

SAS/ACCESS

Die Macht des Libname Statements

VIADÉE UNTERNEHMENSBERATUNG AG

- >200 Mitarbeiter
- Standorte
 - Münster
 - Köln
 - Dortmund
- >3000 Projekte



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- Themenverantwortlich für den Bereich SAS

AGENDA

- Libname
 - Syntax
 - Verkettung
- SAS/ACCESS
- AuthDomain

LIBNAME

Syntax und Verkettung

LIBNAME SYNTAX

- Verbindung eines logischen Namens an einen Speicherort
- Syntax:
LIBNAME libref
 <engine>
 'SAS-library'
 <libname-options>
 <engine-host-options>
 ;
• https://documentation.sas.com/doc/de/pgmsascdc/9.4_3.5/lestmtsglobal/n1nk65k2vsfmxfn1wu17fntzszbp.htm#p0fnujpnool7r5n10dkp8xs0n7ft
 - shorturl.at/NQ469

LIBNAME SYNTAX

```
CODE LOG
1 libname DATA '~/KSFE/ENTW/DATA';
```

```
73          libname DATA '~/KSFE/ENTW/DATA';
```

NOTE: Libref DATA was successfully assigned as follows:

Engine: V9

Physical Name: /home/scd@intern.viadee.de/KSFE/ENTW/DATA

LIBNAME SYNTAX

▼ Bibliotheken





↳ Eigene Bibliotheken

- DATA
- MAPS
- MAPSGFK
- MAPSSAS
- SASDATA
- SASHELP
- SASUSER
- STPSAMP
- VALIB
- WEBWORK
- WORK
- WRSDIST
- WRSTEMP

Bibliothekseigenschaften

Name: DATA

Bibliothekspfade, -Engines und LIBNAME-Optionen:

-  /home/scd@intern.viadee.de/KSFE/ENTW/DATA
-  Engine: V9

LIBNAME VERKETTUNG

```

CODE      LOG
-----
1  libname  ENTW  '~/KSFE/ENTW/DATA';
2  libname  TEST  '~/KSFE/TEST/DATA';
3  libname  PROD  '~/KSFE/PROD/DATA';
4
5  LIBNAME  DATA (ENTW TEST PROD);

```

```
77          LIBNAME DATA (ENTW TEST PROD);
```

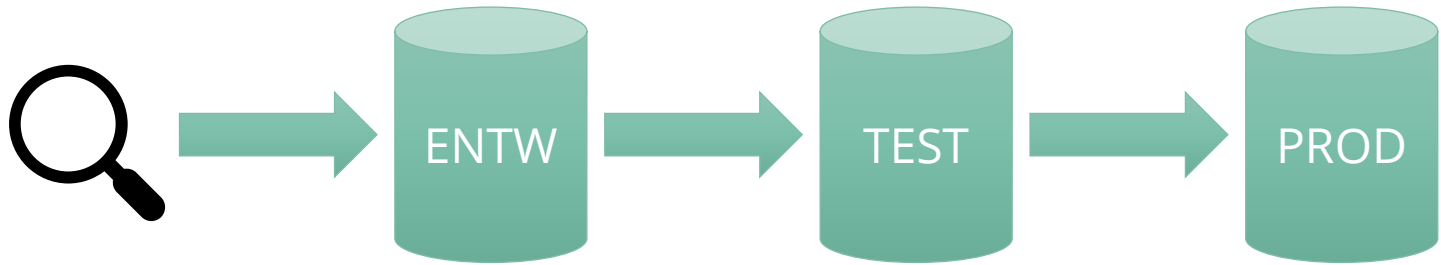
NOTE: Libref DATA was successfully assigned as follows:

```

Levels:                3
Engine(1):              V9
Physical Name(1):      /home/scd@intern.viadee.de/KSFE/ENTW/DATA
Engine(2):              V9
Physical Name(2):      /home/scd@intern.viadee.de/KSFE/TEST/DATA
Engine(3):              V9
Physical Name(3):      /home/scd@intern.viadee.de/KSFE/PROD/DATA

```

LIBNAME VERKETTUNG



LIBNAME VERKETTUNG

- Es wird das Objekt genutzt, welches in der Verkettungsreihenfolge als erstes gefunden wird
 - Man kann nicht erkennen, woher das Objekt gelesen wurde :-/
 - Objekt = Tabelle / View
- Es wird in die erste Bibliothek der Verkettung geschrieben

