How to using Expert Routine in Transformation

Applies to:

SAP BI, SAP BW, ECC, ABAP, Business Intelligence. For more information, visit the EDW homepage.

Summary

This article demonstrates how to create expert routine and load the data. This gives you a very basic idea of creating an expert routine.

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Author Bio

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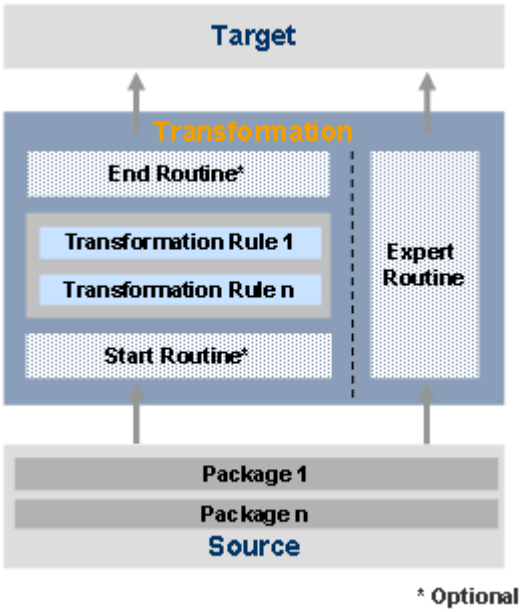
Introduction

You use routines to define complex transformation rules.

Routines are local ABAP classes that consist of a predefined definition area and an implementation area. The TYPES for the inbound and outbound parameters and the signature of the routine (ABAP method) are stored in the definition area. The actual routine is created in the implementation area. ABAP object statements are available in the coding of the routine. Upon generation, the coding is embedded in the local class of the transformation program as the method.

The following graphic shows the position of these routines in the data flow:



Start Routine

The start routine is run for each data package at the start of the transformation. The start routine has a table in the format of the source structure as input and output parameters. It is used to perform preliminary calculations and store these in a global data structure or in a table. This structure or table can be accessed from other routines. You can modify or delete data in the data package.

Routine for Key Figures or Characteristics

This routine is available as a rule type; you can define the routine as a transformation rule for a key figure or a characteristic. The input and output values depend on the selected field in the transformation rule.

End Routine

An end routine is a routine with a table in the target structure format as input and output parameters. You can use an end routine to postprocess data after transformation on a package-by-package basis. For example, you can delete records that are not to be updated, or perform data checks.

Expert Routine

This type of routine is only intended for use in special cases. You can use the expert routine if there are not sufficient functions to perform a transformation. The expert routine should be used as an interim solution until the necessary functions are available in the standard routine.

You can use this to program the transformation yourself without using the available rule types. You must implement the message transfer to the monitor yourself.

If you have already created transformation rules, the system deletes them once you have created an expert routine.

Definition

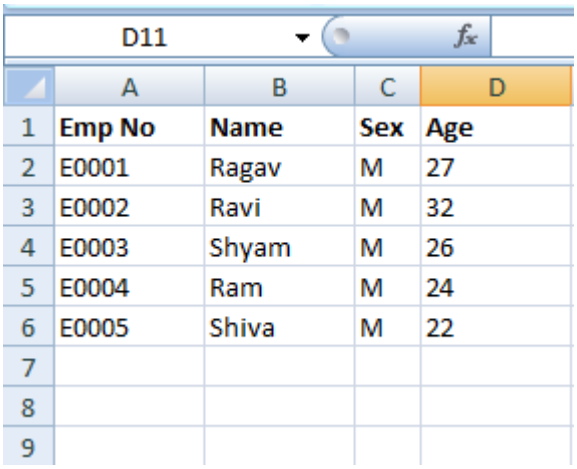
An Expert routine is a routine with contains both the source and target structure. we can use Expert routine if there are not sufficient functions to perform transformation.

Approach to Scenario

For Expert Routine every things needs to be written using coding. In simple an expert routine performs all the actions of Start Routine, Mappings, Field and End Routines.

In Expert Routine we will read from source_package which contains all the data and update into result_package which should be the output.

Source data



D11

	A	B	C	D
1	**Emp No**	**Name**	**Sex**	**Age**
2	E0001	Ragav	M	27
3	E0002	Ravi	M	32
4	E0003	Shyam	M	26
5	E0004	Ram	M	24
6	E0005	Shiva	M	22
7				
8				
9				

