



BatchMan

Scheduling of archiving

Product Info & Support

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1. General remarks

For the “*Other process*” process type with the “*Archiving (SARA)*” subtype, the target system where the execution is to take place must be at least on SAP BASIS 6.20 (or higher).

The master system where the scheduling takes place has no prerequisites (thus may be SAP BASIS 4.6C also).

With these processes, it is possible to schedule archiving runs that are normally controlled via transaction SARA. The processes do not cause any constraints in transaction SARA; its functions may continue to be used in parallel.

Prerequisite for archiving in SARA is the Customizing of

- Archiving objects (transaction AOBJ)
- Storage system (transaction OAC0)

Prior to using/scheduling the archiving, a successful run in SARA is to be carried out.

When scheduling from transaction SARA, the first job started is a SUB type (scheduling job), which then schedules the other jobs itself.

While the job for reading out data from the database and writing files to the file system (job type WRI – write job) is started only once per archiving run, 1 to n jobs are started for other activities. This is the case for instance when deleting (job type DEL – deletion job).

If archiving is controlled via the “*Archiving (SARA)*” type in BatchMan, it is possible to execute the following activities (depending on the Customizing of archiving object):

- Preliminary run (PRE)
- Writing (WRI)
- Subsequent run (FIN)
- Deletion run (DEL)
- Storage (STO)

Any additional required runs (e.g.: index build) may be scheduled as normal jobs using the programs available for each archiving object.

Archiving can also be scheduled as a “normal job” in BatchMan. From Customizing of the archiving objects (transaction AOBJ), it is possible to select the required programs for each activity.

With the “Read child jobs” flag set, all sub-jobs are also monitored and the job will be ended only when all sub-processes/sub-activities have ended.

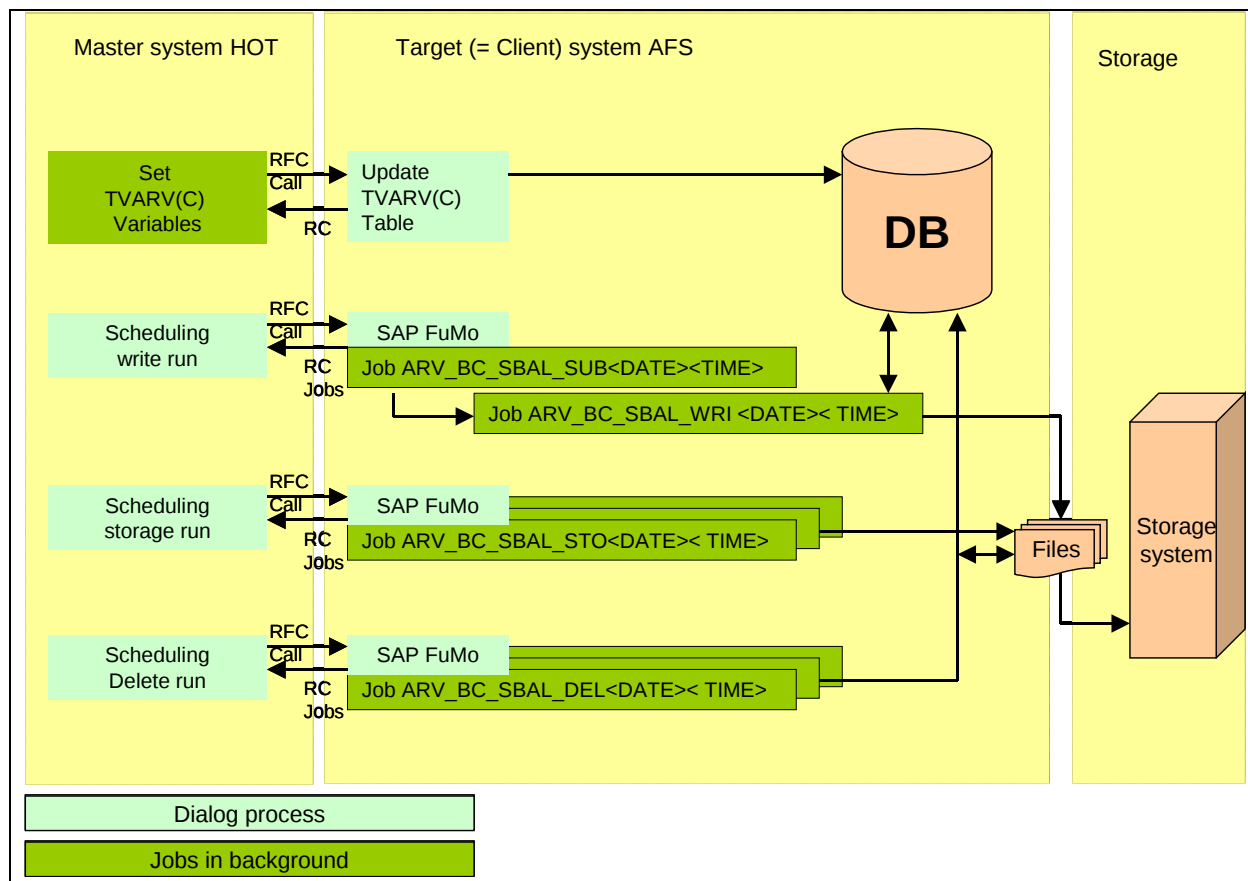
When using the “*Archiving (SARA)*” process type, you also have the following expanded options as compared to normal jobs or scheduling via transaction SARA:

- Scheduling jobs for the deleting (DEL) and storage (STO) activities via BatchMan and registering the scheduled jobs at a BatchMan interface. The interface then controls the scheduled jobs as per the interface Customizing and the system resources available. This prevents all deleting (DEL) and/or storage (STO) jobs from starting at one time and impacting the system’s performance.
- Writing the “Note on file” with information on the respective archiving run.

The individual steps are described using the archiving object BC_SBAL (Archiving Object for Application Log).

The master system, where scheduling takes place, is called HOT (SAP Basis 4.6C); the target system, where archiving is done, is called AFS (SAP Basis 6.20)

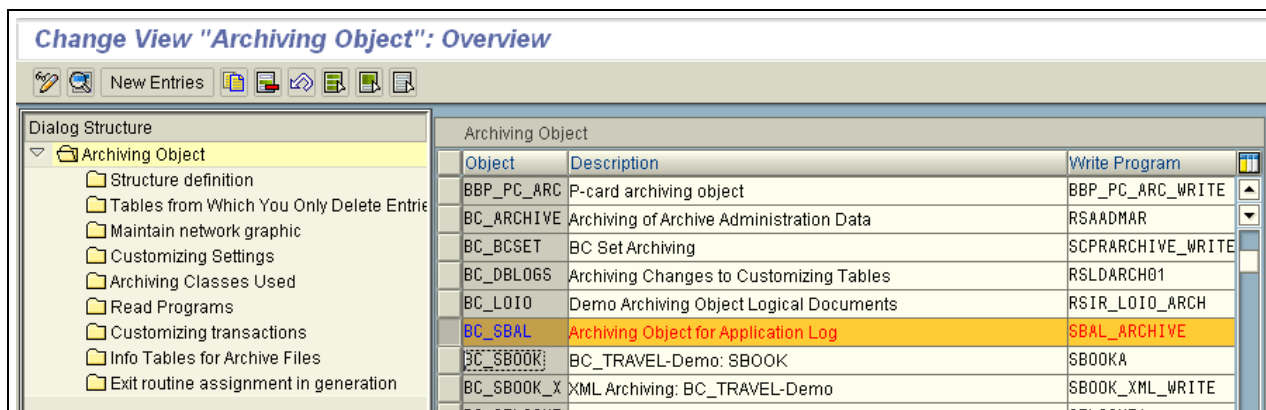
For the sake of clarity, all steps are started individually.



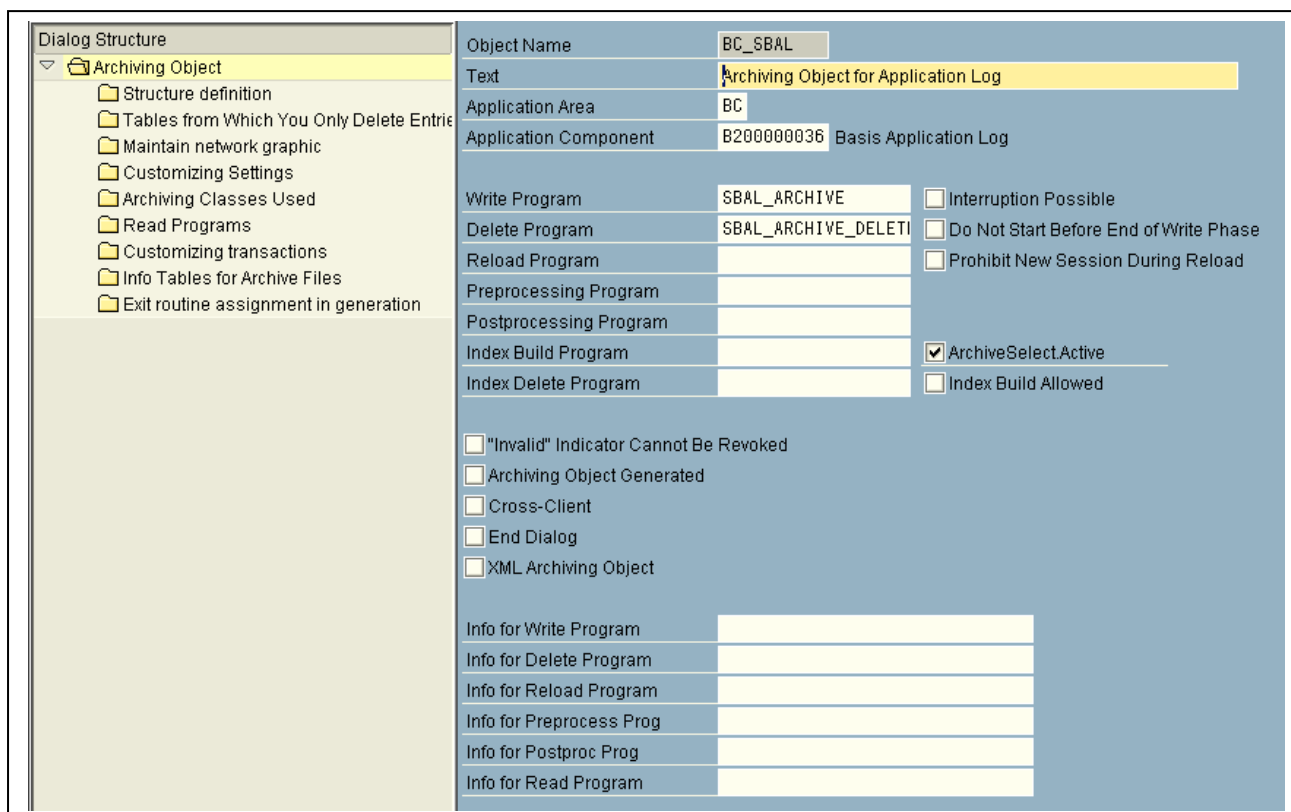
Requirements for interrupting and restarting archiving runs have not yet been implemented in BatchMan.

