SCD3 Design approach:
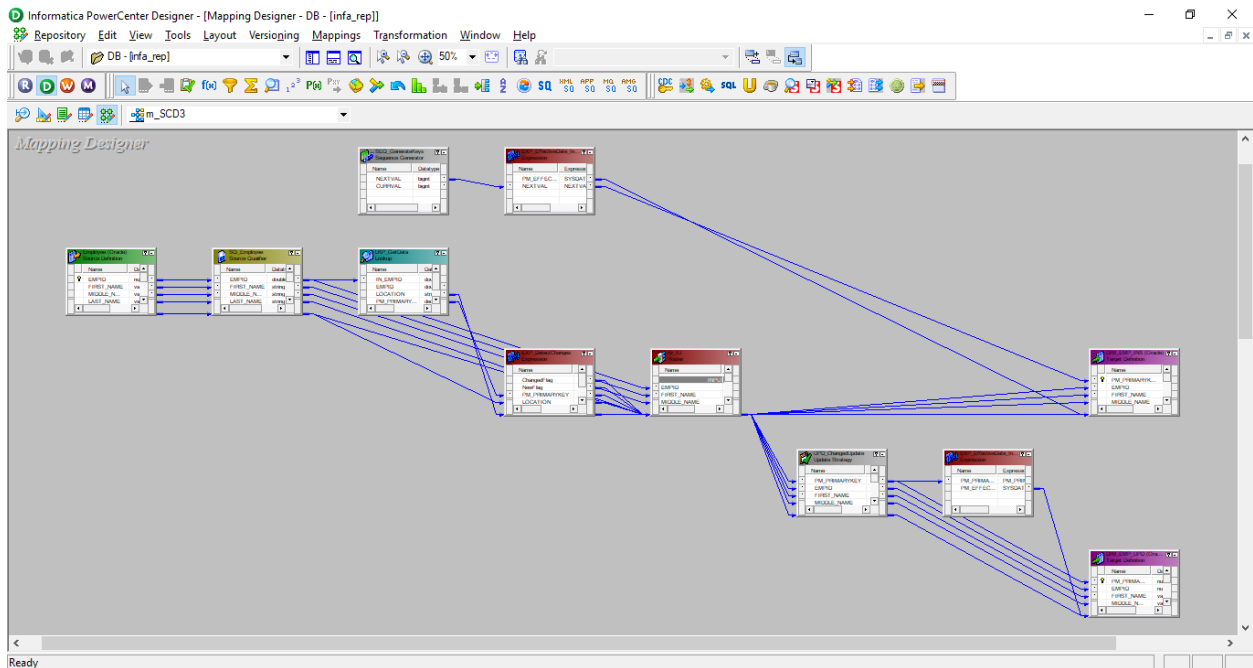
This is one of most widely used design approach.

SRC->SQ->LKP->EXP->RTR->UPD->TGT1 & TGT2

Understanding the Mapping: The Type 3 Dimension mapping performs the following tasks:

1. Selects all rows.
2. Caches the existing target as a lookup table.
3. Compares logical key columns in the source against corresponding columns in the target lookup table.
4. Compares source columns against corresponding target columns if key columns match.
5. Flags new rows and changed rows.
6. Creates two data flows: one for new rows, one for updating changed rows.
7. Generates a primary key and optionally notes the effective date for new rows.
8. Inserts new rows to the target.
9. Writes previous values for each changed row into previous columns and replaces previous values with updated values.
10. Optionally uses the system date to note the effective date for inserted and updated values.
11. Updates changed rows in the target.

Lookup: Lookup on Target table. Join condition between Source and Lookup/target is EMPID.

