

BIT660

Data Archiving

**PARTICIPANT HANDBOOK
INSTRUCTOR-LED TRAINING**

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Course Duration:

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Typographic Conventions

American English is the standard used in this handbook.

The following typographic conventions are also used.

This information is displayed in the instructor's presentation



Demonstration



Procedure



Warning or Caution



Hint



Related or Additional Information



Facilitated Discussion



User interface control

Example text

Window title

Example text

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Course Overview

TARGET AUDIENCE

This course is intended for the following audiences:

- Development Consultant
- Technology Consultant
- Solution Architect
- System Administrator

UNIT 1

Describing the Basic Principles of Data Archiving

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UNIT OBJECTIVES

- Explain data archiving.
- Differentiate between data archiving and document storage.
- Explain the data archiving process.
- Describe the different server configuration options for the data archiving process.
- Describe the central importance of the ADK for data archiving.
- Name the phases of an archiving project.

Explaining Data Archiving and Its Role in Your System



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Explain data archiving.
- Differentiate between data archiving and document storage.

What is Data Archiving?

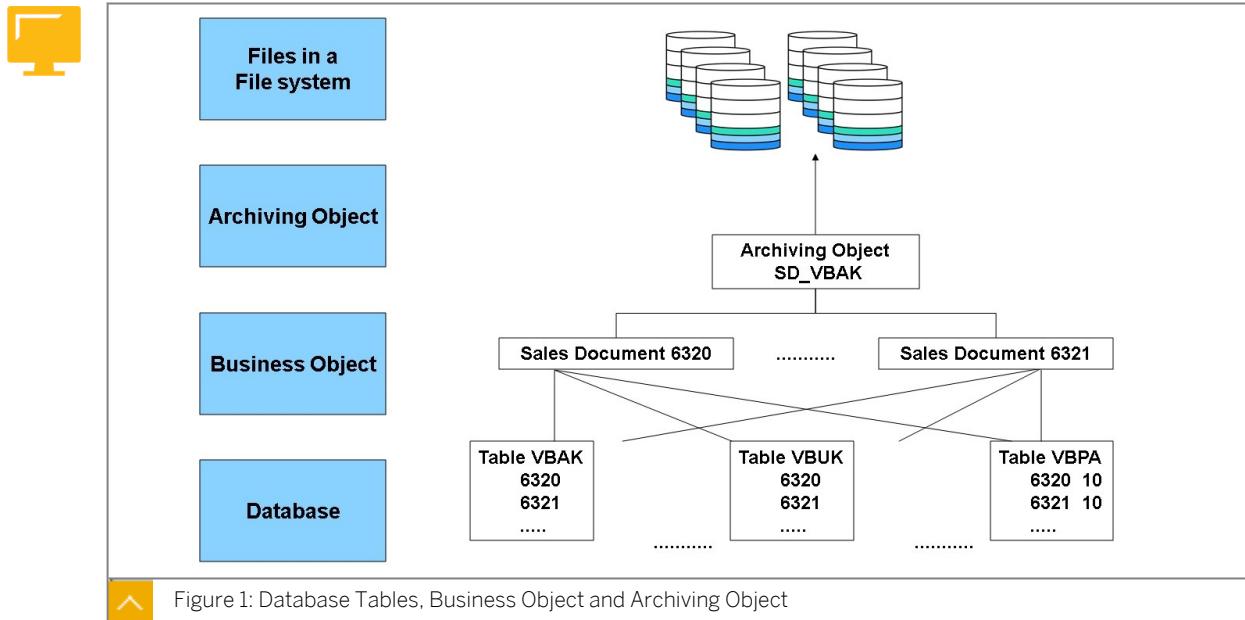
Business Example

- Your company notices a significant increase in the size of the tables in your SAP databases.
- The user departments complain that they cannot access information quickly enough because the response times take too long. This hinders work.
- The system administrators notice that each backup of the databases takes hours and that they require more hardware because the database tables are too large.
- Due to legal and business requirements, the data must be accessible. Therefore, it cannot simply be deleted.
- Your company wants to use the data archiving functions provided by SAP to meet all these challenges. Before the project is started, you must first get an overview of data archiving.

What is Data Archiving?

The term data archiving describes the removal of data records from database tables of the SAP system database into at least one archive file. This takes place as part of an archive write program that belongs to the corresponding archiving object. Archiving objects contain business objects.

Data archiving is therefore an alternative to the database for cost-optimized storage of business completed data.



The contents of business objects in the SAP system are distributed across several tables in the database. Archiving objects bundle the logically related tables of business objects.

This ensures that all information about a business object is stored and deleted from the database during data archiving.

The logic contained in the archiving programs is determined by the applications, since the differences in the business processes and the objects involved are to be taken into account here.

Triggering Factors and General Conditions for Data Archiving

The trigger for data archiving is the interest to save resources by reducing database growth, to keep the downtime low and the system performance evenly high, and thus also to reduce costs. To do this, you should schedule data archiving as a preventative measure to keep the system in an optimal state continuously.

However, you cannot easily remove application data that is no longer required in the database in day-to-day business. There are different reasons for this.

In particular, note the following:

Factors and General Conditions for Data Archiving - Legal Requirements:



- There are no legal requirements for all data, but e.g. for so-called tax-relevant data.
 - Such data must be archived in such a way that it can be accessed at any time for requests. These requests can, for example tax authorities or auditors.
- In each country, the data retention requirements are regulated by law and they vary from country to country.
- It makes sense to discuss the respective **archiving plan** that is to be used with an employee from the tax department and the responsible invoicing clerk.

Your project should be signed off.

Factors and General Conditions for Data Archiving - Business Requirements

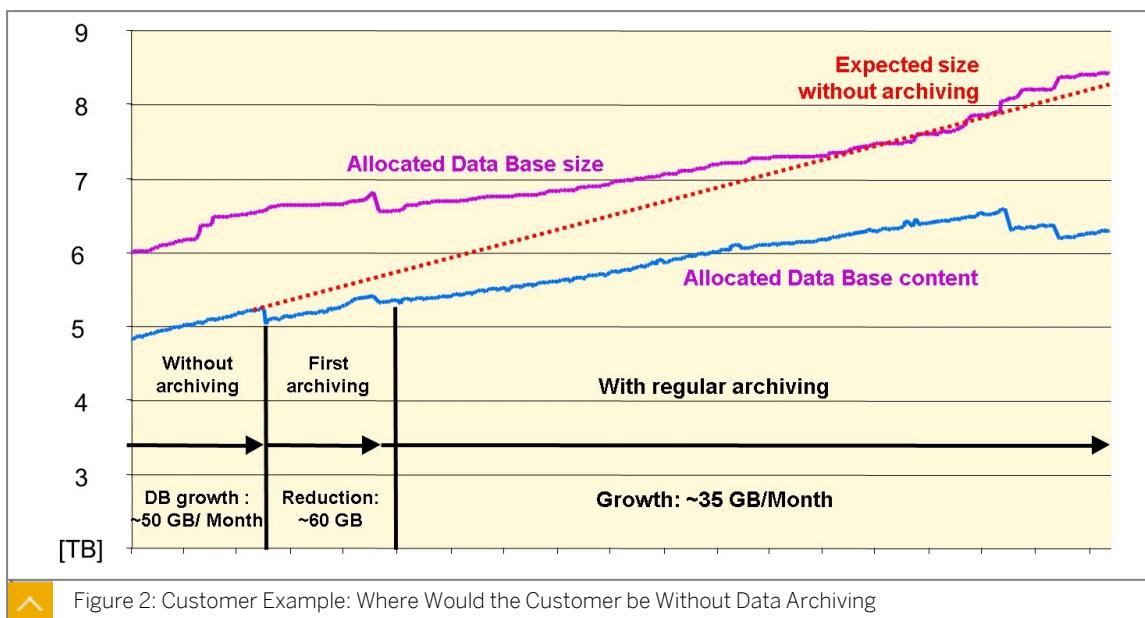


- Only data from **business transactions that have already been completed** can be archived.
- This is ensured by extensive **archivability checks**.
- It is part of your archiving project to check whether you may need further customer-specific checks.

Starting Point and Objective of Data Archiving: An Example

The following graphic shows an example of a customer who has been able to reduce the monthly growth rate of their database by regularly archiving data.

Data archiving may not prevent any growth of your database, but you always have to ask yourself where you would be without data archiving. This question is crucial in discussions about the success and benefits of data archiving projects.



The figure illustrates the expected growth of the database with and without archiving.

What Data Archiving Is Not

- Backup/Restore

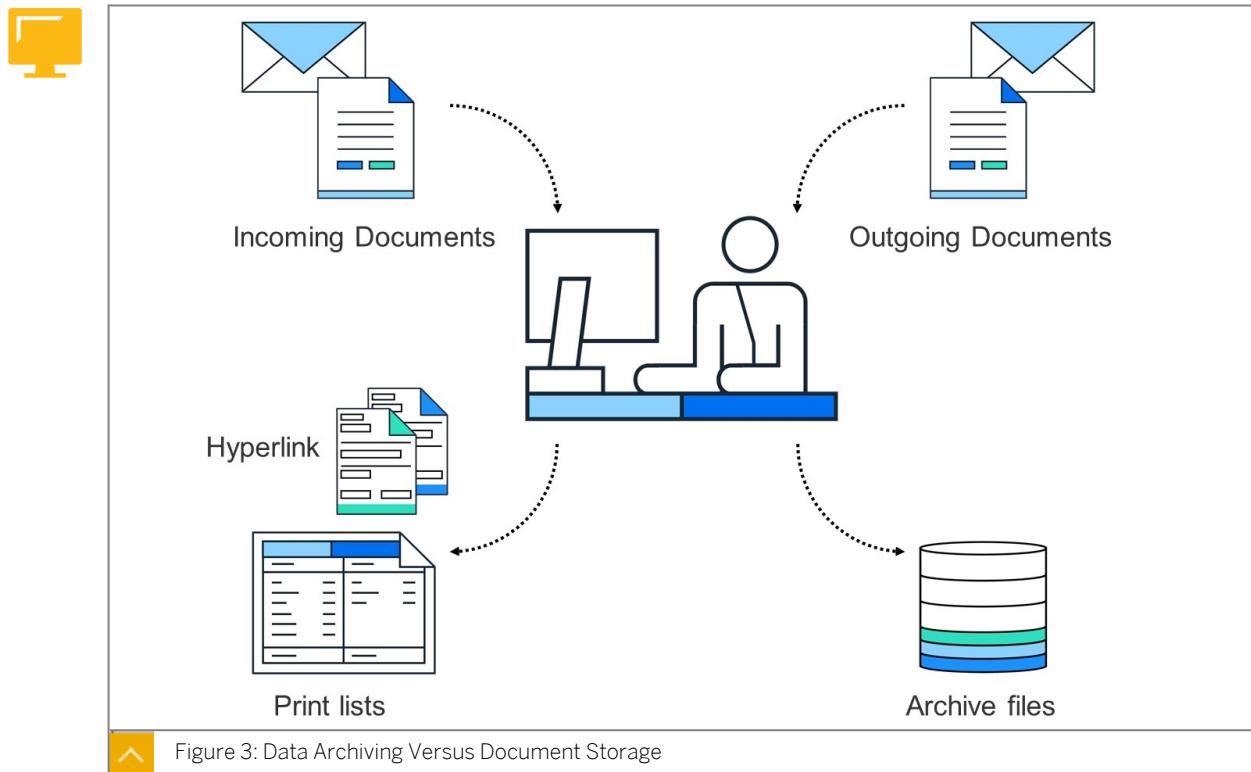
Backup and restore deals with protecting the contents of the database from system failures.

- Data archiving is not a migration tool.
- Data archiving is not a storage of documents in a storage system.

The SAP components that deal with this topic are, for example ArchiveLink, GOS.

Data archiving in one set: Data archiving helps you control your database growth and system performance.

Storage of Documents and Archive Files in an External Storage System

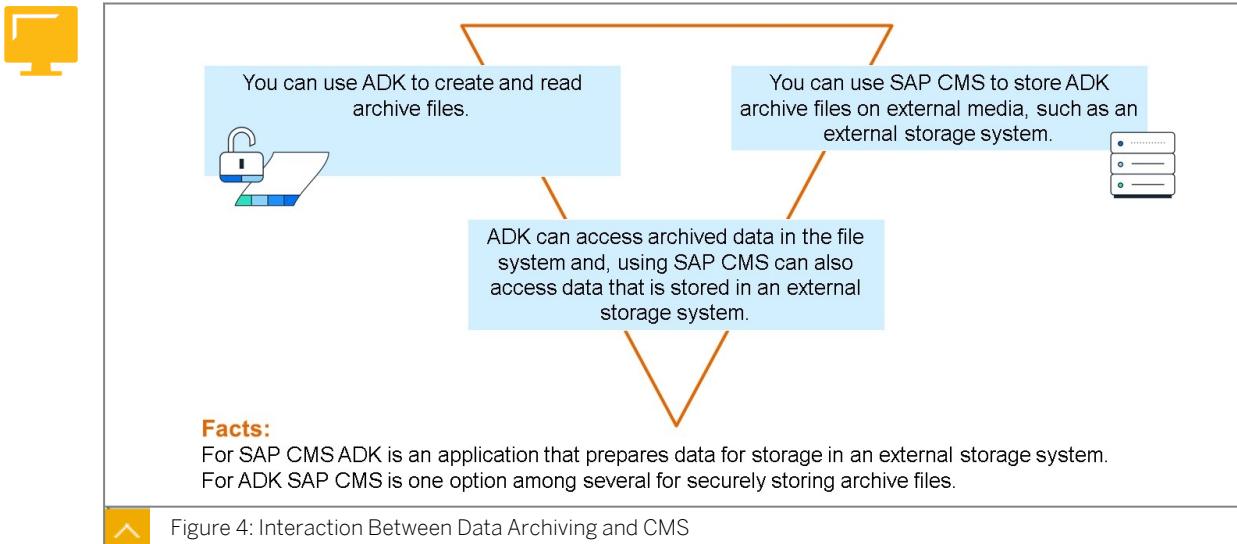


In a typical business scenario, incoming documents trigger or influence processes within a company. Likewise, during business processes, new documents are created (outgoing documents) or business objects and processes are analyzed. Print lists may also be created as part of these evaluations.

