

Map_Operation Transform

by Sudheer Sharma - Monday, February 16, 2009

<http://dwhnotes.com/data-integrator/mot>

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Note on Map_Operation: It allows you to change the opcodes on your data. Before discussing this we should know about opcodes precisely

In DI we have 5 opcodes, Normal, Insert, Update, Delete and Discard(you'll see this option in Map_Operation only)

Normal: Indeed, it creates a new row in the target. The data which is coming from the source, is usually flagged as normal opcode

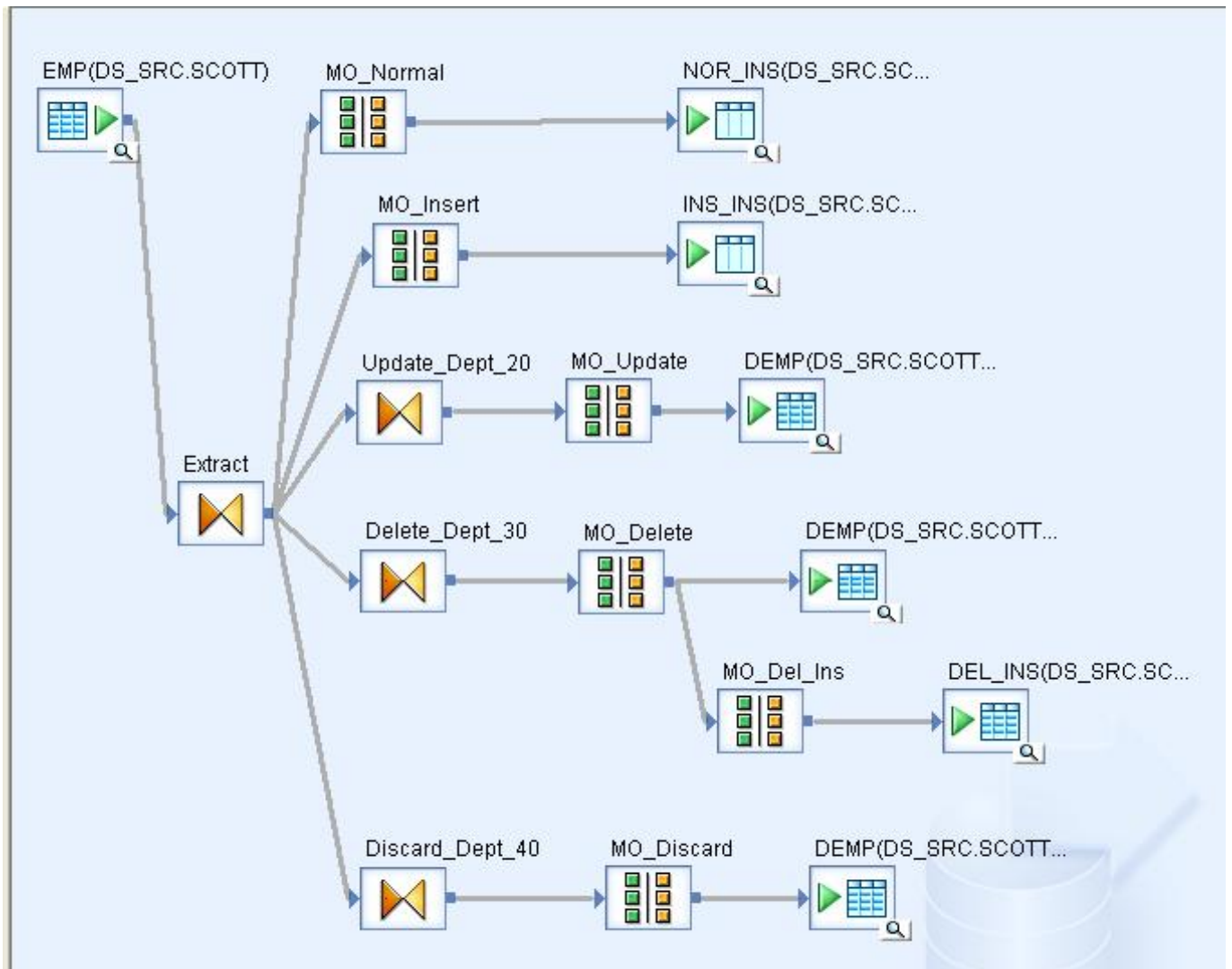
Insert: It does the same thing, it creates a new row in the target and the rows will be flagged as 'I' – Insert

