



DB2SQL Dynamic SQL and Ad-Hoc Reporting for DB2

DB2SQL has been originally developed for UBS AG, the largest Bank in Switzerland, to comply with their strong security policy in the area of dynamic data retrieval and manipulation of its huge amount of mission critical DB2 production tables in multiple and complex parallel sysplex data-sharing environments

Provides an easy to use interface to execute a secure and dynamic processing of any SQL statement in a DB2 for z/OS environment

Leverages existing security features and processing rules in the area of DB2 data access and thus enhances the overall DB2 data integrity and availability

Offers the opportunity for an efficient, central and comprehensive audit-trail of all dynamic SQL statements which are processed in a DB2 for z/OS environment

What is DB2SQL ?

DB2SQL is a userfriendly tool to process any SQL (DML, DDL and DCL).

Short Description and Main Features:

DB2SQL is a comprehensive tool running under TSO/ISPF able to execute free form DB2 for z/OS SQL statements.

DB2SQL can run in 2 modes:

• SQL (Free Form):

This mode allows the execution of all kinds of SQL statements in foreground or batch with logging on a DB2 table (statements to be logged can be selected at installation time):

- The executed SQL statements are **logged** into the DB2SQL database according the setting done at installation time
- Several SQL statements separated by semi-colon can be specified and are executed separately (each statement is executed in **its own unit of work**).
- Useful **control statements** to enforce a **checkpoint-pacing** in order to minimize the size of UOW's/UOR's during mass-deletes/-updates
- For security and integrity purposes, if statements like DROP, ALTER, REVOKE or INSERT/UPDATE/DELETE on **DB2 Catalog table** are executed, independently of the foreground or batch mode selection, a **batch job** is generated.

• AHR (Ad-Hoc Reporting):

Execution of SELECT statements in batch with **formatted output** and **logging** on a DB2 table:

- Allows the execution of **SELECT** statements **in batch only** (other SQL statements than SELECT are ignored/discarded).
- Executed SELECT statements are logged into a DB2 database.
- Several SELECT statements separated by semi-colon can be specified and are executed separately.
- All SELECT statements are always executed with uncommitted read (even if **WITH UR** is not specified in SELECT statements).
- Each SELECT statement result set in **character delimited format** will reside in an associated output data set.
- The output data sets can be transferred to a PC and be loaded in PC applications.

See an example of use on the reversed side.

Who will use DB2SQL

Application Developers	✓
End users	✓
DBAs	✓
Operations	✓
Technical Support	✓
Systems Programmers	✓

Prerequisites

DB2SQL requires the following software:

- DB2 V6.1 and subsequent releases
- z/OS (any release)
- ISPF Version 3 or later
- TSO/E Version 3 or later

DB2SQL is a member of the KeyTools product family. KeyTools and **DB2SQL** are trademarks or registered trademarks of UFD Software AG.

Example of use (Mode: Ad-Hoc Reporting):

1. SQL statement(s)

```
TD01/DD/DB2SQL          DB2SQL
Option ==> R                               Mode: AHR

C Clear SQL statements area  R Run the SQL stmt(s) Foreground / Batch F (F/B)
E Edit dataset or SQL below  V Verify the SQL statement(s) (Run and ROLLBACK)
G Get from dataset below     D Draw table SYSIBM.SYSDUMMY1
S Save into dataset below    P DB2SQL Profile  L DB2SQL Log
Dataset                      CAPS ON Y (Y/N)
                               More:      +

==> SELECT * FROM SYSIBM.SYSCOPY WHERE DBNAME = 'DSNDB04';
==> SELECT * FROM SYSIBM.SYSCOPY WHERE DBNAME = 'DSNDB06'
==>
==>
==>
```

2. Generated job

```
000001 //T035686N JOB 0,KEYTOOLS,MSGCLASS=X,REGION=0K,NOTIFY=T035686
000002 //*-DB2AHR-----
000003 //DB2AHR EXEC SQLPROC,CMFCNTL='SYS2.DB2SQL.CONTROL.AHR',DYNNUM=500
000004 //PST1.SYSTSIN DD *
000005 TSOLIB ACT DSN('SYS2.DB2SQL.LOAD')
000006 DSN SYSTEM(DD)
000007 RUN PROGRAM(PX021300) PLAN(DB2SQL) -
000008 PARM ('/DBID=DB2SQL')
000009 //PST1.CMFDATA DD DSN=T035686.SQL,DISP=(,DELETE,DELETE),
000010 // DCB=(RECFM=FB,LRECL=40,BLKSIZE=32760,BUFNO=15),
000011 // UNIT=(SYSALLDA),SPACE=(CYL,(2,5))
000012 //PST1.SYSIN DD *
000013 SELECT * FROM SYSIBM.SYSCOPY WHERE DBNAME = 'DSNDB04';
000014 SELECT * FROM SYSIBM.SYSCOPY WHERE DBNAME = 'DSNDB06'
```

