



ULT4DB2

DB2 LOG EXAMINATION

ULT4DB2 DB2 LOG EXAMINATION WITH ULT4DB2

WHAT DOES ULT4DB2 DO?

[OVERVIEW](#) | [SCENARIO](#)

- Analyse DB2 logs
 - Extract log records for a list of tables
- Generate output from a subset of the log
 - Undo Statements/Records
 - Redo Statements/Records
 - Reports

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WHAT DOES ULT4DB2 DO?

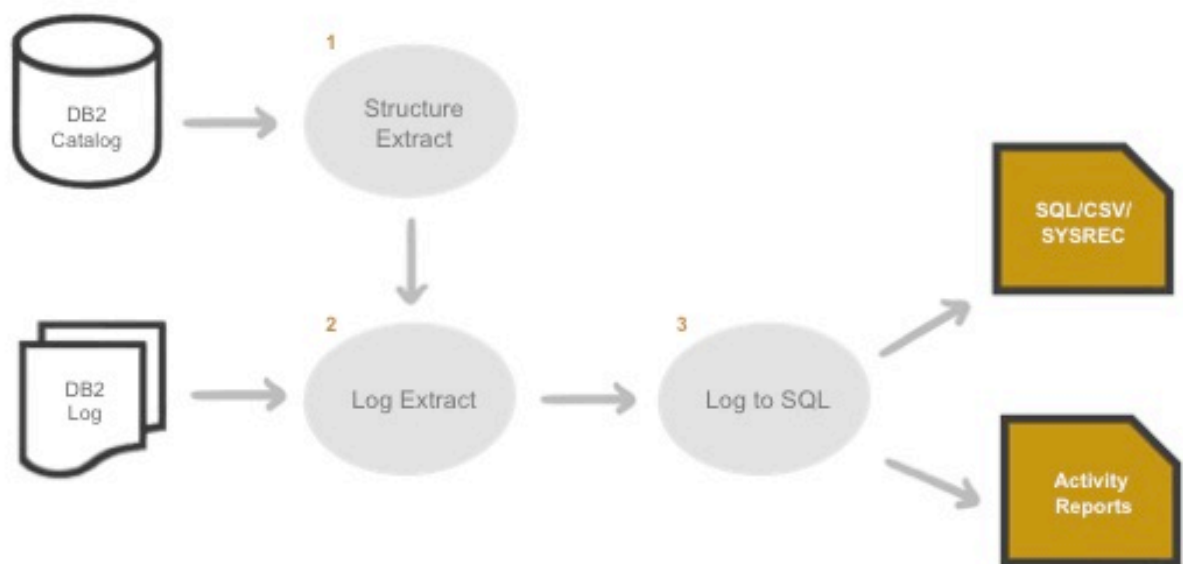
OVERVIEW | SCENARIO

What can ULT4DB2 be used for?

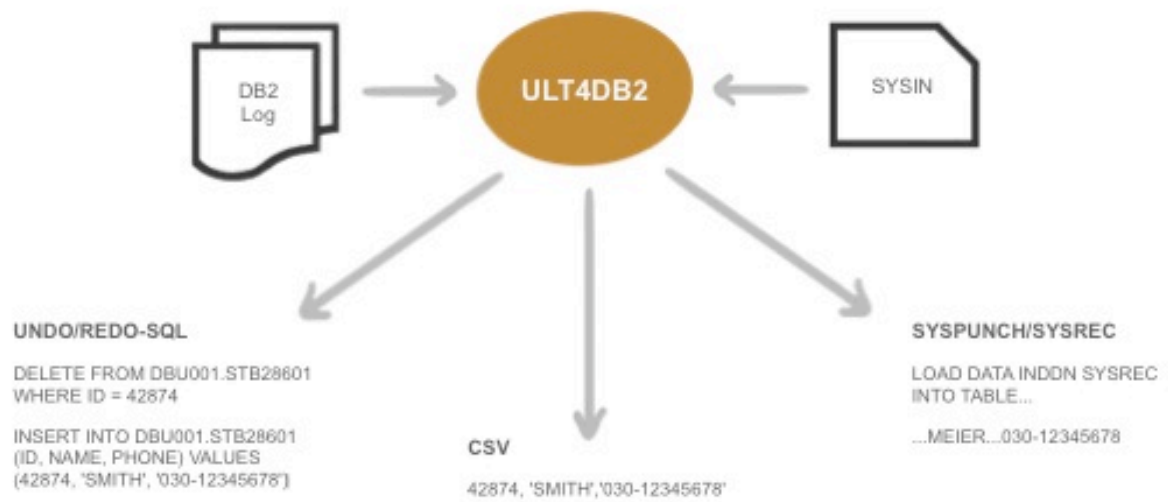
Usage Scenarios

- Data propagation:
Keep multiple tables synchronised
- Auditing:
Show data modifications and users
- Corrections:
Identify and undo selected changes
- Program quality assurance:
Monitor abidance by standards

