



ENTERPRISE SOLUTIONS DATABASE HOW TO

Target: Oracle on Windows

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PREFACE

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Contents

Trademarks	2
License	2
Guarantees.....	2
Contacts	2
1. GENERAL OVERVIEW	11
1.1 Scope of This document.....	11
1.2 Intended Audience	11
1.3 Organization	11
1.4 Related documentation	12
1.5 Conventions	14
1.6 Naming conventions.....	14
2. BEFORE YOU BEGIN	14
2.1 Database bundle	14
2.1.1 Definition.....	14
2.1.2 Objectives.....	15
2.1.3 Folder Architecture: a global vision ordered by step usage	15
2.1.3.1 Silent installation: prepare operating system.....	15
2.1.3.2 Silent installation: starting.....	16
2.1.3.3 Administration: Adjust the default configuration	16
2.1.3.4 Administration: manage schema current scripts.....	17
V3 example:.....	17
V4r3 example:.....	17
2.1.3.5 Administration: advanced (diagnose/fix current problem)	18
2.1.3.6 Administration: exporting/importing to reproduce/diagnose	18
2.1.3.7 Administration: tuning	19
2.1.3.8 Administration: tracing and testing to reproduce/diagnose	19
2.1.4 How to check versions using Database Bundle	20
2.1.4.1 From Databasebundle scripts: Find DDL version.....	20
2.1.4.2 From DatabaseBundle scripts: Find functional version	20
2.1.4.3 Have a global version vision using PLM_CHECK (main and sub-schemas)	21
2.1.4.4 From <Database bundle root folder>\ ORA_SE_WIN\PLM\admin\manage_schema	21
3. SERVER INTERACTIVE INSTALLATION HOW TO	25
3.1 Why and when installing an Oracle server interactively?.....	25
3.2 Install Oracle server binaries interactively.....	25

3.2.1	Prepare operating system like done on a silent installation	25
3.2.2	Run the Oracle DVD setup	25
3.2.3	Caution: set Oracle software and configuration files to <Drive>:\app\oracle	25
3.3	Other steps: to be done using database bundle subscripts	25
3.3.1	Caution before starting sub-scripts: check and adjust DB_INST_param.cmd before	25
3.3.2	Subscripts to run	26
4.	CLIENT INTERACTIVE INSTALLATION HOW TO (PLM >=V3)	26
4.1	Why and when installing an Oracle client?	26
4.2	Remark about remote actions	27
4.2.1.1	Possible actions	27
4.2.1.2	Not possible actions	27
4.3	Map the Oracle software	27
4.3.1	If Network mapping	27
4.3.1.1	PLM v3 example: Installing Oracle 11202 client on Windows 2008R2 server	27
4.3.2	If Local folder mapping	27
4.4	Installation Steps	27
4.4.1	Run the setup	27
4.4.2	Choose "custom" installation type	27
4.4.3	Recommended: Set Oracle software and configuration files to <Drive>:\app\oracle	28
4.4.4	Choose Oracle utilities, SQL*Plus, Oracle jdbc/thin, Oracle net, SQL Developer	29
4.5	Post-Installation Steps	29
4.5.1	Check if installed	29
4.5.1.1	Check the path	29
4.5.2	Configure Tnsnames.ora and test remote access	30
4.5.2.1	Manually	30
4.5.2.2	Using net configuration assistant	30
4.5.2.3	Test remote connection	33
5.	MANAGE SCHEMA HOW TO	34
5.1	About database main schema and subordinate schemas	34
5.1.1.1	Main schema <PLM_MAIN_SCHEMA> and <WLP_MAIN_SCHEMA>	34
5.1.1.2	Sub-schema <PLM_MAIN_SCHEMA>_<Suffix>	34
5.2	Understand database main schema and sub-schema life cycle	34
5.2.1	PLM <=v3	34
5.2.1.1	Fresh installation context	34
	Part1: Do a fresh installation on database server of Oracle from database server	34
	Part2: PLM Easy installer fresh installation steps	35
	Part3: when starting Wildfly	35

5.2.1.2	Upgrade context: done using PLM installer (recommended)	35
	Part1: PLM Easy installer upgrade installation steps	35
5.2.1.3	Upgrade context: manual (not recommended, for support only)	36
5.2.1.4	Uninstall context.....	37
	Part1: PLM Easy installer uninstall installation steps	37
5.2.1.5	Support context.....	37
5.2.2	V4r1<=PLM <=v5r2	37
5.2.2.1	Architecture.....	37
5.2.2.2	Fresh installation context.....	38
	Part1: Do a fresh installation on database server of Oracle from database server.....	38
	Part2: PLM Easy installer fresh installation steps.....	38
	Part3: When starting Wildfly Flyway apply upgrades	38
5.2.2.3	Upgrade context: done using PLM installer (recommended)	38
	Part1: PLM Easy installer upgrade installation steps	38
	Part 2: When starting Wildfly Flyway apply upgrades	39
5.2.2.4	Upgrade context: manual (not recommended, for support only)	39
5.2.2.5	Uninstall context.....	40
5.2.2.6	Support context.....	40
5.3	Requirements to manage schemas	40
5.4	How to list existing schemas	40
5.5	How to create new PLM schemas.....	41
5.5.1	PDM main schema and sub-schema's	41
5.5.1.1	Starting.....	41
5.5.1.2	PLM v4r2 Output example	41
5.5.1.3	Output: Objects created in the database	41
5.6	How to manage <PLM_SCHEMA_ADM> sub-schemas (PLM>=v4r1)	41
5.6.1.1	When?.....	41
5.6.1.2	Where to find scripts?	42
5.6.1.3	Output example.....	42
5.7	How to create a new Workflow <WLP_MAIN_SCHEMA> (PLM <v4r1)	42
5.7.1.1	Starting.....	42
5.7.1.2	Output example.....	42
5.8	How to apply statistics.....	42
5.8.1.1	When?.....	42
5.8.1.2	How to?	42

5.9	How to drop a schema	43
5.9.1	When?.....	43
5.9.2	Best practice	43
5.9.3	Dropping in interactive mode: steps using provided scripts	43
5.9.3.1	How to start?.....	43
5.9.3.2	PLM <=v3: drop main schema and associate sub-schemas (JMS)	43
	Input	43
	Algorithm.....	43
5.9.3.3	PLM v4r1: drop main schema and associate sub-schemas except ADM	43
5.9.3.4	PLM >=v4r2: you can choose schemas to drop (main and/or sub-schemas, exceptions)	44
	Input	44
	Algorithm.....	44
5.9.3.5	How to check the result	44
5.9.3.6	PDM in WAS cluster in PLM v2rm context only: drop additional JMS users.....	44
5.9.4	Dropping in batch mode: steps using provided scripts.....	44
5.9.4.1	Objective: same than interactive mode but without prompting.....	44
5.9.4.2	Dropping using the cmd file (recommended).....	45
5.9.4.3	Dropping using the sql sub-script file (not recommended)	45
	PLM <=v4r1	45
	PLM >=v4r2	45
5.10	About moving schemas between environments	46
5.10.1	PLMv4r2 to v4r3 examples.....	46
5.11	How to export or import PLM schema's	46
5.11.1	Objective and perimeter.....	46
5.11.2	Schema common constraints and steps.....	47
5.11.2.1	Common requirements before importing	47
5.11.2.2	Common post-import steps.....	47
5.11.3	Two scripts levels	47
5.11.4	Export/import using standard level scripts.....	47
5.11.4.1	Export Steps	48
5.11.4.2	Import steps	48
5.11.4.3	Export/import scripts examples.....	48
5.11.5	Export/import using advanced level scripts (PLM >=v3r3sp3)	48
5.11.5.1	Datapump or classic export/import?	48
5.11.5.2	Classic export/import batch generator	49


5.11.5.3	Datapump export/import batch generator	49
PLM v4r3 example		49
5.12	How to repair a schema	50
5.12.1	PLM <=v3: Repairing <PLM_SCHEMA_JMS> schema.....	50
5.12.2	v3r3<=PLM <v4, WLP installed: Repairing link between WLP and PLM schema	50
5.12.3	v3r3<=PLM<v4, WLP installed: How to recompile schemas views.....	50
5.12.4	v3r3<=PLM<v4, WLP installed: How to repair WLP main schema indexes after importing51	
5.12.4.1	Context: Oracle 11202 and after importing a WLP source schema different than the target schema	51
5.12.4.2	Step1: count indexes in the WLP source main schema	51
5.12.4.3	Step2: count indexes in the WLP target main schema after import	51
5.12.4.4	Step3: add missing indexes if exist.....	51
5.12.5	PLM >=v4r1: Repairing ADM sub-schema	51
5.13	How to check a schema, retrieve metadata or data.....	52
5.13.1	How to check PLM schema (functional and technical version, brand, count objects...)....	52
5.13.2	How to check WLP schema (PLM <v4r1: count data like Products, todolists entries...) ...	52
5.13.3	How to just count objects (like tables and indexes).....	52
5.13.4	How to count data rows	52
5.13.5	How to find metadata or data	52
5.13.5.1	Search data: What table and column contain a specific string	53
5.13.5.2	Search metadata: dependencies between Oracle objects (tables...)	53
6.	MANAGE DATABASE CONTROL HOW TO.....	54
6.1	HOW TO CONNECT TO THE DATABASE CONTROL REPOSITORY	54
6.1.1	From the database server.....	54
6.1.2	From a remote server	54
6.1.2.1	Find the port (default is 1158).....	54
6.1.2.2	Configure the Web browser	55
6.1.3	Common next steps.....	56
6.1.3.1	Connect to the database console	56
6.1.3.2	Enter USER and PASSWORD	56
6.1.3.3	Potential problems	56
6.2	HOW TO DELETE A DATABASE CONTROL REPOSITORY	56
6.2.1	In non-interactive mode using provided scripts	56
6.2.2	Manually	56
6.2.3	After delete, check that all was successfully dropped	57
6.2.3.1	Check emca (Enterprise Manager configuration assistant) logs	57
6.2.3.2	Check if sysman user has been dropped	57

6.2.3.3	Check if database console service was deleted.....	57
6.2.3.4	Check if database console folder has been dropped	57
6.2.3.5	Remark: how to clean the database part when partially dropped	58
6.3	HOW TO CREATE A DATABASE CONSOLE REPOSITORY.....	58
6.3.1	Automatically using database bundle subscript	58
6.3.2	Using dbca.....	59
7.	INSTANCE MANAGEMENT HOW TO	60
7.1	HOW TO REMOVE AN INSTANCE.....	60
7.1.1	Interactive mode	60
7.1.2	Silent mode.....	60
7.2	HOW TO CREATE A NEW DATABASE INSTANCE (Standard Edition)	60
7.2.1	Silent mode using database bundle (Recommended)	60
7.2.1.1	DB_INST_param.cmd configuration when creating a default instance (LDPLM000) 60	
7.2.1.2	DB_INST_param.cmd configuration when creating a customized instance	61
7.2.1.3	DB_INST_03_BASE.cmd: create the instance in silent mode	61
7.2.2	Interactive mode (not recommended).....	61
7.2.3	Common post-steps for default/customized and silent/interactive instances creation	62
8.	OPERATING SYSTEM HOW TO	62
8.1	HOW TO INSTALL A LOOKBACK MANUALLY (Windows 2003 example)	62
8.1.1	Check if network is OK	64
9.	ORACLE BACKUP_RESTORE BASIC CONCEPTS	65
9.1	Common concepts	65
9.1.1	Logical backup (schema object level).....	65
9.1.2	Physical backup.....	65
9.1.2.1	Cold backup (offline, consistent).....	65
9.1.2.2	Hot backup (online, inconsistent).....	65
9.1.3	Recovery.....	66
9.1.4	How to choose a strategy	66
9.1.4.1	Recovery Point Objective (RPO)	66
9.1.4.2	Recovery Time Objective (RTO).....	66
9.1.4.3	" ORACLE SUGGESTED BACKUP" strategy concept.....	66
9.2	Oracle concepts	66
9.2.1	Physical Database Structures Used in Recovering Data	66
9.2.1.1	Data files	66
9.2.1.2	Redo Logs.....	67

9.2.1.3	Control file.....	67
10.	ORACLE SE/SEONE (STANDARD EDITION) BACKUP AND RESTORE.....	68
10.1	Physical Cold Backup and restore (offline)	68
10.1.1	Manual cold backup.....	68
10.1.2	Manual cold restore	68
10.2	Physical Hot backup (online): BIG production site target.....	68
10.2.1	Context.....	68
10.2.2	COMMON STEPS AND REQUIREMENTS	69
10.2.2.1	Start database console	69
10.2.2.2	Choose SYS if you need to do specific tasks (as stop the database, parameters...)	69
10.2.2.3	Requirements: you can prepare a specific OS user for running Job or use administrator	69
10.2.2.4	Click on the High Availability link	71
10.2.2.5	Check you are in archive log and put it if not.....	71
10.2.2.6	Adjust Flash recovery area location if needed.....	72
10.2.2.7	Apply	72
10.2.2.8	Gives Host and Database credential and push OK button	72
10.2.2.9	Before Applying push the button Show Sql	73
10.2.2.10	Apply the change	73
10.2.2.11	Wait and push the “refresh” button during the restart of the database.....	73
10.2.2.12	If any problem: logout, login	74
10.2.2.13	Configure your backup setting.....	74
10.2.2.14	Check the following options in the Backup Policy page	74
10.2.3	SCHEDULE” ORACLE SUGGESTED BACKUP” USING THE DATABASE CONSOLE... ..	76
10.2.3.1	Configure the backup: go to the Maintenance Tab.....	76
10.2.3.2	Configure the backup: Schedule Backup	76
10.2.3.3	Configure the backup: choose Oracle-suggested Backup and gives Host credential	76
10.2.3.4	Let the default values.....	77
10.2.3.5	Schedule your daily backup and Next	78
10.2.3.6	Submit the job	78
10.2.3.7	Push the OK button	79
10.2.3.8	Click on your job name to check parameters	79
10.2.3.9	Check for the job status (scheduled/running/Succeeded).....	80
10.2.3.10	To refresh click GO.....	80

10.2.3.11	To see details click on the status field.....	80
10.2.3.12	For more details (backup steps and localization) see logs:	81
10.2.3.13	Check using Windows explorer:	82
10.2.4	SCHEDULE RESTORE USING THE DATABASE CONSOLE	82
10.2.4.1	Test: stop the database service, Drop the system tablespace, start the database service	82
10.2.4.2	Log to the database console using SYS user.....	83
10.2.4.3	Perform the recovery using the database console	83
10.2.4.4	Gives host credential (administrator or specific OS local oracle user)	83
10.2.4.5	Choose to perform a Whole Database Recovery	84
10.2.4.6	Database Recovery: step1: point in time (let default value)	85
10.2.4.7	Database Recovery: step2: rename (default value: no rename).....	85
10.2.4.8	Database Recovery: step3a review : push the Edit Rman script to see the code	85
10.2.4.9	Database Recovery: step3b review: submit	86
10.2.4.10	Database Recovery: step4: wait during recovery.....	86
10.2.4.11	Database Recovery: Check the results and ask to open the database when successful	86
10.2.4.12	Push the “open database” button	86
10.2.4.13	Example of logs:	86
10.2.4.14	Database Recovery: Check database is successfully opened.....	88
10.2.4.15	Database Recovery: a connection Windows appears => connect as SYS....	88
10.2.4.16	Database Recovery: check database status using console Home	89
10.2.5	SCHEDULE BACKUP DURING SILENT INSTALL.....	89
10.3	Logical backup and restore (export-import mode)	89
10.3.1	How to Backup PLM schema	89
11.	APPENDIX 01: HOW TO ACTION LIST	90
11.1	ACTION 0001: CHECK ORACLE SERVER VERSION	90
11.1.1	Using database bundle scripts	90
11.1.2	Using SQLPLUS	90
11.1.2.1	NLSRTL Version 11.2.0.4.0 – Production, Oracle version number list	90
11.1.3	Using Oracle 11G database control (you will also see interim patches)	90
12.	APPENDIX 02: PLM DATABASE BUNDLE SCRIPTS REFERENCE	92
13.	APPENDIX 03: ABOUT TASKS THAT CAN BE DONE MANUALLY	97
13.1	Objectives.....	97
13.2	Silent install step/object matrix (V5r1 example)	98
13.1	Typical code generated by the API (V5r1 example)	99

13.1.1 Debug modes	99
13.1.1.1 Silent install.....	99
13.1.2 Create main schema: Typical generated code.....	100
13.1.3 Create ADM main sub-schema: Typical generated code.....	100
13.1.3.1 Create main schema: code to revoke “grant ANY” privilege on table, view, index, triggers for security reason	101
13.2 About upgrades.....	102

 Modifications made to the document since its last publication are highlighted in [blue](#).

1. GENERAL OVERVIEW

1.1 Scope of This document

This document explains how to do all basic maintenance databases tasks in PLM context
For more information refer to “related documentation”

1.2 Intended Audience

To use this document, you need to be familiar with the following:

- Windows 2003/2008R2/2012 server and have installed and tested them on your computer system
- General concepts of Oracle databases

1.3 Organization

Chapter 1: «GENERAL OVERVIEW»

This chapter includes important concepts

Chapter 2: "BEFORE YOU BEGIN"

This chapter includes important information you should read before attempting to install and configure.

The objective of this part is to understand the concept behind each product or component, in order to make the right choices during the Installation or migration process and be able to figure out which installation process to run.

Chapter 3: SERVER INTERACTIVE INSTALLATION HOW TO

This chapter describes how to install Oracle database server part in interactive mode

Chapter 4: CLIENT INTERACTIVE INSTALLATION HOW TO (PLM >=V3)

This chapter describes how to install Oracle database client part in interactive mode

Chapter 5: “MANAGE SCHEMA HOW TO”

This chapter describes schema and sub-schemas life cycle, all tasks around database schema

Chapter 6: “MANAGE DATABASE CONTROL REPOSITORY HOW TO”

This chapter describes how to create and drop a database console

Chapter 7: “INSTANCE MANAGEMENT HOW TO”

How to most common instance management tasks

Chapter 8: “OPERATING SYSTEM HOW TO”

How to most common operating system tasks

Chapter 9: “ORACLE BACKUP_RESTORE CONCEPTS”

How to backup and restore concepts

Chapter 10: “ORACLE SE (STANDARD EDITION) BACKUP AND RESTORE”

Different mode of backup and restore on Oracle SE

Chapter 11: “APPENDIX 01: HOW TO ACTION LIST”

Action referred in the document

Chapter 12: “APPENDIX 02: PLM DATABASE BUNDLE SCRIPTS REFERENCE”

Most common database bundle scripts name, description and path




1.4 Related documentation

Source	Description	Location/name/References
Lectra documentation	LECTRA FASHION PLM Database Non-interactive Installation and Configuration Quick Guide target: Oracle on Windows	Oracle_Windows_Quick-Installation_en.docx
	LECTRA FASHION PLM Database troubleshooting guide Target: ORACLE on Windows	Oracle_Windows_Troubleshooting_en.docx
	LECTRA FASHION PLM Database performance guide	Oracle_Windows_Performance_en.docx



Source	Description	Location/name/References
	Target: ORACLE on Windows	

1.5 Conventions

	Note
	Tips and hints
	Warning

1.6 Naming conventions

<APP_ALIAS>	=	Application alias
PLM	=	Product Life Management Module
WLP	=	PLM <=v3: Workflow Management and Line Planning Module
<ORA_VERSION>	=	11GR1 (Oracle 11106 32bits) 11GR202 SEO (Oracle 11.2.0.2 Standard Edition One) 11GR204 SEO (Oracle 11.2.0.4 Standard Edition One)
<PLM_VERSION>	=	PLM Minor compatible version (used for patches)
<DATABASE_BUNDLE_PATH>	=	path\<Database bundle root folder>
<Database bundle root folder>	=	PLM < v3: ORA<ORA_VERSION>_SE_WIN PLM >= v3: ORA_SE_WIN
<WLP_MAIN_SCHEMA>	=	PLM <= v3: WLP main schema (e.g. WLP_01)
<PLM_MAIN_SCHEMA>	=	PLM main schema (e.g. PLM_01)
<PLM_SCHEMA_JMS>	=	PLM <= v3: JMS sub-schema associate to <PLM_SCHEMA>
<PLM_SCHEMA_ADM>	=	ADM sub-schema associate to <PLM_SCHEMA> (e.g. PLM_01_ADM)
<PLM_SCHEMA_CRN>	=	CRN sub-schema associate to <PLM_SCHEMA> (e.g. PLM_01_CRN)

2. BEFORE YOU BEGIN

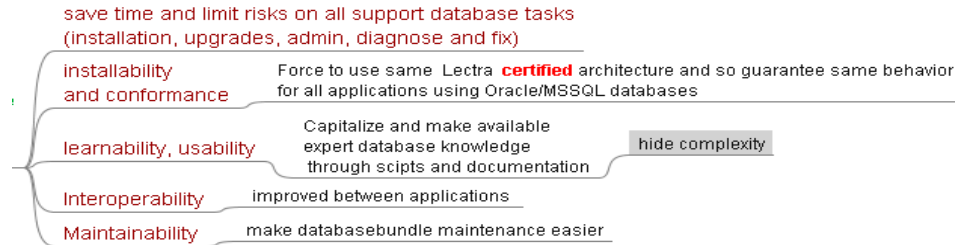
2.1 Database bundle

2.1.1 Definition

Lectra standard tool provided by Lectra to manage all database basic tasks using scripts

Database administrator can then use this tool to do basic administration tasks like adding new PLM schema, run advanced scripts like described in this document or in the performance guide

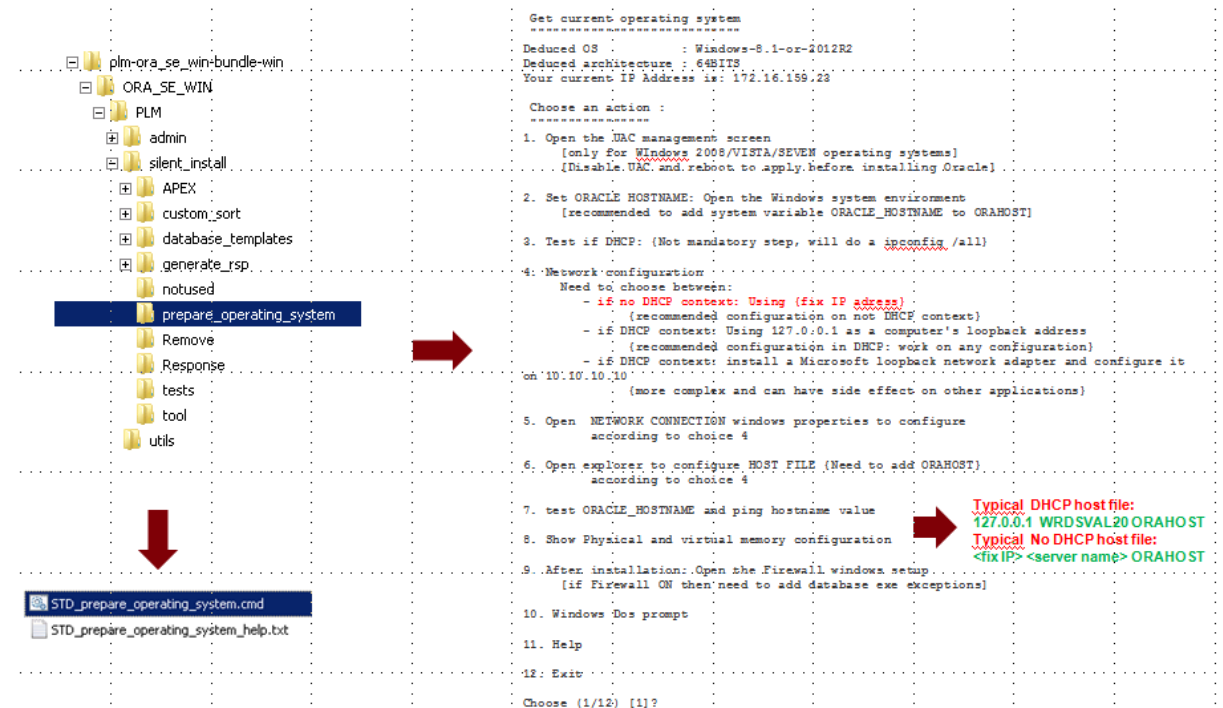
2.1.2 Objectives



2.1.3 Folder Architecture: a global vision ordered by step usage

PLM v4r3 example

2.1.3.1 Silent installation: prepare operating system



2.1.3.2 Silent installation: starting

PLM v4r3 example

1) Adjust parameter

- Set binaries, database and flash destination
- Set Oracle DVD drive source
- Set instance, schema name...
- Set Oracle version target

2) Map a drive

3) Start Installation

- Install Oracle binaries
- Install Patch if exist
- Create instance and database
- Install Admin API
- Configure instance
- Create APP tablespaces
- Create APP schema
- Adjust Oracle Flash area
- Set archivelog mode if asked
- Configure database console

DB_INST_00_START.cmd (3):

```
DB_INST <nn> BIN.cmd
DB_INST <nn> patch_BIN.cmd
DB_INST <nn> network_test.cmd
DB_INST <nn> network_test.sql
DB_INST <nn> network.cmd
DB_INST <nn> BASE.cmd
DB_INST <nn> admin_API_install.cmd
DB_INST <nn> configure_instance.cmd
DB_INST <nn> configure_instance.sql
DB_INST <nn> RESTART_DB.cmd
DB_INST <nn> RESTART_DB.sql
DB_INST <nn> APP_creTBS.cmd
DB_INST <nn> create_schema.cmd
DB_INST <nn> flash.cmd
DB_INST <nn> flash.sql
DB_INST <nn> archive.cmd
DB_INST <nn> archive.sql
DB_INST <nn> archiveNo.cmd
DB_INST <nn> archiveNo.sql
DB_INST <nn> em.cmd
DB_INST <nn> custom_sort.cmd
DB_INST_PARAM.cmd (1)
```

(2) Oracle target according to PLM version

- DVD_313842_Oracle11202_win_2K3_2K8_XP_VIST_7_64bits
- database_112020_win_2K3_2K8_XP_VIST_7_64bits_CLIENT
- database_112020_win_2K3_2K8_XP_VIST_7_64bits_SERVER
- database_112020_win_desinstall_utility_64bits
- DVD_314502_Oracle11204_win_2K3_2K8_2K12_XP_VIST_7_8_64bits
- database_11204_win_2K3_2K8_2K12_XP_VIST_7_8_64bits_CLIENT
- database_11204_win_2K3_2K8_2K12_XP_VIST_7_8_64bits_GRID
- database_11204_win_2K3_2K8_2K12_XP_VIST_7_8_64bits_SERVER
- database_11204_win_desinstall_utility_64bits

