

Data Pump for Oracle User's Manual

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Data Pump for Oracle User's Manual

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This manual documents EMS Data Pump for Oracle

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Part II Wizard Application

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1 Welcome to EMS Data Pump!

EMS Data Pump for Oracle is an excellent utility for converting databases and importing table data from any ADO-compatible source (e.g. MS Access or any other database with ADO support) to Oracle databases. The easy-to-use wizard application allows you to build the ADO connection string, select the source tables, fields, indexes and constraints for converting, view and edit the SQL script for generating target Oracle database structure, select tables for importing data and customize a number of pump options. Database conversion becomes as easy as possible with **Data Pump for Oracle**!

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

Key features

- User-friendly wizard interface
- Converting structure and data from any local and remote data source having an ADO provider
- Selecting source schemas, tables, fields and indexes for conversion
- Ability to create a new Oracle database or connect to an existing one
- Ability to connect to target Oracle server via SSH tunnel
- Fast generation of tables, fields and indexes according to the source database structure
- Ability to specify schema for target database tables
- Easily customizable options for target database objects
- Ability to view/edit, execute and save SQL script for generating the target database structure
- Selecting tables and setting criteria for data import
- Unicode data support
- Full monitoring of the pumping process
- Ability to save all parameters specified within the current wizard session to a template
- Multilanguage GUI support
- Command-line utility to automate the data pump job with a template file used

Product information

Homepage:	https://www.sqlmanager.net/products/oracle/datapump
Support Ticket	https://www.sqlmanager.net/support
System:	
Register on-line at:	https://www.sqlmanager.net/products/oracle/datapump/buy

1.1 What's new

Version

Data Pump for Oracle 3.1.3

What's new in EMS Data Pump?

- Implemented support for Oracle 21c.
- Some minor fixes and improvements.

Release date

February 10, 2023

1.2 System requirements

System requirements

- Microsoft Windows XP, Microsoft Windows Server 2003, Microsoft Windows Server 2008, Microsoft Windows Server 2008 R2, Microsoft Windows Server 2012, Microsoft Windows Server 2012 R2, Microsoft Windows Server 2016, Microsoft Windows Vista, Microsoft Windows 7, Microsoft Windows 8/8.1, Microsoft Windows 10
- 64MB RAM or more;
- 20MB of available HD space for program installation
- Oracle Client 8.1.7 or higher
- Possibility to connect to any local or remote Oracle server as the target and an ADOcompatible source
- Supported Oracle server versions: from 8.1.7 up to 21c

1.3 Installation

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

- download the Data Pump for Oracle distribution package from the <u>download page</u> available at our site;
- unzip the downloaded file to any local directory, e.g. C:\unzipped;
- run *OraDataPumpSetup.exe* from the local directory and follow the instructions of the installation wizard;
- after the installation process is completed, find the **Data Pump** shortcut in the corresponding group of Windows Start menu.

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

- download the Data Pump for Oracle distribution package from the <u>download page</u> available at our site;
- unzip the downloaded file to any local directory, e.g. C:\unzipped;
- close Data Pump application if it is running;
- run *OraDataPumpSetup.exe* from the local directory and follow the instructions of the installation wizard.

See also:

System requirements

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1.4 Registration

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All purchases are provided by **PayPro Global** registration service. The **PayPro Global** order process is protected via a secure connection and makes on-line ordering by credit/ debit card quick and safe.

PayPro Global is a global e-commerce provider for software and shareware sales via the Internet. 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.

If you want to review your order information, or you have questions about ordering or payments please visit our <u>PayPro Global Shopper Support</u>, provided by **PayPro Global**.

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. Also you will receive a copy of registration keys by email. Please make sure to enter a valid email address in your order. If you have not received the keys within 2 hours, please, contact us at sales@sqlmanager.net.

Product distribution	PayPro Global
EMS Data Pump for Oracle (Business license) + 1- Year Maintenance*	
EMS Data Pump for Oracle (Business license) + 2- Year Maintenance*	
EMS Data Pump for Oracle (Business license) + 3- Year Maintenance*	Perieter Nowl
EMS Data Pump for Oracle (Non-commercial license) + 1-Year Maintenance*	<u>Register Now!</u>
EMS Data Pump for Oracle (Non-commercial license) + 2-Year Maintenance*	
EMS Data Pump for Oracle (Non-commercial license) + 3-Year Maintenance*	
EMS Data Pump for Oracle (Trial version)	Download Now!

*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

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.

See also:

How to register EMS Data Pump

1.5 How to register EMS Data Pump

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

- receive the notification letter from **PayPro Global** 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 <u>startup page</u>.

×

See also: Registration

1.6 Version history

Product name	Version	Release date
Data Pump for Oracle	Version 3.1.2	March 4, 2020
Data Pump for Oracle	Version 3.1.1	March 10, 2016
Data Pump for Oracle	Version 3.1	June 20, 2011
Data Pump 2009 for Oracle	Version 3.0.0.1	February 17, 2009
Data Pump 2006 for Oracle	Version 2.2.0.1	February 21, 2007
Data Pump 2006 for Oracle	Version 2.1.0.1	June 26, 2006

Version 3.1.2

- Implemented support for Azure, SQL Server 2017, MySQL Server 8 and PostgreSQL 12.
- The TRUNCATE statement is now used for deleting data from tables.
- MySQL. The 'MySQL has gone away' error has been fixed.
- PostgreSQL. Default values are now processed correctly.
- The total number of records for large tables is now displayed correctly.
- The error occured in case of using COPY statement for import. Fixed now.
- The error occured on loading the template with columns selection in the console version. Fixed now.
- Other fixes and improvements.

Version 3.1.1

- Renewed installation program containing lots of fixes.
- Milliseconds support for the Datatime and Timestamp MySQL types.
- The 'Out of memory' error occured on transferring a large amount of data from InterBase. Fixed now.
- The script for the indices having the same name was generated incorrectly for SQL Server and MySQL. Fixed now.
- Incorrect constraints refreshing in MS SQL Server with ODBC has been fixed.
- The 'Out of memory' error occured transferring the data from DBF/FoxPro using Advantage OLE DB Provider 11. Fixed now.
- The 'Access Violation' error occured at Step 5 of the wizard in some cases while importing data from MySQL. Fixed now.
- There was an error while reconnecting to the source MySQL server. Fixed now.
- Lots of other improvements and bug-fixes.

Version 3.1

- Added the possibility to transfer objects descriptions, if they are supported by provider.
- It is now possible to transfer views/queries data.
- Added the possibility to refresh the objects tree of source database.
- Now when importing data, foreign keys are disabled and recreated automatically.
- Support of the latest Server versions is implemented.
- Some other improvements and bugfixes.

Version 3.0

• Implemented Unicode data support

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- Source DBMS <u>schemas</u> support has been implemented
- Added an <u>option</u> allowing one to enable/disable refreshing of source objects on connection
- Added an option specifying whether all source tables are selected by default at Step 3
- Quoting identifiers for the source database can be customized at Step 4 now
- Pumping BLOB fields using ODBC drivers v5.1 for MySQL was not possible. Fixed now
- Latest versions of target Oracle DBMS are supported
- Improved schema support for target database
- It is now possible to clear tables before importing data
- It is now possible to generate DROP TABLE statements
- Implemented support of Windows authentication for Oracle
- The <u>wizard</u> window is now resizable
- The possibility to restart the wizard is added at the last step
- It is now possible to specify the wizard step that will be opened after loading a template
- It is now possible to start data import after loading a template
- Implemented password encryption in <u>templates</u> and registry
- A number of minor bug-fixes and visual improvements

Version 2.2

- It is now possible <u>to enforce quoting for object names</u> in the result script for data import automatically (when applied to "unrecognized" OLE DB/ODBC providers)
- Implemented Private Key support for <u>SSH authentication</u>
- Added the ability to specify the default schema for tables import
- Added French and German interface localizations for the utility
- A number of minor bug-fixes and visual improvements

Version 2.1

- <u>Two types of template formats</u> have been implemented: the fixed one which points to a certain list of objects to be transferred, and the dynamic one which defines only excluded objects; the objects out of this list are to be transferred. Template files of old format are still supported
- Added the opportunity to <u>connect through the SSH</u> tunnel
- Now the <u>console version</u> returns the error code (0 successful termination, 1 critical error, 2 non-critical error)

Full version history is available at http://www.sqlmanager.net/products/oracle/datapump/news

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See also: What's new

1.7 EMS Data Pump FAQ

Please read this page attentively if you have questions about **EMS Data Pump for Oracle**

Table of contents

- <u>What is EMS Data Pump?</u>
- What do I need to start working with EMS Data Pump?
- What is the easiest way to configure the template files for the Data Pump console application?
- <u>How can I register the product?</u>
- Are there any limitations implied in the trial version as compared with the full one?
- <u>I'm trying to import data from MS Access. When I expand a table node, it shows</u> <u>indices(0), constraints(0) and I cannot select them. How can I fix this?</u>
- <u>I create a database schema for the target server, go through the steps of the wizard, do not execute script at Step 5 and the available tables and selected tables panels are empty too. The Next button is disabled. What is wrong here?</u>

Question/answer list

- Q: What is EMS Data Pump?
- A: **Data Pump for Oracle** is an excellent utility for converting databases and importing table data from any ADO-compatible source (e.g. MS Access or any other database with ADO support) to Oracle databases. The easy-to-use wizard application allows you to build the ADO connection string, select the source tables, fields, indices and constraints for converting, view and edit the SQL script for generating target Oracle database, select tables to be imported and customize a number of pump options.
- Q: What do I need to start working with EMS Data Pump?
- A: First of all, you must have a possibility to connect to some local or remote Oracle server to work with **Data Pump**. You can download Oracle database server from <u>https://www.oracle.com/technology/software</u>. Besides, you need your workstation to satisfy the <u>system requirements</u> for Data Pump for Oracle.
- Q: What is the easiest way to configure the template files for the Oracle Data Pump console application?
- A: You can configure the template files visually using the Oracle Data Pump wizard. Set the required pump options at of the wizard, click the 'Tools' button and select the <u>'Save Template'</u> popup menu item. All the options will be saved to the template file which can be used later in the <u>console application</u>.
- Q: How can I register the product?
- A: If you have already purchased **Data Pump for Oracle**, you can register the product by entering the appropriate registration information. Please refer to <u>Registration</u> and <u>How</u> to register EMS Data Pump for details.
- Q: Are there any limitations implied in the trial version as compared with the full one?
- A: The trial version of the utility admits to the maximum of 10% of records to be imported for each table. In all other respects it does not differ from the full version as far as the functionality is concerned. That is, you can test all the features implemented in **Data Pump for Oracle** within the 30-day trial period.
- Q: Im trying to import data from MS Access. When I expand a table node, it shows

indices(0), constraints(0) and I cannot select them. How can I fix this?

A: The solution to this problem is to use the Microsoft Jet OLE DB Provider for establishing connection to your source Access database.

Q: I create a database schema for the target server, go through the steps of the wizard, do not execute script at Step 5 and the available tables and selected tables panels are empty too. The Next button is disabled. What is wrong here?

