

Raising an Event Through a Process Chain to Trigger a Dependent Chain on a Specific Day



Applies to:

SAP BI/BW 3.5 and above.

Summary

The document will demonstrate step by step solution to of raising an event of any given day through a parent process chain and trigger another dependent process chain.

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Author Bio



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Overview

Purpose of this document is to demonstrate a step by step solution that will help understand the mechanism involved triggering process chain/chains on a desired day. The document shows how dependent process chain/ chains can be triggered post an event takes place which in turn can be raised as desired. The event raising is done through the parent chain.

Execution of process chain , in particular those chain which depend on completion of specific processes included in preceding / other chains, using events helps establish a process between the correlating chains that helps deliver desired results as well as helps monitor the errors and take corrective action in executing the correlated chains.

The entire set of activities involved is performed on the BW systems.

Assumptions

The document assumes that the target audience is aware of the processes that involve

- Creating Process Chains

Associated references to the above have been provided in the 'Related Content' section of this document.

Step by Step Solution

The steps involved in the Event based triggering of a Process Chain are

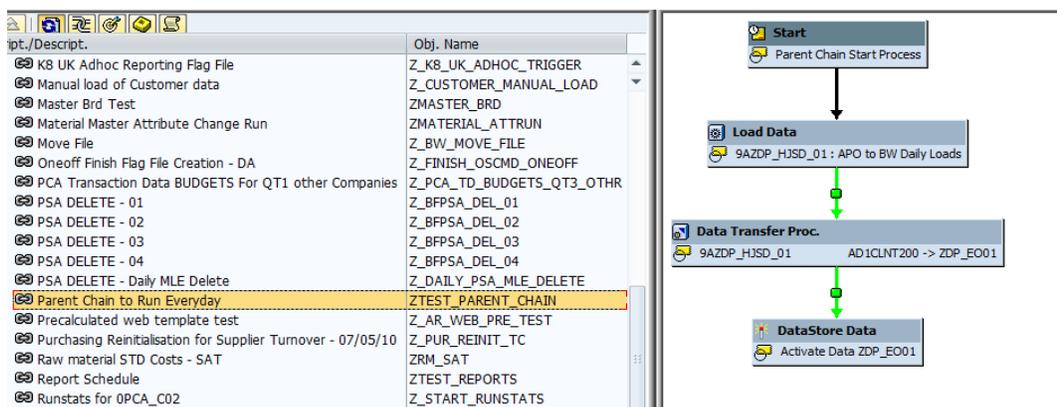
1. Identifying the parent process chain that would help raise an event and the dependent chain that needs to triggered post the Event raise.
2. Creating an Event.
3. ABAP program to raise the Event.
4. Creating variant for the program – the variant will contain parameters viz. Event details, Day of trigger etc.
5. Editing relevant process chains and incorporating the relevant processes.
6. Process chains execution results

Identifying the Parent and Dependent process chains – Parent chain to raise the event and Dependent chain – that would get triggered

Let us consider a scenario that a process chain is executed on a daily basis. This process chain has to trigger execution of another chain and this execution should be recurring process happening only during a specific day of the week. Let's consider this day as 'Friday'.

The parent chain is our example is a chain that enables data extraction from a source system into BW. The dependent chain is a chain that broadcasts a report.

Original Parent Chain:



Original Dependent Chain:

The screenshot shows the SAP Job Scheduler interface. On the left, a list of dependent chains is displayed with columns for 'Descript./Descript.' and 'Obj. Name'. The entry 'ZTEST_DEPENDENT_CHAIN' is highlighted in yellow. On the right, a flow diagram shows a 'Start' process box containing 'Start Process for the dependent Chain' leading to a 'Program' box containing 'Appliances MAT'.

