bounds;
- click the area between the separators to assign the column to the selected target table field - the selected source column gets black highlight;
- repeat the operation for all the fields you need to be included in the import process.

The **Fields** list also allows you to view the following values:


**P** represents the starting point of your selection;

**S** displays the width of the selected area.

You can change these parameters manually or by moving the slider in the grid.

If necessary, you can choose to **skip** a defined number of the source file lines using the **Skip lines** spin-edit.

If the source text file and the destination Oracle table have the same order of columns,

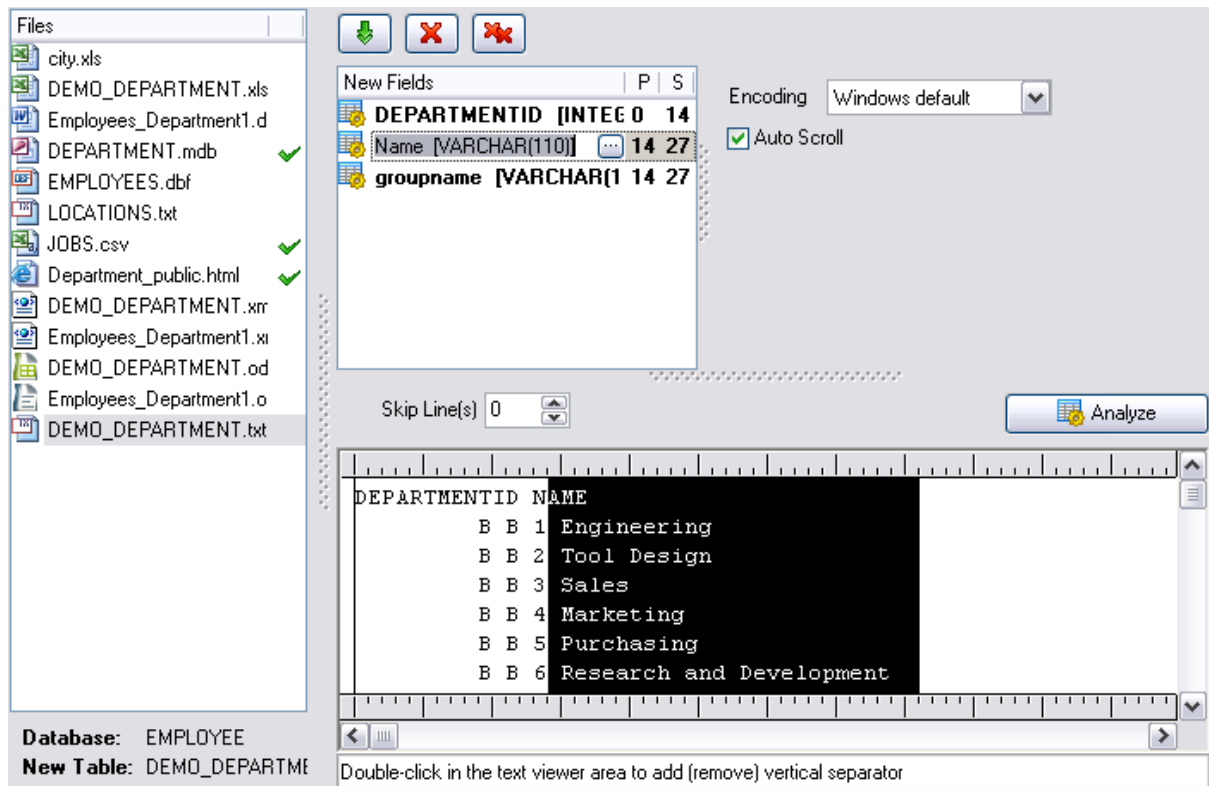
you can use the  **Autofill Columns** button to set correspondence between them automatically.


The source file character set can be defined at the **Encoding** field.

When you import data to a newly created table, the **Analyze** button appears. Use this button for automatic field creation.

#### **Autoscroll**



This option scrolls the document automatically when you switch to the next field for mapping.



To remove all correspondences, press the  **Clear All Ranges** button.

If you choose to import data to the newly created table, at this step you need to create necessary fields. Use the corresponded context menu item to [manage fields](#)<sup>[73]</sup>.



**Note:** If table was properly created or already exist, it will be marked with a tick . If an error occur during table creation, this table will be marked with a cross .



Click the **Next** button to proceed to the [Setting base data formats](#)<sup>[41]</sup> step of the wizard.

#### 2.1.4.9 CSV

Set correspondence between the target table fields and the source CSV file columns:

- select the **Delimiter** and **Quote** characters for CSV files using the corresponding drop-down lists of the **CSV Parameters** group;
- select a field of the target Oracle table in the **Fields** list;
- proceed to the source grid viewer area: click a caption to assign the column to the selected target table field;
- the selected column of the source file gets gray highlight;
- repeat the operation for all the fields you need to be included in the import process.

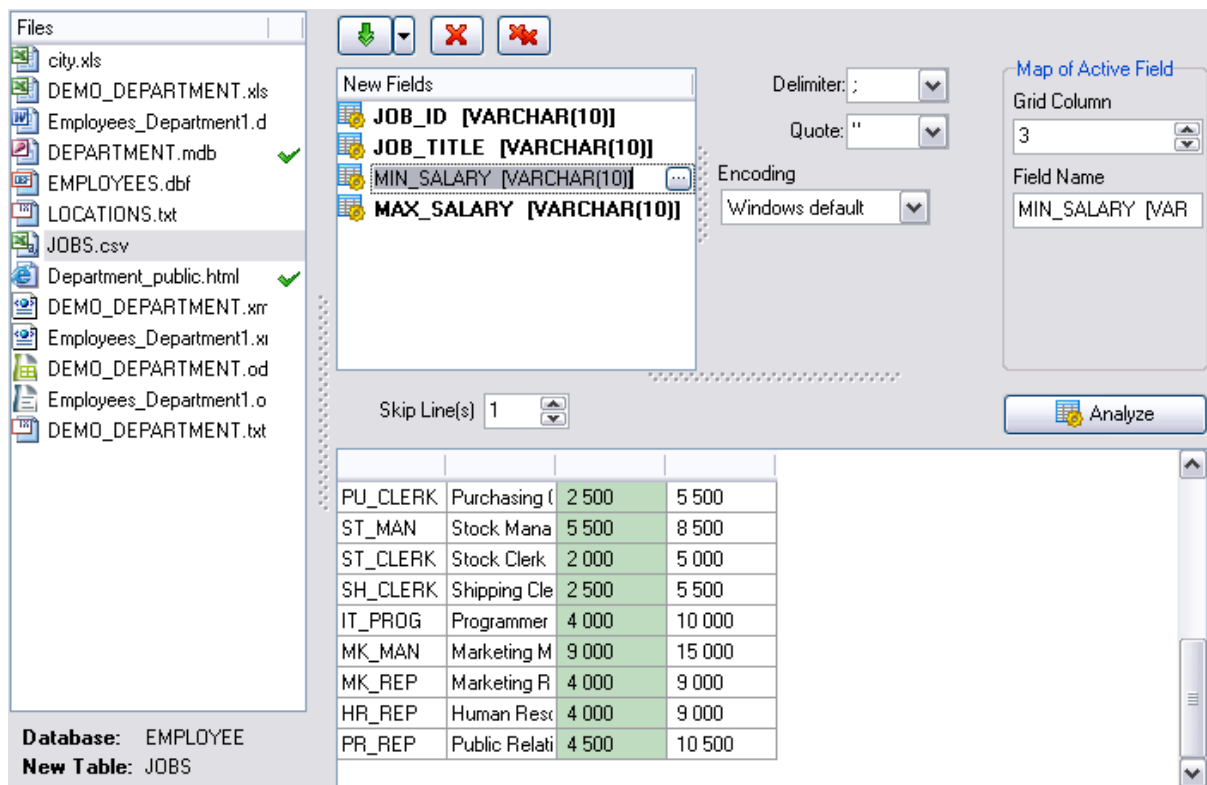
The source file character set can be defined at the **Encoding** field.

If the source file and the destination Oracle table have the same order of columns, you can use the  **Auto Fill Columns** mode (default) to set correspondence between them automatically. If source file and destination Oracle table have different order of columns but identical names you can use the  **Auto Fill by Captions** mode to set the correspondence based on name's identity.

When you import data to a newly created table, the **Analyze** button appears. Use this button for automatic field creation.


If necessary, you can choose to **skip** a defined number of the source file rows using the **Skip lines** spin-edit.

The number and name of the column which correspondence is set for are displayed at the **Grid column** and **Field Name** controls. You can use it for setting the fields correspondence as well.



The screenshot displays the Data Import for Oracle interface. On the left, a file list includes 'city.xls', 'DEMO\_DEPARTMENT.xls', 'Employees\_Department1.d', 'DEPARTMENT.mdb', 'EMPLOYEES.dbf', 'LOCATIONS.txt', 'JOBS.csv', 'Department\_public.html', 'DEMO\_DEPARTMENT.xr', 'Employees\_Department1.xi', 'DEMO\_DEPARTMENT.od', 'Employees\_Department1.o', and 'DEMO\_DEPARTMENT.txt'. The 'Database' is set to 'EMPLOYEE' and the 'New Table' is 'JOBS'. The 'New Fields' list includes 'JOB\_ID [VARCHAR(10)]', 'JOB\_TITLE [VARCHAR(10)]', 'MIN\_SALARY [VARCHAR(10)]', and 'MAX\_SALARY [VARCHAR(10)]'. The 'Skip Line(s)' is set to 1. The 'Map of Active Field' shows 'Grid Column' 3 and 'Field Name' 'MIN\_SALARY [VAR'. The 'Analyze' button is visible. Below the controls is a preview table:

PU_CLERK	Purchasing (	2 500	5 500
ST_MAN	Stock Mana	5 500	8 500
ST_CLERK	Stock Clerk	2 000	5 000
SH_CLERK	Shipping Cle	2 500	5 500
IT_PROG	Programmer	4 000	10 000
MK_MAN	Marketing M	9 000	15 000
MK_REP	Marketing R	4 000	9 000
HR_REP	Human Resc	4 000	9 000
PR_REP	Public Relati	4 500	10 500

To remove all correspondences, press the  **Clear All Ranges** button.

If you choose to import data to the newly created table, at this step you need to create necessary fields. Use the corresponded context menu item to [manage fields](#)<sup>[73]</sup>.




**Note:** If table was properly created or already exist, it will be marked with a tick ✓. If an error occur during table creation, this table will be marked with a cross ✗.


Click the **Next** button to proceed to the [Setting base data formats](#)<sup>[41]</sup> step of the wizard.

#### 2.1.4.10 HTML

Set correspondence between the target table fields and the source HTML file columns:

- select a field of the target Oracle table in the **Fields** list;
- proceed to the source grid viewer area: click a column to assign the column to the selected target table field;
- the selected column of the source file gets gray highlight;
- repeat the operation for all the fields you need to be included in the import process.

If the source file and the destination Oracle table have the same order of columns, you can use the  **Auto Fill Columns** mode (default) to set correspondence between them automatically. If source file and destination Oracle table have different order of

columns but identical names you can use the  **Auto Fill by Captions** mode to set the correspondence based on name's identity.