A: This issue arises because of differences between the generated script and the schema already in existence. The problem is that some table names or field names may differ from the ones generated by Data Pump (the correspondence between the source and the target tables is verified by tables' and their fields' names). If your new (target) database structure differs from the source database structure, no objects will be available in the Available Tables and the Selected Tables lists at <u>Step 7</u>. The source metadata must match the target metadata for successful data import script execution.

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If you have any additional questions, contact us at our <u>Support Center</u>.

1.8 Other EMS Products

Quick navigation



MySQL

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SQL Management Studio for MySQL

EMS SQL Management Studio for MySQL is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!



<u>SQL Manager for MySQL</u> Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.



Data Export for MySQL

Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more.



Data Import for MySQL

Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

Data Pump for MySQL

Migrate from most popular databases (MySQL, PostgreSQL, Oracle, DB2, InterBase/Firebird, etc.) to MySQL.



Data Generator for MySQL

Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.



DB Comparer for MySQL

Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.



DB Extract for MySQL

Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.



SQL Query for MySQL

Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.



Data Comparer for MySQL

Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

Scroll to top

Microsoft SQL Server

SQL Management Studio for SQL Server

EMS SQL Management Studio for SQL Server is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!



EMS SQL Backup for SQL Server

Perform backup and restore, log shipping and many other regular maintenance tasks on the whole set of SQL Servers in your company.



SQL Administrator for SQL Server

Perform administrative tasks in the fastest, easiest and most efficient way. Manage maintenance tasks, monitor their performance schedule, frequency and the last execution result.



SQL Manager for SQL Server

Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.



Data Export for SQL Server

Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more



Data Import for SQL Server

Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

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Data Pump for SQL Server

Migrate from most popular databases (MySQL, PostgreSQL, Oracle, DB2, InterBase/Firebird, etc.) to Microsoft® SQL Server™.

5

Data Generator for SQL Server

Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.



DB Comparer for SQL Server

Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.

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DB Extract for SQL Server

Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.

SQL Query for SQL Server

Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.



Data Comparer for SQL Server

Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

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PostgreSQL

SQL Management Studio for PostgreSQL

EMS SQL Management Studio for PostgreSQL is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!



EMS SQL Backup for PostgreSQL

Creates backups for multiple PostgreSQL servers from a single console. You can use automatic backup tasks with advanced schedules and store them in local or remote folders or cloud storages



SQL Manager for PostgreSQL

Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.



Data Export for PostgreSQL

Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more



Data Import for PostgreSQL

Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.



Data Pump for PostgreSQL

Migrate from most popular databases (MySQL, SQL Server, Oracle, DB2, InterBase/Firebird, etc.) to PostgreSQL.



Data Generator for PostgreSQL

Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.



DB Comparer for PostgreSOL

Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.



DB Extract for PostgreSQL

Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.

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SQL Query for PostgreSQL

Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.



Data Comparer for PostgreSQL

Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

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InterBase / Firebird



SQL Management Studio for InterBase/Firebird

EMS SQL Management Studio for InterBase and Firebird is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!

SQL Manager for InterBase/Firebird

Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.



Data Export for InterBase/Firebird

Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more



Data Import for InterBase/Firebird

Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

Data Pump for InterBase/Firebird

Migrate from most popular databases (MySQL, SQL Server, Oracle, DB2, PostgreSQL, etc.) to InterBase/Firebird.

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Data Generator for InterBase/Firebird

Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.



DB Comparer for InterBase/Firebird

Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.



DB Extract for InterBase/Firebird

Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.



SQL Query for InterBase/Firebird

Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.



Data Comparer for InterBase/Firebird

Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

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Oracle



SQL Management Studio for Oracle

EMS SQL Management Studio for Oracle is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!

SQL Manager for Oracle

Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.



Data Export for Oracle

Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more.



Data Import for Oracle

Import your data from MS Access, MS Excel and other popular formats to database tables via

user-friendly wizard interface.

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Data Pump for Oracle

Migrate from most popular databases (MySQL, PostgreSQL, MySQL, DB2, InterBase/Firebird, etc.) to Oracle



Data Generator for Oracle

Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.



DB Comparer for Oracle

Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.



DB Extract for Oracle

Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.



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SQL Query for Oracle

Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.



Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

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IBM DB2

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SQL Manager for DB2

Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.



Data Export for DB2

Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more.



Data Import for DB2

Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

Data Pump for DB2

Migrate from most popular databases (MySQL, PostgreSQL, Oracle, MySQL, InterBase/Firebird, etc.) to DB2



Data Generator for DB2

Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.



DB Extract for DB2

Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.



SQL Query for DB2

Analyze and retrieve your data, build your queries visually, work with query plans, build charts

based on retrieved data quickly and more.

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Tools & components



Advanced Data Export for RAD Studio VCL

Advanced Data Export for RAD Studio VCL allows you to save your data in the most popular office programs formats.



Advanced Data Export .NET

Advanced Data Export .NET is a component for Microsoft Visual Studio .NET that will allow you to save your data in the most popular data formats for the future viewing, modification, printing or web publication. You can export data into MS Access, MS Excel, MS Word (RTF), PDF, TXT, DBF, CSV and more! There will be no need to waste your time on tiresome data conversion - Advanced Data Export will do the task quickly and will give the result in the desired format.



Advanced Data Import for RAD Studio VCL

Advanced Data Import for RAD Studio VCL will allow you to import your data to the database from files in the most popular data formats.

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Advanced PDF Generator for RAD Studio

Advanced PDF Generator for RAD Studio gives you an opportunity to create PDF documents with your applications written on Delphi or C++ Builder.



Advanced Query Builder for RAD Studio VCL

Advanced Query Builder for RAD Studio VCL is a powerful component for Delphi and C++ Builder intended for visual building SQL statements for the SELECT, INSERT, UPDATE and DELETE clauses.



Advanced Excel Report for RAD Studio

Advanced Excel Report for RAD Studio is a powerful band-oriented generator of template-based reports in MS Excel.



Advanced Localizer for RAD Studio VCL

Advanced Localizer for RAD Studio VCL is an indispensable component for Delphi for adding multilingual support to your applications.

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2 Wizard Application

EMS Data Pump for Oracle Wizard guides you through the entire pumping process and provides an easy-to-use graphical interface allowing you to set all data pumping parameters visually. Wizard application allows you to build the ADO connection string, select tables, fields, indexes and constraints for converting, view and edit the SQL script for generating the target Oracle database and select tables for import.

Navigation through the steps of the wizard is performed with the help of the **Next>** and the **<Back** buttons.

Use the **Tools** button to call a menu allowing you to open the **Preferences** dialog or to **load/save a template**.

<u>Using Wizard Application</u> <u>Using Templates</u> <u>Setting Program Preferences</u>

Welcome to Data Pump for Oracle Wizard!	
This Wizard application allows you to connect to a source database using OLE DB provider, select tables, fields and for converting, view and edit SQL script for generating target Oracle database and select tables for import.	lindices
Click 'Next' to start working with the wizard.	
Data Product Information:	
Pump Developers: Alexey Butalov, Michael Kuzevanov, Michael Glotov	
for Homepage: http://www.sqlmanager.net/products/oracle/datapump	
Oracle Support Ticket System: http://www.sqlmanager.net/support	
Version: 3.1.0.8	
Registered to : EMS (Business license)	
Enter Registration Code	
Help Tools K Mext >	Close

See also: Console Application

2.1 Using Wizard Application

Go through the steps of the wizard and follow the wizard instructions to run the pumping process successfully.

<u>Getting started</u> <u>Step 1 - Setting connection properties</u> <u>Step 2 - Selecting source schemas</u> <u>Step 3 - Selecting source objects</u> <u>Step 4 - Setting options</u> <u>Step 5 - Editing target objects</u> <u>Step 6 - Viewing/editing generated script</u> <u>Step 7 - Select tables for data import</u> <u>Step 8 - Importing data</u>

See also:

Using Console Application Using Templates Setting Program Preferences

2.1.1 Getting started

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

This page allows you to view registration information. If you have not registered **Data Pump for Oracle** yet, you can do it by pressing the **Enter Registration Code...** button and <u>specifying your registration information</u>.

🙀 Data Pump for Oracle	(UNREGISTERED)
Welcome to Data	Pump for Oracle Wizard!
	This Wizard application allows you to connect to a source database using OLE DB provider, select tables, fields and indices for converting, view and edit SQL script for generating target Oracle database and select tables for import.
	Click 'Next' to start working with the wizard.
Data	Product Information:
Pump	Developers: Alexey Butalov, Michael Kuzevanov, Michael Glotov
for Oracle	Homepage: http://www.sqlmanager.net/products/oracle/datapump
Oracle	Support Ticket System: http://www.sqlmanager.net/support
	Version: 3.1.0.8
	Unregistered Copy
	Enter Registration Code
	Trial Period: 30 Day(s) Left.
	This is a 30-day trial version. To make sure you do not receive this notification any more, you should purchase a software license and register your software.
	http://www.sqlmanager.net/products/oracle/datapump/buy
	NOTE: Unregistered version is limited to 10% of imported records of each table. Due to incompleteness in data import there might be incorrect import caused by the dependencies.
	Tools ▼

Press the **Next** button to proceed to <u>Step 1</u> of the wizard.

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2.1.2 Step 1 - Setting connection properties

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At **Step 1** of the wizard you should set the source and the target database connection properties.

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

Note: To establish connection to the source database, it is necessary to use additional software, namely data sources (OLE DB Providers and ODBC Drivers) which are distributed by DBMS developing companies and third-party developers. **EMS Data Pump** processes information received from the data source. The utility itself extracts neither data nor metadata from the source database. Therefore the functionality of **Data Pump** may be partially limited by the abilities of data source being used.

Source database connection properties

In order to set the *source database connection properties*, use <u>Data Link Properties</u> <u>builder</u> or select an initialization string from the list of previously built ones. To call the <u>Data Link Properties</u> dialog, press the **Build** button.

🔒 Data Pump for Oracle					- • •
Step 1 of 8					
Select database connecti	on properties				
	Source database	connection properties			
	Provider=SQLOLEDB.	1;Integrated Security=SSPI;Persist Security	Info=False;Initial Cata	log=AdventureW(💌	<u>B</u> uild
	Target database connection properties Connection Tunneling				
Data Pump for	Connection option		 Authentication type Windows 	e	
Oracle	Connect as	Normal	 Server 		
	Optimize goal	Unchanged 💌	Authorization User name	tester	
	Database	MAXAR	Password	*****	
<u>H</u> elp Tools	.		< <u>B</u> ack	<u>N</u> ext >	

Target database connection properties

Oracle home

Specify your Oracle Home storage for this connection.

Connect as

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

Authentication type

Specify the type of authentication to be used for the connection: *Windows* or *Server* authentication.

If *Server* has been selected as the *authentication type*, you should also provide *authorization* settings: **User name** and **Password**.

The default superuser name is 'SYS' (for Oracle 9.0 and higher) and the default password is 'change_on_install'.