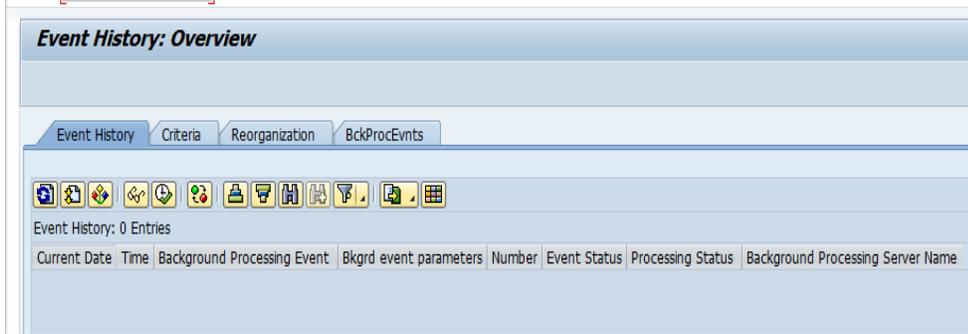
Descript./Descript.	Obj. Name
• Broadcast Test for DP	ZBROADCAST_TEST
• Broadcaster Test	ZBW_BROAD_TEST
• Broadcaster Test Process Chain	ZBW_BROADCAST_TEST
• Broadcasting Issue Alert Chain	ZBW_BROADCAST_ALERT
• Chain to Test PC Trigger Post an Event	ZDP_TRIGGER_TEST
• Chain to Test Workbook Broadcast	ZMASTER_BRD_TEST
• Copy_of_v20_job	COPY_OF_V20_JOB
• Create Finish Flag File For OF Pur Reqs	Z_BW_CRE_FINISH_FLG_OF_PU
• Create Finish Flag for SKU WTD	Z_BW_CRE_FINISH_SKU
• Create Finish Flag for SSL (R&V)	Z_BW_CRE_FINISH_SSL_RV
• Customer Reload to Fill First Trade Date	Z_FI_CUST_RELOAD
• Delete Weeks 14.2008, only weekdays 1,2,3,4,5,7	ZBMMIM16S_SEL_DEL_001
• Dependent Chain to Trigger on a specific day	ZTEST_DEPENDENT_CHAIN

The dependent chain is original scheduled to run every Friday , however, we want this schedule to be an event based schedule and not time-based (as the preceding or the parent chain required for this chain may encounter a failure thus making the execution of the dependent chain a redundant act).

The screenshot shows the 'Maintain Start Process' dialog box. The 'Start Time' tab is active, showing options for 'Immediate', 'Date/Time', 'After job', 'After event', and 'At operation mode'. The 'Date/Time' section shows 'Scheduled start' with Date '2011.09.23' and Time '06:00:00'. A 'Period Values' dialog is open, showing options for 'Hourly', 'Daily', 'Weekly', 'Monthly', and 'Other period'. The 'Weekly' option is selected. The 'Periodic job' checkbox is checked.

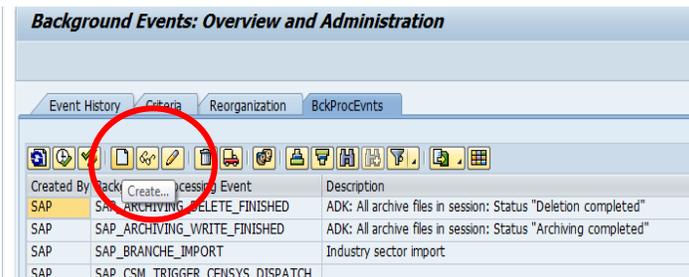
Create an Event

Transaction SM62 enables us to create an event.



Select 'BckProcEvnts' tab which displays the list of available events.

Created By	Background Processing Event	Description	Changed by	Date	Time
SAP	SAP_ARCHIVING_DELETE_FINISHED	ADK: All archive files in session: Status "Deletion completed"	SAP	1999.12.01	22:00:53
SAP	SAP_ARCHIVING_WRITE_FINISHED	ADK: All archive files in session: Status "Archiving completed"	SAP	1999.12.01	22:01:17
SAP	SAP_BRANCHE_IMPORT	Industry sector import	SAP	1995.02.09	14:20:07
SAP	SAP_CSM_TRIGGER_CENSYDISPATCH		SAP	2000.11.20	14:59:09
SAP	SAP_DBA_ACTION		SAP	1995.08.03	14:10:53
SAP	SAP_END_OF_JOB		SAP	1993.09.07	13:29:38
SAP	SAP_EVTHIST_CRITERIA_ACTIVATED		SAP	2005.10.18	09:13:53
SAP	SAP_IMPORT_START		SAP	1998.10.26	08:46:30
SAP	SAP_IMPORT_STOP		SAP	1998.10.26	08:46:43
SAP	SAP_LANGUAGE_FILL	Language filling	SAP	1995.01.16	16:58:07
SAP	SAP_LANGUAGE_IMPORT	Language import	SAP	1995.01.16	16:57:57



Select 'Create' to create a new event

At the next prompt, enter a technical name and for the event.

description

Customer	ZEVENT_FOR_FRIDAY	Test Event to raise every Friday	Save (F8)
Customer	ZIM_MASTER_INV_IDOC	ZIM_MASTER_INV_IDOC	