2. Definition in the target system AFS

2.1. Transaction AOBJ - Archiving object definition



On the right, double-click on the archiving object



Here, you can find the corresponding programs for defining the archiving as a “normal job” in BatchMan.

This view also illustrates why it is highly recommended that you familiarize yourself with the documentation and instructions provided by SAP before you start archiving. Otherwise, data may be irrevocably lost.

Thus, a regular backup is required.

Also, you should create a new backup of the “smaller” SAP system after larger archiving runs.

On the left, double-click on the “Customizing Settings”

The screenshot shows the 'Customizing Settings' dialog for an archiving object. The left pane shows a tree structure with 'Customizing Settings' selected. The main area contains the following settings:

- Object Name:** BC_SBAL (Archiving Object for Application Log)
- Logical File Name:** ARCHIVE_DATA_FILE
- Archive File Size:**
 - Maximum Size in MB: (empty)
 - Maximum Number of Data Objects: 50
- Settings for Delete Program:**
 - Commit Counter: 10
 - Test Mode Variant: AFS_TEST (Variant button)
 - Production Mode Variant: AFS_PROD (Variant button)
- Delete Jobs:**
 - ☒ Not Scheduled
 - ☐ Start Automatically
 - ☐ After Event (Event: (empty), Parameter: (empty))
- Place File in Storage System:**
 - Content Repository: AFS_SARA
 - ☐ Start Automatically
- Sequence:**
 - ☐ Delete Before Storing
 - ☒ Store Before Deleting
 - ☐ Delete Program Reads from Storage System

You can also get to this view from transaction SARA via the “Technical Settings” of “Archiving Object-Specific Customizing”.

The view may vary between the various archiving objects.

You can use the **Logic File Name** to define where and under which name the files are stored. The settings must be maintained via transaction FILE.

You can define the **Archive File Size** using the size of the file (e.g. 2 GB) or the number of objects. The number of objects is different for each archiving object. (Here, a small number was selected on purpose so that several files are also generated per archiving run.)

Using the **Settings for Delete Program**, you can select the variants for the test and production run. You can also determine how deletion jobs are scheduled.

Using **Place File in Storage System**, you can define whether the storage jobs are automatically scheduled. You can also determine into which “Content Repository” the files generated by the writing run are stored.

For the automatic scheduling of deletion and storage jobs, the **Sequence** determines the sequence in which this is to take place.

(Since neither deletion nor storage jobs are to be automatically scheduled in our example, this has no significant for this example. However, the flag is still set here in the manner in which the processing is to occur.)

Which actions in the process definition (BatchMan job maintenance) can be selected is influenced by the definitions of the sequence and whether or not the deletion and storage jobs from an archiving run are started.

2.2. Transaction OAC0 - CMS Customizing Content Repositories

In our example, an SAP Content Server will be used as the storage system. This is available on each installation medium of the SAP GUI.

Detail Content Repositories AFS_SARA

The screenshot shows the 'Display Content Repositories: Detail' window in the SAP GUI. The window has a title bar with the text 'Display Content Repositories: Detail'. Below the title bar is a toolbar with icons for editing, deleting, and navigating, along with buttons for 'Simple admin.' and 'Full administration'. The main area displays the details for the content repository 'AFS_SARA'. The repository is 'Active' and is the 1st of 57 repositories. The description is 'Archiving AFS'. The document area is 'Data Archiving' and the storage type is 'HTTP content server'. The version number is '0046' and the content server version is '4.6'. The HTTP server is 'HOSR0110', the port number is '1090', and the SSL port number is empty. The HTTP script is 'contentserver/contentserver.dll', the transfer directory is '\\HOSR0110\\Tausch', and the output device is 'LP01'. There is a 'CS Admin' button with a blue arrow icon.

Content Rep.	AFS_SARA	Active	1 / 57
Description	Archiving AFS		
Document Area	Data Archiving		
Storage type	HTTP content server		
Version no.	0046	Content Server version 4.6	
HTTP server	HOSR0110		
Port Number	1090	SSL Port Number	
HTTP Script	contentserver/contentserver.dll		
Transfer drctry	\\HOSR0110\\Tausch		
OutputDevice	LP01		

Using the link "→ CS Admin" or transaction CSADMIN "Content Server Administration" you can branch to the storage system's administration and monitoring.

Content Server Administration

HTTP server:
 Port Number:
 HTTP Script:
 Version:

Overview Details Certificates Settings Statistics

Content Rep.:

Repository

Status:
 Description:
☐ Check signature

Server

Mfr	Copyright SAP AG, All rights reserve	Status	running
Version	6400	Descriptn	
Build	190	pVersion	

ContentStorage

Version	015	Build	190
---------	-----	-------	-----

2.3. Maintaining the variants for the write program

The variants are to be maintained for the write program. You can do this in transaction SARA or using the variant maintenance in SA38/ SE38.

SA38/ SE38

Select the program from the definition of the archiving object (see transaction AOBJ)

Transaction SARA

ABAP: Variants - Initial Screen

Program:
 Variant:

Subobjects

☒ Values
☐ Attributes

Object name:

Actions

-
-
-
-

Archiving Object for Application Log

Client:
 Variant:
 User Name:

☒ Not Maintained
 ☒ Preset

the parameters to schedule the write job. Here you can also call the variant maintenance.

Maintain Variant: Report SBAL_ARCHIVE, Variant AFS_PROD

Variant Attributes 

Selection of Application Logs to Be Archived

Object	U_5H	⊞		→
Subobject		to		→
External ID		to		→
Log number		to		→
Problem class		to		→

Time restriction

From (date/time)	01.01.1990	00:00:00
To (date/time)	15.12.2010	23:59:59

Log caused by

User	
Transaction Code	
Program	

Process control

Test Run	☐
Delete with test run variant	☐
Delete with Product. Run Var.	☒

Note

There are two entry fields grayed out, i.e. not ready for input. These two fields are supplied with TVARV variables. Setting in the variant attributes

ABAP: Save Attributes of Variant AFS_PROD

Selection variables Screen assignment     

Variant name	AFS_PROD
Meaning	AFS_PROD
Created for selection screens	1000

Only for background processing	☐
Protect variant	☐
Only display in catalog	☐
System variant (automatic transport)	☐

Field attributes 

Field name	Type	P	I	N	L	P	L	O
------------	------	---	---	---	---	---	---	---

Selection screen objects 1000

Object	S	☐	☐	☐	☐	☐	☐	☐
Subobject	S	☐	☐	☐	☐	☐	☐	☐
External ID	S	☐	☐	☐	☐	☐	☐	☐
Log number	S	☐	☐	☐	☐	☐	☐	☐
Problem class	S	☐	☐	☐	☐	☐	☐	☐
Creation date: from	P	☐	☐	☐	☐	☐	☐	☐
Creation time: from	P	☐	☐	☐	☐	☐	☐	☐
Creation date: to	P	☐	☐	☒	☐	☐	☐	☐
Creation time: to	P	☐	☐	☐	☐	☐	☐	☐
User	P	☐	☐	☐	☐	☐	☐	☐
Transaction Code	P	☐	☐	☐	☐	☐	☐	☐
Program	P	☐	☐	☐	☐	☐	☐	☐
Test Run	P	☐	☐	☐	☐	☐	☐	☐
Delete with test run variant	P	☐	☐	☐	☐	☐	☐	☐
Delete with Product. Run Var.	P	☐	☐	☐	☐	☐	☐	☐
Note	P	☐	☐	☒	☐	☐	☐	☐

Choose Variant Variables for Variant AFS_PROD

Selection options 

T: Table Variable from TVARVC
D: Dynamic date calculation
B: User-defined variables

 Selected
 Not selected
 Not supported

Selection criterion	T	D	B
Variable name			
Creation date: to			
BM_SARA_BC_SBAL_DATE_TO			
Note			
BM_SARA_BC_SBAL_TEXT			

3. Definition in BatchMan

All definitions are maintained in master system HOT.

3.1. Settings for TVARV(C) variables

In our example, two TVARV(C) variables are used. (For other archiving objects, more variables may be needed.) The rules and the update execution occur in the master system HOT.

Date variable for up to which date archiving is to be carried out: BM_SARA_BC_SBAL_DATE_TO has the update date minus three months as a rule.