The number and name of the column which correspondence is set for are displayed at the **Grid column** and **Field Name** controls. You can use it for setting the fields correspondence as well.

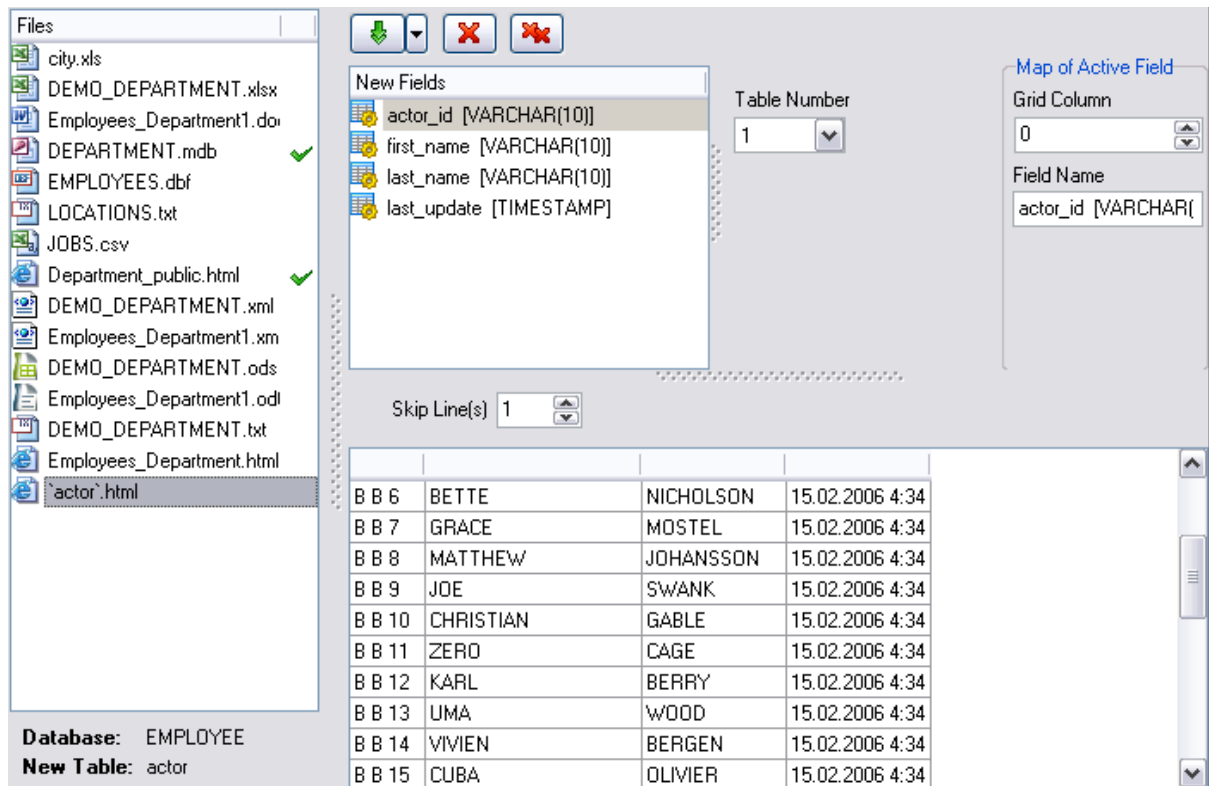
If new table creation was selected at the [previous step](#)<sup>[20]</sup>, then fields needed for the import procedure will be created automatically.


You can [manage destination table fields](#)<sup>[73]</sup> if needed. Use the corresponded context menu item to **Add/Edit/Drop** field.



If necessary, you can choose to **skip** a defined number of the source file rows using the **Skip lines** spin-edit.

**Note:** If table was properly created or already exist, it will be marked with a tick ✓. If an error occur during table creation, this table will be marked with a cross ✗.



To remove all correspondences, press the  **Clear All Ranges** button.



Click the **Next** button to proceed to the [Setting base data formats](#)<sup>[41]</sup> step of the wizard.

#### 2.1.4.11 ODS

The **OpenDocument** format is used by Mobile Office, as well as other well-known desktop applications, such as OpenOffice, StarOffice and KOffice. **ODS** stands for **OpenDocument Spreadsheet** (\*.ods).

Specify ranges in the grid for the target and source fields:

- select a field of the target Oracle table in the **Fields** list;
- proceed to the **Sheet** grid: click a column to assign the column to the selected target table field;
- the selected column of the source file gets gray highlight;
- repeat the operation for all the fields you need to be included in the import process.

If the source file and the destination Oracle table have the same order of columns, you can use the  **Auto Fill Columns** mode (default) to set correspondence between them automatically. If source file and destination Oracle table have different order of columns but identical names you can use the  **Auto Fill by Captions** mode to set the correspondence based on name's identity.

The number and name of the column which correspondence is set for are displayed at the

**Grid column** and **Field Name** controls. You can use it for setting the fields correspondence as well.

If new table creation was selected at the [previous step](#)<sup>[20]</sup>, then fields needed for the import procedure will be created automatically.

You can [manage destination table fields](#)<sup>[73]</sup> if needed. Use the corresponded context menu item to **Add/Edit/Drop** field.




If necessary, you can choose to **skip** a defined number of the source file rows using the **Skip lines** spin-edit.


**Note:** If table was properly created or already exist, it will be marked with a tick ✓. If an error occur during table creation, this table will be marked with a cross ✗.

The screenshot shows the 'Data Import for Oracle' interface. On the left is a 'Files' list with various source files, some marked with a green checkmark. The main area is divided into a 'New Fields' list and a 'Map of Active Field' control. The 'New Fields' list contains: 'Export from Department [VARCHAR(10)]', 'FIELD\_2 [VARCHAR(10)]', 'FIELD\_3 [VARCHAR(10)]', and 'FIELD\_4 [VARCHAR(10)]'. The 'Map of Active Field' control shows 'Grid Column' set to 'C' and 'Field Name' set to 'FIELD\_3 [VARCHAR(10)]'. Below this is a 'Skip Row(s)' spin-edit set to '1'. At the bottom is a 'Sheet1' tab and a data grid. The data grid has columns: 'DEPARTMENTID', 'NAME', 'GROUPNAME', and 'MODIFIEDDATE'. The data rows are:

DEPARTMENTID	NAME	GROUPNAME	MODIFIEDDATE
1	Engineering	Research and Develop	31.07.2004
2	Tool Design	Research and Develop	31.07.2004
3	Sales	Sales and Marketing	31.07.2004
4	Marketing	Sales and Marketing	31.07.2004
5	Purchasing	Inventory Management	31.07.2004
6	Research and Development	Research and Develop	31.07.2004

At the bottom left, it shows 'Database: EMPLOYEE' and 'New Table: DEMO\_DEPARTMENT1'.

To remove a correspondence, select the field in the **Fields** list and press the  **Clear Field Ranges** button.

To remove all correspondences, press the  **Clear All Ranges** button.

If your OpenDocument Spreadsheet file contains several sheets, you are able to set different mapping for each sheet.



Click the **Next** button to proceed to the [Setting base data formats](#)<sup>[41]</sup> step of the wizard.

#### 2.1.4.12 ODT

The **OpenDocument** format is used by Mobile Office, as well as other well known desktop applications such as OpenOffice, StarOffice and KOffice. **ODT** stands for **OpenDocument Text** (.odt).

Specify ranges in the grid for the target and source fields:

- select a field of the target Oracle table in the **Fields** list;
- proceed to the **Table** grid: click a column to assign the column to the selected target table field;
- the selected column of the source file gets gray highlight;
- repeat the operation for all the fields you need to be included in the import process.

If the source file and the destination Oracle table have the same order of columns, you can use the  **Auto Fill Columns** mode (default) to set correspondence between them automatically. If source file and destination Oracle table have different order of columns but identical names you can use the  **Auto Fill by Captions** mode to set the correspondence based on name's identity.



The number and name of the column which correspondence is set for are displayed at the **Grid column** and **Field Name** controls. You can use it for setting the fields correspondence as well.

If new table creation was selected at the [previous step](#)<sup>[20]</sup>, then fields needed for the import procedure will be created automatically.

You can [manage destination table fields](#)<sup>[73]</sup> if needed. Use the corresponded context menu item to **Add/Edit/Drop** field.





If necessary, you can choose to **skip** a defined number of the source file rows using the **Skip lines** spin-edit.

**Note:** If table was properly created or already exist, it will be marked with a tick . If an error occur during table creation, this table will be marked with a cross .

Database: EMPLOYEE  
New Table: "Employees\_Departme

DepartmentID	Name	GroupName	ModifiedDate
1	Engineering	Research and Development	01.06.1998
2	Tool Design	Research and Development	01.06.1998
3	Sales	Sales and Marketing	01.06.1998
4	Marketing	Sales and Marketing	01.06.1998
5	Purchasing	Inventory Management	01.06.1998
6	Research and Development	Research and Development	01.06.1998
7	Production	Manufacturing	01.06.1998
8	Production Control	Manufacturing	01.06.1998

To remove a correspondence, select the field in the **Fields** list and press the  **Clear Field Ranges** button.

To remove all correspondences, press the  **Clear All Ranges** button.

If your OpenDocument Text file contains several tables, you are able to set different mapping for each table.

Click the **Next** button to proceed to the [Setting base data formats](#)<sup>[41]</sup> step of the wizard.

### 2.1.5 Step 4 - Setting base data formats

This step of the wizard provides a number of options for setting **base formats** for each source data file. The specified format should match the source data representation.

Files

- EMPLOYEE.xls
- DEMO\_DEPARTMENT.xlsx
- Employees\_Department1.docx
- DEPARTMENTS.mdb
- COUNTRY.csv

**Separators**

Decimal: ,

Thousand: #160

Date: .

Time: :

**Constants**

Boolean True: True

Boolean False: False

Null Values: Null

**Date/Time Formats**

Date: dd.MM.yyyy

Time: h:mm

Skip this step

Database: EMPLOYEE  
Table: "Employees\_Departme"

### Separators

*Decimal, Thousand, Date, Time*

#### Decimal

Set a character to delimit the decimal parts of the imported numbers.

#### Thousand

Set a character to separate the digit groups in the imported numbers.

#### Date

Set a character to separate the year, month and day parts of date values.

#### Time

Set a character to separate the hour, minute and second parts of time values.

#### Boolean True

Set one or more variants of TRUE value representation in the imported table, e.g. 'Yes' or '+'. Use a new line for each additional variant.

#### Boolean False

Set one or more variants of FALSE value representation in the imported table, e.g. 'No' or '-'. Use a new line for each additional variant.

#### Null Values

Set one or more variants of NULL value representation in the imported table, e.g. 'Null'. Use a new line for each additional variant.

#### Date/Time formats

Use these edit fields to set the date and time formats: *Date, Time*.

For more information refer to the [Format specifiers](#)<sup>[43]</sup> page.

**Skip this step**

Check this option to skip the current step in the future. To edit the list of skipped steps, use the **Skipped Steps** group available in the [General](#)<sup>[57]</sup> section of the [Preferences](#)<sup>[57]</sup> dialog.