All these documents and lists can be saved in a storage system and linked to related business objects. The FI document invoice is then for example, linked to the original invoice stored via ArchiveLink and this can be displayed from the display transaction of the business object (SAP document).

Incoming and outgoing documents and print lists are stored using interfaces such as ArchiveLink, or GOS.

As of SAP R/3 Enterprise Edition 4.6C (that is, since ca. 2001), the storage of archive files is controlled by the API of the Content Management Service (CMS). In earlier releases (up to and including 4.6B), also archive files were transferred to an external storage system using ArchiveLink.



Document Management and Data Archiving

In addition to the structured data (business objects or documents), which result from business transactions in the SAP system and are stored as data records in the database, unstructured data such as letters, faxes, e-mails, links, images, and multi-media objects also play an important role.

This data is subject to the same legal and business conditions as the business objects discussed so far. It is also necessary to develop a long-term archiving strategy for this data.

SAP provides various tools for storing and managing documents. Not all are designed for long-term document retention, but only for temporarily relevant documents.

In your archiving concept, also include documents that are managed using non-SAP applications.

Data Archiving in Distributed Landscapes

SAP installations increasingly consist of a group of different systems.

When developing an archiving concept, it is necessary to have the complete system landscape in mind.

Each business object (document) is archived on its own. SAP data archiving does not archive chains of documents or across system boundaries. However, checks and the collection of information across system boundaries are increasing.

What you as a customer should consider depends on your business.

Some archiving objects offer so-called Check BADI's, which can be used to realize certain additional checks.

Examples of data archiving in distributed landscapes:

- Data Warehouse (BW): Archiving in the feeder systems usually does not change the data in BW (customers generally don't want this). Data cannot usually be loaded from the archive into the Data Warehouse (BW). You should therefore transfer the data before data archiving.
- The ILM notifications enable you to inform the Data Warehouse (BW) when data in the feeder systems is archived, blocked, destroyed, and so on.

- In CRM, BDOCs are sent to delete the replicated mobile client data and inform follow-on systems about archiving. (Applies to products and releases in which this function is supported.)

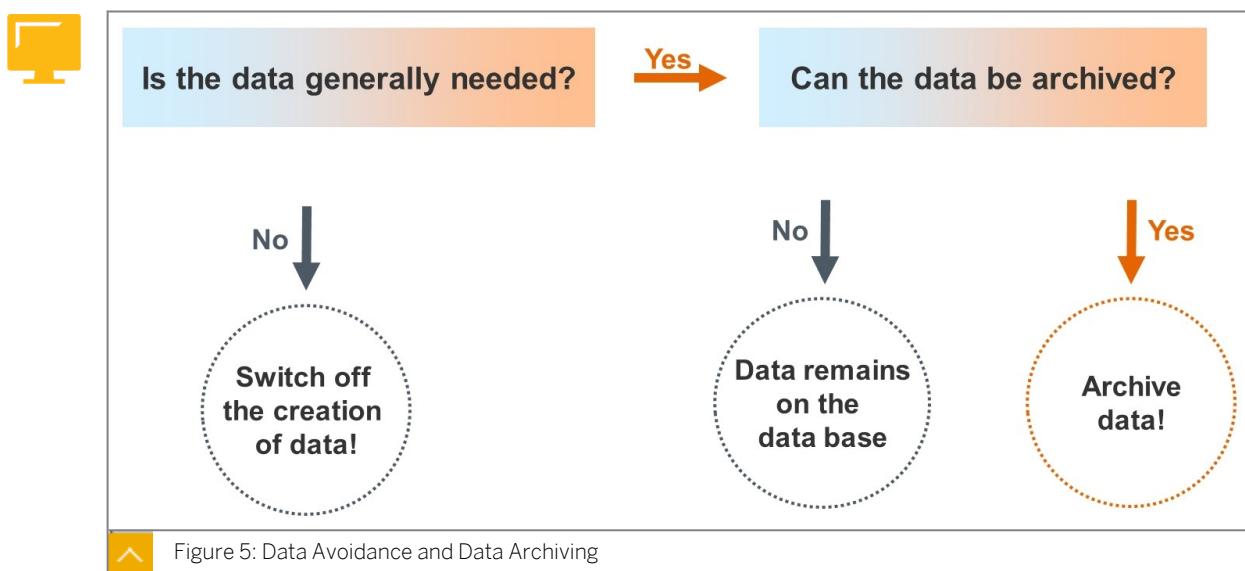
How does SAP Position Data Archiving?

Data archiving should be proactive and scheduled like routine maintenance work. The technical (IT) and business aspects must be taken into account:

Suggestions from SAP on how you shall position Data Archiving?



- Avoid unnecessary data in the SAP System.
- Data archiving should be included in planning at the start of an implementation of SAP systems. It is an important element in keeping an SAP system in a performant state.
- For data that is not critical in the context of the economic and tax audit, data archiving should be started as early as possible.
- Data archiving requires coordination between the audit department, the business department, and the IT department: It must be planned across departments in a data archiving project



The aim of system administration is to keep the database as small as possible, that is, to delete as many data objects as possible.

The aim of the user departments is to be able to access as many objects as possible for inquiries, lists, and research online.

The process of data archiving is about finding a compromise between these two positions that satisfies both sides. In any case, the long-term objective must be to keep the volume of data as constant as possible and to archive data in a predictive rather than reactive way.

Support for the Data Archiving Project

Some information sources for data archiving are listed below.

Information sources for Data Archiving 1/2



- Documentation for data archiving in general on <http://help.sap.com>.
- Documentation for the respective archiving object on <http://help.sap.com>.
- "Data Archiving with SAP" – a book published by the publisher Rheinwerkverlag.
- SAP Note 2222074 (Collective information regarding ADK and AIS (Archive Development Kit and Archive Information System))
It also contains links to "Data Archiving in the ABAP Application System" in the Help Portal (Documentation).
- SAP Note 2388483 (How-To: Data Management for Technical Tables)

Information sources for Data Archiving 2/2



- DVM App, "Data Volume Management", See also SAP Note 2868449 (Data Volume Management App - FAQ)
- "Data Volume Management" in SAP Community under [Data Volume Management | SAP Community](#)
- SAP Enterprise Support Value Map for Data Volume Management under [SAP Enterprise Support Value Map for Data Volume Management](#)

Unit 1 Exercise 1

Explain the Reasons for Data Archiving and Limit the Data Archiving from Other Terms

Business Scenario

You need to familiarize yourself with the classification of data archiving in the SAP system.

1. Answer the question:

What is Data Archiving? What is an archiving object?

2. Answer the question:

Why not delay a data archiving project too long?

3. Answer the question:

The storage of documents exists as a separate topic in the SAP system. What does it mean?

4. Answer the question:

Where does data archiving and document storage have a point of contact?

Unit 1

Solution 1

Explain the Reasons for Data Archiving and Limit the Data Archiving from Other Terms

Business Scenario

You need to familiarize yourself with the classification of data archiving in the SAP system.

1. Answer the question:

What is Data Archiving? What is an archiving object?

The term data archiving describes the removal of data records from database tables of the SAP database into at least one file called an archive file. During data archiving, you want to remove complete business objects from the database. In general, a so-called archiving object is assigned to each type of business object. This provides a logical bracket around business object-specific programs for storing the data, programs for deleting the data from the database, for later access to this data, and so on.

2. Answer the question:

Why not delay a data archiving project too long?

The reasons for fast data archiving are: the larger the database, the more complex the project becomes. The sooner you start, the better they can divide the maintenance windows, as the programs are less system heavy. You have shorter downtimes for upgrades. Make data avoidance a basic goal.

3. Answer the question:

The storage of documents exists as a separate topic in the SAP system. What does it mean?

Interfaces such as ArchiveLink provide the option of storing original documents in an external storage system. Such documents can be incoming documents (invoices, dunning notices, work agreements, and so on), outgoing documents (order confirmations, purchase orders, and so on), as well as print lists. The original documents are linked to the corresponding SAP business document.

4. Answer the question:

Where does data archiving and document storage have a point of contact?

Point of contact between the Content Management Service interface and data archiving:
Archive files generated as part of data archiving can be stored in a content server of the type "external storage system". To do this, data archiving uses the SAP Content Management Service interface. (In releases before SAP R/3 Enterprise Edition 4.6C (that is, before 2001), storage was controlled using the ArchiveLink interface.)



LESSON SUMMARY

You should now be able to:

- Explain data archiving.
- Differentiate between data archiving and document storage.

Explaining the Data Archiving Process



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Explain the data archiving process.

The Flow of Data Archiving

Business Example

At the beginning of your implementation project, you learned about the basic concepts of data archiving. We are now looking at the two phases on which the data archiving process is based.

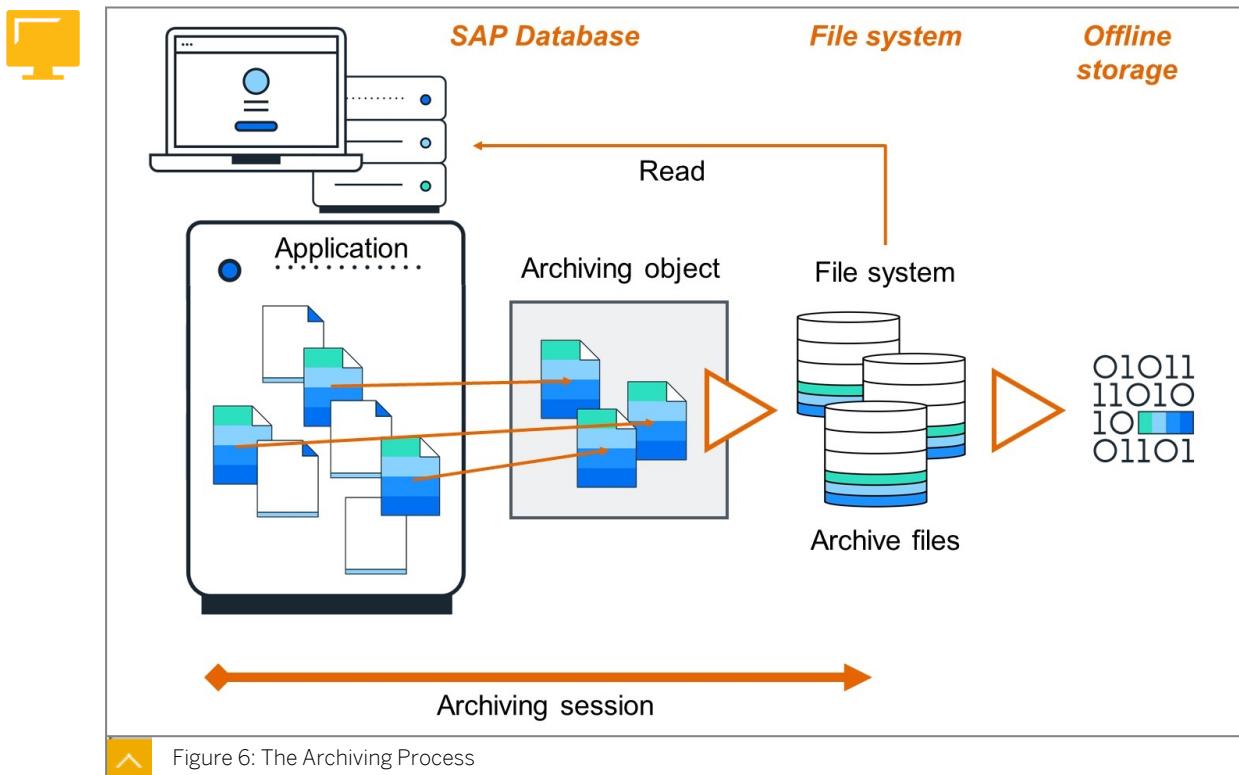
Process Flow of Data Archiving

The steps in the data archiving process are as follows:



- The actual data archiving process takes place in **two steps**:
 - Creation of archive files – the **archive write program** writes the data to be archived from the SAP database to archive files.
 - Deletion of data – the **delete program** first reads the data in the archive file and deletes the corresponding records from the database.
- As a **third step**, you can see the storage of generated archive files on a third-party medium. Alternatively, archive files can also be transferred to an external storage system before the data is deleted from the database.

In general, this step must also be considered: it is generally not sufficient to write the data to be archived to archive files and to delete it from the database. The archive files must be stored securely and be managed to ensure that they are accessible later if required.



During the entire archiving process, you must ensure that there is no single Point of Failure.

