



## Oracle 12cR2 Installation

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# 1 Oracle Server Version 12.2.0 Installation

( Screen - Shots of Oracle Version 12.2.0 )

Before you start with the installation, please create under the operation system Windows a new user only for the installation. This user have now administrator rights, is not in the user group of administrator.

After the CD is stored in the CD-Device the installation-program runs automatically.

After successful download and unpacked files run SETUP.

Tip: Only the most important masks of the "Oracle Universal Installer" are shown here.

## Schritt 1: Configure Security Updates

You can enter your email address and your My Oracle Support password to get automated security updates, or you can also choose to skip this step and move on if you prefer.

## Schritt 2: Installation Option

You can click the Install database software only button and click Next. Later we create the database with The Database Configuration Assistant.

## Schritt 3: Database Installation Option

We want to install a single instance database, so we choose the first option and click Next.

## Schritt 4: Select Database Edition

Select the Oracle Database edition that you are licensed to install and click next.

## Schritt 5: Oracle Home User

Under Use Existing Windows User enter the name and password of your created user at first before the installation. Important: this user is not in the administrator group. Click Next.

## Schritt 6: Installation Location

We specify the location of the Oracle\_Base directory or accept the default entry. The Software location will automatically complete from the OUI and click Next.

## Schritt 7: Prerequisite Checks

When the prerequisite checks detect no problems, we will come automatically to the next screen Summary. Otherwise, you get a message with result of reasons, so you can clear the bugs.

## Schritt 8: Summary

Now we are ready to install Oracle Database 12c and we click Install.

## Schritt 9: Install Product

During this step the OUI presents you with a warning security screen from the Windows Firewall. We will accept this warning and click Permit access.

## Schritt 10: Finish

We can complete the installation and click the Close button and we will go to point 2.

## 2 Listener install and setup with Oracle-Net Configuration Assistant

At first you must install the listener, before you can create a database the first time.

Start the " Net Configuration Assistant " under Start / All Programs / Oracle - OraDB12Home1 / Configuration and Migration Tools.

### Step 1: Welcome

Select Listener - Configuration.

### Step 2: Listener

Select "Add"

### Step 3: Listener - Name

The listener get a name, e.g.: "Listener". Later you find this name under Windows General view "Services" and should be started under the owner of the Oracle Home User. So we need for this action the password of this User too.

### Step 4: Select Protocols

Confirm the selected protocol TCP.

### Step 5: TCP/IP - Protocol

Confirm the standard Port number of **1521**.

### Step 6: More Listeners ?

We finish this step Wood you like to configure another Listener? and click NO.

### Step 7: Configuration done

Confirm the "Listener Configuration complete!".

### Step 8: Welcome

Select Naming Methods Configuration.

### Step 9: Naming Methods Configuration

Select Local Naming as method.

### Step 9: Naming Methods Configuration Finish

We can finish this step and click Next.

### Step 11: Welcome

We can complete the installation with a click of the Close button and we will go to point 3.

## 3 Creating a IDL.KONSIS.FORECAST-Supply Database

### 3.1 Creating an empty Container Database

Start the "**Database Configuration Assistant**" under Start / All Programs / Oracle - OraDB12Home1 / Configuration and Migration Tools.

Confirm the greetings with < Next > and use step 1 to 14.

#### Step 1: Operations

We select "Create a Database" and click Next.

#### Step 2: Install Type

We are going to choose the Advanced Install option. This will give us a great deal more flexibility when creating the database. Click Next after you have made your choice.

#### Step 3: Configuration Type

Select the type General Purpose / Transaction Processing from the following list to create a database and click Next.

#### Step 4: Database Identifiers

Define the global database name "CONTIDL". The oracle system identifier (SID) will get automatically the same name. We need the new feature Create as Container database, this box is checked by default with Local Undo Tablespace for PDBs. We choose the point "Empty Container Database" and click Next.

#### Step 5: Storage Option

Select "File System" for Database storage. We can accept the default specified locations for database storage, or you enter another location.