XM: Maintenance TVARV rules

Variable: **BM_SARA_BC_SBAL_DATE_TO** Parameter:

Low Value

☐ Yesterday ☒ Today ☐ Tomorrow
☐ Prev. week begin ☐ Prev. week end ☐ Week begin ☐ Week end
☐ Prev. month begin ☐ Prev. month end ☐ Month begin ☐ Month end
☐ Prev. quarter begin ☐ Prev. quarter end ☐ Quarter begin ☐ Quarter end
☐ Prev. year begin ☐ Previous year end ☐ Year begin ☐ Year end
☐ Prev. calendar year ☐ End of prev. fiscal year ☐ Calendar year ☐ End of fiscal year
☐ Begin of prev. fiscal year ☐ Prev. period end ☐ Begin of fiscal year ☐ Period end
☐ Prev. period begin ☐ Fiscal year ☐ Period begin ☐ Ultimo
☐ Prev. fiscal year ☐ Ultimo prev. month
☐ Time ☐ Fixed date
☐ Number
☐ String

Output format for date: **SAP internal date** **2 dec.places**

Fixed value: **3** **Minus** **Month/period**

Calendar type: **Factory- / Logistic calendar**

Factory calendar:

Variable for the texts (notices to run and the files) BM_SARA_BC_SBAL_TEXT composition as a fixed text and the above date variables.

Variable: **BM_SARA_BC_SBAL_TEXT** Parameter:

Low Value

☐ Yesterday ☐ Today ☐ Tomorrow
☐ Prev. week begin ☐ Prev. week end ☐ Week begin ☐ Week end
☐ Prev. month begin ☐ Prev. month end ☐ Month begin ☐ Month end
☐ Prev. quarter begin ☐ Prev. quarter end ☐ Quarter begin ☐ Quarter end
☐ Prev. year begin ☐ Previous year end ☐ Year begin ☐ Year end
☐ Prev. calendar year ☐ End of prev. fiscal year ☐ Calendar year ☐ End of fiscal year
☐ Begin of prev. fiscal year ☐ Prev. period end ☐ Begin of fiscal year ☐ Period end
☐ Prev. period begin ☐ Fiscal year ☐ Period begin ☐ Ultimo
☐ Prev. fiscal year ☐ Ultimo prev. month
☐ Time ☐ Fixed date
☐ Number
☒ String

Output format for date: **As string**

Fixed value: **SAP internal date** **2 dec.places**

Plus/minus: **delete run until <T=BM_SARA_BC_SBAL_DATE_TO>**

Calendar type: **Factory- / Logistic calendar**

Factory calendar:

TVARV(C) variables are updated with the BatchMan program /BTCMAN/M_RV1.

xM: automatically maintain TVARV

☐ Only simulate

Reference date: 16.03.2011

RFC destination: AFS_000

TVARV - Variables

TVARV name: BM_SARA_BC_SBAL_D... to

☒ Parameter
☐ Select-Options

Multiple Selection for TVARV name

☒ 2Single vals ☒ Ranges ☐ Single vals ☐ Ranges

BM_SARA_BC_SBAL_DATE_TO

BM_SARA_BC_SBAL_TEXT

Both the TVARV(C) variables are entered under the **TAVRV name**.

The **Reference date** is the update date with which the two variables are updated. This date is to be supplied by a selection variable accordingly.

Choose Variant Variables for Variant AFS_BC_SBAL

Selection options: [T] [D] [B]

T: Table variable from TVARV
D: Dynamic date calculation
B: User-defined variables

Legend:
Selected: [Green circle]
Not selected: [Yellow triangle]
Not supported: [Red circle]

Selection criterion	T	D	B
Variable name			
Reference date	[Yellow triangle]	[Green circle]	[Red circle]
Current date			

Here, the "Current date" is used as the "Dynamic date calculation".

The **RFC Destination** defines on which target system the variables are updated (here the target system AFS).

Setting up a job with the /BTCMAN/M_RV1 program and the AFS_BC_SBAL variant in the master system HOT

Job name: GM_AFS_BC_SBAL_TVARV Status: [Green circle] [Yellow triangle] Mast.data

General data Step list Alerting / Categories Scheduling dates Start criteria Checkpoints/ Event Predecessors/ Successors

Pos.	Step name	T	Report/ Command etc.	Variant/Para.	Sta.	User	Sp	Pri.	Description
10	GM_AFS_BC_SBAL_TVARV	A	J_5H9RV1	AFS_BC_SBAL	[Green circle]	BATCHMAN	DE	LP01	

3.2. Definition of the archiving processes

3.2.1. General

The process steps are defined on the master system (here HOT).

The process itself is carried out on the SAP system that is defined in the “Target system” field as the RFC connection (tab page “General data”).

The screenshot shows the 'General data' tab of the SAP BatchMan interface. The job name is 'GM_AFS_BC_SBAL_WRI'. The status is 'OK'. The target system is 'AFS_000' and the master system is 'SM Master'. The process type is 'Other process'. The description is empty. The job class is 'C - Prio low' and the subject area is empty.

After you select the “Other process” process type on the “General data” tab page, you can select the “Archiving (SARA)” sub-type on the “Step list” tab page.

In the following, we will only refer to the “Archiving (SARA)” process.

The screenshot shows the 'Step list' tab of the SAP BatchMan interface. The job name is 'GM_AFS_BC_SBAL_WRI'. The status is 'OK'. The target system is 'AFS_000' and the master system is 'SM Master'. The process type is 'Archiving (SARA)'. The archive object is 'BC_SBAL'. The action is 'Write run'. The variant is empty. The user is 'BM_BATCH'.

Choose the **archiving object** that is to be archived (in our example BC_SBAL). (Selection via input help (F4) is possible.) Confirm with the Enter key; the system then reads the Customizing settings for the object and fills the actions possible. Then the other fields are ready for input.

The **actions** possible depend on the Customizing of the archiving object. The maximum available are *Preliminary run*, *Write run*, *Post run*, *Delete run* and *Storage run*. (Here *Write run*, *Storage run* and *Delete run*).

The screenshot shows the 'Step list' tab of the SAP BatchMan interface. The job name is 'GM_AFS_BC_SBAL_WRI'. The status is 'OK'. The target system is 'AFS_000' and the master system is 'SM Master'. The process type is 'Archiving (SARA)'. The archive object is 'BC_SBAL'. The action is 'Write run'. The variant is empty. The user is 'BM_BATCH'. The dropdown menu for the action is open, showing the following options: 'Write run', 'Delete run', 'Storage run', and 'Write run'.

On the “General data” tab page, the “Read child jobs” flag should always be activated for archiving.

The screenshot shows the 'General data' tab of the SAP BatchMan interface. The job name is 'GM_AFS_BC_SBAL_WRI'. The status is 'OK'. The target system is 'AFS_000' and the master system is 'SM Master'. The process type is 'Other process'. The description is empty. The job class is 'C - Prio low' and the subject area is empty. The target instance is empty and the issue number is empty. The customer number is empty. The checkbox 'Automatic schedule for STD orders' is unchecked. The checkbox 'Users can request this job' is unchecked. The checkbox 'Read child jobs' is checked. The checkbox 'Insert childjobs in graphic' is unchecked.

3.2.2. Definition for write process

Job name: GM_AFS_BC_SBAL_WRI Status: Mast.data: Mast.data

General data Step list Alerting / Categories Scheduling dates Start criteria Checkpoints/ Event Predecessors/ Successors

other process type: Archiving (SARA)

Archive object: BC_SBAL Archivierungsobjekt für Application Log

Action: Write run

Variant: AFS_PROD

User: BM_BATCH

☐ Jobs not cleared, register to interface with event

Interface: ☒ .wait for end

Event ID: ☐ TVARV(C) variable

(Event parameters are created new)

Background print parameters

☐ Print immediatly Output device: LP01 Storage mode: Print and archive

☐ Delete after output Title: Page length: 65 Rows: Page width: 80 Columns: Format: X_65_80

☒ New spool request

complete Print-/ Archiveparameter

Action: Choose the Write run. Choose the **Variants** for the write program, e.g. those that were filled in above.

The **User** is the name of the user who starts the archiving. This corresponds to the user who is entered in transaction SARA.

Maintaining the **print parameters**

Note: Since these are stored in the same table as the print parameters of the steps, the job names should be uniquely differentiated from the step names.

The “**wait for end**” flag is an acceptance of the “Read child jobs” flag. (This is meant for better control.)

3.2.3. Definition for the storage process

So that the storage processes can be scheduled in BatchMan, do not set the “**Start Automatically**” flag in transaction AOBJ (definition for archiving objects) in the storage system settings.

The screenshot shows the BatchMan configuration window for a storage process. At the top, the job name is 'GM_AFS_BC_SBAL_STO' and the status is 'on'. The 'Mast.data' field is empty. Below the tabs, the 'other process type' is set to 'Archiving (SARA)'. The 'Archive object' is 'BC_SBAL' with the description 'Archivierungsobjekt für Application Log'. The 'Action' is 'Storage run', 'Variant' is empty, and 'User' is 'BM_BATCH'. There are checkboxes for 'Jobs not cleared, register to interface with event' (unchecked), 'Interface' (empty), 'Event ID' (empty), and '.wait for end' (checked). The 'File note' field is empty, and the '.TVARV(C) variable' is 'BM_SARA_BC_SBAL_TEXT'. Below this, the 'Background print parameters' section includes checkboxes for 'Print immediatly' (unchecked), 'Delete after output' (unchecked), and 'New spool request' (checked). The 'Output device' is 'LP01', 'Storage mode' is 'Print only', and 'Title' is empty. The 'Page length' is 65, 'Page width' is 80, and 'Format' is 'X_65_80'. A button 'complete Print-/ Archiveparameter' is at the bottom left.

Action: Choose the Storage run. You cannot enter a **variant**.

This means that when scheduling a storage process, all files are always treated that are not yet transferred to the storage system. This is irrespective of whether files were created in the last current run or already in prior runs.

The **User** is the name of the user who starts the archiving. This corresponds to the user who is entered in transaction SARA.

Maintaining the **print parameters**

Note: Since these are stored in the same table as the print parameters of the steps, the job names should be uniquely differentiated from the step names.