Creation and Storage of Archive Files

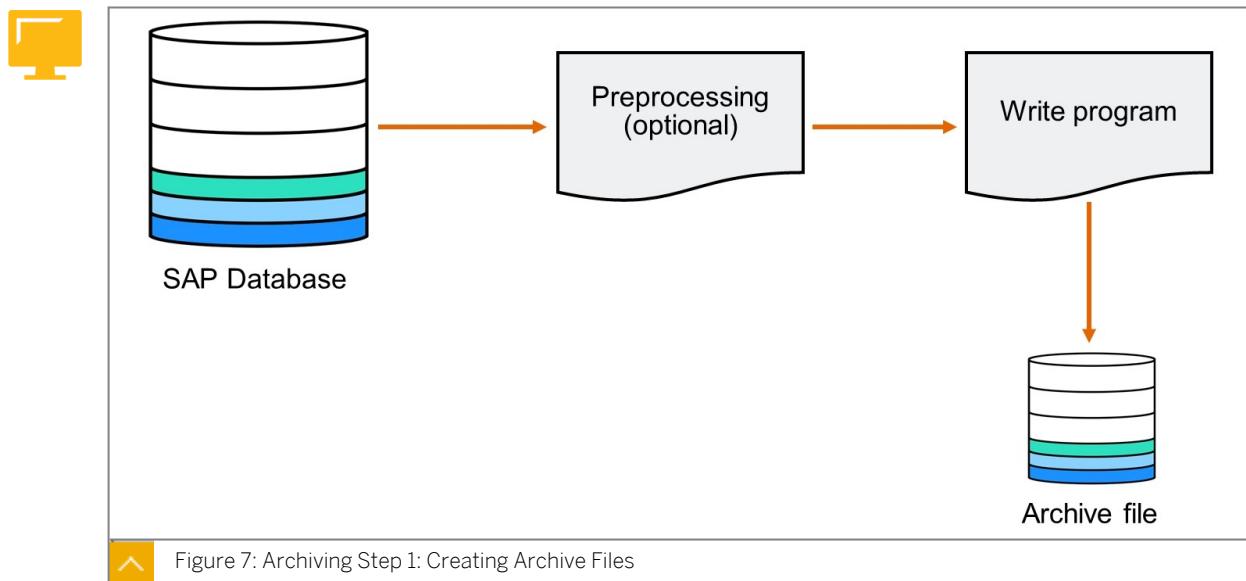
Optional step in the data archiving process - the preprocessing program:



- Preprocessing programs are intended for preprocessing data.
- In case the application has a status concept or similar (as is the case in PP, PM, or SD), a preprocessing program can set the appropriate status (e.g. completed, can be archived) so that the archive write program only processes data with the appropriate status.
- Business objects of some other applications have so-called deletion indicator or deletion flags.

The corresponding archiving object then contains a preprocessing program that sets the indicators for archivable business objects (for example archiving object CO_ORDER).

- If the concept of this type of preparation is not supported, the archivability checks are performed directly in the archive write program. Only data of completed business processes can be archived.



Archive File and Archiving Session 1/2

- In the first step of archiving, the archive write program generates a (first) archive file.
- The data to be archived is read from the database in a batch process, the system checks whether it can be archived, and if so, writes it to the archive file.

This process continues until one of the following events occurs:

- The process is complete (the archive write program is finished): all affected data has been processed.
- An interruption of archiving has been requested.

Archive File and Archiving Session 2/2

- An archive write program generally creates exactly one archiving session.
- It contains all archive files that the archive write program has created, as well as various information about the archiving environment (person who started the archive write program, time, and so on).

The archive write program can be interrupted in a controlled manner. This gives you better control over the archiving process, which was particularly necessary due to external job schedulers and tighter maintenance windows.

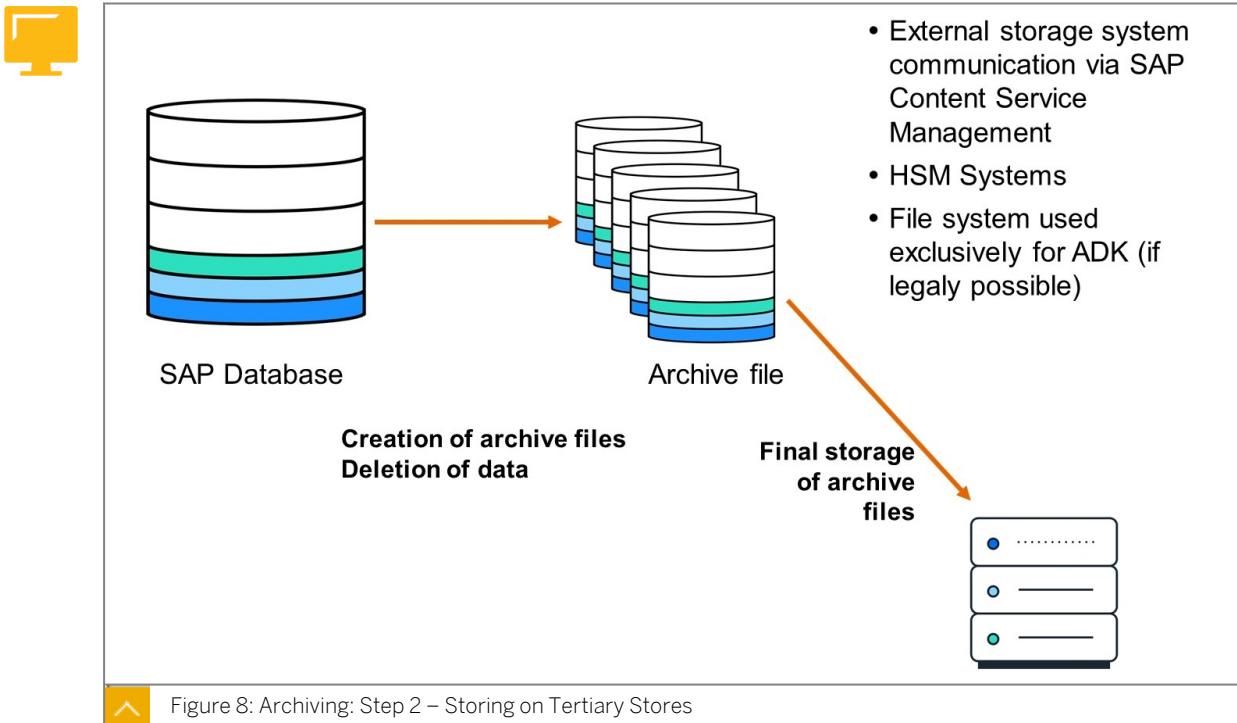


Figure 8: Archiving: Step 2 – Storing on Tertiary Stores

The figure shows the data flow to external media.

Options for storing and managing archive files on external media:



- You can use the connection to a hierarchical storage management (HSM) system that simulates an infinitely large file system.

The archive files that are created during data archiving are already saved in the HSM file system when they are created. As a result, step 2 (storage on tertiary storage) is integrated in step 1 (create archive files).

- You can use the connection to an external storage system.

In this case, the option of storing archive files before deletion is based on the SAP Content Server Management interface, which controls the storage of an archive file in an external storage system.

- A third option is manual administration.

There is no SAP interface for this and you are responsible for ensuring that the corresponding files are provided correctly again if required.

Conclusions for storing and managing archive files on external media:



- For all of the above options:
- You can see where an archive file is currently located in **archive management**.

To save the archive files that are created during data archiving when you create them in the HSM file system, it is sufficient to specify the file system path of the HSM system as the target path for the archive files in Customizing for the archive object. As a result, step 2 (storage on tertiary storage) is integrated in step 1 (create archive files).

Up to and including SAP R/3 Enterprise Edition 4.6B (that is, up to approximately 2001), the connection to an external storage system of a third party was controlled using ArchiveLink.

(In this case, you could only store the archive files in an external storage system using ArchiveLink after the data had been successfully deleted from the database. As a result, the storage was always the third process step.)

If you do not want to save the archive files in an external storage system or an HSM system, the files can be managed manually by the IT department on tapes or self-burned CDs. However, there is no SAP interface for this and you are responsible for ensuring that the corresponding files are provided correctly again if required. From the point of view of data archiving, the files are in the file system path in which they were originally created.

If you transfer the files to tertiary media, you must also take backup strategies for the respective storage medium into account. In addition, it will most likely be necessary over the years to recopy the data because the required hardware is no longer available.

Deletion of Database Entries

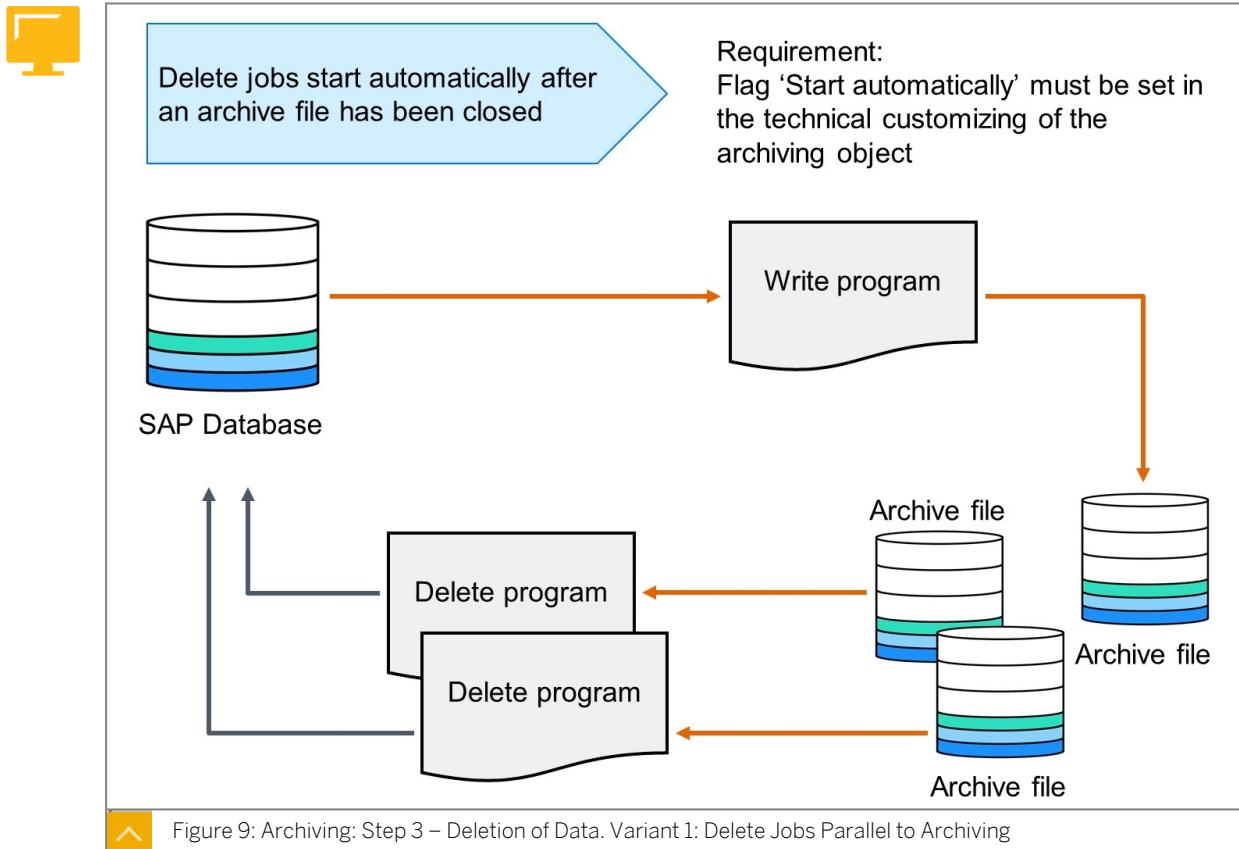
Options for starting the delete program within archive administration:



- A delete program processes **exactly one** archive file.
Therefore, there is exactly one delete job for each archive file created.
- There are three variants of how the delete programs can be started within archive administration:
 - The system automatically starts the delete program after an archive file has been closed (and, if necessary, the next one has been opened for writing).
 - Start the delete program after all archive files have been written, manually by the administrator.
 - The system automatically starts the delete program after all archive files have been written.

Variant 1 for starting the delete program

- After closing an archive file, a new one is opened and the archiving process continues. At the same time, the delete program is started, which reads the archived records in the archive file that has just been closed and deletes them from the database.
- Delete program(s) and archive write program run in parallel



For variant 1, the *Start Automatically* radio button must be set in Customizing in the *Settings for Delete Program* in the technical settings for archiving-object-specific customizing.

Variant 2 for starting the delete program

- The delete programs are scheduled manually by the administrator after all archive files have been created, that is, after the archiving session has ended.
- The administrator schedules one delete job for each archive file generated.