Optimize goal

Use the drop-down list to establish the default behavior for choosing an optimization approach for the instance:

Unchanged

Select this value to apply the approach which is currently used by the optimizer. *FirstRows*

If this value is selected, the optimizer uses a mix of cost and heuristics to find the best plan for fast delivery of the first few rows.

AllRows

If this value is selected, the optimizer uses a cost-based approach for all SQL statements in the session regardless of the presence of statistics and optimizes with a goal of best throughput (minimum resource use to complete the entire statement). *Choose*

This parameter value is not supported any more.

Rule

This parameter value is not supported any more.

Database

Use the drop-down list to select the database to pump data into (the drop-down list contains databases currently specified in the TNS file).

Note: If no database are registered in Oracle Client (DB list is empty in this case), then you need to <u>add registration info manually</u>.

If you are using the EMS SQL Management Studio for Oracle version of Data Pump for Oracle then the **Select registered database** button is available. Click this button to pick a database already registered in the EMS SQL Management Studio in the <u>Select Host or</u> <u>Database</u> dialog.

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 where SSH server is running
- **SSH port** indicates the port where SSH server is activated
- **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

For details see <u>SSH tunneling options</u>.

🙀 Data Pump for Oracle		- • •
Step 1 of 8		
Select database connectio	on properties	
	Source database connection properties	
	Provider=SQLDLEDB.1;Integrated Security=SSPI;Persist Security Info=False;Initial Catalog=AdventureW(<u>B</u> uild
	Target database connection properties	
Data	Connection Tunneling*	
Pump	 Don't use tunneling Connect through the Secure SHell (<u>S</u>SH) tunnel 	
for Oracle	SSH <u>h</u> ost name vadsrv v SSH <u>u</u> ser name tester	
	SSH port 22 SSH pagsword	
	SSH key file C:\SSHKeys\dsa_key.ppk	<u> </u>
<u>H</u> elp Tools	▼ < <u>B</u> ack <u>Next</u> >	

When you are done, click the **Next** button to proceed to the <u>selecting source schemas</u> step of the wizard.

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2.1.2.1 Selecting registered database

Use this dialog to select a database for pumping data. This dialog is available only in EMS SQL Management Studio version of Data Pump for Oracle.

🖃 🧔 Group1	
🛛 😁 😸 ORTOZ on Group1	
🖳 🔠 OLACOL on Group1	
📃 🖳 😑 VV on Group1	
<u>о</u> к	<u>C</u> ancel <u>H</u> elp
ORTOZ on Group1	

All databases registered in EMS SQL Management Studio for Oracle are displayed in the list.

Select the necessary database and click the **OK** button.

Database registration information will be filled on the <u>first step</u> automatically.

2.1.2.2 Setting data link properties

The **Data Link Properties** dialog allows you to set the data link properties necessary to establish connection to the data source. The connection properties builder has its own help system. Click the **Help** button to get additional information concerning connection settings for ODBC.

Use the tabs of the dialog to configure the connection string correctly.

Provider Connection Advanced All

<< Back to setting connection properties

2.1.2.2.1 Provider

Within the **Provider** tab you can select the OLE DB provider to be used for connecting to the data source. For example, in order to connect to Microsoft® SQL Server^M, select *Microsoft OLE DB Provider for SQL Server*.

In order to set connection via ODBC driver select *Microsoft OLE DB Provider for ODBC Drivers*.

🛒 Data Link Properties	×
Provider Connection Advanced All	
Select the data you want to connect to:	
OLE DB Provider(s)	<u> </u>
Microsoft OLE DB Provider for DTS Packages	
Microsoft OLE DB Provider for Indexing Service Microsoft OLE DB Provider for ODBC Drivers	
Microsoft OLE DB Provider for OLBC Drivers Microsoft OLE DB Provider for OLAP Services 8.0	
Microsoft OLE DB Provider for Oracle	_
Microsoft OLE DB Provider for Grade	
	=
Microsoft OLE DB Provider for Visual FoxPro	
Microsoft OLE DB Simple Provider	
MSDataShape	
OLE DB Provider for Microsoft Directory Services	
Oracle Provider for OLE DB	
PC SOFT OLE DB Provider for HyperFileSQL	-
Next >>	
<u>IT</u> EXT >>	
OK Cancel Help	,

Click the **Next** button to proceed to the <u>Connection</u> properties tab.

See also:
<u>Connection</u>
<u>Advanced</u>
All

2.1.2.2.2 Connection

Within the **Connection** tab you can set the connection properties.

In order to set the connection properties correctly, follow the steps below.

- Type in the source server name, or select one from the drop-down list. You can get the actual server list by clicking the **Refresh** button.
- Depending on the preferable way to log on to the server, you can specify either *Use Windows NT Integrated security* or the database server account. If you have specified the specific server account to be used, enter *User name* and *Password* in the corresponding fields.
- Select a database on the server or specify the Microsoft database file (*.*mdf*) which will be attached as a database.

Note: The set of available Connection options depends on the selected Ole DB Provider.

📑 Data Link Properties 📃 💌
Provider Connection Advanced All
Specify the following to connect to SQL Server data: 1. Select or enter a server name: doom server\tserv2005
2. Enter information to log on to the server: Use <u>Windows NT Integrated security</u> <u>Use a specific user name and password:</u>
User <u>n</u> ame: screens <u>P</u> assword:
Blank password Allow saving password Select the database on the server: Adventure Works
Attach a database file as a database name:
Using the <u>fi</u> lename:
Test Connection
OK Cancel Help

If you have selected *Microsoft OLE DB Provider for ODBC Drivers* the **Connection** tab is the <u>following</u>.

Click the **Test Connection** button to see if your connection settings are specified

correctly.

Use the **Advanced** and the **All** tabs of the dialog to access the corresponding pages available for the specified data source.

See also: <u>Provider</u> <u>Advanced</u> <u>All</u>

2.1.2.2.2.1 Microsoft OLE DB Provider for ODBC

In order to create an ODBC using the new DSN correctly, follow the steps below:

- Select the **Output** Use connection string option and click the **Build...** button. Set data source properties in the opened <u>Select Data Source</u> dialog.
- Enter the log on information to connect to the server in the *User name* and *Password* fields. You may leave these fields empty as these connection parameters are provided in the created connection string.
- If necessary, select/deselect the available options: 🗹 Allow saving password, 🗹 Blank password.

📑 Data Link Properties 💽
Provider Connection Advanced All
Specify the following to connect to ODBC data:
1. Specify the source of data:
Use data source name
PostgreSQL35W 💌 <u>R</u> efresh
Use connection string
Connection string:
DSN=PostgreSQL30;DATABASE=DemoDB;S Build
2. Enter information to log on to the server
User <u>n</u> ame: tester
Password:
Blank password Allow saving password
3. Enter the initial catalog to use:
▼
Test Connection
OK Cancel Help

Click the **Test Connection** button to see if your connection settings are specified correctly.

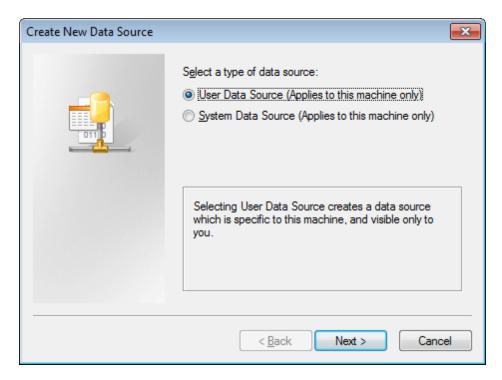
In the **Select Data Source** dialog proceed to the Machine Data Source tab in order to create a new DSN.

e Data Source Machine	Data Source		
Data Source Name	Туре	Description	
my_con	User		
PostgreSQL30	User		
PostgreSQL35W	User		
progress	User		
SQL Server	User		=
sql2	User		
4	Heer		
			<u>N</u> ew
"User" data sources are	specific to a us	is machine, and cannot be sha er on this machine. "System" o machine, or by a system-wide	data

Click the **New...** button to launch the <u>Create New Data Source</u> wizard which is intended to build a new Data Source Name (DSN).

You can select existing DSN from the list as well.

On the first step of the wizard you need to select a data source type.



User Data Source

Selecting User Data Source creates a data source which is specific to this machine, and visible only to you.

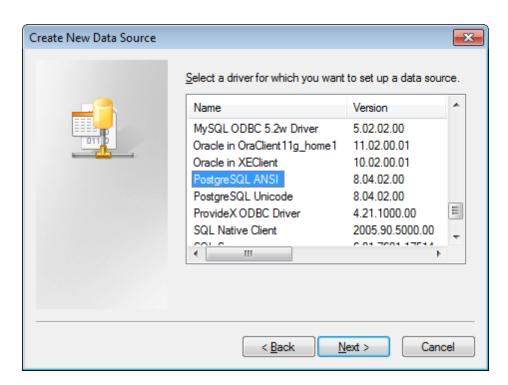
System Data Source

Selecting a System Data Source creates a data source which is visible to any user, or service, logged into the machine.

Click the **Next** button to proceed to the <u>Selecting driver</u> step of the wizard.

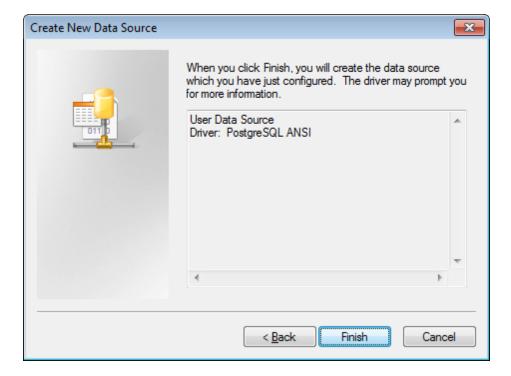
On this step of the wizard you are to select a driver for which you are adding a data source.

Choose the driver for which you are adding a data source. For example, PostgreSQL ANSI driver if you want to connect to the PostgreSQL server.



Any drivers that are installed on your machine are showed in the list.

Click the Next button to proceed to the <u>Finish</u> step of the wizard.



On this step of the wizard verify the choices made on the previous steps.

Click the Finish button to complete the wizard and launch the Setting specific ODBC

driver options dialog.

After the wizard completion a dialog appears which is used for setting ODBC driver parameters.

PostgreSQL AN	SI ODBC Driver (psql	ODBC) Setup		—
<u>D</u> ata Source	PostgreSQL30	Des <u>c</u> ription		
Data <u>b</u> ase	DemoDB	SS <u>L</u> Mode	disable	•
<u>S</u> erver	ayz2	<u>P</u> ort	54383	
<u>U</u> ser Name	ayz	Pass <u>w</u> ord	•••••	
Options			(Test
Datasource	Global		Save	Cancel

The set of options provided in the dialog box depends on the ODBC driver you have created.

2.1.2.2.3 Advanced

Within this tab you can specify the **advanced connection settings**: *impersonation level, protection level, connection timeout* and *access permissions*.

Note: The set of available Advanced options depends on the selected OLE DB Provider.