The “**wait for end**” flag is an acceptance of the “Read child jobs” flag.

So that not just the archiving run has a note, you can use the **File note** area to provide the stored files with a note also.

The best time to do this is at the separate scheduling of the storage.

You can define the note as a text directly in the field.

The better option:

If dynamic variables are also included in the text, the content of this field should not have to be adapted for each run.

Here, it is recommended to use a TVARVC variable. This variable contains the adapted text.

The image shows two examples of the 'File note' field configuration. The top example shows a static text 'delete run until 20071322' in the 'File note' field, with the '.TVARV(C) variable' checkbox unchecked. The bottom example shows the '.TVARV(C) variable' checkbox checked, with the variable 'BM_SARA_BC_SBAL_TEXT' selected in the adjacent field.

The variable is to be held for the system (and clients) on which the archiving runs. (in our example, system AFS and client 000).

For storage processes, you can activate the “**Jobs not cleared, register to interface with event**” flag.

This way, all sub-jobs = child jobs of a storage process may be registered to a BatchMan interface. This makes it possible to

- Distribute storage jobs specifically to the individual instances of an SAP system
- Limit the number of active storage jobs to individual instances.

In our example, this is not done. (The storage jobs run for such a short period of time that it is not worth controlling them via a BatchMan interface.)

This means that all storage jobs created are scheduled and started with “Immediate start” in the target system AFS. How many jobs also really become active depends on the number of available background work processes.

3.2.4. Definition for the deletion process

So that deletion processes can be scheduled in BatchMan, then set or not change the “**no scheduling**” flag in transaction AOBJ (definition for archiving objects) in the deletion program settings.

The screenshot shows the BatchMan configuration window for a job named 'GM_AFS_BC_SBAL_DEL'. The 'Status' is 'On' (green circle) and 'Mast.data' is visible. The 'other process type' is 'Archiving (SARA)'. The 'Archive object' is 'BC_SBAL' with the description 'Archivierungsobjekt für Application Log'. The 'Action' is 'Delete run', 'Variant' is 'AFS_PROD', and 'User' is 'BM_BATCH'. The checkbox 'Jobs not cleared, register to interface with event' is checked. The 'Interface' is 'DEL_BC_SBAL' and 'Event ID' is 'AFS_DEL_SARA'. The 'File note' field is empty, and the checkbox '.TVARV(C) variable' is unchecked. The 'Background print parameters' section shows 'Print immediately' and 'Delete after output' unchecked, 'New spool request' checked, 'Output device' as 'LP01', 'Storage mode' as 'Print and archive', 'Page length' as '65', 'Page width' as '80', and 'Format' as 'X_65_80'. A 'complete Print-/Archiveparameter' button is at the bottom left.

Action: Choose the Delete run. Choose the **Variants** for the deletion program from the Customizing settings above.

When scheduling a deletion process, all files are always treated that are not yet deleted from the SAP database. This is irrespective of whether files were created in the last current run or already in prior runs.

The **User** is the name of the user who starts the archiving. This corresponds to the user who is entered in transaction SARA.

Maintaining the print parameters

Note: Since these are stored in the same table as the print parameters of the steps, the job names should be uniquely differentiated from the step names.

The “**wait for end**” flag is an acceptance of the “Read child jobs” flag.

So that not just the archiving run has a note, you can use the **File note** area to provide the stored files with a note also.

However, the storage process is the better time to do this. But if the storage is started or scheduled automatically from the writing run, the file note may also be maintained here.

For deletion processes, you can activate the “**Jobs not cleared, register to interface with event**” flag.

This way, all sub-jobs = child jobs of a deletion process may be registered to a BatchMan interface. This makes it possible to

- Distribute deletion jobs specifically to the individual instances of an SAP system
- Limit the number of active deletion jobs to individual instances.

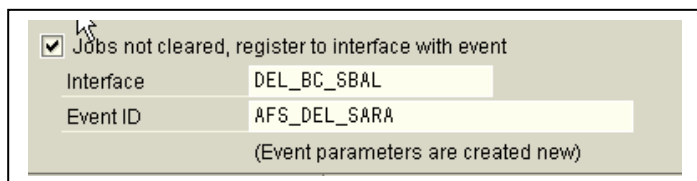
Customer situations have made it known that the archiving is set such that storage jobs are automatically started or scheduled from the writing run. After this run is completed, the storage system checks whether all fields are properly stored there. Only after that is the deletion run started. Then all deletion jobs would begin with “immediate start”. The SAP system’s performance sinks here.

For this reason, it make makes sense here to use a BatchMan interface to limit the load of the deletion jobs.

In contrast to the SAP internal solution with the RSARCHD program, you can not only limit the number of jobs simultaneously active in a BatchMan interface, you can also control the distribution of the jobs to the individual instances.

The control via a BatchMan interface also does not occupy a work process like the RSARCHD program does if the deletion jobs are to be scheduled for all files or if the system is to wait for the job to end or terminate.

If the “**Jobs not cleared, register to interface with event**” flag is activated and an interface name is specified, this process is linked to the interface.



☒	Jobs not cleared, register to interface with event
Interface	DEL_BC_SBAL
Event ID	AFS_DEL_SARA
(Event parameters are created new)	

Determine with which event the jobs are to be started. The event is to be defined in transaction SM62 for the target system (here AFS).

So that not all jobs immediately start upon triggering the event, the event parameter is used. The event parameter is formed from the job name and the job count upon registering the jobs at the interface.

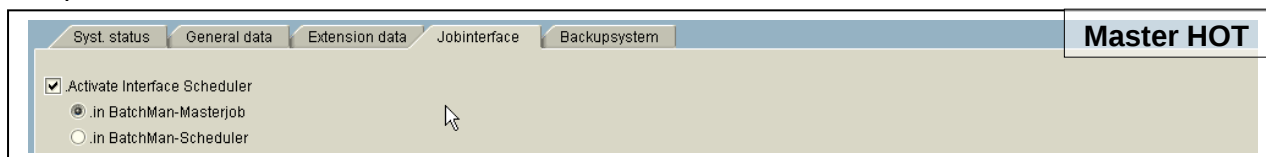
In the Customizing of the archiving object, the scheduling of the deletion job is to be set or left set for the “*not scheduled*” option. Also if the jobs are started at the interface via event, the “*after event*” option is NOT to be set in the archiving Customizing for the deletion jobs.

The deletion jobs are scheduled by BatchMan via a function module.

3.3. Settings of the BatchMan interface

3.3.1. Setup adjustment

So that this function can be used, the processing of the interfaces is to be activated in the BatchMan setup.

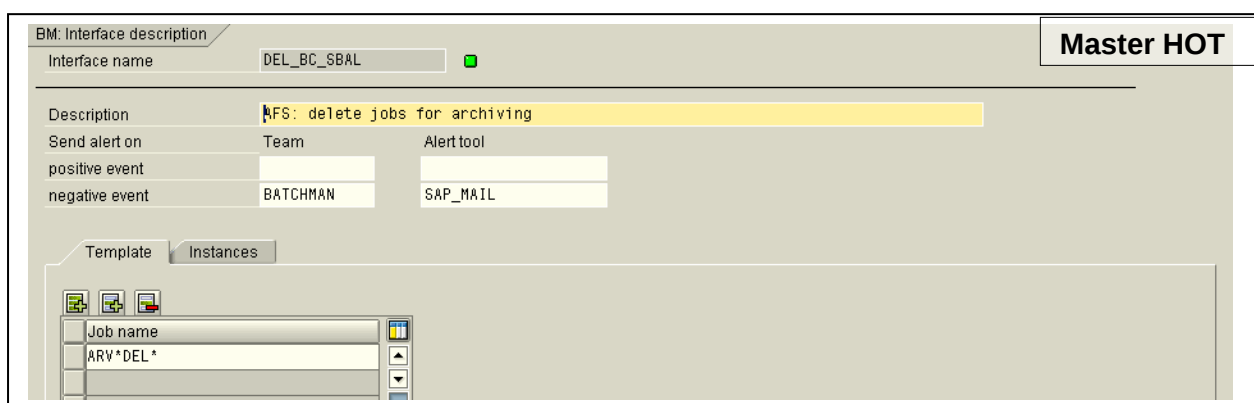


The decision, as to whether the interface scheduler is to run in the master job or in the scheduler, is the same as in which period started jobs are to be checked for their ending and new jobs are released or started.

3.3.2. Job template

The definition of the interface takes place on the master system HOT, which also initiates the scheduling of the processes.

BatchMan *Function tree (J5HEN)* → Customizing → Load balancing customizing → Define Interfaces



Interface name: Determination of an available name

You can control an interface using the “**Release**” button (green character next to the name) and “**Lock**” button (red character next to the name). When creating, an interface is always “locked”. It must be “released”.

Option for using the BatchMan **Alerting** definitions of the teams and tools

For each interface, the job template of the jobs to be monitored is determined on the “Template” tab page. The job template determines which of the jobs in the interface table are started by comparing the job name with the job template.

Thus, if the job name does not correspond to any job template, the job will never be started.

Since deletion jobs for the archiving object BC_SBAL all start with the fixed name segment ARV_BC_SBAL_DEL followed by the date and time, you could enter ARV_BC_SBAL_DEL* (with an asterisk) as a job template. But this would mean that separate interfaces would have to be defined for all other archiving objects.

Therefore, ARV*DEL* would be a better job template in this case since it can be used not only for the deletion jobs of one archiving object but also for the deletion jobs of all archiving objects.

3.3.3. Instance setting

The load for the individual instances is set via the instances. That means, how many jobs may/should run for an instance in which operating mode.