Edit Transformations ✕

Transformation | Ports | Properties | Condition | Metadata Extensions

Select transformation: 🔍 LKP_GetData ▾

Transformation type: Lookup Procedure

	Port Name	Datatype	Prec	Scale	I	O	L	R	Associated Expression	I...	I...
1	IN_EMPID	double	15	0	☑	☐	☐	☐	- N/A -	☐	☐
2	EMPID	double	15	0	☐	☑	☑	☐	- N/A -	☐	☑
3	LOCATION	string	100	0	☐	☑	☑	☐	- N/A -	☐	☐
4	PM_PRIMARYKEY	decimal	10	0	☐	☑	☑	☐	- N/A -	☐	☐

Default value: [_____] ✔

Description: [_____]

OK   Cancel   Apply   Help

Edit Transformations   ✕

| Transformation | Ports | Properties | Condition | Metadata Extensions |

Select transformation: 🔹 LKP_GetData   ▼

Transformation type: Lookup Procedure

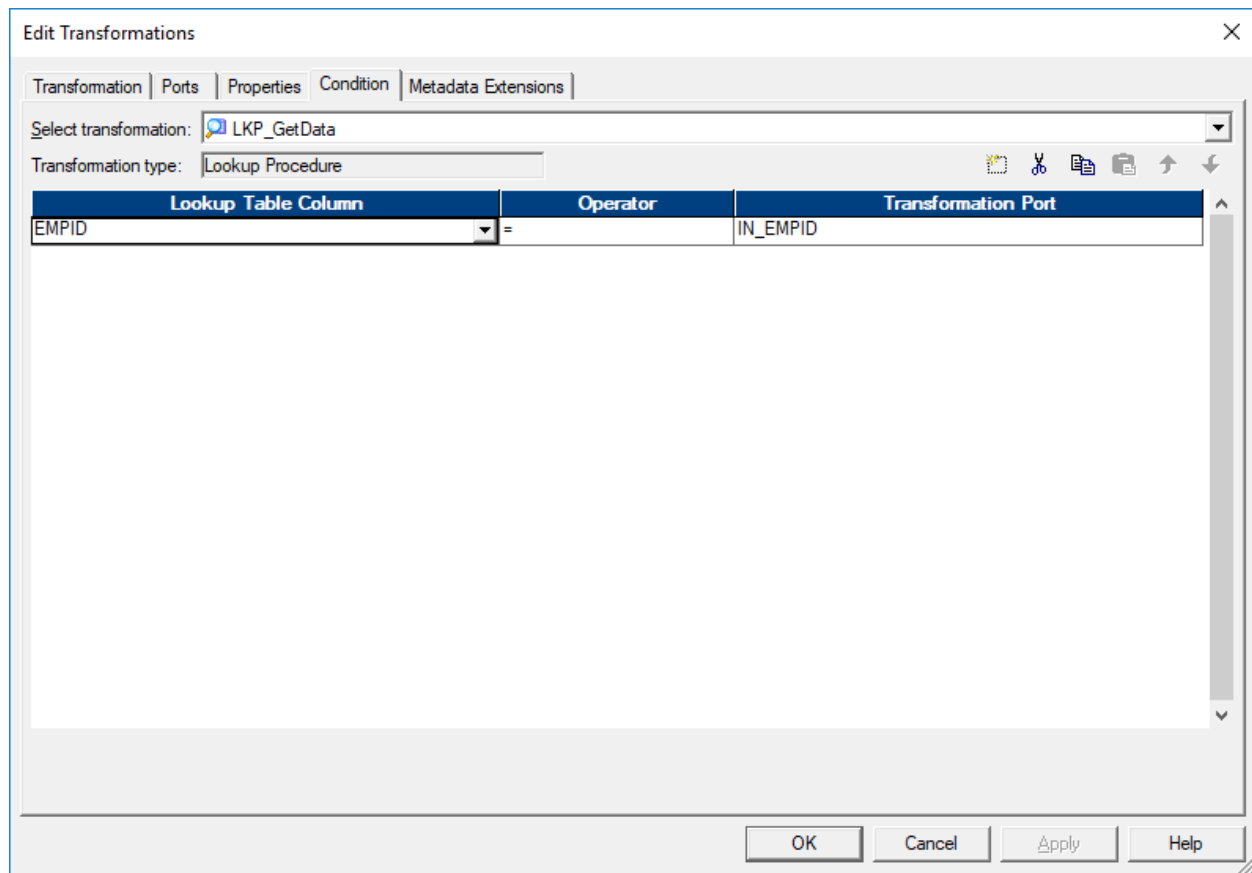| Transformation Attribute	Value
Lookup Sql Override	⤓
Lookup table name	DIM_EMP
Lookup Source Filter	
Lookup caching enabled	☑
Lookup policy on multiple match	Use Any Value
Lookup condition	EMPID = IN_EMPID
Connection Information	$Target
Source Type	Database
Tracing Level	Normal
Lookup cache directory name	$PMCacheDir
Lookup cache persistent	☐
Lookup Data Cache Size	Auto
Lookup Index Cache Size	Auto
Dynamic Lookup Cache	☐
Synchronize Dynamic Cache	☐
Output Old Value On Update	☐
Update Dynamic Cache Condition	TRUE

