Dynamic Selective Deletion from Infocubes

Applies to:

SAP Business Intelligence (BI 7.0). For more information, visit the EDW homepage.

Summary

This article is intended to help in providing a customized solution for doing selective deletion from Infocubes. The selection criteria could be some kind of lookup, business logic or any dynamic selection criteria on dates etc .This selective deletion can be automated using Process Chains.

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Author Bio

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Selective Deletion from Infocube

Selective deletion from Infocube is very restrictive in standard solution and to customize it on very complex logic is quite difficult. Say for example, you want to delete only certain records from your Infocube, based on lookup from a lookup DSO.

Standard way of doing selective deletion

Goto RSA1→Right Click on Infocube→Manage→Content (tab) →Delete Selection
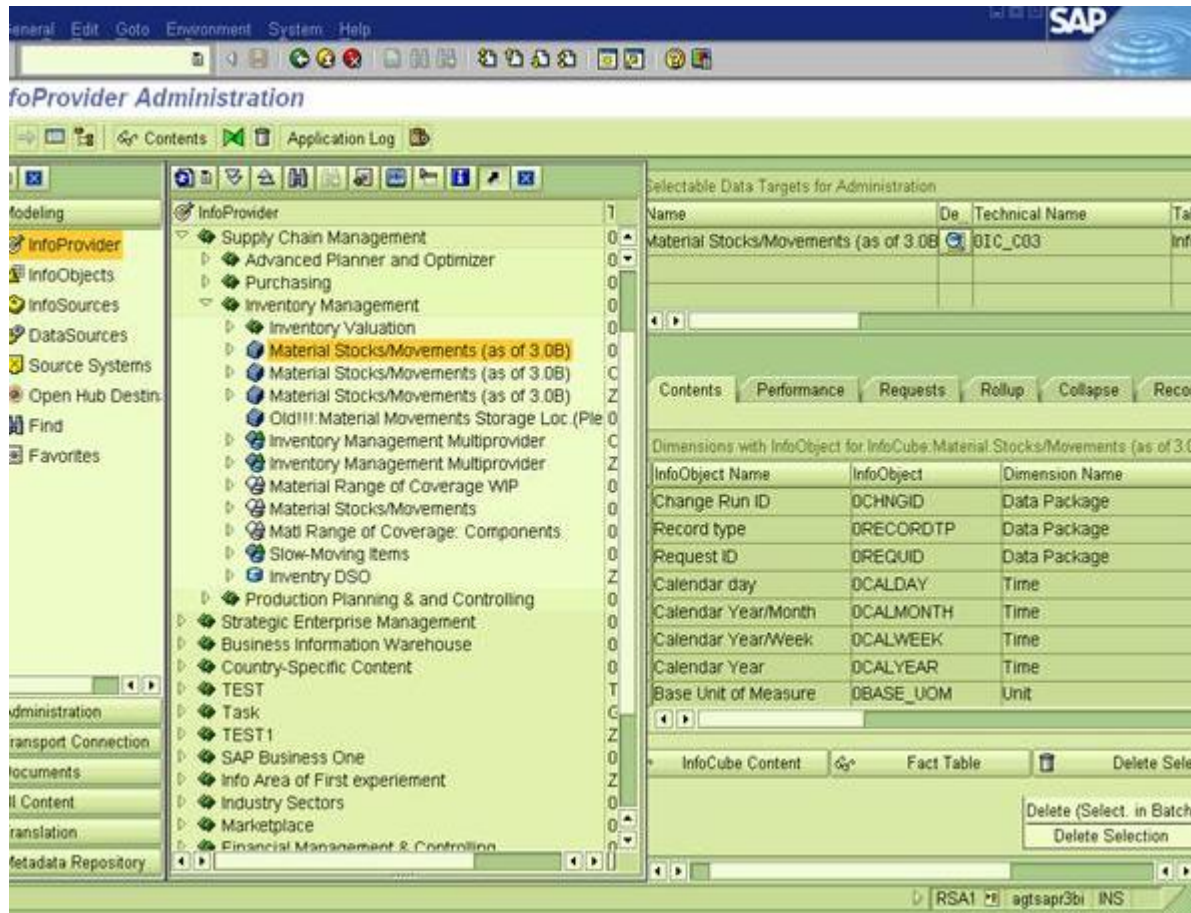
This kind of selective deletion would help you deleting on basis of certain hardcoded values of characteristics.
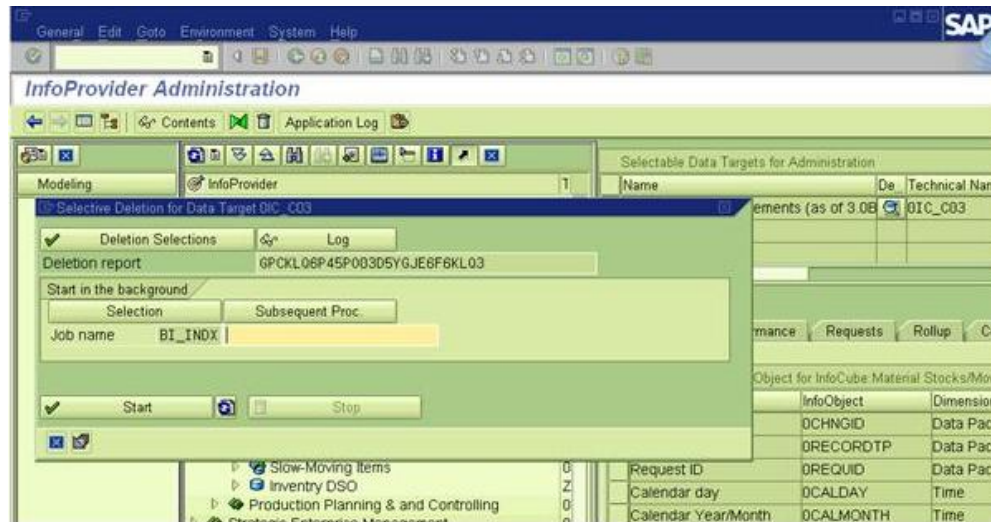
Click on delete selection
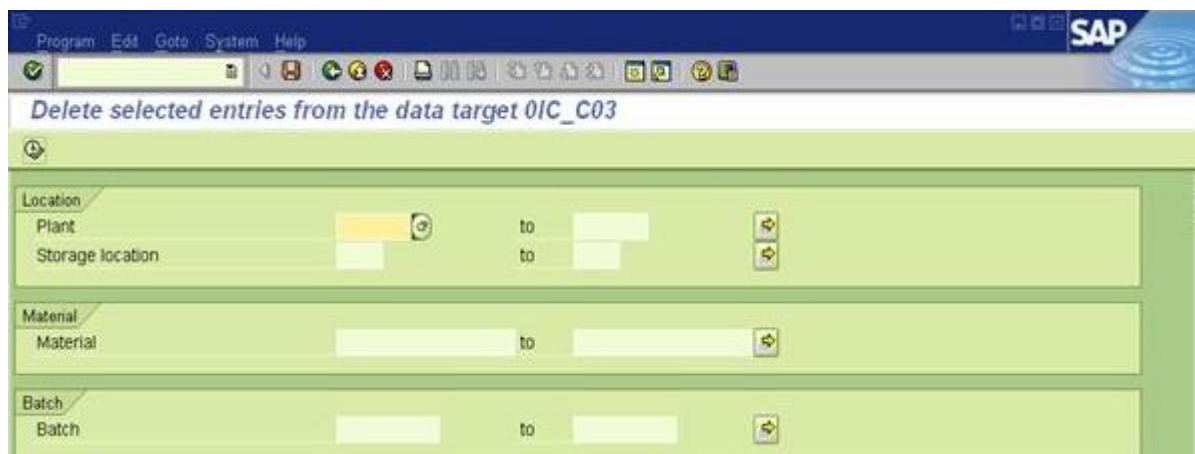
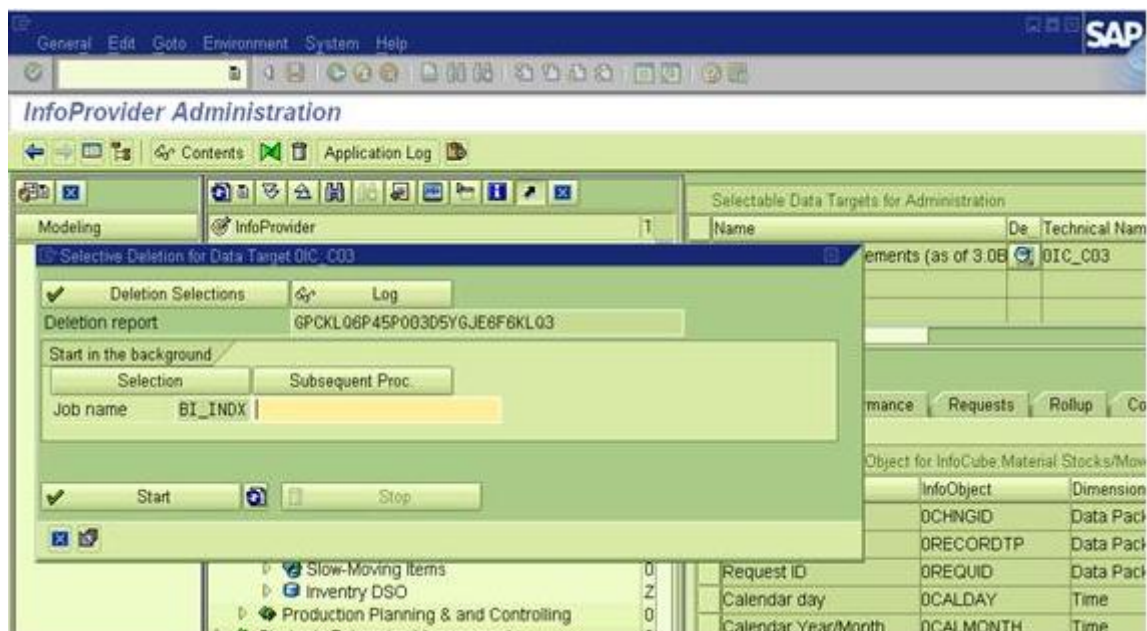Enter characteristic values and execute.