BM: Interface description

Interface name: DEL_BC_SBAL

Description: AFS: delete jobs for archiving

Send alert on: positive event, negative event

Team: BATCHMAN

Alert tool: SAP_MAIL

Template Instances

SAP system	Amount	RFC destination	Amount	operat.mode	Application server	Amount	Processes avl.	Host name
AFS	2	AFS_000	2	NORMAL	BMSERV11_AFS_00	2	2	BMSERV11
				NORMAL	BMSERV11_AFS_01	2	5	BMSERV11

Here, only two jobs at the most should run for the one instance (BMSERV11_AFS_01). For the instance, there are five background work processes available.

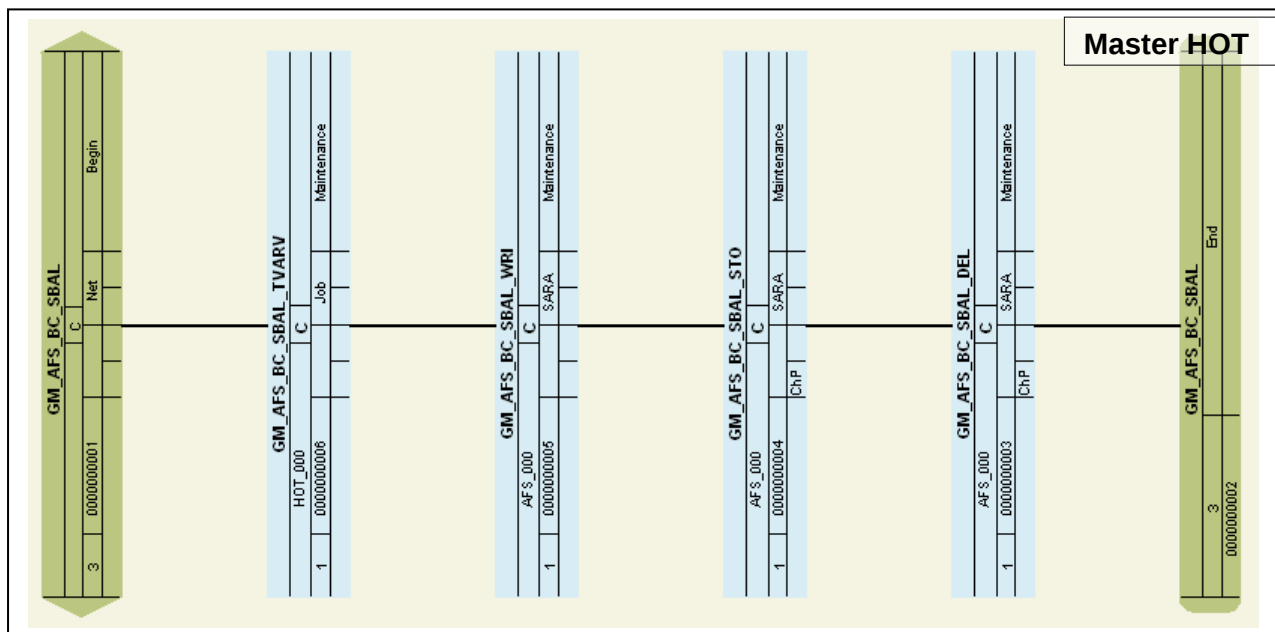
No job is to run for the other instance (BMSERV11_AFS_00) (this is the central instance - CI).

But only a total of 2 jobs maximum for the RFC connection AFS_000. This setting is of a higher order than the instances (application server). The system is above; this has the release for 2 jobs like for the RFC, so that no further restrictions occur.

For the definition of interfaces, there is a separate documentation BM4_e_InterfaceHB_YYMM.pdf. There you can find a more extensive description of how to set up interfaces with more examples (such as more instances, different operating modes, and several RFC connections per interface).

3.4. Composition of the procedure

All processes of the archiving are to be summarized. A job chain (network) is created according to the sequence.



- (1) From the start node of the network, the update of the TVARV(C) variables is to be started as the first process.
Following the successful end (status "finished"), the subsequent process may be started. If the variables' update terminates, the entire processing is to come to a halt. The start of the subsequent process is status dependent → green line.
- (2) The writing run is to start as the second process after the successful end of (1). This process has no further start criteria.
If the writing run terminates, the entire processing is to come to a halt here too. The start of the subsequent process is status dependent → green line.
- (3) Following the successful end of (2), the storage process is to start.
This process has one checkpoint as a start criterion. This is necessary here only for the execution of our example. Otherwise, the individual processes will run too quickly and the individual interim results cannot be illustrated.
If the storage process terminates, the entire processing is to come to a halt here too. The start of the subsequent process is status dependent → green line.
- (4) The deletion process is to run as the last process following the successful end of (3).
This process has one checkpoint as a start criterion. In contrast to (3), using this can be practical. As described above, the storage system is checked to see whether all files are stored there correctly and completely following the end of the storage process.

Remarks and possible deviations from the example processing

- 0) The network receives an "earliest start time".
The network itself may be a sub-network within a more complex archiving processing with several archiving objects.
- 1) For complex archiving (several archiving objects), it may make sense to execute the setting of the TVARV(C) variables at the start of the entire processing and not before each single archiving run. This allows for individual TVARV(C) variables (such as date variables) to be used in several archiving runs.
- 2) A write process may also be restarted via BatchMan. But it is probably better after eliminating the cause to restart processing in transaction SARA.
- 3) A storage process may also be restarted via BatchMan. But this does not help much in general since all those files not yet stored are always processed.
After eliminating the cause, processing is to be continued in transaction SARA.
- 4) A deletion process may also be restarted via BatchMan. But this does not help much in general since all those files whose data was not yet deleted from the database are always processed.
After eliminating the cause, processing is to be continued in transaction SARA.
- 5) When using checkpoint as a start condition, it is imperative that it be reset to the INITIAL VALUE following the end of the processing chain.

4. Executing the example

In our system, archiving for object BC_SBAL runs relatively quickly since we only let an archiving run with a small number of data records.

Otherwise, there would not be any data available for us to use for tests and presentations. For this reason, the TVARV(C) variable BM_SARA_BC_SBAL_DATE_TO is also not updated via the rules but set as a fixed date value.

The “active” situation thus cannot be completely illustrated for the individual processes.

Since we do not use SAP in the production mode, we have no other archiving objects available.

4.1. Order

For our example, scheduling is made via an INDIV order; for regular repetitions, the archiving processes should run in an STD order.

BM: Monitoring HOT_000 19.03.2011 14:06:11 AR: inactiv												Master HOT	
													
Order - Net - Job		RFC-Dest...	Stop	Status	P	Re	CP	Fi	Event	Con	earliest start/ start	latest start/ end	Description
▼  INDIV2011031900002				released							19.03.2011 20:00:00		1 GM_AFS_BC_SB
▼  GM_AFS_BC_SBAL													
 GM_AFS_BC_SBAL_DEL		AFS_000											+C
 GM_AFS_BC_SBAL_STO		AFS_000											+C
 GM_AFS_BC_SBAL_TVARV		HOT_000											
 GM_AFS_BC_SBAL_WRI		AFS_000											

In the monitor, archiving processes have a special icon

The checkpoints as start condition are not met.

4.2. Setting/updating the TVARVC variables

Executing job GM_AFS_BC_SBAL_TVARV delivers a job log and a spool list, where the results of the variables' update can be checked.

BM: Show data in ALV list format										
Date	Time	Jobname	Text			ID	Nmr	Type	Indic.	
19.03.2011	14:07:17	GM_AFS_BC_SBAL_TVARV	Job started			00	516	S	14071701	
19.03.2011	14:07:17	GM_AFS_BC_SBAL_TVARV	Step 001 started (program J_5H9RV1 , variant AFS_BC_SBAL , user name BM_BATCH)			00	550	S	14071701	
19.03.2011	14:07:18	GM_AFS_BC_SBAL_TVARV	Spool request (number 0000020080) created without immediate output			SY	355	S	14071701	
19.03.2011	14:07:18	GM_AFS_BC_SBAL_TVARV	Step 002 started (program J_5H1STP , variant HOT_000 , user name BM_BATCH)			00	550	S	14071701	
19.03.2011	14:07:18	GM_AFS_BC_SBAL_TVARV	Return RC 0			/BTCHMAN93	68	S	14071701	
19.03.2011	14:07:18	GM_AFS_BC_SBAL_TVARV	Job finished			00	517	S	14071701	

Graphical display of spool request 20080 in system HOT										Master HOT
RFC-Destination	Variablenname	Typ	Nummer	Regel	Plus/Minus	Wert	Berechnen auf	Low/High	Werte	Status
AFS_000_BATCH	BM_SARA_BC_SBAL_DATE_TO	P	0000	Fixdatum				LOW	20101220	Update
AFS_000_BATCH	BM_SARA_BC_SBAL_TEXT	P	0000	String				LOW	delete run until 20101220	Update

Afterwards, the TVARVC variables in table TVARVC in the target system AFS are updated.

4.3. Scheduling for the write process

If the write process is started by the scheduler, the status is briefly “in planning”. If scheduling is successful, the status is set to “wait”, i.e., the system will wait for the end of the jobs scheduled in the target system.

BM: Monitoring HOT_000 19.03.2011 14:15:05 AR: inactiv												Master HOT	
Order - Net - Job		RFC-Dest...	Stop	Status	P	Re	CP	Fi	Event	Con	earliest start/ start	latest start/ end	Description
▼ INDIV2011031900002				active							19.03.2011 14:07:14		1:GM_AFS_BC_SB
▼ GM_AFS_BC_SBAL				active							19.03.2011 14:07:15		
GM_AFS_BC_SBAL_DEL		AFS_000								+C			
GM_AFS_BC_SBAL_STO		AFS_000								+C			
GM_AFS_BC_SBAL_TVARY		HOT_000		finished							19.03.2011 14:07:17	19.03.2011 14:07:18	
GM_AFS_BC_SBAL_WRI		AFS_000		wait							19.03.2011 14:10:16	19.03.2011 14:14:37	

The job log already delivers information on scheduling.

