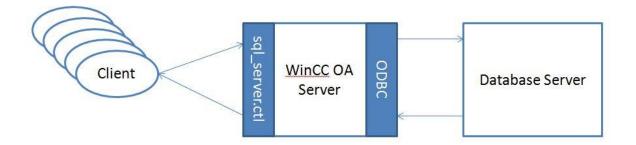
How to setup "server side database access" (sdb.ctl) for WinCC OA

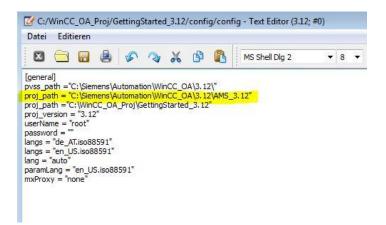
The sdb.ctl is a client library which can be used to access relational databases from the WinCC OA client without the need to install any database client software at the client. The connection to the relational database is handled by the WinCC OA server. The client communicates with the WinCC OA server only by data points. The SQL-Statements are transferred by data points to a WinCC OA control, this control executes the SQL-Statements and sends back the result to the client by data points.



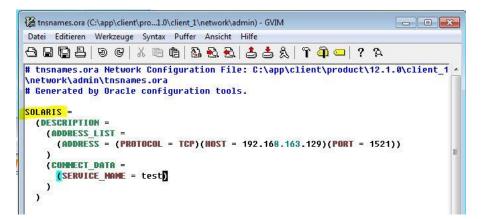
1. First install the AddOn "Advanced Maintenance Suite (AMS)". The needed libraries and control scripts are part of this AddOn.

cken Sie a	auf eine der Symbole in der Liste, um die Art eir	er Feati	ure-Installation zu ändern.
	Online Hilfe deutsch (HTML) Online Hilfe englisch (HTML) Online Hilfe englisch (HTML) AddOns Advanced Maintenance Suite Mobile App Server Communication Center UltraLight Client Disaster Recovery System Standard Objekt Bibliothek X + I S7 AdvancedLib	W De fu	eature-Beschreibung IinCC OA Basisprodukte er erforderliche Speicherplatz ir dieses Feature wird erechnet
(stallieren	4 m		

2. Add AMS as sub-project to your project configuration file.



3. At the WinCC OA server you have to install and configure the database client. In this example we used Oracle. For Oracle we have to configure the tnsnames.ora to access our oracle database.



4. At the Oracle database we created a tablespace and a user.



5. At the WinCC OA server we have to add an ODBC data source for the connection to the Oracle database.

User	BC Data Source Administrato DSN System DSN File DSN er Data Sources: ame Driver Create New Data Source	r	E Pooling About	3	Oracle ODBC Driver Config Data Source Name Description TNS Service Name User ID	solaris	OK Cancel Help Test Connection
		Select a driver for which you w Name Oracle in OraClient12Home1 SQL Server	Version	Compar Oracle (Enable Result Sets		nection
		< m < Back	Finish	• Cancel			Testing Connection

6. With the WinCC OA ASCII-Manager we have to import some data points which are needed for the communication.

ASCII-Datei	T
C:/Siemens/Automation/WinCC_OA/3.12/AMS_3.12/dplist/sdb_dps.dpl	
Richtung	
Import	ିଙ୍କ Para_5: Datenpunkt-Parametrierung (System1 - Get
© Export	Modul Panel Skalieren Hilfe
	Filter-Optionen:
Bestehende DP-Typen autom. ändern	Interne Datenpunkte
Daten mit Alarmbehandlung einspielen	DP-Filter:
	⊕- Conn_Ctrl_10
	B- □ Conn_Ctrl_2 B- □ Conn_Ctrl_3 B- □ Conn_Ctrl_4