Now when you click on Start, it will create a background job for you for doing selective deletion. If you want you can use recurring parameter and do the repetitive selective deletion.

Using Program RSDRD_DELETE_FACTS

This program can help you to do selective deletion similar to first approach. Difference lies here that you can generate your own programs which you can use in Process Chains for daily scheduling unlike jobs created above. For more details on this you can refer link:

Selective deletion through Process Chains

Customized solution for dynamic selective deletion

If you have a scenario where you are looking up from a DSO/Master Data table, with your filter logic and you want to delete on the basis of that. In this case the above standard solution would not help you. To illustrate the point better, see the below mentioned graphic:
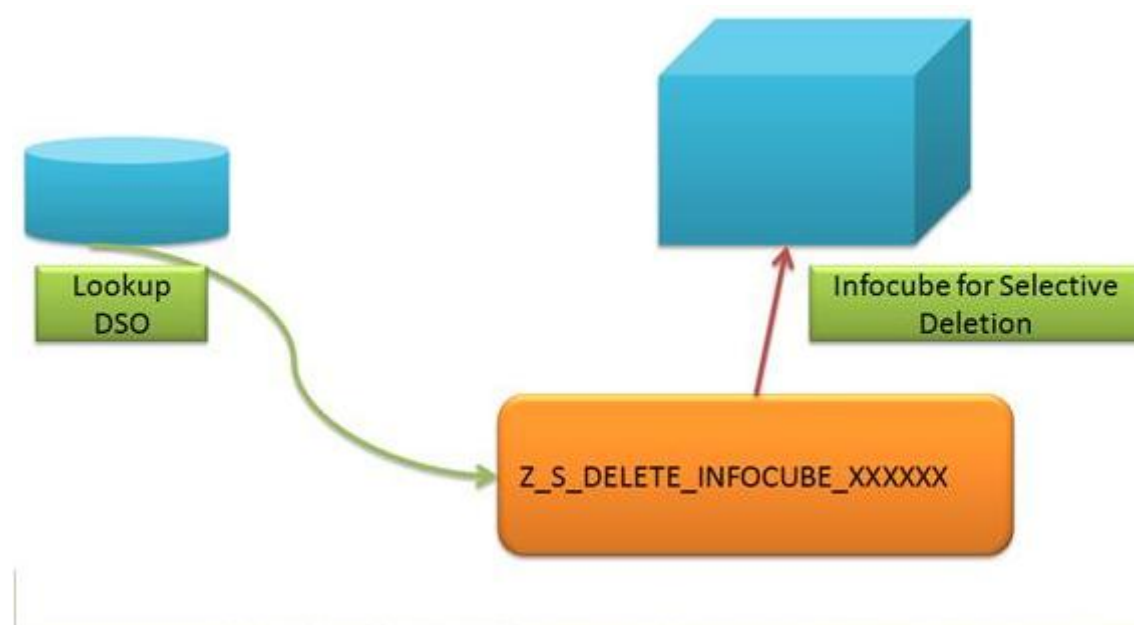
Note: Selective Deletion Program would read data of DSO/Master Data Table and on the basis of business logic, delete the data from any infocube.

Selective deletion internal table structure

The structure of the internal table should be carefully decided taking into account the characteristic values to be used in selective deletion. Say for example you have following data in the Infocube:

Material	Plant	Qty	Value
111	1000	10	15
132	2000	20	40
132	2000	34	34
235	1000	65	130
235	1000	83	83

So the structure can contain material and plant.

```
*structure of selective deletion internal table
TYPES: BEGIN OF TY_DELTAB ,

MAT_PLANT TYPE /BI0/OIMATERIAL,

PLANT  TYPE /BI0/OIPLANT,

END OF TY_DELTAB.
TABLES : /BI0/PMAT_PLANT.
DATA: IT_DELTAB TYPE  TABLE OF TY_DELTAB.

DATA: WA_DELTAB LIKE LINE OF IT_DELTAB.
```

Lookup Logic

First be ready with your lookup logic. In my case, matplant master data table is being read on certain selection criteria into an internal table IT_DELTAB. This internal table IT_DELTAB works as the basis of selective deletion.

"Selection query on matplant table. You can write your own selection query here

```
SELECT MAT_PLANT PLANT from /BI0/PMAT_PLANT
  into corresponding fields of table
  IT_DELTAB where PLANT = '1000' AND
  ( MAT_PLANT BETWEEN '000000000000000132'
  AND '000000000000000235'  ).
```

"You can do some more manipulation here may be for dates etc. Example select those material where posting date > '20110101'.

Defining ranges for Infoobjects

The Infoobjects defined in structure of selective deletion internal table should be added in this section .Variables should be defined for each characteristics and the same can be used in MOVE statement,