Update: If the rows are flagged as 'U' , it overwrites an existing row in the target.

Delete: If the rows are flagged as 'D', those rows will be deleted from the target

Discard: If you select this option, those rows will not be loaded into the target.

Understanding Opcodes: Here is an example, in the below figure I'm using (normal to normal, normal to insert, normal to update, normal to delete) opcodes. Here i have taken normal opcode mainly because, query transform always takes normal rows as input and produces normal rows as output. However, will share the remaining opcodes in Table comparison and History Preserving transforms.



- In the first flow, i.e., **MO_Normal**-> i have selected **Normal as Normal** and discarded rest all opcodes.

Map Operation	
Input row type	Output row type
normal	normal
update	discard
insert	discard
delete	discard

- This flow inserts all records in to the target which are coming from the source
- In the second flow, **MO_Insert**-> i have selected **normal as insert** and discarded rest all opcodes.

Map Operation	
Input row type	Output row type
normal	insert
update	discard
insert	discard
delete	discard

- It does the same thing, inserts all records in to target.
- Have a glance on both the data sets before loading in to the target. You will see no opcode for Normal as Normal rows(1st flow), but you can see Insert opcode indicated as 'I' for Normal as Insert (2nd flow).

- In the third flow, i want to update few records in the target .
 - Let's say i want to update all the records whose deptno = 20.
 - Now, I have selected **normal as update in the map_operation** and discarded rest all.

Map Operation	
Input row type	Output row type
normal	update
update	discard
insert	discard
delete	discard

- Check the data, you can see the updated rows flagged as 'U'

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	1980.12.17 00:00:00.0000...	800.00	<Null>	20
7566	JONES	MANAGER	7839	1981.04.02 00:00:00.0000...	2975.00	<Null>	20
7788	SCOTT	ANALYST	7566	1982.12.09 00:00:00.0000...	3000.00	<Null>	20
7876	ADAMS	CLERK	7788	1983.01.12 00:00:00.0000...	1100.00	<Null>	20
7902	FORD	ANALYST	7566	1981.12.03 00:00:00.0000...	3000.00	<Null>	20

- In the fourth flow, I want to delete some records from the target.
 - Let's say i want to delete rows whose deptno = 30, in the map_operation transform i have selected **normal as delete** and discarded rest all
 - In the qry transform i have filtered out few records, where i want to delete those from the target.

Input row type	Output row type
normal	delete
update	discard
insert	discard
delete	discard

- and you can see the data after the map_operation dataset along with delete opcode 'D'.

MO_Delete -> DEMP(DS_SRC.SCOTT)

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
D	7499	ALLEN	SALESMAN	7698	1981.02.20 00:00:00.0000...	1600.00	300.00	30
D	7521	WARD	SALESMAN	7698	1981.02.22 00:00:00.0000...	1250.00	500.00	30
D	7654	MARTIN	SALESMAN	7698	1981.09.28 00:00:00.0000...	1250.00	1400.00	30
D	7698	BLAKE	MANAGER	7839	1981.05.01 00:00:00.0000...	2850.00	<Null>	30
D	7844	TURNER	SALESMAN	7698	1981.09.08 00:00:00.0000...	1500.00	0.00	30
D	7900	JAMES	CLERK	7698	1981.12.03 00:00:00.0000...	950.00	<Null>	30

Record: 1 of 6

- In the target data set, the above records will be deleted. Check the target data