#### Step 6: Flash Recovery

Let's leave it all disabled, unless your local DBA wants it.

#### Step 7: Net Configuration

We choose the Listener, who has the Status started and click Next.

#### Step 8a: Initialization Parameters Memory

Select Automatic Shared Memory, and set up 1GB at minimum or more of the physical memory.

#### Step 8b: Initialization Parameters Sizing

The number of processes must have at least 640.

#### Step 8c: Initialization Parameters Character Sets

Choose "Unicode AL32UTF-8" with AL16UTF16 and default language and country.

#### Step 8d: Initialization Parameters Connection Mode

select "Dedicated Server Mode".

#### Step 9: Management Options

We select Enterprise Manager Database Express (EM) button and click Next.

#### Step 10: Specify Schema Passwords

You can choose to use separate passwords for these accounts, or you can use a common password for all accounts. Also you must enter the password of the Oracle Home User before you click Next.

#### Step 11: Creation Options

Select "Create database" from the options, and click "ALL Initialization Parameter button". Choose in the new window "Show Additional Parameter" and you get all parameters. In this list alter the parameter "nls\_length\_semantics" from BYTE to CHAR and enable the field in the column "include in spfile" and close this window. See example as stated below.

### Schritt 12: Summary

The summary shows all options. To install the database we click OK.