2.1.3.3 Administration: Adjust the default configuration

STD configure_instance.cmd

```
Show current parameters values
-----
--- 11GB2 memory-zone ---
memory_target=5000M
memory_max_target=5000M

--- sub-memory-zone ---
sga_max_size=3000M
sga_target=0M

--- Parameters that can impact SYSaux sizing ---
AWR Snapshot Retention Days=8
Remark:
- Current (AWR) moving_window_size=8
- ORA-13541 can be reach when system moving window baseline size greater than retention
Statistics history retention Days=31

Choose a configuration type
-----
Choose between these 64BITS configuration :
"SMALL (example: Demo target on vmware) "
" - DB parameter: Memory target = 1000"
" - SYSaux parameter: Processes = 500"
" - SYSaux parameter: AWR_snapshot_retention_days = 8"
" - SYSaux parameter: stats_history_retention_days = 10"

"MEDIUM "
" - DB parameter: Memory target = 3000"
" - DB parameter: Processes = 600"
" - SYSaux parameter: AWR_snapshot_retention_days = 8"
" - SYSaux parameter: stats_history_retention_days = 31"

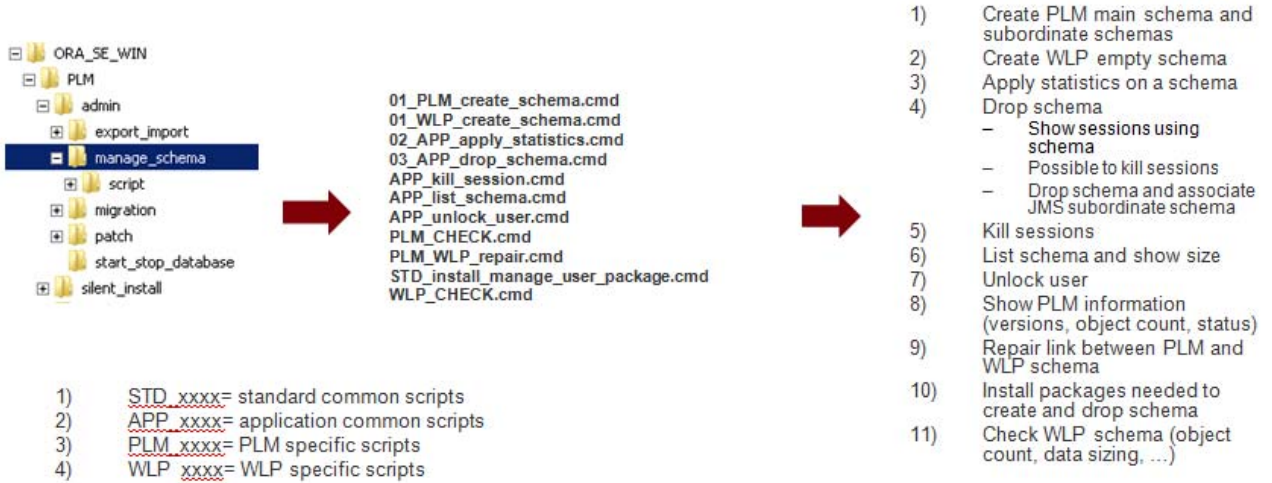
"LARGE "
" - DB parameter: Memory target = 6000"
" - DB parameter: Processes = 700"
" - SYSaux parameter: AWR_snapshot_retention_days = 8"
" - SYSaux parameter: stats_history_retention_days = 31"

"CUSTOM "
" - DB parameter: Memory target = 3000"
" - DB parameter: Processes = 600"
" - SYSaux parameter: AWR_snapshot_retention_days = 8"
" - SYSaux parameter: stats_history_retention_days = 31"

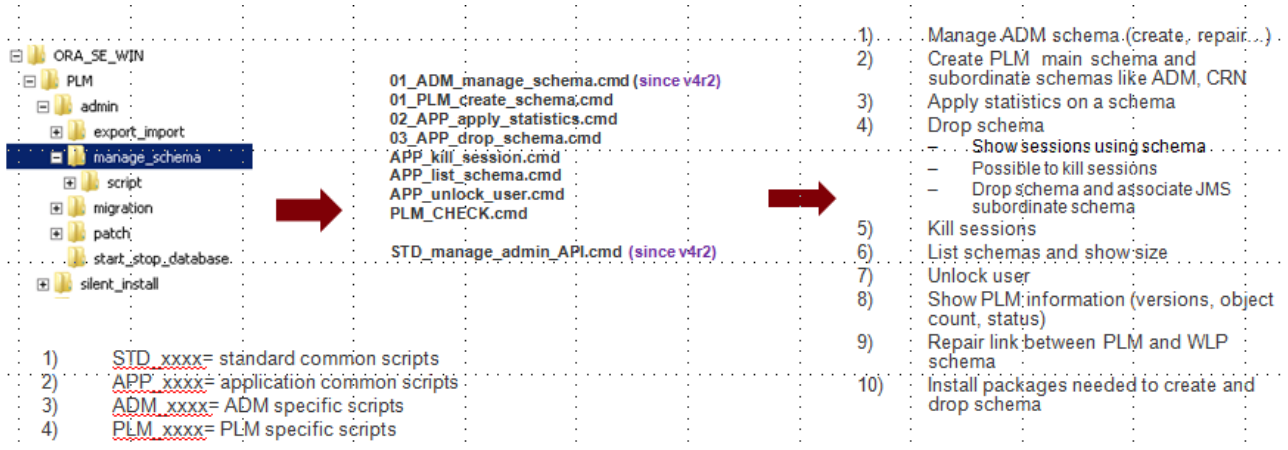
Choose <SMALL/MEDIUM/LARGE/CUSTOM> [MEDIUM]?
```


2.1.3.4 Administration: manage schema current scripts

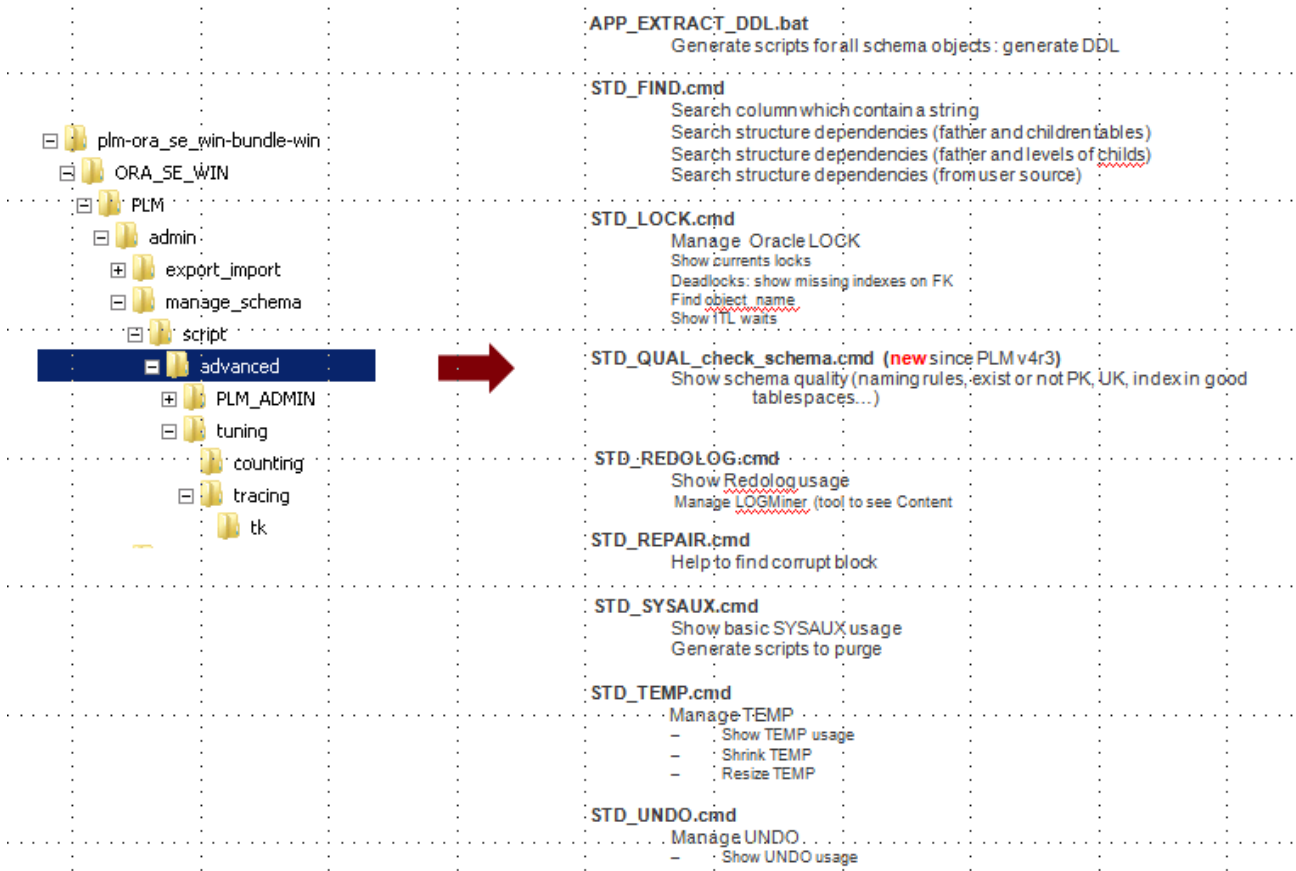
V3 example:



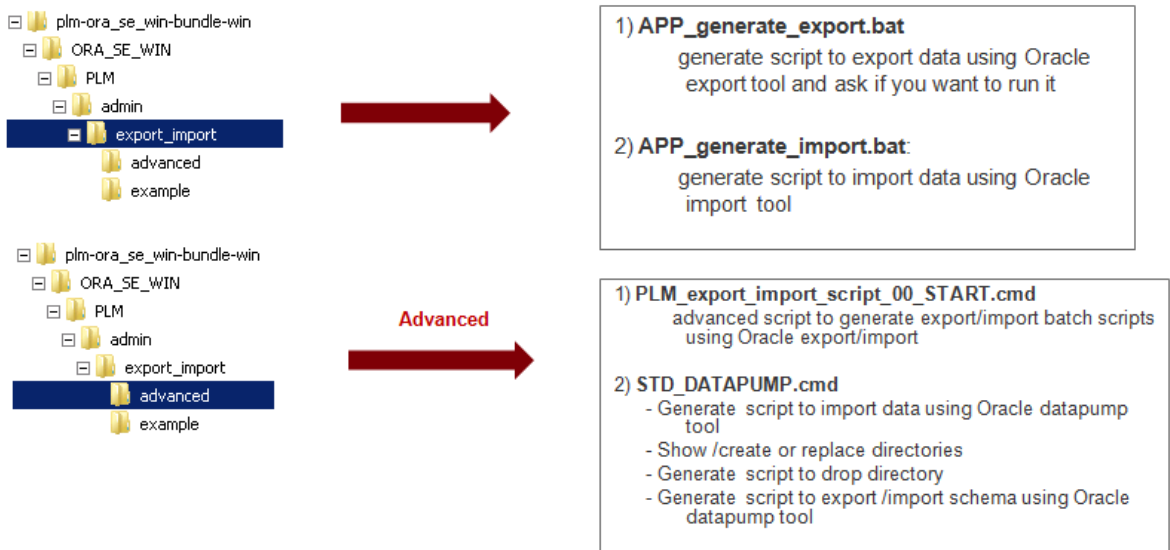
V4r3 example:



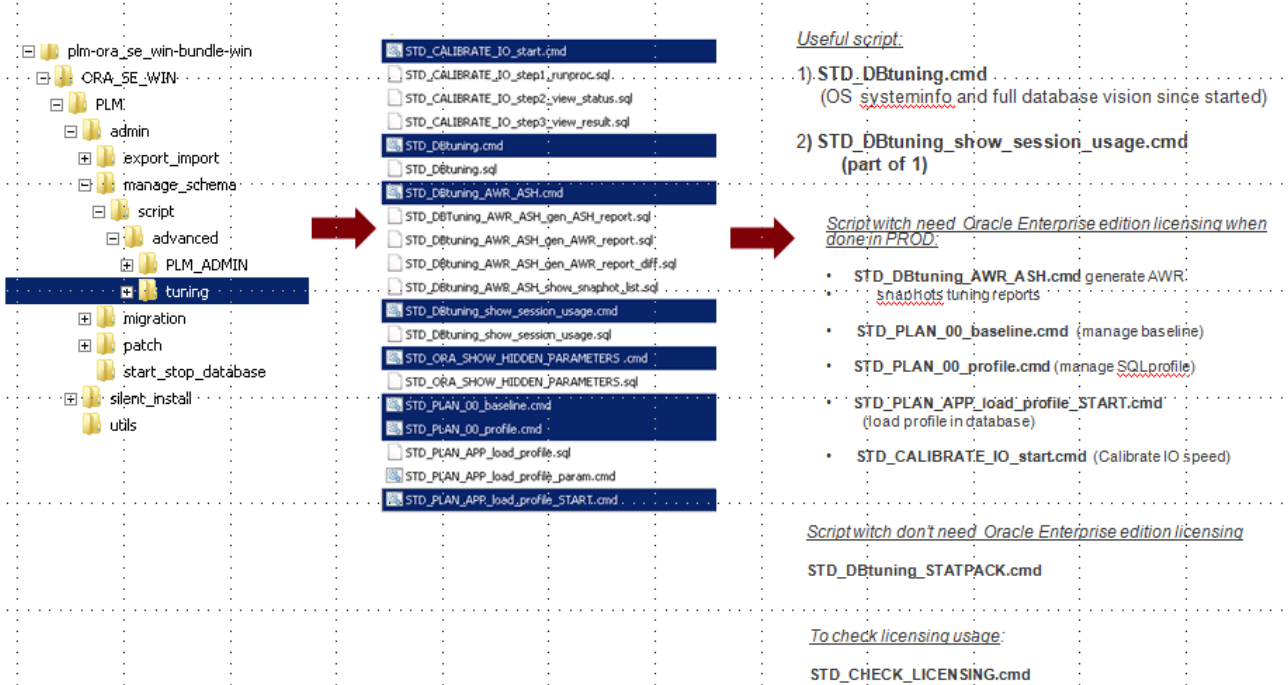
2.1.3.5 Administration: advanced (diagnose/fix current problem)



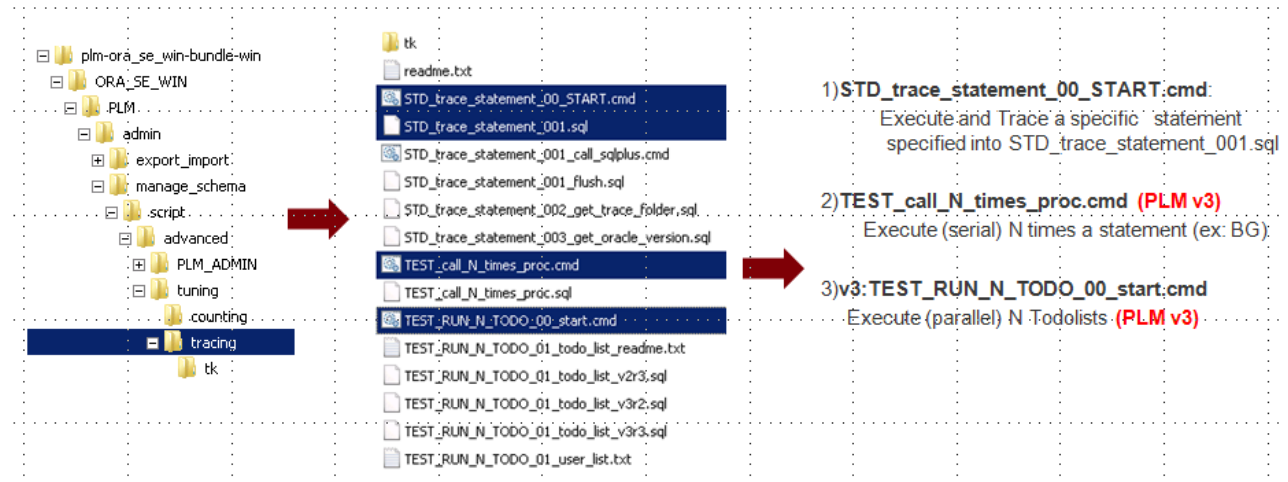
2.1.3.6 Administration: exporting/importing to reproduce/diagnose



2.1.3.7 Administration: tuning



2.1.3.8 Administration: tracing and testing to reproduce/diagnose



2.1.4 How to check versions using Database Bundle

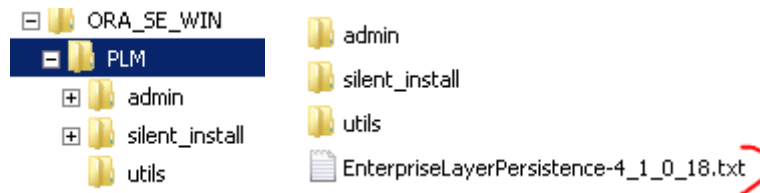
2.1.4.1 From Databasebundle scripts: Find DDL version

EnterpriseLayerPersistence component version gives the DDL version

From <Database bundle root folder>\PLM

Check EnterpriseLayerPersistence-<version>.txt file:

PLM v4r1 example:



2.1.4.2 From DatabaseBundle scripts: Find functional version

From <Database bundle root folder>\ORA_SE_WIN\PLM\admin\manage_schema\script

Open upgrade_param.cmd

PLM v4r1 example:

```
set p_UPD_VER_CURRENTFUNCVERSION=v4r1
set p_UPD_VER_CURRENTTECHVERSION=4.1.0.18
set p_UPD_VER_APPALIAS=PLM
set p_UPD_VER_RCOMMENT=v4r1
set p_UPD_VEU_UPGRADENAME=v4r1
set p_UPD_VEU_RCOMMENT=v4r1
```

2.1.4.3 Have a global version vision using PLM_CHECK (main and sub-schemas)

**2.1.4.4 From <Database bundle root folder>
ORA SE WIN\PLM\admin\manage_schema**

Run PLM_CHECK.cmd

Before V5R1 PLM_CHECK.cmd gives just a PLM main schema (e.g. PLM_01) vision

Since PLM_V5R1 PLM_CHECK.cmd gives a global vision of PLM main schema and sub-schemas:

- PLM functional and technical versions
- Schemas objects status

V5R1 output example:

```
USER is "SYSTEM"
*****
***      PLM main schema  and associate subordinate schemas      ***
*****
```

**** PLM_01 main schema and associate subordinate schemas :

USERNAME	ACCOUNT_STATUS	DT_CREATED	DATA_SIZE_M
PLM_01	OPEN	2016/04/07	449.4375
PLM_01_ADM	OPEN	2016/01/12	.4375
PLM_01_ANA	OPEN	2016/01/12	0
PLM_01_CRN	LOCKED	2016/03/09	20.0625
PLM_01_REP	OPEN	2016/01/12	0

**** PLM_01.PLMVERSION content

ID	CURRENTTECHVERSION	CURRENTFUNCVERSION	BRAND	DATECREATED
1	5.1.0.40	v5r1	[D8212B]Lectra [3A495A]Fashion	2011/05/26 09:54:41
			[D8212B]PLM	

**** PLM_01.PLMVERSIONUPDATES content

ID	UPGRADENAME	PREVNAME	PREVVERSION	DATECREATED
2	v3r0b2	Not managed	Not managed	2011/05/26 09:54:41
21	v3r1	Not managed	Not managed	2011/11/21 09:35:29
81	v3r1sp1	Not managed	Not managed	2012/06/05 16:23:35
121	v3r2b1	Not managed	Not managed	2012/10/02 10:36:35
122	v3r2b2	Not managed	Not managed	2012/10/02 10:36:39
181	v3r2ga	Not managed	Not managed	2013/07/11 15:21:41
182	v3r3	Not managed	Not managed	2013/07/11 15:21:47
241	v3r3sp1	Not managed	Not managed	2013/10/08 09:57:55
281	v4r1	Not managed	Not managed	2014/05/16 12:15:05
321	v4r1sp1	Not managed	Not managed	2014/10/15 15:46:42



322 v4r1splhf1	Not managed	Not managed	2014/10/15 15:46:43
2014/10/15 15:46:43	1		
341 v4r2	Not managed	Not managed	2014/11/10 14:38:30
2014/11/10 14:38:30	1		
342 v4r3	Not managed	Not managed	2015/06/17 11:07:39
2015/06/17 11:07:39	1		
362 v4r4	Not managed	Not managed	2015/08/19 15:28:15
2015/08/19 15:28:15	1		
382 v5r1	Not managed	Not managed	2015/11/06 15:04:23
2015/11/06 15:04:23	1		

**** PLM_01_ADM.PLM_VERSION content :

ID	CURRENTTECHVERSION	CURRENTFUNCVERSION	BRAND	TIMEUPDATED

1	5.1.0.41	v5r1	[D8212B]Lectra [3A495A]Fashion	2016/04/05 17:08:51
			[D8212B]PLM	

**** PLM_01_ADM.PLM_VERSIONCOMPONENT content :

ID	COMPONENTSERVER	COMPONENTNAME	COMPONENTPORT
COMPONENTTECHVERSION	COMPONENTSERVERTYPE	TIMECREATED	TIMEUPDATED
1	srdsbl211	Lectra Fashion Operator	81
SMALL		2015/05/20 13:09:27	2015/05/20 13:09:27
2	srdsbl211	File Manager Directory Watcher	unknown
SMALL		2015/05/20 13:09:27	2015/05/20 13:09:27
3	srdsbl211	Product Developer	8080
TYPICAL_APPSERVER		2015/05/20 13:09:27	2016/01/28 12:29:17
4	srdsbl211	Apache	80
TYPICAL_APPSERVER		2015/05/20 13:09:27	2016/01/28 12:23:37
5	srdsbl211	Documentation	5.1.0.6
TYPICAL_APPSERVER		2015/05/20 13:09:27	2016/01/28 12:30:13
6	srdsbl211	Copyright	5.1.0.6
TYPICAL_APPSERVER		2015/05/20 13:09:27	2016/01/28 12:30:13
7	srdsbl211	Database Bundle	unknown
SMALL		2015/05/20 13:09:27	2015/05/20 13:09:27
8		Product Order	80
2015/12/15 16:12:02		2015/12/15 16:12:02	
61	srdsbl204	Database Bundle	5.1.0.49
TYPICAL_DBSERVER		2016/01/12 11:40:46	2016/04/05 17:08:52
81	srdsbl208	Lectra Fashion Operator	81
TYPICAL_REPORTING		2016/01/12 13:38:20	2016/04/05 19:21:02
82	srdsbl208	File Manager Directory Watcher	5.1.0.47
TYPICAL_REPORTING		2016/01/12 13:38:29	2016/04/05 19:21:35
83	srdsbl208	Product Developer	8080
TYPICAL_REPORTING		2016/01/12 13:43:32	2016/04/05 19:26:12
101	WNSONNIER	File Manager Directory Watcher	5.1.0.27
CUSTOM		2016/01/19 16:38:58	2016/01/19 16:38:58
121	srdsstest	Product Developer	8080
TYPICAL_APPSERVER		2016/02/09 12:32:25	2016/04/05 19:27:33
122	srdsstest	Documentation	5.1.0.6
TYPICAL_APPSERVER		2016/02/09 12:33:32	2016/04/05 19:28:25
123	srdsstest	Copyright	5.1.0.6
TYPICAL_APPSERVER		2016/02/09 12:33:32	2016/04/05 19:28:25
###	srdsbl211	Product Order Management	8080
2016/03/23 17:19:34		2016/03/23 17:19:34	
###	srdsbl208	Product Order Management	8080
2016/03/23 18:20:39		2016/03/23 18:20:39	

**** PLM_01_ADM.PLM_CONFIGURATION content :

PARAM_KEY	PARAM_VALUE	TIMECREATED
TIMEUPDATED		

jboss.plm.async.host	srdsbl208	2015/01/14
10:40:51 2016/01/28 12:23:39		
jboss.plm.async.port	5445	2015/01/14
10:40:51 2016/01/28 12:23:39		
operator.host.with.port	srdsbl208:81	2015/01/14
10:40:51 2016/01/28 12:23:39		
jms.reporting.bigreport.maxmdb	2	2015/01/14
10:40:51 2016/04/05 19:22:56		
jms.reporting.smallreport.maxmdb	5	2015/01/14
10:40:51 2016/04/05 19:22:56		
enterprise.file.repository	\\srdsbl208\PLMContentRepository	2015/01/14
10:40:51 2016/04/05 19:22:56		

```

jboss.plm.async.host localhost 2015/01/14
10:40:51 2016/04/05 19:21:35
jboss.mail.smtp.host smailrd.eu.lectra.com 2015/01/14
10:40:51 2016/04/05 19:22:56
jboss.mail.smtp.port 25 2015/01/14
10:40:51 2016/04/05 19:22:56
operator.host.with.port localhost:81 2015/01/14
10:40:51 2016/04/05 19:21:35
jboss.plm.async.port 5445 2015/01/14
10:40:51 2016/04/05 19:21:35
plm.licensing.host 27003@sio 2015/01/14
10:40:51 2016/04/05 19:22:56
jboss.plm.event-bus.host srdsbl208 2015/05/18
12:26:51 2016/04/05 19:21:35
jboss.plm.event-bus.host srdsbl208 2015/05/18
13:11:53 2016/01/28 12:23:39
plmconsole.login admin 2015/12/14
15:06:37 2016/04/05 19:22:56
plmconsole.password cleandb 2015/12/14
15:06:37 2016/04/05 19:22:56
platform.local.url http://localhost:8080 2016/01/12
13:38:29 2016/04/05 19:21:35
jboss.plm.async.host srdsbl208 2016/01/12
14:00:18 2016/04/05 19:22:56
jboss.plm.event-bus.host srdsbl208 2016/01/12
14:00:18 2016/04/05 19:22:56
jboss.plm.async.port 5445 2016/01/12
14:00:18 2016/04/05 19:22:56
operator.host.with.port srdsbl208:81 2016/01/12
14:00:18 2016/04/05 19:22:56
platform.local.url http://localhost:8080 2016/01/12
14:00:18 2016/04/05 19:22:56
platform.local.url http://localhost:8080 2016/01/12
14:37:57 2016/01/28 12:23:39

```

*** Count PLM_01 main and subordinate schema objects :

OWNER	TYPE_OBJET	OBJECT_	NB
PLM_01	FUNCTION	VALID	1
	INDEX	VALID	1091
	LOB	VALID	5
	PACKAGE	VALID	9
	PACKAGE BODY	INVALID	1
	PACKAGE BODY	VALID	8
	PROCEDURE	VALID	1
	SEQUENCE	VALID	6
	SYNONYM	VALID	4
	TABLE	VALID	513
	TRIGGER	VALID	6
	TYPE	VALID	8
PLM_01_ADM	INDEX	VALID	4
	PACKAGE	VALID	2
	PACKAGE BODY	VALID	2
	SEQUENCE	VALID	1
	TABLE	VALID	3
PLM_01_CRN	INDEX	VALID	40
	LOB	VALID	4
	SEQUENCE	VALID	1
	TABLE	VALID	13

*** Check PLM_01 DERNORMALIZATION Process table PLM_DENORM content :

Table PLM_DENORM not found

TRIGGER_NAME	STATUS	TABLE_NAME
TRG_AU_SKU_USABLE_STATUS	ENABLED	AXEVALUE
TRG_AU_CLASSIFPROPERTY	ENABLED	CLASSIFPROPERTY
TRG_BU_ROLETARGET	ENABLED	ROLETARGET
TRG_BID_ROLETARGET_TARGETS	ENABLED	ROLETARGET_OWNER_TARGETS
COPY_TARGETCOST	DISABLED	SIMPLEEXTRANUMERIC
TRG_AIUD_STEP	ENABLED	STEP

*** FLYWAY PLM_01.PLM_SCHEMA_VERSION content (extract example):

VERSION	description	type
script		success
installed_on	execution_time	

```

1          << Flyway Init >>                               INIT          1
<< Flyway Init >>
2014/05/16 12:27:45          0
4.0.0          Fix WMCOLLECTIONPLAN                       SQL          1
v4r1/V4_0_0_Fix_WMCOLLECTIONPLAN.sql
2014/05/16 12:27:46          140
4.0.1          Fix WMLINEPLAN                             SQL          1
v4r1/V4_0_1_Fix_WMLINEPLAN.sql
2014/05/16 12:27:46          15
4.0.2          Fix WMPROCESS                             SQL
v4r1/V4_0_2_Fix_WMPROCESS.sql
...
5.1.40         Fix SpecTable ParentId                    SQL          1
v5r1/V5_1_40_Fix_SpecTable_ParentId.sql
2016/03/30 12:21:39          75
5.1.41         Add Indexes on Partition and SpLink      SQL          1
v5r1/V5_1_41_Add_Indexes_on_Partition_and_SpLink.sql
2016/04/01 16:41:25          132
5.1.42         Add Indexes on Orderline and SlotBreakdown SQL
v5r1/V5_1_42_Add_Indexes_on_Orderline_and_SlotBreakdown.sql

```


3. SERVER INTERACTIVE INSTALLATION HOW TO

For Oracle silent installation refer to the Database Quick installation guide

3.1 Why and when installing an Oracle server interactively?

- When you don't succeed to install in silent mode, you can try installing in interactive mode (One advantage of the interactive installation is that errors will be also displayed (silent installation hide errors and write only into %temp% folder Oracle installation logs)
- When you want to manually install several Oracle version in the same server

3.2 Install Oracle server binaries interactively

3.2.1 Prepare operating system like done on a silent installation

Under <Database bundle root folder>\PLM\silent_install:

Double click on **STD_prepare_operating_system.cmd**

Refer to the Quick Installation guide and performance guide for requirements or use the help menu item

3.2.2 Run the Oracle DVD setup

Need to use as minimum a Windows user in the administrator group.