💼 Data Link Properties	;	×
Provider Connection	Advanced All	
- Network settings		
Impersonation level:		-
Protection level:		-
Other		
Connect timeout:	seconds.	
A <u>c</u> cess permissions:	 Read ReadWrite Share Deny None Share Deny Read Share Deny Write 	
	OK Cancel	Help

To view the summary for the current data source configuration, proceed to the **All** tab.

See also: <u>Provider</u> <u>Connection</u> <u>All</u>

2.1.2.2.4 All

The **All** tab contains the initialization properties grid in which the properties specified within the **Data Link Properties** dialog are listed. If necessary, you can edit property values or reset them within the **Edit Property Value** dialog.

In order to set an option:

- select the option in the grid;
- click the **Edit Value...** button;
- specify the property value in the **Edit Property Value** dialog and click **OK** to apply the changes.

Note: The set of options available within the **All** tab depends on the selected <u>OLE DB</u> <u>Provider</u>.

Data Link Properties	— ×
Provider Connection Advan	ced All
These are the initialization prop value, select a property, then o	perties for this type of data. To edit a choose Edit Value below.
Name	Value
Application Name	
Auto Translate	True
Connect Timeout	
Current Language	E
Data Source	doom_server\tserv2005
Extended Properties	
General Timeout	0
Initial Catalog	AdventureWorks
Initial File Name	
Integrated Security	
Locale Identifier	1049
Network Address	
Network Library	-
Edit Value	
ОК	Cancel Help

When you are done, press **OK** to apply the changes and proceed to <u>setting target</u> <u>database connection properties</u>.

See also: <u>Provider</u> <u>Connection</u>

Advanced

2.1.3 Step 2 - Selecting source schemas

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This step of the wizard allows you to specify schemas of the source database to pump objects from.

To select a schema, you need to move it from the **Available schemas** list to the

Selected schemas list. Use the 2 2 3 3 buttons or drag-and-drop operations to move the schemas from one list to another.

Hint: To select multiple schemas, hold down the *Shift* or *Ctrl* key while selecting the schema names.

😝 Data Pump for Oracle	
Step 2 of 8	
Select schemas in source database	
Available schemas doo HR Person Production Purchasing schema1 sys	Selected schemas HumanResources Sales Sales
Help Tools	< <u>B</u> ack <u>N</u> ext > <u>C</u> lose

Click the **Next** button to proceed to the <u>selecting source objects</u> step of the wizard.

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2.1.4 Step 3 - Selecting source objects

At this step you can view the tree of source objects in the **Source database content** area and select them for pumping using the corresponding check boxes. The **Source object definition** area displays definition for a currently selected source database object.

🙀 Data Pump for Oracle				
Step 3 of 8				
Select source objects				
	Source database content			Source object definition
		Select 🔺		
			Name	AK_Employee_LoginID
	🖃 🐻 Schemas (2)		Fields	(LoginID)
	😑 🛄 HumanResources		Key type	Unique
	📄 🧰 Tables (12)	V		
Data	🖲 📑 ADDRESS	V		
Pump	🕀 🔢 ADDRESSTYPE	V		
for	🕀 🌆 Department	V		
Oracle	🖨 晴 Employee	V		
	🖶 🛅 Fields (17)	V		
		V		
	🖻 🙋 Constraints (6)	V	8	
	FK_Employee_Coi	▼ ≡	8	
	AK_Employee_Lo	V		
	AK_Employee_Na	V	÷	
	AK_Employee_rov	V	5	
	PK_Employee_Em	V		
	🕀 🎼 Employee_new	✓ ✓	E	
	🕀 🔢 EmployeeAddress	v		
	🖶 📑 EmployeeDepartmentHistc	V		
	🕀 🏬 EmployeePayHistory	V		
		V		
		V		
	🖶 🎬 JobCandidate	v		
	E III Shirt E III Views (6)	× -		
		•]	
Help Tools	•		< <u>B</u> ac	k Next > Close

Note: In the target database all selected views will be converted to tables.

The **context menu** of the **Source database content** area can be used to select/ unselect table subobjects and to expand/collapse the tree nodes. To call the context menu, right-click any node in the *Source database content* area.

	Expand all
塭	Collapse all
2	Select all indices
7	Unselect all indices
2	Select all keys
-	Unselect all keys
2	Refresh F5

The **context menu** of the **Source database content** area allows you to:

- here a second all nodes of the tree
- collapse all nodes of the tree
- 🔀 select all indexes for pumping
- 🛃 unselect all indexes
- 🔄 select all keys for pumping
- unselect all keys
- refresh the tree

Click the **Next** button to proceed to the <u>setting pump options</u> step of the wizard.

2.1.5 Step 4 - Setting options

At this step of the wizard you can define pump options: *database structure* conversion options, options pertaining to *schemas processing*, *SQL script* execution, *data import* preferences, and perform source-to-target *type mapping*.

😝 Data Pump for Oracle	
Step 4 of 8	
Set program options	
Convert database structure op ©Onvert names to SQL92 s Dbjects names format © Convert default values Schemas processing Use existing schema for impor Script options © Enable gomments © Stop script execution on en Import options © Clear tables before data im © Quote source identifiers Global type mapping	As Is TESTER Always skip successfully executed statements y executed statements For
Help Tools	< <u>₿ack</u> <u>N</u> ext > <u>C</u> lose

Convert database structure options

This group of options allows you to customize database structure conversion process.

Convert names to SQL92 standard

This option brings all the database object names to conformity with SQL92 naming rules.

Object names format

The drop-down list allows you to specify whether object names are to be converted to upper/lower case or left without changes (*As Is*).

Convert default values

Check this option to convert the default values of the source database to default values for the destination database.

Schemas processing

This group of options allows you to specify how Oracle schemas will be processed by the application.

Use existing schema for import

Use the drop-down list to select the schema in the Oracle database where the source tables are to be pumped into.

Script options

This group of options allows you to customize the <u>SQL script</u> generation and its execution process.

Enable comments

If this option is selected, comments will be included into the body of the script.

Show "OK" for successfully executed statements

If this option is selected, records for successfully executed statements will be listed in the **Script execution information** area at $\underline{\text{Step 6}}$.

Always skip successfully executed statements

If this option is selected, all successfully executed statements will be skipped upon subsequent script execution.

Generate "DROP TABLE" statements

Select the option to add the DROP statements for tables in the script.

Stop script execution on error

If this option is checked, the script execution will be stopped if an error occurs.

Import options

This group of options allows you to customize <u>data import</u> process.

Clear tables before import data

Select this option to empty the tables in the Oracle database before data import at $\underline{\text{Step}}$ 8.

Quote source identifiers

This option enables/disables quoting source object identifiers.

- If enabled, use the drop-down list to select the preferable value:
 - Default to use the default quotes for the <u>data source</u> being used;
 - one of available quoting patterns: "...", '...', `...`, [...], (...), {...}, <...>;
 - Custom to specify any other characters to be used as left/right quotes.

Remove trailing spaces

If this option is checked, unused space at the end of source data strings will be cut off.

Press the <u>Global type mapping</u> button to open the **Type mapping** dialog allowing you to view and edit source-target data type correspondences.

When you are done, click the **Next** button to proceed to <u>editing target objects</u>.

2.1.5.1 Global type mapping

In this dialog you can view and edit the type conversion grid where the correspondence between the data types of the <u>OLE DB Provider</u> being used and the target database server (i.e. Oracle) data types is displayed. You can use this grid to set conversion preferences for each of the types.

/pe mapping		
Source type	Target type	
TinyInt	NUMBER(0,0)	
SmallInt	NUMBER(0,0)	
Integer	NUMBER(0,0)	
BigInt	NUMBER(0,0)	
UnsignedTinyInt	NUMBER(0,0)	
UnsignedSmallInt	NUMBER(0,0)	
UnsignedInt	NUMBER(0,0)	
UnsignedBigInt	NUMBER(0,0)	
Single	FLOAT	
Double	FLOAT	
Currency	NUMBER(19,4)	
Numeric(p,s)	NUMBER(p,s)	
Desimal(s.s)		
Help	<u> </u>	

The **Data type editor** dialog can be opened by clicking the ellipsis is button to the right of the record to be edited.

In the **Data type editor** dialog you can specify whether the source field type returned by the <u>OLE DB Provider</u> is to be converted to a data type of the target database server (i.e. Oracle).

For certain data types you can set **scale**, **size** and/or **precision**.

Data type editor			×
Field Type	NUMBER		•
Precision			
Source precision			
Oser-defined precis	sion	5	· · · · · · · · · · · · · · · · · · ·
Scale			
Source scale			
User-defined scale		10	×
	Set Default	<u> </u>	cel

<< Back to setting options

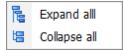
2.1.6 Step 5 - Editing target objects

At this step of the wizard you can browse the estimated content of the *target database* in a tree of objects, view definitions of the corresponding *source objects* and edit the *target object definitions*.

😝 Data Pump for Oracle						×
Step 5 of 8						
Edit target objects						
	Target database content		Source of	bject definition	r	
Data Pump		Namespace Name	HumanR Employe	lesources e		
for	😐 📑 Department		Target of	bject definition	I	
Oracle	Employee ⊕ <mark>⊞ Fields</mark> (17)	Schema		TESTER		•
		Name		Employee		
	Constraints (6) AK_Employee_LoginID AK_Employee_NationalIDN AK_Employee_rowguid AK_Employee_EmployeeID FK_Employee_Contact_Cor FK_Employee_Employee_M EmployeeAddress EmployeeAddress EmployeePayHistory EmployeePayHistory Employees Employees Employees Employees Shift	Comment		Apply	Cancel	4 4
<u>H</u> elp Tools		< <u>B</u>	ack	<u>N</u> ext >		

The tree of the target Oracle database objects is displayed in the **Target database content** area.

The **context menu** of the **Target database content** area can be used to expand/ collapse the tree nodes. To call the context menu, right-click any node in the *Target database content* area.



The **context menu** of the **Source database content** area allows you to:

- he are all nodes of the tree
- collapse all nodes of the tree

Depending on the current selection in the *Target database content* area, the **Source object definition** area displays the properties of the corresponding source database

object.

The **Target object definition** area allows you to view and edit the target Oracle database object properties:

- for <u>tables</u>
- for III table fields
- for 🖉 primary key / 🖉 unique key / 🏪 foreign key constraints

To apply and discard the changes made within the **Target object definition** area, use the **Apply** and the **Cancel** buttons respectively.

Click the **Next** button to proceed to <u>Viewing/editing generated script</u>.

2.1.6.1 Target table properties

The **Target object definition** area of <u>Step 5</u> allows you to view and edit the target **table** properties:

Target object definition				
Schema	TESTER	•		
Name	Employee			
Comment		*		
		Ŧ		
_		_		
	<u>Apply</u> <u>C</u> ancel			

 ${\bf Schema}$ - use the drop-down list of schemas available in the Oracle database to select the one in which the table is to be allocated.

Name - specifies the table name.

Comment

If necessary, add a comment for the object.