When you are done, press the **Next** button to proceed to the [next step](#)<sup>[46]</sup>.

### 2.1.5.1 Format specifiers

The following format specifiers are supported in the format string:

#### **Float/Integer format**

##### **0**

Digit place holder. If the value being formatted has a digit in the position where the '0' appears in the format string, then that digit is copied to the output string. Otherwise, a '0' is stored in that position in the output string.

##### **#**

Digit placeholder. If the value being formatted has a digit in the position where the '#' appears in the format string, then that digit is copied to the output string. Otherwise, nothing is stored in that position in the output string.

##### **.**

Decimal point. The first '.' character in the format string determines the location of the decimal separator in the formatted value; any additional '.' characters are ignored.

##### **,**

Thousand separator. If the format string contains one or more ',' characters, the output will have thousand separators inserted between each group of three digits to the left of the decimal point. The placement and number of ',' characters in the format string does not affect the output, except to indicate that thousand separators are wanted.

##### **E+**

Scientific notation. If any of the strings 'E+', 'E-', 'e+', or 'e-' are contained in the format string, the number is formatted using scientific notation. A group of up to four '0' characters can immediately follow the 'E+', 'E-', 'e+', or 'e-' to determine the minimum number of digits in the exponent. The 'E+' and 'e+' formats cause a plus sign to be output for positive exponents and a minus sign to be output for negative exponents. The 'E-' and 'e-' formats output a sign character only for negative exponents.

#### **Date/Time format**

##### **c**

Displays the date using the format using the Short Date Format, followed by the time using the Long Time Format. The time is not displayed if the date-time value indicates midnight precisely.

**d**

Displays the day as a number without a leading zero (1-31).

**dd**

Displays the day as a number with a leading zero (01-31).

**ddd**

Displays the day as an abbreviation (Sun-Sat) using the strings of the Short Day Names.

**dddd**

Displays the day as a full name (Sunday-Saturday) using the strings of the Long Day Names.

**dddddd**

Displays the date using the Short Date Format.

**ddddddd**

Displays the date using the Long Date Format.

**e**

Displays the year in the current period/era as a number without a leading zero (Japanese, Korean and Taiwanese locales only).

**ee**

Displays the year in the current period/era as a number with a leading zero (Japanese, Korean and Taiwanese locales only).

**g**

Displays the period/era as an abbreviation (Japanese and Taiwanese locales only).

**gg**

Displays the period/era as a full name. (Japanese and Taiwanese locales only).

**m**

Displays the month as a number without a leading zero (1-12). If the m specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.

**mm**

Displays the month as a number with a leading zero (01-12). If the mm specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.

**mmm**

Displays the month as an abbreviation (Jan-Dec) using the strings given of the Short Month Names.

**mmmm**

Displays the month as a full name (January-December) using the strings of the Long Month Names.

**yy**

Displays the year as a two-digit number (00-99).

**yyyy**

Displays the year as a four-digit number (0000-9999).

**h**

Displays the hour without a leading zero (0-23).

**hh**

Displays the hour with a leading zero (00-23).

**n**

Displays the minute without a leading zero (0-59).

**nn**

Displays the minute with a leading zero (00-59).

**s**

Displays the second without a leading zero (0-59).

**ss**

Displays the second with a leading zero (00-59).

**z**

Displays the millisecond without a leading zero (0-999).

**zzz**

Displays the millisecond with a leading zero (000-999).

**t**

Displays the time using the Short Time Format.

**tt**

Displays the time using the Long Time Format.

**am/pm**

Uses the 12-hour clock for the preceding h or hh specifier, and displays 'am' for any hour before noon, and 'pm' for any hour after noon. The am/pm specifier can use lower, upper, or mixed case, and the result is displayed accordingly.

**a/p**

Uses the 12-hour clock for the preceding h or hh specifier, and displays 'a' for any hour before noon, and 'p' for any hour after noon. The a/p specifier can use lower, upper, or mixed case, and the result is displayed accordingly.

**ampm**

Uses the 12-hour clock for the preceding h or hh specifier, and displays the contents of the TimeAMString global variable for any hour before noon, and the contents of the TimePMString global variable for any hour after noon.

**/**

Displays the date separator character using the Date Separator.

**:**

Displays the time separator character using the Time Separator.

'xx'/"xx"

Characters enclosed in single or double quotes are displayed as-is, and do not affect formatting.

### 2.1.6 Step 5 - Settings data formats for each field

This step of the wizard allows you to set **formats** for each imported field separately, in case additional formatting is required.

Select a field in the list and use the **Field tuning** group to adjust format options that will be applied to this field only: *generator value*, *generator step*, *constant value*, *NULL value*, *default value*, *left/right quotation*, *character case*, *character set*.

#### Generator value

Use this field to set the initial value of the autoincrement field.

#### Generator step

Set the step of the autoincrement field. If it is 0 or if the field is of *Identity* one, then the value of the generator will be ignored.

#### Constant value

Use this field to set a constant value for the field.

#### Null value

Set the value which will be considered as NULL to set the default value.

#### Default value

Set the default value of the NULL field.

The screenshot displays the 'Field Customization' section of the wizard. The 'Field' list contains:

- DEPARTMENT\_ID [INTEGER]
- DEPARTMENT\_NAME [VARCHAR(10)]
- MANAGER\_ID [INTEGER]
- LOCATION\_ID [INTEGER]

The 'Field Customization' options are:

- Generator value: 0
- Generator step: 0
- Constant value: (empty)
- Null value: (empty)
- Default value: (empty)
- Left quotation: (empty)
- Right quotation: (empty)
- Quotation action: None
- Char case: As Is
- Char set: As Is

The 'Replacements' table is as follows:

Text to Find	Replace With	Ignore Case
adm	Administration	No

At the bottom, the 'Database' is EMPLOYEE and the 'Table' is DEPARTMENTS. There is a 'Skip this step' checkbox.

## Quotation

### Left quotation

Set a character or a number of characters to denote quoting in the imported string.

### Right quotation

Set a character or a number of characters to denote unquoting in the imported string.

### Quotation action

You can select the *Add* item to add quotation marks to the imported string, the *Remove* item to remove all the quotation marks from the imported string, or the *None* item to save the original quotation marks.


## String conversion

### Char case

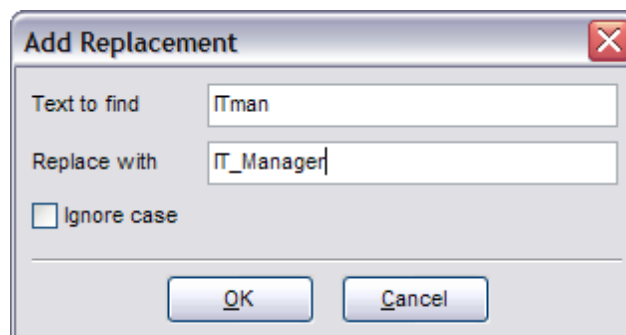
Set the case of the imported string. *As Is* keeps the original string unchanged, *Upper* sets the whole string to the upper case, *Lower* sets the whole string to the lower case, *UpperFirst* sets the first character of the string to the upper case, *UpperFirstWord* sets the first character of each word to the upper case.


### Char set

Set the char set of the imported string to *ANSI* or *OEM*. *As Is* saves the original character set of the string.

The **Replacements** area allows you to set the text you need to be replaced during data import into the selected field. Press the **Add Replacement...**  button to specify a new replacement options using the **Add Replacement** dialog.

Define the text to replace and the value to replace with in the appeared dialog window. Check the **Ignore Case** option to make replacement case-insensitive.



To remove a replacement, select it in the list and click the **Delete Replacement...**  button.

**Skip this step**

Check this option to skip the current step in the future. To edit the list of skipped steps, use the **Skipped Steps** group available in the [General](#) [57] section of the [Preferences](#) [57] dialog.

When you are done, press the **Next** button to proceed to the [next step](#) [48].

## 2.1.7 Step 6 - Specifying import mode

This step of the wizard allows you to define **the records processing mode** as *Insert All*, *Insert New*, *Update*, *Update or Insert*, *Delete*, *Delete or Insert* mode:

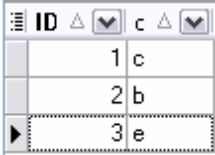

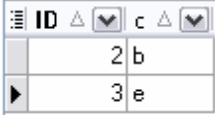
- **Insert all:** all records from the source file are inserted into the tables irrespective of whether any records exist in the destination table or not
- **Insert new:** already existing records are skipped, and new records are inserted into the destination table
- **Update:** all existing records are updated from the source file
- **Update or insert:** already existing records are updated and new records are inserted into the destination table
- **Delete:** already existing records are deleted
- **Delete or insert:** existing records are deleted and new records are inserted into the destination table

Here is an **example** of some import modes offered by Data Import utility:

DB Table		Source file	
ID	c	ID	Data
1	a	1	c
2	b	3	e

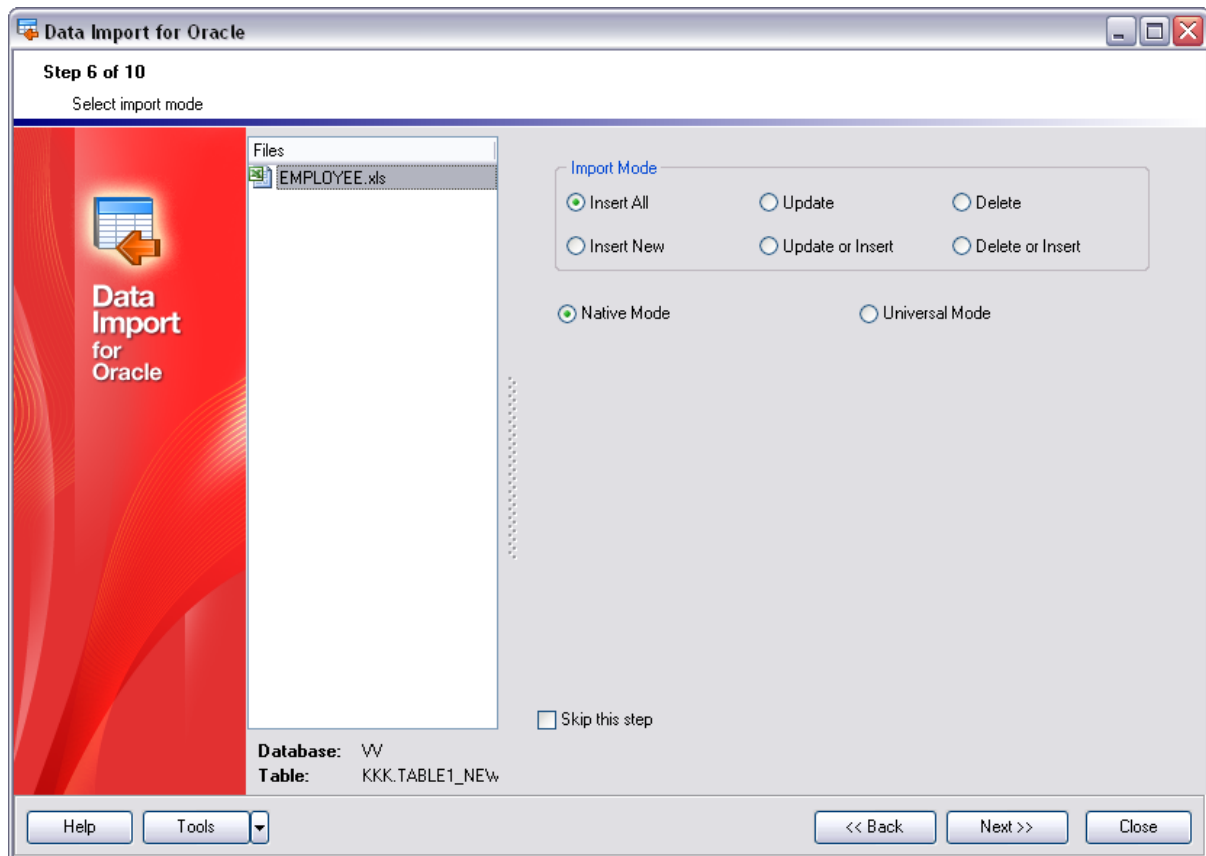
All import modes (except for the **Insert All** mode) are based on primary key values information. In order to perform import operations with these modes used you need to have matches between the source file primary key column(s) and the destination table primary key column(s).