Three-step process



ULT4DB2 DB2 LOG EXAMINATION WITH ULT4DB2



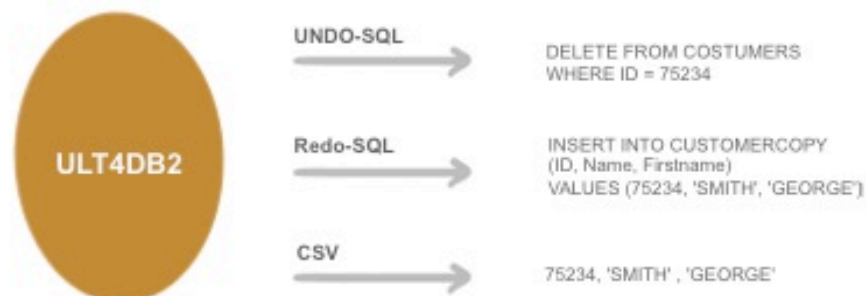
Example

Original Statement:

(executed by a user, an application, a trigger...)

```
INSERT INTO CUSTOMER  
(ID, Name, Firstname)  
VALUES (75234, 'SMITH', 'GEORGE')
```

What ULT4DB2 can create from the log:

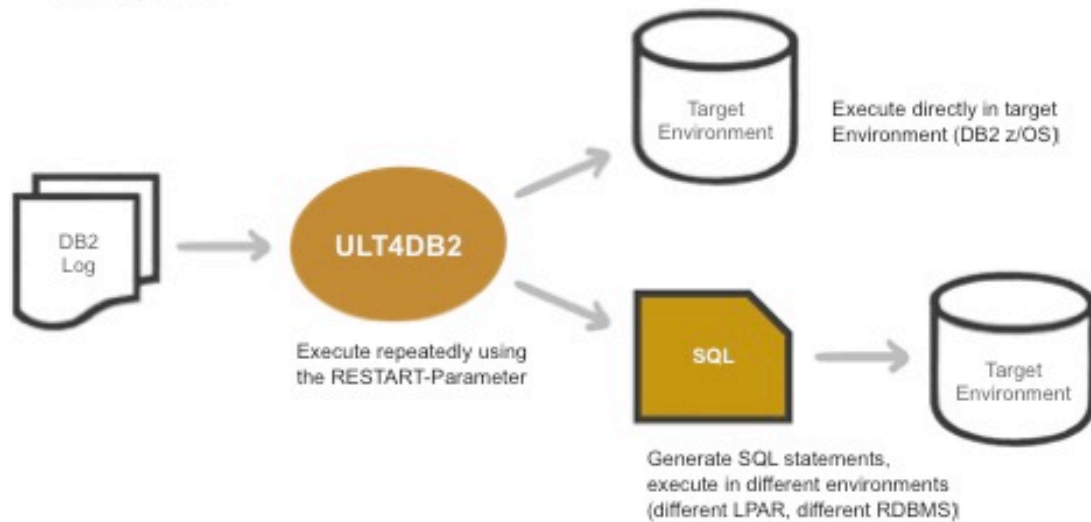


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WHAT DOES ULT DO?