SAS / ACCESS

SAS/ACCESS

- Amazon Aurora (MySQL engine)
- Amazon Aurora (Postgres engine)
- Amazon EMR
- Amazon RDS MariaDB
- Amazon RDS Microsoft SQL Server
- Amazon RDS MySQL
- Amazon RDS Oracle
- Amazon RDS PostgreSQL
- Amazon Redshift
- Cloudera Data Hub
- Cloudera Data Platform
- Cloudera – Hortonworks Data Platform
- Databricks
- DB2
- EnterpriseDB PostgreSQL
- Google BigQuery
- Google Cloud Platform Cloud SQL for PostgreSQL
- Google Cloud Platform Cloud SQL MySQL
- Google Cloud Platform Cloud SQL for SQL Server
- Greenplum
- Hive
- IBM Integrated Analytics System (IIAS)
- IBM Netezza Performance Server
- Impala
- Informix
- JDBC
- MariaDB
- Microsoft Azure Database for MariaDB
- Microsoft Azure Database for MySQL
- Microsoft Azure Database for PostgreSQL
- Microsoft Azure HDInsight
- Microsoft Azure Synapse Analytics
- Microsoft Azure SQL Database
- Microsoft Azure SQL Database managed instance
- Microsoft SQL Server
- MySQL
- Netezza
- ODBC
- OLE DB
- Oracle
- Oracle MySQL Database
- PC Files (e.g., CSV, TAB, Microsoft Excel, JMP, Microsoft Access, SPSS, Stata)
- The PI System
- PostgreSQL
- Salesforce
- SAP ASE
- SAP HANA
- SAP R3
- Singlestore
- Snowflake
- Spark
- Teradata Vantage
- Vertica
- Yellowbrick
- Facebook
- Twitter
- YouTube Analytics
- Google Analytics
- Google Drive
- Microsoft OneDrive

Quelle: https://www.sas.com/de_de/software/access/access-engines1.html

SAS/ACCESS

- Welche Module können genutzt werden?

```
proc setinit; run;
```

```
[...]
```

```
---SAS/ACCESS Interface to DB2
```

```
---SAS/ACCESS Interface to Oracle
```

```
---SAS/ACCESS Interface to SAP ASE
```

```
---SAS/ACCESS Interface to PC Files
```

```
---SAS/ACCESS Interface to ODBC
```

```
---SAS/ACCESS Interface to INFORMIX
```

```
---SAS/ACCESS Interface to R/3
```

```
---SAS/ACCESS Interface to Teradata
```

```
---SAS/ACCESS Interface to Microsoft SQL Server
```

```
---SAS/ACCESS Interface to MySQL
```

```
[...]
```

SAS/ACCESS

```
libname XLSLib xlsx '~/KSFE/Beispiel.xlsx';
```

```
74          libname XLSLib xlsx '~/KSFE/Beispiel.xlsx';
```

```
NOTE: Libref XLSLIB was successfully assigned as follows:
```

```
Engine:          XLSX
```

```
Physical Name:  ~/KSFE/Beispiel.xlsx
```

SAS/ACCESS

```
Data XLSLib.class;
set sashelp.class (where=(AGE>14));
run;
```

NOTE: There were 5 observations read from the data set SASHHELP.CLASS WHERE AGE>14;

NOTE: The data set XLSLIB.class has 5 observations.

NOTE: The export data set has 5 observations.

NOTE: DATA statement used (Total process time):
real time 0.00 seconds
cpu time 0.01 seconds

	A	B	C	D	E
1	Name	Sex	Age	Height	Weight
2	Janet	F	15	62,5	112,5
3	Mary	F	15	66,5	112
4	Philip	M	16	72	150
5	Ronald	M	15	67	133
6	William	M	15	66,5	112
7					
8					
9					

class +

SAS/ACCESS

```
proc sql;  
create view XLSlib.class_v as  
    select name, age from sashelp.class;  
quit;
```

```
73      proc sql;  
74      create view XLSlib.class_v as  
75          select name, age from sashelp.class;  
ERROR: XLSLIB.class_v.VIEW kann nicht erstellt werden, da XLSLIB.class_v.DATA bereits existiert.  
ERROR: SQL view was not defined due to errors.  
NOTE: PROC SQL set option NOEXEC and will continue to check the syntax of statements.  
76      quit;  
NOTE: The SAS System stopped processing this step because of errors.  
NOTE: PROZEDUR SQL used (Total process time):  
      real time          0.00 seconds  
      cpu time           0.00 seconds
```