'Save' the entry. **ZDP_FRIDAY_BROADCAST** is now available in the Event History

Created By	Customer	Description	Changed by	Date	Time
Background Processing Event	ZBW_RPTS_ROPSTOCK_75WKLY	ROP and Stock Report Broadcast - 75% Report Weekly	ALLOM	2011.09.16	12:05:47
	ZBW_RPTS_ROPSTOCK_AV	ROP and Stock Report Broadcast - Availability	ALLOM	2011.09.16	12:05:09
	ZBW_RPTS_ROPSTOCK_SKU	ROP and Stock Report Broadcast - SKU Summary Daily 2	ALLOM	2011.09.16	12:04:50
	ZBW_RPTS_ROPSTOCK_WKLY	ROP and Stock Report Broadcast - Weekly	ALLOM	2011.09.16	12:04:28
	ZBW_SAT_DAY_3_GET_16S	Triggers the meta chain Z_IM_APD_SAT_DAY_3_16S to ZBMMIM16S cube	LADWAS	2008.08.14	14:39:14
	ZBW_SKU_BROADCASTS	Event to Trigger ZSKU_M01 Broadcasts	PEDNEKARU	2011.07.12	14:38:36
	ZCST_WEEKLY_START	SKU Analysis: Cost Price History	AAKUD	2008.09.18	11:47:49
	ZDP_EXTRACT_DAILY	Extraction for APO DP on a Daily Basis (Tuesday to Friday)	PEDNEKARU	2011.03.29	16:38:16
	ZDP_EXTRACT_WKLY	Extraction of APO DP on a Weekly Basis (Sunday Night / Mon Mor)	PEDNEKARU	2011.03.29	16:39:15
	ZDP_FRIDAY_BROADCAST	DP Broadcast Trigger on Every Friday	PEDNEKARU	2011.06.07	10:47:57
	ZDP_HISTORY_SNP	Event to Trigger Weekly DP Load (Friday) into BW	PEDNEKARU	2011.08.15	16:18:50
	ZDP_MASTER_WEEK	Master Data Full Load from R3 to BW (APO Related)	PEDNEKARU	2011.04.01	14:15:35
	ZDP_WEEKLY_BROADCASTS	Demand Planning Weekly Broadcasts Trigger	PEDNEKARU	2011.05.04	10:04:08
	ZEVENT FOR FRIDAY	Test Event to raise every Friday	PEDNEKARU	2011.09.19	16:04:49

ABAP Program to raise the Event Created Earlier

We will now write an ABAP program that will help raise the event created. Go to transaction SE38 and create a custom ABAP program. We are creating a program named '**Z_EVENT_RAISE_DP_FRIDAY**'.

Program: **Z_EVENT_RAISE_DP_FRIDAY** [Create]

Subobjects: Source Code, Variants, Attributes, Documentation, Text elements

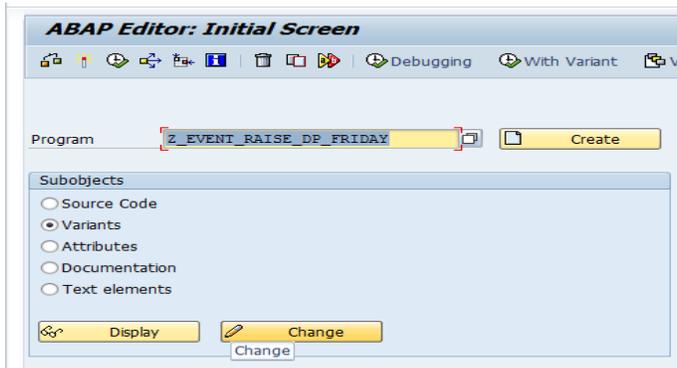
[Display] [Change]

(Please refer the Appendix for sample code that helps raise the Event of a specific day – you will need to create the program in conjunction with the Variant for the program – described in the next section).

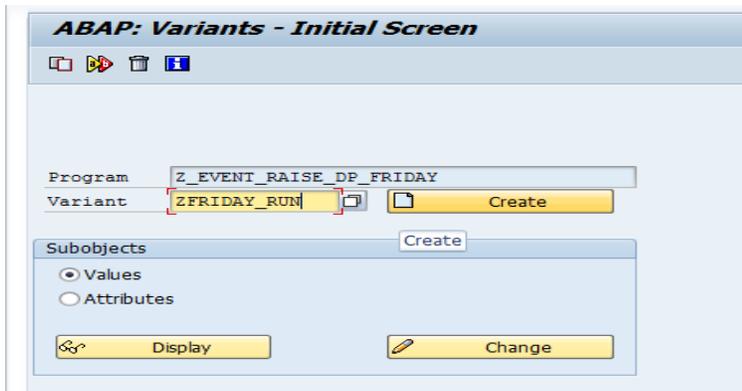
Save and activate the program.

Creating Variant for the Program

Using transaction SE38 , select the program created earlier. At the 'Subobjects' menu select the radio button for 'Variants' and click on 'Change'.