Insert mode	Insert all	Insert new	Update																								
<b>Result</b>	<table border="1"> <thead> <tr> <th>ID</th> <th>c</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>a</td> </tr> <tr> <td>1</td> <td>c</td> </tr> <tr> <td>2</td> <td>b</td> </tr> <tr> <td>3</td> <td>e</td> </tr> </tbody> </table>	ID	c	1	a	1	c	2	b	3	e	<table border="1"> <thead> <tr> <th>ID</th> <th>c</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>a</td> </tr> <tr> <td>2</td> <td>b</td> </tr> <tr> <td>3</td> <td>e</td> </tr> </tbody> </table>	ID	c	1	a	2	b	3	e	<table border="1"> <thead> <tr> <th>ID</th> <th>c</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>c</td> </tr> <tr> <td>2</td> <td>b</td> </tr> </tbody> </table>	ID	c	1	c	2	b
ID	c																										
1	a																										
1	c																										
2	b																										
3	e																										
ID	c																										
1	a																										
2	b																										
3	e																										
ID	c																										
1	c																										
2	b																										

Insert mode	Update or insert	Delete	Delete or insert
<b>Result</b>			

It is applied to all other import modes, except for the **Insert all** mode. For all these modes (except for the **Insert all** mode) it is obligatory to select the primary key fields. This field (or fields) is used as key field to identify specific data in the target database.

The key columns for these operations are defined at the [Selecting key columns](#)<sup>[50]</sup> step of the wizard.



If the *Update* value is selected for Import Mode, then you need to specify the Primary Key field(s) that will serve for data identification of your source file with the data of the target table. The source file must contain the column(s) that will correspond to the Primary Key field of the target table. If the target table contains a record in which the value of the primary key field coincides with the value of the corresponding column of the source table, the data stored in this table record will be updated. You can specify the field(s) which will be used for identification at [Step 7](#)<sup>[50]</sup> of the wizard. This field(s) will only serve for identification and will not be imported.

**Native / Universal mode**

The *Native* mode of uses the *Single Commands* method that serves to generate and execute single SQL commands on the server. With the help of the *Native* mode your data can be imported dozen (!) times faster as compared to the *Universal* mode which is used for backward compatibility.

 **Truncate Long Strings**

If this option is enabled the long strings are truncated. This option is available only in the **Universal** mode.

 **Skip this step**

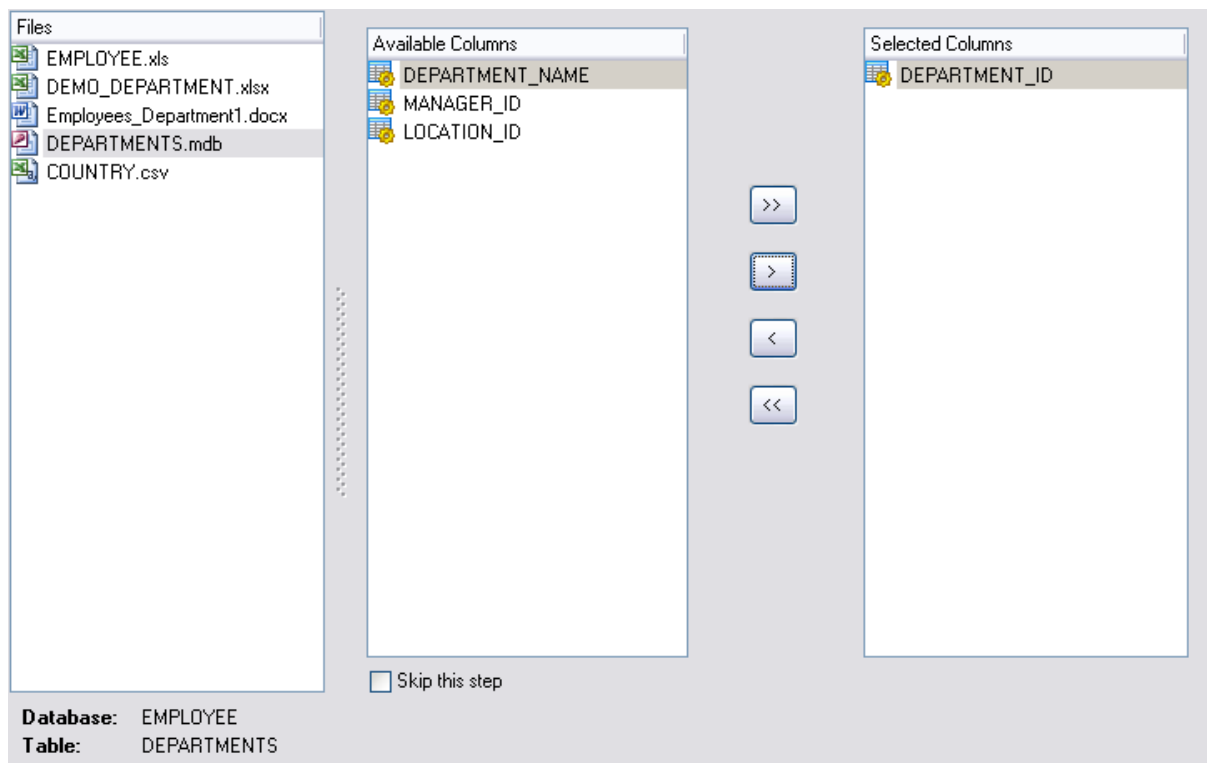
Check this option to skip the current step in the future. To edit the list of skipped steps, use the **Skipped Steps** group available in the [General](#)<sup>[57]</sup> section of the [Preferences](#)<sup>[57]</sup> dialog.

When you are done, press the **Next** button to proceed to the [next step](#)<sup>[50]</sup>.

**2.1.8 Step 7 - Selecting key columns**

This step of the wizard allows you to select the fields of the table to be used as the **key fields** for the import process.

To select a field, you need to move it from the **Available Columns** list to the **Selected Columns** list. Use the     buttons or drag-and-drop operations to move the fields from one list to another.



**Skip this step**

Check this option to skip the current step in the future. To edit the list of skipped steps, use the **Skipped Steps** group available in the [General](#) <sup>[57]</sup> section of the [Preferences](#) <sup>[57]</sup> dialog.

When you are done, press the **Next** button to proceed to the [next step](#) <sup>[57]</sup>.

### 2.1.9 Step 8 - Setting common options

Using this step of the wizard you can set **final import options**.

**Commit** **Commit when done**

Check this option to commit the transaction after all records are imported.

**Commit after each ... records**

These control allows you to define the number of records in each block to be supplemented with the COMMIT statement.

 **Rollback on error**

Check this option to rollback the transaction if an error occurred.

**Records counter** **Import all records**


Specifies that all records of the source file will be imported.

 **Import only ... record(s)**

Specifies the number of records to be imported.

 **Save Result SQL Script to File**

This option allows you to save the result SQL script of the import operation to an external \*.sql file on your disk drive.

Specify the script file name and select its location using the  button which calls the **Save As...** dialog.

Files

- EMPLOYEE.xls
- DEMO\_DEPARTMENT.xlsx
- Employees\_Department1.docx
- DEPARTMENTS.mdb
- COUNTRY.csv

**Commit**

Commit when done

Commit after each  records

Rollback on error

**Record Count**

Import All Records

Import only  records

Save Result SQL Script to File

C:\EMS\docs\DEPARTMENTS.sql

Skip this step

Database: EMPLOYEE  
Table: DEPARTMENTS

#### Skip this step

Check this option to skip the current step in the future. To edit the list of skipped steps, use the **Skipped Steps** group available in the [General](#) section of the [Preferences](#) dialog.

When you are done, press the **Next** button to proceed to the [next step](#).

### 2.1.10 Step 9 - Defining scripts

This step of the wizard allows you to define scripts to be **executed before and after import process** for each database.

Select a database to define the script for. Type the text of the script to be executed before the import operation in the **Before Import Script** area, the script to be executed after the import operation in the **After Import Script** area. Select another database and add scripts for it, if necessary.

You can also save and load *Before Import* and *After Import* scripts using the corresponding **Save Script...** and **Load Script...** buttons.

The screenshot shows a dialog box with two main sections: "Before Import Script" and "After Import Script". Each section has a text area containing a comment: "/\*Specify the script that will be executed BEFORE data import \*/" and "/\*Specify the script that will be executed AFTER data import \*/" respectively. Below each text area are three buttons: "Load Script...", "Save Script...", and "Clear". At the bottom of the dialog, there is a checkbox labeled "Skip this step".

**Skip this step**

Check this option to skip the current step in the future. To edit the list of skipped steps, use the **Skipped Steps** group available in the [General](#)<sup>[57]</sup> section of the [Preferences](#)<sup>[57]</sup> dialog.

When you are done, press the **Next** button to proceed to the [last step](#)<sup>[53]</sup>.