DEMP(DS_SRC.SCOTT)

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
	7782	CLARK	MANAGER	7839	1981.06.09 00:00:00.0000...	2450.00	<Null>	10
	7839	KING	PRESIDENT	<Null>	1981.11.17 00:00:00.0000...	5000.00	<Null>	10
	7934	MILLER	CLERK	7782	1982.01.23 00:00:00.0000...	1300.00	<Null>	10
	8888	RAMESH	BI	9999	2007.02.14 00:00:00.0000...	4000.00	<Null>	10
	7777	SUDHEER	BI	8888	2007.02.14 00:00:00.0000...	4000.00	<Null>	10
	7369	SMITH	CLERK	7902	1980.12.17 00:00:00.0000...	800.00	<Null>	20
	7876	ADAMS	CLERK	7788	1983.01.12 00:00:00.0000...	1100.00	<Null>	20
	7902	FORD	ANALYST	7566	1981.12.03 00:00:00.0000...	3000.00	<Null>	20
	7788	SCOTT	ANALYST	7566	1982.12.09 00:00:00.0000...	3000.00	<Null>	20
	7566	JONES	MANAGER	7839	1981.04.02 00:00:00.0000...	2975.00	<Null>	20
	9999	%SUDHEER	BI	7777	2009.01.20 13:05:44.0000...	5000.00	0.00	40

Record: 1 of 11 (sorted)

- Now here in the sub-flow, i have inserted these deleted records in to another table. For this i have added one more Map_Operation and selected row type **delete as insert**.

Map_Operation Transform - 02-16-2009

by Sudheer Sharma - A small notes. . . - <http://dwhnotes.com>

Input row type	Output row type
normal	discard
update	discard
insert	discard
delete	insert

The screenshot displays a data integration workflow. The workflow starts with a source connector, followed by a 'Delete_Dept_30' component, then an 'MO_Delete' component. From 'MO_Delete', the flow splits into two paths: one leading to 'DEMP(DS_SRC.SCOTT...' and another to 'MO_Del_Ins'. The 'MO_Del_Ins' component then feeds into a 'DEL_INS(C' component. Below the workflow diagram, two data preview windows are shown. The left window is titled 'MO_Del_Ins -> DEL_INS(DS_SRC.SCOTT)' and the right window is titled 'DEL_INS(DS_SRC.SCOTT)'. Both windows display a table with the following data:

EMPNO	ENAME	JOB	MGR	HIREDATE
7499	ALLEN	SALESMAN	7698	1981.02
7521	WARD	SALESMAN	7698	1981.02
7654	MARTIN	SALESMAN	7698	1981.09
7698	BLAKE	MANAGER	7839	1981.05
7844	TURNER	SALESMAN	7698	1981.09
7900	JAMES	CLERK	7698	1981.12

- Now in the last and final flow, i have discarded all the opcodes. I do not want to load the data in to the target.

Input row type	Output row type
normal	discard
update	discard
insert	discard
delete	discard

- Check the data

Discard_Dept_40 MO_Discard DEMP(DS_SRC.SCOTT)

Discard_Dept_40 -> MO_Discard

EMPNO	ENAME	JOB	MGR	HIR
7369	SMITH	CLERK	7902	198
7499	ALLEN	SALESMAN	7698	198
7521	WARD	SALESMAN	7698	198
7566	JONES	MANAGER	7839	198
7654	MARTIN	SALESMAN	7698	198
7698	BLAKE	MANAGER	7839	198
7782	CLARK	MANAGER	7839	198
7788	SCOTT	ANALYST	7566	198
7839	KING	PRESIDENT	<Null>	198
7844	TURNER	SALESMAN	7698	198
7876	ADAMS	CLERK	7788	198

Record: 1 of 17

MO_Discard -> DEMP(DS_SRC.SCOTT)

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	C
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Record: 0 of 0

DF_Delete_Insert - Data Flow

Will post more information on opcodes

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