Lookup Sql Override

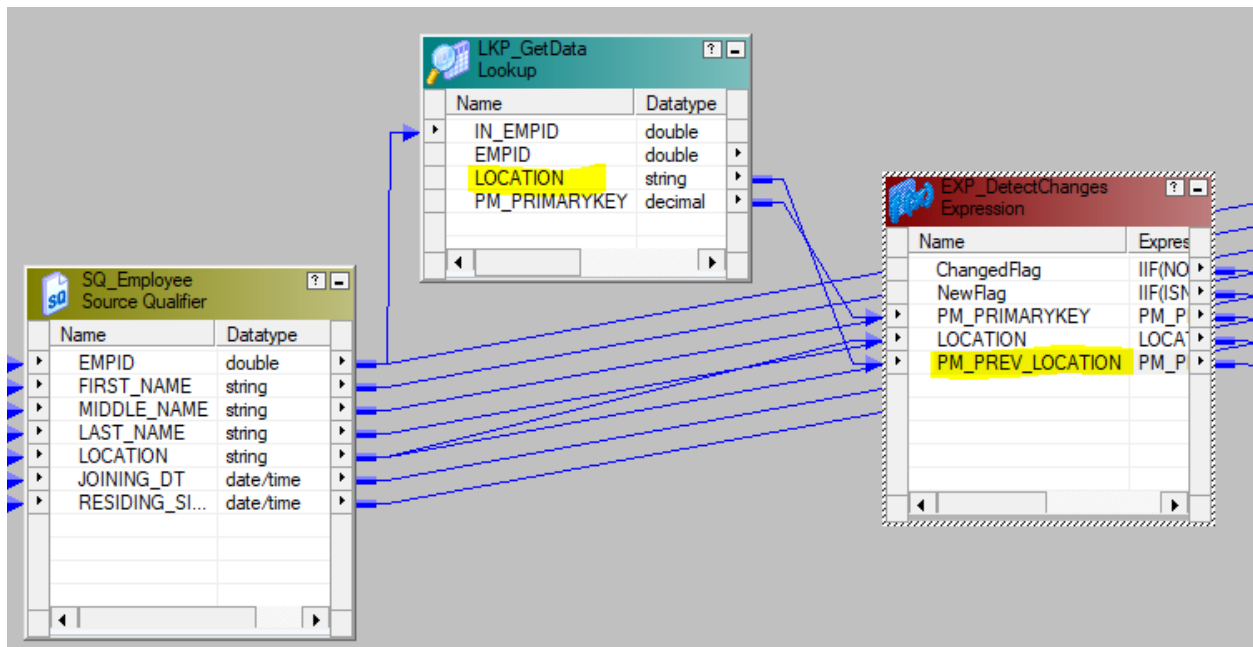Replacement query for lookup values

[OK]   [Cancel]   [Apply]   [Help]

Expression: Derive Flag which can mark incoming records as either INSERT or UPDATE.

LOCATION from Lookup table is mapped as PREV_LOCATION in Expression.