Caution: **Since Windows 8 /2012 need to run each scripts in "as administrator" mode**

3.2.3 Caution: set Oracle software and configuration files to <Drive>:\app\oracle

By default Oracle set Oracle software and configuration files on:

<Drive>:\app\oracle\<current_user>

Caution: to be database bundle compatible, change it to

<Drive>:\app\oracle

3.3 Other steps: to be done using database bundle subscripts

3.3.1 Caution before starting sub-scripts: check and adjust DB_INST_param.cmd before

Under <Database bundle root folder>\PLM\silent_install:

Double click on **DB_INST_param.cmd**

Check into tmp_DB_INST_param.log if ORACLE_HOME match with the interactive installation

Example on Oracle 11202/11204 versions:

ORACLE_HOME=<drive>:\app\oracle\product\11.2.0\dbhome_1

If not, adjust tmp_DB_INST_param.log or re-install Oracle at the good place to follow Lectra best practice (<drive>:\app\oracle\product\11.2.0\dbhome_1)

3.3.2 Subscripts to run

Under <Database bundle root folder>\PLM\silent_install:

Double click on the following scripts:

- **DB_INST_<nn>_network.cmd** (Configure Oracle network listener)
- **DB_INST_<nn>_BASE.cmd** (Create Oracle instance and adjust some parameters)
- **Since v4r2:**
 - **DB_INST_<nn>_admin_API_install.cmd** (Install PLM admin API : objects like packages used to create tablespaces , create and drop PLM users)
 - **DB_INST_<nn>_configure_instance.cmd** (configure instance parameters like memory...)
 - **DB_INST_<nn>_RESTART_DB.cmd** (Restart instance to take in account static parameters...)
 -
- **DB_INST_<nn>_APP_creTBS.cmd** (create PLM tablespaces)
- **DB_INST_<nn>_create_schema.cmd** (create PLM main schemas and sub-schemas)
- **[DB_INST_<nn>_flash_recovery_area.cmd]** (adjust flash area)
- **IF <you don't need to use database console>** just let :
 - SQLNET.AUTHENTICATION_SERVICES= (NONE) in ORACLE_HOME \network\admin\sqlnet.ora if not already set
- **ELSE**
 - **11202 only: Change Oracle services logon from the default (local system) to your network admin logon** (e.g. oracleServiceLDPLM000 ,OracleOraDb11g_homeTNSlistener)
 - **DB_INST_<nn>_em.cmd** (Database console configuration)

<nn> is a PLM version dependant code used to sort scripts

4. CLIENT INTERACTIVE INSTALLATION HOW TO (PLM >=V3)

4.1 Why and when installing an Oracle client?

In some case you need to run PLM easy installer or to use database bundle script from a client

- You don't have access to the Oracle database server
- Oracle database server is a Linux server

You need to install Oracle client and do some configuration

4.2 Remark about remote actions

4.2.1.1 Possible actions

Possible action that can be done from another Oracle client or server installation using database bundle scripts:

Manage PLM schemas, importing data using classic export/import, export/import using datapump (constraint: dump need are on the database server)

4.2.1.2 Not possible actions

Running a full PLM Oracle silent Installation (Installing Oracle, creating Oracle instance sub-steps) but creating tablespaces and schemas sub-steps can be done in remote mode.

4.3 Map the Oracle software

4.3.1 If Network mapping

Map the Oracle software on **Z:** to the Oracle database setup.exe directory:

4.3.1.1 PLM v3 example: Installing Oracle 11202 client on Windows 2008R2 server

\\<my_server>\DVD_313842_Oracle11202_win_2K3_2K8_XP_VIST_7_64bits\database_112020_win_2K3_2K8_XP_VIST_7_64bits_CLIENT

4.3.2 If Local folder mapping

: subst **Z:** <oracle client software directory setup directory>

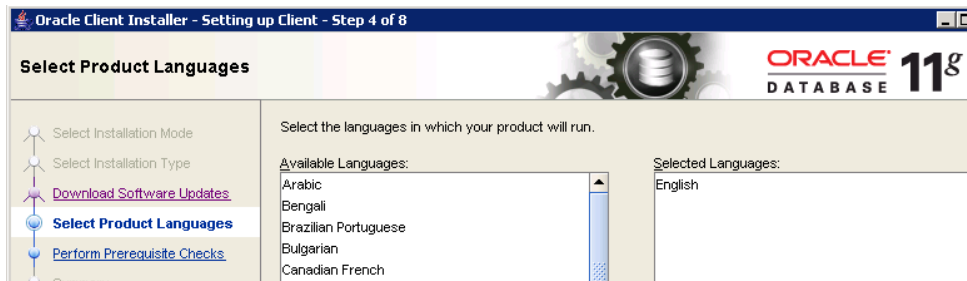
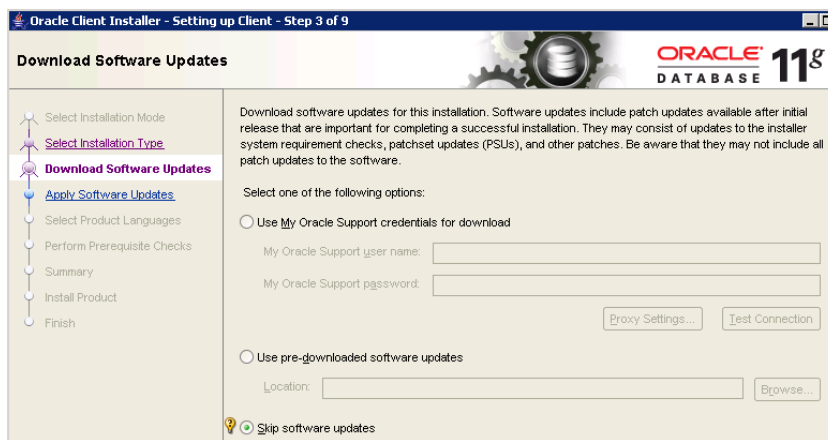
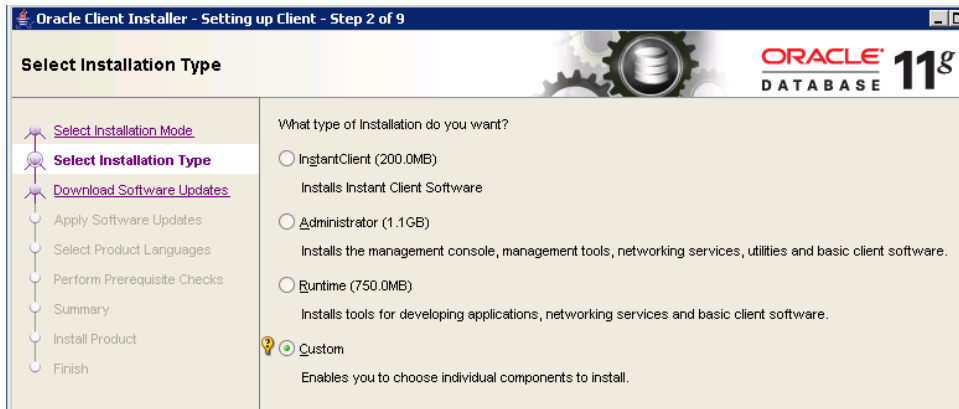
4.4 Installation Steps

4.4.1 Run the setup

4.4.2 Choose “custom” installation type

Remark:

Other choice can be to choose “Administrator” to be able to import and export data you need to install Oracle utilities. But this choice will install unused tools and so use more space



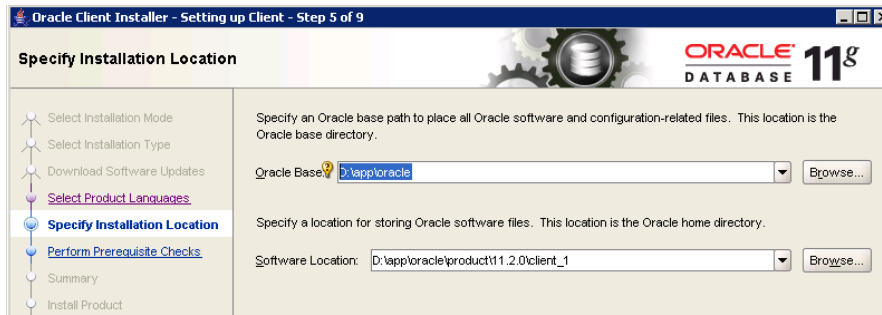
4.4.3 Recommended: Set Oracle software and configuration files to <Drive>:\app\oracle

By default Oracle set Oracle software and configuration files on:

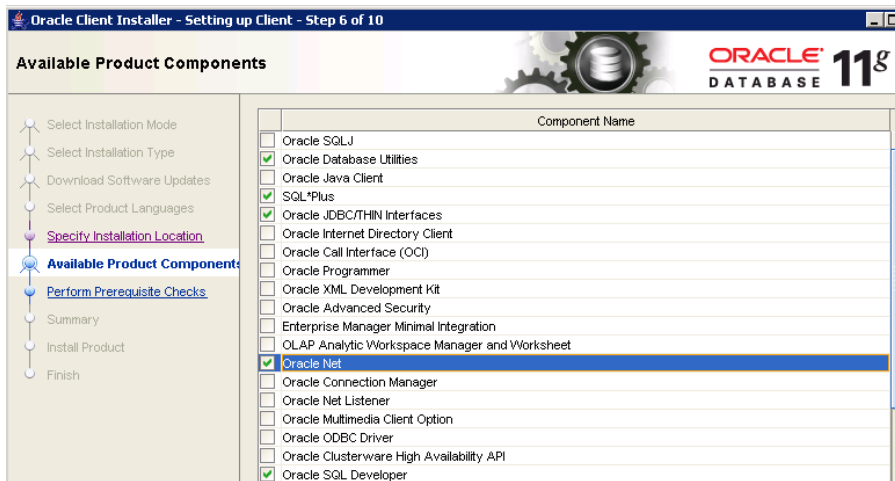
<Drive>:\app\oracle\<administrator_user>

It is recommended but not mandatory to change it to

<Drive>:\app\oracle



4.4.4 Choose Oracle utilities, SQL*Plus, Oracle jdbc/thin, Oracle net, SQL Developer



Wait for completion

4.5 Post-Installation Steps

4.5.1 Check if installed

4.5.1.1 Check the path

Open a **new** DOS window and check you have the Oracle client path

Example:

D:\Users\titus>path

```
PATH=E:\app\oracle\product\11.2.0\client_1\bin;C:\Windows\system32;C:\Windows;C:\Windows\System32\Wbem;C:\Windows\System32\WindowsPowerShell\v1.0\;C:\Program Files\Intel\DMIX;C:\Program Files (x86)\Common Files\Roxio Shared\DLLShared\;C:\Program Files (x86)\Common Files\Roxio Shared\10.0\DLLShared\;C:\Program Files (x86)\cvsnt\;C:\Program Files (x86)\PuTTY;C:\Program Files (x86)\Subversion\bin;C:\Windows\System32\WindowsPowerShell\v1.0\
```

4.5.2 Configure Tnsnames.ora and test remote access

4.5.2.1 Manually

Under <ORACLE_HOME>\network\admin,

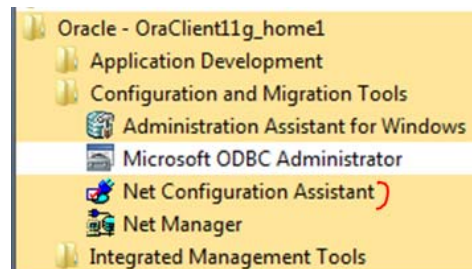
(Example: D:\app\oracle\product\11.2.0\client_1\network\admin) create a **tnsnames.ora** file like:

```
LDPLM000 =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP)(HOST = srdsbdd1)(PORT = 1521))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = LDPLM000)
    )
  )
)
```

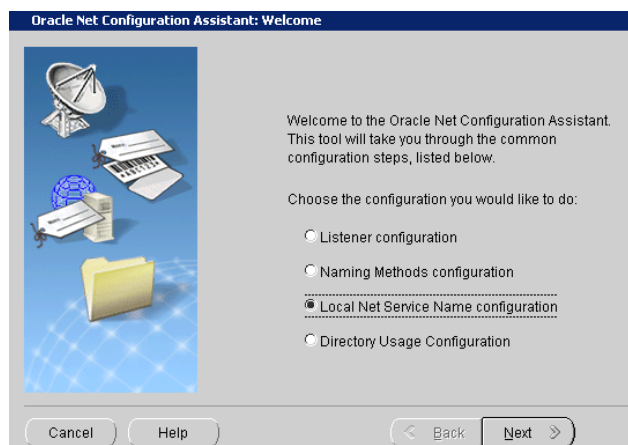
4.5.2.2 Using net configuration assistant

Start netca (Network Configuration Assistant in Interactive Mode)

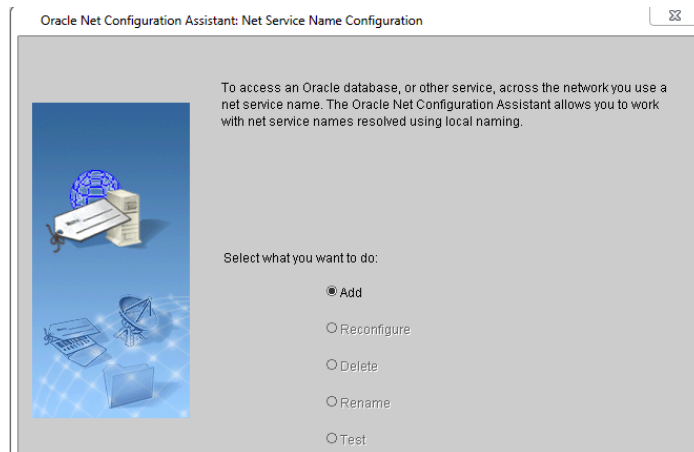
Windows 2003/2008R2 example



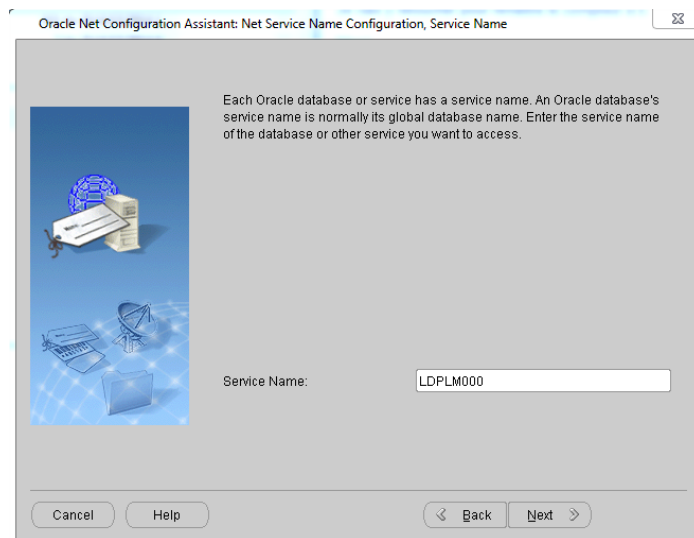
Configure a “Local Net Service name” and push the “Next” button



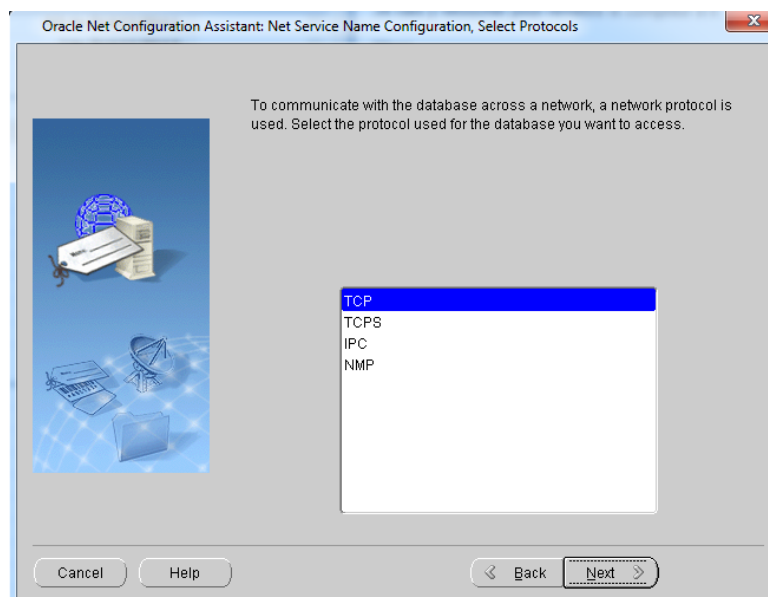
Choose “Add” and push the “Next” button



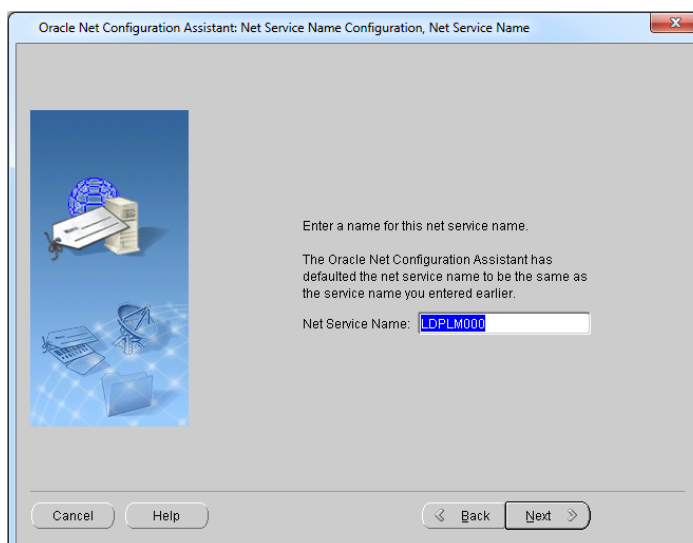
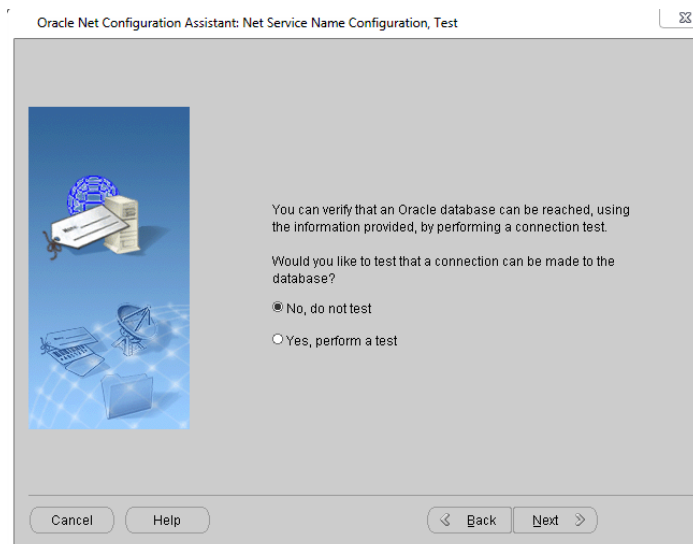
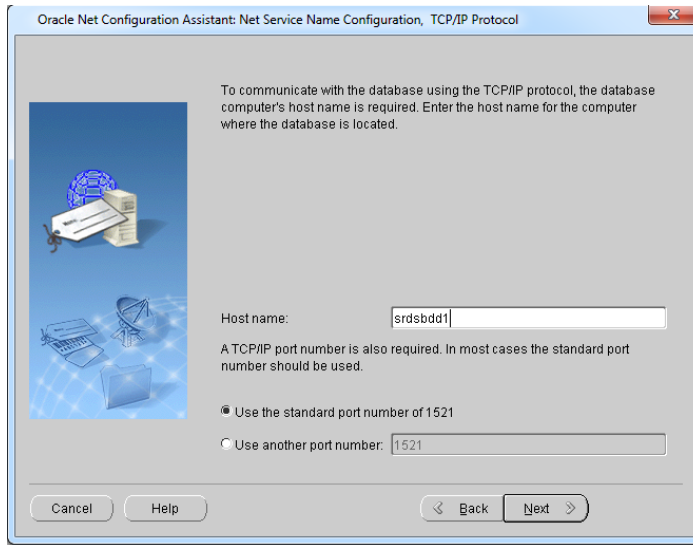
Enter the database “service name” and push “Next” button

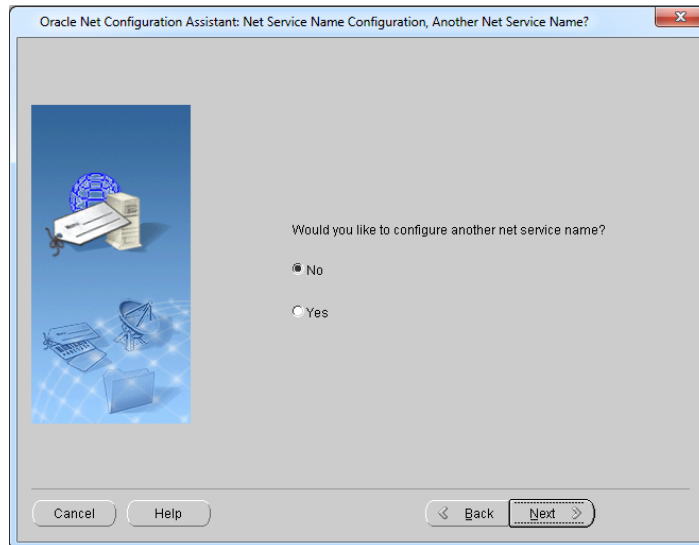


Choose the default (“TCP”) and push the “Next” button



Enter your database server “Host name” and push the “Next” button

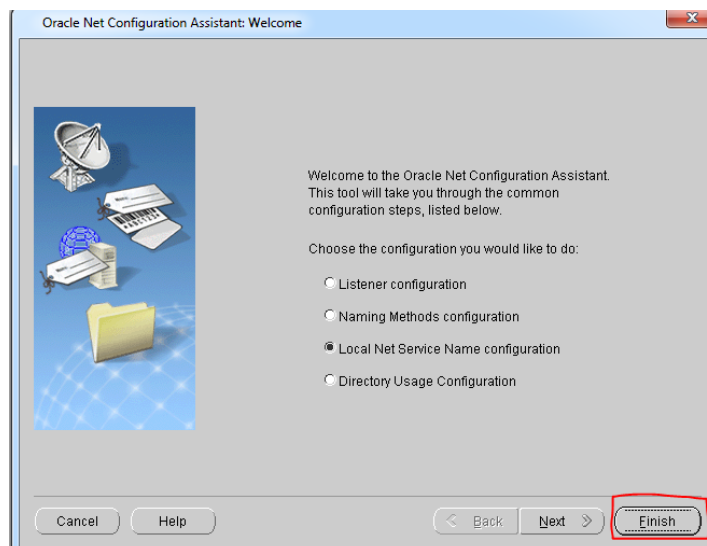




Wait for the message:

Net service name Configuration Complete!

And push the "Finish" button



Check on `ORACLE_HOME\network\admin` the generated `tnsnames.ora`

4.5.2.3 Test remote connection

`Tnsping <Target service>`

(e.g. `tnsping LDPLM000`)

`Sqlplus system\<system password>@<Target service>`

(example: `sqlplus system/LDPLM000@LDPLM000`)

5. MANAGE SCHEMA HOW TO

5.1 About database main schema and subordinate schemas

5.1.1.1 Main schema <PLM_MAIN_SCHEMA> and <WLP_MAIN_SCHEMA>

The schema that contain the application objects

Example:

- PLM_01 is a main schema that contain:
 - PLM <v4r1: all PDM objects
 - PLM >=v4r2 all PDM objects + Line planning
- WLP_01 is a main schema that contain Workflow and line planning (obsolete since v4r1)

5.1.1.2 Sub-schema <PLM_MAIN_SCHEMA>_<Suffix>

Schemas depending from main schema

Version	Main schema example	Sub-schema Prefix	Example	Usage
PLM < v4	PLM_01	_JMS	PLM_01_JMS	Store JMS asynchronous data
v4<=PLM <=v5r1	PLM_01	_CRN	PLM_01_CRN	Store CRON data
		_ADM	PLM_01_ADM	Store architecture data

5.2 Understand database main schema and sub-schema life cycle

5.2.1 PLM <=v3

Since PLM v2, upgrade can be and should be done using PLM installer.