Infoobjects

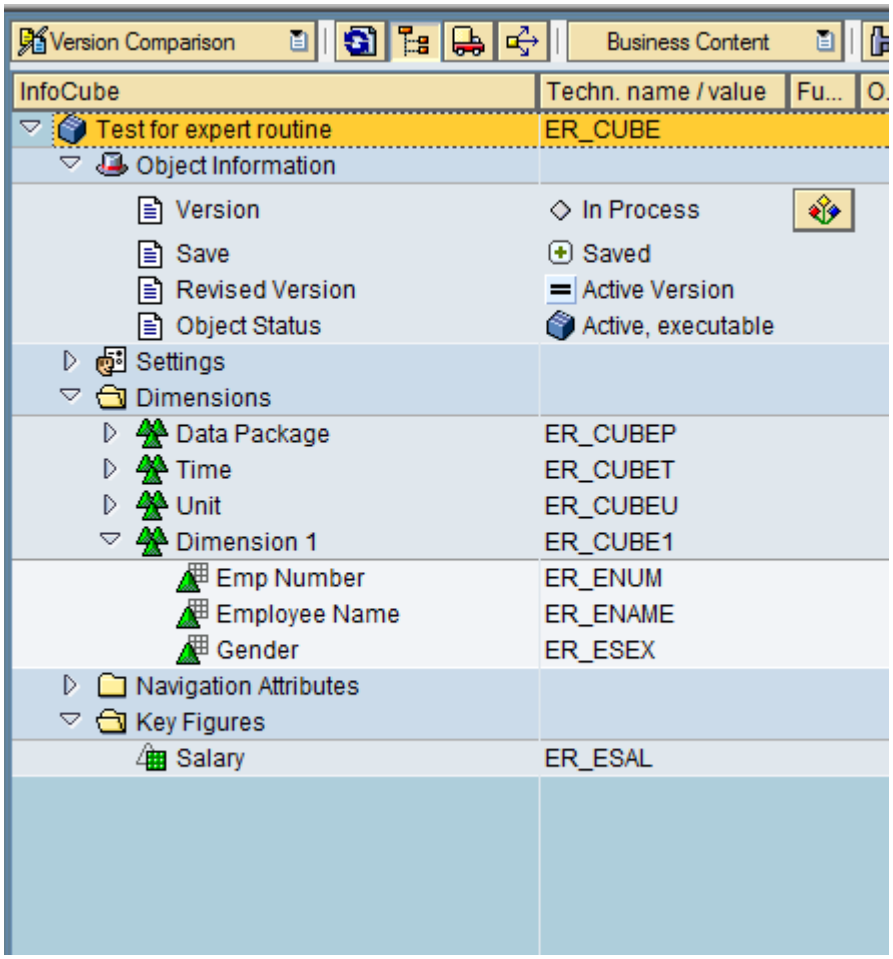
ER_ENUM - Employee Number

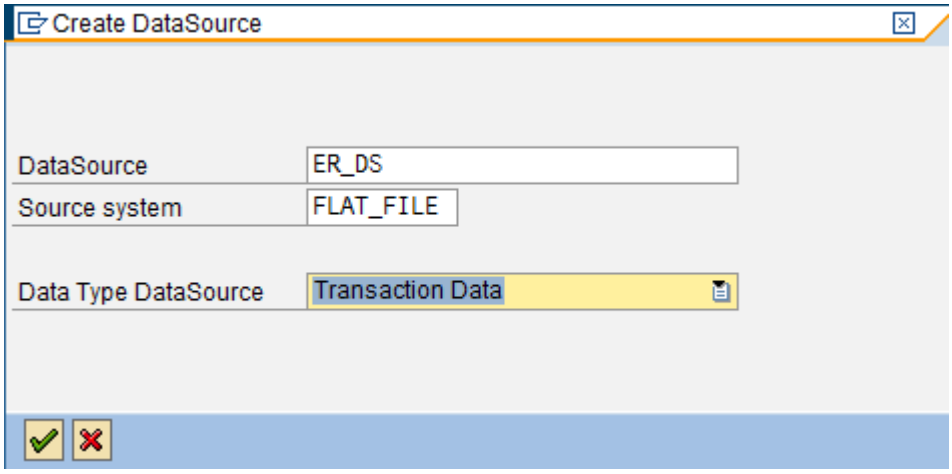
ER_ENAME - Employee Name

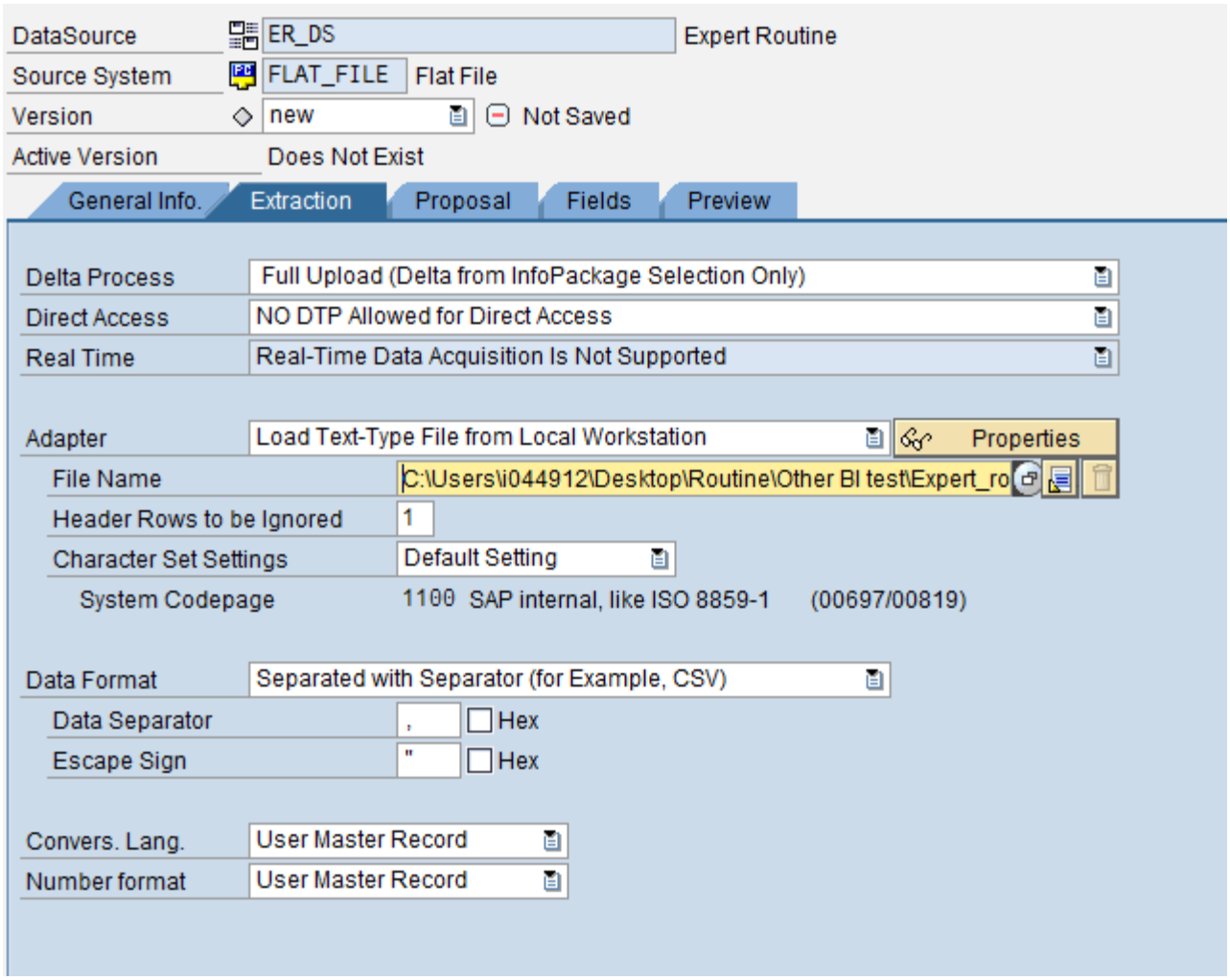
ER_ESEX - Employee Sex

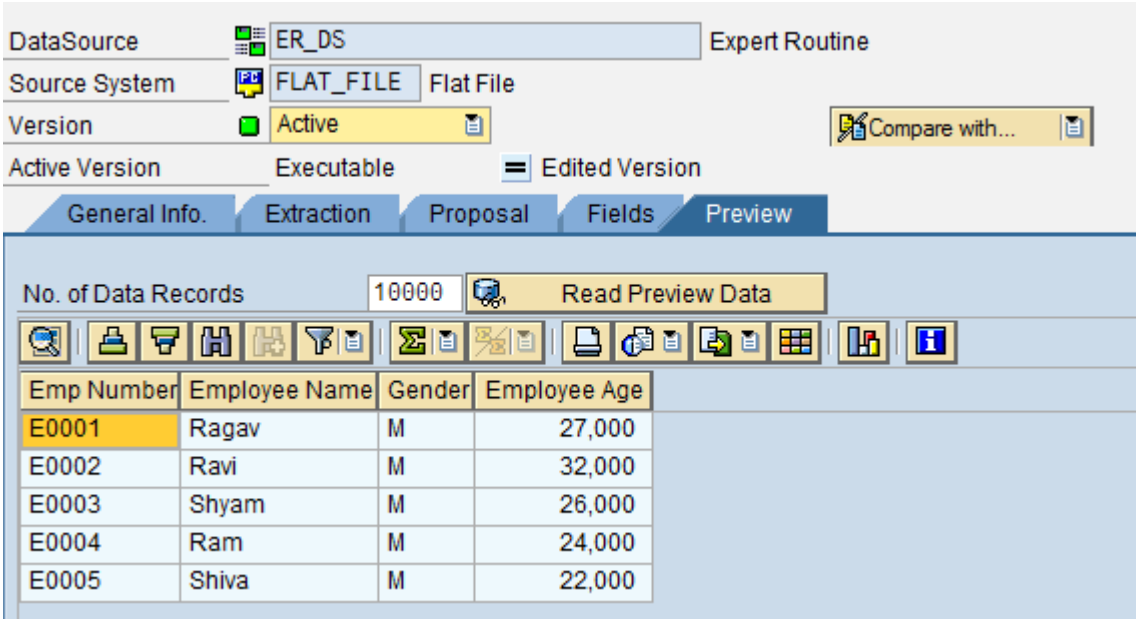
ER_EAGE - Employee Age

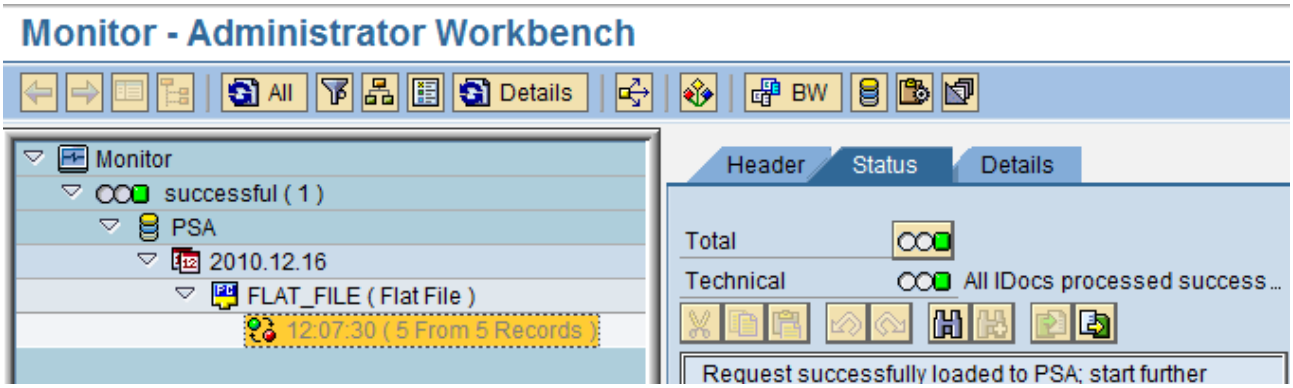
Cube Design

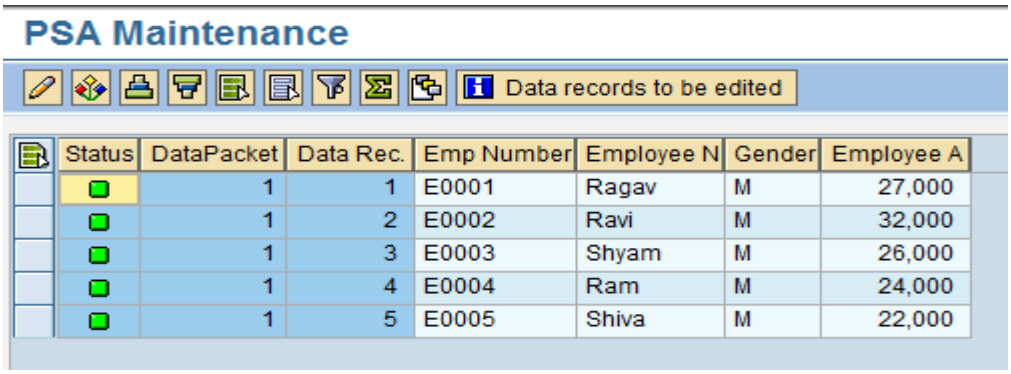





DataSource
ER_DS
Expert Routine
Source System
FLAT_FILE
Flat File
Version
new
Not Saved
Active Version
Does Not Exist
General Info.
Extraction
Proposal
Fields
Preview
Delta Process
Full Upload (Delta from InfoPackage Selection Only)
Direct Access
NO DTP Allowed for Direct Access
Real Time
Real-Time Data Acquisition Is Not Supported
Adapter
Load Text-Type File from Local Workstation
Properties
File Name
C:\Users\i044912\Desktop\Routine\Other BI test\Expert_ro
Header Rows to be Ignored
1
Character Set Settings
Default Setting
System Codepage
1100 SAP internal, like ISO 8859-1 (00697/00819)
Data Format
Separated with Separator (for Example, CSV)
Data Separator
,
Hex
Escape Sign
"
Hex
Convers. Lang.
User Master Record
Number format
User Master Record