example MOVE lv_mat TO L_S_RANGE-LOW. "lv_mat is variable for holding material number information.

```
*This is crucial section of the code .The following code can be copied and used
*for other characteristics as well.

*Here it is used for material and plant
************************************************************************************
*****************
  L_SX_SEL-IOBJNM = '0MATERIAL'.

    CLEAR L_S_RANGE.
    MOVE 'I' TO L_S_RANGE-SIGN.
    MOVE 'EQ' TO L_S_RANGE-OPTION.
    MOVE lv_mat TO L_S_RANGE-LOW.
    MOVE '' TO L_S_RANGE-HIGH.
    MOVE 'X' TO L_S_RANGE-KEYFL.
    APPEND L_S_RANGE TO L_SX_SEL-T_RANGE.

  INSERT L_SX_SEL INTO TABLE L_THX_SEL.
```



```
CLEAR L_SX_SEL.
  L_SX_SEL-IOBJNM = '0PLANT'.

    CLEAR L_S_RANGE.
    MOVE 'I' TO L_S_RANGE-SIGN.
    MOVE 'EQ' TO L_S_RANGE-OPTION.
    MOVE lv_plant TO L_S_RANGE-LOW.
    MOVE '' TO L_S_RANGE-HIGH.
    MOVE 'X' TO L_S_RANGE-KEYFL.
    APPEND L_S_RANGE TO L_SX_SEL-T_RANGE.

  INSERT L_SX_SEL INTO TABLE L_THX_SEL.

*add more characteristics for changing the selection criteria
*************************************************************************
```

For any other Infoobject say ZIOBJ write this piece of code. First declare variable then the range for Infoobject.

Refer to the Complete Program section.

```
Data : lv_ziobj type /bic/oiziobj.

CLEAR L_SX_SEL.
  L_SX_SEL-IOBJNM = 'ZIOBJ'.

    CLEAR L_S_RANGE.
    MOVE 'I' TO L_S_RANGE-SIGN.
    MOVE 'EQ' TO L_S_RANGE-OPTION.
    MOVE lv_ziobj TO L_S_RANGE-LOW.
    MOVE '' TO L_S_RANGE-HIGH.
    MOVE 'X' TO L_S_RANGE-KEYFL.
    APPEND L_S_RANGE TO L_SX_SEL-T_RANGE.

  INSERT L_SX_SEL INTO TABLE L_THX_SEL.
```