### 2.1.11 Step 10 - Start of data import process

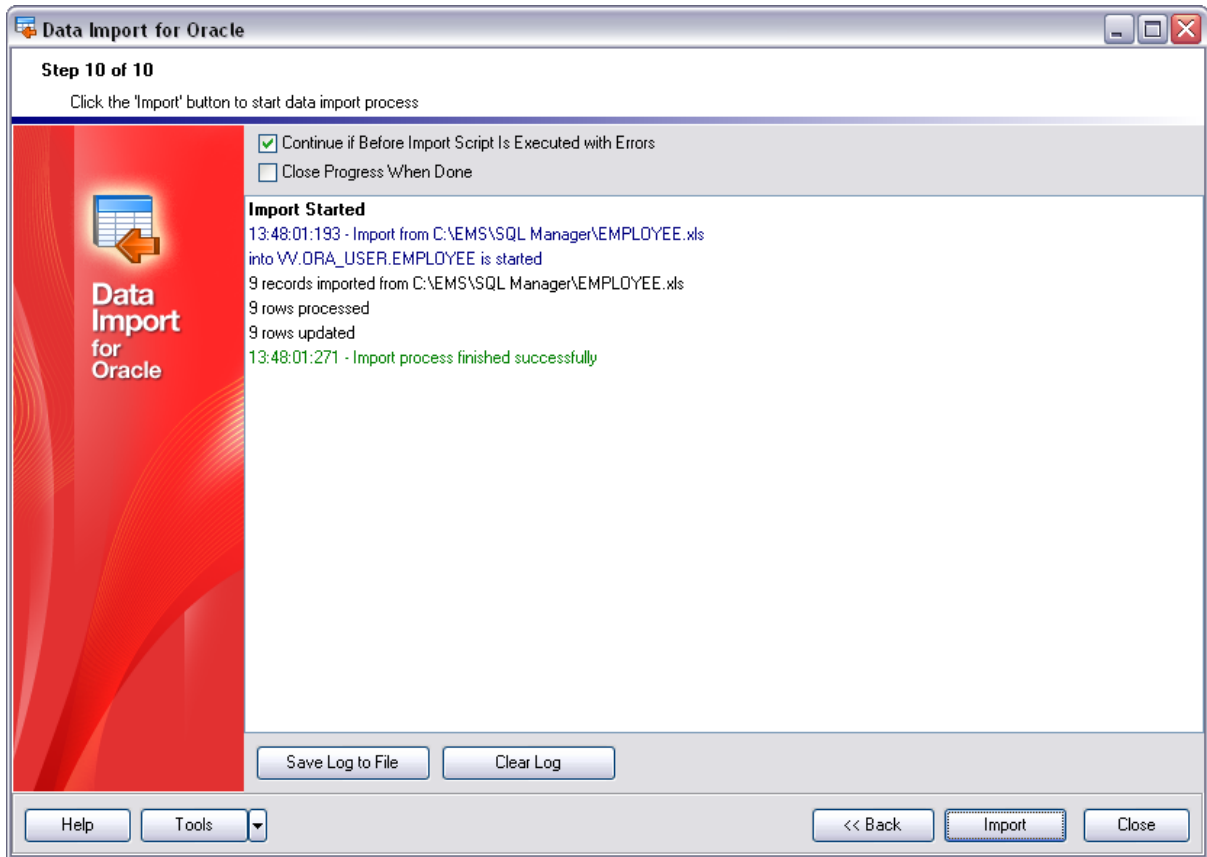
This step of the wizard is intended to inform you that all import options have been set, and you can start the import process. If everything is correct, press the **Import** button to start the process. If you want to change something, you can return to any of the wizard steps using the **Back** button.

**Continue if [Before Import](#)<sup>[52]</sup> Script is Executed with Errors**

Check this option to ignore errors in *Before Script* execution during import.

**Close Progress When Done**

If this option is selected, the child window indicating the import progress is closed automatically when the import process is completed.



### Save Log to File

This button calls the **Save file** dialog which allows you to save the on-screen log to a file.

### Clear Log

Pressing this button clears the on-screen log area, removing all messages.

If necessary, you can [save a template](#)<sup>55</sup> for future use.

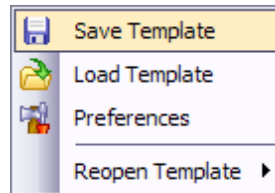
Click the **Finish** button to start the import process.

## 2.2 Using data import configuration files


Data Import for Oracle allows you to store its configuration settings in external \*.itm template files if you need to perform the data import process repeatedly.

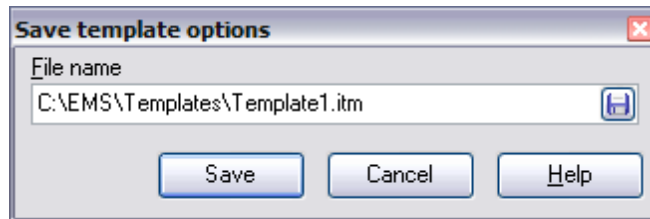
You can load previously saved configuration settings to the application [wizard](#)<sup>[16]</sup> if you need to make some changes before data comparison, or you can run it with the [console application](#)<sup>[65]</sup> for quicker data import.

Data Import templates are saved/loaded within the **Save template options/Open template** dialog. To open this dialog, press the **Tools** button and select the **Save template/Open template** popup menu item.



### File name

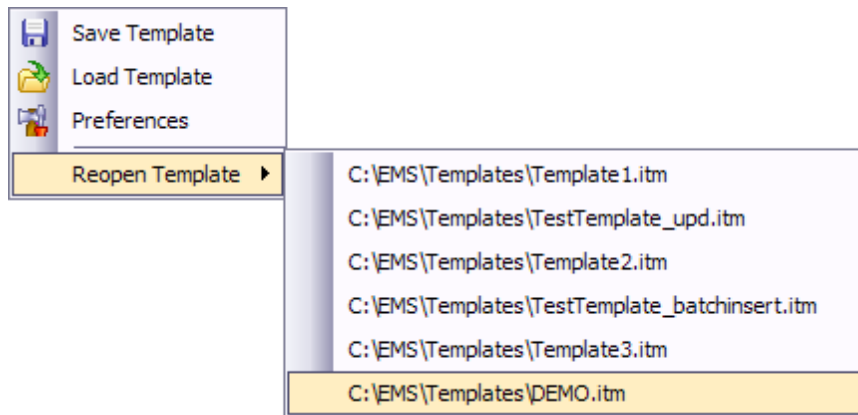
When saving template, specify the template file name and select its location using the  button which calls the **Save As...** dialog.



If you need to repeat data importing process with the same or similar settings later, it is reasonable to save all the settings you entered on the [Start of data import process](#)<sup>[53]</sup> step of the Wizard.

Please note that loading a template is only available at the [Getting started](#)<sup>[17]</sup> and the [Setting connection properties](#)<sup>[18]</sup> steps of the Wizard.

If necessary, you can **reopen a template** at any step of the wizard using the corresponding popup menu item of the **Tools** menu.



---

**See also:**

[Working with wizard application](#)<sup>17</sup>

[Setting program preferences](#)<sup>57</sup>

## 2.3 Setting program preferences

Data Import for Oracle provides full customization of the program interface by setting various options within the **Preferences** dialog. This chapter is intended to inform you how to use all these options.

### [Setting general options](#)<sup>[57]</sup>

These options define general behavior of Data Import for Oracle.

### [Selecting program language](#)<sup>[59]</sup>

This page allows you to select a language to be applied for your copy of Data Import for Oracle.

### [Setting data font](#)<sup>[60]</sup>

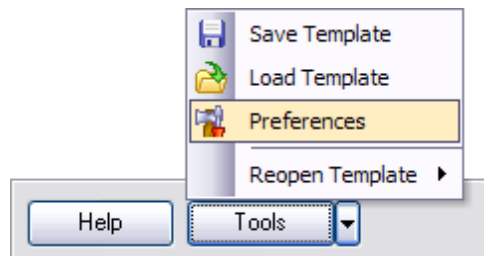
Allows you to adjust font settings for the data displayed in the application.

### [Setting Excel options](#)<sup>[61]</sup>

Allows you to adjust Excel data representation settings.

### [Defining interface style](#)<sup>[62]</sup>

This branch contains several pages with a number of options allowing you to customize the application interface style according to your liking.



---

#### See also:

[Working with wizard application](#)<sup>[17]</sup>

[Using data import configuration files](#)

<sup>[55]</sup>

### 2.3.1 General

#### General

**Confirmation on Exit**

Enables/disables confirmation upon exiting the program.

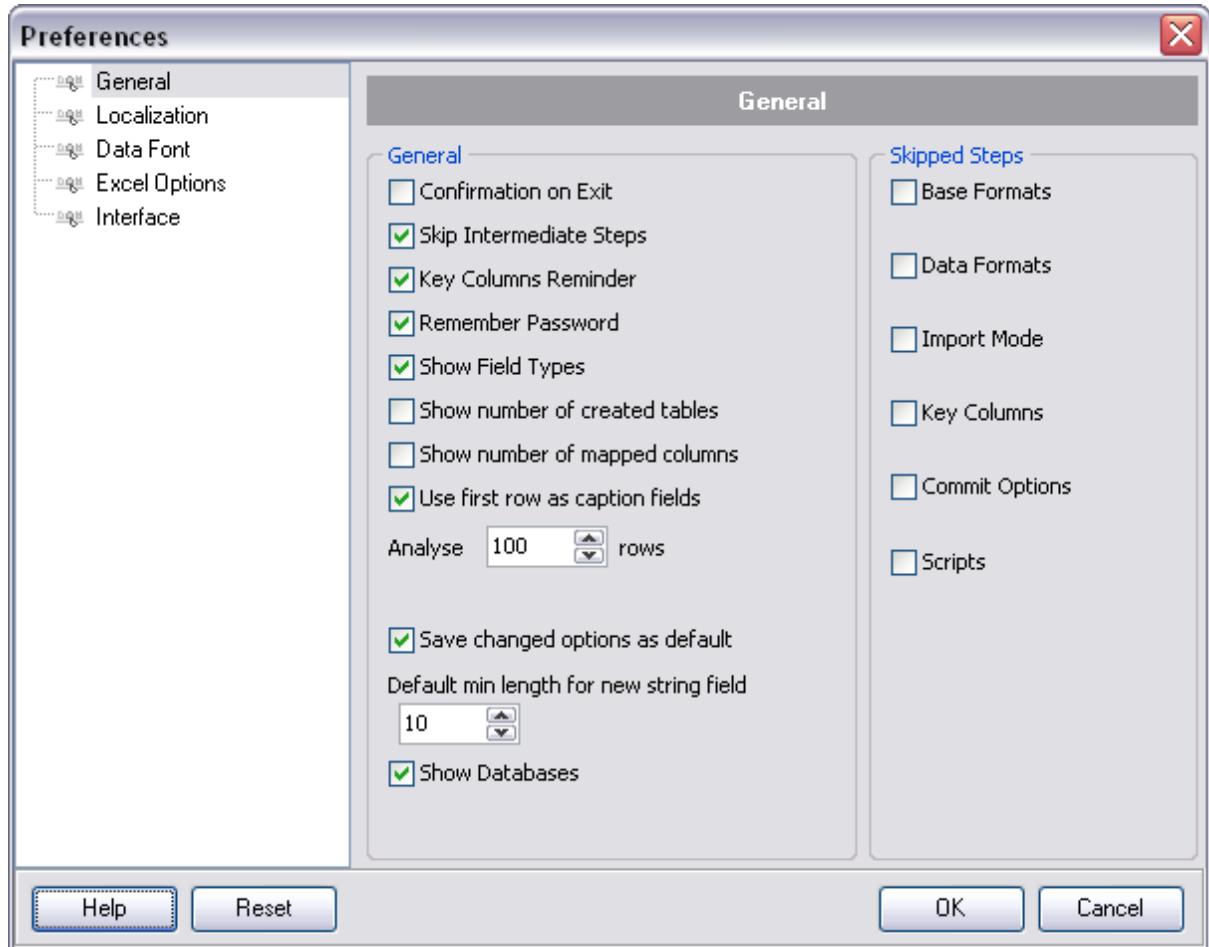
**Skip Intermediate Steps**

This option determines the behavior of the *Next* and *Back* buttons. When this option is disabled, clicking the *Next* button leads to sequential passing through the list of imported objects. When this option is enabled, the steps checked in the **Skipped steps** group will

be skipped.