OVERVIEW | **SCENARIO**

Propagation

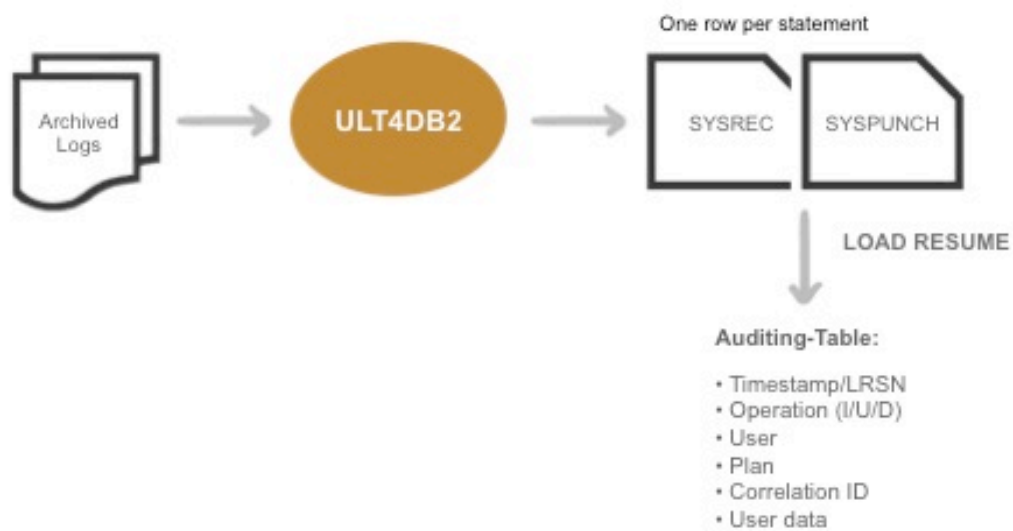


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WHAT DOES ULT DO?