BM: Show data in ALV list format											
Date	Time	Jobname	Text	ID	N...	Ty...	Indic.				
19.03.2011	14:14:37	GM_AFS_BC_SBAL_WRI	000007 scheduling done	/BTCMAN93	68	S	000007				
19.03.2011	14:14:37	GM_AFS_BC_SBAL_WRI	Job: ARV_BC_SBAL_SUB20110319141435 Count: 14143500 registered as childjob	/BTCMAN93	705	S	000007				
19.03.2011	14:14:37	GM_AFS_BC_SBAL_WRI	Job: ARV_BC_SBAL_WRI20110319141436 Count: 14143600 registered as childjob	/BTCMAN93	705	S	000007				

The number specifies the archiving session number of the target system AFS. This number is unique in an SAP system across all clients. Within BatchMan, the archiving session number is used as identification.

Under these, the system displays the jobs initiated by the scheduling in the target system (= child jobs). By clicking on the icon, you can also display their job log for the master system.

BM: Show data in ALV list format											
Date	Time	Jobname	Text	ID	N...	Ty...	Indic.				
19.03.2011	14:14:35	ARV_BC_SBAL_SUB20110319141435	Job started	00		S	14143500				
19.03.2011	14:14:36	ARV_BC_SBAL_SUB20110319141435	Step 001 started (program RSARDISP, variant, user ID BM_BATCH)	00		S	14143500				
19.03.2011	14:14:36	ARV_BC_SBAL_SUB20110319141435	Write job ARV_BC_SBAL_WRI20110319141436 scheduled with ID 14143600	BA		S	14143500				
19.03.2011	14:14:36	ARV_BC_SBAL_SUB20110319141435	Job finished	00		S	14143500				

BM: Show data in ALV list format											
Date	Time	Jobname	Text	ID	N...	Ty...	Indic.				
19.03.2011	14:14:36	ARV_BC_SBAL_WRI20110319141436	Job started	00		S	14143600				
19.03.2011	14:14:36	ARV_BC_SBAL_WRI20110319141436	Step 001 started (program SBAL_ARCHIVE, variant AFS_PROD, user ID BM_BATCH)	00		S	14143600				
19.03.2011	14:14:36	ARV_BC_SBAL_WRI20110319141436	Archiving session 000007 is being created	BA		S	14143600				
19.03.2011	14:14:37	ARV_BC_SBAL_WRI20110319141436	Path: D:\usr\sap\AFS\SYSTEM\global\	BA		S	14143600				
19.03.2011	14:14:37	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141437_0_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:37	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141437_1_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:37	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141437_2_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:37	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141437_3_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:37	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141437_4_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:37	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141437_5_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:37	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141437_6_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:38	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141438_0_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:38	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141438_1_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:38	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141438_2_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:38	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141438_3_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:38	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141438_4_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:38	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141438_5_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:38	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141438_6_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:38	ARV_BC_SBAL_WRI20110319141436	Name for new archive file: BC_BC_SBAL_20110319_141438_7_ARCHIVE	BA		S	14143600				
19.03.2011	14:14:38	ARV_BC_SBAL_WRI20110319141436	Job finished	00		S	14143600				

In the target system AFS, the archiving session is started.

Archive Administration: Overview of Archiving Sessions

Archiving object: BC_SBAL Archiving Object for Application Log

Client AFS

Sessions and Files for Archiving Object	Note
- Incomplete Archiving Sessions 7 (19.03.2011) 7 - 19.03.2011 000007-001BC_SBAL 000007-002BC_SBAL 000007-003BC_SBAL 000007-004BC_SBAL 000007-005BC_SBAL	delete run until 20101220

The note was previously only set for the archiving session. (This text comes from the variant for the writing run and was supplied by the TVARVC variable BM_SARA_BC_SBAL_TEXT.)

Detailed information of a created files in the target system AFS

Archive Administration: Archive File Detail

Archive File: 000007-005BC_SBAL

Date: 19.03.2011

Time: 14:14:37

Number of Objects: 50

Size in MB: 0,087

Status: Archiving Completed

Storage System: Not Stored

Client AFS

Changeable Settings

Notes

File Name: BC_BC_SBAL_20110319_141437_4.ARCHIVE

Logical Path: ARCHIVE_GLOBAL_PATH

Physical File Name: D:\usr\sap\AFS\SY5\g1oba1\BC_BC_SBAL_20110319_141437_4.ARCHI*

Archive File Is Accessible

Executed jobs for AFS

Job Overview

Job overview from: 19.03.2011 at: 14:03:00 to: 19.03.2011 at: 20:00:00

Selected job names: ARV*

Selected user names: *

☐ Scheduled ☒ Released ☒ Ready ☒ Active ☒ Complete ☒ Canceled

☐ Event controlled Event ID: ☐ ABAP program Program name:

Job	Ln	Job CreatedB	Status	Start date	Start time	Duration(sec.)	Delay (sec.)
ARV_BC_SBAL_SUB20110319141435		BM_BATCH	Complete	19.03.2011	14:14:35	1	0
ARV_BC_SBAL_WRI20110319141436		BM_BATCH	Complete	19.03.2011	14:14:36	2	0
*Summary						3	0

Client AFS

The end of the write process is detected for the master system HOT by the master job.

19.03.2011	14:22:05		/BTCMAN/93	68	S
19.03.2011	14:22:05	4. Check processes	/BTCMAN/93	68	S
19.03.2011	14:22:05	...	/BTCMAN/93	68	S
19.03.2011	14:22:05	...check for wait.processes	/BTCMAN/93	68	S
19.03.2011	14:22:05	... GM_AFS_BC_SBAL_WRI 000007 Wait finished	/BTCMAN/93	68	S
19.03.2011	14:22:05	...check for act.processes	/BTCMAN/93	68	S
19.03.2011	14:22:23		/BTCMAN/93	68	S
19.03.2011	14:22:23	5. Edit resources	/BTCMAN/93	68	S
19.03.2011	14:22:23		/BTCMAN/93	68	S

Master HOT

Since no errors occurred, the status is set to “finished”.

BM: Monitoring HOT_000 19.03.2011 14:25:01 AR: inactiv

Master HOT

Order - Net - Job	RFC-Desti...	Stop	Status	P	Re	CP	Fi	Event	Con	earliest start/ start	latest start/ end	Description
INDIV2011031900002			active							19.03.2011 14:07:14		1:GM_AFS_BC_SB
GM_AFS_BC_SBAL			active							19.03.2011 14:07:15		
GM_AFS_BC_SBAL_DEL	AFS_000							+C				
GM_AFS_BC_SBAL_STO	AFS_000							+C				
GM_AFS_BC_SBAL_TVARV	HOT_000		finished							19.03.2011 14:07:17	19.03.2011 14:07:18	
GM_AFS_BC_SBAL_WRI	AFS_000		finished							19.03.2011 14:10:16	19.03.2011 14:22:05	

If the scheduling is terminated or one of the child jobs for the target system AFS is terminated, the status in the order monitor is set to “aborted”.

If successful, the job log also delivers only the message about the archiving process ending.

BM: Show data in ALV list format										Master HOT
Date	Time	Jobname	Text	ID	N...	Ty...	Indic			
19.03.2011	14:14:37	GM_AFS_BC_SBAL_WRI	000007 scheduling done	/BTCMAN/93	68	S	000007			
19.03.2011	14:14:37	GM_AFS_BC_SBAL_WRI	Job: ARV_BC_SBAL_SUB20110319141435 Count: 14143500 registered as childjob	/BTCMAN/93	705	S	000007			
19.03.2011	14:14:37	GM_AFS_BC_SBAL_WRI	Job: ARV_BC_SBAL_WRI20110319141436 Count: 14143600 registered as childjob	/BTCMAN/93	705	S	000007			
19.03.2011	14:22:05	GM_AFS_BC_SBAL_WRI	000007 Archiving finished	/BTCMAN/93	68	W	000007			

4.4. Scheduling for the storage process

After the checkpoint was set, the processing with the storage process can be continued in BatchMan.

As a reminder: Here, the checkpoint is only built in as a stop in order to document the write process.

BM: Monitoring HOT_000 19.03.2011 14:26:43 AR: inactiv													Master HOT	
Graph. [Icons] Quit error Order Start criteria [Icons]														
Order - Net - Job		RFC-Desti...	Stop	Status	P	Re	CP	Fi	Event	Con	earliest start/ start		latest start/ end	Description
▼ INDIV2011031900002				active							19.03.2011 14:07:14			1:GM_AFS_BC_SB
▼ GM_AFS_BC_SBAL				active							19.03.2011 14:07:15			
GM_AFS_BC_SBAL_DEL		AFS_000								+C				
GM_AFS_BC_SBAL_STO		AFS_000								+C				
GM_AFS_BC_SBAL_TVARV		HOT_000		finished							19.03.2011 14:07:17		19.03.2011 14:07:18	
GM_AFS_BC_SBAL_WRI		AFS_000		finished							19.03.2011 14:10:16		19.03.2011 14:22:05	

If the storage job is started by the scheduler, the status is briefly “in planning”. If scheduling is successful, the status is set to “wait”, i.e., the system will wait for the end of the jobs scheduled in the target system AFS.

BM: Monitoring HOT_000 19.03.2011 14:35:48 AR: inactiv											Master HOT		
   Graph      Quit error Order  Start criteria           													
Order - Net - Job		RFC-Desti...	Stop	Status	P	Re	CP	Fi	Event	Con	earliest start/ start	latest start/ end	Description
▼ INDIV2011031900002				active							19.03.2011 14:07:14		1:GM_AFS_BC_SB
▼ GM_AFS_BC_SBAL				active							19.03.2011 14:07:15		
 GM_AFS_BC_SBAL_DEL		AFS_000								+C			
 GM_AFS_BC_SBAL_STO		AFS_000		wait						+C			
 GM_AFS_BC_SBAL_TVARV		HOT_000		finished							19.03.2011 14:07:17	19.03.2011 14:07:18	
 GM_AFS_BC_SBAL_WRI		AFS_000		finished							19.03.2011 14:10:16	19.03.2011 14:22:05	

The job log already delivers information on scheduling.