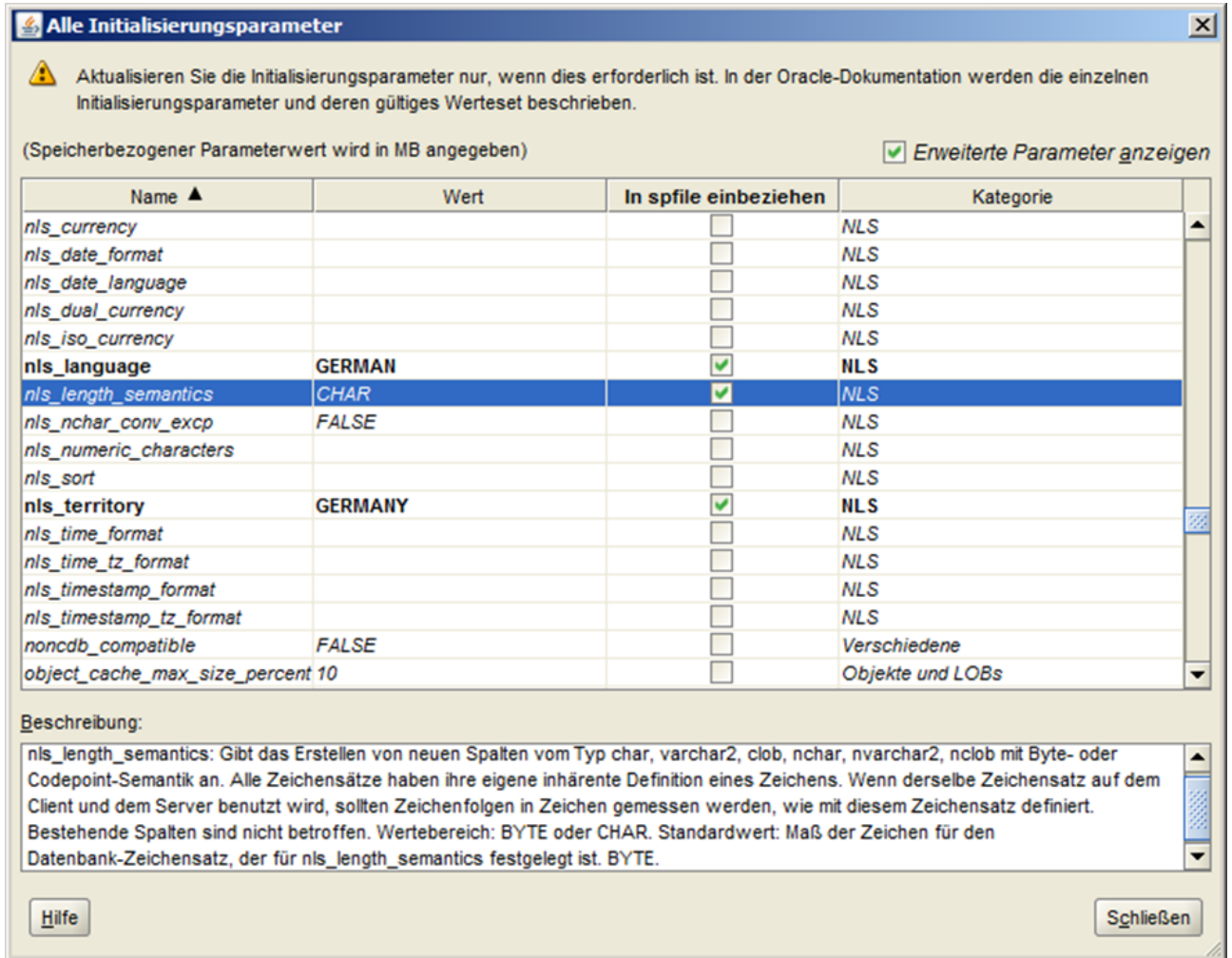
### Schritt 13: Progress window

Here you can see the current stand of the installation.

### Schritt 14: Finish

At the end of the installation we get a screen with the important URL for the EM Database Express. Make sure you write this URL down before you click the OK button. See example as stated below. You need this URL for your browser to come in the EM Database Express.

Example for the Initializierungsparameter nls\_length\_symanctics: CHAR when you have choosen AL32UTF-8.



Example for the EM database Express URL.



### 3.2 Tip for post adjustment a Unicode Database

Important to set the following parameter: `NLS_LENGTH_SEMANTICS=CHAR` after the installation the Oracle Instance with character set UTF-8 (Unicode).

1. Start (open) the command line.
2. Enter: `SQLPLUS` .
3. Connect with User `SYS` and Password `xy` as `sysdba` .
4. Enter: `select * from V$NLS_PARAMETERS;` .
5. Control the parameter: `NLS_LENGTH_SEMANTICS=BYTE` .
6. Enter: `alter system set nls_length_semantics=CHAR scope=BOTH;` .
7. Enter: `shutdown abort` .
8. Enter: `startup` .
9. Entere: `select * from V$NLS_PARAMETERS;` .
10. Control the parameter: `NLS_LENGTH_SEMANTICS=CHAR` .
11. Enter: `disconnect` .
12. Enter: `exit` .
13. Enter again: `exit` .
14. Start (open) the explorer .
15. Change (go) to the directory 'pfile' from the Oracle installation.
16. For the Oracle Instance Unicode an example: `D:\oracle\product\10.2.0\admin\unicode\pfile`
17. Open with an editor the file `INIT.ORA.252007134958` (Example) .
18. Insert into the group `# NLS : nls_length_semantics=CHAR`



19. Save the file and close the editor.

### 3.3 Create Pluggable Database

Start the "Database Configuration Assistant" under Start / All Programs / Oracle - OraDB12Home1 / Configuration and Migration Tools.

Confirm the greetings with < Next > and use step 1 to 14.

#### Step 1: Operations

We select "Manage a pluggable Database" and click Next.

#### Step 2: Manage pluggable Database

We select "Create a pluggable Database" and click Next.

#### Schritt 3: Source Database

We select the Container database "CONTIDL" and click Next.

#### Schritt 4: Generate pluggable Database

We select "Create New pluggable Database from PDB-Seed" and click Next.

#### Schritt 5: Identification options of pluggable Database

Define the pluggable Database name "KONSIS". For Administrator of the pluggable database we define "PDBDBA" with a password.

#### Schritt 6: PDB Storage Options

Select "File System" for Database storage. We can accept the default specified locations for PDB database storage, or you enter another location.

#### Schritt 7: Summary

The summary shows all options. To install the database we click OK.

#### Schritt 8: Progress window

Here you can see the current stand of the installation.

#### Schritt 9: Finish

After the successful installation we click the close button.