OVERVIEW | **SCENARIO**

Auditing

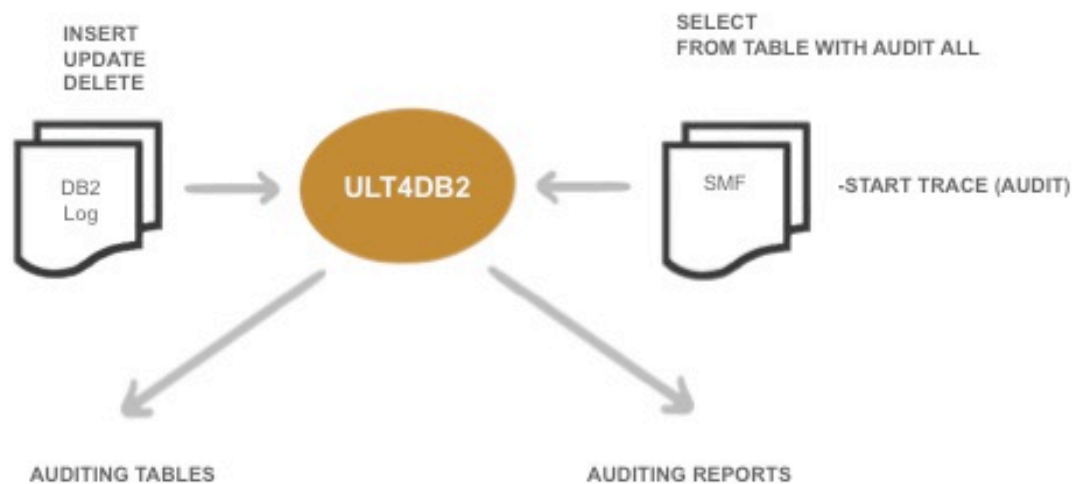


Auditing

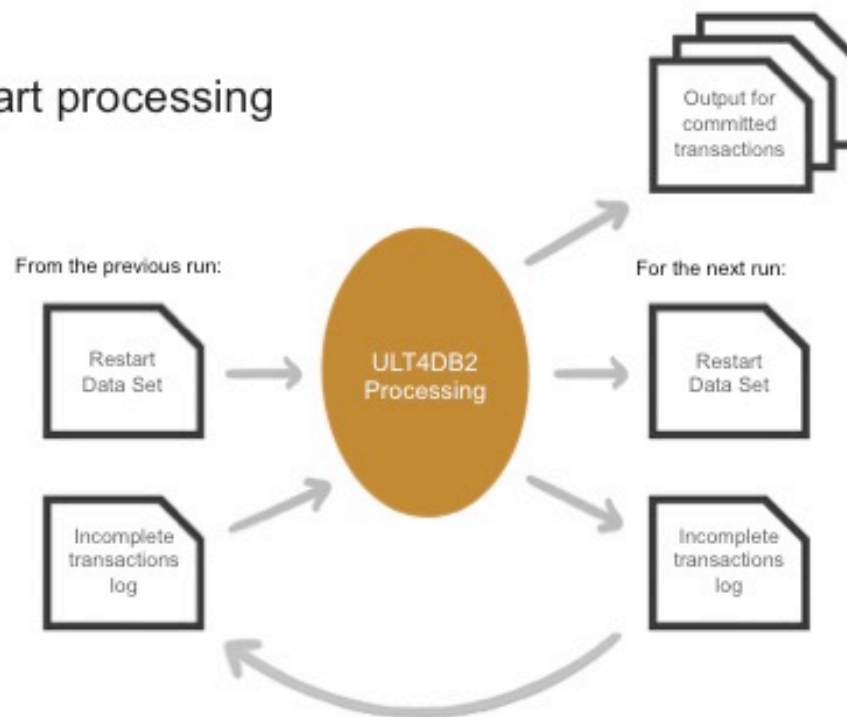
TBCREATOR	TBNAME	LRSN	OPERATION	COLUMNS OF ORIGINAL TABLE			
DBU001	STB28601	C3D80ACCCB61	I	...	...	...	...
DBU001	STB28601	C3D80ACCD296	I	...	...	...	...
DBU001	STB28601	C3D80ACCD9BD	I	...	...	...	...
DBU001	STB28601	C3D80ACCE0A1	U	...	...	...	...
DBU001	STB28601	C3D80ACCE746	D				
DBU001	STB28601	C3D80ACCF24E	D				
DBU001	STB28601	C3D80ACCFD62	U				

```
REDO DBU001.STB28601
INTO DBA123.STB28601_AUDITING
MODE(FIX)
PREFIX(TBCREATOR,
TBNA
ME LIMIT 18, LRSNHEX INTO LRSN, OPERATION);
```

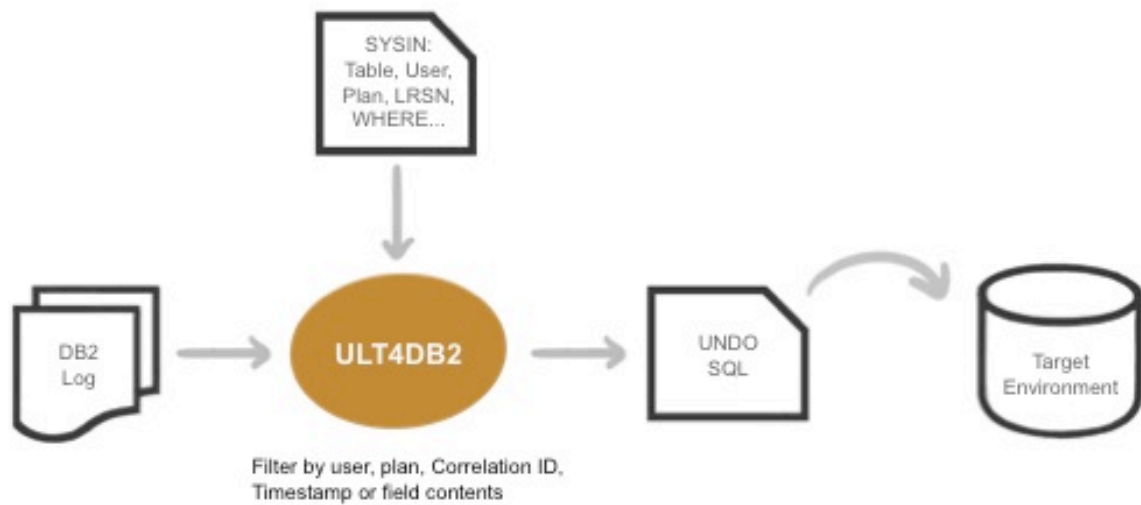
Auditing read access



Restart processing



Corrections

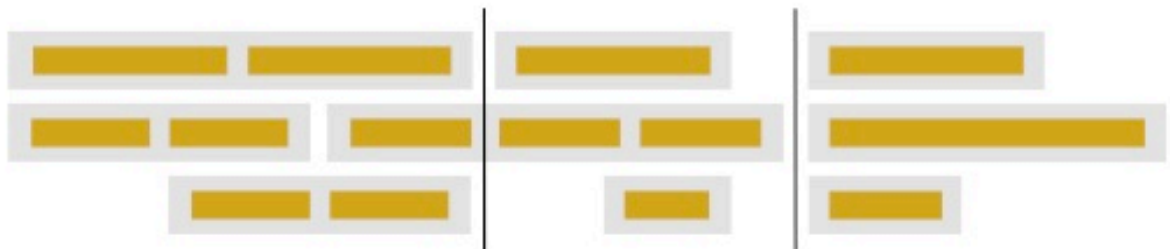


Activity Analysis

- **Quiet time Report**
Finds points of consistency without QUIESCE
- **Rollback Report**
Identifies aborted or rolled back transactions
- **Long Runners Report**
Detects heavy updaters with low commit frequency
- **Activity Reports**
By plan, user, object