On PLM v2, this is possible only if the previous version was installed using PLM easy installer

Example of process for PLM v3r3:

5.2.1.1 Fresh installation context

Part1: Do a fresh installation on database server of Oracle from database server

During this step, which is a requirement before using PLM easy installer, database bundle scripts will install Oracle binaries; create Oracle instance (e.g. LDPLM000) and empty schemas

At the end of this part, will exist:

- An empty <PLM_MAIN_SCHEMA> (e.g. PLM_01) ,
- Associate empty PLM sub-schema (e.g.PLM_01_JMS)
- Insert into <PLM_MAIN_SCHEMA>.PLMVERSION and <PLM_MAIN_SCHEMA>.PLMVERSIONUPDATES the current functional version (e.g.v3r3sp3)
- if WLP installed : An empty <WLP_MAIN_SCHEMA> (e.g. WLP_01)

Part2: PLM Easy installer fresh installation steps

PLM easy installer:

- Call database bundle to populate <PLM_MAIN_SCHEMA> with DDL
- Apply PLM bootstrap upgrade to insert <PLM_MAIN_SCHEMA> metadata
- if WLP installed : Import WLP DDL with data into <WLP_MAIN_SCHEMA> schema
- At the end of each node installed, for each component installed on the node, insert into <PLM_MAIN_SCHEMA>.PLMVERSIONUPDATESDETAIL current component versions

Part3: when starting Wildfly

- At the first Wildfly start, <PLM_SCHEMA_JMS> sub-schema is populated with DDL

5.2.1.2 Upgrade context: done using PLM installer (recommended)

Part1: PLM Easy installer upgrade installation steps

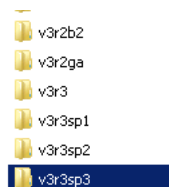
Application logic

- PLM Easy installer calls database bundle (migration\upgrades_targets \VER_00_START_AUTO_UPGRADE.cmd) to upgrade <PLM_MAIN_SCHEMA> part passing:

- the current upgrade target name (e.g. v3r3sp3)
- the brand which will be stored into PLMVERSION

This script will apply all needed upgrade between the current version and the target version stored under ORA_SE_WIN\PLM\admin\migration\upgrades_targets\PLM

Example:



For each applied upgrade:

- Apply upgrade.sql (<PLM_MAIN_SCHEMA> schema level changes)
- Apply post_upgrade.sql (<PLM_MAIN_SCHEMA> level changes that cannot be automatically generated in upgrade.sql)

- Apply post_upgrade_sys.sql (SYS schema: instance level changes)
- Upgrade version configuration (<PLM_MAIN_SCHEMA> connection) with the target functional version and brand
 - Call PLM_PCK_MANAGE_VERSION.UPDATE_PLMVERSION
 - Call PLM_PCK_MANAGE_VERSION.INSERT_PLMVERSIONUPDATES
- For each node upgraded, for each component installed/upgraded on the node, PLM Easy installer:
 - Call the stored procedure: PLM_PCK_MANAGE_VERSION.INSERT_PLMVERSIONUPDATEDETAIL. This procedure inserts (or update if already exists) into <PLM_MAIN_SCHEMA>.PLMVERSIONUPDATEDETAIL table current component versions
 - Upgrade WLP if installed

At the end of this part:

- <PLM_MAIN_SCHEMA> is upgraded, PLM version tables are upgraded
- WLP is upgraded if installed

5.2.1.3 Upgrade context: manual (not recommended, for support only)

Steps to migrate on place the database part is:

- Backup your database
- Stop PLM and WORKFLOW applications
- Migrate PDM schema to the target version :
 - Run <DATABASE_BUNDLE_PATH>\PLM\admin\migration\upgrades_targets**VER_00_START_AUTO_UPGRADE.cmd**
- Migrate WLP schema following Workflow documentation
- Export your migrated PLM and WLP schemas (e.g. PLM_01,PLM_01_JMS,WLP_01)
- Restart the database to close remaining connections
- Drop your migrated PLM and WLP schemas using database bundle scripts (PLM\admin\manage_schema\03_APP_drop_schema.cmd)
- Use PLM easy installer to do a fresh install of the target version, this will
 - Install the PLM target version (PDM and WLP)
 - Create the target database schemas with DDL but without data
- Stop PLM and WORKFLOW applications
- Restart the database to close remaining connections
- Drop PLM and WLP schemas using database bundle scripts
- Create empty PLM and WLP schemas using database bundle scripts(01_PLM_create_schema.cmd and 01_WLP_create_schema.cmd)

- Import result of previous export
- Restart PLM and WORKFLOW applications

Refer to PLM v2 or v3 migration guide for more details

5.2.1.4 Uninstall context

Part1: PLM Easy installer uninstall installation steps

Backup <PLM_MAIN_SCHEMA> and WLP main schema if installed

Call database bundle scripts in batch mode to drop:

- <PLM_MAIN_SCHEMA> and <PLM_SCHEMA_JMS> sub-schema
- <WLP_MAIN_SCHEMA> schema if installed

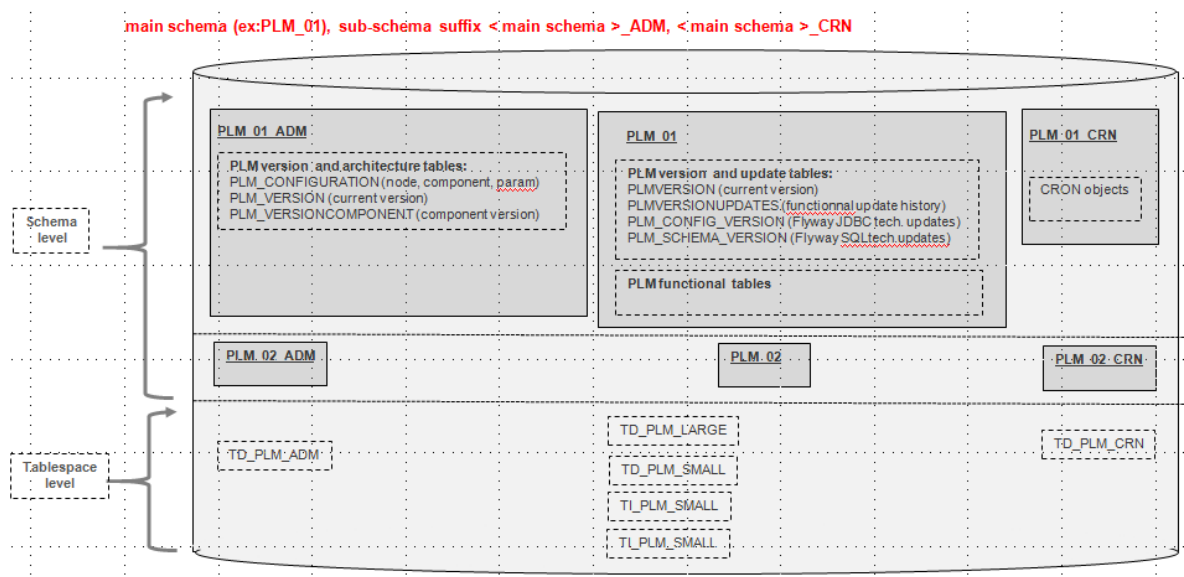
5.2.1.5 Support context

Typical need is

- Need to reproduce a problem
 - Drop existing <PLM_MAIN_SCHEMA> and WLP
 - Recreate empty <PLM_MAIN_SCHEMA> and WLP
 - Import Customer data into <PLM_MAIN_SCHEMA> and <WLP_MAIN_SCHEMA> to reproduce a problem
 - Apply statistics

5.2.2 V4r1<=PLM <=v5r2

5.2.2.1 Architecture



5.2.2.2 Fresh installation context

Part1: Do a fresh installation on database server of Oracle from database server

During this step, which is a requirement before using PLM easy installer, database bundle scripts will install Oracle binaries; create Oracle instance (e.g. LDPLM000) and empty schemas

At the end of this part, will exist:

- Since v4r2
 - An admin API with packages used to manage PLM tablespaces and schemas
- All applicative PLM tablespaces (TD_PLM_XXX , TI_PLM_XXX)
- An empty <PLM_MAIN_SCHEMA> (e.g. PLM_01) ,
- An empty associate CRN PLM sub-schema (e.g.PLM_01_CRN)
- Since v4r2
 - Populate <PLM_SCHEMA_ADM> sub-schema (e.g.PLM_01_ADM) with DDL , apply grants and synonyms to <PLM_MAIN_SCHEMA>
 - Update PLM_01_ADM.PLM_VERSION table
- Insert into <PLM_MAIN_SCHEMA>.PLMVERSION and <PLM_MAIN_SCHEMA>.PLMVERSIONUPDATES the current functional version (e.g.v4r1)

Part2: PLM Easy installer fresh installation steps

PLM easy installer:

- Call database bundle to populate <PLM_MAIN_SCHEMA> with DDL and metadata
- Apply PLM bootstrap upgrade to insert PLM main schema metadata
- At the end of each node installed, for each component installed on the node, insert into <PLM_MAIN_SCHEMA>.PLMVERSIONUPDATEDetail current component versions

Part3: When starting Wildfly Flyway apply upgrades

5.2.2.3 Upgrade context: done using PLM installer (recommended)

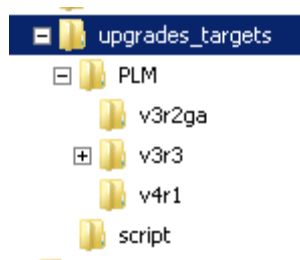
Part1: PLM Easy installer upgrade installation steps

Application logic

- PLM Easy installer call database bundle (migration\upgrades_targets \VER_00_START_AUTO_UPGRADE.cmd) to upgrade PLM main schema part passing:
 - the current upgrade target name (e.g. v3r3sp3)
 - the brand which will be stored into PLMVERSION

This script will apply all needed upgrade between the current version and the target version stored under ORA_SE_WIN\PLM\admin\migration\upgrades_targets\PLM

Example:



For each applied upgrade:

- Apply `pre_upgrade_sys.sql` (SYS schema: instance level changes)
 - Apply `pre_upgrade.sql` (<PLM_MAIN_SCHEMA>schema level changes)
 - Upgrade version configuration (<PLM_MAIN_SCHEMA> connection) with the target functional version and brand
 - Call PLM_PCK_MANAGE_VERSION.UPDATE_PLMVERSION
 - Call PLM_PCK_MANAGE_VERSION.INSERT_PLMVERSIONUPDATES
- For each node upgraded, for each component installed/upgraded on the node, PLM Easy installer:
- Call the stored procedure:
PLM_PCK_MANAGE_VERSION.INSERT_PLMVERSIONUPDATEDETAIL. This procedure inserts (or update if already exists) into <PLM_MAIN_SCHEMA>. PLMVERSIONUPDATEDETAIL table current component versions

At the end of this part:

- PLM main schema is upgraded, PLM version tables are upgraded

Part 2: When starting Wildfly Flyway apply upgrades

Now previous upgrade.sql statements are automatically done by the PLM application:

When starting Wildfly, PLM application uses Flyway which check what are the technical upgrades applied and apply missing upgrades

Upgrades statuses are stored into PLM_CONFIG_VERSION table in the column SUCCESS.

SUCCESS=1 means that upgrade was successful

In this context it is not easy and not recommended to upgrade manually

At the end of this part:

- <PLM_MAIN_SCHEMA> is upgraded, PLM version tables are upgraded

5.2.2.4 Upgrade context: manual (not recommended, for support only)

Difference between previous PLM versions since PLM v4r1

Previous upgrade.sql statements are automatically done by the PLM application:

When starting Wildfly, PLM application uses Flyway which check what are the technical upgrades applied and apply missing upgrades

Upgrades statuses are stored into PLM_CONFIG_VERSION table in the column SUCCESS.

SUCCESS=1 means that upgrade was successful

In this context it is not easy and not recommended to upgrade manually

5.2.2.5 Uninstall context

To be described

5.2.2.6 Support context

Typical specific needs examples

- Reproduce a functional problem
 - Drop existing <PLM_MAIN_SCHEMA> without dropping <PLM_SCHEMA_ADM> sub-schema because source architecture (e.g. typical: 3 servers) is not the same than target architecture (e.g. SMALL), but functional versions need to be compatible!
 - Recreate empty <PLM_MAIN_SCHEMA>
 - Import Customer data into <PLM_MAIN_SCHEMA> to reproduce a problem

5.3 Requirements to manage schemas

DatabaseBundle scripts to manage schema (create, drop, list, and apply statistics...) require some PL/SQL packages to be installed, this is normally done during Database Bundle silent installation or upgrade).

In some context (ex: partially installation done in test environment) you will need to reinstall it:

Version	Objects	Re-install (ORA_SE_WIN\PLM\admin\manage_schema)	Default owner
PLM <=v4r1	STD_MANAGE_USER	STD_install_manage_user_package.cmd	SYS
PLM > v4r1	a more powerful admin API is used: STD_MANAGE_INSTANCE, STD_MANAGE_SCH, PLM_MANAGE_SCH	STD_manage_admin_API.cmd	SYS

5.4 How to list existing schemas

Objective: list existing schemas with size

Double click on:

<DATABASE_BUNDLE_PATH>\PLM\admin\manage_schema\[APP_list_schema.cmd](#)

Output example:


```
-- ** List schemas and associate data size **
--
SCHEMA_NAME          DATA_SIZE_M
-----
PLM_01                223.875
PLM_01_JMS            1.4375
```

5.5 How to create new PLM schemas

5.5.1 PDM main schema and sub-schema's

5.5.1.1 Starting

Under <DATABASE_BUNDLE_PATH>\PLM\admin\manage_schema double click on:

01_PLM_create_schema.cmd

5.5.1.2 PLM v4r2 Output example

You can:

1. Create just new empty PLM schema? {if need to import existing data}
{subordinate users will be created }
 2. Create new PLM schema with schema objects like tables, indexes
 3. Create objects like tables, indexes... in existing PLM schema ?
- Choose (1/2/3) [1]?

```
"Database Service [LDPLM000]?"=
"System Password [LDPLM000]?"=
"Schema [PLM_01]?"=
```

5.5.1.3 Output: Objects created in the database

This script will automatically create:

- <PLM_MAIN_SCHEMA> (example: PLM_01) to store application data users. Schema will contain DDL according to the choice
- Empty sub-schema's according to PLM version (refer to "About main schema and subordinate schemas" part for more information)

PLM v3 Example:

- PLM_01 main schema to store PLM application data
- PLM_01_JMS sub-schema to store technical messages (JMS persistence)

5.6 How to manage <PLM_SCHEMA_ADM> sub-schemas (PLM>=v4r1)

5.6.1.1 When?

Sometime you will need to manage sub-schemas, example:

- When you want to reproduce a Production environment on a Test environment
- When you lose some grants or synonyms
- ...

5.6.1.2 Where to find scripts?

From < DATABASE_BUNDLE_PATH>\PLM\admin\manage_schema:

Double click on [01_ADM_manage_schema.cmd](#)

5.6.1.3 Output example

```
*****
* Objective : manage <PLM_SCHEMA_ADM> used to store PLM architecture data *
*****
-- 1. Show existing subschemas associate to a main schema <PLM for all PLM schemas>
-- 2. Create just new empty <PLM_SCHEMA_ADM> schema <if need to import existing data>
-- 3. Create new <PLM_SCHEMA_ADM> schema with schema objects like tables, indexes, packages
-- 4. Create objects like tables, indexes, package... in existing <PLM_SCHEMA_ADM> schema
-- 5. Repair grants : grantor <PLM_SCHEMA_ADM>, grantee <PLM_SCHEMA>
-- 6. Repair grants : grantor <PLM_SCHEMA>, grantee <PLM_SCHEMA_ADM>
-- 7. Repair synonyms : <PLM_SCHEMA> create private synonyms on <PLM_SCHEMA_ADM> objects
-- 8. Refresh <PLM_SCHEMA_ADM> version tables from <PLM_SCHEMA> version tables
-- 9. run sqlplus <system user>
-- 10. Windows Dos prompt
-- 11. Exit
Choose <1/11> [1]?_
```

5.7 How to create a new Workflow <WLP_MAIN_SCHEMA> (PLM <v4r1)

5.7.1.1 Starting

From < DATABASE_BUNDLE_PATH>\PLM\admin\manage_schema:

Double click on [01_WLP_create_schema](#)

5.7.1.2 Output example

```
"Database Service [LDPLM000]?"=
"System Password [LDPLM000]?"=
"schema [WLP_01]?"=
"schema Password [WLP_01]?"=

Optional parameters (Only if already exists a WLP schema)
"Do you need to create a WLP object type (Y/N) [N]?"=
```

5.8 How to apply statistics

5.8.1.1 When?

- After each import done using classic import scripts
- After each big data load

5.8.1.2 How to?

- Double click on: [02_APP_apply_statistics.cmd](#)
- Choose your application (WLP if Workflow or PLM if PLM)

- Enter requested parameters

5.9 How to drop a schema

5.9.1 When?

Currently used when you want to move schema from one environment to another

5.9.2 Best practice

To be able to drop schemas, all sessions using this schema must be disconnected

It is hardly recommended to use the delivered database bundle script and not manually drop schemas

5.9.3 Dropping in interactive mode: steps using provided scripts

5.9.3.1 How to start?

All scripts are stored in <DATABASE_BUNDLE_PATH>\PLM\admin\manage_schema\

For each main schema to drop:

- ⇒ Double click on admin **03_APP_drop_schema.cmd**

5.9.3.2 PLM <=v3: drop main schema and associate sub-schemas (JMS)

Input

- Application alias (if Workflow enter WLP, else enter PLM)
- And other parameters sys password, database target, schema to drop ...

Algorithm

- will show you current sessions connected to this schema if exists
- will disconnect with your agreement all current sessions connected to this schema if exists
- Drop with your agreement the main user in cascade mode
- only if a PLM schema (e.g. PLM_01) :drop of the associate subordinate schema <PLM_SCHEMA_JMS>

5.9.3.3 PLM v4r1: drop main schema and associate sub-schemas except ADM

Same than for PLM <=v3 except that one sub-schema is not dropped:

<PLM_SCHEMA_ADM>

Application alias = 'WLP' is used only if you want to drop unused <WLP_MAIN_SCHEMA>

5.9.3.4 PLM >=v4r2: you can choose schemas to drop (main and/or sub-schemas, exceptions)

Input

Choose "PLM" as application alias

Application alias = 'WLP' is used only if you want to drop old <WLP_MAIN_SCHEMA> unused

```

-- Script to drop a schema
Application alias PLM/WLP [PLM]?
service [LDPLM000]?
sys password [LDPLM000]?
target schema [PLM_01]?

Choose between :
1. drop if exist PLM main schema and all associate schema including
   <PLM_SCHEMA_ADM> schema <Erase architecture data>
2. drop if exist PLM main schema and associate schema except
   <PLM_SCHEMA_ADM> schema <keep architecture data>
3. drop if exist a specific sub-schema ; default is <PLM_SCHEMA_ADM>
4. drop a main schema only

Choice [1]? _

```

Algorithm

- will show you current sessions connected to this schema if exists
- will disconnect with your agreement all current sessions connected to this schema if exists
- Drop with your agreement main user or/and sub-schemas according to your choice

5.9.3.5 How to check the result

- Check logs or chec if schema has been dropped using [APP_list_schema.cmd](#)
- Enter the requested connection parameters

5.9.3.6 PDM in WAS cluster in PLM v2rm context only: drop additional JMS users

- Double click on: PLM_cluster_WAS_drop_NUSR_ROL.cmd
- Enter the requested connection parameters

5.9.4 Dropping in batch mode: steps using provided scripts

5.9.4.1 Objective: same than interactive mode but without prompting

(E.g. without interrupting the process like required in PLM uninstall or automated tests)

5.9.4.2 Dropping using the cmd file (recommended)

All scripts are stored in <DATABASE_BUNDLE_PATH>\PLM\admin\manage_schema\

For each main schema to drop:

- ⇒ Call from dos : **03_APP_drop_schema.cmd** with the following parameters:
- < p_APP_alias>= application alias (E.g. PLM)
 - < p_service>= service name (E.g. LDPLM000)
 - < p_sys_pwd>= sys password
 - < p_ora_schema>= schema to drop
 - < p_mode>= **BATCH_MODE** (to avoid prompting)
 - < p_choice >= new not mandatory parameters introduced in v4r2. Default will be p_choice=1 which means to drop PLM main user and all sub-schemas

Example:

03_APP_drop_schema.cmd PLM LDPLM000 MY_SYS_PWD PLM_01 **BATCH_MODE** 1

5.9.4.3 Dropping using the sql sub-script file (not recommended)

Not recommended because better to call the main script on an API instead of sub-scripts which have more risks to change (naming, parameters ...)

Under <DATABASE_BUNDLE_PATH>\PLM\admin\manage_schema\script

You can call the SQL sub-script passing 4 parameters:

- Application alias (e.g. PLM)
- Service Name (e.g. LDPLM000)
- SYS password
- <PLM_MAIN_SCHEMA> name (e.g. PLM_01)

sqlplus /nolog @<script name> <parameters>

PLM <=v4r1

<Script name> = **STD_PCK_MANAGE_USER_02_drop_user_batch.sql**

PLM >=v4r2

<Script name> = **APP_manage_schema_drop_batch.sql**

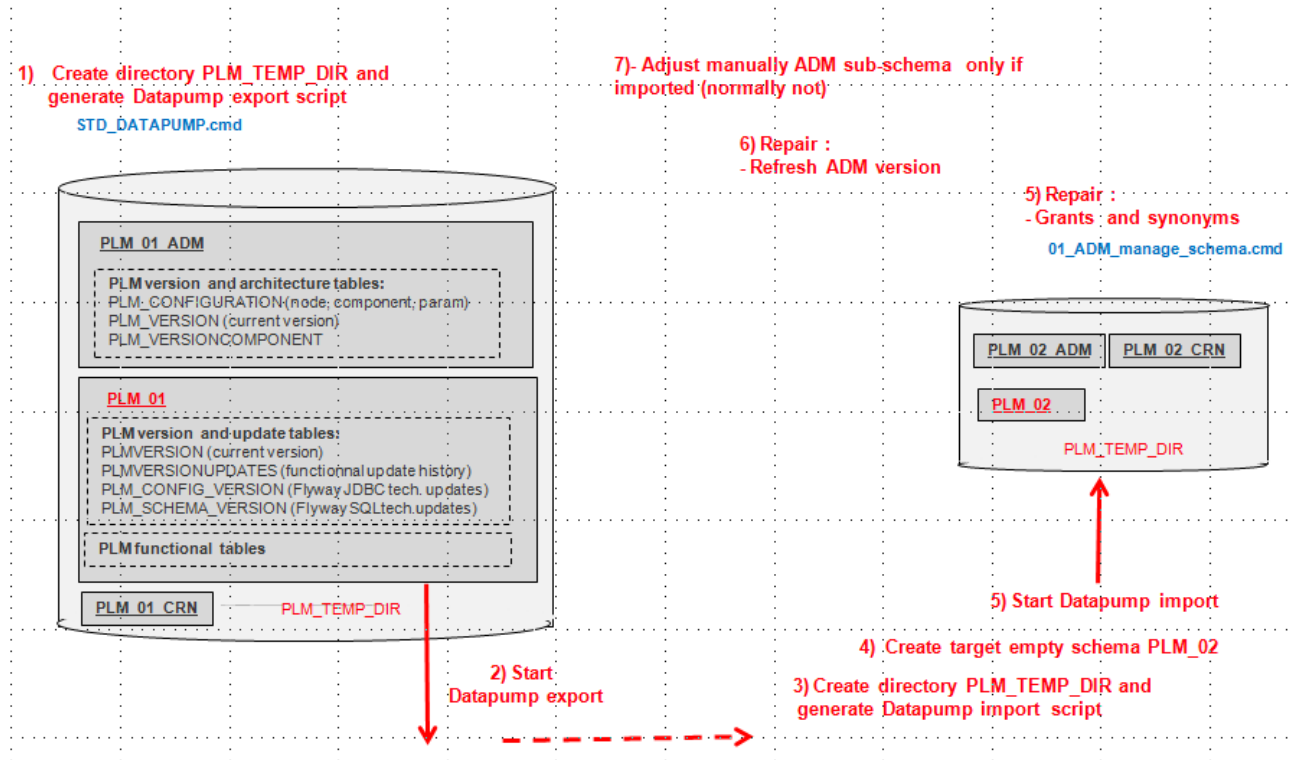
Since PLM v4r2 a default parameter is set to choice 1 (which means to drop main schema and all associate subordinate schemas)

PLM v4r2 Example:

sqlplus /nolog @APP_manage_schema_drop_batch.sql PLM LDPLM000 LDPLM000 PLM_01 1

5.10 About moving schemas between environments

5.10.1 PLMv4r2 to v4r3 examples



Refer to next chapter to see how to export, import, repair

5.11 How to export or import PLM schema's

5.11.1 Objective and perimeter

PLM <=v3

Most of the time you will need to export/import only main users (e.g. PLM_01 and WLP_01) for backup, testing or support reason.

Those scripts will help you to generate scripts that you can adapt before running

Example: you can choose to export/import additional schemas like JMS schemas (e.g. PLM_01_JMS)

PLM <=v4r1

Most of the time you will need to export/import only main users (e.g. PLM_01 and sometime associate sub-schemas like PLM_01_CRN ...) for backup, testing or support according to requirements and PLM current version.