2.1.6.2 Target field properties

The **Target object definition** area of <u>Step 5</u> allows you to view and edit the target **\blacksquare** field properties:

Target object definition					
Name	EmployeeID	1			
Туре	NUMBER	•			
Size	0				
Scale	0				
Default value					
Comment					
▼ Not Nul	<u>Apply</u>				

Name - specifies the field name

Type - use the drop-down list of data types supported by Oracle to select the one you wish to be applied to the currently selected field

Size - set the size of the field (for string types)

Scale - specify the scale for the field values (if available for the selected data type)

Default value - enter the value that inserted records will get by default (if necessary)

Comment

If necessary, add a comment for the object.

Not NULL - determines nullability for the field (whether the field is **NULL** / **NOT NULL**)

2.1.6.3 Target index properties

The **Target object definition** area of <u>Step 5</u> allows you to view and edit the target **index** properties:

Target object definition				
Name	IX_Employee_ManagerID			
Columns (read only)				
ManagerID				
Unique				
Logging				
Not sorted				
Reverse				
	<u>A</u> pply <u>C</u> ancel			

Name - specifies the index name

Columns (read only) - view the column(s) used by the index

Unique - determines uniqueness of the index, causes the system to check for duplicate values in the table each time data are added

Logging - specifies whether the creation of the index will be logged or not in the redo log file

 \blacksquare Not sorted - indicates to the database that the rows are already stored in the database in ascending order, so that Oracle does not have to sort the rows when creating the index

Reverse - specifies that the bytes of the index block are stored in reverse order, excluding the rowid

2.1.6.4 Target key properties

The **Target object definition** area of <u>Step 5</u> allows you to view and edit the target **Primary key** / **W Drigue key** / **W Foreign key** properties:

Target o	bject definition
Name	FK_Employee_Contact_ContactID
Type (read only)	Foreign key
Columns (read only)	
ContactID	
Foreign Table (read only)	TESTER.Contact
Foreign Columns (read only)	
ContactID	
On Delete Rule	SET NULL
ſ	Apply <u>C</u> ancel
L L	

Name - specifies the key name

Type (read only) - view the constraint type: Primary key, Unique key, Foreign key

Columns (read only) - view the column(s) used by the constraint

Foreign Table (read only) - view the name of the foreign table

Foreign Columns (read only) - view the foreign columns (for Foreign key)

ON DELETE rule - specifies the ON DELETE rule: *NONE*, *SET NULL*, *CASCADE* (for *Foreign key*)

55

2.1.7 Step 6 - Viewing/editing generated script

At this step you can view, edit and execute the generated SQL script.

🔒 Data Pump for Oracle		x
Step 6 of 8		
View/edit generated script		
	Script	
	Source table: HumanResources.Department	
	CREATE TABLE TESTER. "Department"	
	- (
	"DepartmentID" NUMBER NOT NULL,	
Data	. "Name" NVARCHAR2(50) NOT NULL, "GroupName" NVARCHAR2(50) NOT NULL,	
Pump	"GroupName" NVARCHAR2(30) NOT NOLL, "ModifiedDate" TIMESTAMP DEFAULT CURRENT TIMESTAMP NOT NULL	
for	40)	
Oracle	NOCOMPRESS	
	. NOLOGGING	
	. NOCACHE	
	. NOMONITORING	
	- NOROWDEPENDENCIES;	
	46 Source table: HumanResources.Employee	
	CREATE TABLE TESTER."Employee"	
	(
		Ŧ
	Statement # Message	-
	1 Executed successfully	=
	2 Executed successfully 3 Executed successfully	r
	4 Executed successfully	
	5 Executed successfully	-
		5
	<u>Execute script</u>	
Help Tools	Back Next > Close	

The **Script** editor area allows you to view, edit and save the script for future use, if necessary.

Right-click within the **Script** editor area to call the <u>context menu</u> allowing you to perform a number of operations with the script text.

Use the **Execute Script** button to perform the entire script execution.

The **Script execution information** area contains the list of records for executed SQL statements and status messages.

When a record is selected in the list, the corresponding statement is highlighted in the **Script** area for your convenience. You can also use the <u>context menu</u> of the grid to perform a number of operations with the statements.

When you are done, click the **Next** button to proceed to <u>selecting tables for data import</u>.

2.1.7.1 Using context menus

The **context menus** available at <u>Step 6</u> provide additional functionality for working with the script. Find the description of context menu items below.

The **context menu** of the **Script** editor area contains most of the standard textprocessing functions (*Cut*, *Copy*, *Paste*, *Select All*) and functions for working with the script as a whole, e.g. you can set a *marker*, *move the cursor to a particular line*, *change case* of selected text, etc. Most of these operations can be also performed with the corresponding hot keys used.

Implementation of the <u>Find Text</u> / <u>Replace Text</u> dialogs and **Incremental search** contributes to more efficient work with the SQL code.

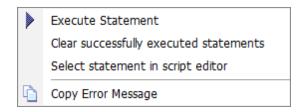
The context menu allows you to:

- manage markers: Drop Marker, Collect Marker, Swap Marker;
- toggle bookmarks allowing you to navigate through the query text and jump to a line with a particular number;
- perform editing operations: Undo/Redo, Cut, Copy, Paste, Select all;
- perform <u>search</u> and <u>replace</u> operations;
- save/load a script to/from an external *.sql file;
- load SQL script from a *fixed template* (for details see <u>Save template options</u>);
- use the *Quick Code* group allowing you to toggle comments for code fragments, change case of the selected text, indent/unindent code lines.

	Markers	+			
	Toggle Bookmarks	+			
	Go to Line Number	Alt+G			
ID.	<u>U</u> ndo	Ctrl+Z			
a	Redo Shif	t+Ctrl+Z			
Ж	Cu <u>t</u>	Ctrl+X			
Ð	<u>C</u> opy	Ctrl+C			
	<u>P</u> aste	Ctrl+V			
a	Select <u>A</u> ll	Ctrl+A			
P	<u>F</u> ind	Ctrl+F			
_)) АФР	<u>R</u> eplace	Ctrl+R			
R	Search Next	F3			
	Incremental Search	Ctrl+I			
B	Load	Ctrl+L			
	Save	Ctrl+S			
	Load script from fixed	template			
	Quick Code	+	^ A	Select Character	Ctrl+Alt+Space
			(*	Toggle Comment	Ctrl+/
			Bb	Selection Lower Case	Ctrl+Alt+Down
			ЬВ	Selection Upper Case	Ctrl+Alt+Up
			вы	Selection Toggle Case	
			<u>•</u> =	Indent	Shift+Ctrl+I
			4 37	<u>U</u> nindent	Shift+Tab

You can also use the **context menu** of the **Script execution information** grid to:

- execute the currently selected SQL statement;
- clear successfully executed statements from the Script execution information list;
- select a statement in script editor;
- copy the error message (if any) to the clipboard.



<< Back to viewing/editing generated script</p>

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2.1.8 Step 7 - Selecting tables for data import

At this step of the wizard you can specify tables to import data from. To select a table, you need to move it from the **Available tables** list to the **Selected**

Hint: To select multiple tables, hold down the *Shift* or *Ctrl* key while selecting the table names.

Step 7 of 8 Select tables for data impor	t and set criteria	
Data Pump for Oracle	Available tables TESTER.EMPLOYEES001 TESTER.Employee_new	Selected tables Criterion IE TESTER.ADDRESS All records Image: Content of the conds IE TESTER.Department All records Image: Content of the conds IE TESTER.Employee All records Image: Content of the conds IE TESTER.EmployeeAddress All records Image: Content of the conds IE TESTER.EmployeeAddress All records Image: Condet of the conds IE TESTER.EmployeePayHist All records Image: Condet of the conds IE TESTER.EmployeeS All records Image: Condet of the conds IE TESTER.Shift All records Image: Condet of the conds IE TESTER.Shift All records Image: Condet of the conds
Help Tools		< <u>₿</u> ack <u>N</u> ext > <u>C</u> lose

You can also set SQL criteria for fetching data from the corresponding source table with a *WHERE* clause used within the <u>Criterion Editor</u> dialog.

To open **Criterion Editor**, use the ellipsis 🔤 button next to the *Criterion* value.

Note that the **Available tables** list only contains tables for which structure has been already created (e.g. at the <u>previous step</u>), i.e. you can only choose to import data to those tables which already exist in the target Oracle database.

When you are done, click the **Next** button to proceed to <u>importing data</u>.

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2.1.8.1 Criterion Editor

Criterion Editor allows you to edit the *SELECT* query for the source table. The record set returned upon this query execution will be imported to the target Oracle table at <u>Step 8</u>.

锅 Criterion	Edito	or (? 🔀
Source Source table field list	1 2 3 4 5 6 7 8	"EmployeeID", "NationalIDNumber", "ContactID", "LoginID", "ManagerID", "Title", "BirthDate",	
<u>F</u> rom	1	"HumanResources"."Employee"	
WHERE Source table WHERE criterion	1	EmployeeID between 1 and 100	E
<u>H</u> elp		Check SQL	ancel

The **Criterion Editor** dialog contains three editing areas, each corresponding to a specific clause of the *SELECT* statement:

- SELECT <source table field list>
- FROM
- WHERE <source table WHERE criterion>

A number of features for efficient SQL viewing and editing are implemented. For more information see <u>Viewing/editing SQL script</u> and <u>Using script area context menu</u>.

Use the **WHERE** <**source table WHERE criterion>** area of **Criterion Editor** to set a SQL criterion (e.g. "*SALARY*" *BETWEEN 10000 AND 100000*) for fetched source data that will be imported to the target Oracle table.

Hint: You can also **check SQL** for your statement to make sure that the syntax is correct, and to see how many records are fetched by the query.

Click **OK** to apply the criterion for the selected table or **Cancel** to exit the editor and return to $\frac{\text{Step 6}}{\text{Step 6}}$.

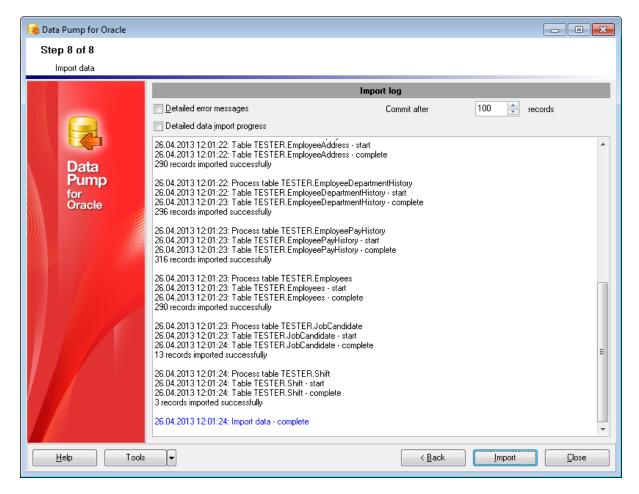
<< Back to selecting tables for data import

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2.1.9 Step 8 - Importing data

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This step of the wizard allows you to start importing data and view the log of the data import process.



Detailed error messages

Use this option to toggle detailed/simple error messages in the import log.

Commit after ... records

The spin-edit control allows you to define the number of records after which the *COMMIT* statement will be inserted.

Detailed data import process

Use this option to toggle detailed/simple data import progress.