Quiet times

- At Unit of Recovery scope
- At Logical Unit of Work scope



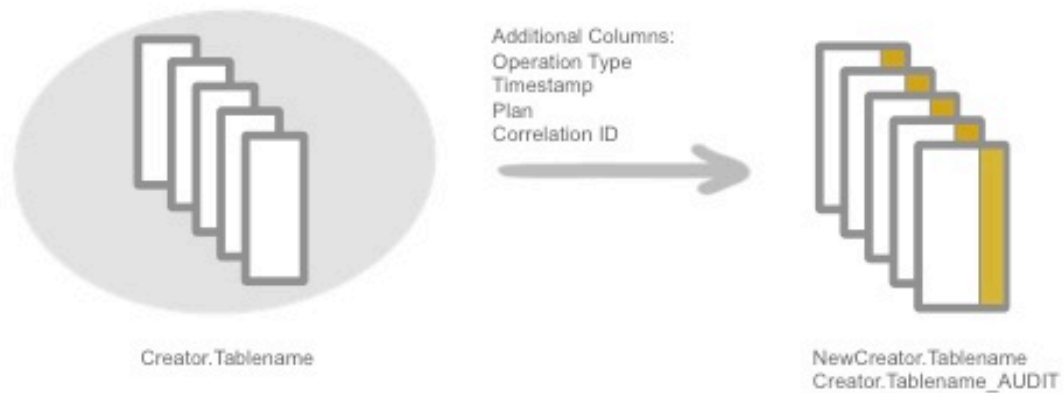
Templates

- **Derive output data set name from the table parameters**
Allows later to relate the data set to the object and execution
- **Dynamically allocated during program execution**
Reduces the number of DD statements in JCL
- **Including date and time fields**
Allows to save the execution history

Why Log Analysis Automation?

Creating / Maintaining Audit Table

- Scope Rules
- NewCreator



Propagation

- Scope Rules
- NewCreator



Recover

- Scope Rules
- Select Quiet Point



User Interface

- Unify and symplify ULT4DB2 execution
- Automate Auditing and Propagation tasks:
 - create auditing tables
 - automate initial load process
- Syncpoints can be used in ULT4DB2 processing
- Track execution history and ouput files
- Display Log and Objects

Undrop

- **Undrop Objects**
DATABASE, TABLESPACE, TABLE, INDEX
- **Examine log records for catalog tables**
- **Generate CREATE statements**
- **Restore data using**
Last full image copy
Following Incremental copies
- **Apply log records up to the DROP**

ULT Performance

- **ULTLOGEX step:**
 - Number of tables: 246
 - Observed period of time: 24 hours
 - Archived log dataset: 142 on DASD
 - Log records read: 433 millions (217 GB)
 - Records in minilog: 11 millions (5.5 GB)
 - Additional space (DCC): **380 MB**
 - Used CPU time: **17 min 20 sec**
- **Log to SQL step:**
 - Depends on size of minilog
 - Our experience: 20–40% of MINILOG step

Advantages of ULT4DB2

- **Easy to install**
Stand-Alone-Tool
No started task
No usage of DB2 log exits
- **Easy to use**
- **Low resource consumption**
- **Restartability**
- **Dynamic allocation of output datasets**
- **Flexible output formats**

Reading Active Logs

- **APAR PK64576**

Although it is not recommended that an application attempts to read the active log data sets while DB2 is up, DB2 has agreed to allocate the active logs with DISP=SHR in non-data sharing mode to be consistent with data sharing mode.

- **R810 UK37178**

- **R910 UK37179**

Would you like to test ULT4DB2?

Thank you
for your
attention!

Your UBS Hainer Team



Learn more about ULT4DB2 and our DB2 High-End Product Line at www.ubs-hainer.com or send an email to info@ubs-hainer.com