Date	Time	Jobname	Text	ID	N...	Ty...	Indic.
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	000000 scheduling done	/BTCMAN/93	68	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142916 Count: 14291600 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142917 Count: 14291700 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142917 Count: 14291701 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142917 Count: 14291702 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142917 Count: 14291703 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142917 Count: 14291704 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142918 Count: 14291800 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142918 Count: 14291801 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142918 Count: 14291802 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142918 Count: 14291803 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142918 Count: 14291804 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142919 Count: 14291900 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142919 Count: 14291901 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142919 Count: 14291902 registered as childjob	/BTCMAN/93	705	S	000000
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO	Job: ARV_BC_SBAL_STO20110319142920 Count: 14292000 registered as childjob	/BTCMAN/93	705	S	000000

Master HOT

There is no archiving session number when scheduling the storage process (value 000000). The system will process all files previously created and not yet stored.

Under these, the system displays the jobs initiated by the scheduling in the target system (= child jobs). By clicking on the icon, you can also display their job log for the master system (like for a write job).

In the target system AFS, the archiving session has been continued.

Archiving object		Archiving Object for Application Log	Client AFS
Sessions and Files for Archiving Object	Note		
Incomplete Archiving Sessions			
7 (19.03.2011)			
7 - 19.03.2011			
000007-001BC_SBAL	delete run until 20101220		
000007-002BC_SBAL	delete run until 20101220		
000007-003BC_SBAL	delete run until 20101220		
000007-004BC_SBAL	delete run until 20101220		
000007-005BC_SBAL	delete run until 20101220		
000007-006BC_SBAL	delete run until 20101220		
000007-007BC_SBAL	delete run until 20101220		
000007-008BC_SBAL	delete run until 20101220		
000007-009BC_SBAL	delete run until 20101220		
000007-010BC_SBAL	delete run until 20101220		
000007-011BC_SBAL	delete run until 20101220		
000007-012BC_SBAL	delete run until 20101220		
000007-013BC_SBAL	delete run until 20101220		
000007-014BC_SBAL	delete run until 20101220		
000007-015BC_SBAL	delete run until 20101220		
Complete Archiving Sessions			

The note is now defined for the files also. (This is set in BatchMan when scheduling the storage jobs in the target system AFS by the TVARVC variable BM_SARA_BC_SBAL_TEXT.) (Also see detailed screen)

Files still have the icon, which indicates that the jobs are scheduled, but not have yet ended; other files already have the icon, which indicates the storage has ended. (Here all storage jobs have already ended.)

Detail information on a file in the target system AFS

Archive Administration: Archive File Detail

Archive File	000007-001BC_SBAL
Date	19.03.2011
Time	14:14:37
Number of Objects	50
Size in MB	0,086
Status	Archiving Completed
Storage System	Stored

Client AFS

Current Jobs for File

Store ARV_BC_SBAL_STO20110319142916

Changeable Settings

Notes: Delete run until 20101220

File Name: BC_BC_SBAL_20110319_141437_0.ARCHIVE

Logical Path: ARCHIVE_GLOBAL_PATH

Physical File Name: D:\usr\sap\AFS\SYSTEM\global\BC_BC_SBAL_20110319_141437_0.ARCHI

Archive File Is Accessible

Executed jobs for AFS

Job	Ln	Job Created	Status	Start date	Start time	Executing server	Duration(sec.)	Delay (sec.)
☐ ARV_BC_SBAL_STO20110319142918		BM_BATCH	Complete	19.03.2011	14:29:23	BMSERV11_AFS_01	0	4
☐ ARV_BC_SBAL_STO20110319142919		BM_BATCH	Complete	19.03.2011	14:29:23	BMSERV11_AFS_00	0	4
☐ ARV_BC_SBAL_STO20110319142920		BM_BATCH	Complete	19.03.2011	14:29:23	BMSERV11_AFS_01	1	3
☐ ARV_BC_SBAL_STO20110319142919		BM_BATCH	Complete	19.03.2011	14:29:22	BMSERV11_AFS_00	1	3
☐ ARV_BC_SBAL_STO20110319142919		BM_BATCH	Complete	19.03.2011	14:29:22	BMSERV11_AFS_01	1	3
☐ ARV_BC_SBAL_STO20110319142917		BM_BATCH	Complete	19.03.2011	14:29:18	BMSERV11_AFS_01	7	1
☐ ARV_BC_SBAL_STO20110319142918		BM_BATCH	Complete	19.03.2011	14:29:18	BMSERV11_AFS_01	7	0
☐ ARV_BC_SBAL_STO20110319142918		BM_BATCH	Complete	19.03.2011	14:29:18	BMSERV11_AFS_00	0	0
☐ ARV_BC_SBAL_STO20110319142918		BM_BATCH	Complete	19.03.2011	14:29:18	BMSERV11_AFS_00	0	0
☐ ARV_BC_SBAL_STO20110319142918		BM_BATCH	Complete	19.03.2011	14:29:18	BMSERV11_AFS_00	4	0
☐ ARV_BC_SBAL_STO20110319142918		BM_BATCH	Complete	19.03.2011	14:29:18	BMSERV11_AFS_00	1	0
☐ ARV_BC_SBAL_STO20110319142917		BM_BATCH	Complete	19.03.2011	14:29:17	BMSERV11_AFS_01	5	0
☐ ARV_BC_SBAL_STO20110319142917		BM_BATCH	Complete	19.03.2011	14:29:17	BMSERV11_AFS_01	5	0
☐ ARV_BC_SBAL_STO20110319142917		BM_BATCH	Complete	19.03.2011	14:29:17	BMSERV11_AFS_01	5	0
☐ ARV_BC_SBAL_STO20110319142916		BM_BATCH	Complete	19.03.2011	14:29:16	BMSERV11_AFS_00	1	0
☐ ARV_BC_SBAL_WRI20110319141436		BM_BATCH	Complete	19.03.2011	14:14:36	BMSERV11_AFS_00	2	0
☐ ARV_BC_SBAL_SUB20110319141435		BM_BATCH	Complete	19.03.2011	14:14:35	BMSERV11_AFS_01	1	0
*Summary							42	18

All storage jobs are scheduled with immediate start. As a result, upon execution these jobs block or allocate all background work processes that they may receive.

After all jobs have ended, all files also in SARA have the  icon with the detail information that the file is stored.

The end of the storage process is detected for the master system HOT by the master job.

19.03.2011	14:38:52		/BTCMAN/93	68	\$
19.03.2011	14:38:52	4. Check processes	/BTCMAN/93	68	\$
19.03.2011	14:38:52		/BTCMAN/93	68	\$
19.03.2011	14:38:52	...check for wait.processes	/BTCMAN/93	68	\$
19.03.2011	14:38:52	... GM_AFS_BC_SBAL_STO 000000 Wait finished	/BTCMAN/93	68	\$
19.03.2011	14:38:52	...check for act.processes	/BTCMAN/93	68	\$
19.03.2011	14:39:02		/BTCMAN/93	68	\$
19.03.2011	14:39:02	5. Edit resources	/BTCMAN/93	68	\$
19.03.2011	14:39:02		/BTCMAN/93	68	\$

Since no errors occurred, the status is set to “finished”.

BM: Monitoring HOT_000 19.03.2011 14:39:50 AR: inactiv

Master HOT



Order - Net - Job	RFC-Desti...	Stop	Status	P	Re	CP	Fi	Event	Con	earliest start/ start	latest start/ end	Description
INDIV20110319000002			active							19.03.2011 14:07:14		1:GM_AFS_BC_SB
GM_AFS_BC_SBAL			active							19.03.2011 14:07:15		
GM_AFS_BC_SBAL_DEL	AFS_000											
GM_AFS_BC_SBAL_STO	AFS_000		finished							19.03.2011 14:28:30	19.03.2011 14:38:52	
GM_AFS_BC_SBAL_TVARV	HOT_000		finished							19.03.2011 14:07:17	19.03.2011 14:07:18	
GM_AFS_BC_SBAL_WRI	AFS_000		finished							19.03.2011 14:10:16	19.03.2011 14:22:05	

If the scheduling is terminated or one of the child jobs for the target system AFS is terminated, the status in the order monitor is set to “aborted”.

If successful, the job log also delivers only the message about the archiving process ending.

19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO		Job: ARV_BC_SBAL_STO20110319142919 Count: 14291902 registered as childjob	/BTCMAN/93	705	S	000	Master HOT
19.03.2011	14:29:20	GM_AFS_BC_SBAL_STO		Job: ARV_BC_SBAL_STO20110319142920 Count: 14292000 registered as childjob	/BTCMAN/93	705	S	000	
19.03.2011	14:38:52	GM_AFS_BC_SBAL_STO		000000 Archiving finished	/BTCMAN/93	68	W	000000	

4.5. Check of the storage system

In this step, the manual check of the storage system follows.

If the check of the storage system yielded no errors, the archiving may be continued. For this, the checkpoint is to be increased to the respective value.

The checkpoint may be updated in various manners. The best way is to define a report transaction using BatchMan program /BTCMAN/M_KP2. Then you only have call the transaction for the master system HOT. After a run of the master job and scheduler, processing is continued.

4.6. Scheduling for the deletion process

If the deletion process is started by the scheduler, the status is briefly “in planning”. If scheduling is successful, the status is set to “wait”, i.e., the system will wait for the end of the jobs scheduled in the target system AFS.