Administrator starts delete jobs manually in transaction SARA after the archiving session is completed

Requirement:
Flag 'Not scheduled' must be set in the technical customizing for the archiving object

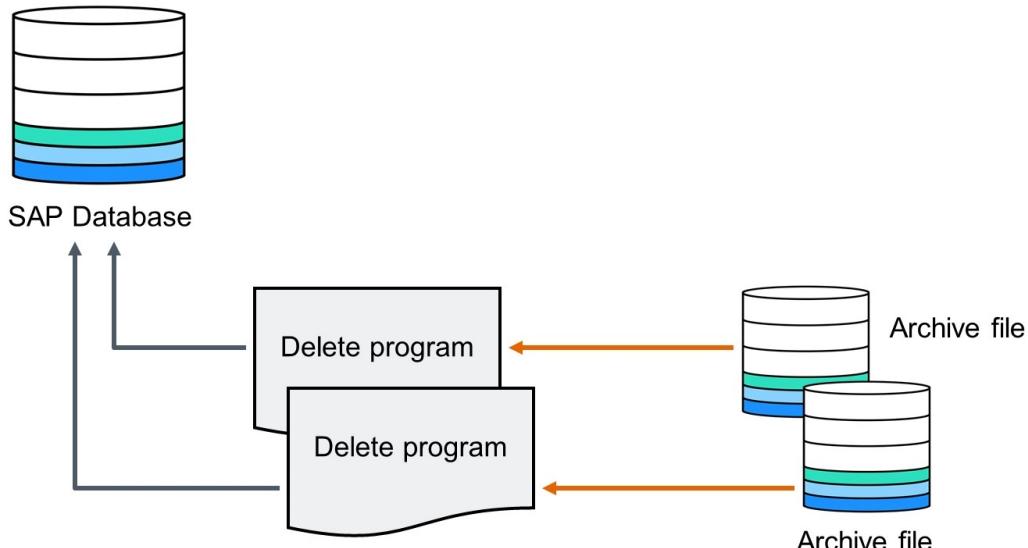


Figure 10: Archiving: Step 3 – Deletion of Data. Variant 2: Deletion Jobs Started Manually

For variant 2, the *Not Scheduled* radio button must be set in Customizing in the *settings for the delete program* in the technical settings for archiving-object-specific Customizing.

Variant 3 for starting the delete program

Variant 3 for starting the delete program: The system automatically starts the delete program after all archive files have been written.



- For variant 3, the *Start Automatically* radio button must be set in customizing in the *Settings for Delete Program* in the technical settings of archiving object-specific customizing.
- In addition, the developer of the archiving object must have defined in the customizing of the archiving object that the delete program can only be started after all archive files have been written.
- Variant 3 applies only to a few archiving objects.

For variant 3, the *Start Automatically* radio button must be set in Customizing in the *Settings for Delete Program* in the technical settings for archiving-object-specific Customizing. The *Do Not Start Before End of Write Phase* indicator must be set in the definition of the archiving object in transaction AOBJ. Setting this indicator is one of the tasks of the developer of the archiving object. This indicator can only be set in justified cases.

Unit 1 Exercise 2

Explain the Archiving Process

Business Scenario

In the first step, you have familiarized yourself with SAP data archiving in general.

You now want to understand in more detail which steps are included in the archiving process and how the steps are performed.

1. Name and describe the three steps of data archiving.

Step 1

Step 2

Step 3

2. Answer the question:

List 3 forms of how archived data can be stored.

3. Answer the question:

Does the storage of archive files on a final storage medium take place as a separate step if you have chosen the Hierarchical Storage Management System (HSM) as the final storage medium?

Unit 1

Solution 2

Explain the Archiving Process

Business Scenario

In the first step, you have familiarized yourself with SAP data archiving in general.

You now want to understand in more detail which steps are included in the archiving process and how the steps are performed.

1. Name and describe the three steps of data archiving.

Step 1

Step 1: Create the archive files. The data to be archived is read from the database and written to at least one archive file. This is done as part of an archive write program that is scheduled as a background job.

Step 2

Step 2: Execute delete program. The delete program only starts after the relevant archive file(s) have been closed. A delete program reads exactly one archive file and deletes the records found in the database. This two-step procedure guarantees that only correctly archived records from readable archive files are deleted in the database

Step 3

Step 3: Store the generated archive files on a secure third party medium. (You can choose the sequence of the steps Delete database entries and Store archive files in an external storage system.)

2. Answer the question:

List 3 forms of how archived data can be stored.

A) An external storage system using the CMS interface, B) Hierarchical Storage Management System (HSM), C) Possible, but not recommended: manual use of tapes, CDs, etc.

3. Answer the question:

Does the storage of archive files on a final storage medium take place as a separate step if you have chosen the Hierarchical Storage Management System (HSM) as the final storage medium?

No. The archive files that are created during data archiving are already saved in the HSM file system when they are created. To do this, it is sufficient to specify the file system path of the HSM system as the target path for the archive files in customizing for the archiving object. As a result, step 2 (storage on tertiary storage) is integrated in step 1 (create archive files).



LESSON SUMMARY

You should now be able to:

- Explain the data archiving process.

Explaining Server Configuration and Job Scheduling Options



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Describe the different server configuration options for the data archiving process.

Server Configuration

Business Scenario

Once you have learned about the logic of data archiving, take a look at the different options available for configuring the servers and the job flow.

Implementation project team members want to know more about the possibilities to influence the scope and duration of the archiving process.

Server Configuration

By default, data archiving searches for specific servers on which it starts the archive write or delete jobs. However, you can also define the server on which the archiving jobs are to run in customizing. You can also create server groups.

Sample configurations for archive write and delete jobs:

The procedure shown in the following graphic reduces the network load during data archiving. However, it increases the load on the database server.



Possible server configuration 1

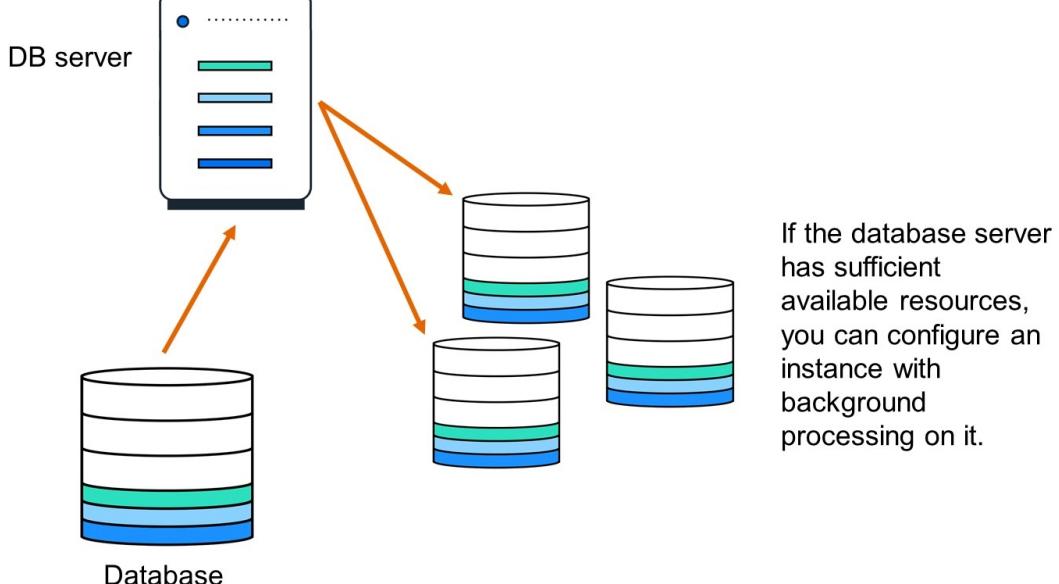


Figure 11: Archive Write and Delete Job Servers – Database Servers

The advantage of the following configuration is that it does not burden the database server as a central resource.

The disadvantage is that the data to be archived must be transported from the database server to the application server via the LAN.



Possible server configuration 2

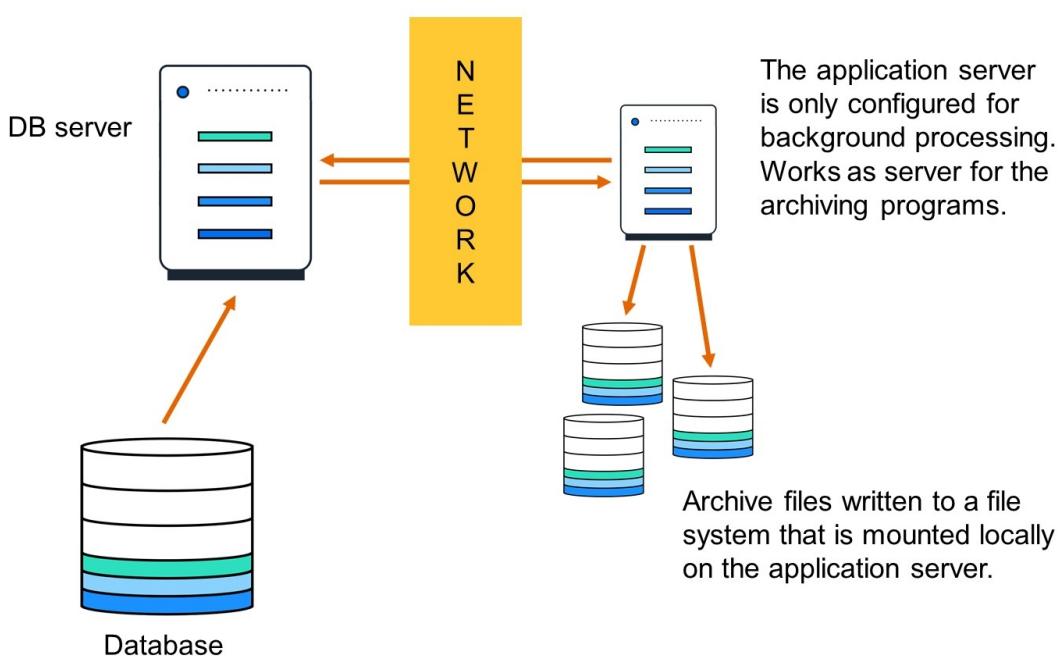


Figure 12: Server for Write and Delete Jobs – Application Server

Depending on your specific bottleneck situation, choose one of the two alternatives

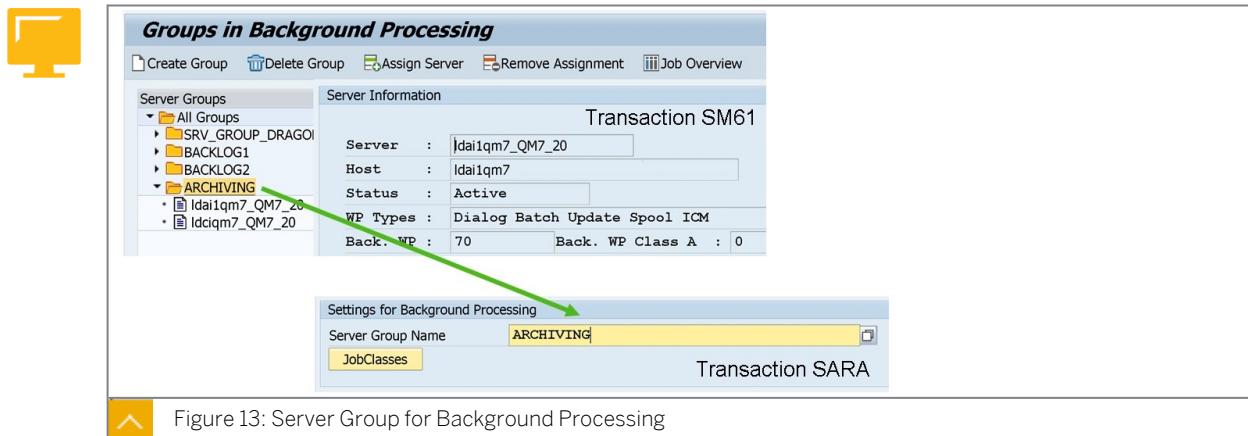


Figure 13: Server Group for Background Processing

Using server groups:

- You can define server groups in transaction SM61.
- This gives you additional options for better control of your archiving processes.

As an alternative to transaction SM61, you can choose this menu path: Tools → CCMS → Background Processing → Background Objects → Pushbutton → Job Server Groups

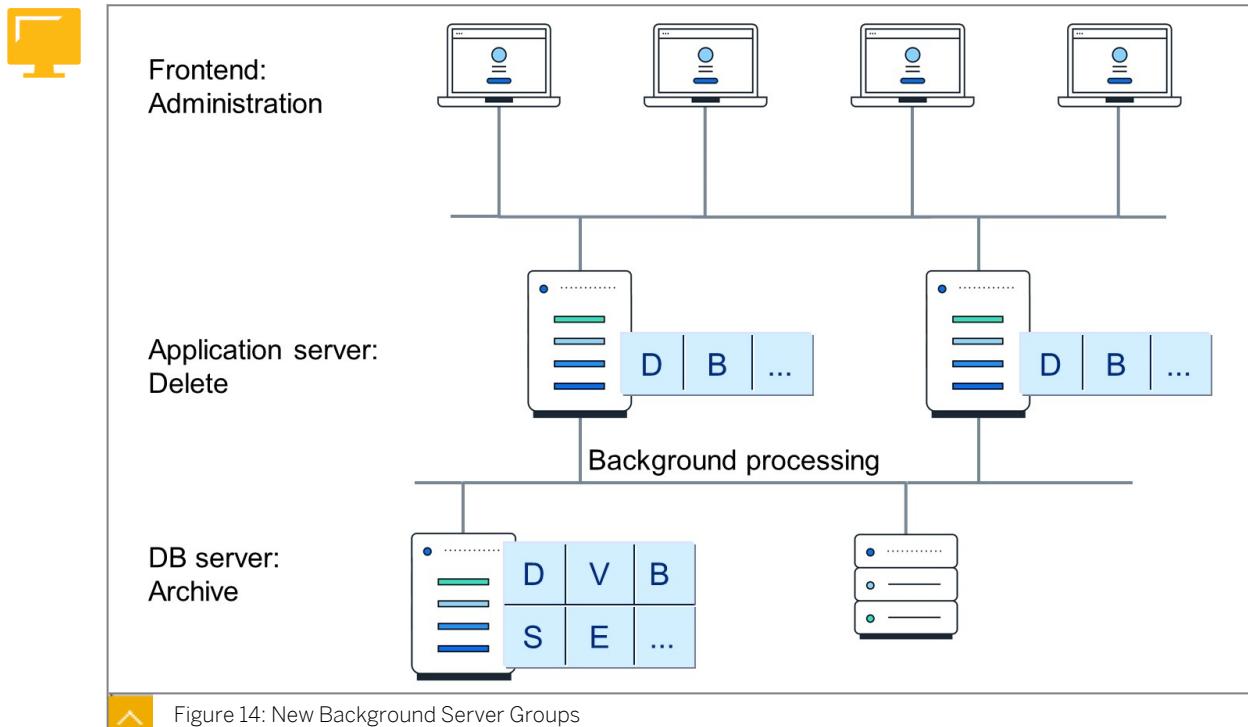


Figure 14: New Background Server Groups

Note:

For the delete and read programs, you have to ensure that all application servers (if you use server groups: all application servers of the server groups) have access to the archive files.