**Key Columns Reminder**

Use this option to enable/disable prompts to define key columns.



**Remember Password**

Setting this option allows you to save passwords used for access to the databases automatically upon closing the application. Please note that checking this option saves the latest password used for connection to the database (including the SSH server password).

**Show Field Types**

Hides/displays field type description in the field list.

**Show number of created tables**

Use this option to allow/disallow appearance of the correspondent information window.

**Show number of mapped columns**

Displays the number of mapped fields on proceeding to [Step 3](#)<sup>221</sup>.

**Use first row as caption fields**

Enable this option to use first rows as captions when mapping fields.

**Analyse *N* rows**

Define the amount of rows used for source data analysis before table creation. This analysis allows the program to define the destination table field type.

 **Save changed options as default**

If this option is checked all your import settings will remain the same the next time the program is started.

 **Show databases**

This option enables/disables the 'Select Database' drop-down list in 'Select Table' dialog at [Step 2](#)<sup>[20]</sup> of the wizard. If you check this option, you can select the database from the list, otherwise you must type the database name manually.

**Skipped Steps**

Use this option group to define the [Wizard application](#)<sup>[16]</sup> steps to be skipped.

---

**See also:**

[Selecting program language](#)

<sup>[59]</sup>

[Setting data font](#)<sup>[60]</sup>

[Setting Excel options](#)<sup>[61]</sup>

[Defining interface style](#)<sup>[62]</sup>

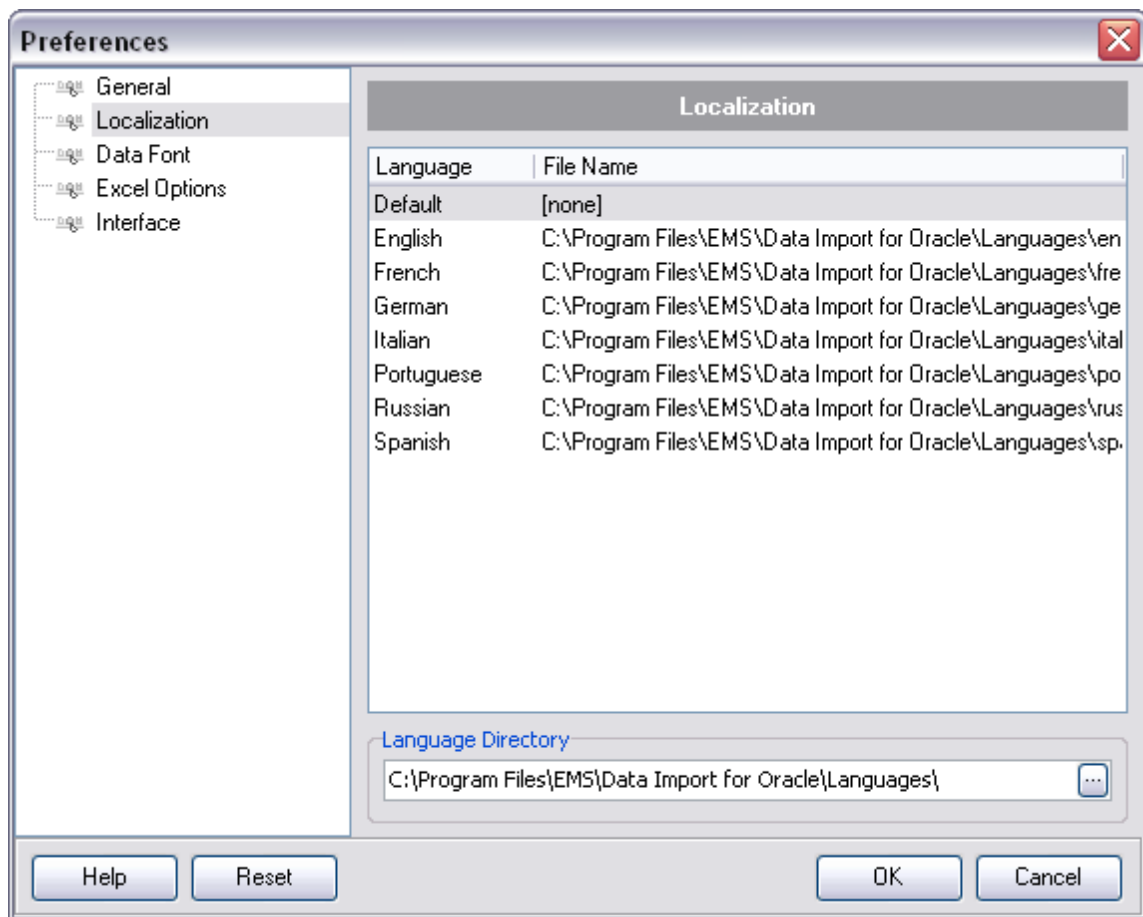
## 2.3.2 Localization

The **Localization** page is provided for managing Data Import localization files.


You can create your own \*.*lng* files similar to those available in the %program\_directory%\Languages folder, add them to the list of available languages and set the new language as the program interface language.

**Available Languages**

Lists all the languages available for localization and the corresponding \*.*lng* files. Double-click a language in the list to edit its name or the \*.*lng* file.



### Language Directory

Use the ellipsis  button to specify the directory where the \*.lng files are stored by default.

#### See also:

[Setting general options](#) <sup>[57]</sup>

[Setting data font](#) <sup>[60]</sup>

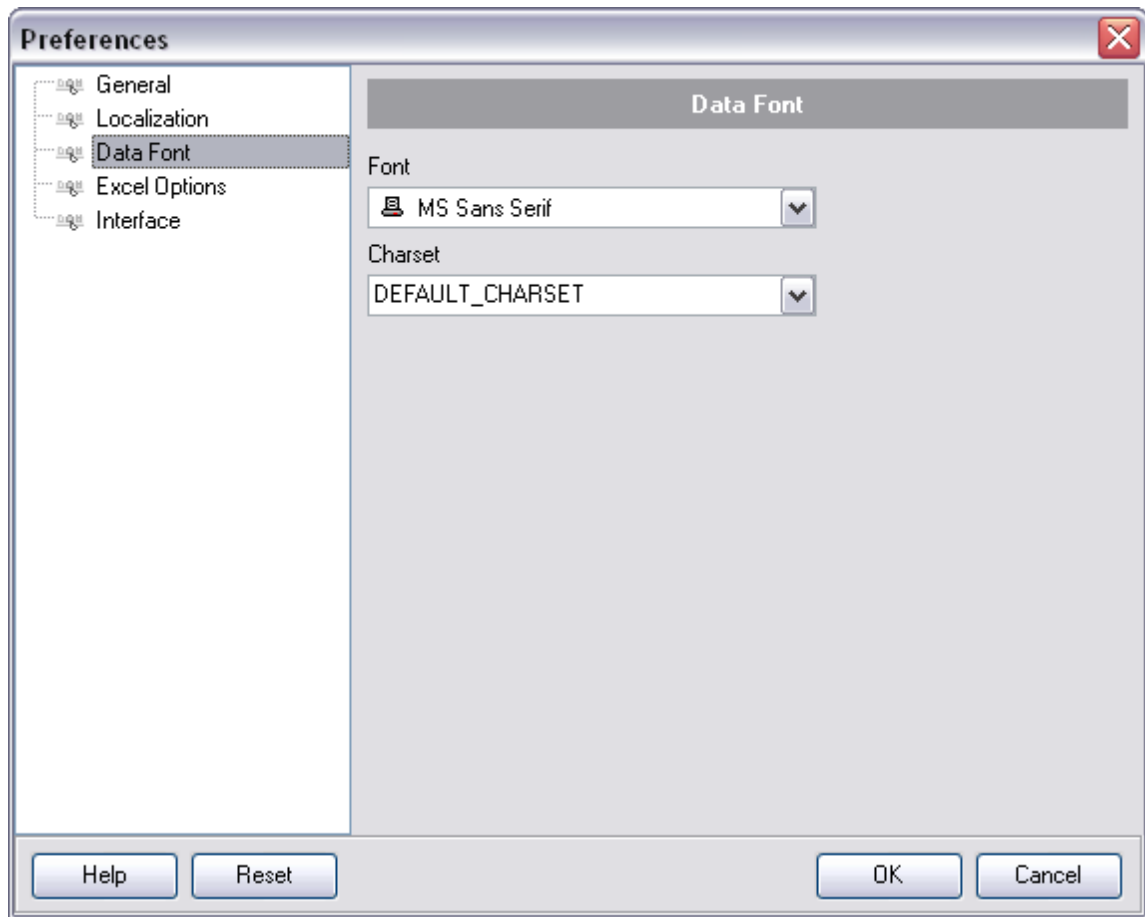
[Setting Excel options](#) <sup>[61]</sup>

[Defining interface style](#) <sup>[62]</sup>

### 2.3.3 Data Font

The **Data Fonts** page is provided for setting up the fonts for displaying data in Data Import for Oracle.

Set the appropriate **font** and the preferable **charset** using the corresponding drop-down lists.



Note that neither font nor character set changes can be applied to [TXT](#)<sup>[34]</sup> files.

---

**See also:**

[Setting general options](#)<sup>[57]</sup>

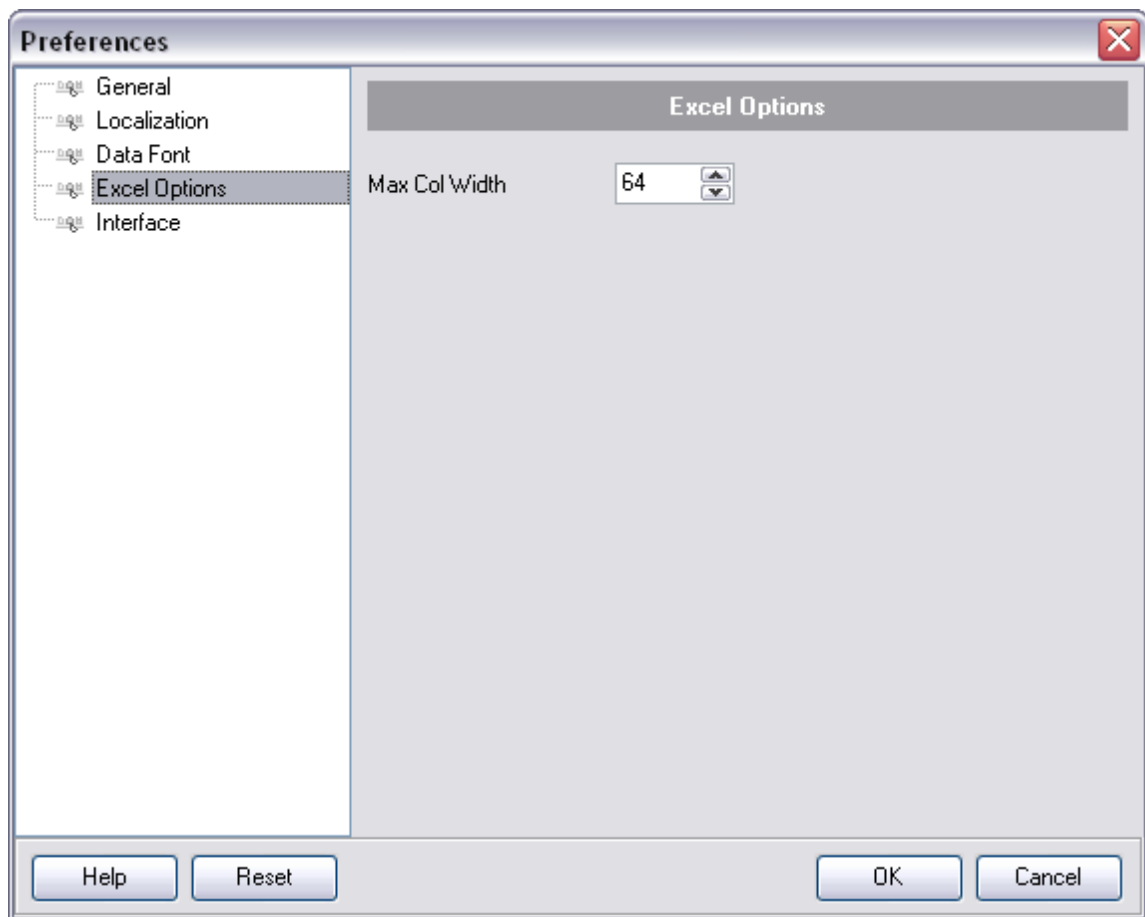
[Selecting program language](#)<sup>[59]</sup>