Edit Transformations

Transformation | Ports | Properties | Metadata Extensions
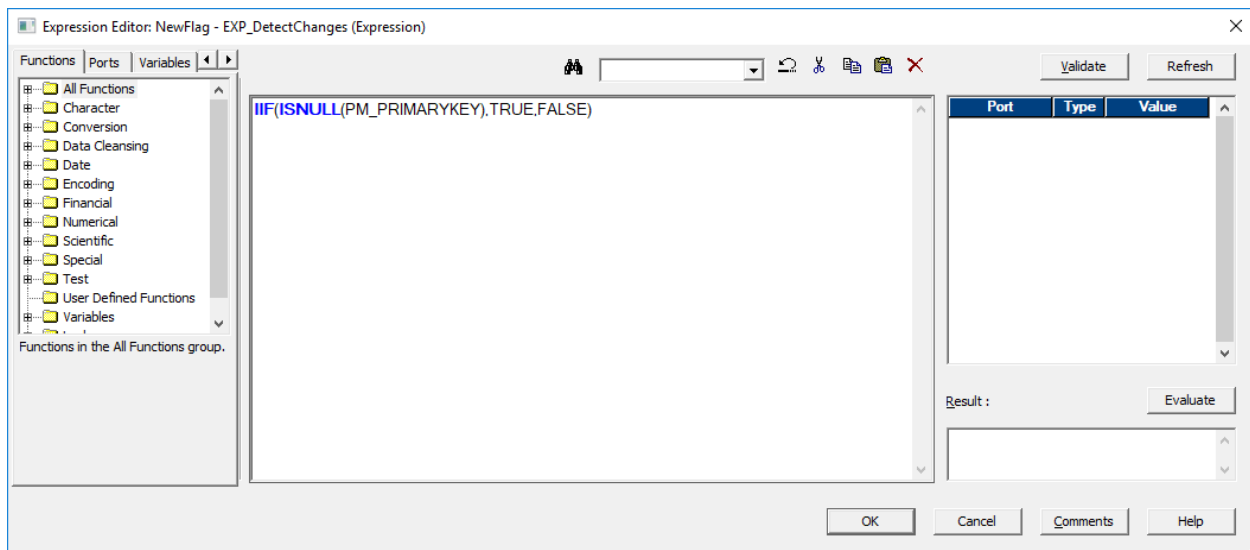
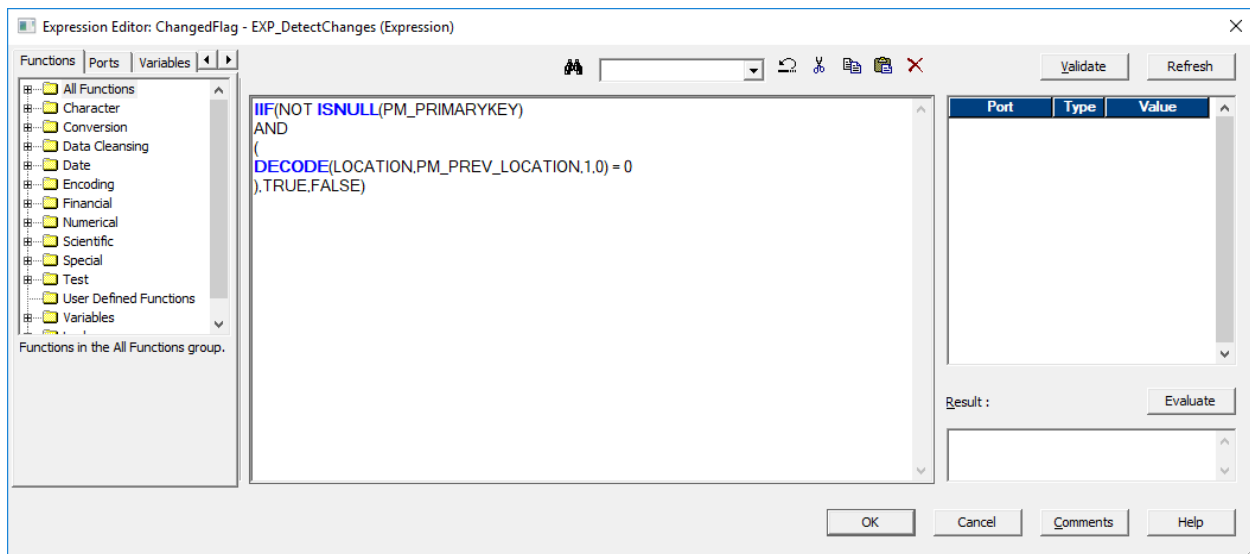Select transformation: f(x) EXP_DetectChanges