Options for Scheduling Archiving Jobs

Options for scheduling archiving jobs are:



- By default, write, preprocessing, and postprocessing jobs are scheduled with job class A and all other data archiving jobs are scheduled with job class C.
- In customizing, you can also set the job class for various archiving jobs (write, delete, and so on) yourself. See also SAP Note 1986368.
- Jobs can be scheduled from archive administration or using transaction SE38/SM36
- Jobs can be scheduled on an event-driven basis
- Event SAP_ARCHIVING_WRITE_FINISHED is triggered after the end of the archive write job
- Event SAP_ARCHIVING_DELETE_FINISHED is triggered after the end of all delete jobs belonging to a run
- Jobs can also be scheduled using external job schedulers (see also SAP Note 2356091).

When scheduling the jobs, you can specify the server on which the background jobs are to run. If you do not specify a server, the archive write program always runs in the background, preferably on a background server that is also a database server. The delete programs are started on the next free background server by the delete job that you schedule. Therefore, you must always ensure that all **application servers have access to the file systems used**.

You must ensure that a background job can run on the selected server with the default priority or with the priority that you set in customizing.

The event parameter for the triggered events after the end of the write and delete operation is the number of the archiving run. This can be used to trigger processes that are downstream of archiving, for example the file backup by external tools.

Scheduling archive write programs outside archive administration



- The archive write programs of the archiving object can be found in transaction AOBJ.
- The check for variants or incomplete archiving sessions that takes place in archive administration (SARA) is omitted.
- The externally scheduled jobs are displayed in archive management.
- For more information on this topic, see -for example- notes 133707, 205585, 2356091.

The user or the job scheduling program must check whether the write program with the selected variant has already been executed or is scheduled, for example, to avoid multiple archiving. You must also manually check whether the data can be archived more than once due to pending deletion jobs.

For information about the restrictions for such jobs, see SAP Note 133707.

Scheduling deletion and storage jobs outside archive administration:



- You can use program RSARCHD to schedule the delete programs outside archive administration.

- You can use it to restrict the maximum number of parallel delete jobs, among other things.
- For more information, see also SAP Note 205585 (Scheduling ADK delete jobs outside SARA).
- You can use program **RSARCH_STORAGE_SCHEDULER** to schedule the storage of archive files outside archive administration.
- For more information, see SAP Note 2412832 (Scheduling of storage jobs outside transaction SARA).

Data archiving with external job scheduler

The archiving programs that you have scheduled using archive administration are normally released immediately. If you, for example, for reasons of better reconciliation of the archiving process to other processes, or of the available resources, do not want the immediate release, you can control and monitor the data archiving jobs using an external scheduler. For more information, see SAP Note 2356091.

Influencing Factors for the Duration of Archiving

The following list should provide you with an orientation on possible influencing factors for the duration of data archiving:

Factors influencing the Duration of Archiving



- Hardware Used
- The size of the database
- Quantity of data to be archived
- Complexity of business object
- System load at the time of archiving
- Access to the archive files (NFS or Windows share or local)

It is not possible to specify generally valid values for the duration of an archiving. They vary greatly depending on the sizes mentioned above.

In general, however, the archiving process takes longer, the later it is started after the go-live.

Unit 1 Exercise 3

Describe the Steps of the Archiving Process

Business Scenario

Since the project team already knows the general process flow of the archiving process, the different options for server configuration and the option of storing archive files externally should also be clear to the project members.

1. Answer the question.

Are you free to choose the server on which your delete program runs?

2. Answer the question.

What do you have to consider with regard to data security before executing the delete program?

Unit 1

Solution 3

Describe the Steps of the Archiving Process

Business Scenario

Since the project team already knows the general process flow of the archiving process, the different options for server configuration and the option of storing archive files externally should also be clear to the project members.

1. Answer the question.

Are you free to choose the server on which your delete program runs?

Yes. You can specify a specific server group on which the delete program runs. If you do not specify a server, the archive write program always runs in the background, preferably on a background server that is also a database server. The delete programs are started on the next free background server by the delete job that you schedule. It must therefore always be ensured that all application servers have access to the file systems used. You must also ensure that a background job can run on the selected server with the default priority or with the priority that you set in customizing.

2. Answer the question.

What do you have to consider with regard to data security before executing the delete program?

Also make sure that you have a long-term concept for storing the archive files. You can save the archive files in an external storage system before deleting (or after deleting) the database entries.



LESSON SUMMARY

You should now be able to:

- Describe the different server configuration options for the data archiving process.

Using the Archive Development Kit (ADK)



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Describe the central importance of the ADK for data archiving.

The Archive Development Kit (ADK)

Business Example

A member of the project team gives you an overview of the Archive Development Kit (ADK), the central component of data archiving.

The outstanding facts are that the ADK contains the necessary functions for data archiving. Furthermore, it is the toolkit for developing your own archiving solutions.

The Archive Development Kit (ADK)

The Archive Development Kit (ADK) is of central importance for data archiving with SAP. It provides the necessary functions for executing archiving, for example, in the form of transaction SARA, as well as all tools for developing new data archiving solutions.



- SAP uses ADK to implement the archiving solutions for SAP standard tables in the SAP applications
- ADK is released for customers.
- You use this to implement customer-specific archiving objects for your own tables and applications that you have created in the customer namespace.

You can also use ADK to create customer-specific archive read programs for SAP archiving objects.



Caution:

ADK must not be used to develop programs that delete data from SAP standard tables or reload such data to the database.

The properties as a function library for data archiving in SAP systems and as a toolkit for developing data archiving solutions make the ADK the focal point of data archiving

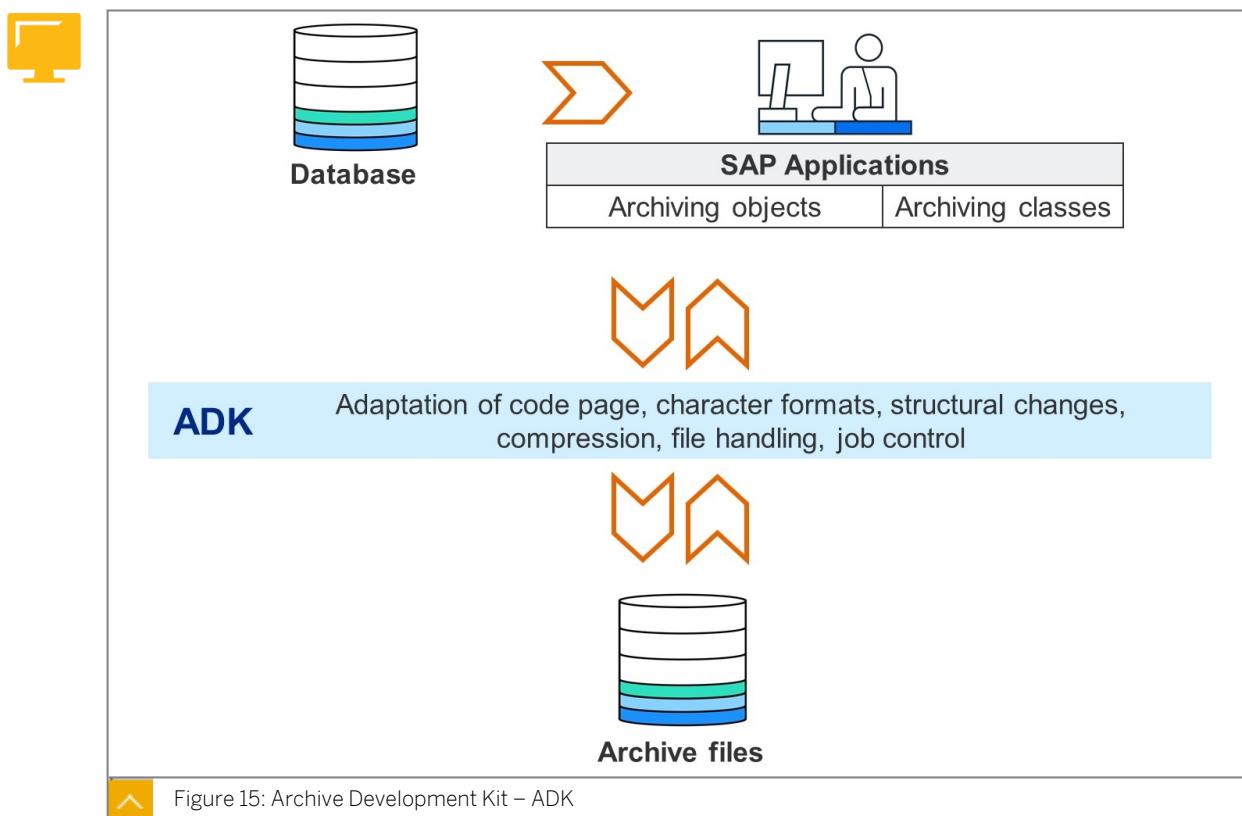


Figure 15: Archive Development Kit – ADK

All archiving programs are based on the Archive Development Kit.

The ADK provides the applications with programming interfaces to enable the following functions.

Functions of the ADK are:



- Central repository for archiving objects with all necessary definitions
- Writing archive files
- Reading archive files
- Including Archiving Classes
- Control and parameterization of archiving runs
- Management of archive files and runs

The task of an application that wants to provide data archiving for its business object is thus reduced to the creation of the required archiving programs (archive write, delete, and so on), providing application-specific read accesses to archived data, and defining an archiving object by specifying the above programs in the repository provided for this purpose by ADK (transaction AOBJ).

Notes on Unicode Capability of ADK

- Data in Unicode format can be archived.
- Access to Unicode and non-Unicode files possible.
- No conversion necessary.

For information about reading archive files in Unicode systems, see SAP Note 449918.

Scope of Functions for Data Archiving Using ADK

The following are some of the features of data archiving using ADK:



- Security and performance optimization using a two-step procedure
- Online archiving (archiving is possible while the system is running)
- Data compression
- Direct access to archived data
- Connection to external storage media possible
- Automatic temporary structure conversions for changes to the data objects (tables, structures) between releases, if required
- Conversion of the code page, if required

During archiving, the data is compressed automatically. If the data to be archived is stored in cluster tables, no additional compression takes place.

ADK provides the option of accessing individual business objects directly in an archive file (using the **Archive Information System (AS)**). The applications should use this option to provide access to archived data from the standard display transactions of the application. Note, however, that SAP does not provide reporting for archived data, as exists for online data.

ADK enables the connection to external storage systems e.g. via CMS and passing data to an HSM system.

Appendages from customers to SAP standard tables that are addressed in the archiving programs are taken into account automatically.

ADK automatically performs temporary structure conversions during access if there are changes to the data objects (tables, structures) in earlier releases. They only take place in the current display mode, that is, there are no permanent changes in the archive file. In principle, all archive files created with ADK can also be read and processed in a higher release. For more information, see SAP Note 50802.

ADK can automatically include changes to the database structures (field type, field length, new fields). Due to this capability of ADK, archive files do not have to be converted after hardware and software changes.

ADK stores the data in a uniform format.

To access the data, the ADK writes administrative information to the database.

Archived data can only be accessed using ADK. It is not possible to access archived data outside the SAP system or without using the ADK methods.

What are Archiving Classes and how are they Used?

Facts on Archiving Classes:



- Archiving classes contain objects that have **no independent business significance**.

It's e.g. change documents or SAPscript texts. As a result, the entries in the corresponding tables can be created by various applications. There is a **multiple use**.

- Archiving classes encapsulate the writing, deletion, and reading of such data during data archiving.

During the archiving of FI and SD documents, for example, function modules for archiving the change document table are called to store the change documents for the respective business objects together with these in the archive file.