[Setting Excel options](#)<sup>[61]</sup>

[Defining interface style](#)<sup>[62]</sup>

### 2.3.4 Excel Options

The **Excel Options** page allows you to set the **Max Col Width** parameter which defines the maximum column width for Excel data grid.

**See also:**

[Setting general options](#)<sup>[57]</sup>

[Selecting program language](#)<sup>[59]</sup>

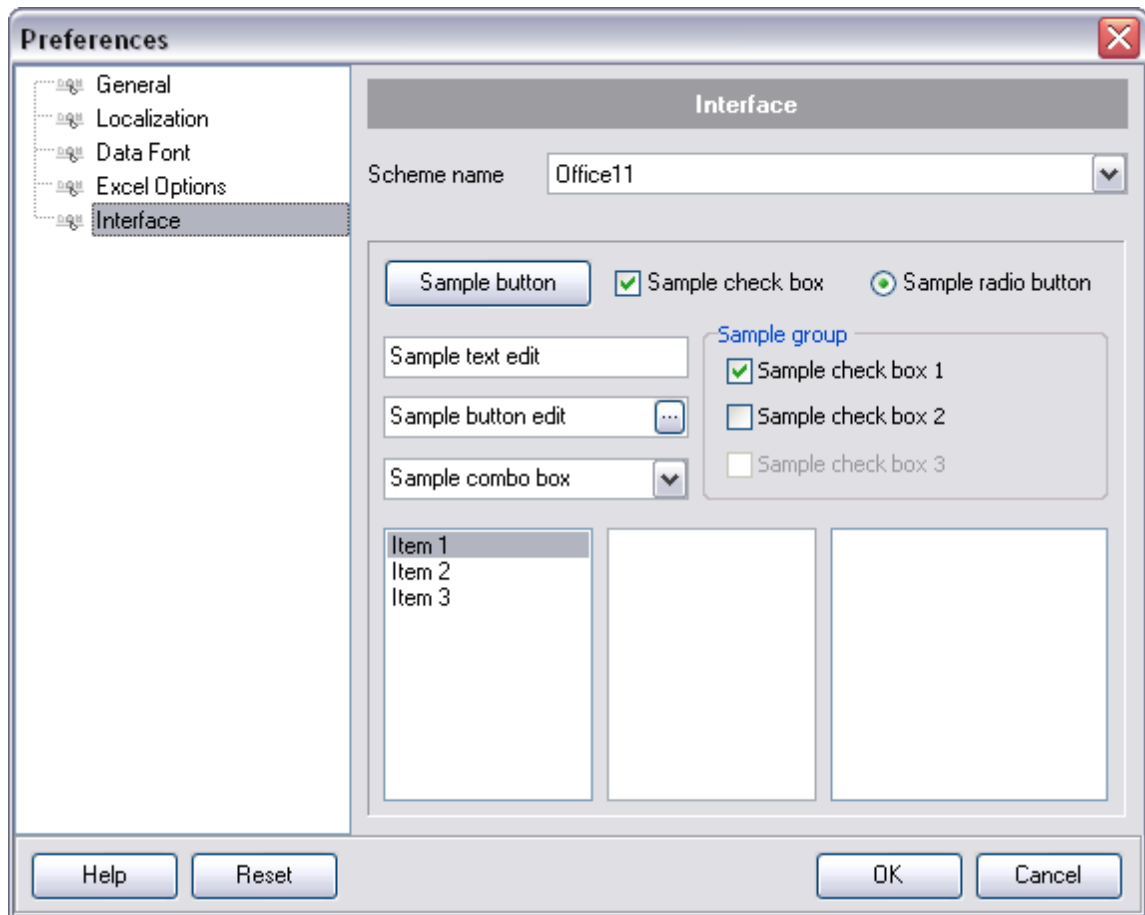
[Setting data font](#)<sup>[60]</sup>

[Defining interface style](#)<sup>[62]</sup>

### 2.3.5 Interface

This page allows you to customize the application interface style to your liking.

Use the **Scheme name** drop-down list to select an interface scheme according to your liking: *Classic*, *Office XP style*, *Windows XP native style*, etc.



For your convenience the previews illustrating the changes are displayed in the **Sample Group** area.

**See also:**

[Setting general options](#)<sup>[57]</sup>

[Selecting program language](#)<sup>[59]</sup>

[Setting data font](#)<sup>[60]</sup>

[Setting Excel options](#)<sup>[61]</sup>

**Part**



### 3 Console application

Additionally to **the GUI version** which is implemented in the form of a wizard application, the installation package of Data Import for Oracle includes **the console version** which is intended for being run from Windows command line with a template file name used as the execution parameter.

```
C:\Program Files\EMS\Data Import for Oracle>OraImportC.exe_
```

Data Import for Oracle command line utility is intended for quick and powerful data import to Oracle tables.

[Working with console application](#)<sup>[66]</sup>

[Configuration file format](#)<sup>[67]</sup>

---

#### See also:

[Wizard Application](#)<sup>[16]</sup>

## 3.1 Working with console application

All the import options are set in **template** (\*.itm) files. A template can be also used in the **Console version** of Data Import for Oracle.

To create a template file, follow the instructions below:

- start Data Import [Application wizard](#)<sup>[16]</sup>;
- set all the required options in all steps of the wizard;
- test the import process at the last step;
- [save all import options in the template](#)<sup>[55]</sup>.

Console application also generates the \*.log file that contains information about the import operation completion.

The easiest way to start Data Import for Oracle console application is to double-click the generated \*.itm template. The other way is to enter the command line and type the appropriate command.

### Usage:

```
<path to Data Import for Oracle console application>\OraImportC.exe TemplateFile [-  
datafile=<source file name>] [-B]
```

### **datafile**

Indicates the source file for data import.

### **TemplateFile**

Stands for the \*.itm template file to be used as the console version execution parameter

### **[-B]**

Use this parameter in the command line to run the console version of Data Import for Oracle in the background mode

### Example:

```
"C:\Program Files\EMS\Data Import for Oracle\OraImportC.exe" "C:  
\EMS\DataImport\Template1.itm" -B
```

**Note:** The result of the latest task performed by Data Import for Oracle can be found in the system variable '%ERRORLEVEL%'.

0 - successful completion;

1 - error(s) occurred during task performing;

2 - fatal error occurred. The task was not performed.

---

### **See also:**

[Working with wizard application](#)<sup>[17]</sup>

[Configuration file format](#)<sup>[67]</sup>

## 3.2 Configuration file format

The configuration file is divided into several sections.

### **[Connection]**

This section contains parameters for connecting to the server: *tunneling settings*, *Login*, *Password* (encrypted). These parameters are obligatory.

### **[PREFERENCES]**

This section contains the general settings of the utility.

*ImportToViews*

1 - enabled, 0 - disabled

The following sections are unique for each imported file and contain the appropriate postfix (*FILE\_00*, *FILE\_01*, *FILE\_02*, etc.)

In these sections the import options for each particular file are stored.

### **[FILE\_00]**

In the main file section the following parameters are used:

*Database* (destination database name), *Table* (destination table), *FileName* (the source file name)

*ImportType*

Indicates the format of the source file: 0 stands for MS Excel, 1 for MS Access, 2 - DBF, 3 - TXT, 4 - CSV, 5 - XML, 6 - MS Excel 2007, 7 - MS Word 2007, 8 - HTML, 9 - XML Document, 10 - ODS, 11 - ODT

The next section is specific to the file format and is named correspondingly, e.g.

[*FILE\_00\_XLS*]. In this section the following specific file type options are set:

### **[FILE\_00\_XLS]**

*SkipRows*, *SkipCols* - the number of rows and columns in the source file to be skipped on import.

### **[FILE\_00\_Access]**

*SourceType*

This option indicates the Access source type - Table or query, 0 stands for table, and 1 for query.

*TableName* and *query* - these options set the source Access table name to import from if source type is 0 and the source query text if the source type is 1.

### **[FILE\_00\_TXT]**

*SkipRows* - the number of rows in the source file to be skipped on import.

### **[FILE\_00\_CSV]**

*SkipRows* - the number of rows in the source file to be skipped on import.

*CSVDelimiter*, *CSVRightQuot*, *CSVLeftQuot* - these options are used on reading the source CSV file, they store options for delimiting columns and the quotation marks.

The next section is **[FILE\_XX\_MAP]**.

It is also specific to the file type, but is obligatory for all file types. In this section correspondence between the source file columns and the destination table fields is set.

If the source file is an *Excel* file, then the map is set in the following format:

<DB\_FieldName>=CellIndex.

Use semicolon to separate multiple cells. You can define an Excel row or column as a range of cells, e.g.

Field1=A1;A4;A6-A9;B1-F1.

If the source file is an *Access* or *DBF* file, then the mapping is set in the following format:

<DB\_FieldName>=<Source\_Field\_Name>.

If the source file is a *TXT* file, the mapping looks in the following way:

<DB\_FieldName>=<Position>;<Size>.

This means that you should provide the starting position and the size of the source file column for each destination field.

To set mapping for a *CSV* file, provide a column number for each destination field, e.g.

Field1=1

Field2=4

etc.

The properties that are set in sections **[FILE\_XX\_BASE\_FORMATS]** and **[FILE\_XX\_IMPORT\_OPTIONS]** correspond to those set on the 'Base Formats' and the 'Options' tabs.

The values that stand for *BOOLEAN TRUE* and *BOOLEAN FALSE* values are set in sections **[FILE\_XX\_BOOLEAN\_TRUE]** and **[FILE\_XX\_BOOLEAN\_FALSE]**.