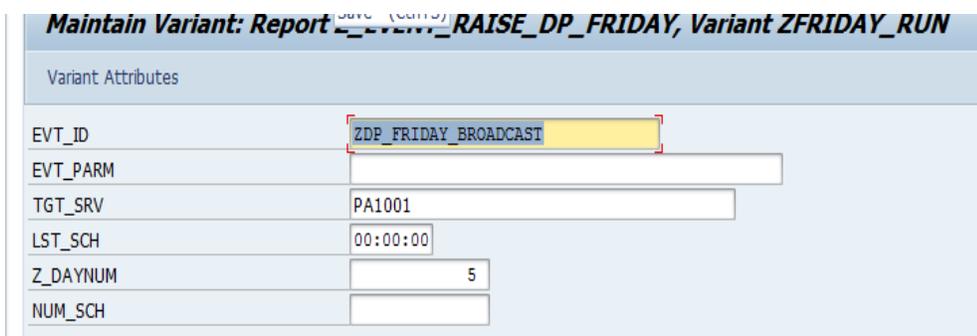


At the next prompt, the system will ask you to create the variant. We will create variant 'ZFRIDAY_RUN'. Type in the variant name and select 'Create'.

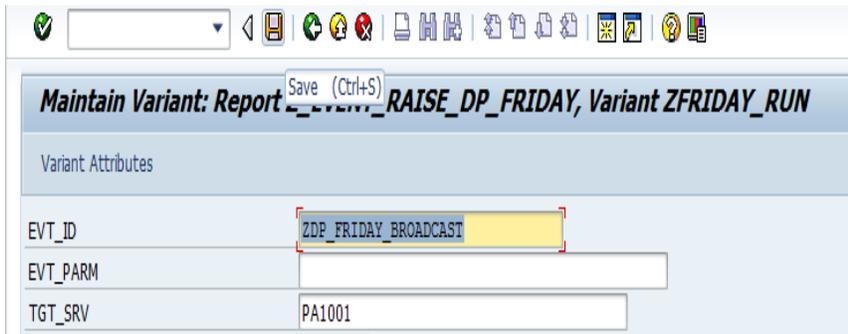


Enter the following values for each of the parameter

- **EVT_ID** : Event name that we created earlier. Selecting this event name we are indicating that whenever the ABAP program raises an event , the event would be **ZDP_FRIDAY_BROADCAST**.
- **TGT_SRV**: You need to check this entry as applicable for your BW server.
- **Z_DAYNUM**: This is a custom parameter included in the ABAP program. The value in this parameter determines the Day # of the week and it is on this date that the ABAP program will raise the event. As we want the dependent chain to run every Friday, the value of this parameter is entered as 5 (Friday is 5th day of the calendar week).



Save the parameter values and the variant.

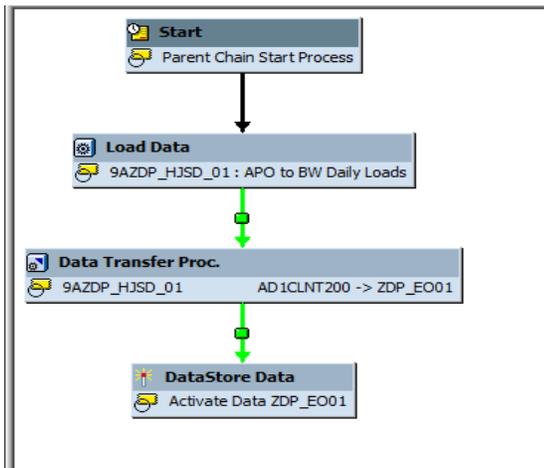


We have now created the event, ABAP program to raise the event and the variant for the ABAP program that carries the relevant parameters that would help raise the event.

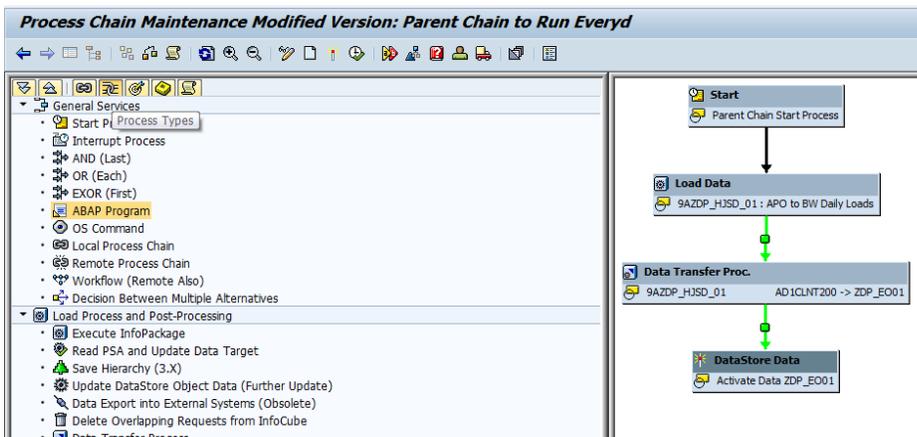
Editing Parent Process Chain

We now make changes in the Parent process chain that will help run the process related to the ABAP program execution and raise the EVENT on the required day.