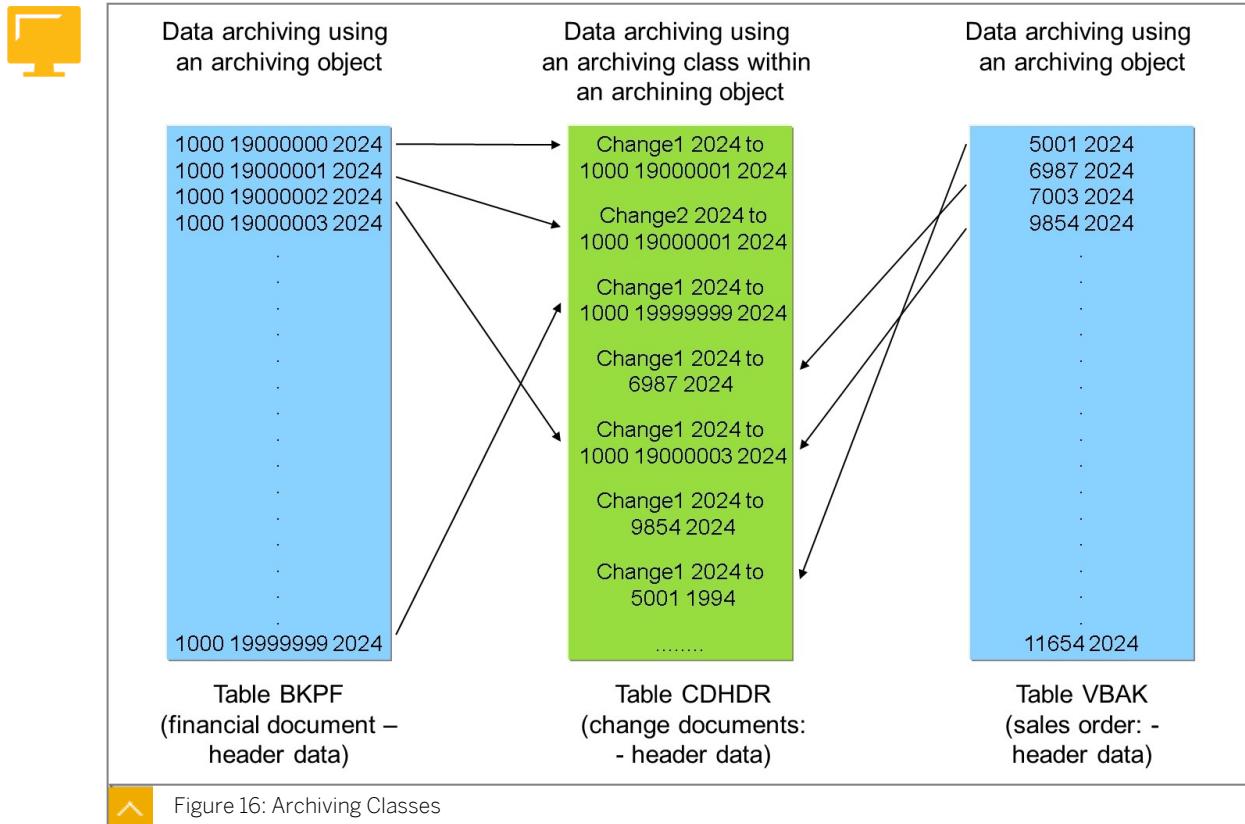


Figure 16: Archiving Classes

Archiving class and archiving object for the same application?



- If you want to reduce the size of the change document tables but cannot archive the corresponding business objects for business reasons, you can use the archiving object CHANGEDOCU.

It archives the change documents independently of the associated business objects.

- Note that you may no longer have access to this data from the business object.
- This means that there are applications that provide both an archiving object and an archiving class for your tables.

Unit 1 Exercise 4

Describe the Archive Development Kit (ADK)

Business Scenario

The interaction of the components involved in archiving and the option of accessing archived data later on should be clear to all project members.

1. Answer the question.

Who defines an archiving object and writes the corresponding archiving programs (archive write, delete, and so on)?

2. Answer the question.

Which SAP component physically creates the archive files in the file system?

3. Answer the question.

Which SAP component in which program sets the call for creating a new archiving session?

4. Answer the question.

How does the system ensure that archived data can still be read in the future, in particular after release upgrades?

Unit 1

Solution 4

Describe the Archive Development Kit (ADK)

Business Scenario

The interaction of the components involved in archiving and the option of accessing archived data later on should be clear to all project members.

1. Answer the question.

Who defines an archiving object and writes the corresponding archiving programs (archive write, delete, and so on)?

The respective application. It stores the logic in the archiving programs to archive its business object consistently .

2. Answer the question.

Which SAP component physically creates the archive files in the file system?

The Archive Development Kit (ADK).

3. Answer the question.

Which SAP component in which program sets the call for creating a new archiving session?

In the archive write program of the corresponding archiving object, the relevant application calls a method intended for this from the ADK function library.

4. Answer the question.

How does the system ensure that archived data can still be read in the future, in particular after release upgrades?

ADK saves the required information together with the data in the archive file.



LESSON SUMMARY

You should now be able to:

- Describe the central importance of the ADK for data archiving.

Unit 1

Lesson 5

Explaining the Data Archiving Project



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Name the phases of an archiving project.

The Data Archiving Project and Its Phases

Business Example

You are familiar with the basics of data archiving. Now you can suggest how to set up the project team and how to best divide the project into phases.

The Data Archiving Project and Its Phases

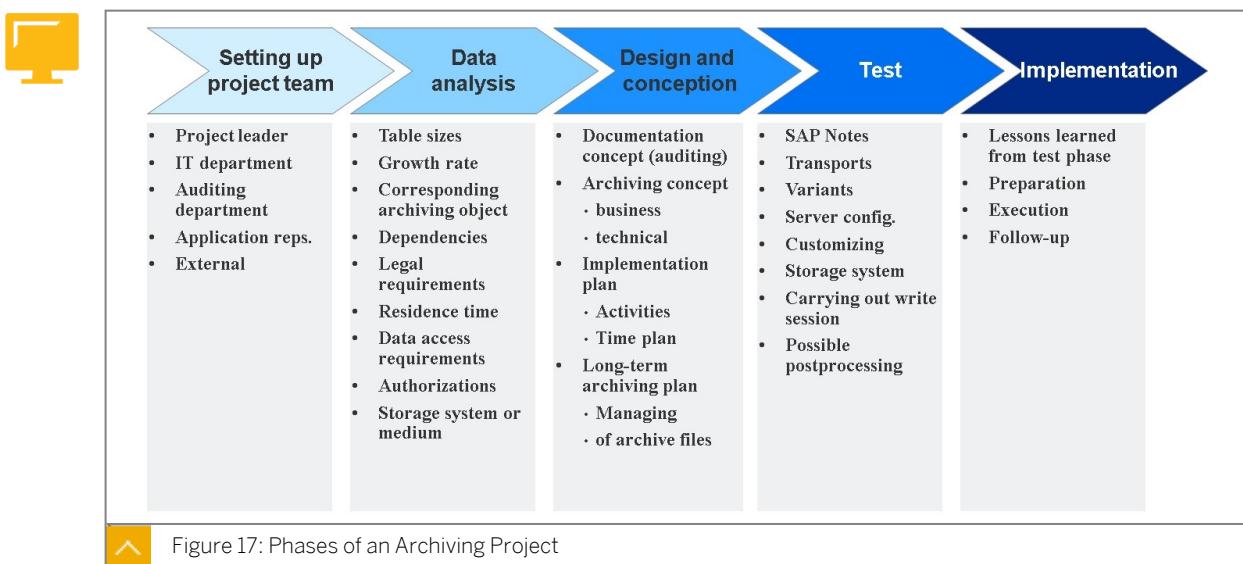


Figure 17: Phases of an Archiving Project

The graphic shows the phases of a data archiving project.

Data analysis

This phase collects information about the size and growth rate of the database tables. In a second step, the archiving objects are assigned to the critical tables. The data is checked to see whether it can be archived and which access requirements the archived data must fulfill.

Design

In the design, the requirements defined in the analysis are converted into a uniform archiving concept and a concrete archiving plan is created.

Assessment

The test phase checks the selections that have been set, the retention periods, and the retention periods. It also checks whether the dependencies between the objects have been recognized correctly.

After the test phase, the departments must be given time to postprocess the documents that cannot be archived.

Implementation and going live

In this phase, the data objects that are no longer needed are deleted from the database in accordance with the previously created deployment plan.



Note:

Before the analysis phase can begin, the affected groups must be integrated into a project team and their tasks must be determined.

Basic principles for building a team are:



- Members need to know the processes of the company
- Knowledge holders must have free resources
- Responsibilities must be clear

Data archiving is cross-departmental work.

You will need to involve the following groups in your project:



- Department or module owners (if any)
- Internal audit
- System administration
- You can also include external consultants in your project team or get temporary external support.

As soon as you have developed an archiving concept for your productive operation, we strongly recommend that you discuss this concept with the relevant external audit and have it accepted.



LESSON SUMMARY

You should now be able to:

- Name the phases of an archiving project.

Learning Assessment

1. Which advantages of data archiving result in cost savings?

Choose the correct answers.

- A Saving resources
- B Maintaining stable and efficient system performance
- C Reduced network traffic
- D The downtime becomes as short as possible

2. How many phases are there in an archiving process?

Choose the correct answer.

- A Two
- B Three
- C Four
- D Six

3. The archiving program always runs in the background on an application or database server.

Determine whether this statement is true or false.

- True
- False

4. What are the characteristics of the ADK?

Choose the correct answers.

- A Direct access to archived documents.
- B If necessary, automatic, temporary structure conversion if data objects were changed between different releases (for example for extended table fields).
- C Conversion of the code page, if necessary.
- D Data Compression
- E It is possible to connect to external storage systems.

5. The data archiving project consists of five phases. What is a meaningful sequence?

Choose the correct answer.

- A Set up a project team, design and conception, assessment, data analysis, implementation
- B Set up a project team, design and conception, data analysis, assessment, implementation
- C Set up a project team, data analysis, design and conception, assessment, implementation

Learning Assessment - Answers

1. Which advantages of data archiving result in cost savings?

Choose the correct answers.

- A Saving resources
- B Maintaining stable and efficient system performance
- C Reduced network traffic
- D The downtime becomes as short as possible

Correct. Network traffic is not related to data archiving.

2. How many phases are there in an archiving process?

Choose the correct answer.

- A Two
- B Three
- C Four
- D Six

Correct. The archiving process consists of three phases.

3. The archiving program always runs in the background on an application or database server.

Determine whether this statement is true or false.

- True
- False

Correct. The statement is correct.

4. What are the characteristics of the ADK?

Choose the correct answers.

- A Direct access to archived documents.
- B If necessary, automatic, temporary structure conversion if data objects were changed between different releases (for example for extended table fields).
- C Conversion of the code page, if necessary.
- D Data Compression
- E It is possible to connect to external storage systems.

Correct. The statement: You can access the data of an archive file without an non-SAP system.

5. The data archiving project consists of five phases. What is a meaningful sequence?

Choose the correct answer.

- A Set up a project team, design and conception, assessment, data analysis, implementation
- B Set up a project team, design and conception, data analysis, assessment, implementation
- C Set up a project team, data analysis, design and conception, assessment, implementation

Correct. A meaningful sequence is: set up a project team, data analysis, design and conception, assessment, and implementation.

UNIT 2

Using the Customizing of an Archiving Object

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UNIT OBJECTIVES

- Describe and display mandatory and optional components of an archiving object.
- Maintain the Cross-Archiving-Object Customizing
- Making Archiving-Object-Specific customizing settings.
- Name possible variants in data archiving.
- Maintain file names and file paths.
- Perform application-specific customizing using the example of FI and SD

Structure of an Archiving Object



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Describe and display mandatory and optional components of an archiving object.

The Archiving Object

Business Example

In your data archiving project, the members of the project team from the various departments have familiarized themselves with the principles of data archiving.

Your project team has recognized the important role of the archiving object and now wants to learn more about the basic structure of archiving objects.

The Archiving Object



- An archiving object forms a logical bracket around the functionality required to archive related data.
- This data typically represents a business object (for example, orders, invoices) and, if necessary, the objects linked to them (for example, change documents, SAPscript texts).

Transactions SARA and AOBJ

Data archiving provides two central transactions:



- Transaction **SARA**

Central transaction for executing data archiving. Data archiving can be started and monitored here.

It also allows you to navigate to other transactions from the data archiving environment (for example, Archive Information System AS).

- Transaction **AOBJ**

Contains the definition of the archiving objects. Among other things, this defines which programs an archiving object offers and which action buttons are displayed in transaction SARA.

It is also defined here, the data of which tables can be archived by the archiving object (structure definition), which archiving classes it uses, and how its customizing is.



- You can navigate to the customizing of an archiving object from transaction **SARA**.

- To carry out data archiving, you generally do not need to call transaction **AOBJ**. In particular, the definition of the archiving objects delivered by SAP here must not be changed. Exceptions, if any, will be discussed during the course.
- Transaction **AOBJ** is available to customers if you want to define archiving objects for your customer-specific tables.

Structure of Archiving Objects

Each archiving object must or can provide programs for the following actions:



- Preprocessing (optional)
- Creating Archive Files
- Deleting Data from Database
- Postprocessing (optional)
- Reading archive files
- Reload data into the database (optional, correction program)

In transaction SARA, enter an archiving object and choose **ENTER**. The buttons in the **Actions** group tell you which programs this archiving object offers.

The Preprocessing Program



- Business objects of some applications have so-called deletion indicator or deletion flags.
- The corresponding archiving object then contains a preprocessing program that sets the indicators for archivable business objects (for example, archiving object CO_ORDER).
- Business objects that are archivable can then be archived in the archive write program.
- If this concept is not supported, the archivability checks are performed directly in the archive write program.

The Read Program



- When you select the **Read** action, you see programs and transactions that offer read access to data archived with this archiving object directly from transaction **SARA**.
- There may also be further read accesses to archived data that can be called directly from the application as usual (so that the user does not have to call **SARA** explicitly). An example of this is transaction **FB03**.
- Which read accesses exist and their functions depend on the respective application.
- Additional archive read programs can be added if required if they are to be called from **SARA**. We will focus on this topic in the chapter on read access.