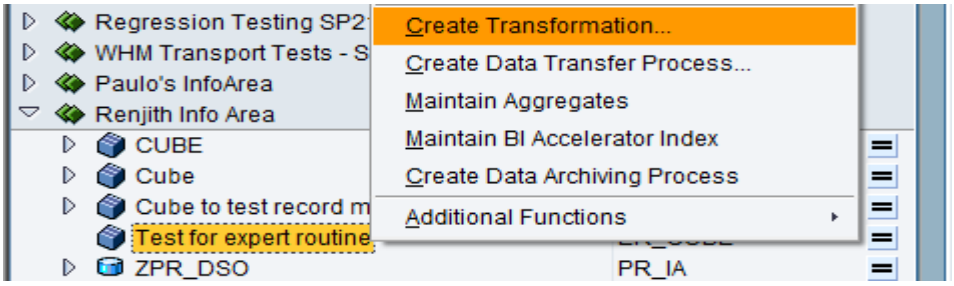

DataSource
ER_DS
Expert Routine
Source System
FLAT_FILE
Flat File
Version
Active
Compare with...
Active Version
Executable
Edited Version
General Info.
Extraction
Proposal
Fields
Preview
No. of Data Records
10000
Read Preview Data
Emp Number
Employee Name
Gender
Employee Age
E0001
Ragav
M
27,000
E0002
Ravi
M
32,000
E0003
Shyam
M
26,000
E0004
Ram
M
24,000
E0005
Shiva
M
22,000