7. At the WinCC OA server add a control manager with the script "sql_server.ctl"

🌣 Managereigenschaften	WinCC OA 3.12: Console	
Manager:	4 & 2 & 2	Q ?
WCCOActrl Control Manager	Projekt	
Optionen:	GettingStarted_3.12	- 🛯 🖪 💽
sql_server.ct	Manager - (Prozessüberwachung: Überwa	che Projekt)
🕞 Startmodus 🗍 📄 Restart — 📄 📄 Startzähler rücksetzen 🗍	St Beschreibung Nr Optione	en 🕕
• immer	2 Prozessüberwachung 1	
	2 Datenbank Manager 0	
C manuell	2 Archiv Manager 0 -num 0	
Sekunden bis Kill	2 Archiv Manager 1 -num 1	
Ceinmal 30 🛨	2 Archiv Manager 2 -num 2	
	2 Archiv Manager 3 -num 3	
	2 Archiv Manager 4 -num 4	
Manager bei Projektneustart nicht beenden	2 Archiv Manager 5 -num 5	
	2 Event Manager 0	and the second sec
	2 Control Manager 1 -f pvss	scripts.lst
	2 Control Manager 2 sql_serv	er.ctl
Hilfe Ok Abbrechen	2 Simulations Treiber 1	
	0 User Interface 1 -m gedi	

 For a simple test script we created a simple table in the Oracle database and added two records.

```
C:\Users\vogler>sqlplus system/manager@solaris
SQL*Plus: Release 12.1.0.2.0 Production on Mo Dez 15 13:10:11 2014
Copyright (c) 1982, 2014, Oracle. All rights reserved.
Last Successful login time: Mo Dez 15 2014 13:46:59 +01:00
Connected to:
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
with the Partitioning, Automatic Storage Management, OLAP, Advanced Analytics
and Real Application Testing options
SQL> alter user test quota unlimited on users;
User altered.
SQL> exit
C:\Users\vogler>sqlplus test/test@solaris
SQL*Plus: Release 12.1.0.2.0 Production on Mo Dez 15 13:09:32 2014
Copyright (c) 1982, 2014, Oracle. All rights reserved.
Last Successful login time: Mo Dez 15 2014 13:50:23 +01:00
Connected to:
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
with the Partitioning, Automatic Storage Management, OLAP, Advanced Analytics
and Real Application Testing options
SQL> create table mytable (i integer, s varchar2(1000));
Table created.
SQL> insert into mytable values (1, 'hello');
1 row created.
SQL> insert into mytable values (2, 'world');
1 row created.
SQL> commit;
Commit complete.
SQL>
```

 At the WinCC OA client it is now easily possible to access the relational database. Note that at the WinCC OA client there is no need to install any database client software. Only WinCC OA is needed.

```
1 main()
2 {
3
    string conn=sdbMyConnStr();
4
    sdbOpen(conn, "DSN=SOLARIS;UID=test;PWD=test");
5
6
    dyn dyn anytype res;
    sdbSelect(conn, "SELECT * FROM mytable", res);
7
8
    DebugTN(res);
9
    sdbExecute(conn, "INSERT INTO mytable VALUES (3, 'winccoa')");
LO
11
12
    sdbSelect(conn, "SELECT * FROM mytable", res);
13
    DebugTN(res);
4
15
    sdbClose (conn);
6 }
```

10. The result of the simple test script we implemented and executed at the client. We have read the content of the table, inserted one more row "winccoa" and read the table again.

```
WCCOAui1:2014.12.15 13:20:01.749[dyn_dyn_anytype 2 items
               : dyn_anytype 2 items
1: 1
WCCOAui1: 1:
WCCOAui1:
WCCOAui1:
               2: "hello"
           2: dyn_anytype 2 items
1: 2
WCCOAui1:
WCCOAui1:
              2: "world"
WCCOAui1:
WCCOAui1:]
WCCOAui1:2014.12.15 13:20:01.799[dyn_dyn_anytype 3 items
WCCOAui1: 1: dyn_anytype 2 items
WCCOAui1: 1: 1
               2: "hello"
WCCOAui1:
               : dyn_anytype 2 items
1: 2
WCCOAui1:
           2:
WCCOAui1:
               2: "world"
WCCOAui1:
WCCOAui1:
           3: dyn_anytype 2 items
1: 3
WCCOAui1:
WCCOAui1:
             2: "winccoa"
WCCOAui1:]
```

SQL> se	lect	* from	mytable;	
	I			
S	<u>a.a.a.a.a</u> .a.	alababababab		<u>ka ka ka ka ka ka ka</u> t
hello	1			
world	2			
winccoa	3			
SQL>				