SAS/ACCESS

```
proc sql;  
delete from XLSLib.class2 where age<14;  
run;
```

```
73      proc sql;  
74      delete from XLSLib.class2 where age<14;  
ERROR: Aktualisierungszugriff wird für Datei XLSLIB.class2.DATA nicht unterstützt.
```

SAS/ACCESS

- Welche Module können genutzt werden?

```
proc setinit; run;
```

```
[...]
```

```
SAS/ACCESS Interface to DB2
```

```
---SAS/ACCESS Interface to Oracle
```

```
SAS/ACCESS Interface to SAP ASE
```

```
---SAS/ACCESS Interface to PC Files
```

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---SAS/ACCESS Interface to ODBC
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```

```
---SAS/ACCESS Interface to Teradata
```

```
---SAS/ACCESS Interface to Microsoft SQL Server
```

```
---SAS/ACCESS Interface to MySQL
```

```
[...]
```

SAS/ACCESS

```
Libname ora meta library="BI_demo" metaout=data;
```

```
Data ora.class;  
set sashelp.class (where=(AGE>14));  
run;
```

```
73      Libname ora meta library="BI_demo" metaout=data;  
NOTE: Libref ORA verweist auf dieselben Bibliotheksmetadaten wie Libref BI_DEMO.  
NOTE: Libref ORA was successfully assigned as follows:  
      Engine:          META  
      Physical Name: VIAORA12c  
74  
75      Data ora.class;  
76      set sashelp.class (where=(AGE>14));  
77      run;  
  
NOTE: There were 5 observations read from the data set SASHELP.CLASS.  
      WHERE AGE>14;  
NOTE: The data set ORA.CLASS has 5 observations and 5 variables.  
NOTE: DATA statement used (Total process time):  
      real time          0.08 seconds  
      cpu time           0.01 seconds
```

SAS/ACCESS

```
Libname ora meta library="BI_demo" metaout=data;
```

```
Data ora.class;  
set sashelp.class (where=(AGE>14));  
run;
```

Zweiter Lauf:

```
73 Data ora.class;  
74 set sashelp.class (where=(AGE>14));  
75 run;
```

ERROR: Die ORACLE Tabelle CLASS wurde für OUTPUT geöffnet. Diese Tabelle existiert bereits oder es besteht ein Namenskonflikt mit einem vorhandenen Objekt. Die Tabelle wird nicht ersetzt. Diese Engine unterstützt die Option REPLACE nicht.

NOTE: The SAS System stopped processing this step because of errors.

NOTE: DATA statement used (Total process time):

```
real time      0.00 seconds  
cpu time      0.00 seconds
```

SAS/ACCESS

- SAS versucht so vollständig wie möglich Operationen durchzureichen
- Je nach Access Modul gibt es einzelne Funktionen, die nicht klappen
 - Verkettung mit Oracle funktioniert, mit XLSX nicht
 - Man muss sich ggf. mehr um Steuerung und Struktur kümmern
- Umstellung = Test!

AUTHDOMAIN

AUTHDOMAIN

```
libname ora oracle user=<userid> password=<PASSWORD>;
```



NICHT machen!!!



AUTHDOMAIN

- Zugangsdaten sind für die meisten SAS/ACCESS Module notwendig
- Diese KÖNNEN zwar direkt als Parameter mit gegeben werden
 - Das SOLLTE man aber nicht machen!!!
- SAS liefert einen eigenen Passwort Manager mit
 - AUTHDOMAIN
 - benötigt den SAS Metadaten Server

AUTHDOMAIN

```
libname ora oracle AUTHDOMAIN=<DOMAINNAME>;
```



MACHEN!!!



AUTHDOMAIN

The image shows two overlapping windows from the SAS Personal Login Manager application. The background window is the 'Anmelde-Manager' dialog, which is used for user authentication. It features a dropdown menu for the 'Authentifizierungsdomäne' (Authentication Domain) set to 'DB2', and input fields for 'Benutzer-ID' (User ID), 'Passwort' (Password), and 'Neues Passwort bestätigen' (Confirm new password). The foreground window is the 'SAS Personal Login Manager' main interface, displaying a table of logins defined for the user 'Nate'.

Authentication Domain	User ID	Password
DefaultAuth	[redacted]	[redacted]
OracleAuth	[redacted]	*****
DB2Auth	[redacted]	*****
UnixAuth	[redacted]	*****