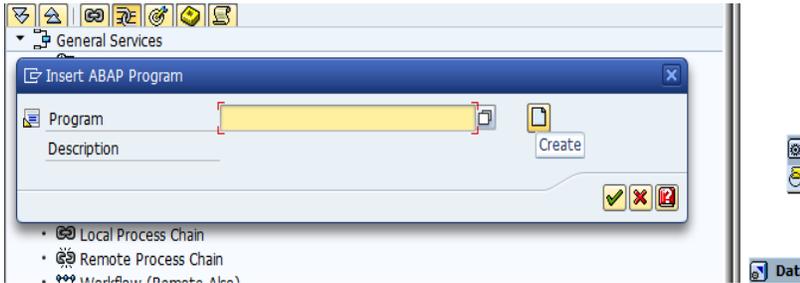
Using RSPC go to the Parent chain



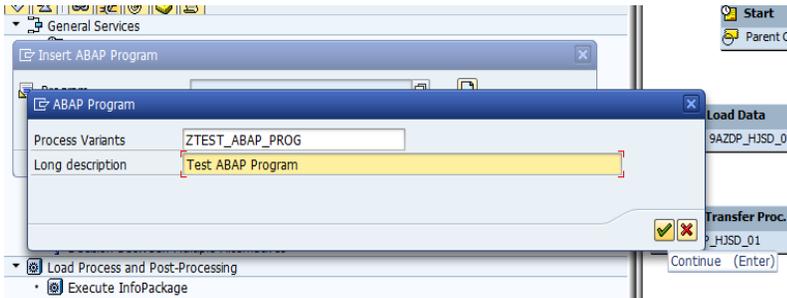
Now select the 'Process Types' from the menu and then select 'ABAP program'



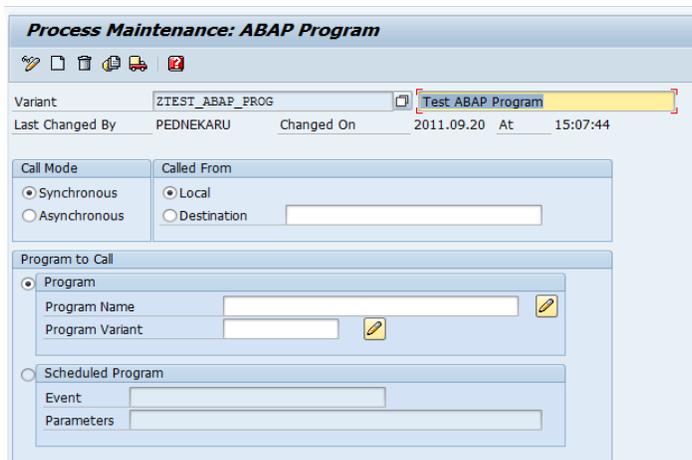
Create a variant for the process



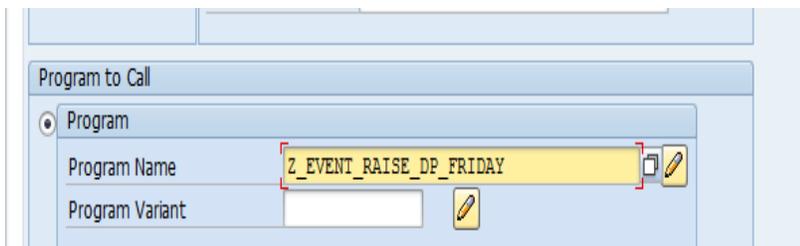
Enter the variant details and select 'Continue'.



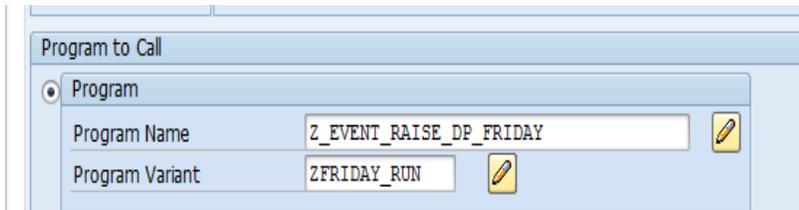
The process maintenance screen is displayed