Indexes for Read Programs



- Direct (quick) access to selected archived business objects requires an index.
- Index tables can be created in two ways. Either using an archive information structure (info structure) as part of the **Archive Information System (AS)**, or using an application-specific index table.

- The latter is considered obsolete and is used less and less. If application-specific index tables are offered, you also see the *Index* action button.
- If an index is created using the Archive Information System AS, you don't see this action button. You access the definitions of the index in the Archive Information System by choosing *Goto → Information System*.

Reloading



- Reloading is generally a purely correction function.
- Therefore, an action button is never displayed for it.
- If an archiving object offers this function, you can access it by choosing *Goto → Reload*.
- If it is not available, this menu option is gray (cannot be selected).

The Documentation



- You can find notes on the programs of an archiving object in its documentation, which you can call by choosing the icon *Goto → Documentation*.
- In particular, this documentation explains the functions of a preprocessing or postprocessing program, if the archiving object offers such a program.

Elements of Customizing for an archiving object:

Before you use an archiving object for the first time, you must make certain settings and check certain ones.

Customizing for an archiving object consists of the following mandatory or optional components: We will list them here and then describe them in detail.

Mandatory or optional parts of Customizing 1/4:



- Cross-archiving object Customizing
 - Technical Settings
These settings apply to all archiving objects. They are, for example, the server groups for background processing.
 - Check and Delete (Optional)
This function is only available in the CRM area.

Mandatory or optional parts of Customizing 2/4:



- Archiving Object-Specific Customizing

These settings refer to a specific archiving object. Each archiving object provides these customizing settings:

- Technical Settings
For example, the max. file size and the connection to an external storage system.
- Archive Routing

You can use Archive Routing to set up rules and conditions to define content repositories in which archive files are to be stored.

This function is only available if you do not use **ILM (Information Lifecycle Management)** for an archiving object.

Mandatory or optional parts of Customizing 3/4:



- Basis Customizing (archiving object-independent Customizing)

These settings are considered to be archiving object-independent because they do not refer to any archiving object in their definition. However, each archiving object refers in its archiving-object-specific Customizing to exactly one entry from this Customizing (the logical file name).

- Cross-Client File Names/Paths
- Client-Specific File Names

Mandatory or optional parts of Customizing 4/4:



- Application-Specific Customizing (Optional)

Application-Specific Customizing is optional. Before you use an archiving object for the first time, you must check whether it offers application-specific customizing and whether you want to use it.

Its scope is application-specific. It can be used to define archivability criteria and customer-specific residence periods. However, ILM (Information Lifecycle Management) is increasingly used for this.

Unit 2

Exercise 5

Explain the structure of an Archiving Object

Business Example

To familiarize yourself with the structure and essential components of archiving objects, you can now navigate to various archiving objects and check their settings to answer the following questions.

1. Use transaction SARA and answer the question.

Does the archiving object **MM_MATBEL** offer a preprocessing program? Does archiving object **CO_ORDER** offer a preprocessing program?

2. Answer the question.

Which read programs can be called for the archiving object **MM_MATBEL** from transaction SARA?

3. Answer the question.

Which four parts of Customizing in the data archiving environment have you learned about?

4. Answer the question.

Does the archiving object **MM_MATBEL** offer Application-Specific Customizing?

Unit 2 Solution 5

Explain the structure of an Archiving Object

Business Example

To familiarize yourself with the structure and essential components of archiving objects, you can now navigate to various archiving objects and check their settings to answer the following questions.

1. Use transaction SARA and answer the question.

Does the archiving object **MM_MATBEL** offer a preprocessing program? Does archiving object **CO_ORDER** offer a preprocessing program?

Call transaction SARA. Enter **MM_MATBEL** as the *Archiving Object* and press *ENTER*. No *Preprocessing* button appears in the *Actions* group. A preprocessing program is therefore not required for this archiving object. Enter **CO_ORDER** as the archiving object and choose *ENTER*. In the *Actions* group, the *Preprocessing* pushbutton appears. A preprocessing program is therefore required for this archiving object.

2. Answer the question.

Which read programs can be called for the archiving object **MM_MATBEL** from transaction SARA?

Call transaction SARA. Enter **MM_MATBEL** as the *Archiving Object* and press *ENTER*. In the *Actions* group, choose *Read*. Choose the field help for the *Read Program* field. Two read programs are entered: *RM07MAAU* and *RM07DOCS*.

3. Answer the question.

Which four parts of Customizing in the data archiving environment have you learned about?

- 1) Archiving object-specific customizing is available. Its settings refer to the previously selected archiving object. This includes the technical settings (for example, max. size of archive files), Archive Routing, and application-specific customizing.
- 2) Cross-archiving-object customizing is also available. The settings there refer to all archiving objects. These include, for example, the settings for the server group for background processing, settings for interrupting the write phase, and the verification of archive files.
- 3) There is also archiving object-independent customizing. These settings do not refer to an archiving object in their definition. However, each archiving object refers in its archiving-object-specific customizing to exactly one entry from this customizing it is the logical file name.
- 4) Application-specific customizing can be seen as the fourth component. It is optional and can be used, for example, for defining archivability criteria and customer-specific residence periods. However, ILM (Information Lifecycle Management) is increasingly used for this.

4. Answer the question.

Does the archiving object **MM_MATBEL** offer Application-Specific Customizing?

Call transaction **SARA**. Enter **MM MATBEL** as the *Archiving Object* and press **ENTER**. Choose **Goto → Customizing** or choose **Customizing** in the application toolbar. In the dialog box that appears, you can see the Application-Specific Customizing group. It contains a jump to the transaction for maintaining document lives.



LESSON SUMMARY

You should now be able to:

- Describe and display mandatory and optional components of an archiving object.

Performing Cross-Archiving-Object Customizing



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Maintain the Cross-Archiving-Object Customizing

Maintain the Technical Settings

Technical Settings in Cross-Archiving Object Customizing

Access through Archive Administration: Transaction SARA – *Customizing* → *Cross-Archiving Object Customizing* → *Technical Settings*.

Cross-Archiving Object Customizing - Technical Settings



- Activation of the Data Archiving Monitor
- Access check for files during archive selection
- Verification of archive files
- Implicit interruption of the write phase
- Settings for background processing

Data Archiving Monitor



- You can use the data archiving monitor to analyze archiving-relevant information from the write, delete, and storage jobs.
- In addition, alerts are triggered if errors occur.
- The data archiving monitor is part of the CCMS monitor set (transaction RZ20).
- By default, the Data Archiving Monitor is activated.

Access Check for File Selection



- Originally, only the files that were accessible in the file system or in the storage system were offered in the archive selection for the actions *Delete* and *Read*.
- Each file was therefore always checked for access (fileopen).
- This time-consuming check can be switched on and off.

- It can also be activated differently for files in the file system and/or files that are in an external storage system.

Verification



- Archive files are always provided with verification information when they are written.
- This does not change the size of the archive files.
- You can decide whether the verification of the archive files is to take place when deleting, reading, and (exceptional) reloading.
- We recommend that you activate verification *Before Deleting*.

For example, a corrupt file is detected and reported. The system does not start deleting the data from the database.

Interrupting the Write Phase - the Concept



- You can interrupt an archive write program implicitly (automatically) and explicitly (manually).
- The interruption only applies to the write phase.
- Implicit interruption can be used if you want to ensure that:
 - A reserved disk space is not exceeded, or
 - If the maximum duration in hours planned for the write phase is not exceeded due to narrow time windows.
- You can therefore automatically interrupt the write phases after a certain time or when a certain number of MB has been reached.

Resuming an interrupted write phase



- You can continue interrupted archiving sessions at a later point in time using *Goto → Continue*.
- The technical prerequisite for this is that you must first execute the delete phase for the already created archive files.

Interrupting the Write Phase - Availability



- This function is only available for archiving objects that support interruption.
- Call transaction SARA and enter an archiving object. Choose the *Goto → Interrupt*.
- If the archiving object does not support this concept, a corresponding message appears in the status line.

Settings for Background Processing



- Regardless of the archiving object, you can specify a server group on which the archiving programs are to run in the background (better load balancing).
- You must first create the server group, that you want to enter here, in transaction SM61.

- By default, write, preprocessing, and postprocessing jobs are scheduled with job class A and all other data archiving jobs are scheduled with job class C.
- Here, you can also set the job class for various archiving jobs (write, delete, and so on) yourself.

See also SAP Note 1986368.

Cross-Archiving Object Customizing - Check and Delete (Optional)

The cross-archiving-object "Check and Delete" function is only available in the CRM area. This enables you for example to define individual selection parameters for selecting the business objects to be checked for each archiving object, and activate or deactivate individual archiving objects for the cross-object check or deletion. This makes it possible to check the archivability of business objects for several archiving objects at the same time. Similarly, cross-object deletion allows the deletion of business objects for multiple archiving objects.

Cross-archiving-object checking and deletion can be used for all archiving objects that support this function. Therefore, only these objects are offered in customizing.



LESSON SUMMARY

You should now be able to:

- Maintain the Cross-Archiving-Object Customizing

Performing the Archiving Object-Specific Customizing



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Making Archiving-Object-Specific customizing settings.
- Name possible variants in data archiving.

Archiving Object-Specific Customizing in Data Archiving

You access application-specific customizing using transaction SARA
Customizing → Archiving-Object-Specific Customizing.



- Technical Settings
- Archive Routing

Archiving Object-Specific Customizing - Technical Settings

Technical settings include:



- Logical File Name
- Size of archive file
- Settings for the delete program
- Information related to the storage system

The logical file name that defines the name and path when creating new archive files must be specified in the *Logical File Name* input field.

Size of an archive file

- Maximum Size in MB
- Maximum Number of Data Objects

The recommendation for the maximum size is 100-200 MB. We recommend that you do not use the parameter for the maximum number of data objects. The size of the archive file is then controlled only by the first parameter.

The first value reached triggers the closing of the current archive file and the creation of a new one. If no values are specified (which is not recommended), no check takes place for the respective parameter. If so only a single file is created.

If you have configured the automatic scheduling of delete programs in customizing (see below): Note that the delete program is scheduled for each archive file and occupies a

background process. In the case of a large number of archive files, this can also increase the system load.

Settings for the Delete Program

Possible settings for the delete program are:



- Commit Counter
- Maintenance of test mode and live mode variants for the delete program.
- When do the deletion jobs start

The delete program triggers a database commit if the number of data objects specified in the commit counter has been reached. (A data object usually corresponds to a business object). The setting of this value is relevant for program performance.

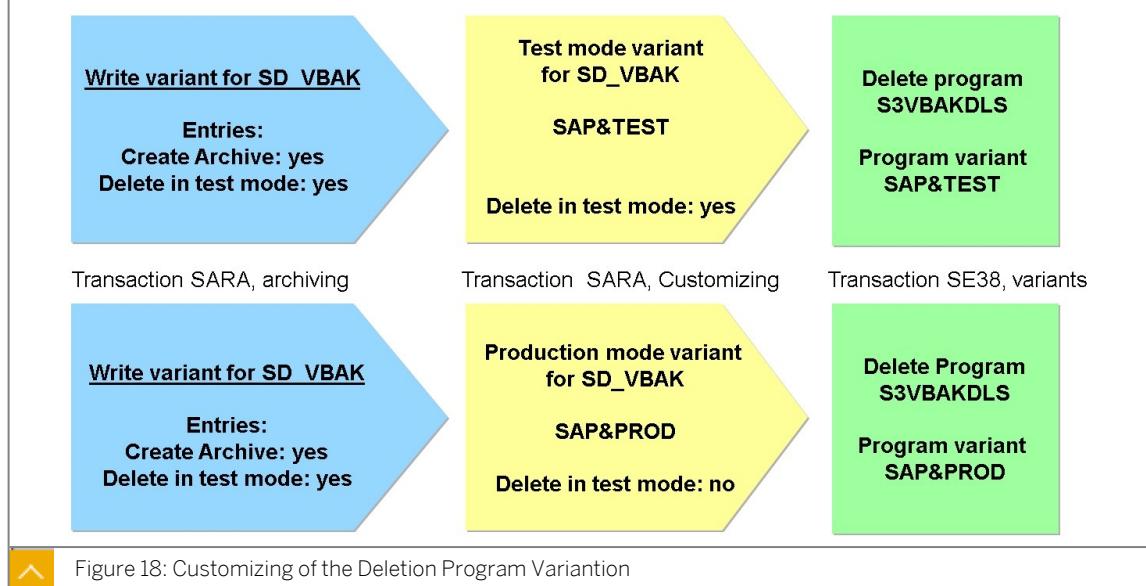
The commit counter is only to be maintained using transaction AOBJ in the *Customizing Settings* area. Recommended size of the commit counter: A value greater than 10 usually does not make sense. For smaller, less complex archiving objects, a larger commit counter may improve performance by about 10%-15%. Decreasing the commit counter can be helpful in case of memory issues.

We strongly recommend that you check the value manually before archiving for the first time. (See also SAP Note 69143.)

Separate deletion program variants must be defined in the system for each delete program, that is, for each archiving object: at least one for test mode and one for live (production) mode. In the variants of the delete program, the parameters that the program needs for its process flow are transferred. The requirements in test mode can be different from those in production mode. The variants contain at least an indicator whether the program actually deletes from the database or whether only a test (simulation) of the deletion takes place.



• How Customizing and the delete program variants work together:



The figure shows the customizing of the deletion program variants.

**Caution:**

If a variant of the delete program defined as a production mode variant has entered an X for test mode in the parameters, the data is never deleted from the database. The status in archive management remains *Incomplete*.