The *NULL* values are set in section **[FILE\_XX\_NULL\_VALUES]**

Data formats that are set for each destination field separately are stored in sections named in the following way:

**[FILE\_XX\_DATA\_FORMATS\_<FIELD\_NAME>],**

e.g. *FILE\_00\_DATA\_FORMATS\_FIELD1*.

The properties within these sections also correspond to the properties set on the 'Data Formats' tab of the [Settings data formats](#)<sup>[46]</sup> step for each field.

### **[FILE\_00\_IMPORT\_OPTIONS]**

This section contains parameters that define import options specified on Steps 6-9 of the wizard.

*CommitAfterDone*

1 - enabled, 0 - disabled

*CommitRecCount*

The number of records in each block to be supplemented with the COMMIT statement.

*ImportRecCount*

1 - enabled, 0 - disabled

*ImportAllRows*

1 - enabled, 0 - disabled

*SaveResultSQL*

1 - enabled, 0 - disabled

*ResultSQLFile*

The path to the result \*.sql file.

*ImportKind*

0 - Universal Mode, 1 - Native Mode

*TruncateLongString*

1 - enabled, 0 - disabled

*RollbackIfError*

1 - enabled, 0 - disabled

*ImportMode*

0 - Insert All, 1 - Insert New, 2 - Update, 3 - Update or Insert, 4 - Delete, 5 - Delete or Insert

*ImportAddType*

1 - enabled, 0 - disabled

*AllowDuplicates*

1 - enabled, 0 - disabled

*NativeModeKind*

0 - Single Commands, 1 - Batch insert

### **[#General#]**

This section stores information about the product name and its major version.

---

#### **See also:**

[Working with console application](#)<sup>[66]</sup>

**Part**



## 4 Appendix

### 4.1 Supported file formats

#### • MS Excel

The most popular e-table format used by Microsoft® Excel (\*.xls). The result files are fully compatible with Microsoft® Excel versions 97-2000, 2003 and XP.

#### • MS Access

File of Microsoft® Access format (\*.mdb) with an ADO connection used.

#### • HTML

Hyper Text Markup Language file format (\*.html, \*.htm), complete compatibility with HTML 4.0 specification.

#### • Text file

Plain text file format (\*.txt).

#### • CSV file

Comma-Separated Value file format (\*.csv).

**Note:** all the text formats including *Text file*, CSV are usually used as working or interchange formats.

#### • XML

A markup language for documents containing structured information (\*.xml).

#### • DBF

Database file format (\*.dbf) used by dBASE and a number of xBASE applications.

#### • MS Excel 2007

The contemporary e-table format used by Microsoft® Excel 2007 (\*.xlsx). The result files are fully compatible with Microsoft® Excel 2007.

#### • MS Word 2007

The contemporary text processing format used by Microsoft® Word 2007 (\*.docx). The result files are fully compatible with Microsoft® Word 2007.

#### • ODF Spreadsheets

OASIS Open Document Format for Office Applications - open document file format for spreadsheets (\*.ods) used by a number of applications including OpenOffice.org and KOffice.

#### • ODF Text

OASIS Open Document Format for Office Applications - open document file format for word processing (\*.odt) documents used by a number of applications including OpenOffice.org and KOffice.

## 4.2 SSH tunneling options

SSH (Secure Shell Host) protocol is used to heighten computer security when working with Unix systems on the Internet. SSH uses several encryption algorithms of different reliability. The spread of SSH is also connected with the fact that a number of Linux-like OS's (for example FreeBSD) include SSH server in their standard integration. To learn more information on this issue, please, visit <http://openssh.org>. SSH tunneling feature of SQL Manager is a means of ensuring secure connection to Oracle servers when working over insecure connection channels. You can also use SSH tunnel to get access to the remote Oracle servers when the default port is closed for external connections due to some reasons. The connection over SSH tunnel works in the following way. First, a connection is established and the process of authentication between SSH client built in SQL Manager and remote Oracle server is performed. Then all incoming and outgoing information between the program and Oracle server is transmitted through SSH server with the help of a communication port (usually it is 22), and SSH server transfers this information directly to Oracle server.

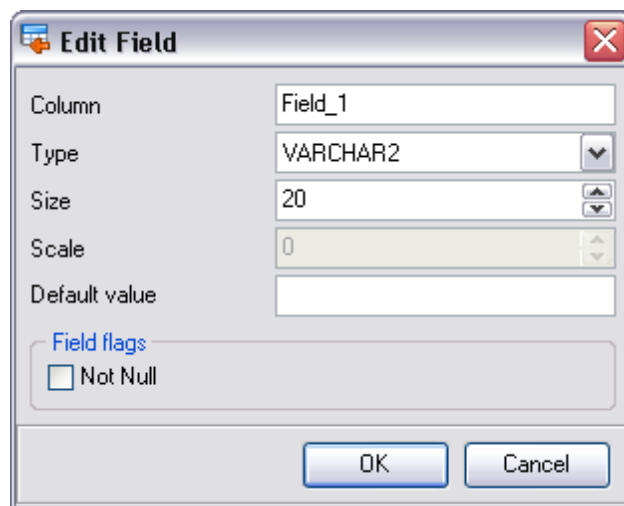
## 4.3 Add/Edit field

When you import data with destination table creation, you can manage this table's fields.

Use the context menu to Add/Edit/Drop a field.



Selecting **Add field** or **Edit field** context menu item opens the field editor that allows you to view/edit the properties of the destination table fields.

A dialog box titled 'Edit Field' with a close button (X) in the top right corner. It contains several input fields and a checkbox. The 'Column' field contains 'Field\_1'. The 'Type' dropdown is set to 'VARCHAR2'. The 'Size' field contains '20'. The 'Scale' field contains '0'. The 'Default value' field is empty. Under the 'Field flags' section, the 'Not Null' checkbox is checked. At the bottom, there are 'OK' and 'Cancel' buttons.

Use the **Column** edit box to set the field name. Note that the name of the field must be unique among all the field names in the table.

The **Type** tab defines the type of the field data.

### Size

Defines the size of the field value.

### Scale

For *numeric* and *decimal* types you need to define the number of decimal to the right of the decimal point.


### Default value

Define this option value if you need inserted records to get specified value.

### Not NULL

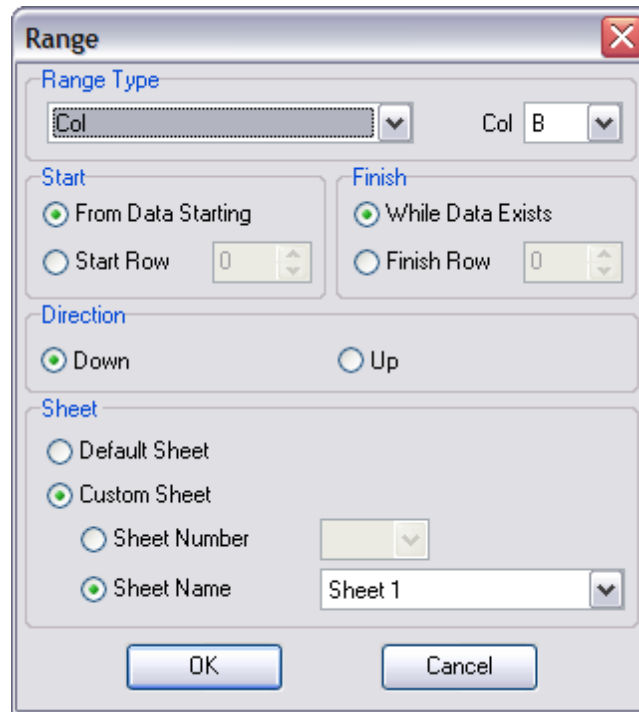
Check this option to prevent the entry of NULL or unknown values in column.

## 4.4 Add/Edit Range

To [set a range of data](#)<sup>[74]</sup> to be imported from the file, use the **Add range**  button.

To remove a range, use the **Delete range**  button.

To edit an existing range, double-click it in the **Ranges** list. The **Range** dialog allows you to set a number of options for the range being edited.



Select **Range Type** from the corresponding drop-down list. Then specify the *column*, *row* or *cell* number whose range is to be defined.

**Start** and **Finish** section allows you to set the range of the values to be imported from the specified row or column.

Use the  **From Data Starting** and  **While Data Exist** options to automatically define the range of the values.

If neither start row/column nor finish row/column was specified you need to set range direction:  **Down** or  **Up** for column range and  **Right** or  **Left** for row range.

Use **Sheet** section to define the location of the row/column for which the row was specified.

You can select either  **Default sheet**, or  **Custom Sheet**.

For custom sheet you need to select **Sheet Number** or **Sheet Name** from the appropriate drop-down list.

**Note:** If Cell was set as Range Type, the only thing you can specify at this dialog is its number.

## 4.5 Advanced connection settings

You need the installed Oracle client on the client computer where Data Import for Oracle will be used. The version of the Oracle client should be compatible with the version of Oracle server you need to connect.

You need to add the connection settings of Oracle server databases to your TNS names file (tnsnames.ora file). This is a configuration file which contains databases description.

If you use Database Client the tnsnames.ora file is located in the %HOME\_name%\NETWORK\ADMIN directory.

If you use Instant Client for oracle, you should create tnsnames.ora file manually. since it does not exist. File should be created in the same directory where Oracle instant client is installed (e.g. C:\OracleInstantClient\). This file can be created using any text editor (create a simple text file and then change its name and extension).

Only for Instant Client: After the tnsnames.ora file is created and database description is added, create TNS\_ADMIN environment variable. For this please do the following:

1. Right-click 'My computer'.
2. Select 'Properties' menu item.
3. Proceed to the 'Advanced' tab and press 'Environment Variables' button.
4. Press 'New...' button in the 'System variables' section.
5. Set 'Variable name:' TNS\_ADMIN, 'Variable value:' C:\OracleInstantClien\tnsnames.ora
6. Press 'OK' button to save the variable.

Find PATH variable in the same dialog, double-click it and add path to the Oracle Instant client libraries (they are located in the directory where client is installed, i.e. C:\OracleInstantClient\). Remember that the paths entries should be separated with semicolons ( ; ).

Data Import for Oracle connects to the server (with the help of Oracle client) via TCP/IP protocol. Here is an example of TCP/IP connection specified in TNS names file:

```
DB_Alias =
(DESCRIPTION =
(ADDRESS_LIST =
(ADDRESS = (PROTOCOL = TCP)(HOST = Host_name)(PORT = 1521))
)
(CONNECT_DATA =
(SERVER = DEDICATED)
(SERVICE_NAME = Database_Name)
)
)
```

PROTOCOL is the keyword that identifies the specific protocol adapter used. For this protocol, the value is TCP. The value can be entered in either uppercase or lowercase.  
HOST is the host name or IP address.  
PORT is the TCP/IP port number.  
SERVICE\_NAME the name of service on server; the database instance name may differ from the actual database name, but generally the names match.  
DB\_Alias any name of the connection

At the [firs step](#)<sup>181</sup> select Oracle client HOME in **Database home** dropdown list and select database from the **Database** dropdown list. The databases names are taken from the tnsnames.ora file.

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