All scripts to export /import are stored in

<DATABASE_BUNDLE_PATH>\PLM\admin\export\

5.11.2 Schema common constraints and steps

5.11.2.1 Common requirements before importing

Requirements are:

- targets users must exist (Not mandatory when using datapump with a power account like SYSTEM) and be empty
- IF target users already exist
 - Drop them using provided script ([03_APP_drop_schema.cmd](#))

END IF

Re-create them using provided script:

- For PLM schemas [01_PLM_create_schema.cmd](#)
- PLM <=v3 : For WLP schemas [01_WLP_create_schema.cmd](#)

Examples of subordinate schemas creation before importing:

PLM <=v3:

Creating subordinate schemas like JMS schema

- Double click on [PLMcre_JMS_USR.bat](#)

PLM > v3:

Creating subordinate schemas like <PLM_SCHEMA_ADM> and <PLM_SCHEMA_CRN> schema according to need

5.11.2.2 Common post-import steps

After importing,

- When PLM <v4r1 and WLP is installed:
 - Mandatory: If source schema (example WLP_01) is different than target schema (WLP_02) Refer to “Repairing link between WLP and PLM schema” part
 - Recompile objects like views (refer to “how to recompile schemas views” part)
- Apply statistics once imported (except when using datapump scripts which contain statistics)

5.11.3 Two scripts levels

Since PLM v3 there is two levels of scripts:

- Standard
- Advanced

5.11.4 Export/import using standard level scripts

You can choose:

- to run it immediately after script generation
- or to manually modify it and then start the export when ready

Default export users are WLP_01 for Workflow target and (PLM_01, PLM_01_JMS) for PLM target

5.11.4.1 Export Steps

Adjust the generated command script according to needs and then:

- PLM <v3

Double click on: [expLDPLM000_PLM_and_WLP_SCH.bat](#)

- PLM >=v3

Double click on: [APP_generate_export.bat](#)

5.11.4.2 Import steps

- Start the script generator:

- PLM <v3

Double click on: [impLDPLM000_PLM_and_WLP_SCH.bat](#)

- PLM >=v3

Double click on: [APP_generate_import.bat](#)

- Adjust scripts before running them
- Apply post-import steps as previously described

5.11.4.3 Export/import scripts examples

Under admin\export\examples directory:

PLM <v3

- [expLDPLM000_PLM_01.bat](#) : export of PLM_01 and PLM_01_JMS user
- [expLDPLM000_WLP_01.bat](#) : export of WLP_01 user (PLM <=v3)

v3 <=PLM <=v4

- [impLDPLM000_PLM_01_to_PLM_02.cmd](#): import PLM_01 into PLM_02
- [impLDPLM000_WLP_01_to_WLP_02.bat](#) : import WLP_01 into WLP_02 (PLM <v4)

5.11.5 Export/import using advanced level scripts (PLM >=v3r3sp3)

5.11.5.1 Datapump or classic export/import?

Datapump advantages:

- is faster and powerful than classic export import

Datapump constraint:

- Datapump dump are read/written on the database server part

Since PLM v3r3sp3, advanced scripts are provided

5.11.5.2 Classic export/import batch generator

PLM_export_import_script_00_START.cmd

```
*****
*      HELP TO GENERATE PLM and WLP EXPORT-IMPORT BATCH SCRIPT      *
*****

1. Generate: export source, drop/create/import/apply stats scripts {without
running}

2. View and Modify generated export source script

3. View and Modify generated drop/create/import/apply stats scripts

4. Run step1 scripts

5. Run step2 scripts

6. Run sqlplus {sys user}

7. Windows Dos prompt

8. Exit

Choose (1/4) [1]?
```

5.11.5.3 Datapump export/import batch generator

PLM v4r3 example

| ORA_SE_WIN\PLM\admin\export_import\advanced\STD_DATAPUMP.cmd | Typical create directory |
|---|--|
| <pre>***** MANAGE DATAPUMP IN COMMAND MODE ***** * objective1 : Generate scripts to use DATAPUMP * objective2 : Hide complexity * objective3 : Being able to run part of it using application basic owner privileges * Requirement: run the script from the database server, Database open ***** CHOOSE A CONNECTION TYPE TO RUN DATAPUMP ADMIN schema: (default: SYSDB) - need grant to drop/create Oracle directories, grant read write on directories BASIC schema: (ex: application owner: PLM_01) - need only basic grants to read and write on a directory - has not "create any user" grant nor "IMP_FULL_DATABASE" role connect MODE (ADMIN/BASIC) [ADMIN]? current_p_connect_type is ADMIN CHOOSE A CHOICE 1. COMMON: Show existing directories (ADMIN user see all libraries, BASIC user see granted libraries) 2. COMMON: Create or replace a directory {default is PLM_TEMP_DIR on current path} (need ADMIN connection) 3. COMMON: Grant READ, WRITE on directory PLM_TEMP_DIR to users (only to be able to use BASIC usage:datapump done by application owner instead of SYSDB) (need ADMIN connection to grant and allow BASIC usage) 4. COMMON: Generate scripts to drop a directory (need ADMIN connection) 5. SOURCE: Generate scripts to export schema using datapump (used to industrialize) (can be done using BASIC/ADMIN mode) 6. TARGET: Generate scripts to import schema using datapump (using SOURCE datapump.dump) (can be done using BASIC/ADMIN mode) 7. run sqlplus (ADMIN connection) 8. Windows Dos prompt 9. Datapump help 10. Change connection type used to generate script (current is ADMIN) 11. Exit Choose (1/11) [2]?</pre> | <pre>CREATE OR REPLACE DIRECTORY PLM_TEMP_DIR AS 'E:\BUNDLES\DatapumpBundle- 4_3_0_48\PLM_v4r3_core_108_v08c_officielle\ORA_SE_WIN \PLM\admin\export_import\advanced'</pre> |
| | Typical SCN search |
| | <pre>SELECT trim(TIMESTAMP_TO_SCN(SYSTIMESTAMP)) s_cn from dual</pre> |
| | Typical export output:tmp_STD_DATAPUMP_expdPLM_01.cmd |
| | <pre>set ORACLE_SID=LDPLM000 expdp SYSTEM/LDPLM000 schemas=PLM_01 directory=PLM_TEMP_DIR dumpfile=tmp_STD_DATAPUMP_expdPLM_01.dmp logfile=tmp_STD_DATAPUMP_expdPLM_01.log flashback_scn=25354268 (or only since 11GR1 flashback_time=SYSTIMESTAMP)</pre> |
| | Typical import output:tmp_tmp_STD_DATAPUMP_impdPLM_01.cmd |
| | <pre>set ORACLE_SID=LDPLM000 impdp SYSTEM/LDPLM000 DIRECTORY=PLM_TEMP_DIR dumpfile=tmp_STD_DATAPUMP_impdPLM_01.dmp remap_schema=PLM_01:PLM_01 TRANSFORM=oldtr LOGFILE=tmp_STD_DATAPUMP_impdPLM_01.log</pre> |

5.12 How to repair a schema

5.12.1 PLM <=v3: Repairing <PLM_SCHEMA_JMS> schema

When to apply

- When you drop this user by mistake
- When you need to clean the content (support context)

Steps

All scripts are stored in <DATABASE_BUNDLE_PATH>\PLM\admin\migration\JMS

Create first the TD_PLM_JMS tablespace:

- Double click on **PLMcreTBS_TD_PLM_JMS.bat**

Create for each existing users created with previous PLM versions an additional JMS user:

- Double click on **PLMcre_JMS_USR.bat**

5.12.2 v3<=PLM <v4, WLP installed: Repairing link between WLP and PLM schema

On PLM v3r3, <PLM_MAIN_SCHEMA> contains views that use WLP main schema views.

If source schema (e.g. PLM_01, WLP_01) is different than target schema (e.g. PLM_02, WLP_02) need to repair using **PLM_WLP_repair.cmd** using option 1 and option 2

```
*****
* Part1 : Scripts to repair PLM and WLP coupled objects          *
* *****                                                    *
* Objective: - Script to repair PLM views using WLP views or   *
*            - missing grants                                  *
* Context   : apply only on PLM targets that use WLP          *
*            (Example: not for Kaledo/Modaris targets)         *
* Requirement: - WLP target views exists                      *
*            - PLM has grant to select WLP views              *
*****
```

1. Repair grant needed by PLM on WLP views
2. Recreate PLM view using good WLP target schema
3. Exit

Choose (1/3) [1]?

5.12.3 v3<=PLM<v4, WLP installed: How to recompile schemas views

For the two main schema (e.g. PLM_01 and WLP_01),

Under ORA_SE_WIN\PLM\admin\manage_schema\script

Run **PLMcreSCH_DDL_02_z_post_schema_compile_objects.sql**

Example:

```
Sqlplus PLM_01/PLM_01@LDPLM000
Sta PLMcreSCH_DDL_02_z_post_schema_compile_objects.sql
connect WLP_01/WLP_01@LDPLM000
```

Sta PLMcreSCH_DDL_02_z_post_schema_compile_objects.sql

5.12.4 v3r3<=PLM<v4, WLP installed: How to repair WLP main schema indexes after importing

5.12.4.1 Context: Oracle 11202 and after importing a WLP source schema different than the target schema

WLP main schema contain indexes on function that use custom PL/SQL function

On Oracle 11.2.0.2 context, a bug exist (Bug Oracle 4551560) and that kind of index is not created during import (or datapump) when source schema is different from target schema

Example: importing from WLP_01 to WLP_02

5.12.4.2 Step1: count indexes in the WLP source main schema

This is possible using Database bundle scripts:

Refer to "HOW TO CHECK A SCHEMA" chapter, "how to count objects"

5.12.4.3 Step2: count indexes in the WLP target main schema after import

5.12.4.4 Step3: add missing indexes if exist

Under ORA_SE_WIN\PLM\admin\patch\WLP_missing_indexes_after_import

Start **WLP_add_missing_indexes.cmd**

This will recreate indexes and so missing indexes will be created

5.12.5 PLM >=v4r1: Repairing ADM sub-schema

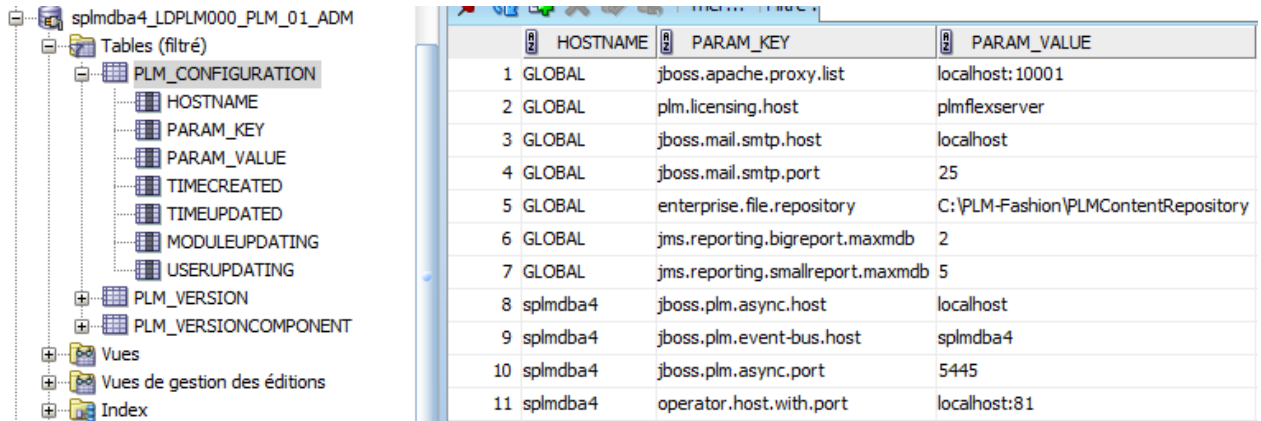
Under ORA_SE_WIN\PLM\admin\manage_schema\

Start **01_ADM_manage_schema.cmd**

```
*****  
* Objective : manage {PLM_SCHEMA_ADM} used to store PLM architecture data *  
*****  
  
-- 1. Show existing subschemas associate to a main schema {PLM for all PLM schemas}  
-- 2. Create just new empty {PLM_SCHEMA_ADM} schema {if need to import existing data}  
-- 3. Create new {PLM_SCHEMA_ADM} schema with schema objects like tables, indexes, packages  
-- 4. Create objects like tables, indexes, package... in existing {PLM_SCHEMA_ADM} schema  
-- 5. Repair grants : grantor {PLM_SCHEMA_ADM}, grantee {PLM_SCHEMA}  
-- 6. Repair grants : grantor {PLM_SCHEMA}, grantee {PLM_SCHEMA_ADM}  
-- 7. Repair synonyms : {PLM_SCHEMA} create private synonyms on {PLM_SCHEMA_ADM} objects  
-- 8. Refresh {PLM_SCHEMA_ADM} version tables from {PLM_SCHEMA} version tables  
-- 9. run sqlplus {system user}  
-- 10. Windows Dos prompt  
-- 11. Exit
```

Choose (1/11) [1]?

Adjust ADM subschema only if imported:



	HOSTNAME	PARAM_KEY	PARAM_VALUE
1	GLOBAL	jboss.apache.proxy.list	localhost:10001
2	GLOBAL	plm.licensing.host	plmflexserver
3	GLOBAL	jboss.mail.smtp.host	localhost
4	GLOBAL	jboss.mail.smtp.port	25
5	GLOBAL	enterprise.file.repository	C:\PLM-Fashion\PLMContentRepository
6	GLOBAL	jms.reporting.bigreport.maxmdb	2
7	GLOBAL	jms.reporting.smallreport.maxmdb	5
8	splmdba4	jboss.plm.async.host	localhost
9	splmdba4	jboss.plm.event-bus.host	splmdba4
10	splmdba4	jboss.plm.async.port	5445
11	splmdba4	operator.host.with.port	localhost:81

5.13 How to check a schema, retrieve metadata or data

5.13.1 How to check PLM schema (functional and technical version, brand, count objects...)

Under `ORA_SE_WIN\PLM\admin\manage_schema\`

Start `PLM_CHECK.cmd`

5.13.2 How to check WLP schema (PLM <v4r1: count data like Products, todolists entries...)

Under `ORA_SE_WIN\PLM\admin\manage_schema\`

Start `WLP_CHECK.cmd`

5.13.3 How to just count objects (like tables and indexes)

Under `ORA_SE_WIN\PLM\admin\manage_schema\script\advanced`

Start `STD_count_objects.cmd`

5.13.4 How to count data rows

Under `ORA_SE_WIN\PLM\admin\manage_schema\script\advanced`

5.13.5 How to find metadata or data

Under `ORA_SE_WIN\PLM\admin\manage_schema\script\advanced`

Start `STD_FIND.cmd`

```
*****  
* CENTRALIZE ALL SEARCH *  
* ***** *  
* Objective : - save time on support and DBA tasks *  
* - Generate scripts *  
* Updated : 2013/09/24 *  
* Version : 07 *  
* Requirement: *  
*****  
1. DATA SEARCH: Find which table.column contain a specific string  
   objective: faster way to find table which contain almost a column  
   matching a string  
   For each table: - exit when the first row is founded  
                  - show only the first column found  
2. DATA SEARCH: Find which table.column contain a string  
   - This can be LONG and resource consumer on big tables  
   because count matching values on each column of each table  
   - On big database recommended to use the previous table list to restrict IO resource  
   - Build a select to retrieve each matching row  
3. STRUCTURE_DEPENDENCY: find table father and children dependency using Foreign key  
4. STRUCTURE_DEPENDENCY: show father FK and all levels of childs  
5. STRUCTURE_DEPENDENCY: show dependencies using USER_SOURCE  
   ( Which PL/SQL structure use a specific statement part?)  
6. run sqlplus <schema user>  
7. Windows Dos prompt  
8. Exit  
Choose <1/5> [1]? _
```

5.13.5.1 Search data: What table and column contain a specific string

Choose choice 1 or 2

5.13.5.2 Search metadata: dependencies between Oracle objects (tables...)

Choose choice 3/4/5

6. MANAGE DATABASE CONTROL HOW TO

6.1 HOW TO CONNECT TO THE DATABASE CONTROL REPOSITORY

6.1.1 From the database server

Example on Windows server 2003/2008R2

Start > All Programs



Example on Windows server 2012

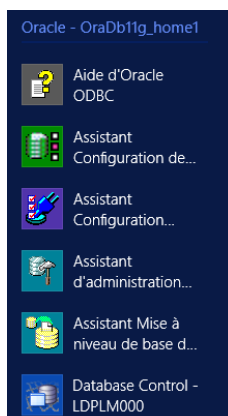
Click on



Go to the application panel



Scroll to find Oracle Home applications



6.1.2 From a remote server

6.1.2.1 Find the port (default is 1158)

Open \\<remoter server>\<Oracle_home>\install\portlist.ini

Example:

\\Srdsicbd4\e\$\app\oracle\product\11.2.0\dbhome_1\install\portlist.ini

Enterprise Manager Console HTTP Port (LDPLM000) = 1158

6.1.2.2 Configure the Web browser

Add <remoter server> on Proxy network exception if needed



6.1.3 Common next steps

6.1.3.1 Connect to the database console


When 10GR2 : <http://<remote server>:<database console port>/em/console/database>

When > 10GR2: <https://<remote server>:<database console port>/em/console/database>

Example: <https://srdslblade2bl3:1158/em/console/database/instance>

6.1.3.2 Enter USER and PASSWORD

SYS connection example



6.1.3.3 Potential problems

In remote mode, you need sometimes to run twice the initial connection

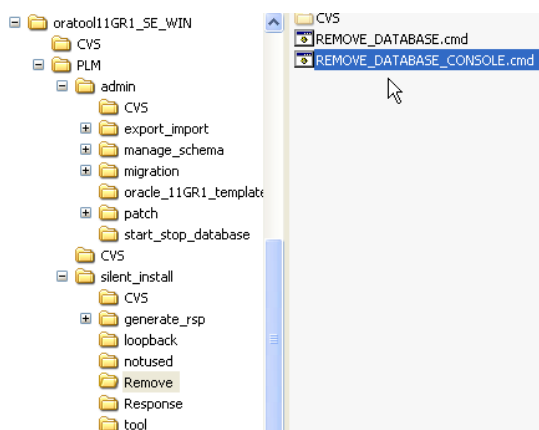
For other problems like firewall or others refer to the “Database troubleshooting guide”

6.2 HOW TO DELETE A DATABASE CONTROL REPOSITORY

Example done for Oracle 11GR1 target (same method for Oracle 10G)

6.2.1 In non-interactive mode using provided scripts

Double click on:



6.2.2 Manually

From a Dos prompt:

```
emca -deconfig dbcontrol db -repos drop -HOST %COMPUTERNAME% -SID
%DB_ORACLE_SID% -PORT %DB_PORT% -DBSNMP_PWD
```



```
%DB_SYSTEM_PASSWORD% -SYSMAN_PWD %DB_SYSTEM_PASSWORD% -  
SYS_PWD %DB_SYS_PASSWORD%
```

6.2.3 After delete, check that all was successfully dropped

6.2.3.1 Check emca (Enterprise Manager configuration assistant) logs

<ORACLE_HOME>\cfgtoollogs\emca

Or

<ORACLE_DIAGNOSTIC_FOLDER>\cfgtoollogs\emca

6.2.3.2 Check if sysman user has been dropped

```
Sqlplus system/<system pwd>@<instance_name>
```

```
Set pagesize 1000
```

```
Select username, account_status
```

```
From dba_users
```

```
where username = 'SYSMAN' ; => no rows
```

6.2.3.3 Check if database console service was deleted

Example of service name :

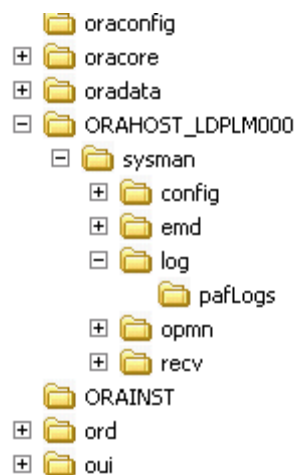
OracleDBConsoleLDPLM000

To delete if still exists :

```
sc delete OracleDBConsoleLDPLM000<service name>
```

6.2.3.4 Check if database console folder has been dropped

Check if <ORACLE_HOME>\<Server_name_or_ORAHOST>_<instance_name> still exist
and delete it if exists



6.2.3.5 Remark: how to clean the database part when partially dropped

This can be helpful in some particular case, (example: “deconfig database control” interrupted), some database objects remain in the database and it is impossible to re-install

To manually fix:

```

Step 1: Drop AQ related objects in the SYSMAN schema
Logon SQLPLUS as user SYS
SQL> exec
DBMS_AQADM.DROP_QUEUE_TABLE(queue_table=>'SYSMAN.MGMT_NOTIFY_QTABLE',force=>TRUE);

Step 2: Drop the DB Control Repository Objects
Logon SQLPLUS as user SYS or SYSTEM, and drop the sysman account and
management objects:
SQL> SHUTDOWN IMMEDIATE;
SQL> STARTUP RESTRICT;
SQL> EXEC sysman.emd_maintenance.remove_em_dbms_jobs;
SQL> EXEC sysman.setEMUserContext('',5);
SQL> REVOKE dba FROM sysman;
SQL> DECLARE
CURSOR c1 IS
SELECT owner, synonym_name name
FROM dba_synonyms
WHERE table_owner = 'SYSMAN';
BEGIN
FOR r1 IN c1 LOOP
IF r1.owner = 'PUBLIC' THEN
EXECUTE IMMEDIATE 'DROP PUBLIC SYNONYM '||r1.name;
ELSE
EXECUTE IMMEDIATE 'DROP SYNONYM '||r1.owner||'.'||r1.name;
END IF;
END LOOP;
END;
/
SQL> DROP USER mgmt_view CASCADE;
SQL> DROP ROLE mgmt_user;
SQL> DROP USER sysman CASCADE;
SQL> ALTER SYSTEM DISABLE RESTRICTED SESSION;
  
```

6.3 HOW TO CREATE A DATABASE CONSOLE REPOSITORY

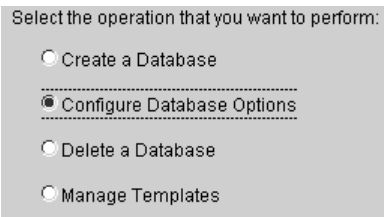
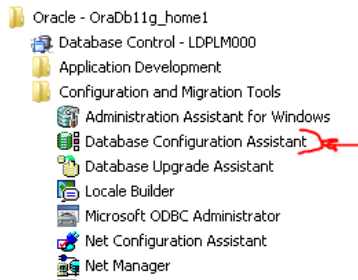
Example done for Oracle 11GR2 target (same method for other versions)

6.3.1 Automatically using database bundle subscript

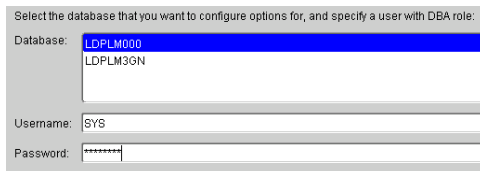
This part is done automatically by calling [DB_INST_08_em.cmd](#)



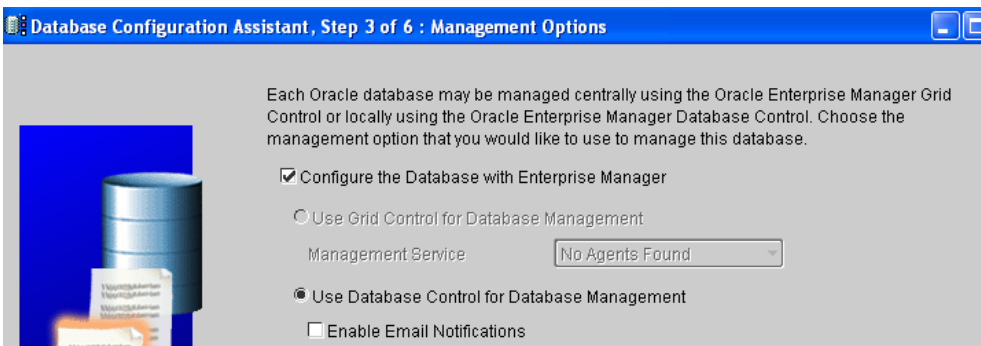
6.3.2 Using dbca



Choose your database



Choose to configure Enterprise manager



7. INSTANCE MANAGEMENT HOW TO

7.1 HOW TO REMOVE AN INSTANCE

7.1.1 Interactive mode

Form the windows menu:

- start > Oracle-OraDB<ORA_VERSION>_home1> configuration and migration tools > Database Configuration assistant
- choose "Delete database"

7.1.2 Silent mode

Under <DATABASE_BUNDLE_PATH>\PLM\silent_install path:

- Check the database target name (default is LDPLM000) :
 - Edit **DB_INST_param.cmd**
- Double click on:
 - Remove **REMOVE_DATABASE.cmd**

7.2 HOW TO CREATE A NEW DATABASE INSTANCE (Standard Edition)

7.2.1 Silent mode using database bundle (Recommended)

Under <DATABASE_BUNDLE_PATH>\ORA_SE_WIN\silent_install path

7.2.1.1 DB_INST_param.cmd configuration when creating a default instance (LDPLM000)

PLM <v3r3sp3>: set DB_ORACLE_SID

```
set APP_ALIAS=PLM
REM set DB_ORACLE_SID=LD%APP_ALIAS%000
set DB_ORACLE_SID=LD%APP_ALIAS%000
```

Since PLM v3r3sp3,

Check into DB_INST_param.cmd that DB_ORACLE_SID_NAMING_FORCE is empty

```
REM - MODE 1: AUTOMATIC NAMING : recommended, is the default
REM   rule is {DB_COMPANY_LETTER}{DB_ORACLE_ENV_TYPE_LETTER}{APP_ALIAS}000
REM   DB_ORACLE_ENV_TYPE_LETTER=D {DEV}, P {PROD}, U {UAT}, T {TRAINING}
REM - MODE2: FORCE NAMING: used when Customer wants specific rule
REM   will be used when DB_ORACLE_SID_NAMING_FORCE not empty
set DB_COMPANY_LETTER=L
set DB_ORACLE_ENV_TYPE_LETTER=D
set DB_ORACLE_SID_NAMING_FORCE=LDPLM3G
REM ex: set DB_ORACLE_SID_NAMING_FORCE= LDPLM002

set DB_COMPANY_LETTER=L
set DB_ORACLE_ENV_TYPE_LETTER=D
set DB_ORACLE_SID_NAMING_FORCE=
```

7.2.1.2 DB_INST_param.cmd configuration when creating a customized instance

PLM <v3r3sp3>: set DB_ORACLE_SID to the target value

Example: DB_ORACLE_SID=LDPLM002

Since PLM v3r3sp3, need to set DB_ORACLE_SID_NAMING_FORCE

Example: to create a new instance LDPLM002

```
REM Oracle Instance Naming management
REM "*****"
set DB_COMPANY_LETTER=L
set DB_ORACLE_ENV_TYPE_LETTER=D
set DB_ORACLE_SID_NAMING_FORCE=LDPLM3G
REM ex: set DB_ORACLE_SID_NAMING_FORCE= LDPLM002
```

- Check parameter values by double clicking on: **DB_INST_param.cmd** (check generated log: tmp_DB_INST_param.log)

7.2.1.3 DB_INST_03_BASE.cmd: create the instance in silent mode

- Double click on: **DB_INST_03_BASE.cmd** to create the new instance with default Oracle tablespaces (SYSTEM,...)

7.2.2 Interactive mode (not recommended)

Form the windows menu:

- start > Oracle-Ora<DB_ORACLE_VERSION>_home1 configuration and migration tools > Database Configuration assistant
- choose "Create Database"
- Choose the PLM database template and wait for completion

Remarks:

PLM database template provides from database bundle which at the first silent installation copy the good template:

- From <DATABASE_BUNDLE_PATH>\ORA_SE_WIN \silent_install path
- To <ORACLE_HOME>\assistants\dbca\templates

Provided templates don't create PLM tablespaces to guarantee Lectra application interoperability

7.2.3 Common post-steps for default/customized and silent/interactive instances creation

- Check parameter values by double clicking on: **DB_INST_param.cmd** (check generated log: tmp_DB_INST_param.log)
- Double click on: **DB_INST_03a_APP_creTBS.cmd** to create the PLM applicative tablespaces
- Double click on **DB_INST_03c_create_schema.cmd** to create empty users

Remark: Even in interactive mode

8. OPERATING SYSTEM HOW TO

8.1 HOW TO INSTALL A LOOKBACK MANUALLY (Windows 2003 example)

- Check IF already installed

From a Dos window: ipconfig /all

Ethernet adapter LoopBack:

Connection-specific DNS Suffix :

Description : **Microsoft Loopback Adapter**

Physical Address. : 02-00-4C-4F-4F-50

DHCP Enabled. : No

IP Address. : 10.10.10.10

Subnet Mask : 255.255.255.0

Default Gateway :

- Open the Windows Control Panel.
- Double-click **Add Hardware** to start the Add Hardware wizard.
- In the Welcome window, click Next.
- In the “Is the hardware connected?” window, select **Yes, I have already connected the hardware**, and click Next.
- In the “The following hardware is already installed on your computer” window, in the list of installed hardware, select **Add a new hardware device**, and click Next.
- In the “The wizard can help you install other hardware window”, select **Install the hardware that I manually select from a list**, and click Next.
- From the list of hardware types, select the “Type of hardware you are installing” window, select **Network adapters**, and click Next.
- In the Select **Network Adapter window**, make the following selections:
 - Manufacturer: Select **Microsoft**.