Click the **<Back** button if you need to change any settings before importing data. Click the **Import** button to complete the importing process.

The **context menu** of the **Import log** area allows you to **save** the log to an external file.

Note: If necessary, you can use the **Tools** button to call a menu allowing you to **restart the wizard**.

Do not forget to <u>save data pump template</u> if you need to repeat the process with the same (or similar) settings later.

2.2 Using Configuration Files (Templates)

Data Pump for Oracle allows you to store data conversion settings in external *.*dpc* files (**templates**) which can be used to repeat data pump process as many times as you need.

You can load previously saved templates to the wizard application if you need to make any changes before pumping data, or you can run it with the <u>console application</u> for faster processing.

- <u>Saving templates</u>
- Loading templates

See also:

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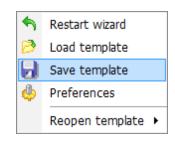
<u>Using Wizard Application</u> <u>Setting Program Preferences</u> <u>Configuration file format</u>

2.2.1 Saving templates

Having configured the pumping process according to your needs using Steps 1-8 of **Data Pump** wizard, you can **save** all the settings into a *.*dpc* **template** file at the final <u>Importing data</u> step.

In order to save a template:

- press the **Tools** button;
- select the **Save template** item from the popup menu;
- configure your template using the <u>Save template options</u> dialog.



See also: Loading templates

2.2.1.1 Save template options

The **Save template options** dialog allows you to configure your <u>template</u> according to your needs.

Save template options	X
<u>F</u> ile name	
C:\EMS\Data Pump\MStoOra.dpc	
<u>C</u> omment	
	Ŧ
Template type	
Opvnamic template (Search for new metadata objects)	
 Fixed template (Fixed objects set, for console only) 	
Save Cancel <u>H</u> elp	

File name

Enter the path to the template file and its name, or press the \blacksquare button to browse for location using the **Save As** dialog.

Comment

If necessary, add a comment for the newly created template.

Template type

The radio options group allows you to specify the type of the template to be created.

Oynamic template

Stores settings and objects list inside; if there are any new objects in the source database, they will be automatically added to the <u>source objects</u> list.

Fixed template

In this type of template the set of objects is fixed. This selection might be useful if you frequently use the <u>console version</u> of the utility.

<< Back to saving templates

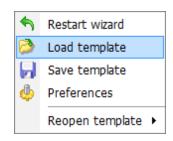
2.2.2 Loading templates

If you have a <u>saved</u> **Data Pump** template, you can **load** it any time with all the settings specified at Steps 1-8 (from <u>database connection properties</u> to <u>importing data</u>) applied.

In order to load a template:

- press the **Tools** button;
- select the Load template item from the popup menu;
- use the **Open file** dialog to select the **Data Pump** template file (*.*dpc*).

After loading a template you can automatically open any wizard step or immediately start the importing process (i.e. all the previous steps will be passed with the settings stored in the template), as specified in the <u>General</u> section of the <u>Preferences</u> dialog.



The **Tools** menu of **Data Pump for Oracle** also allows you to load one of previously loaded templates quickly by using the **Reopen Template** function.

In order to reopen a template:

- press the **Tools** button;
- select the **Reopen template** item from the popup menu;
- select one of previously loaded template files from the submenu.

 N N	Restart wizard Load template Save template Preferences	
	Reopen template 🔸	C:\EMS\Data Pump\Test_template.dpc
		C:\EMS\Data Pump\Template_01.dpc
		C:\EMS\Data Pump\Template_02.dpc

See also: Saving templates

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2.3 Setting Program Preferences

Data Pump 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 these options.

General options

These options define general behavior of **Data Pump for Oracle**.

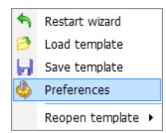
Language

66

This page allows you to select an interface language to be applied for your copy of **Data Pump for Oracle**.

Interface

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



See also: Using Wizard Application Using Templates

2.3.1 General

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This page allows you to define general options of the application.

Save current options on exit

If this option is checked, your current options will be saved upon exiting **Data Pump for Oracle**.

Remember password

If this option is checked, the password used for accessing Oracle database (if you use server authentication) will be saved, i.e. you will not have to enter it each time you run the utility.

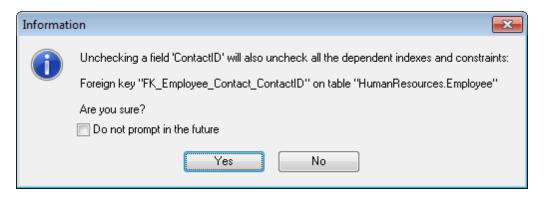
Confirm exit

If this option is checked, you will be prompted to confirm exiting the application every time you close **Data Pump for Oracle**.

Preferences		—
·····왜 General ·····와 Language	General	
Interface	 Save current options on exit Remember password Confirm exit Confirm columns unchecking 	
	 <u>R</u>efresh source objects on connection <u>S</u>elect all tables in the source database by de After loading the template: 	fault
	 Open the <u>w</u>izard at step: Run data import automatically 	Step 7 - Select tables for data imp
Help	(OK Cancel

Confirm columns unchecking

If you uncheck an object which has dependent objects at <u>Step 3</u>, you will be prompted to confirm this action (see the picture below).



Refresh source objects on connection

This option specifies whether source objects are refreshed upon <u>connection</u> to the data source or not.

Select all tables in the source database by default

This option specifies whether all source tables are selected at $\frac{\text{Step 3}}{\text{Step 3}}$ by default.

After loading the template

This group allows you to define the action taken after loading a template:

Open the wizard at step

If this option is selected, after loading a template the wizard will be opened at the specified step. Use the drop-down list to select the step to be opened.

Run data import automatically

If this option is selected, after loading a template <u>data import</u> will be started immediately according to the <u>template</u> settings.

See also: Language Interface

2.3.2 Language

Preferences х 📲 General Language 📲 Language File name Language 🗄 💷 Interface Original (none) English C:\Program Files\EMS\Data Pump for Oracle\Languages\Eng French C:\Program Files\EMS\Data Pump for Oracle\Languages\Fre German C:\Program Files\EMS\Data Pump for Oracle\Languages\Ger Russian C:\Program Files\EMS\Data Pump for Oracle\Languages\Ru: Language files C:\Program Files\EMS\Data Pump for Oracle\Languages\ 2 OK. Help Cancel

The Language page is provided for managing Data Pump localization files.

In the **Language** area the list of available languages and the names of the corresponding localization (*.*lng*) files is displayed.

Language files

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

See also: General Interface

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2.3.3 Interface

The **Interface** section of the **Preferences** dialog allows you to customize the application interface style according to your liking.

- Trees and lists
- Edit controls
- <u>Check boxes</u>
- Buttons
- <u>Page controls</u>
- Group boxes

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.

Preferences			×
- 🕮 General	Interface		
Language Language Interface Edit controls Check boxes Buttons Page controls Group boxes	Scheme name	Office11 Save As Dele	te
Help		OK	el

It is also possible to create one's own interface scheme, if necessary:

- set your preferences within the available branches of the **Interface** node (*Trees and Lists, Edit Controls, Check Boxes, Buttons, Group Boxes*);
- return to the Interface page and click the Save As button;
- specify the scheme name in the **Input scheme name** dialog.

Input scheme name	×
Scheme name New visual scheme	
OK Cancel	

Note: For your convenience the previews illustrating the changes are displayed in the **Sample** area of each branch of the **Interface** node.

See also: General Language

2.3.3.1 Trees and lists

Use the **Trees and lists** section to view and edit the corresponding options.

Preferences			—
≗≋ General ≊≋ Language	Tree	es and lists	
 Interface Interface Edit controls Check boxes Buttons Page controls Group boxes 	Look & feel Ultraflat ☐ Hide selection ☑ Hjde focus rectangle ☑ Native style ☐ Item 1 ☐ Item 2 ☐ Item 3	Column 1 Item 1 Item 2	▼ Column 2 Subitem 1 Subitem 2
Help		ОК	Cancel

Look & feel

This setting determines the manner in which tree and list elements are painted. Use the drop-down list to select the painting style that will be applied to the trees and lists: *Standard*

Flat UltraFlat

Hide selection

This option specifies how selected tree nodes and list items are displayed when focus leaves the tree or list control.

If this option is enabled, selected nodes look like other nodes. Otherwise, selected nodes/ items are highlighted within the tree/list.

W Hide focus rectangle

This option determines whether a focus rectangle is displayed around the focused tree node or list item within the tree or list control.

If this option is disabled, the focused node/item is not highlighted but the focus rectangle is displayed around it.

Native style

This option determines whether the native Windows style will be applied to the trees and lists.

The option has the highest priority for trees and lists. If this option is selected, the tree nodes and list items are painted according to the native Windows style, regardless of other painting settings.

Note: The **Native style** option is currently supported for the Windows® XP operating system only.

See also: Edit controls Check boxes Buttons Group boxes

2.3.3.2 Edit controls

Use the **Edit controls** section to customize the appearance of various **Data Pump for Oracle** edit controls: *Border style, Button style, Button transparency,* etc.

Preferences		
Preferences General Language Language Language Check boxes Buttons Page controls Group boxes Help	Edit co Border style Ultraflat Button transparency None Mone Mone Mone None Mone Mone Mone Mone	
	Sample text edit Sample button edit Sample combo box	OK Cancel

Border style / Button style

Use these drop-down lists to specify the style around an editor (the edit control **borders**) and select the painting style that will be applied to the edit control **buttons** (ellipsis button, arrow-down combo-box button, etc.) respectively:

None Single Thick Flat 3D UltraFlat

Button transparency

Represents the button transparency mode within an editor. Use the drop-down list to specify the transparency that will be applied to the edit control **buttons** (ellipsis button, arrow-down combo-box button, etc.):

None (a button is always displayed in a non-transparent fashion)

Inactive (a button is drawn when the editor has focus or when the mouse cursor is positioned over the button; otherwise, the button is transparent)

Always (a button is always transparent)

Hide inactive (a button is drawn only when the editor has focus; otherwise, the button is invisible)

Hide unselected (a button is drawn when the editor has focus or when the mouse cursor is positioned over the editor region; otherwise, the button is invisible).

Edges

This group defines which edges are displayed within an editor. Check/uncheck the boxes to hide/show individual edges of the edit controls:

- Left (if unchecked, the left border edge is invisible)
- Right (if unchecked, the right border edge is invisible)
- Top (if unchecked, the top border edge is invisible)
- Bottom (if unchecked, the bottom border edge is invisible)

Hot track

This option specifies whether editor items are highlighted when the mouse cursor is positioned over an edit control. Select this option to highlight an edit control in response to mouse movements.

🗹 Shadow

If this option is selected, a shadow is displayed for the edit controls.

Native style

This option determines whether the native Windows style will be applied to the edit controls.

The option has the highest priority for edit controls. If this option is selected, the edit controls are painted according to the native Windows style, regardless of other painting settings.

Note: The **Native style** option is currently supported for the Windows® XP operating system only.

See also:

Trees and lists Check boxes Buttons Group boxes

2.3.3.3 Check boxes

Use the **Check boxes** section to customize the *border style* and the appearance of *check boxes* and *radio buttons*.