BM: Monitoring HOT_000 19.03.2011 14:56:54 AR: inactiv												Master HOT	
Graph Order													
Order - Net - Job		RFC-Desti...	Stop	Status	P	Re	CP	Fi	Event	Con	earliest start/ start	latest start/ end	Description
▼ INDIV20110319000002				active							19.03.2011 14:07:14		1:GM_AFS_BC_SB
GM_AFS_BC_SBAL				active							19.03.2011 14:07:15		
GM_AFS_BC_SBAL_DEL		AFS_000		wait			+C				19.03.2011 14:55:54	19.03.2011 14:56:47	
GM_AFS_BC_SBAL_STO		AFS_000		finished							19.03.2011 14:28:30	19.03.2011 14:38:52	
GM_AFS_BC_SBAL_TVARV		HOT_000		finished							19.03.2011 14:07:17	19.03.2011 14:07:18	
GM_AFS_BC_SBAL_WRI		AFS_000		finished							19.03.2011 14:10:16	19.03.2011 14:22:05	

In the definition of the deletion process, it was determined that deletion jobs are to be registered to the DEL_BC_SBAL interface.

The job log already delivers information on scheduling.

Time	Jobname	Text	ID	N...	Ty...	Indic.
14:56:44	GM_AFS_BC_SBAL_DEL	000000 scheduling done	/BTCMAN/93	68	S	000000
14:56:44	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564400 registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:45	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564401 registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:45	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564402 registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:45	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564403 registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:45	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564404 registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:46	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564405 registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:46	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564406 registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:46	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564407 registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:46	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564408 registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:46	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564409 registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:47	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 1456440A registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:47	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 1456440B registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:47	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 1456440C registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:47	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 1456440D registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:47	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 1456440E registered at interface DEL_BC_SBAL	/BTCMAN/93	705	S	000000
14:56:47	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564400 registered as childjob	/BTCMAN/93	705	S	000000
14:56:47	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564401 registered as childjob	/BTCMAN/93	705	S	000000
14:56:47	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564402 registered as childjob	/BTCMAN/93	705	S	000000
14:56:47	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564403 registered as childjob	/BTCMAN/93	705	S	000000
14:56:47	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 14564404 registered as childjob	/BTCMAN/93	705	S	000000

There is no archiving session number when scheduling the deletion process (value 000000). The system will process all files previously created and not yet stored!

Beneath this, the system displays information on registering to the DEL_BC_SBAL interface.

Further beneath, the system displays the jobs initiated by the scheduling in the target system (= child jobs). By clicking on the  icon, you can also display their job log for the master system (like for a write job).

(Only that the deletion jobs are registered to the interface and not yet started. For this reason, no job log is available.)

In the target system AFS, the archiving session has been continued.

Archiving object	BC_SBAL	Archiving Object for Application Log	Client AFS
Sessions and Files for Archiving Object		Note	
7 (19.03.2011)			
7 - 19.03.2011			
000007-001BC_SBAL		delete run until 20101220	
000007-002BC_SBAL		delete run until 20101220	
000007-003BC_SBAL		delete run until 20101220	
000007-004BC_SBAL		delete run until 20101220	
000007-005BC_SBAL		delete run until 20101220	
000007-006BC_SBAL		delete run until 20101220	

All files have the  icon, which indicates that the jobs are scheduled but have not yet ended;

Detail information on a file in the target system AFS

Archive Administration: Archive File Detail	Client AFS
Archive File: 000007-001BC_SBAL	
Date: 19.03.2011	
Time: 14:14:37	
Number of Objects: 50	
Size in MB: 0,086	
Status:  Archiving Completed	
Storage System:  Stored	
Current Jobs for File	
Delete: ARV_BC_SBAL_DEL20110319145644	 Display Job
Store: ARV_BC_SBAL_STO20110319142916	 Display Job
Changeable Settings	
Notes: delete run until 20101220	
File Name: BC_BC_SBAL_20110319_141437_0.ARCHIVE	
Logical Path: ARCHIVE_GLOBAL_PATH	
Physical File Name: D:\usr\sap\AFS\SYSTEM\Tobal\BC_SBAL_20110319_141437_0.ARCH	
 Archive File is Accessible	

[illegible]

BM: Job overview 19.03.2011 15:02:09 AR: inactive										Master HOT	
#	Interface	Jobname	Jobcount	Job state	Target system	Instance	Event	Event parameter	Start date	Start time	
1	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	14564400	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
2	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	14564401	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
3	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	14564402	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
4	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	14564403	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
5	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	14564404	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
6	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	14564405	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
7	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	14564406	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
8	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	14564407	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
9	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	14564408	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
10	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	14564409	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
11	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	1456440A	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
12	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	1456440B	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
13	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	1456440C	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
14	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	1456440D	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	
15	DEL_BC_SBAL	ARV_BC_SBAL_DEL20110319145644	1456440E	released	AFS_000		AFS_DEL_SARA	ARV_BC_SBAL_DEL2...		00:00:00	

For this, the master system HOT trigger an event for the target system AFS (for each job one event). When the event is triggered, the system transfers the AFS_DEL_SARA event ID and the event parameter consisting of the job name and job count.

[illegible]

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In the target system AFS, the archiving session has ended and is marked as “complete”.

Archiving object		Archiving Object for Application Log
Sessions and Files for Archiving Object		Note
Complete Archiving Sessions 1 - 7 (28.02.2011 - 19.03.2011) 7 - 19.03.2011 000007-001BC_SBAL 000007-002BC_SBAL 000007-003BC_SBAL		delete run until 20101220 delete run until 20101220 delete run until 20101220 delete run until 20101220
		Client AFS

The end of the deletion process is detected for the master system HOT by the master job.

19.03.2011	15:14:54		/BTCMAN/93	68	S
19.03.2011	15:14:54	4. Check processes	/BTCMAN/93	68	S
19.03.2011	15:14:54		/BTCMAN/93	68	S
19.03.2011	15:14:54	...check for wait.processes	/BTCMAN/93	68	S
19.03.2011	15:14:54	INDIV2011031900002 GM_AFS_BC_SBAL_DEL	/BTCMAN/93	68	S
19.03.2011	15:14:54	set CP : AFS_BC_SBAL Value: 0	/BTCMAN/93	68	S
19.03.2011	15:14:55	... GM_AFS_BC_SBAL_DEL 000000 Wait finished	/BTCMAN/93	68	S
19.03.2011	15:14:55	...check for act.processes	/BTCMAN/93	68	S
19.03.2011	15:15:06		/BTCMAN/93	68	S
Master HOT					

In the definition of the deletion process, it was defined that the checkpoint is to be reset to the “0” initial value.

Job name	GM_AFS_BC_SBAL_DEL	Status		Mast.data	Master HOT
General data Step list Alerting / Categories Scheduling dates Start criteria Checkpoints/ Event Predecessors/ Successors					
☒ Set checkpoint after job ends					
Checkpoint	AFS_BC_SBAL	RFC destination	HOT_000	Delete	
if OK	0	☒ Fixed value			
if aborted	0	☐ Fixed value			

This is done at the same time as the end of the deletion process is detected by the master job.

Since no errors occurred, the status is set to “finished”.

BM: Monitoring HOT_000 19.03.2011 15:17:58 AR: inactiv

Master HOT

GraphQuit errorOrderStart criteria

Order - Net - Job	RFC-Dest...	Stop	Status	P	Re	CP	Fi	Event	Con	earliest start/ start	latest start/ end	Description
INDIV2011031900002			finished							19.03.2011 14:07:14	19.03.2011 15:15:20	1: GM_AFS_BC_SB
GM_AFS_BC_SBAL			finished							19.03.2011 14:07:15	19.03.2011 15:15:11	
GM_AFS_BC_SBAL_DEL	AFS_000		finished							19.03.2011 14:55:54	19.03.2011 15:14:54	
GM_AFS_BC_SBAL_STO	AFS_000		finished							19.03.2011 14:28:30	19.03.2011 14:38:52	
GM_AFS_BC_SBAL_TVARY	HOT_000		finished							19.03.2011 14:07:17	19.03.2011 14:07:18	
GM_AFS_BC_SBAL_WRI	AFS_000		finished							19.03.2011 14:10:16	19.03.2011 14:22:05	

If the scheduling is terminated or one of the child jobs for the target system AFS is terminated, the status in the order monitor is set to “aborted”.

If successful, the job log also delivers only the message about the archiving session ending.

14:56:47	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 1456440D registered as childjob	/BTCMAN/93	70518	000000
14:56:47	GM_AFS_BC_SBAL_DEL	Job: ARV_BC_SBAL_DEL20110319145644 Count: 1456440E registered as childjob	/BTCMAN/93	70518	000000
15:14:54	GM_AFS_BC_SBAL_DEL	000000 Archiving finished	/BTCMAN/93	68	
Master HOT					

5. Avoiding and eliminating errors

When scheduling the write process, the system generates an archiving session ID unique across an SAP system. Since scheduling write processes and the generated job(s) do not deliver any direct information on the archiving session ID, BatchMan reads this ID after detecting certain situations from SAP tables.

If several write processes are scheduled by BatchMan in parallel, this may lead to overlaps (generally speaking). You should avoid the parallel scheduling of several write processes.

BatchMan reads and uses the settings for the respective archiving object from transaction SARA. Frequently there are already problems in the Customizing of the archiving object.

Prior to using/scheduling the archiving, a successful run for the archiving object is to be carried out in SARA.

BatchMan will otherwise report an *“Error in definition of archiving object”* in the job log.

It may also be the case that errors in the Customizing of the archiving object first arise during execution. You can then find information in the job log.

Missing variants will result in the error *“Variant does not exist”* during scheduling of a process by BatchMan.

Scheduling jobs in the SAP system may also end with errors. In this case, you can usually find information on the cause in transaction SM21.

For the storage processes and deletion processes, all files are selected that have been generated but have not yet been processed. Processing is scheduled for the files selected.

If files are to be excluded here, then the archiving sessions are to be declared invalid or marked *“To Be Archived”*.