Creation of Complete Selective Deletion Program Z_SEL_DELETE_INFOCUBE_XXX_XXX

Goto SE38 and Create this Program **Z_SEL_DELETE_INFOCUBE_XXX_XXX** .Here the XXX_XXX holds for your Infocube to undergo selective deletion (Just a naming convention which I follow).You use the below mentioned code:

```
REPORT Z_SEL_DELETE_INFOCUBE_0IC_C03.
*---------------------------------------------

*Created by..: Rakesh Kumar
*Company: AG Technologies Pvt. Ltd.

*---------------------------------------------

TYPE-POOLS: RSDRD, RSDQ.
DATA:
  L_INTERACTIVE      TYPE RS_BOOL,
  L_ANSWER(1)        TYPE C,
```

```
    L_TYPE(1)           TYPE C,
    L_PARALLEL          TYPE I,
    L_NO_OF_ROWS        TYPE I,
    L_NO_OF_ROWS_C(10)  TYPE C,
    L_TITEL             TYPE RS_CHAR72,
    L_TEXT1             TYPE RS_CHAR72,
    L_TEXT2             TYPE RS_CHAR72,
    L_S_RANGE           TYPE RSDRD_S_RANGE,
    L_S_SELTXT          TYPE RSDQ_S_SELTEXT,
    L_SX_SEL            TYPE RSDRD_SX_SEL,
    L_T_MSG             TYPE RS_T_MSG,
    L_THX_SEL           TYPE RSDRD_THX_SEL,
    L_T_SELTXTS         TYPE RSDQ_T_SELTEXT
                              WITH HEADER LINE.

*Declare l_bi parameter, if no BIA index exists
DATA:
  L_BI TYPE RS_BOOL.

DATA L_PA(2) TYPE N.
DATA L_P1(1) TYPE C.
DATA L_NL(1) TYPE C.

*structure of selective deletion internal table
TYPES: BEGIN OF TY_DELTAB ,

MAT_PLANT TYPE /BI0/OIMATERIAL,

PLANT  TYPE /BI0/OIPLANT,

END OF TY_DELTAB.
TABLES : /BI0/PMAT_PLANT.
DATA: IT_DELTAB TYPE  TABLE OF TY_DELTAB.

DATA: WA_DELTAB LIKE LINE OF IT_DELTAB.

*selection criteria from lookup dso/master data table.
SELECT MAT_PLANT PLANT from /BI0/PMAT_PLANT
  into corresponding fields of table
  IT_DELTAB where PLANT = '1000' AND
  ( MAT_PLANT BETWEEN '000000000000001309'
  AND '000000000000001319'  ).


*declare variables for different characteristics
DATA: Lv_mat type string,
      LV_plant type string.

CLEAR L_SX_SEL.
LOOP AT IT_DELTAB INTO WA_DELTAB.
clear L_THX_SEL.
clear lv_mat.
clear lv_plant.
CLEAR L_SX_SEL.

lv_mat = wa_deltab-mat_plant.
```

```
        lv_plant = wa_deltab-plant.

    *This is crucial section of the code .The following code can be copied and used for
    other characteristics as well
    ********************************************************************************