### 3.4 Local Net Service Name Configuration

First we want check the local net service name CONTIDL. Please enter: "TNSPING CONTIDL" in a Prompt (DOS) window! When we get the error: "TNS-03505: Failed to resolve name tips", we want configure the local net service name CONTIDL.

Start the "Net Configuration Assistant" under Start / All Programs / Oracle - OraDB12Home1 / Configuration and Migration Tools. Otherwise we go to the next point: Manuel Setup a Database for IDL.KONSIS.FORECAST.

#### Step 1: Welcome

Select "Local Net Service Name Configuration".

#### Step 2: Net Service Name Configuration

Select "Add".

#### Step 3: Service Name

Enter CONTIDL.

#### Step 4: Select Protocols

Confirm the selected protocol "TCP".

#### Step 5: TCP/IP Protocol

Enter the host-name for the computer where the database is located. The Host should be reachable via ping in a Prompt (DOS) window! Select standard port number 1521".

**Step 6: Test**

A connection test can be performed to the database.

**Step 7: Net Service Name**

Enter "CONTIDL" for this net service name. Later you find this name under Windows General View "Services" and should be started.

**Step 8: Another Net Service Name**

We create another net service name "KONSIS" and run from step 2 through step 8 again. This name KONSIS you don't see later under Windows General View "Services".

**Step 9: Done**

Confirm the message "Net service name configuration complete!" and close the program.

## 4 Manuel Setup a Database for IDL.KONSIS.FORECAST

### 4.1 Creating own tablespace KONSIS

Create Tablespace **KONSIS**:

1. SQL-Plus is used to register SYSTEM/PASSWORD of the database. To find under Start / All Programs / Oracle - OraDB12Home1 / application development.
2. " Execute the SQL-Command by **customising** the path of the parameter DATAFILE and the SIZE (Example with 4GB).
3. CREATE SMALLFILE TABLESPACE "KONSIS" DATAFILE 'LW:\Path\KONSIS.DBF' SIZE 4G AUTOEXTEND ON NEXT 256M MAXSIZE 20G LOGGING DEFAULT NOCOMPRESS ONLINE EXTENT MANAGEMENT LOCAL AUTOALLOCATE SEGMENT SPACE MANAGEMENT AUTO;
4. " closing SQL-Plus by : **disconnect** or continue with point 4.2.2.

### 4.2 Creating Database-User

There should exist a database-user named idldb with the right authorities. This is the master of all IDL.KONSIS.FORECAST-Tables.

The table-space KONSIS is assigned to the user **IDLDB**. In this space all IDL.KONSIS.FORECAST-Tables shall be generated.

Running of **IDL.KONSIS.FORECAST** requires one user IDLADMIN and all **IDL.KONSIS.FORECAST**-User with CONNECT-rights to the database. The maximum lengths of the User-Id and Password should not exceed 8 digits. It is recommended to allocate Temporary Table-space for all user explicitly **TEMP**.

You can create the IDL.KONSIS.FORECAST-User with the sample of User IDLADMIN.

The User **IDLADMIN** has the function of < Administrator > in the application **KONSIS**.

1. SQL-Plus is used to register SYSTEM/PASSWORD of the database. To find under Start / All Programs / Oracle - OraDB12Home1 / application development.
2. At first we create the role IDL\_CONNECT:
3. CREATE ROLE **IDL\_CONNECT** NOT IDENTIFIED;
4. and rights to rules:
5. GRANT ALTER SESSION TO **IDL\_CONNECT**;
6. GRANT CREATE SESSION TO **IDL\_CONNECT**;
7. GRANT CREATE VIEW TO **RESOURCE**;
8. Is the user **IDLDB** still existent after an aborted installation, delete the user **IDLDB** with the order: **DROP USER idldb cascade**; for a clean status please.
9. Creating the user **IDLDB**:
10. CREATE USER **IDLDB** PROFILE DEFAULT IDENTIFIED BY **idldb** DEFAULT TABLESPACE **KONSIS** TEMPORARY TABLESPACE **TEMP** ACCOUNT UNLOCK;
11. Assigning rights:
12. GRANT CONNECT TO **IDLDB**;
13. GRANT RESOURCE TO **IDLDB**;
14. GRANT UNLIMITED TABLESPACE TO **IDLDB**;
15. Creating the user **IDLADMIN**:

16. CREATE USER **IDLADMIN** PROFILE DEFAULT IDENTIFIED BY **admin** DEFAULT TABLESPACE **USERS** TEMPORARY TABLESPACE **TEMP**;
17. Assigning rights:
18. GRANT IDL\_CONNECT TO **IDLADMIN**;
19. Closing SQL-Plus by **disconnect**.

### 4.3 Create Parameter **DMPDIR**

We create the parameter **DMPDIR** for the Oracle Import / Export function **IMPDB** and **EXPDB**. For this parameter we allocate a local directory from the server. This directory must already exist. For example we give the name "importexport" for the directory on drive "D".

1. Start "SQL-Plus" under Start / All Programs / Oracle - OraDB12Home1 / Application develop.
2. Connect to the database with User:
3. sys
4. Passwort:
5. \*\*\*\*\*@KONSIS as sysdba.
6. Create Parameter **DMPDIR** with:
7. CREATE DIRECTORY **DMPDIR** AS 'D:\importexport\';
8. Next grant to User System with:
9. GRANT READ, WRITE ON DIRECTORY **DMPDIR** TO **SYSTEM**;
10. And disconnect from SQL-Plus.

Now the user **SYSTEM** can put files in the Directory **DMPDIR** with the program **IMPDB** / **EXPDB**.

## 5 Establishing an Oracle 32 Bit Client 12c Release 2

The 32 bit Client installation must stay on an other server as the Oracle 64 bit Server installation.

### 5.1 Installation of the Oracle Client 32 Bit 12c Release 2 Software

Required is the CD: Oracle 12c Client or the download file: winx32\_12201\_client.zip with unpacking the ZIP file.

The Oracle **Instant** Client is not possible to install, because the OLEDB-driver is not supported.

Before you start with the installation, please create under the operation system Windows a new user only for the installation. This user have now administrator rights, is not in the user group of administrator.

You start the installation with the setup program in the directory Client32.

#### Step 1: Select Installation Type

Select "Custom" as type of installation.

#### Step 2: Specify Oracle Home User

Under Use Existing Windows User enter the name and password of your created user at first before the installation and click Next.

#### Step 3: Specify Installation Location

We specify the location of the Oracle\_Base directory or accept the default entry. The Software location will automatically complete from the OUI and click Next.

#### Step 4 Available Product Components

Select additional available 7 product components:

1. Oracle Java Client
2. SQL Plus
3. Oracle JDBC/THIN Interface
4. Oracle Call Interface (OCI)
5. Oracle Net
6. Oracle ODBC Driver
7. Oracle Provider for OLE DB

#### Step 5: Perform Prerequisite Checks

Nothing to do

#### Step 6: Summary

Confirm the summary of selected components to start the installation.

#### Step 7: Installation

Nothing to do

#### Step 8: Finish

Click close

### 5.2 Local Net Service Name Configuration on the Client

Start the "Oracle Net Manager" under Start / All Programs / Oracle - OraClient12Home1\_32Bit / Configuration and Migration Tools.

#### Step 1: Local

Select "Local" and you see 3 more points.

**Step 2: Service Name**

Select service name and press the green icon "+" on the left side.

**Step 3a: Net Service Name**

on the new window enter IDLDB.

**Step 3b: Select Protocols**

Confirm the selected protocol "TCP".

**Step 3c: TCP/IP Protocol**

Enter the host-name for the computer where the database is located. The Host should be reachable via ping in a Prompt (DOS) window! Select standard port number 1521".

**Step 3d: Net Service Name**

Enter "IDLDB" for this net service name.

**Step 4: Test**

A connection test can be performed to the database. Please change after the wrong test the user to "IDLADMIN" with the correct password and make a test again. After the good test finish it.