Preferences		X
Preferences General Language Language Language Edit controls Check boxes Buttons Page controls Group boxes	Border style Ultraflat ✓ Hot track Shadow ✓ Native style	Check boxes Sample radio group
	Sample check box	Sample radio item 1
	Sample radio button	🔘 Sample radio item 2
Help		OK Cancel

Border style

This setting determines the manner in which check box and radio group borders are painted. Use the drop-down list to select the painting style that will be applied to the check boxes and radio groups:

None Single Thick Flat 3D UltraFlat

Hot track

This option specifies whether check boxes are highlighted when the mouse cursor is positioned over the check box controls. Select this option to highlight check boxes in response to mouse movements.

Shadow

If this option is selected, a shadow is displayed for the check boxes and radio groups.

Native style

This option determines whether the native Windows style will be applied to the check

boxes and radio buttons.

The option has the highest priority for check boxes and radio buttons. If this option is selected, the check boxes and radio buttons are painted according to the native Windows style, regardless of other painting settings.

Note: The **Native style** option is currently supported for the Windows® XP operating system only.

See also: <u>Trees and lists</u> <u>Edit controls</u> <u>Buttons</u> <u>Group boxes</u>

2.3.3.4 Buttons

Preferences	
General Language Language Edit controls Check boxes Buttons Page controls Group boxes	Button kind Flat ▼ Native style
Help	Sample button 1 Sample button 2 Sample button 3 - OK Cancel

Use the **Buttons** section to customize **Data Pump** buttons.

Button kind

This setting determines the manner in which a button is painted. Use the drop-down list to select the painting style that will be applied to buttons: Standard Flat UltraFlat

Native style This option determines whethe

This option determines whether the native Windows style will be applied to the buttons. The option has a higher priority than the **Button kind** setting. If this option is selected, the buttons are painted according to the native Windows style, otherwise the **Button kind** selection is applied.

Note: The **Native style** option is currently supported for the Windows® XP operating system only.

See also:

Trees and lists Edit controls Check boxes

Group boxes

2.3.3.5 Page controls

Use the **Page controls** section of the **Preferences** dialog to customize the style of all **Data Pump** *page controls*.

Preferences	
ୁ ିକ୍ଷା General ଇଞ୍ଚ Language	Page controls
Language Language Interface Edit controls Check boxes Buttons Page controls Group boxes	Iab style Flat Image: Hot track Image: Multiline pages Image: Native style
	Tab 1 Tab 2 Tab 3
Help	OK Cancel

Tabs are visual elements of **tab controls**. Their purpose is to identify pages and switch between them. Once a tab is clicked, the corresponding page is selected. **Pages** are container controls that represent the contents of tab controls. Tab controls contain a single page, whose context is to be updated each time the selected tab changes. **Page controls** contain the number of pages equal to the number of tabs.

Tab style

Use the drop-down list to select the painting style that will be applied to the tab controls: *Tabs* (tabs are painted as notebook tabs)

Buttons (the selected tab is painted as a pressed button, other tabs are painted as released buttons)

Flat (tabs are painted as notebook tabs, but appear lowered slightly)

Hot track

This option specifies whether tab captions are highlighted when the mouse pointer hovers over tabs. Select this option to enable tab highlighting.

Multiline pages

This option specifies whether tabs are arranged across several rows.

If this option is enabled, tabs are automatically arranged into the minimum number of rows required to fit all of them. If this option is disabled, tabs are displayed within a single row.

Native style

This option determines whether the native Windows style will be applied to the tab controls.

The option has the highest priority for the tab controls. If this option is selected, the tabs are painted according to the native Windows style, regardless of other painting settings.

Note: The **Native style** option is currently supported for the Windows® XP operating system only.

See also: <u>Trees and lists</u> <u>Edit controls</u> <u>Check boxes</u> <u>Buttons</u> <u>Group boxes</u>

2.3.3.6 Group boxes

Use the Group boxes section to customize all Data Pump group boxes to your liking.

Preferences	
Preferences General General Language File Interface Edit controls Check boxes Buttons Page controls	Group boxes Border style Ultraflat Shadow Native style
Group boxes	Sample group Sample check box 1 Sample check box 2 Sample check box 3
Help	OK Cancel

Border style

This setting determines the manner in which group box borders are painted. Use the dropdown list to select the painting style that will be applied to the group boxes:

None Single Thick Flat 3D UltraFlat

Shadow

If this option is selected, a shadow is displayed for the group boxes.

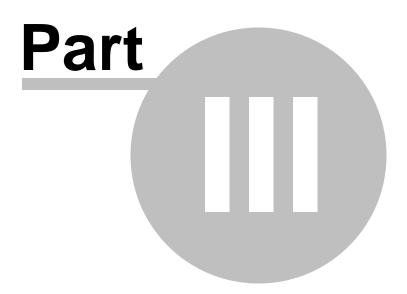
Native style

This option determines whether the native Windows style will be applied to the group boxes.

The option has the highest priority for the group boxes. If this option is selected, the group boxes are painted according to the native Windows style, regardless of other painting settings.

Note: The **Native style** option is currently supported for the Windows® XP operating system only.

See also: <u>Trees and lists</u> <u>Edit controls</u> <u>Check boxes</u> <u>Buttons</u>



3 Console Application

Additionally to **the GUI version** which is implemented in the form of a wizard application, the installation package of **Data Pump 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.

• Using Console Application

C:\Program Files\EMS\Data Pump for Oracle>OraDataPumpC.exe_

See also: Wizard Application

3.1 Using Console Application

All the options for the pumping process are set in **template** (*.*dpc*) files. A template can be also used in the **Console version** of **Data Pump for Oracle**.

To create a template file, follow the instructions below:

- start Data Pump for Oracle Wizard Application;
- set all the required options in all steps of the wizard;
- test the pumping process at the <u>last step;</u>
- <u>save all generation options in the template file</u>.

The easiest way to start **Data Pump** console application is to double-click the generated **.dpc* template file. The other way is to enter the command line and type the appropriate command.

<u>Usage:</u>

<path to Data Pump for Oracle console application>\OraDataPumpC.exe TemplateFile [-L]

TemplateFile

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

[-L]

Selects current localization set in Wizard Application (GUI)

Example:

"C:\Program Files\EMS\Data Pump for Oracle\OraDataPumpC.exe" DataPump1.dpc -L

Note that when you use the console version of **Data Pump**, the result script is always executed and the importing operation is always performed as well.

Note: The following exit codes can be returned by Data Pump for Oracle to the operating system after performing the latest task:

- 0 successful completion;
- 1 error(s) occurred during task performing;
- 2 fatal error occurred. The task was not performed.

See also:

Using wizard application



4 Appendix

4.1 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 related to the fact that a number of *nix operating systems (e.g. FreeBSD) include SSH server in their standard distributions. To learn more about SSH, please visit <u>http://openssh.org</u>.

The SSH tunneling feature of **Data Pump** 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 port 3306 is closed for external connections for some reasons.

The connection via SSH tunnel works in the following way.

First, a connection is established and the process of authentication between SSH client built in **Data Pump** and remote Oracle server is performed. Then all incoming and outgoing information between the application and Oracle is transmitted through SSH server with the help of a communication port (regularly port 22), and SSH server transfers this information directly to Oracle server.

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

- SSH host name is the name of the host where SSH server is running
- **SSH port** indicates the port where SSH server is activated
- **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

Connect through the S	ecure SHell (<u>S</u> SH) tunnel		
SSH <u>h</u> ost name	vadsrv 💌	SSH <u>u</u> ser name	tester
SSH port	22 🚔	SSH pa <u>s</u> sword	MMMMM
✓ Use Private Key for authentication			
SSH <u>k</u> ey file	C:\SSHKeys\dsa_ke	y.ppk	2

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.

Passphrase dialog	×
Please enter the passphrase for the key	
OK Cancel	

4.2 Find Text dialog

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The **Find Text** dialog is provided for quick and flexible searching for specified text within the working area of **Data Pump** editors.

Text to find

Enter a search string in this box. The Arrow-Down button which can be found next to the input box allows you to select any of the previously entered search strings.

Options

Case sensitive

This option can be used to differentiate uppercase characters from lowercase ones during the search process.

Whole words only

Use this option to search for words only (with this option off, the search string might be found within longer words.)

Regular expressions

Recognizes regular expressions in the search string.

Find Text	— ×	
Find		
Text to find page_size	•	
Options	Direction	
<u>C</u> ase sensitive <u>W</u> hole words only	Orward	
Regular expressions	<u>B</u> ackward	
Scope	Origin	
Global Glo	Erom cursor	
Selected text	Entire scope	
Mark search result with stack marker		
OK Show <u>A</u> ll	Cancel <u>H</u> elp	

Direction

Forward

Searches from the current position to the end of the working area.

Backward

Searches from the current position to the beginning of the working area.

Scope

🧕 Global

Searches within the entire working area, in the direction specified by the *Direction* setting.

Selected text

Searches only within the currently selected text, in the direction specified by the *Direction* setting. You can use the mouse or block commands to select a block of text.

Origin

From cursor

The search starts at the cursor's current position, and then proceeds either forward to the end of the scope, or backward to the beginning of the scope depending on the *Direction* setting.

Entire scope

The search covers either the entire block of selected text or the entire script (no matter where the cursor is in the Editor area) depending upon the *Scope* options.

Mark search result with stack marker

The option toggles marking search results. If this option is selected, stack markers are set at all search positions - this makes it possible to jump from one marker (search result) to another within the text.

Click the **Show All** button to highlight every occurrence of the search string.

4.3 Replace Text dialog

The **Replace Text** dialog is provided for searching and replacing text within the working area of **Data Pump** editors.

Text to find

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Enter a search string in this box. The Arrow-Down button which can be found next to the input box allows you to select any of the previously entered search strings.

Text to replace

This box allows you to enter a string to replace the search string. The Arrow-Down button which can be found next to the input box allows you to select any of the previously entered strings. To replace the search string with an empty string, leave this input box blank.

Options

Case sensitive

This option can be used to differentiate uppercase characters from lowercase ones during the search process.

Whole words only

Use this option to search for words only (with this option off, the search string might be found within longer words.)

Regular expressions

Recognizes regular expressions in the search string.

Replace with template

This option requires the **Regular expressions** option selection.

Enable this option to use regular expressions in the **Text to replace** field. Expression used in this field will be applied to each string that matches the **Text to find** expression.

Note: The syntax of regular expressions that can be used in the Text to find and the Text to replace fields is similar to that used in Perl regular expressions. Comprehensive information about it can be found at http://perldoc.perl.org/perlre.html#Regular-Expressions.

Prompt on replace

Check this option if you wish to be prompted before replacing upon each occurrence of the search string. When this option is off, the search string is replaced automatically.

Replace Text			×
Text to find	ALTER		•
Text to replace			-
Options		Direction	
Whole words of	only	Orward	
Regular expre Replace with Prompt on replace	n template	© <u>B</u> ackward	
Scope		Origin	
Observed in the second seco		From cursor	
Selected text		Entire scope	
Mark search result with stack marker			
ок	Replace <u>A</u>	Cancel <u>H</u> elp	

Direction

Forward

Searches and replaces from the current position to the end of the working area.