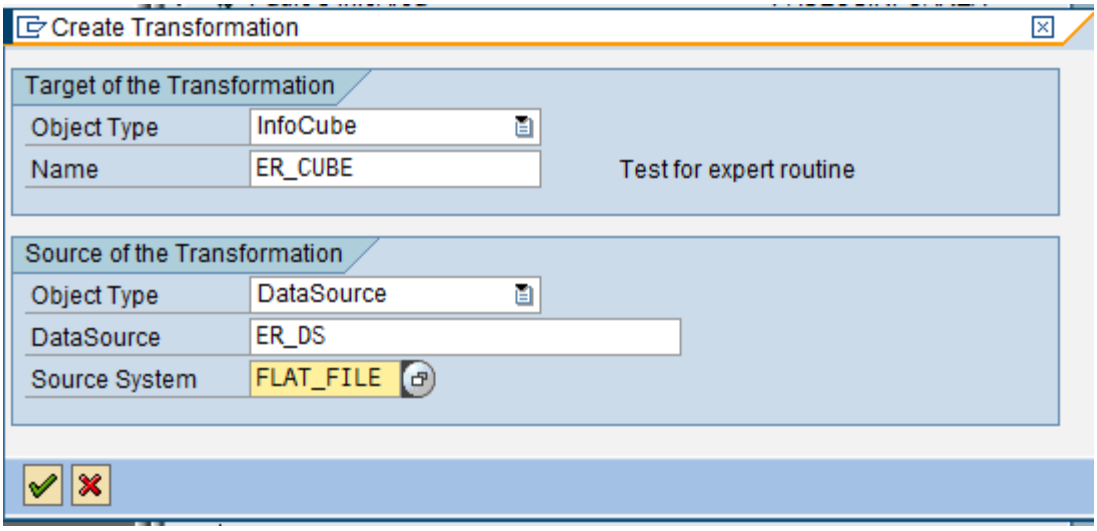


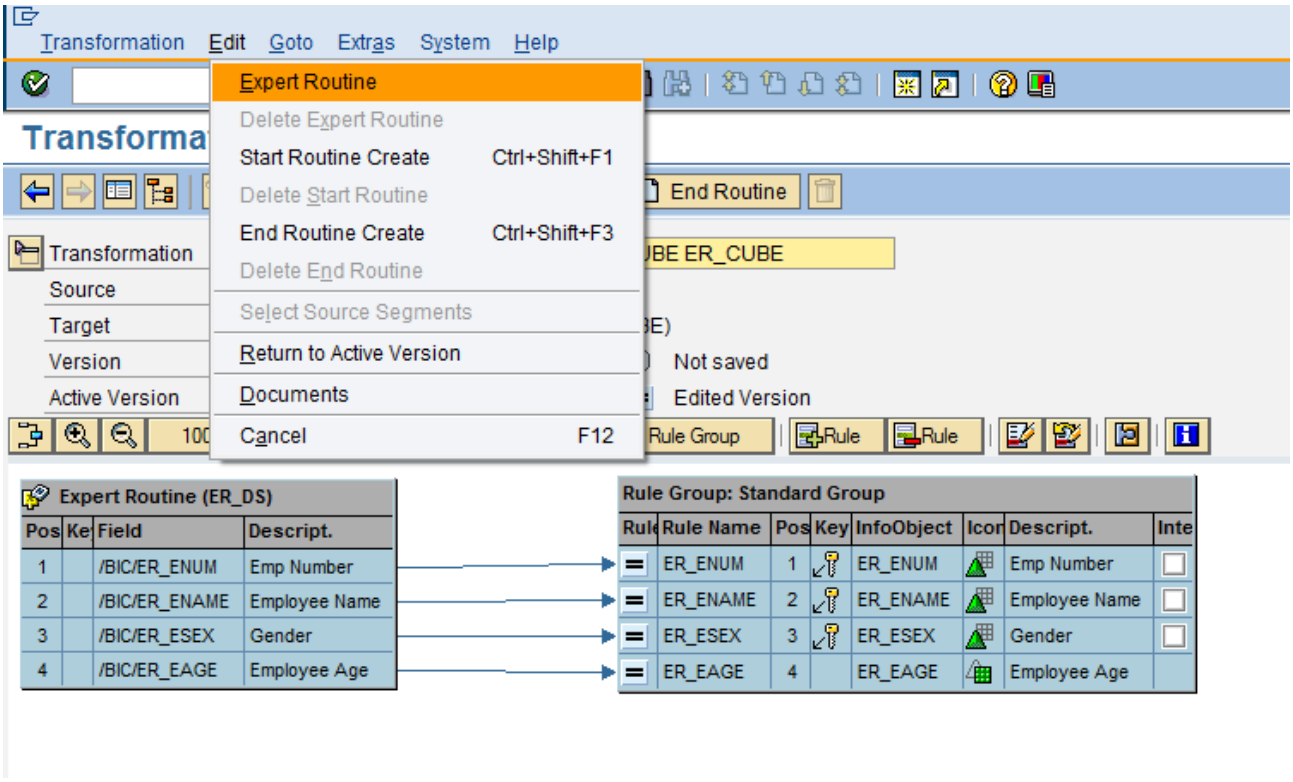


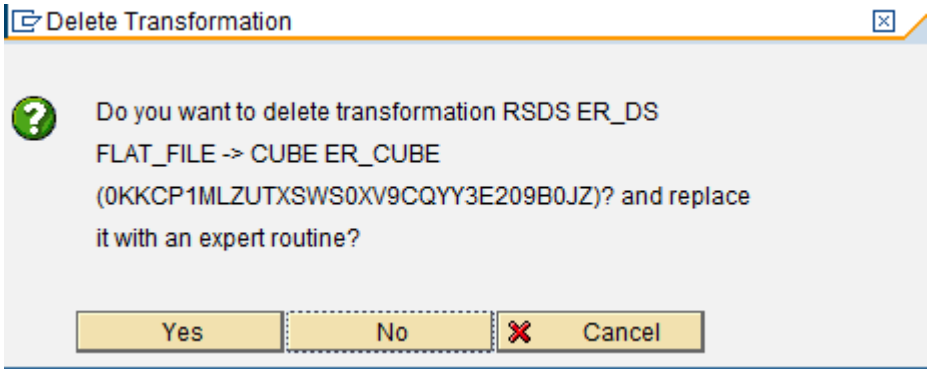
Transformation

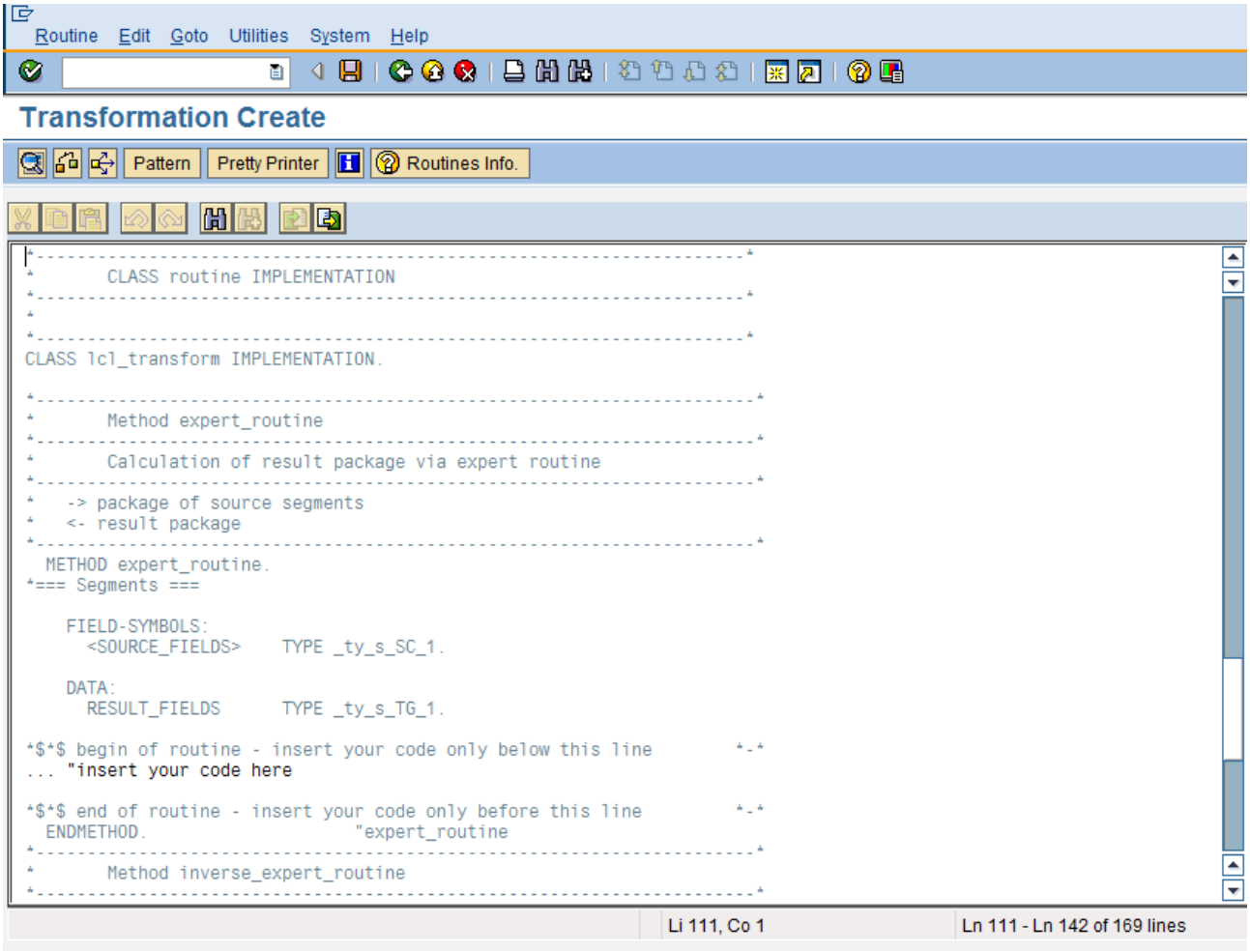
Creating Transformation by Expert Routine






Transformation Edit Goto Extras System Help
Expert Routine
Delete Expert Routine
Start Routine Create Ctrl+Shift+F1
Delete Start Routine
End Routine Create Ctrl+Shift+F3
Delete End Routine
Select Source Segments
Return to Active Version
Documents
Cancel F12
End Routine
Transformation
Source
Target
Version
Active Version
Not saved
Edited Version
Rule Group
Rule
Rule
Expert Routine (ER_DS)
Pos Ke Field Descript.
1 /BIC/ER_ENUM Emp Number
2 /BIC/ER_ENAME Employee Name
3 /BIC/ER_ESEX Gender
4 /BIC/ER_EAGE Employee Age
Rule Group: Standard Group
Rule Name Pos Key InfoObject Icon Descript. Inte
ER_ENUM 1 ER_ENUM Emp Number
ER_ENAME 2 ER_ENAME Employee Name
ER_ESEX 3 ER_ESEX Gender
ER_EAGE 4 ER_EAGE Employee Age