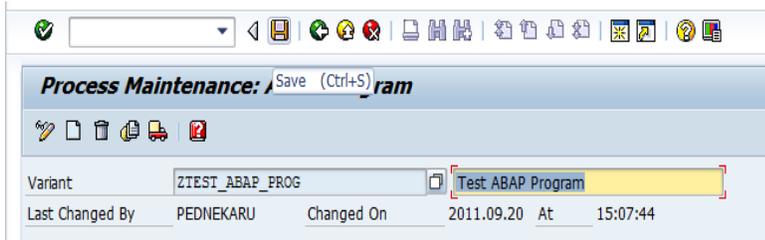
At the program name Tab enter the ABAP program name earlier created i.e. 'Z_EVENT_RAISE_DP_FRIDAY'



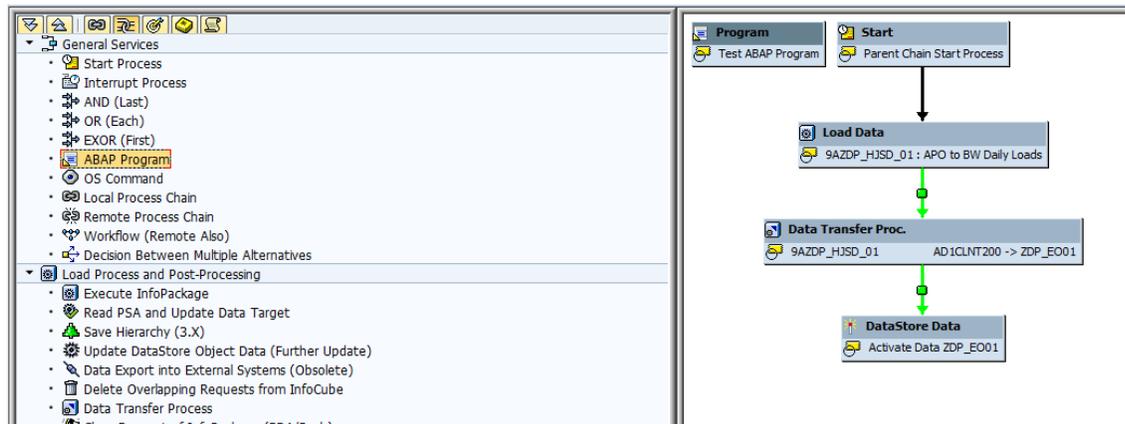
At the program variant tab, enter the variant name earlier created i.e. ZFRIDAY_RUN'



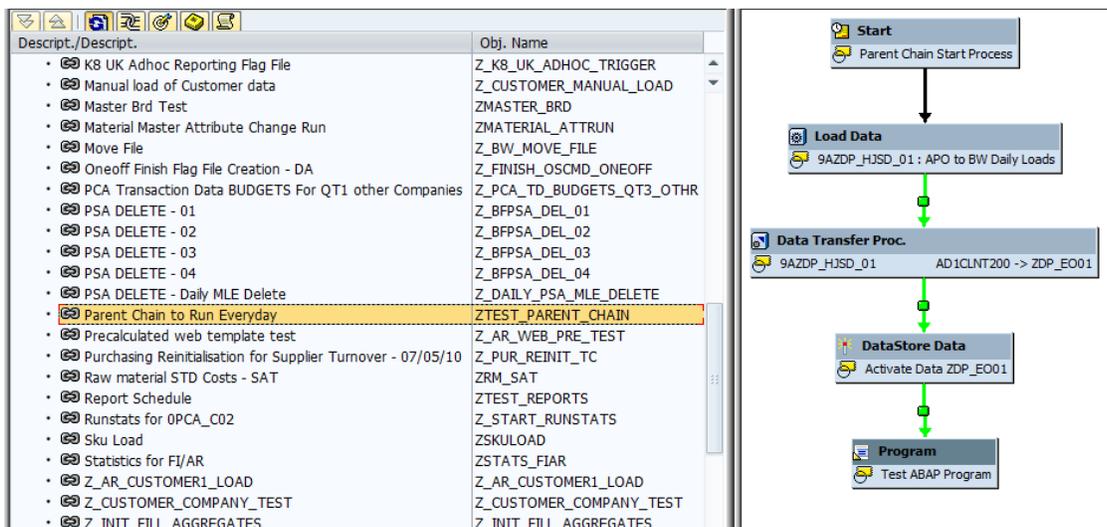
'Save' and Go back



Select 'Continue' and you will see the new process included in the chain.



Add the process at the end of the chain , Save, Activate and reschedule the chain.