Transformation type: Expression

	Port Name	Datatype	Prec	Scale	I	O	V	Expression
1	ChangedFlag	integer	10	0	☐	☑	☐	IIF(NOT ISNULL(PM_PRIMARYKEY)...
2	NewFlag	integer	10	0	☐	☑	☐	IIF(ISNULL(PM_PRIMARYKEY),TRUE,FA...
3	PM_PRIMARYKEY	decimal	10	0	☑	☑	☐	PM_PRIMARYKEY
4	LOCATION	string	100	0	☑	☑	☐	LOCATION
5	PM_PREV_LOCATION	string	100	0	☑	☑	☐	PM_PREV_LOCATION

Default value:

Description:

OK | Cancel | Apply | Help

Expression Editor: ChangedFlag - EXP_DetectChanges (Expression)

```
IIF(NOT ISNULL(PM_PRIMARYKEY)
AND
(
DECODE(LOCATION,PM_PREV_LOCATION,1,0) = 0
),TRUE,FALSE)
```

Expression Editor: NewFlag - EXP_DetectChanges (Expression)

```
IIF(ISNULL(PM_PRIMARYKEY),TRUE,FALSE)
```
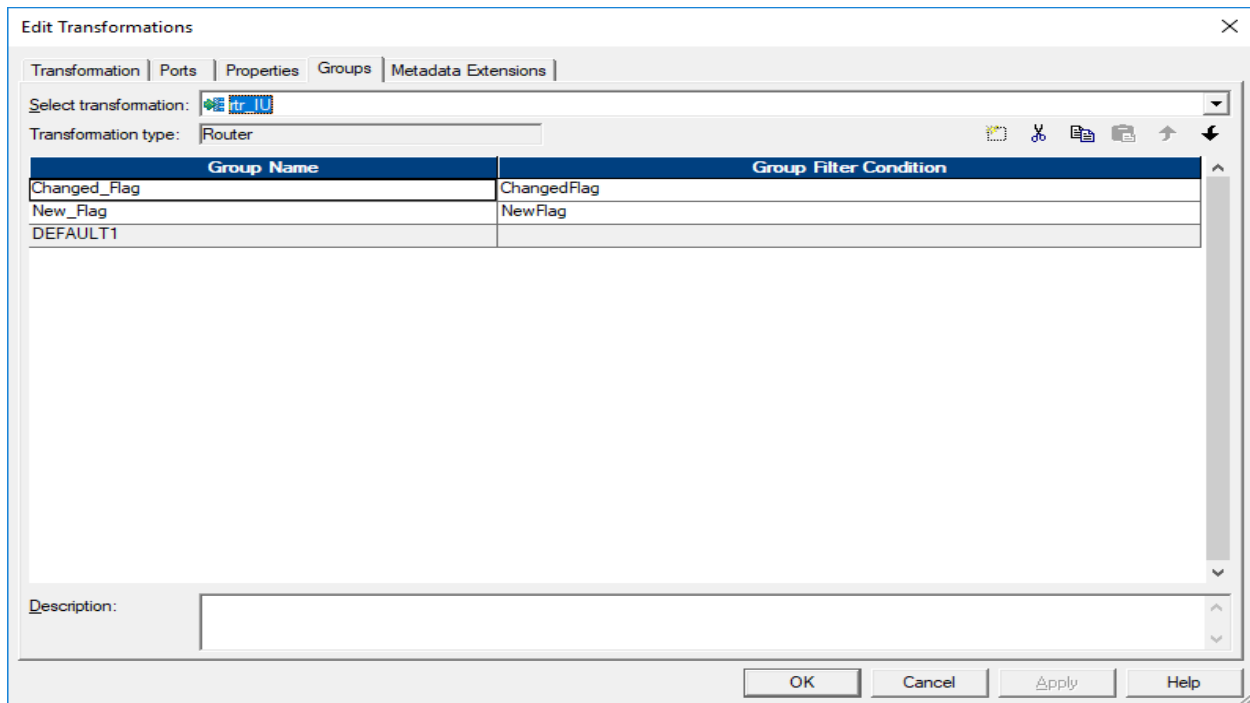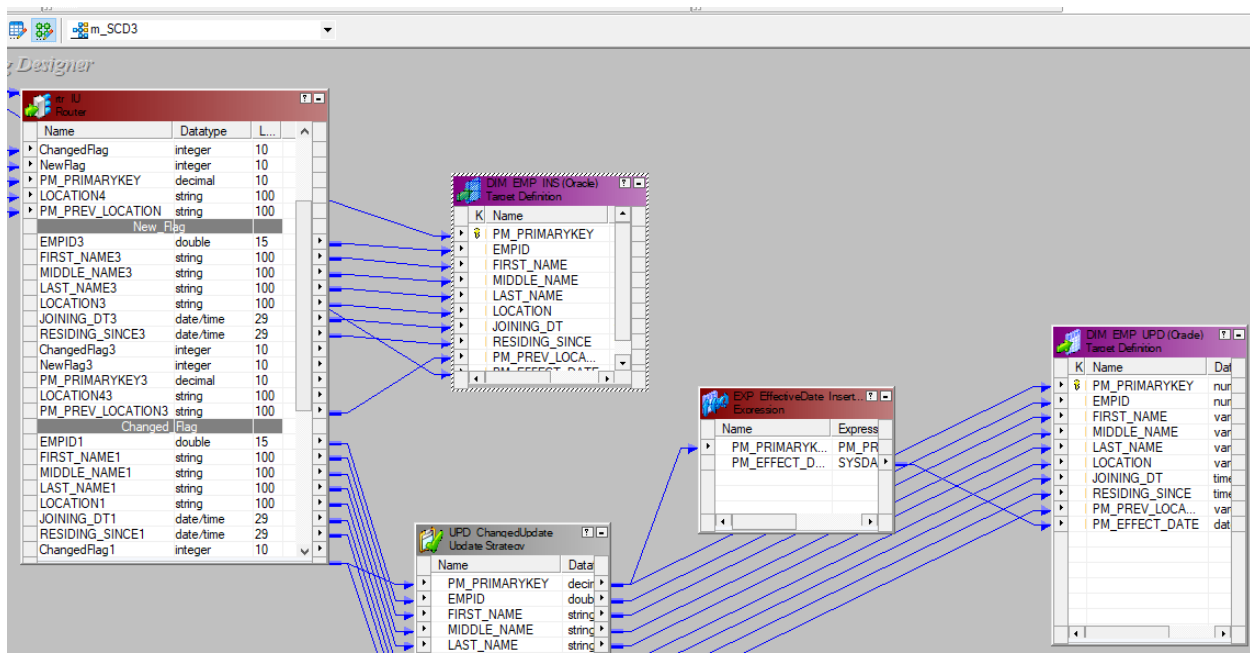
Sequence Generator: Used to generate sequence for loading surrogate key

Router: Rout records for either INSERT or UPDATE pipeline.

UPDATE: DD_UPDATE to update the record in target. Ensure that Target structure is having a key as primary key otherwise their update does not work as expected. Please map the Location attribute coming from source to Target.Location. Please map Location coming from Lookup to Target.Prev_Location.

SESSION: Ensure that session is marked as DATA DRIVEN as shown below.