**Step 5: Save**

Save this configuration under the menu point "File" and "Save Net configuration". Close the program.

## 5.3 Change Password

If the password is expired, you need the key entry PwdChgDlg with an 1 under HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node\ORACLE\KEY\_OraClient12c\_home1\OLEDB in the registry, so you get the dialog window from OLE DB. This example is from an operating system Windows 7 64 Bit.

## 5.4 KONSIS connection

If the KONSIS window close without an error message after the connection, you need the entry: **point semicolon (.;)** at first in the environment variable **PATH**.

## 6 Loading the IDL.KONSIS.FORECAST Database-Content

### 6.1 Loading the IDL.KONSIS.FORECAST Database-Content with IDL.KONSIS.FORECAST-CD Delivery Database

1. On a computer with Windows put the IDL.KONSIS.FORECAST-CD "Delivery Database" in the CD device.
2. Start "LieferDB\_Oracle.cmd" in the directory "LieferDB" and it opens a "Input-Window".
3. Enter the database name (for example **KONSIS**).
4. Enter the user name **IDLDB**.
5. Enter the password for user **IDLDB**.

Repeat this inputs for two times.

### 6.2 Loading the database (schema IDLDB) over the tool IMPDP from Oracle

Another option is to load the database (schema idldb) with the tool IMDDP. You need only an export file from the tool EXPDP. This file is standing on the IDL.KONSIS.FORECAST Installations-CD with the name IDLDB\_EXPDB.DMP. (The directory on the CD show the version of the oracle database.)

You can only do this function on the server and not on a client.

Copy the export file from the CD in the directory, who is allocated to the parameter DMPDIR. In our example is the directory "D:\importexport".

Tip: When you want change datas between two databases with Import and Export, you have look implicitly that the character set are equal of the two databases. Example: Character set "Unicode" and "Not Unicode" are incompatible.

- The User idldb should exist now and be empty!
- If the User idldb isn't empty, the User idldb should be deleted and created new as described in Chapter 4.2.
- The following instructions should be entered into a Prompt (DOS) Window; the path for the parameter FILE and LOG should be customised before:
- ```
- impdp system/passwort@KONSIS schemas=idldb DIRECTORY=DMPDIR
file=IDLDB_EXPDB.DMP log=idldb_import.txt
```

### 6.3 Information for the installation of a database to an existing instance

During installations to an existing authority occasionally the request is needed to update the user service class. All tables and views are set to PUBLIC. Through this every user can access all tables. The users of the other authority also therefore come about SQL orders from the IDL.KONSIS.FORECAST system to the data. To stop this, a role of KONSIS laid out which gets all rights to the tables and views. The PUBLIC rights can be withdrawn from the tables and views again with that. Only the users which will work directly with IDL.KONSIS.FORECAST get the role of KONSIS allocated now. Scripts (packages) were, made these in the SQL -- can plus be executed for this:

For handling this situation there are defined scripts (packages), which can be executed under SQLPlus.

**Konsis\_rolle\_xx.sql**

- generates the role of KONSIS and takes the DBA rights away from the user IDLDB if allocated.

**Pck\_admin\_table\_privileges.sql**

- generates a package to remove the rights of one user to another user.

**Pck\_move\_index.sql**

- generates a package for moving the indices of one to the other tablespace.

**exec\_move\_public.sql**

- example script for moving the Grant rights of PUBLIC to the role of KONSIS.

**exec\_move\_all\_index.sql**

- example script for moving the indices of Tablespace KONSIS to INDX.

The user IDLADMIN and all further users need the role of KONSIS.

Moving the indices to the Tablespace INDX only is needed if for performance reasons the Tablespace was laid out on another disc.

**ATTENTION:**

After every IDL.KONSIS.FORECAST-update, the modification of the rights of the role of KONSIS has **to be maintained** by using SQL-Plus services again.

The required files are on the IDL.KONSIS.FORECAST CD "Delivery" in the folder < \DBSAVE \ORACLE\KONSIS-ROLLE-xx-ENG.ZIP. >