- Network Adapter: Select **Microsoft Loopback Adapter**. Click **Next**.
- In the “The wizard is ready to install your hardware” window, click Next.
- In the “Completing the Add Hardware Wizard” window, click **Finish**.
- If you are using Windows 2003, restart your computer.
- Right-click **My Network Places** on the desktop and choose Properties. This displays the Network Connections Control Panel.
- Right-click the connection that was just created. This is usually named "**Local Area Connection 2**". Choose Properties.
- On the General tab, select **Internet Protocol (TCP/IP)**, and click Properties.
- In the Properties dialog box, click **Use the following IP address** and do the following:
 - IP Address: Enter a non-routable IP for the loopback adapter. Oracle recommends the following non-routable addresses:
 - 192.168.x.x (x is any value between 0 and 255)
 - 10.10.10.10
 - Subnet mask: Enter 255.255.255.0.
- Record the values you entered, which you will need later in this procedure.
- Leave all other fields empty. Click OK. Click OK.
- Close Network Connections.
- Restart the computer.
- Add a line to the SYSTEM_DRIVE:\WINDOWS\system32\drivers\etc\hosts file with the following format, after the localhost line:
 - <IP_address> <hostname. domain name> <hostname>
 - where:
 - <IP_address> is the non-routable IP address you entered in step 16.
 - <hostname> is the name of the computer.
 - <domainname> is the name of the domain.
 - For example:
 - 10.10.10.10 mycomputer.mydomain.com mycomputer
 - Case of ORACLE_HOSTNAME system variable set:
 - Example: If ORACLE_HOSTNAME=ORAHOST you need to set :
 - <IP_address> <hostname. domain name> <hostname> ORAHOST
- Check the network configuration:

- Open [System in the Control Panel](#), and select the **Computer Name tab**. In Full computer name, make sure you see the host name and the domain name, for example, sales.us.mycompany.com.
- Click Change. In Computer name, you should see the hostname, and in Full computer name, you should see the host name and domain name. Using the previous example, the host name would be sales and the domain would be us.mycompany.com.
- Click More. In **Primary DNS suffix** of this computer, you should see the domain name, for example, us.mycompany.com.

8.1.1 Check if network is OK

When not connected to a public network:

Ping <your computer> gives 10.10.10.10

When connected to a public network:

Ping <your computer> gives the DHCP IP address

9. ORACLE BACKUP_RESTORE BASIC CONCEPTS

9.1 Common concepts

9.1.1 Logical backup (schema object level)

The goal of a logical backup is to be able to recover at the individual schema object level.

In Oracle, logical backups are mainly performed using the **Export** utility, by exporting schema objects into a binary file that can only be read by the Import utility which imports schema objects into a database.

In SQL Server, individual schema objects, can be both backed up to flat files in any of the several supported file formats and then restored using tools such as the BCP utility, Import and Export Wizard and other SSIS tools like “**copy database**”

9.1.2 Physical backup

Physical backups are copies of physical database files.

In Oracle, these files include data files, control files and, if the database is in ARCHIVELOG MODE, archived redo log files. The same is true in SQL Server.

9.1.2.1 Cold backup (offline, consistent)

A backup taken when the database is shut down normally is known as offline or a cold backup.

In Oracle, these files include data files, control files and, if the database is in ARCHIVELOG

MODES, archived redo log files. The same is true in SQL Server.

A consistent backup of a database or part of a database is a backup in which all read/write datafiles and control files are “checkpointed” with the same SCN (system change number).

=> Cold backups are not an option in mission critical environments with high availability requirements, since they require a database maintenance window.

=> This is the more simple method but requires that customer can stop the database

9.1.2.2 Hot backup (online, inconsistent)

Backups are performed while the database remains available for both reading and updating (no downtime).

=> This is recommended when customer cannot have downtime

Data files are being modified as backups are being taken:

In Oracle, an inconsistent backup is when the files being backed up do not contain all the changes made at all the SCNs. Oracle recovery makes inconsistent backups consistent by reading all archived and online redo logs, starting with the earliest SCN in any of the data files headers, and applying the changes from the logs back into the data files.

A full online database backup with SQL Server backs up the complete database and includes part of the transaction log.

9.1.3 Recovery

Restoring the files from backup and rolling forward in time is RECOVERY.

9.1.4 How to choose a strategy

To choose a strategy you need to:

- Define first the RPO and RTO target.
- Once defined, choose a technical way to reach RTO and RPO

9.1.4.1 Recovery Point Objective (RPO)

Data loss tolerance of a business process or an organization, often measured in terms of time (example: 1 hour, ½ days)

9.1.4.2 Recovery Time Objective (RTO)

Indicate the downtime tolerance of a business process or an organization

9.1.4.3 "ORACLE SUGGESTED BACKUP" strategy concept

In this strategy:

- J1: a full database backup is taken on the first day
- J2 : an incremental backup
- J3 and onwards:
 - the previous day's incremental backup is merged with the data file copy
 - and a current incremental backup is taken, allowing fast recovery to the beginning of the current day

=> Archived redo logs can be used to recover the database to any point in either day.

9.2 Oracle concepts

9.2.1 Physical Database Structures Used in Recovering Data

9.2.1.1 Data files

An Oracle database consists of one or more logical storage units called tablespaces. Each tablespace in an Oracle database consists of one or more files called datafiles, physical files under the host operating system which collectively contain the data stored in the tablespace

9.2.1.2 Redo Logs

Redo logs record all changes made to a database's data files. Each time data is changed in the database, that change is recorded in the online redo log first, before it is applied to the datafiles.

At intervals, the database rotates through the online redo log groups, storing changes in the current online redo log.

Because the redo log contains a record of all changes to the datafiles, if a backup copy of a datafile from some point in time and a complete set of redo logs from that time forward are available, the database can reapply changes recorded in the redo logs, in order to reconstruct the datafile contents at any point between the backup time and the end of the last redo log. However, this is only possible if the redo log has been preserved.

Therefore, preserving the redo logs is a major part of most backup strategies. The first level of preserving the redo log is through a process called archiving. The database can copy online redo log groups that are not currently in use to one or more archive locations on disk, where they are collectively called the archived redo log. Individual files are referred to as archived redo log files. After a redo log file is archived, it can be backed up to other locations on disk or on tape, for long term storage and use in future recovery operations.

On 10G, archived logs are stored in the flash area.

9.2.1.3 Control file

A control file reflects the structure of a database at particular points in time. It contains the checkpoint information, names of log files and data files, header information of the files and log sequence number, which is very important for recovery purposes. The recovery is done only by applying the log files whose sequence number is greater than log sequence number in the control file.

The control file contains the record of the physical structures of the database and their status. Several types of information stored in the control file are related to backup and recovery:

- Database information (RESETLOGS SCN and time stamp)
- Tablespace and datafile records (filenames, datafile checkpoints, read/write status, offline ranges)
- Information about redo threads (current online redo log)
- Log records (log sequence numbers, SCN range in each log)
- A record of past RMAN backups
- Information about corrupt datafile blocks

10. ORACLE SE/SEONE (STANDARD EDITION) BACKUP AND RESTORE

10.1 Physical Cold Backup and restore (offline)

Most of the customer can find a low activity window to stop the database.

If not, customer cannot use Cold backup.

10.1.1 Manual cold backup

- close the database
 - stop “OracleServiceLDPLM000” service using Windows service control panel
- backup the database and the flash area
 - Backup data files (example: [C:\oracle\oradata\LDPLM0000](#))
 - Backup flash area

Example: [C:\oracle\oracle\flash_recovery_area\LDPLM0000](#)

10.1.2 Manual cold restore

- close the database
- restore the database at the original location
 - Restore data files (example: [C:\oracle\oradata\LDPLM000](#))
 - Restore flash area

Example: [C:\oracle\flash_recovery_area\LDPLM000](#)

- Restart the database

10.2 Physical Hot backup (online): BIG production site target

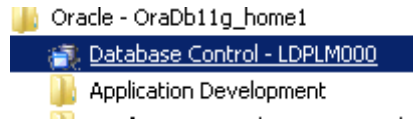
10.2.1 Context

Big production center having a lot of users, and constraints like

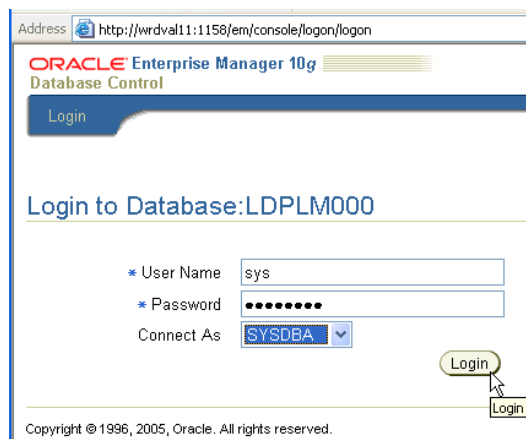
- No possible to stop the database during the backup
- No possible to Loss current transactions.
 - So we need to work using the [archive log mode](#)

10.2.2 COMMON STEPS AND REQUIREMENTS

10.2.2.1 Start database console



10.2.2.2 Choose SYS if you need to do specific tasks (as stop the database, parameters...)

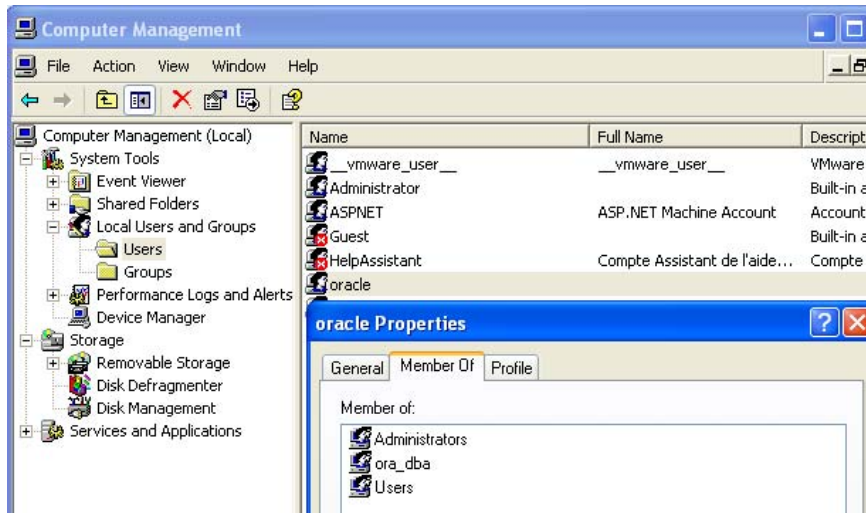


10.2.2.3 Requirements: you can prepare a specific OS user for running Job or use administrator

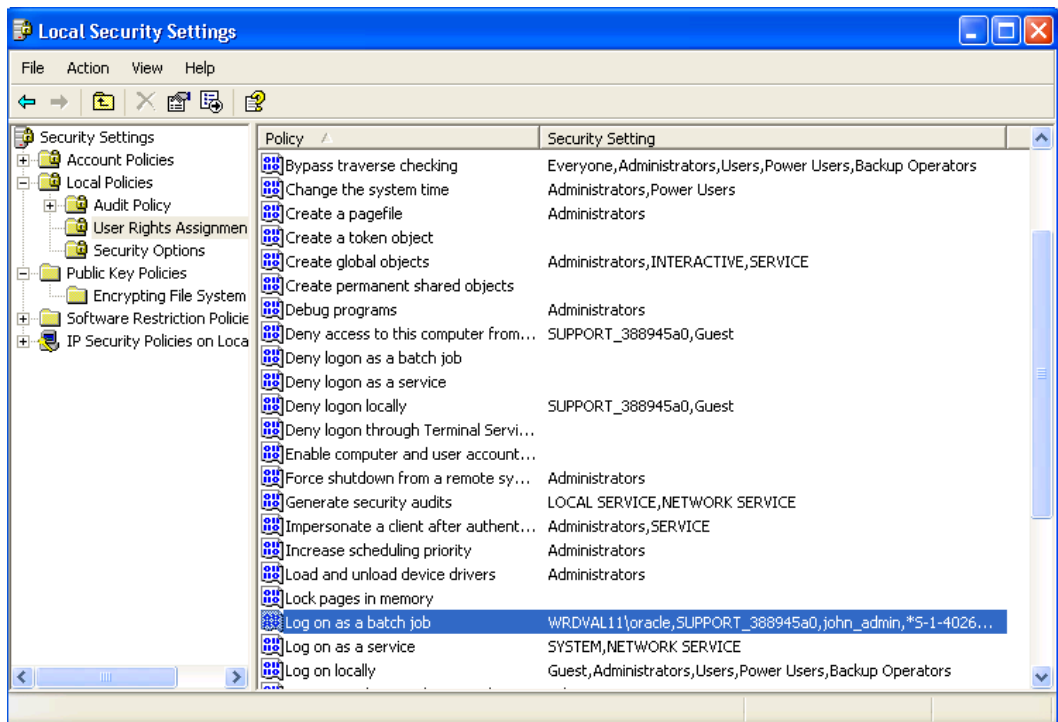
You can instead of using administrator account create a specific user used by database control:

- Name: oracle
- password: xxxxx
- groups: Administrators and ORA_DBA
- mandatory privilege: "log on as batch job"

This can be done using GUI command



Add some privilege to your local user (<hostname>\oracle)



This can be done using DOS command:

- C:\Documents and Settings\t.loisy>net user oracle /ADD
- C:\Documents and Settings\t.loisy>net LOCALGROUP ADMINISTRATORS oracle /add
- C:\Documents and Settings\t.loisy>net LOCALGROUP ORA_DBA oracle /add

10.2.2.4 Click on the High Availability link

Address http://wrdval11:1158/em/console/database/instance/sitemap?event=doLoad&target=LDPLM000&type=oracle_database&pageNum=1 Go Link

ORACLE Enterprise Manager 10g Database Control [Setup](#) [Preferences](#) [Help](#) [Logout](#)

Database


Logged in As SYS

Database Instance: LDPLM000

[Home](#) [Performance](#) [Administration](#) [Maintenance](#)

Page Refreshed Feb 9, 2007 12:48:33 PM [Refresh](#) View Data [Automatically \(60 sec\)](#)

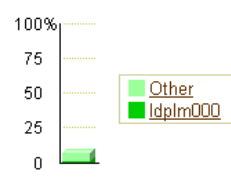
General

 [Shutdown](#)

Status [Up](#)
Up Since **Feb 9, 2007 9:46:07 AM CET**
Instance Name **ldplm000**
Version **10.2.0.1.0**
Host [wrdval11.eu.lectra.com](#)
Listener [LISTENER_wrdval11.eu.lectra...](#)

[View All Properties](#)

Host CPU



Load [1.00](#) Paging [11.41](#) Maximum CPU **1**

Active Sessions




SQL Response Time


 Baseline is empty.

[Reset Baseline](#)

Diagnostic Summary

ADDM Findings	0
All Policy Violations	 9
Alert Log	No ORA- errors

Space Summary

Database Size (GB)	0.982
Problem Tablespaces	 8
Segment Advisor Recommendations	0
Space Violations	 1

High Availability

Last Backup	n/a
Usable Flash Recovery Area (%)	100
Flashback Logging	Disabled

10.2.2.5 Check you are in archive log and put it if not

ORACLE Enterprise Manager 10g Database Control

Database Instance: LDPLM000 > Recovery Settings

Recovery Settings

Instance Recovery

The FAST_START_MTTR_TARGET initialization parameter specifies the number of seconds estimated for crash recovery. C time as close as possible to these parameters. Setting FAST_START_MTTR_TARGET to 0 will disable this functionality.

Current Estimated Mean Time To Recover (seconds) **0**

Desired Mean Time To Recover [Minutes](#)

Media Recovery

The database is currently in NOARCHIVELOG mode. In ARCHIVELOG mode, hot backups and recovery to the latest time i: ARCHIVELOG mode, you should make a backup immediately. In NOARCHIVELOG mode, you can make only cold backup

ARCHIVELOG Mode*

Log Archive Filename Format*

Remark: Other way to check if you are in archive log:

- Sqlplus system/LDPLM000@LDPLM0000

- Select log_mode from v\$database;

10.2.2.6 Adjust Flash recovery area location if needed

Flash Recovery

Flash Recovery Area is enabled for this database. The chart shows space used by each file type that is not reclaimable by Oracle. Performing backups to a tertiary storage is one way to make space reclaimable. Usable Flash Recovery Area includes free and reclaimable space.

Flash Recovery Area Location

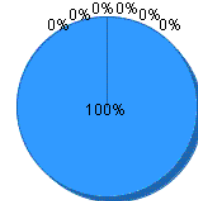
Flash Recovery Area Size GB

Flash Recovery Area Size must be set when the location is set

Reclaimable Flash Recovery Area (B) 0

Free Flash Recovery Area (GB) 3

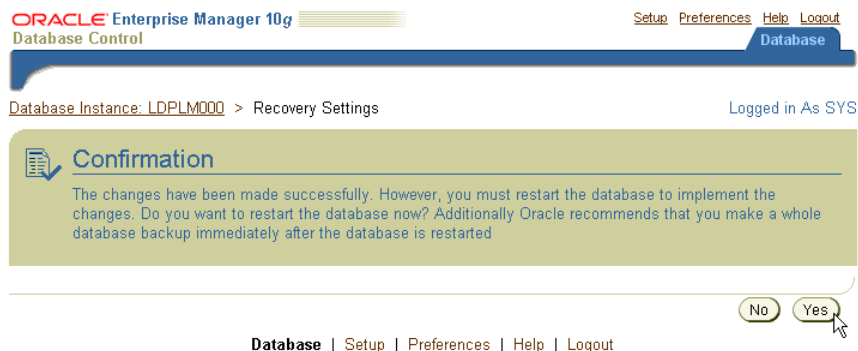
Flash Recovery Area Usage



Control File - 0B (0%)	Image Copy - 0B (0%)
Online Log - 0B (0%)	Flashback Log - 0B (0%)
Archive Log - 0B (0%)	Usable - 3GB (100%)
Backup Piece - 0B (0%)	

Apply changes to SPFILE only. Otherwise the changes will be made to both SPFILE and the running instance which requires that you restart the database to invoke static parameters.

10.2.2.7 Apply



ORACLE Enterprise Manager 10g Database Control

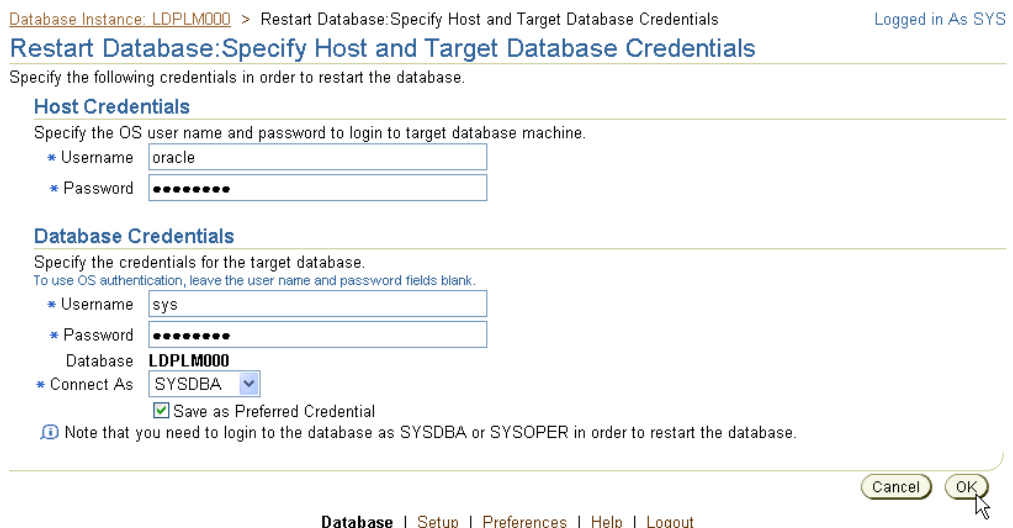
Database Instance: LDPLM000 > Recovery Settings

Confirmation

The changes have been made successfully. However, you must restart the database to implement the changes. Do you want to restart the database now? Additionally Oracle recommends that you make a whole database backup immediately after the database is restarted

No Yes

10.2.2.8 Gives Host and Database credential and push OK button



Database Instance: LDPLM000 > Restart Database: Specify Host and Target Database Credentials

Restart Database: Specify Host and Target Database Credentials

Specify the following credentials in order to restart the database.

Host Credentials

Specify the OS user name and password to login to target database machine.

* Username oracle

* Password

Database Credentials

Specify the credentials for the target database.

To use OS authentication, leave the user name and password fields blank.

* Username sys

* Password

Database LDPLM000

* Connect As SYSDBA

Save as Preferred Credential

Note that you need to login to the database as SYSDBA or SYSOPER in order to restart the database.

Cancel OK

10.2.2.9 Before Applying push the button Show Sql

Database Instance: LDPLM000 > Restart Database:SQL

Logg

Show SQL

```
SHUTDOWN immediate
STARTUP mount
ALTER DATABASE ARCHIVELOG
ALTER DATABASE OPEN READ WRITE
```

The **startup** command will use a temporary file as pfile with the following init.ora parameters:

```
spfile='C:\ORACLE\PRODUCT\10.2.0\DB_1\DATABASE\SPFILELDPLM000.ORA'
```

10.2.2.10 Apply the change

Database Instance: LDPLM000 > Restart Database:Confirmation

Logged in As SYS

Restart Database:Confirmation

Operation **restart database after shutdown immediate**
Are you sure you want to perform this operation?

Note that the following parameters have been used to startup the database. Please replace your initialization parameter file with the following contents.

```
spfile='C:\ORACLE\PRODUCT\10.2.0\DB_1\DATABASE\SPFILELDPLM000.ORA'
```

Show SQL Advanced Options No Yes

Database | Setup | Preferences | Help | Logout

10.2.2.11 Wait and push the “refresh” button during the restart of the database

Database Instance: LDPLM000 > Restart Database:Activity Information

Logged in As SYS

Restart Database:Activity Information

The database is currently being shutdown and restarted, this operation may take some time. Once this operation is complete you can press refresh and be prompted to log back in to the database.

Refresh

Database Instance: LDPLM000

Home Performance Administration Maintenance

Page Refreshed Feb 9, 2007 1:01:57 PM Refresh View Data Automatically (60 sec)

General

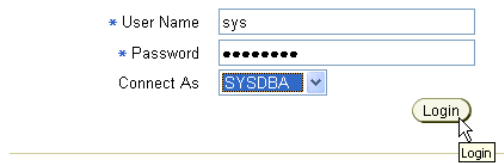


Startup/Shutdown

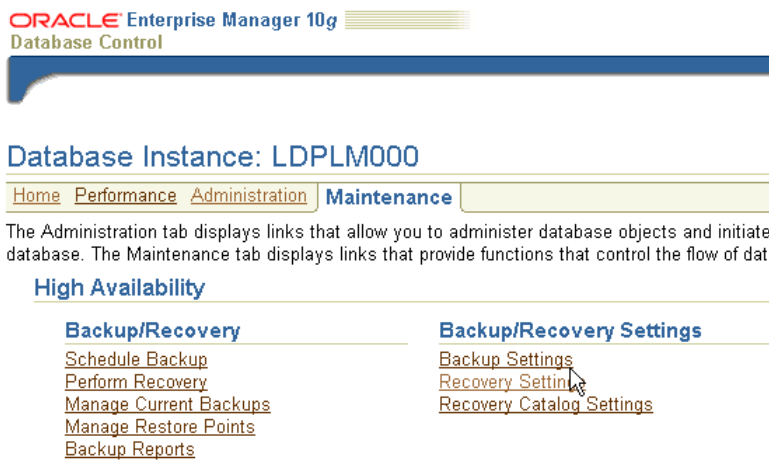
Status Status Pending
Status Pending Since **Unavailable**
Last Known State

10.2.2.12 If any problem: logout, login

Login to Database: LDPLM000



10.2.2.13 Configure your backup setting



ORACLE Enterprise Manager 10g
Database Control

Database Instance: LDPLM000

Home Performance Administration **Maintenance**

The Administration tab displays links that allow you to administer database objects and initiate database. The Maintenance tab displays links that provide functions that control the flow of data

High Availability

Backup/Recovery	Backup/Recovery Settings
Schedule Backup	Backup Settings
Perform Recovery	Recovery Settings
Manage Current Backups	Recovery Catalog Settings
Manage Restore Points	
Backup Reports	

10.2.2.14 Check the following options in the Backup Policy page

- Automatically backup the control file and server parameter file (SPFILE) with every backup and database structural change
- The SPFILE and control file are critical to the operation of your database and RMAN and are also relatively small compared to typical datafiles. Backing them up frequently imposes relatively little storage overhead. Leave the Autobackup Disk Location field blank so that the autobackups are sent to the flash recovery area.
- Optimize the whole database backup by skipping unchanged files such as read-only and offline datafiles that have been backed up This option saves space in the flash recovery area.
- On Enterprise Edition only: Enable block change tracking for faster incremental backups

This option takes advantage of the block change tracking feature of Oracle, which substantially improves performance of incremental backups at a small cost of overhead during normal operations.

Backup Settings

Device Backup Set Policy

Backup Policy

- Automatically backup the control file and server parameter file (SPFILE) with every backup and database structural change

Autobackup Disk Location

An existing directory or diskgroup name where the control file and server parameter file will be backed up. If you do not specify a location, the files will be backed up to the flash recovery area location.

- Optimize the whole database backup by skipping unchanged files such as read-only and offline datafiles that have been backed up
- Enable block change tracking for faster incremental backups

Block Change Tracking File

Specify a location and file, otherwise an Oracle managed file will be created in the database area.

Tablespaces Excluded From Whole Database Backup

Populate this table with the tablespaces you want to exclude from a whole database backup. Use the Add button to add tablespaces to this table.

Add

Select	Tablespace Name	Tablespace Number	Status	Contents
	No Items Selected			

- TIP** These tablespaces can be backed up separately using tablespace backup.

Retention Policy

- Retain All Backups

You must manually delete any backups

- Retain backups that are necessary for a recovery to any time within the specified number of days (point-in-time recovery)

Days

Recovery Window

- Retain at least the specified number of full backups for each datafile

Backups

Redundancy

Host Credentials

To save the backup settings, supply operating system login credentials to access the target database.

* Username

* Password

- Save as Preferred Credential

10.2.3 SCHEDULE "ORACLE SUGGESTED BACKUP" USING THE DATABASE CONSOLE

10.2.3.1 Configure the backup: go to the Maintenance Tab

Database Instance: LDPLM000



10.2.3.2 Configure the backup: Schedule Backup

Database Instance: LDPLM000



The Administration tab displays links that allow you to administer database objects and init Maintenance tab displays links that provide functions that control the flow of data between

High Availability

Backup/Recovery

- [Schedule Backup](#)
- [Perform Recovery](#)
- [Manage Current Backups](#)

Backup/Recovery Settings

- [Backup Settings](#)
- [Recovery Settings](#)
- [Recovery Catalog Settings](#)

10.2.3.3 Configure the backup: choose Oracle-suggested Backup and gives Host credential

Database Instance: LDPLM000 > Schedule Backup

Schedule Backup

Based on your disk and/or tape configuration, Oracle provides an automated backup strategy, or you can develop your own backup strategy with customized options.

Oracle-Suggested Backup

Schedule a backup using Oracle's automated backup strategy.

This option will back up the entire database. The database will be backed up on daily and weekly intervals

[Schedule Oracle-Suggested Backup](#)

Customized Backup

Select the object(s) you want to back up.

[Schedule Customized Backup](#)

- Whole Database
- Tablespaces
- Datafiles
- Archivelogs
- All Recovery Files on Disk

These files include all archivelogs and disk backups that are not already backed up to tape

Backup Strategies

Oracle-suggested:

- Provides an out-of-the-box backup strategy based on the backup destination. Options may vary based on the database version.
- Sets up recovery window for backup management
- Automates backup management
- Schedules recurring backups

Customized:

- Specify the objects to be backed up
- Choose a disk or tape backup destination
- Override the default backup settings
- Schedule the backup

Host Credentials

To perform a backup, supply operating system login credentials to access the target database.