3. Job log

```
SDSF OUTPUT DISPLAY T035686N J0082459 DSID 104 LINE 1 COLUMNS 02- 81
COMMAND INPUT ==> SCROLL ==> HALF

PAGE 1
*** INPUT STATEMENT: SELECT * FROM SYSIBM.SYSCOPY WHERE DBNAME = 'DSNDB04'
*** AHR0001 DB2AHR PROCESSING INVOKED
SQL STATEMENT = SELECT * FROM SYSIBM.SYSCOPY WHERE DBNAME = 'DSNDB04' WITH UR
ROWS 3939
DSN T035686.SQL.D060220.T085524.S931
*** AHR0000 DB2AHR PROCESSING SUCCESSFUL FOR SELECT * FROM SYSIBM.SYSCOPY WHERE
PAGE 1
*** INPUT STATEMENT: SELECT * FROM SYSIBM.SYSCOPY WHERE DBNAME = 'DSNDB06'
*** AHR0001 DB2AHR PROCESSING INVOKED
SQL STATEMENT = SELECT * FROM SYSIBM.SYSCOPY WHERE DBNAME = 'DSNDB06' WITH UR
ROWS 1577
DSN T035686.SQL.D060220.T085528.S125
*** AHR0000 DB2AHR PROCESSING SUCCESSFUL FOR SELECT * FROM SYSIBM.SYSCOPY WHERE
```

4. SQL result dataset (formatted output)

```
BROWSE T035686.SQL.D060220.T085524.S931 Line 00000000 Col 001 080
Command ==> Scroll ==> HALF
***** Top of Data *****
"DBNAME";"TSNAME";"DSNUM";"ICTYPE";"ICDATE";"START_RBA";"FILESEQNO";"DEVTYPE";"I
"DSNDB04 "; "CURRENT "; 0;"Y";"060216";"iñ.]; 0;"
"DSNDB04 "; "CURRENT "; 0;"Y";"060216";"r@.à"; 0;"
"DSNDB04 "; "BASE "; 0;"S";"060216";"ç.±ç"; 0;"
"DSNDB04 "; "BASE "; 0;"S";"060217";"l.Z"; 0;"
"DSNDB04 "; "BASE "; 0;"S";"060217";"lÉ*ç"; 0;"
"DSNDB04 "; "TEST2AAA"; 0;"F";"060210";"i½."; 0;"3390
"DSNDB04 "; "PLAN15X$"; 0;"F";"060210";"iP|Y8"; 0;"3390
"DSNDB04 "; "PLAN159J"; 0;"F";"060210";"iP%.ù"; 0;"3390
"DSNDB04 "; "PLAN163R"; 0;"F";"060210";"iP_à"; 0;"3390
"DSNDB04 "; "PLAN1797"; 0;"F";"060210";"iP>S^"; 0;"3390
"DSNDB04 "; "PLAN18BF"; 0;"F";"060210";"iPø.("; 0;"3390
"DSNDB04 "; "PLAN18QQ"; 0;"F";"060210";"iPÈZ."; 0;"3390
```

5. DB2SQL log

```
TD01/DD/DB2SQL          DB2AHR Activity Log      Line 00000000 Col 001 080
Command ==>                               Scroll ==> PAGE

OUTCLASS . . . Z      Specify SYSOUT class for PRINT or Z to DELETE output list
***** Top of Data *****
LIST OF LOG ENTRIES FROM 2006-02-20

LOGGING          RET-  OWNING  CURRENT  JOB  TSU JOB  DB2  NUM OF ROWS
DATE            INITIATED  TIME          JOBNAME /STEPNAME/PROCSTEP  CODE  SQLID  /SQLID  SSID/JOB/NUM  SSID  AFFECTED  EXECUTED SQL/CONTROL STATEM
-----
2006-02-20 08.55.24.207 08.55.27.683381 T035686N/PST1 /DB2AHR 0000 T035686 /T035686 JES2/J00/82459 DD 0000003939 SELECT * FROM SYSIBM.SYSCOPY WHERE
2006-02-20 08.55.24.207 08.55.30.905713 T035686N/PST1 /DB2AHR 0000 T035686 /T035686 JES2/J00/82459 DD 0000001577 SELECT * FROM SYSIBM.SYSCOPY WHERE
```