Delete Transformation
Do you want to delete transformation RSDS ER_DS
FLAT_FILE -> CUBE ER_CUBE
(0KKCP1MLZUTXSWS0XV9CQYY3E209B0JZ)? and replace
it with an expert routine?
Yes
No
Cancel

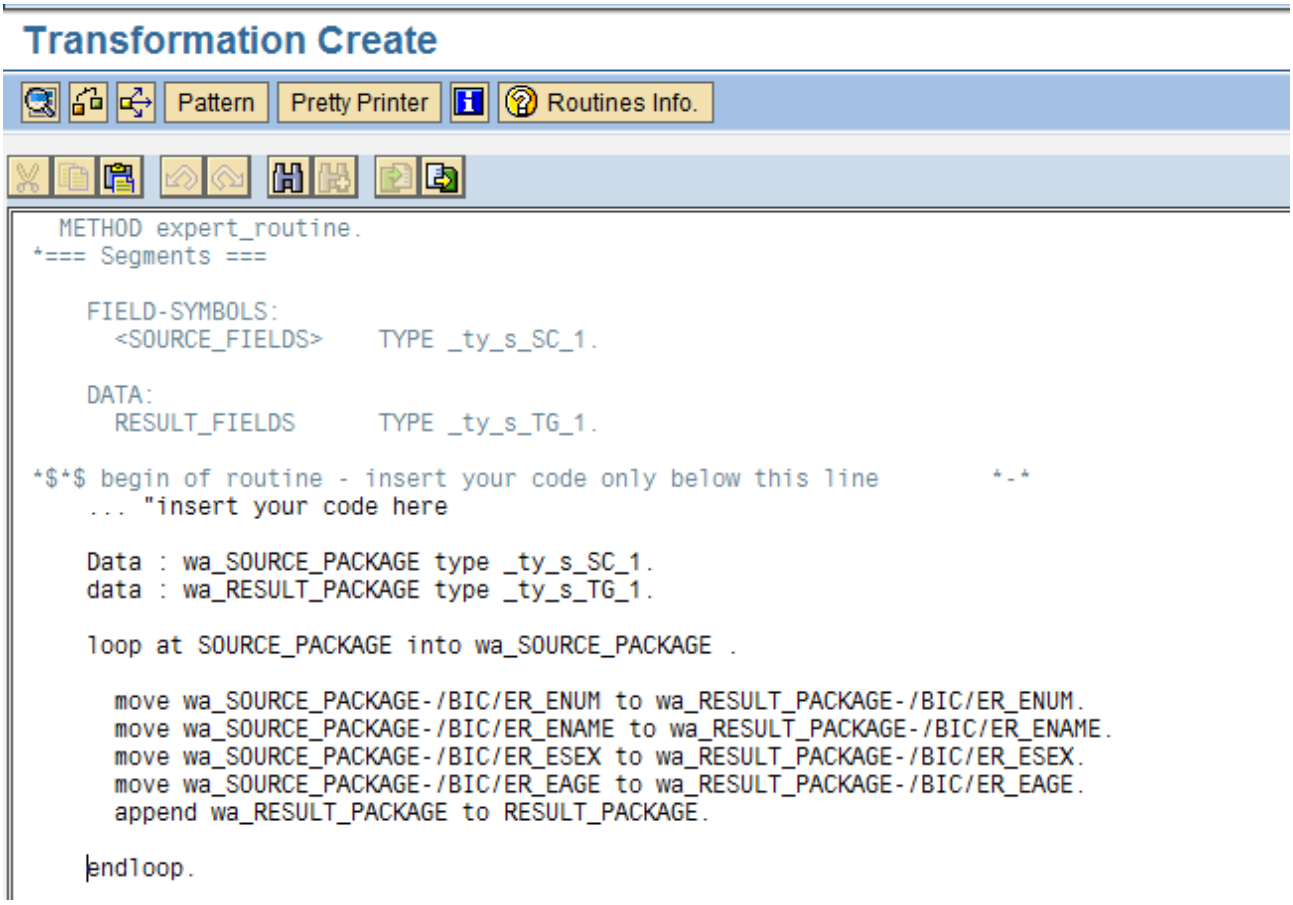

Routine Edit Goto Utilities System Help
Transformation Create
Pattern
Pretty Printer
Routines Info.
---
*   CLASS routine IMPLEMENTATION
---
*

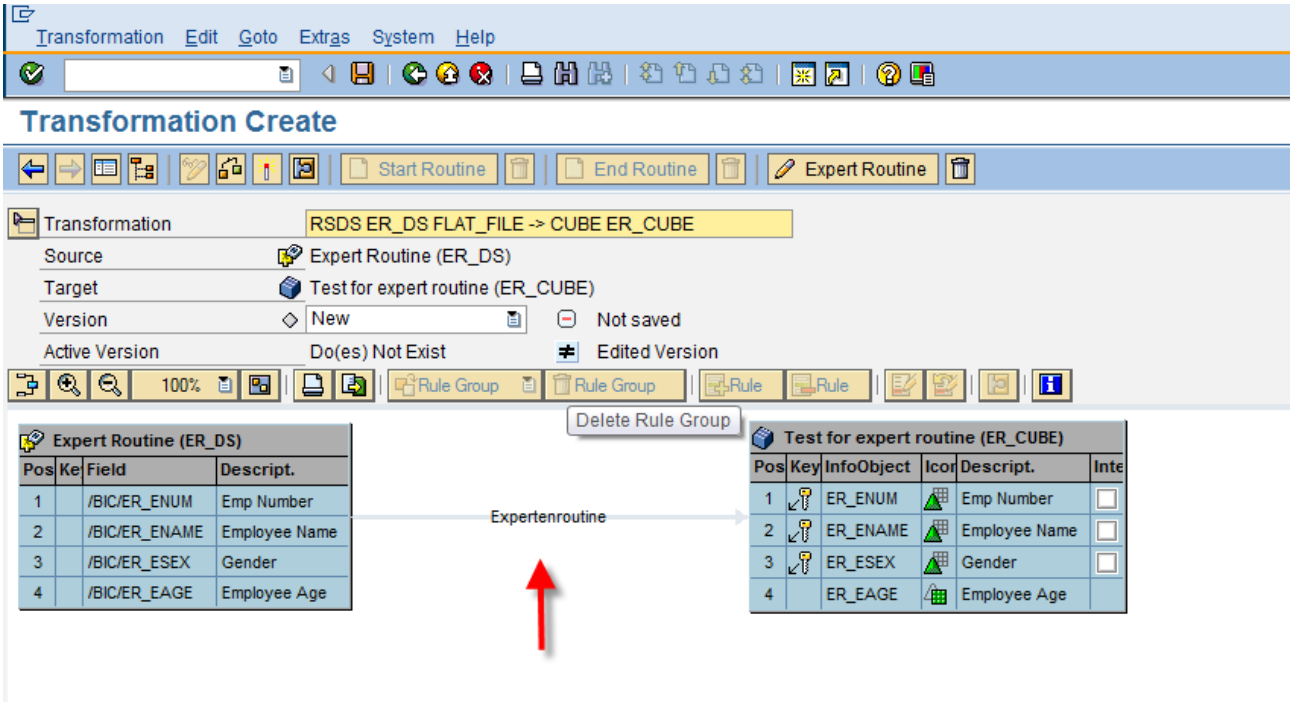
CLASS lcl_transform IMPLEMENTATION.
---
*   Method expert_routine
---
*   Calculation of result package via expert routine
---
*   -> package of source segments
*   <- result package