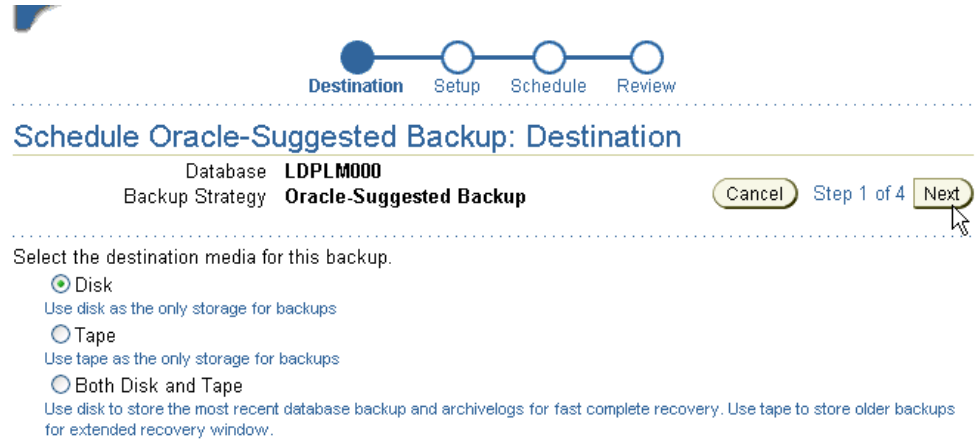
* Username

* Password

Save as Preferred Credential

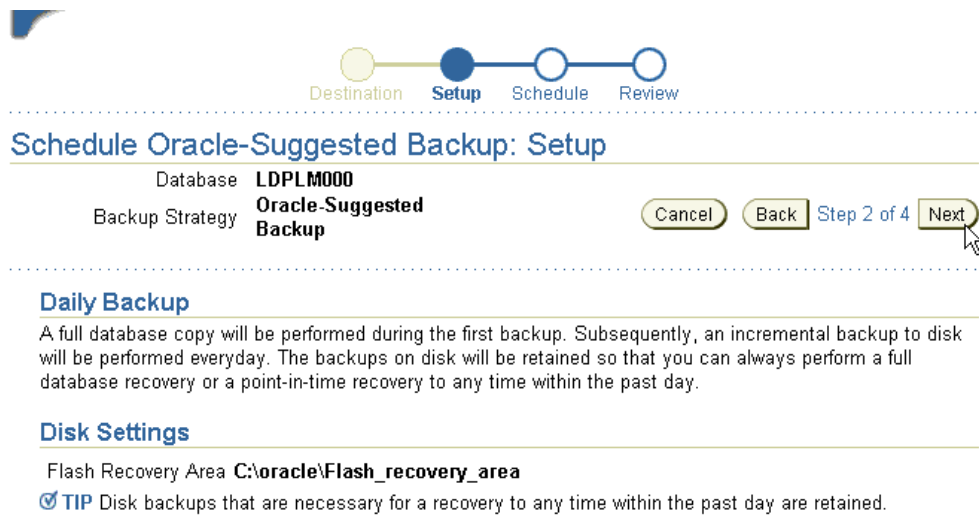
10.2.3.4 Let the default values

Screen 01




The screenshot shows the 'Destination' step of the 'Schedule Oracle-Suggested Backup' wizard. At the top, a progress bar indicates four steps: Destination (selected), Setup, Schedule, and Review. Below the progress bar, the title is 'Schedule Oracle-Suggested Backup: Destination'. The database is 'LDPLM000' and the backup strategy is 'Oracle-Suggested Backup'. There are 'Cancel', 'Step 1 of 4', and 'Next' buttons. The main content area asks to 'Select the destination media for this backup.' with three radio button options: 'Disk' (selected), 'Tape', and 'Both Disk and Tape'. Each option has a brief description of its use.

Screen 02



The screenshot shows the 'Setup' step of the 'Schedule Oracle-Suggested Backup' wizard. The progress bar now shows 'Destination' as a completed step and 'Setup' as the current step. The title is 'Schedule Oracle-Suggested Backup: Setup'. The database is 'LDPLM000' and the backup strategy is 'Oracle-Suggested Backup'. There are 'Cancel', 'Back', 'Step 2 of 4', and 'Next' buttons. The main content area has two sections: 'Daily Backup' and 'Disk Settings'. 'Daily Backup' describes the backup schedule: a full backup followed by incremental backups. 'Disk Settings' shows the 'Flash Recovery Area' set to 'C:\oracle\Flash_recovery_area' and a checked 'TIP' indicating that disk backups are retained for recovery.

10.2.3.5 Schedule your daily backup and Next




Schedule Oracle-Suggested Backup: Schedule

Database **LDPLM000**
Backup Strategy **Oracle-Suggested Backup** Cancel Back Step 3 of 4 Next

Daily Backup Time

Specify a date to start the backup. The first backup could be time consuming as it is a whole database backup. Consider starting the backup when the database is least active.

Start Date 
(example: Feb 9, 2007)

Specify a time to start the backup. Consider starting the backup when the database is least active during the day.

Time Zone

Daily Backup Time AM PM

10.2.3.6 Submit the job



Schedule Oracle-Suggested Backup: Review

Database **LDPLM000**
Backup Strategy **Oracle-Suggested Backup** Cancel Back Step 4 of 4 Submit Job

Settings

Destination **Disk**
Daily Backup **A full database copy will be performed during the first backup. Subsequently, an incremental backup to disk will be performed everyday. The backups on disk will be retained so that you can always perform a full database recovery or a point-in-time recovery to any time within the past day.**
Flash Recovery Area **C:\oracle\Flash_recovery_area**


RMAN Script

The RMAN script below is generated based on the user input from previous pages.

```
Daily Script:
run {
allocate channel oem_disk_backup device type disk;
recover copy of database with tag 'ORA$OEM_LEVEL_0';
backup incremental level 1 cumulative copies=1 for recover of copy with tag 'ORA$OEM_LEVEL_0'
database;
}
```

10.2.3.7 Push the OK button

Database Instance: LDPLM000

 **The job has been successfully submitted.**

Status

The job has been successfully submitted.
You can view the status of the job by clicking on the View Job button.

View Job OK

Check job is Well scheduled: Maintenance Tab > Schedule Backup > Backup jobs

Database Instance: LDPLM000

[Home](#) [Performance](#) [Administration](#) **Maintenance**

The Administration tab displays links that allow you to administer database operations inside an Oracle database. The Maintenance provide functions that control the flow of data between or outside C


High Availability

<p>Backup/Recovery</p> <p>Schedule Backup</p> <p>Perform Recovery</p>	<p>Backup/Recovery Settings</p> <p>Backup Settings</p>
--	---

10.2.3.8 Click on your job name to check parameters


Database Instance: LDPLM000 > Schedule Backup

Schedule Backup

 **Current Database Information**

Backup Jobs - You have one or more backup jobs that are currently running or scheduled for this target.

Based on your disk and/or tape configuration, Oracle provides an automated backup strategy, or you can develop your own backup strategy with customized options.

<p>Oracle-Suggested Backup</p> <p>Schedule a backup</p>	<div style="border: 1px solid #ccc; padding: 5px; background-color: #f0f0f0;"> <p> Backup Strategies</p> <p>Oracle-suggested:</p> </div>
--	---

10.2.3.9 Check for the job status (scheduled/running/Succeeded)

Job Activity

Page Refreshed Feb 9, 2007 2:20:20 PM

Search

Name: Job Type: Database Backup
 Owner: SYS Target Type: Database Instance
 Status: All Target Name: LDPLM000
 Scheduled Start: All

Show jobs to which I have not been granted view access
 Can only be checked if exactly one target is selected. The jobs will be listed, but their results cannot be viewed.

Results

View: Runs Create Job: CloneHome

Select	Name	Status (Executions)	Scheduled	Targets	Target Type	Owner	Job Type
<input checked="" type="radio"/>	BACKUP_LDPLM000_000001	1 Scheduled	Feb 9, 2007 3:00:00 PM GMT+01:00	LDPLM000	Database Instance	SYS	Database Backup

10.2.3.10 To refresh click GO

Job Run: BACKUP_LDPLM000_000001 at Feb 9, 2007 3:00:00 PM GMT+01:00

Page Refreshed Feb 9, 2007 2:49:39 PM

Scheduled: Feb 9, 2007 3:00:00 PM GMT+01:00
 Repeating: Daily beginning Feb 9, 2007 3:00:00 PM
 Targets: LDPLM000

Type: Database Backup
 Owner: SYS
 Description: Oracle-suggested Disk Backup

Executions

Status: All

A job run is made up of one or more executions. An execution has zero or more targets. The Retry operation will run immediately and may skip steps that are already completed successfully. The Stop and Suspend operations will wait for the current step of a running execution to complete. The Suspend operation will prevent a scheduled execution from running at its scheduled time. A suspended job can be resumed later.

Select	Targets	Status	Started	Ended	Elapsed Time (seconds)
<input checked="" type="radio"/>	LDPLM000	Scheduled	Feb 9, 2007 3:00:00 PM GMT+01:00		

10.2.3.11 To see details click on the status field

Job Run: BACKUP_LDPLM000_000001 at Feb 9, 2007 3:00:00 PM GMT+01:00

Page Refreshed Feb 9, 2007 3:16:41 PM

Scheduled: Feb 9, 2007 3:00:00 PM GMT+01:00
 Repeating: Daily beginning Feb 9, 2007 3:00:00 PM
 Targets: LDPLM000

Type: Database Backup
 Owner: SYS
 Description: Oracle-suggested Disk Backup

Executions

Status: All

A job run is made up of one or more executions. An execution has zero or more targets. The Retry operation will run immediately and may skip steps that are already completed successfully. The Stop and Suspend operations will wait for the current step of a running execution to complete. The Suspend operation will prevent a scheduled execution from running at its scheduled time. A suspended job can be resumed later.

Select	Targets	Status	Started	Ended	Elapsed Time (seconds)
<input checked="" type="radio"/>	LDPLM000	Succeeded	Feb 9, 2007 3:00:03 PM GMT+01:00	Feb 9, 2007 3:01:54 PM GMT+01:00	111

10.2.3.12 For more details (backup steps and localization) see logs:

Job Run: BACKUP_LDPLM000_000001 at Feb 9, 2007 3:00:00 PM GMT+01:00 > Execution: LDPLM000

Execution: LDPLM000

Page Refreshed Feb 9, 2007 3:18:35 PM

Delete Run

Edit

Summary

The Stop and Suspend operations will wait for the current step to complete. A suspended job can be resumed later, at the next step.

Stop

Status	Succeeded	Type	Database Backup
Scheduled	Feb 9, 2007 3:00:00 PM GMT+01:00	Owner	SYS
Started	Feb 9, 2007 3:00:03 PM GMT+01:00	Description	Oracle-suggested Disk Backup
Ended	Feb 9, 2007 3:01:54 PM GMT+01:00	Host Username	oracle
Elapsed Time	1 minutes, 51 seconds	Database Connect String	(DESCRIPTION=(ADDRESS_LIST=(ADDR...
Repeating	Daily	Database Username	SYS
	beginning Feb 9, 2007 3:00:00 PM	Database Role	[SYSDBA]
		Oracle Home	[C:\oracle\product10.2.0\db_1]
		Oracle SID	[LDPLM000]
		Version 10g or higher	YES
		Backup Strategy	basic
		Destination	disk
		Offline Backup	NO
		Blackout	NO
		Database Name	LDPLM000
		Backup Script	Show
		Daily Backup Script	run { allocate channel oem_disk...

Logs

Search

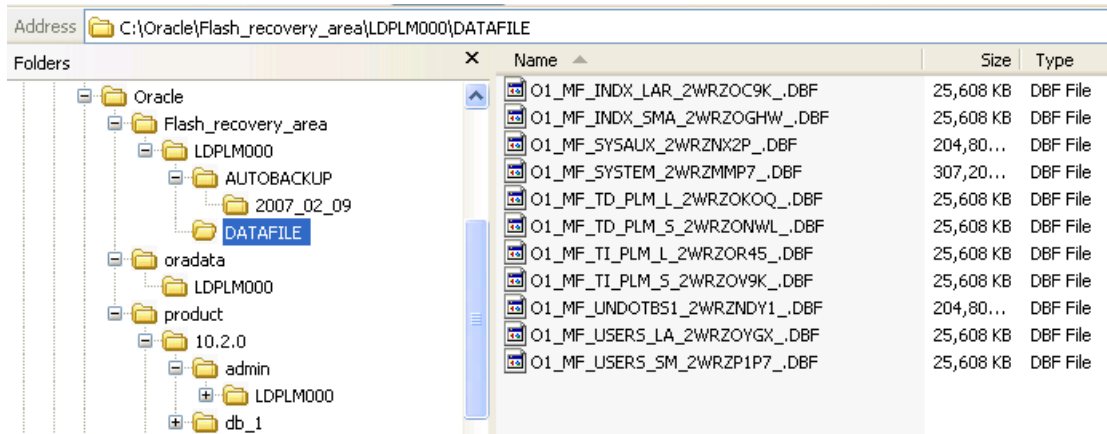
Name	Targets	Status	Started	Ended	Elapsed Time (seconds)
Prebackup		Succeeded	Feb 9, 2007 3:00:08 PM GMT+01:00	Feb 9, 2007 3:00:09 PM GMT+01:00	1
Backup	LDPLM000	Succeeded	Feb 9, 2007 3:00:14 PM GMT+01:00	Feb 9, 2007 3:01:48 PM GMT+01:00	94
Post Backup		Succeeded	Feb 9, 2007 3:01:53 PM GMT+01:00	Feb 9, 2007 3:01:54 PM GMT+01:00	1

Daily script:

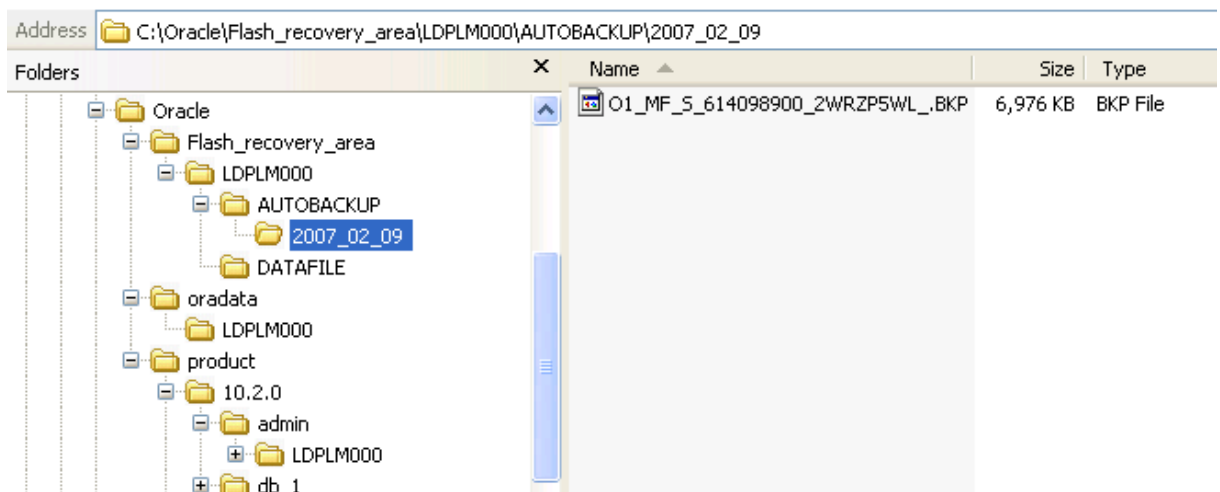
```
run {
allocate channel oem_disk_backup device type disk;
recover copy of database with tag 'ORA\%OEM_LEVEL_0';
backup incremental level 1 cumulative copies=1 for recover of copy with tag
'ORA\%OEM_LEVEL_0' database;
}
```

10.2.3.13 Check using Windows explorer:

In the "DATAFILE" directory: The level 0 physical backup



In the "AUTOBACKUP" folder the first backup set



10.2.4 SCHEDULE RESTORE USING THE DATABASE CONSOLE

10.2.4.1 Test: stop the database service, Drop the system tablespace, start the database service

=> Check Oracle alert configuration files errors

(Example: Under C:\Oracle\product\10.2.0\admin\LDPLM000\bdump\alert_ldplm000.log)

alter database open

Fri Feb 09 15:45:59 2007

Errors in file c:\oracle\product\10.2.0\admin\ldplm000\bdump\ldplm000_dbw0_3280.trc:

ORA-01157: Message 1157 not found; No message file for product=RDBMS, facility=ORA;
arguments: [1]

ORA-01110: Message 1110 not found; No message file for product=RDBMS, facility=ORA;
 arguments: [1] [C:\ORACLE\ORADATA\LDPLM000\SYSTEM01.DBF]

ORA-27041: Message 27041 not found; No message file for product=RDBMS,
 facility=ORA

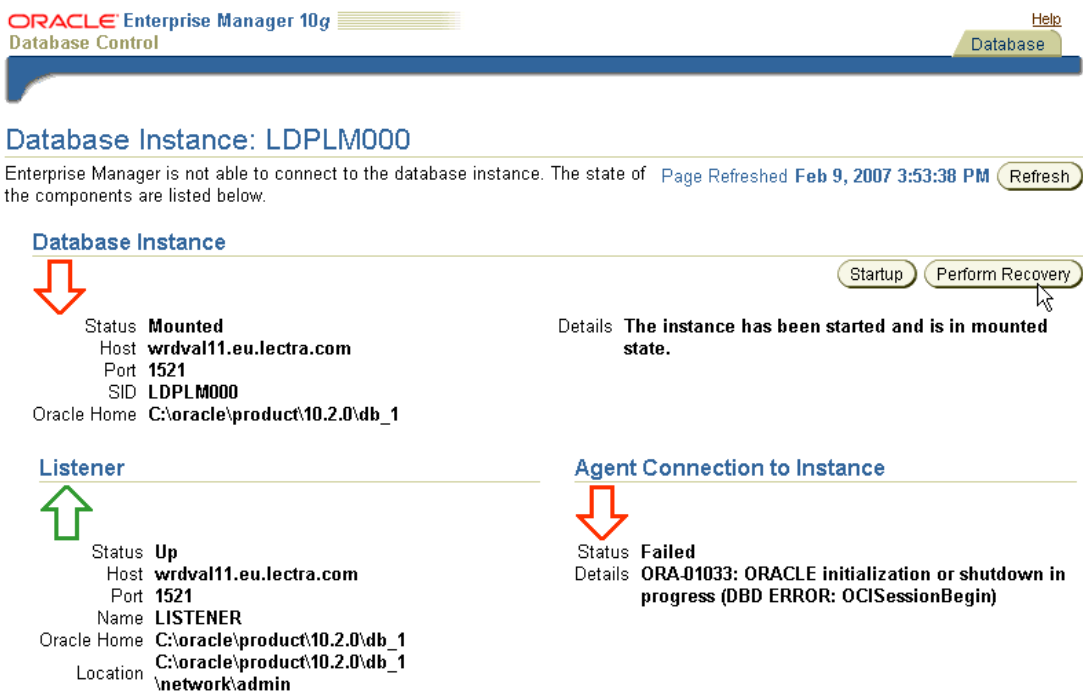
OSD-04002: unable to open file

O/S-Error: (OS 2) The system cannot find the file specified.O/S-Error: (OS 2)file not found

ORA-1157 signalled during: alter database open...

10.2.4.2 Log to the database console using SYS user

10.2.4.3 Perform the recovery using the database console




ORACLE Enterprise Manager 10g Database Control Help Database


Database Instance: LDPLM000

Enterprise Manager is not able to connect to the database instance. The state of Page Refreshed Feb 9, 2007 3:53:38 PM Refresh
 the components are listed below.

Database Instance Startup Perform Recovery

 Status **Mounted** Details **The instance has been started and is in mounted state.**
 Host **wrdval11.eu.lectra.com**
 Port **1521**
 SID **LDPLM000**
 Oracle Home **C:\oracle\product\10.2.0\db_1**

Listener Agent Connection to Instance

 Status **Up** Status **Failed**
 Host **wrdval11.eu.lectra.com** Details **ORA-01033: ORACLE initialization or shutdown in progress (DBD ERROR: OCISessionBegin)**
 Port **1521**
 Name **LISTENER**
 Oracle Home **C:\oracle\product\10.2.0\db_1**
 Location **C:\oracle\product\10.2.0\db_1\network\admin**

10.2.4.4 Gives host credential (administrator or specific OS local oracle user)

Database Instance: LDPLM000 > Perform Recovery: Credentials

Perform Recovery: Credentials

Cancel Continue

Information

Information - Enterprise Manager cannot connect to the database. You must specify the host credentials to continue. The host user must be in the DBA group.

Host Credentials

* Username

* Password

Connect as sys

Database Login

* Username

* Password

* Connect String wrdval11.eu.lectra.com:1521:LDPLM000

* Connect As

Save as Preferred Credential

Database Instance: LDPLM000 > Perform Recovery: Credentials

Perform Recovery: Credentials

Information

Information - Enterprise Manager cannot connect to the database. You must specify the host credentials to continue. The host user must be in the DBA group.

Host Credentials

* Username

* Password

10.2.4.5 Choose to perform a Whole Database Recovery

ORACLE Enterprise Manager 10g Database Control Help Database

Database Instance: LDPLM000 > Perform Recovery

Information

Current Status - MOUNTED

Perform Recovery

Whole Database Recovery

Recover to the current time or a previous point-in-time
Datfiles will be restored from the latest usable backup as required.

Restore all datfiles
Specify Time, SCN or log sequence. The backup taken at or prior to that time will be used. No recovery will be performed in this operation.

Recover from previously restored datfiles

Object Level Recovery


Object Type

Operation Type Recover to current time

Overview

- Restore and/or recover the entire database or selected objects
- Restore files to a new location
- Recover tablespaces to a point-in-time based on a timestamp, system change number (SCN), or

10.2.4.6 Database Recovery: step1: point in time (let default value)



Point-in-time Flashback Rename Schedule Review


Perform Whole Database Recovery: Point-in-time

Database **LDPLM000**
Object Type **Whole Database**
Operation Type **Restore and Recover**


Cancel Step 1 of 5 Next

Point-in-time

You may recover the entire database to the current time or a prior point-in-time.

- Recover to the current time
- Recover to a prior point-in-time
 - Date  Time AM PM
(example: Feb 9, 2007)
 - Restore Point
 - SCN
 - Sequence

10.2.4.7 Database Recovery: step2: rename (default value: no rename)



Point-in-time Flashback **Rename** Schedule Review

Perform Whole Database Recovery: Rename

Database **LDPLM000**
Object Type **Whole Database**
Operation Type **Restore and Recover**

Cancel Back Step 3 of 5 Next


Do you want to restore the files to a different location? If so, the control file will be updated to use the new location.

- No. Restore the files to the default location.
- Yes. Restore the files to a new, common location.

TIP This option will execute an RMAN 'rename' operation.

Location

10.2.4.8 Database Recovery: step3a review : push the Edit Rman script to see the code



Point-in-time Flashback Rename Schedule **Review**

Perform Whole Database Recovery: Review

Database **LDPLM000**
Object Type **Whole Database**
Operation Type **Restore and Recover**


Cancel Edit RMAN Script Back Step 5 of 5 Submit

Click on the Edit RMAN Script button to view or edit the RMAN script before submitting the operation.

Options

Point-in-time **Recover to the current time**

10.2.4.9 Database Recovery: step3b review: submit



Perform Whole Database Recovery: Review: Edit RMAN Script

Cancel Submit

You can modify the RMAN script before submitting it. However, you will not be able to go back to previous wizard pages if you modify the script.

```
run {
  restore database;
  recover database;
}
```

10.2.4.10 Database Recovery: step4: wait during recovery

Processing: Perform Whole Database Recovery


Perform Whole Database Recovery



10.2.4.11 Database Recovery: Check the results and ask to open the database when successful

Database Instance: LDPLM000

Perform Recovery: Result

 Operation Succeeded

The output of the operation is shown below. You can continue to open the database.

```
Could not remove 'C:\WINDOWS\TEMP\test_temp_location.3304': No such file or directory at C:\oracle\product\10.2.0\
\bdb_1\sysman\admin\scripts\db\db_common.pl line 393.

SQL*Plus: Release 10.2.0.1.0 - Production on Fri Feb 9 17:41:03 2007

Copyright (c) 1982, 2005, Oracle. All rights reserved.

SQL> SQL> Connected.
SQL> SQL> SQL> ORA-01109: database not open

Database dismounted.
ORACLE instance shut down.
SQL> SQL> Disconnected from Oracle Database 10g Release 10.2.0.1.0 - Production
Could not remove 'C:\WINDOWS\TEMP\test_temp_location.3304': No such file or directory at C:\oracle\product\10.2.0
```

Open Database OK

10.2.4.12 Push the “open database” button

10.2.4.13 Example of logs:

...

```
SQL> SQL> SQL> ORA-01109: database not open
```

```
Database dismounted.
ORACLE instance shut down.
...
SQL> SQL> Connected to an idle instance.
SQL> SQL> ORACLE instance started.
Database mounted.
SQL> Disconnected from Oracle Database 10g Release 10.2.0.1.0 - Production
Recovery Manager: Release 10.2.0.1.0 - Production on Fri Feb 9 17:41:13 2007
RMAN>
connected to target database: LDPLM000 (DBID=3801892758, not open)
using target database control file instead of recovery catalog
echo set on
RMAN> run {
2> restore database;
3> recover database;
Starting restore at 09-FEB-07
allocated channel: ORA_DISK_1
channel ORA_DISK_1: sid=321 devtype=DISK
channel ORA_DISK_1: restoring datafile 00001
input          datafile          copy          recid=1          stamp=614098839
filename=C:\ORACLE\FLASH_RECOVERY_AREA\LDPLM000\DATAFILE\O1_MF_SYSTEM_2WRZMMP7_.DBF
destination for restore of datafile 00001: C:\ORACLE\ORADATA\LDPLM000\SYSTEM01.DBF
channel ORA_DISK_1: copied datafile copy of datafile 00001
output filename=C:\ORACLE\ORADATA\LDPLM000\SYSTEM01.DBF recid=12 stamp=614108495
channel ORA_DISK_1: restoring datafile 00002
...
input          datafile          copy          recid=11          stamp=614098899
filename=C:\ORACLE\FLASH_RECOVERY_AREA\LDPLM000\DATAFILE\O1_MF_USERS_SM_2WRZP1P7_.DBF
BF
destination for restore of datafile 00011: C:\ORACLE\ORADATA\LDPLM000\USERS_SMALL_01.DBF
channel ORA_DISK_1: copied datafile copy of datafile 00011
output filename=C:\ORACLE\ORADATA\LDPLM000\USERS_SMALL_01.DBF recid=22 stamp=614108556
Finished restore at 09-FEB-07
Starting recover at 09-FEB-07
using channel ORA_DISK_1
starting media recovery
media recovery complete, elapsed time: 00:00:03
Finished recover at 09-FEB-07
RMAN> exit;
Recovery Manager complete.
```

10.2.4.14 Database Recovery: Check database is successfully opened

Database Instance: LDPLM000

Perform Recovery: Result

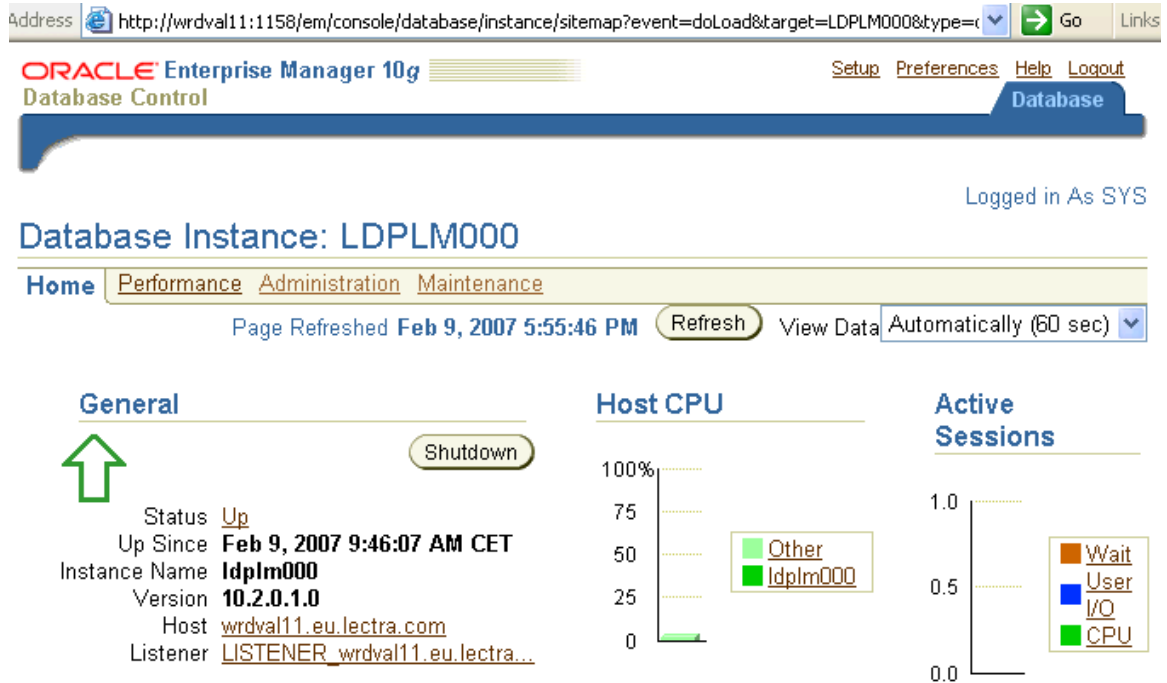
 The database has been opened successfully.