Backward

Searches and replaces from the current position to the beginning of the working area.

Scope

Iobal

Searches and replaces within the entire working area, in the direction specified by the *Direction* setting.

Selected text

Searches and replaces only within the currently selected text, in the direction specified by the *Direction* setting. You can use the mouse or block commands to select a block of text.

Origin

From cursor

The search and replace process starts at the cursor's current position, and then proceeds either forward to the end of the scope, or backward to the beginning of the scope depending on the *Direction* setting.

Entire scope

The search and replace process covers either the entire block of selected text or the entire script (no matter where the cursor is in the Editor area) depending upon the *Scope* options.

Mark search result with stack marker

The option toggles marking search results. If this option is selected, stack markers are set

at all search positions - this makes it possible to jump from one marker (search result) to another within the text.

Click the **Replace All** button to replace every occurrence of the search string. If you have checked the **Prompt on replace** option, the confirmation dialog box appears upon each occurrence of the search string.

4.4 Configuration file format

The **configuration** (**template**) **file** used by **Data Pump for Oracle** is divided into several sections, each corresponding to a particular group of settings specified at different steps of the <u>GUI application</u> wizard.

[#General#]

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This section stores general information about the utility:

Parameter	Description
Product	internal product name
Version	major <u>version</u>

[Source]

This section stores the connection properties used to access the data source. The connection string is built according to parameters specified in the <u>Data Link Properties</u> dialog.

Parameter	Description
ConnectionString	connection string for the data source

[#Comment#]

This section stores the template file comment as specified optionally in the <u>Save template</u> <u>options</u> dialog:

ParameterDescriptionLine<N>comment textwhere N stands for the comment line identifier

Example:

Line0=Data Pump for Oracle Line1=Template file #1 Line2=Pumping tables from MS Access to Oracle

[Options]

This section stores data conversion and script execution options. The parameters correspond to the values specified at <u>Step 4</u> and <u>Step 8</u> of the <u>Wizard application</u>.

Description
number of records after which the COMMIT statement is inserted
0 = error messages are hidden in the import log
1 = error messages are displayed in the import log
0 = simple error messages in the import log
1 = detailed error messages in the import log
0 = simple data import progress in the import log
1 = detailed data import progress in the import log
0 = object names are not converted
1 = object names are converted to conform to SQL92 naming
rules
nfAsIs = object names are left without changes
nfLowerCase = object names are converted to lower case

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ConvertDefaultValues	nfUpperCase = object names are converted to upper case 0 = default values of the source database are not converted 1 = default values of the source database are converted to default values for the destination database
•	0 = script comments are disabled
s DropIfExistDbStateme nt	1 = script comments are included into the body of the script the parameter is not used by Data Pump for Oracle
StopScriptOnError	0 = script execution is not stopped on errors 1 = script execution is stopped if an error occurs
ShowExecutedStatem ents	0 = the Script execution information area does not display any information upon script execution at <u>Step 6</u>
	1 = records for successfully executed statements are listed in the Script execution information area at Step 6
AlwaysSkipSuccExecu ed	t0 = upon subsequent script execution at <u>Step 6</u> you are prompted to choose whether successfully executed statements
	should be skipped or not 1 = successfully executed statements are skipped upon subsequent script execution at <u>Step 6</u>
-	0 = tables in the Oracle database are not cleared before data
ort	import at <u>Step 8</u> 1 = tables in the Oracle database are cleared before data import
	at Step 8
TrimStringSpaces	0 = source data strings
QuateNamesInImport	1 = unused space at the end of source data strings is cut off 0 = quoting source object identifiers is disabled
SelQuery	1 = quoting source object identifiers is enabled
QuoteTemplate	<i>qtCustom</i> = custom quoting characters (QuoteCharLeft ,
	QuoteCharRight)
	qtDefault = the default quotes for the <u>data source</u> in use
	<pre>qtDoubleQuote = "" qtSingleQuote = ''</pre>
	$qtApostrophe = \ldots$
	gtSquareBracket = []
	qtRoundBracket = ()
	<i>qtBrace</i> = {}
	qtAngleBracket = <>
QuoteCharLeft	<pre>specifies the left quoting character (if QuoteTemplate = gtCustom)</pre>
QuoteCharRight	specifies the right quoting character (if QuoteTemplate = gtCustom)
SchemasMapping	<i>smExisting</i> = the tables are placed into an existing schema (
SchemasMappingExist	SchemasMappingExist) name of the existing schema in the Oracle database to pump the source tables into
SchemasMappingNew	the parameter is not used by Data Pump for Oracle
	0 = no DROP statements are generated 1 = the DROP statements are added for tables in the script

[Target]

This section stores connection parameters for the *target* Oracle database. The parameters correspond to the values entered at <u>Step 1</u> of the <u>Wizard application</u> and are obligatory.

Parameter	Description
Host	the parameter is not used by Data Pump for Oracle
Login	Oracle login (if NTAuth = 0)
Password	password to identify the login (encrypted)
RemoteIndex	the parameter is not used by Data Pump for Oracle
DataBase	target database name as specified in the TNS file
DatabaseActions	<pre>cdtSelectExisting = an existing database is selected for pumping data</pre>
DatabaseHome	Oracle Home storage
ConnectAs	caNormal = connect as Normal
	<i>caSYSDBA</i> = connect as SYSDBA
	caSYSOPER = connect as SYSOPER
NTAuth	type of authentication:
	0 = Server authentication
	1 = Windows authentication
OptimizeGoalType	0 = Unchanged
	1 = Choose
	2 = FirstRows
	3 = AllRows
	4 = Rule
TunnelType	indicates whether SSH tunneling is used for connection or not (
	TunnelType = ttNotUse)
SSHHostName	name of the host where SSH server is running
SSHPort	port on which SSH server is activated
SSHUserName	user on the machine where SSH server is running
SSHPassword	password to identify SSH server user (encrypted)
SSHKeyFile	path to the Private Key used for the SSH connection (if
	SSHUseKeyFile = True)
SSHUseKeyFile	True = SSH Private Key is used
	<i>False</i> = SSH Private Key is not used

[{TBL}<table_name>]

Sections of this type contain <u>table properties</u> (those that were changed at <u>Step 5</u> of the <u>Wizard application</u>) and data import options specified at <u>Step 7</u>. **Note:** Sections of this type are only available in *dynamic* templates (for details see <u>Save</u> template options).

,	
Parameter	Description
Name	table name
NameSpace	Oracle schema to save the table into
Excluded	1 = the table is excluded from data import at <u>Step 7</u>
WhereClause	text of the WHERE condition for pumping data

[{FLD}<field_name>]

Sections of this type contain <u>field properties</u> (those that were changed at <u>Step 5</u> of the <u>Wizard application</u>).

Note: Sections of this type are only available in *dynamic* templates (for details see <u>Save</u> template options).

Parameter	Description
Name	field name
Туре	data type applied to the field
Default	value that inserted records get by default
DataScale	scale for the field values

DataPrecision	precision for the field values
NotNULL	0 = nullable
	1 = NOT NULL

[{IND}<index_name>]

Sections of this type contain <u>index properties</u> (those that were changed at <u>Step 5</u> of the <u>Wizard application</u>).

Note: Sections of this type are only available in *dynamic* templates (for details see <u>Save</u> template options).

Parameter	Description
Name	index name
Unique	0 = non-unique index
	1 = unique index
Logging	0 = creation of the index is not logged
	1 = creation of the index is logged in the redo log file
Reverse	0 = bytes of the index block are stored in regular order
	1 = bytes of the index block are stored in reverse order,
	excluding the rowid
SortingType	1 = SORT is added to the index definition
	2 = the rows are stored in the database in ascending order, so
	that Oracle does not have to sort the rows when creating the
	index

[{FK}<key_name>]

Sections of this type contain key properties (those that were changed at <u>Step 5</u> of the <u>Wizard application</u>).

Note: Sections of this type are only available in *dynamic* templates (for details see <u>Save</u> template options).

Parameter	Description
Name	key name
DeleteAction	'on delete' rule (for foreign keys):
	0 = NONE
	1 = SET NULL
	2 = CASCADE

[TypeMapping]

This section stores source-target type mapping options. The parameters correspond to the values specified in the <u>Type mapping</u> dialog.

Note: This section is only available in *dynamic* templates (for details see <u>Save template</u> <u>options</u>).

[ExcludedFromStructure]

This section stores the list of source objects excluded from structure conversion at <u>Step</u> $\underline{3}$ of the <u>Wizard application</u>.

Note: This section is only available in *dynamic* templates (for details see <u>Save template</u> <u>options</u>).

ParameterDescription{NSP}excluded schema (if available)<schema_name>excluded table{TBL}<table_name>excluded table{IND}<index_name>excluded index{FK}<key_name>excluded key

[SelectedTables]

This section stores the list of source and target tables, as specified at <u>Step 3</u> and <u>Step 5</u> of the <u>Wizard application</u>. **Note:** This section is only available in *fixed* templates (for details see Save template

Note: This section is only available in *fixed* templates (for details see <u>Save template</u> <u>options</u>).

Parameter	Description	
TableCount	number of tables selected for pumping	
SrcTableNS <n></n>	source schema name (if available)	
SrcTableNM <n></n>	source table name	
TrgTableNS0 <n></n>	target schema name	
TrgTableNM <n></n>	target table name	
where N stands for the table identifier		

Example:

[SelectedTables] TableCount=2 SrcTableNS0=dbo SrcTableNM0=EMPLOYEE TrgTableNM0=EMPLOYEE SrcTableNS1=dbo SrcTableNM1=DEPARTMENT TrgTableNM1=DEPARTMENT

[Table<N>]

Sections of this type contain the list of source and target fields of the table (N stands for the table identifier in **[SelectedTables]**), as specified at <u>Step 3</u> and <u>Step 5</u> of the <u>Wizard</u> application.

Note: This section is only available in *fixed* templates (for details see <u>Save template</u> <u>options</u>).

ParameterDescriptionSrcField<N>source field nameTrgField<N>target field nameFieldCountnumber of table fields selected for pumpingwhere N stands for the field identifier

Example:

[Table1] SrcField0=DepartmentID TrgField0=DEPARTMENTID SrcField1=Name TrgField1=NAME SrcField2=GroupName TrgField2=GROUPNAME SrcField3=ModifiedDate TrgField3=MODIFIEDDATE FieldCount=4

[FixedInfo]

This section stores the result script as presented at <u>Step 6</u> of the <u>Wizard application</u>. **Note:** This section is only available in *fixed* templates (for details see <u>Save template</u> <u>options</u>).

ParameterDescriptionLine<N>script textwhere N stands for the script line identifier

4.5 Advanced connectionon settings

You need the installed Oracle client on the client computer where Data Pump 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 $\$

If you use Instant Client for oracle, you should create the the same sora 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 Pump 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 <u>firs step</u> 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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