METHOD expert_routine.
*=== Segments ===
FIELD-SYMBOLS:
<SOURCE_FIELDS> TYPE _ty_s_SC_1.
DATA:
RESULT_FIELDS TYPE _ty_s_TG_1.
*$*$ begin of routine - insert your code only below this line *-*
... "insert your code here
*$*$ end of routine - insert your code only before this line *-*
ENDMETHOD. "expert_routine
---
*   Method inverse_expert_routine

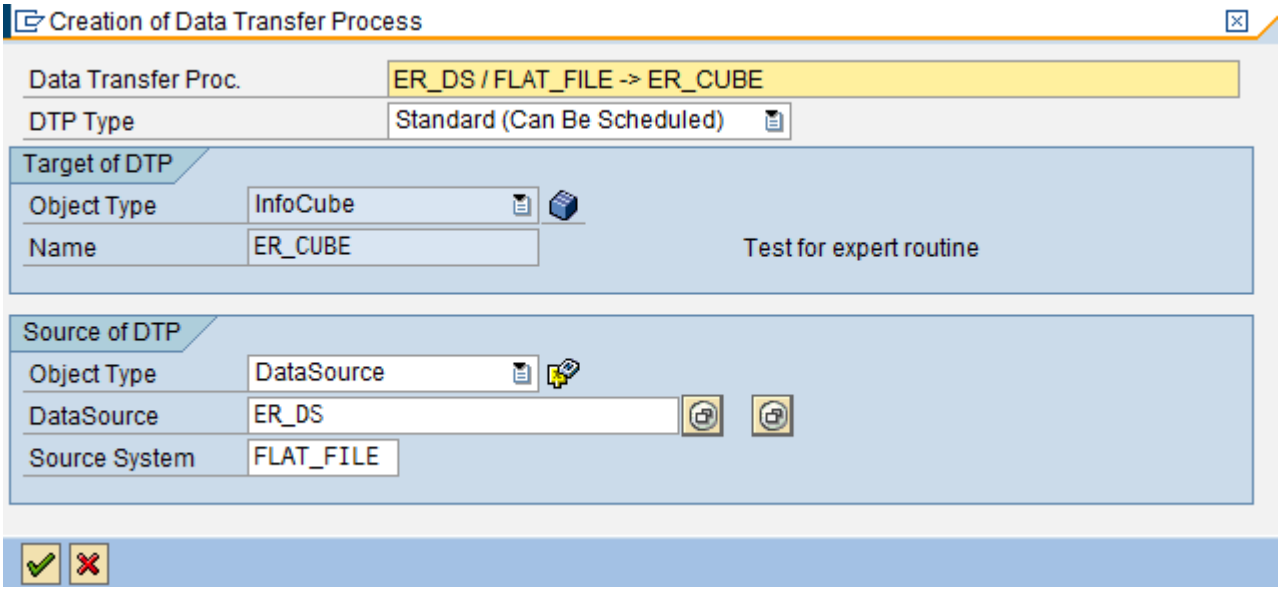
Li 111, Co 1
Ln 111 - Ln 142 of 169 lines