10.2.4.15 Database Recovery: a connection Windows appears => connect as SYS

Login to Database:LDPLM000

* User Name
* Password
Connect As

10.2.4.16 Database Recovery: check database status using console Home



The screenshot shows the Oracle Enterprise Manager 10g Database Control interface. The browser address bar displays the URL: `http://wrdval11:1158/em/console/database/instance/sitemap?event=doLoad&target=LDPLM000&type=c`. The page title is "ORACLE Enterprise Manager 10g Database Control". The user is logged in as "SYS". The main heading is "Database Instance: LDPLM000". Below this, there are navigation tabs: "Home", "Performance", "Administration", and "Maintenance". The "Home" tab is selected. A refresh button and a "View Data" dropdown menu are visible. The page was refreshed on Feb 9, 2007 at 5:55:46 PM. The main content area is divided into three sections: "General", "Host CPU", and "Active Sessions".

General

↑ Shutdown

Status **Up**
 Up Since **Feb 9, 2007 9:46:07 AM CET**
 Instance Name **ldplm000**
 Version **10.2.0.1.0**
 Host wrdval11.eu.lectra.com
 Listener [LISTENER_wrdval11.eu.lectra...](#)

Host CPU

100%
75
50
25
0

Other
ldplm000

Active Sessions

1.0
0.5
0.0

Wait
User
I/O
CPU

10.2.5 SCHEDULE BACKUP DURING SILENT INSTALL

Not described.

10.3 Logical backup and restore (export-import mode)

10.3.1 How to Backup PLM schema

Use database bundle provided scripts (Refer to "HOW TO EXPORT or IMPORT PLM schema's" chapter)

11. APPENDIX 01: HOW TO ACTION LIST

11.1 ACTION 0001: CHECK ORACLE SERVER VERSION

11.1.1 Using database bundle scripts

Under <DATABASE_BUNDLE_PATH>\ORA_SE_WIN\PLM\admin\manage_schema\

Start **STD_configure_instance.cmd**

11.1.2 Using SQLPLUS

From Dos windows:

```
Sqlplus system/<system_pwd>@<service>
```

```
Select * from v$version;
```

Example:

```
BANNER
```

```
-----  
Oracle Database 11g Release 11.2.0.4.0 - 64bit Production  
PL/SQL Release 11.2.0.4.0 - Production  
CORE 11.2.0.4.0 Production  
TNS for 64-bit Windows: Version 11.2.0.4.0 - Production
```

11.1.2.1 NLSRTL Version 11.2.0.4.0 – Production, Oracle version number list

Release	Recommended Oracle target	Lectra DVD	PLM target
10GR2	10.2.0.1 SEO 32bits	DVD_312871	V1R5,v2RM,v2r2,v3r2
11GR1	11.1.0.6 SEO 32bits	DVD_313027	v1R5,v2RM,v2r2,v3r2
11GR202	11.2.0.2 SEO 64bits	DVD_313842	v3r3,v4r1
11GR204	11.2.0.4 SEO 64bits	DVD_314502	>=v4r1

11.1.3 Using Oracle 11G database control (you will also see interim patches)

Start the database console

Go to “Software and Support” > Oracle Home Inventory



ORACLE Enterprise Manager 11g
Database Control

Host: ORAHOST >

Oracle Home: C:\app\oracle\product\11.2.0\dbhome_1 (OraDb11g_home1)

Oracle Home Name OraDb11g_home1

Products

Component	Installation Time
Oracle Database 11g 11.2.0.2.0	Oct 28, 2011 1:05:21 PM

Interim Patches

Interim Patch	Description	Installation Time
13038788		Oct 28, 2011 1:31:22 PM

Oracle Home Targets

Name	Availability	Alerts Type
ORAHOST:3938	100 ↑	0 Agent
LDPLM000	100 ↑	1 Database Instance
LISTENER_ORAHOST	100 ↑	0 Listener

12. APPENDIX 02: PLM DATABASE BUNDLE SCRIPTS REFERENCE

NAME	DESCRIPTION	PATH (<Database bundle path>\PLM\)
01_PLM_create_schema.cmd	Create PLM schema (example PLM_01) and associate JMS schema (PLM_01_JMS). Possible : <ul style="list-style-type: none"> - to create empty schema (useful before importing) - or schema with empty ddl (for internal tests only) 	admin\manage_schema
01_WLP_create_schema.cmd (deprecated since PLM v4r1)	Create WLP schema (example WLP_01)	admin\manage_schema
02_APP_apply_statistics.cmd	To apply statistics on an application schema. Recommended after import.	admin\manage_schema
03_APP_drop_schema.cmd	To drop an application main schema in interactive mode. When dropping <PLM_MAIN_SCHEMA> this will automatically drop the sub-schema according to version	admin\manage_schema
PLM <=v4r1 STD_PCK_MANAGE_USER_02_drop_user_batch.sql PLM >=v4r2 APP_manage_schema_drop_batch.sql	Dropping a schema in batch mode	admin\manage_schema\script
APP_kill_session.cmd	Show sessions status, Used to kill sessions	admin\manage_schema
APP_list_schema.cmd	List database schemas and show space usage	admin\manage_schema
APP_unlock_user.cmd	To unlock database users	admin\manage_schema
PLM_cluster_WAS_create_NUSR_ROL.cmd	Scripts used for WAS application server in cluster mode to create a pool of N JMS user	admin\manage_schema
PLM_cluster_WAS_drop_NUSR_ROL.cmd	Scripts used for WAS application server in cluster mode to drop a pool of N JMS user	admin\manage_schema
PLM_CHECK.cmd	Scripts to check current PLM	admin\manage_schema

NAME	DESCRIPTION	PATH (<Database bundle path>\PLM\
(new since v2r3sp3 and since v3r1sp2hf2)	schema (version, count objects types, ...) Version > = v3 : Check DERNORMALIZATION Process table PLM_DENORM content	
WLP_CHECK.cmd (new since v2r3sp3 and since v3r1sp2hf2) (deprecated since PLM v4r1)	Scripts to check current WLP schema (version, count objects types, ...) and compute WLP functional objects (devplan, todolists,....)	admin\manage_schema
STD_install_manage_user_package.cmd	Script to install package used to drop, create users, and kill session. This screen is run during silent installation	admin\manage_schema
STD_configure_instance.cmd (New since v2r2sp3)	Database Post-installation: Script used to adjust instance parameters like memory parameters to customer usage. This script show current parameters values, save the spfile to be able to reverse , change the parameters values according to SMALL/MEDIUM/LARGE/CUSTOM targets but don't restart itself the database	admin\manage_schema
PLM_WLP_repair.cmd (v3r1<= PLM version <v4r1) (deprecated since PLM v4r1)	Script to repair PLM views using WLP views or missing grants Context : apply only on PLM targets that use WLP (Example: not for Kaledo/Modaris targets) Requirement: - WLP target views exists - PLM has grant to select WLP views Used after import	admin\manage_schema
APP_generate_export.bat APP_generate_import.bat	export/import script generator	admin\export_import
PLM_export_import_script_00_START.cmd	Advanced export/import script generator	admin\export_import\advanced
STD_DATAPUMP.cmd (new since PLM v3r3sp3)	Advanced datapump script generator	admin\export_import\advanced
STD_LOCK.cmd	Centralize Lock management:	\admin\manage_schema\script\advanced

NAME	DESCRIPTION	PATH (<Database bundle path>\PLM\)
	Show current locks, deadlocks (show missing FK indexes , find locked objects), show itl waits	
STD_REDOLOG.cmd	Centralize redologs management: Show basic info, switch redolog, generate Logminer scripts	\admin\manage_schema\script\advanced
STD_CHECK_SCHEMA_LIST.cmd	Show database schema usage (sizing, statistics ...)	\admin\manage_schema\script\advanced
STD_REPAIR.cmd	Help to check bad blocks	\admin\manage_schema\script\advanced
STD_SYSAUX.cmd	Manage sysaux (show content, generate scripts to purge to workaround 11.2 bug)	\admin\manage_schema\script\advanced
STD_TEMP.cmd	Centralize TEMP management : Show temp usage, shrink TEMP, Resize TEMP, set TEMP maxsize	\admin\manage_schema\script\advanced
STD_count_objects.cmd	To count schema objects	\admin\manage_schema\script\advanced
STD_count_rows.cmd	To count schema table rows	\admin\manage_schema\script\advanced
STD_find.cmd (since PLM v3r3)	To search metadata, data, strings and show objects dependencies	\admin\manage_schema\script\advanced
STD_EXTRACT_DDL.bat	Extract DDL from a schema using Oracle repository metadata	\admin\manage_schema\script\advanced
STD_DBtuning.cmd	Tuning global vision script since instance was started	admin\manage_schema\script\advanced\tuning
STD_ORA_SHOW_HIDDEN_PARAMETER S .cmd	Show instance hidden parameters	admin\manage_schema\script\advanced\tuning
STD_DBtuning_show_session_usage.cmd	Show sessions memory and processes usage (Useful to call at regular interval during benches)	admin\manage_schema\script\advanced\tuning
STD_DBtuning_AWR_ASH.cmd	Centralize Oracle AWR and ASH management reports (Useful during bench or support to do, compare snapshots when database console not available).	admin\manage_schema\script\advanced\tuning
STD_CALIBRATE_IO_start.cmd	Centralize scripts to calibrate IO using Oracle utility.	admin\manage_schema\script\advanced\tuning

NAME	DESCRIPTION	PATH (<Database bundle path>\PLM\)
STD_QUALIDX.cmd	Script to analyze index performance. Apply statistics	admin\manage_schema\script\advanced\tuning
STD_PLAN_00_baseline.cmd STD_PLAN_00_profile.cmd	Centralize baselines and profiles management (useful to move good sql plan from one instance to another to guarantee plan stability)	admin\manage_schema\script\advanced\tuning
STD_trace_statement_00_START.cmd	Used to run and trace statements	admin\manage_schema\script\advanced\tuning\tracing
TEST_call_N_times_proc.cmd	Used to run N time a script to compute resource usage (ex: BG)	admin\manage_schema\script\advanced\tuning\tracing
TEST_RUN_N_TODO_00_start.cmd	Used to run todolists statements in parallel to measure resource usage like memory	admin\manage_schema\script\advanced\tuning\tracing
VER_00_START_AUTO_UPGRADE.cmd	Script to be used to manually migrate from a PLM version to another	admin\migration\upgrades_targets
VER_find_unknown_version.cmd	Script used when missing version information into PLM versions tables(Abnormal) to get a probable version description. Support usage only.	admin\migration\upgrades_targets\script
DB_INST_00_START.cmd	Root script to be used to start a silent installation	silent_install
DB_INST_01_BIN.cmd	Sub-Script use to install only Oracle binaries Called by DB_INST_00_START.cmd	silent_install
DB_INST_check_permission.cmd (new since v4r2)	Sub-Script used to check permissions (check you are a full administrator)	silent_install
STD_prepare_operating_system.cmd (New since v2r2sp3)	This script will help you to have a fast access to the different Windows admin wizard needed to setup OS configuration , requirements before running database installation	Silent-install\prepare_operating_system
ADM_APP_ADMIN_00_inst.cmd	Centralize PLM_ADMIN DBA scripts management (installation and uninstall)	\admin\manage_schema\script\advanced\PLM_ADMIN

NAME	DESCRIPTION	PATH (<Database bundle path>\PLM\
STD_ADRCI.cmd	Requirement: PLM_ADMIN DBA scripts installed Centralize Oracle ADRCI trace and log management tool	\admin\manage_schema\script\advanced\PLM_ADMIN
STD_UNDO.cmd	Requirement: PLM_ADMIN DBA scripts installed Centralize Oracle UNDO management (show content, generate script to recreate UNDO)	\admin\manage_schema\script\advanced\PLM_ADMIN
STD_VOL.cmd	Requirement: PLM_ADMIN DBA scripts installed Scripts used to measure how data grows (impacted tables, rows inserted, space used) between snapshots during a functional scenario	\admin\manage_schema\script\advanced\PLM_ADMIN

13. APPENDIX 03: ABOUT TASKS THAT CAN BE DONE MANUALLY

13.1 Objectives

In some particular context Customer need to:

- bring under control all the changes done on the Oracle database side by the silent install before applying
- or just do some steps manually like Installing Oracle binaries in interactive mode and create an empty instance with the good PLM tablespaces

13.2 Silent install step/object matrix (V5r1 example)

When you start the silent install using the database bundle master script

(<DatabaseBundle HOME>\ORA_SE_WINPLM\silent_install\DB_INST_00_START.cmd) call the following sub-steps :

Sub-step	objective	Remarks
DB_INST_01_BIN.cmd	Install in silent mode Oracle binaries	<p>Used response file under ORA_SE_WINPLM\silent_install\Response (e.g. install11GR204_SEONE.rsp)</p> <p>The script will replace some variables {ORACLE_HOME},{ORACLE_BASE} before generating a command like : Z:\install\oui.exe -waitforcompletion -silent -nowait -nowelcome -noconfig -responseFile D:\ORA_SE_WINPLM\silent_install\install11GR204_SEONE.rsp</p> <p>Instead of silent mode, customer can install interactively</p> <ul style="list-style-type: none"> Lectra PLM is certified to run on a Standard Edition one and the silent installation does that. Currently PLM is not certified on an enterprise edition but can run on it in Development environment The only specificity is the installation location which is forced to <drive>\app\oracle instead of <drive>\app\<user which install> this to be compatible with default database bundle configuration
DB_INST_02_network.cmd	Create and configure a listener	Instead of silent mode, customer can install interactively
DB_INST_03a_admin_API_install.cmd	Create a PL/SQL package that will be used to manage DBA tasks like Creating tablespaces, create/drop/list standard users	<ul style="list-style-type: none"> Notice that this package is currently created on SYS users, but no other objects than packages (In the future a specific user will be used to let the SYS schema clean) This API can be installed even if previous steps has been installed manually This API is mandatory to succeed the next steps <p>API PL/SQL scripts are stored under ORA_SE_WINPLM\admin\manage_schema\script\admin_API</p>
DB_INST_03_BASE.cmd	Create a new oracle instance	<p>Instead of silent mode, customer can install interactively</p> <p>Database templates can be found under ORA_SE_WINPLM\silent_install\database_templates</p> <p>Example: LDPLM11GR204_NODATA_NOOEM_NOTBS.dbt</p> <p>dbca -progressOnly -completionDialog "false" -continueOnNonFatalErrors "true" -createDatabase -templateName "LDPLM11GR204_NODATA_NOOEM_NOTBS.dbt" -qdbname "LDPLM000" -sid "LDPLM000" -passwordDialog false -sysPassword "LDPLM000" -systemPassword "LDPLM000" -datafileDestination C:\app\oracle\oradata -</p>

<u>Sub-step</u>	<u>objective</u>	<u>Remarks</u>
		<u>characterSet AL32UTF8 -nationalCharacterSet UTF8</u>
<u>DB_INST_03b_configure_instance.cmd</u>	<u>Set specific Oracle database parameter configuration</u>	<ul style="list-style-type: none"> <u>On Production customer DBA can adjust manually this default configuration (Refer to Performance guide to adjust memory target)</u> <u>PLM mandatory specificities done during this step:</u> <ul style="list-style-type: none"> <u>GRANT SELECT ANY DICTIONARY TO SYSTEM;</u> <u>grant execute on SYS.DBMS_LOCK to system; (will be used by the new PLM PCK MANAGE SCH package when dropping a user other than SYS, SYSTEM... of course)</u>
<u>DB_INST_03c_RESTART_DB.cmd</u>	<u>Used to restart the database to apply not dynamic parameters</u>	
<u>DB_INST_03d_APP_creTBS.cmd</u>	<u>Create PLM tablespaces</u>	<ul style="list-style-type: none"> <u>PLM v5r1/v5r2 mandatory tablespaces are only:</u> <u>(TD PLM SMALL, TD PLM LARGE, TI PLM LARGE, TI PLM SMALL, TD PLM ADM, TI PLM ADM, TD PLM CRN, TI PLM CRN)</u> <u>Others tablespaces are created only for old PLM version compatibility reason</u> <u>Tablespace are created using the API (created during DB_INST_03a_admin_API install step, refer to ORA_SE_WIN\PLM\admin\manage_schema\script\PLMcreTBS.sql)</u>
<u>DB_INST_04_create_schema.cmd</u>	<u>Create PLM empty main schema and associate subschema's</u>	<ul style="list-style-type: none"> <u>On fresh installation PLM need only empty schemas. PLM installer and PLM application will populate main-schema and sub-schema</u> <u>Schemas are created using the API (created during DB_INST_03a_admin_API install step)</u> <u>refer to ORA_SE_WIN\PLM\admin\manage_schema\script\PLMcreUSR_R_OL.sql which create empty main schema using the PL/SQL API</u> <u>refer to ORA_SE_WIN\PLM\admin\manage_schema\script\ADMcreSCH_DL_00.sql which create sub-main schemas using the PL/SQL API</u>

13.1 Typical code generated by the API (V5r1 example)

13.1.1 Debug modes

13.1.1.1 Silent install

To just generate database bundle typical command, modify the ORA_SE_WIN\PLM\silent_install\DB_INST_param.cmd and set DB_DEBUG=1 (instead of the initial value 0)

13.1.2 Create main schema: Typical generated code

```
CREATE USER "PLM_V5R1" PROFILE "DEFAULT" IDENTIFIED BY "*****" DEFAULT
TABLESPACE "TD_PLM_SMALL" TEMPORARY TABLESPACE "TEMP" ACCOUNT UNLOCK
GRANT ADVISOR TO "PLM_V5R1"
GRANT ALTER ANY SQL PROFILE TO "PLM_V5R1"
GRANT ALTER ANY TABLE TO "PLM_V5R1"
GRANT ALTER SESSION TO "PLM_V5R1"
GRANT CREATE ANY INDEX TO "PLM_V5R1"
GRANT CREATE ANY SQL PROFILE TO "PLM_V5R1"
GRANT CREATE ANY TABLE TO "PLM_V5R1"
GRANT CREATE ANY TRIGGER TO "PLM_V5R1"
GRANT CREATE ANY VIEW TO "PLM_V5R1"
GRANT CREATE CLUSTER TO "PLM_V5R1"
GRANT CREATE DATABASE LINK TO "PLM_V5R1"
GRANT CREATE DIMENSION TO "PLM_V5R1"
GRANT CREATE INDEXTYPE TO "PLM_V5R1"
GRANT CREATE JOB TO "PLM_V5R1"
GRANT CREATE MATERIALIZED VIEW TO "PLM_V5R1"
GRANT CREATE OPERATOR TO "PLM_V5R1"
GRANT CREATE PROCEDURE TO "PLM_V5R1"
GRANT CREATE SEQUENCE TO "PLM_V5R1"
GRANT CREATE SESSION TO "PLM_V5R1"
GRANT CREATE SYNONYM TO "PLM_V5R1"
GRANT CREATE TABLE TO "PLM_V5R1"
GRANT CREATE TRIGGER TO "PLM_V5R1"
GRANT CREATE TYPE TO "PLM_V5R1"
GRANT CREATE VIEW TO "PLM_V5R1"
GRANT DROP ANY SQL PROFILE TO "PLM_V5R1"
GRANT QUERY REWRITE TO "PLM_V5R1"
GRANT SELECT ANY DICTIONARY TO "PLM_V5R1"
GRANT UNLIMITED TABLESPACE TO "PLM_V5R1"
GRANT EXECUTE ON "PLM_V5R1_ADM"."ADM_PCK_SCH" TO "PLM_V5R1"
GRANT DELETE ON "PLM_V5R1_ADM"."PLM_CONFIGURATION" TO "PLM_V5R1"
GRANT INSERT ON "PLM_V5R1_ADM"."PLM_CONFIGURATION" TO "PLM_V5R1"
GRANT SELECT ON "PLM_V5R1_ADM"."PLM_CONFIGURATION" TO "PLM_V5R1"
GRANT UPDATE ON "PLM_V5R1_ADM"."PLM_CONFIGURATION" TO "PLM_V5R1"
GRANT DELETE ON "PLM_V5R1_ADM"."PLM_VERSION" TO "PLM_V5R1"
GRANT INSERT ON "PLM_V5R1_ADM"."PLM_VERSION" TO "PLM_V5R1"
GRANT SELECT ON "PLM_V5R1_ADM"."PLM_VERSION" TO "PLM_V5R1"
GRANT UPDATE ON "PLM_V5R1_ADM"."PLM_VERSION" TO "PLM_V5R1"
GRANT DELETE ON "PLM_V5R1_ADM"."PLM_VERSIONCOMPONENT" TO "PLM_V5R1"
GRANT INSERT ON "PLM_V5R1_ADM"."PLM_VERSIONCOMPONENT" TO "PLM_V5R1"
GRANT SELECT ON "PLM_V5R1_ADM"."PLM_VERSIONCOMPONENT" TO "PLM_V5R1"
GRANT UPDATE ON "PLM_V5R1_ADM"."PLM_VERSIONCOMPONENT" TO "PLM_V5R1"
GRANT "RESOURCE" TO "PLM_V5R1"
```

13.1.3 Create ADM main sub-schema: Typical generated code

```
CREATE USER "PLM_V5R1_ADM" PROFILE "DEFAULT" IDENTIFIED BY "*****" DEFAULT
TABLESPACE "TD_PLM_ADM" TEMPORARY TABLESPACE "TEMP" ACCOUNT UNLOCK
GRANT ADVISOR TO "PLM_V5R1_ADM"
GRANT ALTER ANY SQL PROFILE TO "PLM_V5R1_ADM"
GRANT ALTER ANY TABLE TO "PLM_V5R1_ADM"
GRANT ALTER SESSION TO "PLM_V5R1_ADM"
GRANT CREATE ANY INDEX TO "PLM_V5R1_ADM"
GRANT CREATE ANY SQL PROFILE TO "PLM_V5R1_ADM"
GRANT CREATE ANY TABLE TO "PLM_V5R1_ADM"
GRANT CREATE ANY TRIGGER TO "PLM_V5R1_ADM"
GRANT CREATE ANY VIEW TO "PLM_V5R1_ADM"
GRANT CREATE CLUSTER TO "PLM_V5R1_ADM"
GRANT CREATE DATABASE LINK TO "PLM_V5R1_ADM"
GRANT CREATE DIMENSION TO "PLM_V5R1_ADM"
GRANT CREATE INDEXTYPE TO "PLM_V5R1_ADM"
GRANT CREATE JOB TO "PLM_V5R1_ADM"
GRANT CREATE MATERIALIZED VIEW TO "PLM_V5R1_ADM"
```

```
GRANT CREATE OPERATOR TO "PLM_V5R1_ADM"
GRANT CREATE PROCEDURE TO "PLM_V5R1_ADM"
GRANT CREATE SEQUENCE TO "PLM_V5R1_ADM"
GRANT CREATE SESSION TO "PLM_V5R1_ADM"
GRANT CREATE SYNONYM TO "PLM_V5R1_ADM"
GRANT CREATE TABLE TO "PLM_V5R1_ADM"
GRANT CREATE TRIGGER TO "PLM_V5R1_ADM"
GRANT CREATE TYPE TO "PLM_V5R1_ADM"
GRANT CREATE VIEW TO "PLM_V5R1_ADM"
GRANT DROP ANY SQL PROFILE TO "PLM_V5R1_ADM"
GRANT QUERY REWRITE TO "PLM_V5R1_ADM"
GRANT SELECT ANY DICTIONARY TO "PLM_V5R1_ADM"
GRANT UNLIMITED TABLESPACE TO "PLM_V5R1_ADM"
GRANT "RESOURCE" TO "PLM_V5R1_ADM"
```

13.1.3.1 Create main schema: code to revoke "grant ANY" privilege on table, view, index, triggers for security reason

To fix once PLM user created:

Set serveroutput on linesize 200 trimspool on

REM spool tmp_PLM_fix_schema_grant.lst

```
DECLARE
  CURSOR C_USER
  is
  Select T1.USERNAME
  From DBA_USERS T1
  Where T1.USERNAME like 'PLM%'
  and (
    T1.DEFAULT_TABLESPACE in
    ('TD_PLM_SMALL','TD_PLM_LARGE','TI_PLM_SMALL','TI_PLM_LARGE','TD_PLM_CRN','TD_
    PLM_ADM')
    or
    T1.DEFAULT_TABLESPACE in ('TD_PLM_JMS')
  )
  order by 1;

  l_statement varchar2(4000);
  e_not_concerned exception;

  PRAGMA EXCEPTION_INIT(e_not_concerned, -01952);

BEGIN
  FOR R_C_USER in C_USER LOOP

    BEGIN
      l_statement:='revoke CREATE ANY TABLE,CREATE ANY TRIGGER,CREATE
      ANY INDEX,ALTER ANY TABLE from ' ||
      R_C_USER.USERNAME;

      execute immediate l_statement;
      dbms_output.put_line(l_statement || ' ');

    EXCEPTION
      when e_not_concerned then
        -- ORA-01952: system privileges not granted
        dbms_output.put_line(R_C_USER.USERNAME || ' skipped because not in
        the scope ');
      END;

  END LOOP;

END;
/
REM spool off
```

13.2 About upgrades

- PLM database upgrade should be done using PLM installer in upgrade mode
- Since PLM v4r1 it is not possible to do them manually