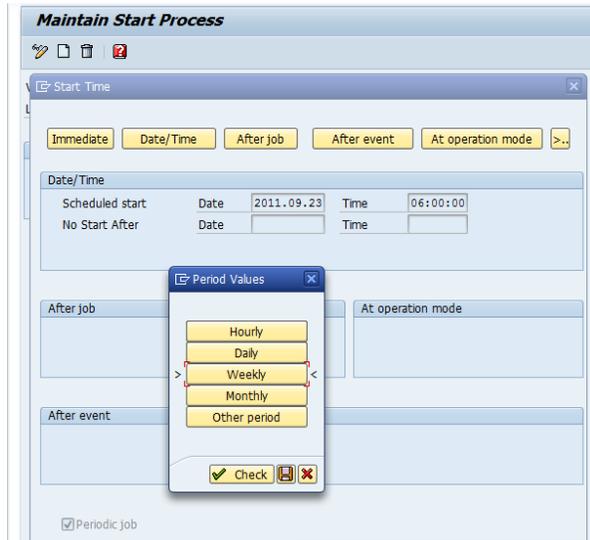
The new process added to the process does the following activities :

- Program Z_EVENT_RAISE_DP_FRIDAY is executed for the variant ZFRIDAY_RUN.
- The program finds the 'Day of the week' based on the system date.
- If the 'Day of the week' corresponds to the Day Number parameter in the Variant then the program raises an event called 'ZDP_FRIDAY_BROADCAST'.

Editing Dependent Process chain

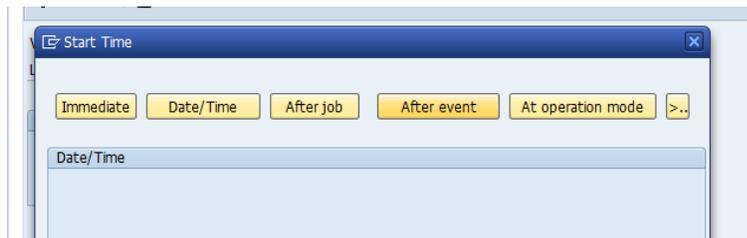
The dependent process chain will now undergo a change. This chain has to get triggered following the event raised by its parent/preceding chain.

In the dependent process chain the scheduler settings are changed from

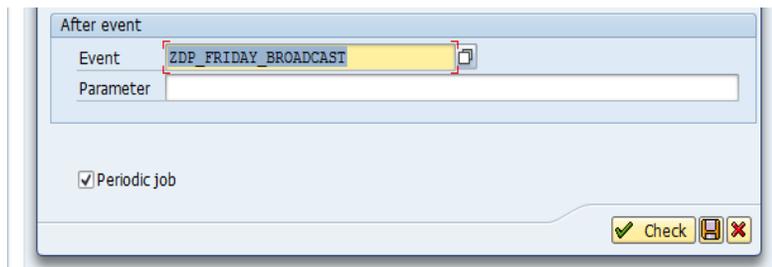


To

Click on 'After Event'

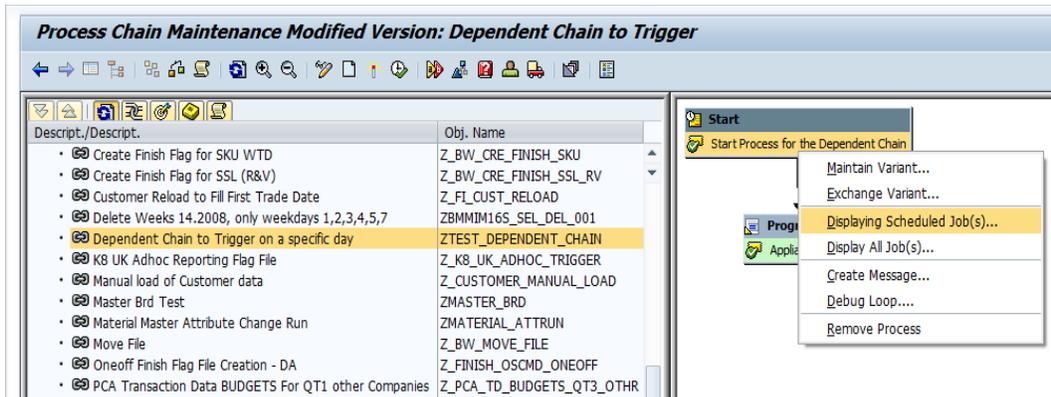


At the Event name tab enter the name of the event created in SM62 (this is the event included in the variant of the program). Check the Periodic job tab.

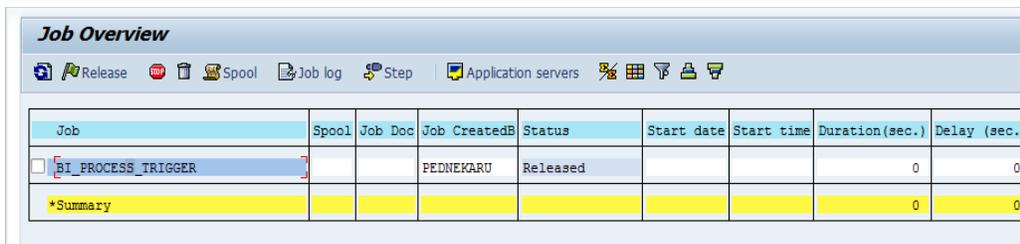


Check and Save the settings. Save the process , Go Back, Save, activate and reschedule the chain.