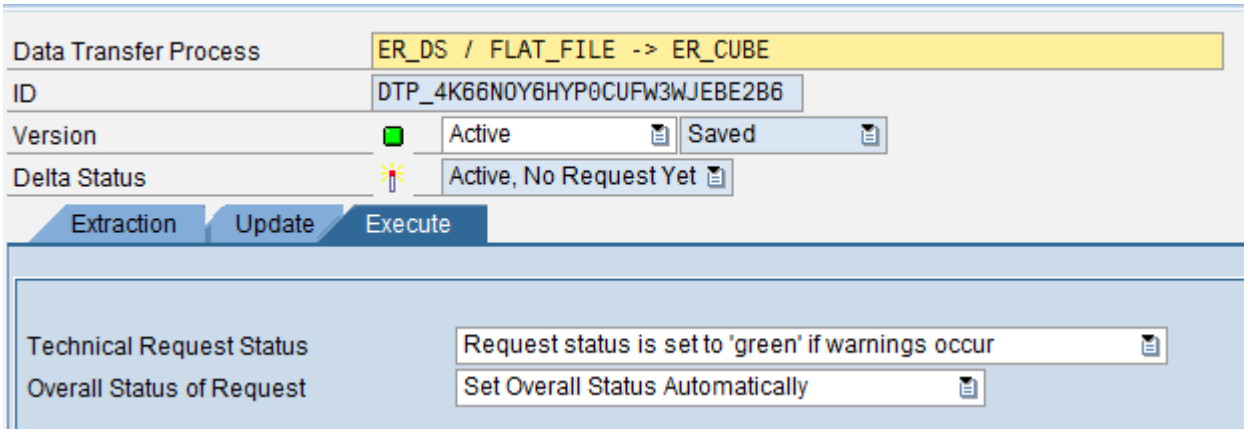
Expert Routine Code



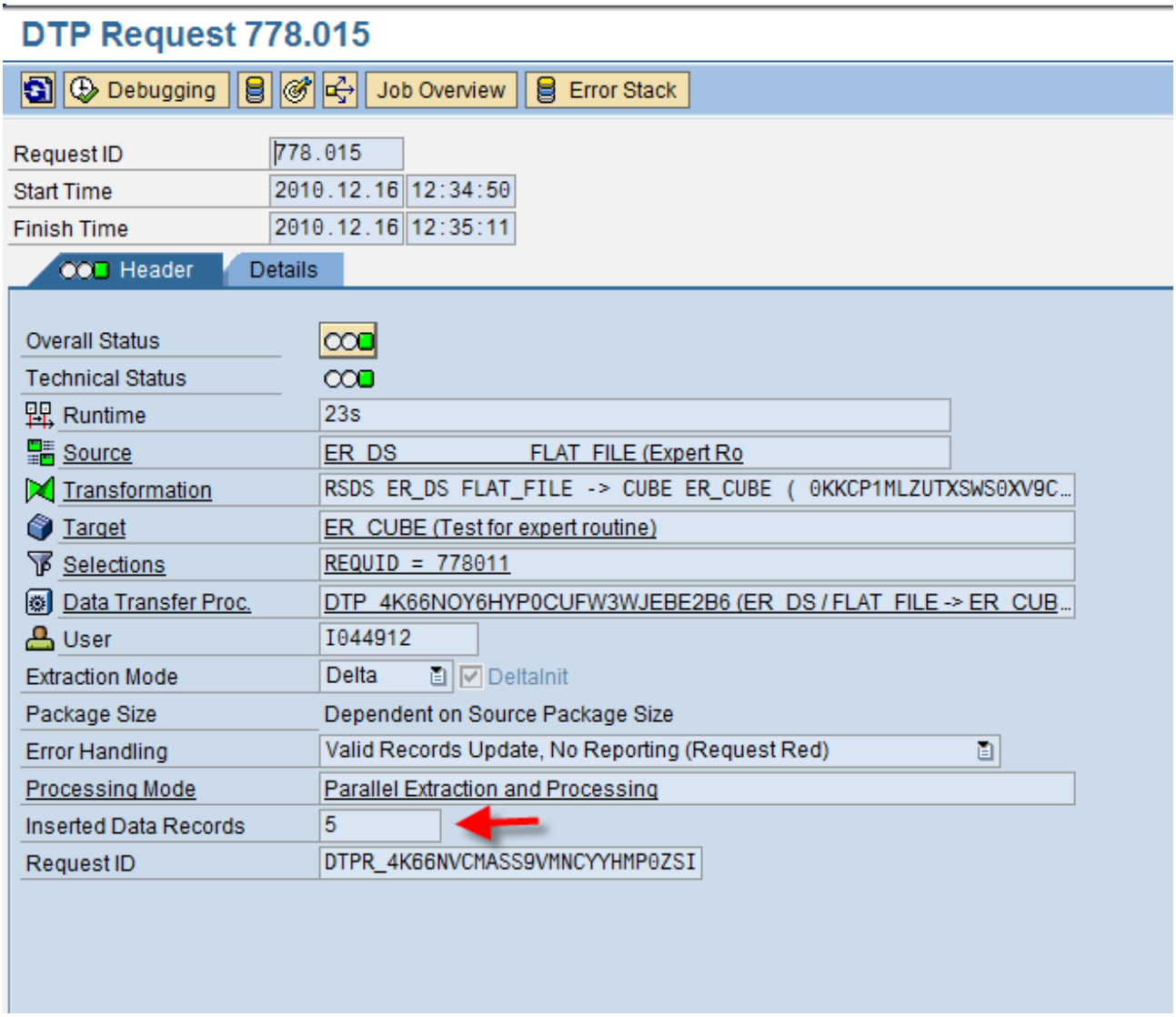


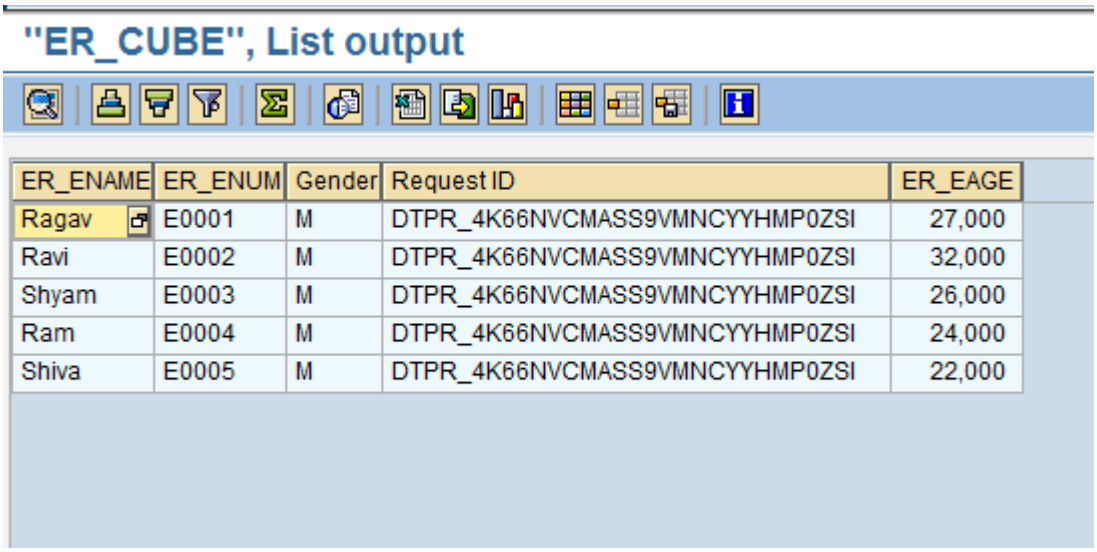
DTP data load





Check the DTP monitor





ER_ENAME	ER_ENUM	Gender	Request ID	ER_EAGE
Ragav	E0001	M	DTPR_4K66NVCMASS9VMNCYYHMP0ZSI	27,000
Ravi	E0002	M	DTPR_4K66NVCMASS9VMNCYYHMP0ZSI	32,000
Shyam	E0003	M	DTPR_4K66NVCMASS9VMNCYYHMP0ZSI	26,000
Ram	E0004	M	DTPR_4K66NVCMASS9VMNCYYHMP0ZSI	24,000
Shiva	E0005	M	DTPR_4K66NVCMASS9VMNCYYHMP0ZSI	22,000

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