      L_SX_SEL-IOBJNM = '0MATERIAL'.

        CLEAR L_S_RANGE.
        MOVE 'I' TO L_S_RANGE-SIGN.
        MOVE 'EQ' TO L_S_RANGE-OPTION.
        MOVE lv_mat TO L_S_RANGE-LOW.
        MOVE '' TO L_S_RANGE-HIGH.
        MOVE 'X' TO L_S_RANGE-KEYFL.
        APPEND L_S_RANGE TO L_SX_SEL-T_RANGE.

      INSERT L_SX_SEL INTO TABLE L_THX_SEL.


    CLEAR L_SX_SEL.
      L_SX_SEL-IOBJNM = '0PLANT'.

        CLEAR L_S_RANGE.
        MOVE 'I' TO L_S_RANGE-SIGN.
        MOVE 'EQ' TO L_S_RANGE-OPTION.
        MOVE lv_plant TO L_S_RANGE-LOW.
        MOVE '' TO L_S_RANGE-HIGH.
        MOVE 'X' TO L_S_RANGE-KEYFL.
        APPEND L_S_RANGE TO L_SX_SEL-T_RANGE.

      INSERT L_SX_SEL INTO TABLE L_THX_SEL.

    *add more characteristics for changing the selection criteria
    ********************************************************************************

      L_PARALLEL = 1.
      L_NL       = RS_C_FALSE.

    *actual selective deletion using L_THX_SEL internal table

      CALL FUNCTION 'RSDRD_SEL_DELETION'
          EXPORTING
              I_DATATARGET     = '0IC_C03'
              I_THX_SEL                = L_THX_SEL
              I_AUTHORITY_CHECK        = RS_C_TRUE
              I_NO_LOGGING             = L_NL
              I_PARALLEL_DEGREE        = L_PARALLEL
              I_SHOW_REPORT            = ''
              I_WORK_ON_PARTITIONS     = ''
              I_REBUILD_BIA            = ''
              I_WRITE_APPLICATION_LOG = 'X'
          CHANGING
              C_T_MSG                 = L_T_MSG.
      ENDLOOP.
```
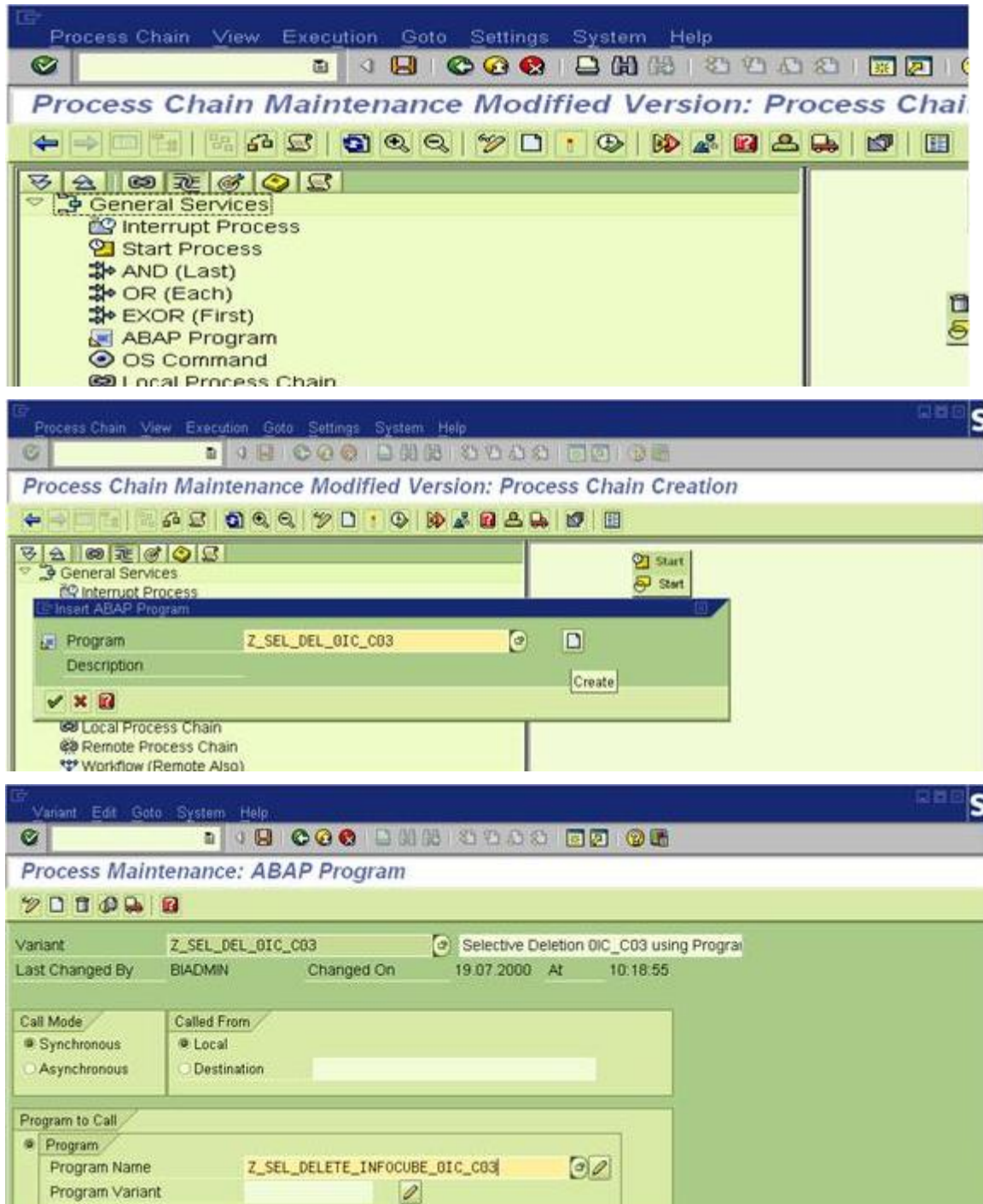
Calling the Program in Process Chains

It is the simplest step in the complete solution. Goto RSPC, create Process Chain (F5) or edit existing (CTRL+F9).Select General Services →ABAP Program

Enter the Name of the Program and don't enter anything for variant.

Precaution

If you have indexes built on the relevant Infocube, make sure to delete index before running this program and rebuilding of indexes after this selective deletion.

Related Content

[Using Selective Deletion in Process Chains.pdf](#)

[Scheduling selective deletion in process chain - (info cube..)](#)

[Selective Deletion through Process Chains](#)

For more information, visit the [EDW homepage](#)

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