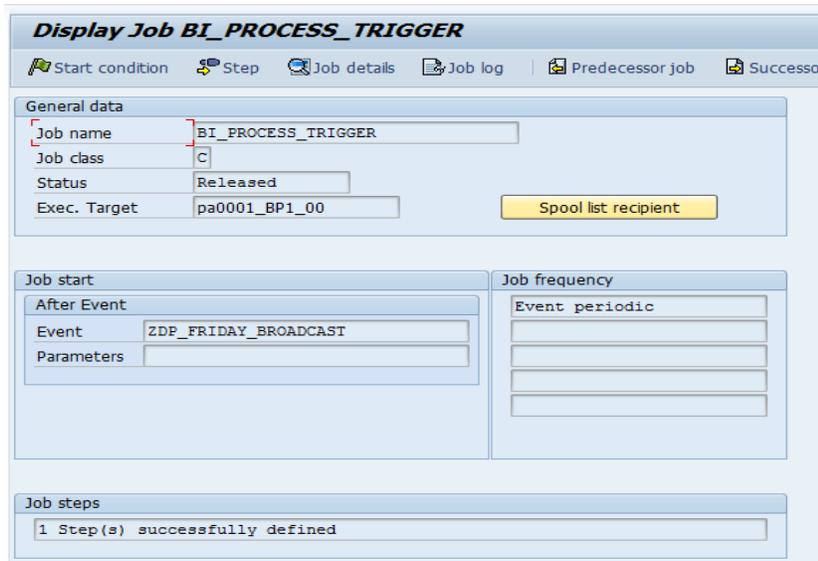
You can check the scheduled process for this chain. Right click on the 'Start process' and select 'Displaying Scheduled jobs'.



At the Job Overview screen double click on the entry.



Process trigger for the chain shows the Trigger event.



Appendix

```

*&-----*
*& Report  Z_EVENT_RAISE_DP_FRIDAY
*&
*&-----*
*&
*&
*&-----*
REPORT  Z_EVENT_RAISE_DP_FRIDAY.
PARAMETER : evt_id LIKE tbtco-eventid,      "Event ID
            evt_parm LIKE tbtco-eventparm,   "Parameter ID
            tgt_srv LIKE msxxlist-name,      "Target system
            lst_sch LIKE sy-zeit,            "Last schedule time
            z_daynum type i,                 "Day number
            num_sch TYPE i.                 "Number of schedules per hour

DATA : a,
      sys_min TYPE i.
DATA:TODAY LIKE SCAL-INDICATOR.
* TO RUN ONLY ON THE DAY WHOSE DAY # IS IN THE VARIANT
CALL FUNCTION 'DATE_COMPUTE_DAY'
  EXPORTING
    DATE          = SY-DATUM
  IMPORTING
    DAY           = TODAY.
* IF DATE OF ABAP PROGRAM RUN IS EQUIVALENT TO THE VALUE
* SET IN THE VARIANT PARAMETER THEN RAISE EVENT
IF TODAY = z_daynum.
  PERFORM event_raise.
ENDIF.
*&-----*
*& Form event_raise
*&-----*
* text
*-----*
FORM event_raise.
CALL FUNCTION 'BP_EVENT_RAISE'
  EXPORTING
    eventid          = evt_id
    eventparm        = evt_parm
    target_instance  = tgt_srv
  EXCEPTIONS
    bad_eventid      = 1
    eventid_does_not_exist = 2
    eventid_missing  = 3
    raise_failed     = 4
    OTHERS           = 5.
CASE sy-subrc.
  WHEN 0.
    MESSAGE s250(bt) WITH evt_id.
  WHEN 1.
    MESSAGE e042(bt) WITH evt_id.
  WHEN 2.
    MESSAGE e042(bt) WITH evt_id.
  WHEN 3.
    MESSAGE e038(bt) .
  WHEN 4.
    MESSAGE e249(bt) WITH evt_id.
ENDCASE.
WRITE: sy-zeit, ': Event has been triggered'.
ENDFORM.                    "event_raise

```

Related Content

SCN Article : Trigger an Event Using Program and then Trigger a Process Chain by Eventn
<http://www.sdn.sap.com/irj/scn/go/portal/prtroot/docs/library/uuid/4027834a-81e5-2c10-1692-866e137fe2a3?QuickLink=index&overridelayout=true>

Blog : Scheduling process chains : <http://www.sdn.sap.com/irj/scn/weblogs?blog=/pub/wlg/13787>

SDN forum : <http://forums.sdn.sap.com/thread.jspa?threadID=1991110>

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