# Oracle 19cR3 Installation

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# 1 Oracle Server Version 19.3.0 Installation

( Screen - Shots of Oracle Version 19.3.0 )

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

After successful download and unpacked files run SETUP.

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

**Step 1: Installation Option**

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

**Step 2: Database Installation Option**

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

**Step 3: Select Database Edition**

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

**Step 4: Oracle Home User**

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

**Step 5: Installation Location**

>We specify the location of the Oracle_Base directory or accept the default entry. The Software location will automatically completes from the OUI and click Next.

**Step 6: Prerequisite Checks**

>When the prerequisite checks detectes 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.

**Step 7: Summary**

>Now we are ready to install Oracle Database 19c and we click Install.

**Step 8: 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.

**Step 9: 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 - OraDB19Home1 / 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 shoud 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 - OraDB19Home1 / Configuration and Migration Tools.

Confirm the greetings with < Next > and use step 1 to 15.

**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 graet deal more flexibility when creating the database. Click Next after you have made your hoise.

**Step 3: Configuration Type**

> Select "Oracle-Single Instance" and as 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 future 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**

> Lets 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 8: Data Vault-Option**

> Lets leave it all disabled.

**Step 9a: Initialization Parameters Memory**

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

**Step 9b: Initialization Parameters Sizing**

> The number of processes must have at least 1280.

**Step 9c: Initialization Parameters Character Sets**

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

**Step 9d: Initialization Parameters Connection Mode**

> select "Dedicated Server Mode".

**Step 10: Management Options**

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

**Step 11: Specify Schema Passwords**

> You can choose to use seperate 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 12: 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 13: Summary**

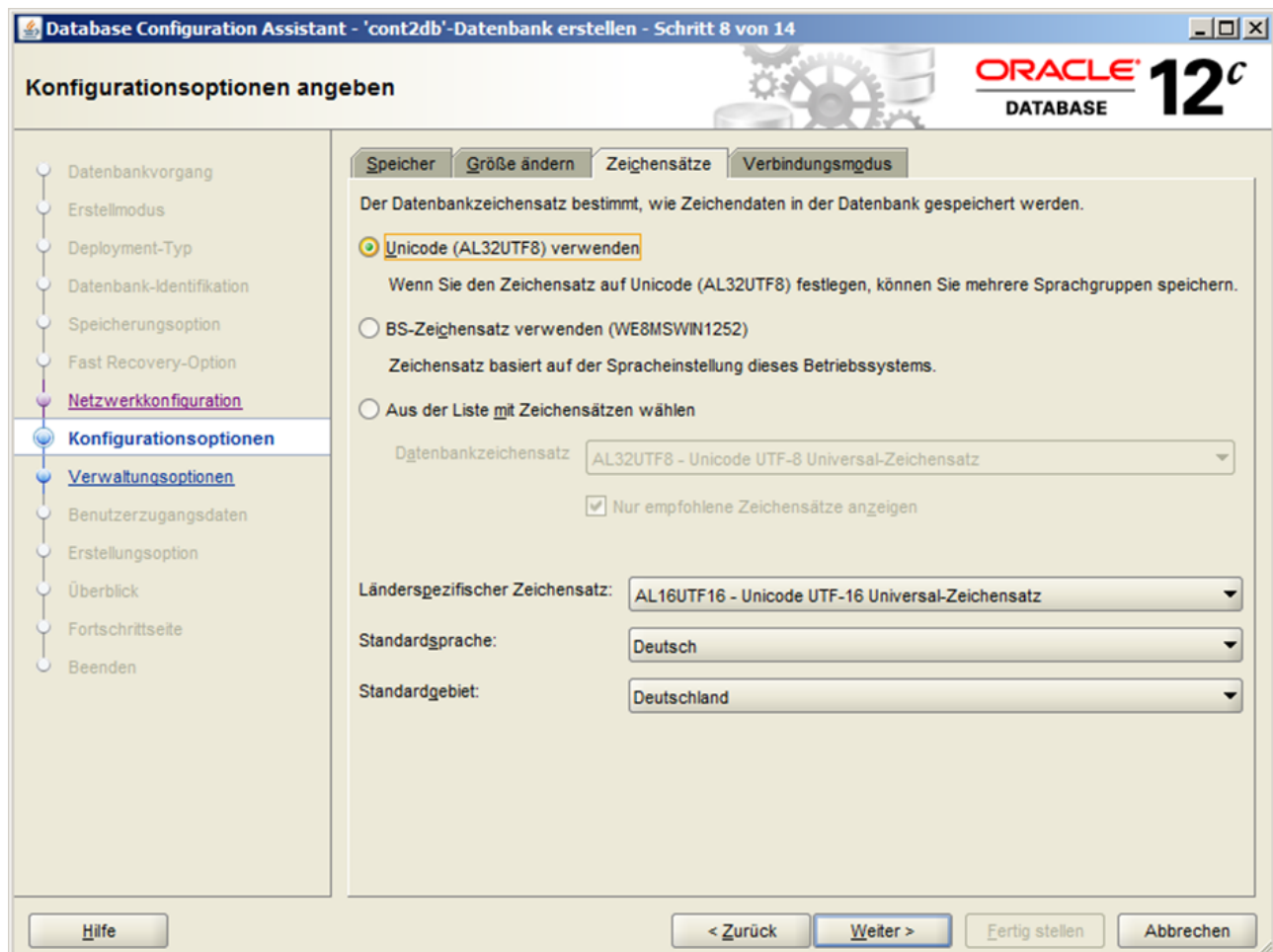The summary shows all options. To install the database we click OK.

**Schritt 14: Progress window**

Here you can see the current stand of the installation.

**Schritt 15: Finish**

At the end of the installation we get a screen with the important URL for the EM Databse 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_symantics: CHAR when you have choosen AL32UTF-8.



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Example for the EM database Express URL.

## 3.2 Tip for post adjustment a Unicode Database

Importent 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 "Databse Configuration Assistant" under Start / All Programs / Oracle - OraDB19Home1 / Configuration and Migration Tools.

Confirm the greetings with < Next > and use step 1 to 9.

**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 - OraDB19Home1 / 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 shoud 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 - OraDB19Home1 / 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 - OraDB19Home1 / 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 installtion, 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 dirctory 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 - OraDB19Home1 / Application develop.
2. Connect to the databese 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 installtion.

## 5.1 Installation of the Oracle Client 32 Bit 19c Release 3 Software

Required is the CD: Oracle 19c Client or the download file: NT_193000_client.zip with unpacking the ZIP file.

The Oracle **Instant** Client is not possibly 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 installtion. 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 befor 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 completes 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 summery 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 - OraClient19Home1_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 menuepoint "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 indicies 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. >