

Reverse Pivot Transform

by Sudheer Sharma - Monday, May 04, 2009

<http://dwhnotes.com/data-integrator/rpivot-transform>

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Note on Reverse Pivot: This transform converts rows in to columns. It will group the data-set of different rows in to a single row with different columns. Observe the icon, it says that will convert rows to column.

- **Non-Pivot columns :** List of columns specified here by you, those will be displayed as it is in the target
- **Pivoted columns:** These columns containing data which you want to whirl.
- **Pivot axis columns:** Based on this seq and unique axis value, columns will be created.
- **Duplicate value:** Suppose, your source data-set contains duplicate values, then you can fetch first row, last row or you can abort the process.
- **Axis value:** This represents a particular set of columns.
- **Column prefix:** You can prefix column names for the rotated data.
- **Input data is grouped:** If this option is checked, then RPivot reckons that the set of data which is coming from the source is sorted and grouped, read the data, then find the appropriate value for column prefix and then process the data.

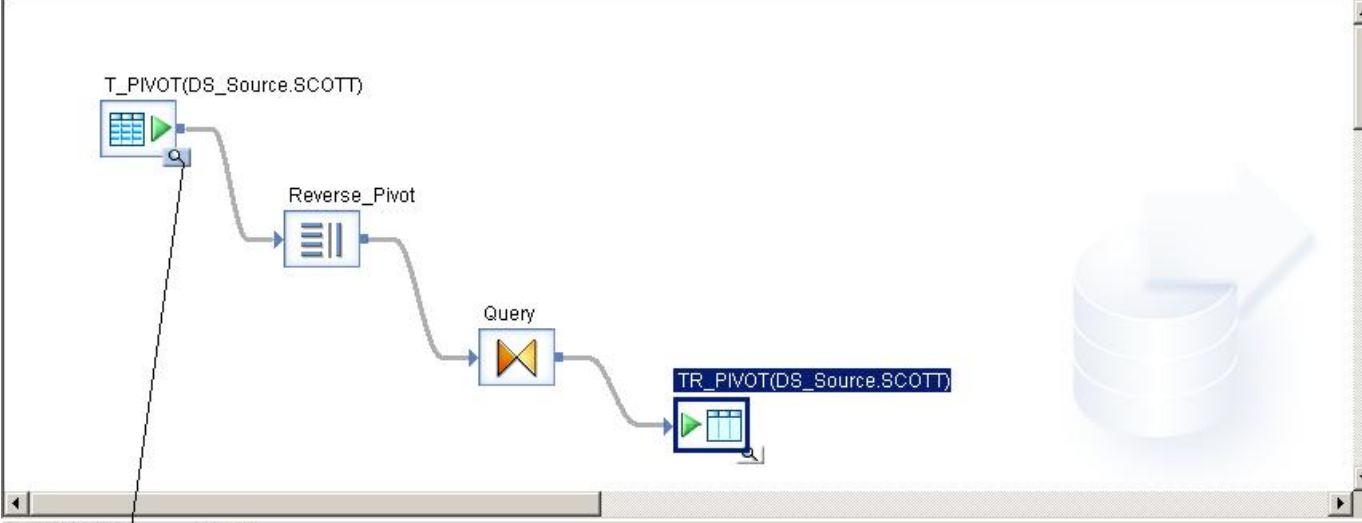
Note: Sometimes, our record-set doesn't contains axis value. For those scenarios, we need to compute a rank for every group.

Design Steps: I'm using (target table of pivot transform example) as a source which has (SNAME, PIVOT_SEQ, PIVOT_HDR, PIVOT_DATA) 4 columns.

- Drag the source table from Datastore object library on to the workspace, drag the Reverse-Pivot transform and place after your source.
- Now place a QRY step next to RP transform, after that place a target table object and now connect it each object.

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The screenshot shows a data warehouse tool interface. At the top, a workflow diagram illustrates the process: a source table `T_PIVOT(DS_Source.SCOTT)` is transformed by a `Reverse_Pivot` transform, then a `Query` transform, and finally loaded into a target table `TR_PIVOT(DS_Source.SCOTT)`. Below the workflow, the output table is displayed with the following data:

SNAME	PIVOT_SEQ	PIVOT_HDR	PIVOT_DATA
sudheer	1	SAL_JAN	20000.00
sudheer	1	SAL_JAN	20000.00
sudheer	1	SAL_JAN	20000.00
sudheer	1	SAL_JAN	20000.00
sudheer	2	SAL_FEB	22220.00
sudheer	2	SAL_FEB	22220.00
sudheer	3	SAL_MAR	24000.00
sudheer	3	SAL_MAR	24000.00
Sharma	1	SAL_JAN	30000.00
Sharma	2	SAL_FEB	33300.00
Sharma	3	SAL_MAR	34000.00

- Click on RP transform, drag SNAME to non-pivotal column list. Drag PIVOT_HDR, PIVOT_DATA to pivoted columns list and provide default values as NULL.
- In the Output columns sections, select PIVOT_SEQ as pivot axis column and select Duplicate value as First row/Last row(if you have any duplicate values)
- then add Axis values and Column prefix to represent a particular set of data.

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Schema In: T_PIVOT

Schema Out: Reverse_Pivot

Input data is grouped

Non-pivot columns	Pivoted columns	Default value
SNAME	PIVOT_DATA	NULL
	PIVOT_HDR	NULL

Pivot axis column: PIVOT_SEQ

Duplicate value: Last row

Axis value	Column prefix
1	JAN_SAL
2	FEB_SAL
3	MAR_SAL

Add Delete

- Now, save the definition, you can able to see the out put columns in RP transform out schema.
- Come back to DF designer window click on QRY instance, drag the required coulmns onto out schema. Here I renamed all pivoted data columns to JAN_SAL, FEB_SAL, MAR_SAL.

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The screenshot displays a data mapping tool interface with two schema trees and a mapping pane.

Schema In: Reverse_Pivot

- Reverse_Pivot
 - SNAME
 - JAN_SAL_PIVOT_DATA
 - JAN_SAL_PIVOT_HDR
 - FEB_SAL_PIVOT_DATA
 - FEB_SAL_PIVOT_HDR
 - MAR_SAL_PIVOT_DATA
 - MAR_SAL_PIVOT_HDR

Schema Out: Query

- Query
 - SNAME
 - JAN_SAL
 - FEB_SAL
 - MAR_SAL

Mapping Pane:

for: Query.SNAME

Reverse_Pivot.SNAME

Buttons: Functions..., ..., Apply, Schema Remapping...

- Save the DF definition, validate it and execute it. Check the resultant dataset.

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The screenshot displays an ETL workflow in a data warehouse environment. The process begins with a source table named `T_PIVOT(DS_Source.SCOTT)`. This data is processed by a `Reverse_Pivot` transform, followed by a `Query` transform, and finally loaded into a target table named `TR_PIVOT(DS_Source.SCOTT)`. A data grid below the workflow shows the resulting data:

SNAME	JAN_SAL	FEB_SAL	MAR_SAL
sudheer	20000.00	22220.00	24000.00
Sharma	30000.00	33300.00	34000.00
Kishore	50000.00	55555.00	56666.00
Ramesh	40000.00	45000.00	50000.00
sudheer	20000.00	22220.00	24000.00

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