Conversely, a variant entered as a test mode variant deletes if X is not set by mistake. The status in archive management changes to *Complete*.



Variant name contains SAP&/CUS&	Variant name does not contain SAP&/CUS&
Variants are saved in client 000 and are accessible to all other clients	Variants are created in all required clients (single transports)

Figure 19: Distribution of variants to the clients of the SAP system

The display shows the options for distributing variants to the clients. Variants are client-specific. The creation and distribution of program variants is not ADK-specific and is therefore generally valid.

There are three options for scheduling deletion jobs:



- Explicit manual start (*Not Scheduled* selection)
- Automatic Start (*Start Automatically* selection)
- Event-controlled (*After Event* selection)
- Scheduling using the program RSARCHD or external schedulers

File Storage in Storage System

Information about storing files in the storage system:



- Start Automatically/Manually
- Specifies the content repository in which the file is to be stored.
- Store Before/After Delete Program

You can directly specify the content repository in which the archive files are to be stored. You can also specify whether the data is to be stored in the external system before or after the data has been deleted.

If you do not set the indicator *Delete Program Reads from Storage System*, a copy of the archive file is left in the file system after storage and deleted by the deletion program.

Advantages of storing files in content repository based external storage system using the Content Management Service (CMS):



- No check for file path = basic path required - the archive files can be transferred from any directory.
- The name of the content repository can be any length.
- Data can also be stored in an external storage system before deletion in the database.
- For this reason, as of SAP R/3 Enterprise Edition 4.6C (that is, since around 2001), storage is no longer by using ArchiveLink.

Required properties of a content repository to use it for data archiving



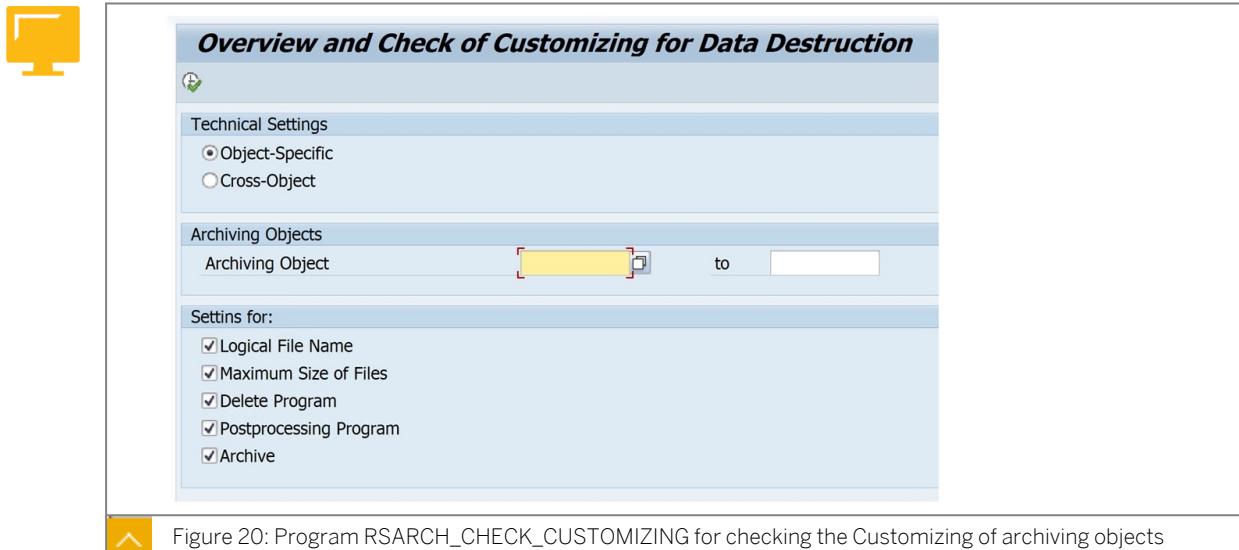
- If you want to use a content repository to store archive files, this must be configured beforehand.
- The corresponding transaction is called OAC0.
- The name of the content repository should not start with !.
- The *Document Area* field should contain **Data Archiving** or nothing at all ("DATAARCH" or SPACE).
- The *Storage type* field should contain **HTTP content server, RFC archive**, or **Logical Repository**. If the repository is the logical repository, it should refer to an HTTP content server or an RFC archive.

If you want to list the customizing settings or check them, you can use the following program.

Listing and checking of object-specific and cross-object Customizing for data archiving



- The program RSARCH_CHECK_CUSTOMIZING allows you to list and check the customizing of your archiving objects.
- You can choose whether all archiving objects or only certain archiving objects are taken into account.
- You can choose whether and which of the technical settings of archiving-object-specific or cross-archiving-object customizing are to be listed or checked.



For more information, see SAP Note 2368074 (List and check of object-specific and cross-object Customizing for data archiving).

Archiving Object-Specific Customizing - Archive Routing

Information about Archive Routing:



- You can use Archive Routing to set up rules and conditions to define content repositories in which certain archive files are to be stored. A content repository can be created at the level of organizational units (for example, company code) or time-based criteria (for example, fiscal year).
- Due to legal requirements, companies, especially those with international locations, increasingly need to keep archived data separate, for example, to account for different retention periods for different types of data, industries, or countries.
- Archive Routing offers more flexibility and automation in this respect.
- If no rules have been set, a content repository is determined in a traditional way, as described above.

Process Flow

During the archiving process, the rules are checked twice: once during the write run and again during the storage phase.

It is important that Archive Routing does not use the actual content of the archive files to determine the content repository, but the selection values entered for writing the archive (the content of the variant of the write program).

Note that the data set delimited by the selection values in the variant does not have to match exactly the data set that is delimited by the rules. However, it is very important that the data set of the variant is within the set defined by exactly one of the defined rules. If this is not the case, the archiving run is terminated. If this is the case, the archiving run is executed and the archive files are stored in the relevant content repository in the storage phase.

What does it do?

In customizing, you can specify rules for each archiving object as to how the content repository is to be determined from the selection values of the write program.

For each rule, you must then enter conditions that consist of a selection criterion and a corresponding value or an interval.

It is also possible to create one or more rules with one or more conditions for each archiving object. The complexity of the rules depends on how specific the criteria according to which you have to organize your data into separate content repositories is.

The **smallest unit** for which a content repository can be determined using Archive Routing is an archiving session. This means that the individual files and therefore all business objects of a run are stored in the same content repository.

If you want to forward data to different content repositories, you have to perform a separate archiving run for each content repository.

Example

The following examples show different scenarios in Archive Routing. You have created the following routing rules in Archive Routing:

Table 1: Archive Routing – Example

Sales Organization	Creation Date	Content Repository
0001	Any	A1 (rule 1)
0002	1/1/2020 to 12/31/2022	A2 (rule 2)
0003	1/1/2023 to 12/31/9999	A3 (rule 3)

In words, these rules mean roughly:

- Archives for sales organization 0001 are stored in content repository A1.
- Archives for sales organization 0002 and for the creation date within 2020 to 2022 are stored in content repository A2.
- Archives for sales organization 0003 and for the creation date as of and including 2023 are stored in content repository A3.

The creation date refers to the selection field "Creation Date" and not to the date on which the archive is written.

Example 1: You start an archiving run with the following variant:

Table 2:

Sales Organiza-tion	From	0002	To	
Created On	From	01.01.2020	To	31.01.2020

An archive file that is created with this variant is stored in content repository A2.

The sales organization is exactly the sales organization of the second rule and the date interval is within the date interval of the same rule.

Example 2:

Table 3:

Sales Organization	From	0002	to	
Created On	Greater than or equal to	01.01.2023	to	

The system could not determine a content repository here.

At first glance, it looks as if the third rule has to apply, and the system finds content repository A3. However, this is not the case because this rule is only valid for sales organization 0003.

Archive Routing – Business Add-In

You can use the Business Add-In (BAdI) ARCH_ROUTING_EXTERN if the Archive Routing provided in the standard system is not sufficient for your specific requirements. This BAdI is primarily intended to replace the standard Archive Routing process with customer-specific coding. This can be done for each archiving object. The BAdI is filter-dependent with the archiving object as a filter.

If neither Archive Routing nor the Business Add-Ins provided in the standard system are sufficient for your specific requirements, we recommend ILM (Information Lifecycle Management) - see course BIT665.

Variants in Data Archiving



- Variant for the archive write program: Selection criteria for the data to be archived.
You have to provide a variant for the archive write program, the preprocessing and postprocessing programs (if available), always in archive administration (transaction SARA) before the start of the archiving run or before the start of the respective program.
- Variant for the delete program: Should the delete program work in test mode, or should actually delete data from the database (production mode).
The variants of the delete program are maintained once in customizing.
The distribution of the variants depends on the variant name, as already described.

Unit 2

Exercise 6

Execute Archiving Object-Specific Customizing in Data Archiving

Business Example

Your tasks in the implementation project include the archiving object-specific settings in customizing. You can implement the new knowledge for the example object `ZC_SBOOK##`.



Note:

Whenever `##` is used in a word or object title, please replace `##` with the group number assigned to you.

Task 1: Task 1: Answer Questions

1. Answer the question

When is it possible to interrupt the archive write program?

2. Fill in the blanks to complete the sentence.

For an archive write program, you must define _____ variants in Customizing.
You specify the required variant when _____ the archive write program.

3. Fill in the blanks to complete the sentence.

For the delete program, you must define a _____ variant and
a _____ variant in customizing for the corresponding archiving object.

Task 2: Task 2: Customizing an Archiving Object

1. Customize the archiving object `ZC_SBOOK##` as follows:

Table 4:

Field	Size
Maximum Size of the Archive File	100 MB

2. Customize the archiving object `ZC_SBOOK##` as follows:

- The deletion program should not be scheduled automatically.
- Archive files are to be stored in the external storage system **00**.
- Storage is to take place before deletion.

3. Customize the archiving object `ZC_SBOOK##` as follows:

Delete variants for the archiving object `ZC_SBOOK##` should be `TESTVAR##` and `PRODVAR##`.

4. Customize the archiving object `ZC_SBOOK##` as follows:

After 10 deleted objects, a commit is to take place in the database.

Execute Archiving Object-Specific Customizing in Data Archiving

Business Example

Your tasks in the implementation project include the archiving object-specific settings in customizing. You can implement the new knowledge for the example object `ZC_SBOOK##`.



Note:

Whenever `##` is used in a word or object title, please replace `##` with the group number assigned to you.

Task 1: Task 1: Answer Questions

1. Answer the question

When is it possible to interrupt the archive write program?

An archive write program can only be interrupted if it supports the concept of interruption in its source code. You can see whether this is the case in transaction SARA. Enter the archiving object and choose *Goto → Interrupt*. If the archiving object does not support the concept, a corresponding message appears in the status line.

2. Fill in the blanks to complete the sentence.

For an archive write program, you must define _____ variants in Customizing.
You specify the required variant when _____ the archive write program.

None, dispatching.

3. Fill in the blanks to complete the sentence.

For the delete program, you must define a _____ variant and
a _____ variant in customizing for the corresponding archiving object.

test mode, live mode.

Task 2: Task 2: Customizing an Archiving Object

1. Customize the archiving object `ZC_SBOOK##` as follows:

Table 4:

Field	Size
Maximum Size of the Archive File	100 MB

- a) Choose *Tools → Administration → Administration → Data Archiving* and enter `ZC_SBOOK##` as the *Archiving Object*.
You are in the *Archive Administration: Initial Screen*.
- b) Choose *Customizing*.
You are in the *Data Archiving Customizing* dialog box.
- c) In the *Archiving Object-Specific Customizing* selection area, choose *Technical Settings*.
- d) In the *Archive File Size* area, in the *Maximum Size in MB* input field, enter **100**.
2. Customize the archiving object `ZC_SBOOK##` as follows:
- The deletion program should not be scheduled automatically.
 - Archive files are to be stored in the external storage system **00**.
 - Storage is to take place before deletion.
- a) You are still in the *Data Archiving Customizing* view.
- b) In the *Settings for Delete Program* area, set the *Not Scheduled* radio button under *Delete Jobs*.
- c) In the *Place File in Storage System* area, enter the value **00** in the *Content Repository* input field. To confirm your entries, press *Enter*.
- d) For *Sequence*, set the *Store Before Deleting* radio button.
3. Customize the archiving object `ZC_SBOOK##` as follows:
Delete variants for the archiving object `ZC_SBOOK##` should be `TESTVAR##` and `PRODVAR##`.
- a) You are still in the view *Data Archiving Customizing*.
- b) In the *Settings for Delete Program* area, enter `TESTVAR##` in the *Test Mode Variant* input field and `PRODVAR##` in the *Live Mode Variant* input field.
- c) Choose *Variant* next to the *Test Mode Variant* input field.
- d) If a dialog box with the title *Variants: Screen Assignment* appears, set the radio button *For All Selection Screens* and choose *Continue*. You are in view *Edit Variants:* Set the *Test Mode* radio button.
- e) Choose *Attributes* and enter the following in the *Description* input field: **Test Variant**.
- f) Choose *Save*.
- g) Choose *Back*.

- h) Choose *Variant* next to the *Live Mode Variant* input field and set the radio button for *Production Mode*.
- i) Choose *Attributes* and enter the following in the *Description* input field: **Production Variant**.
- j) Choose *Save*.
- k) Choose *Back*.
- l) Choose *Save*.
- m) Confirm the prompt for the workbench request.

The variants have therefore been created in the associated delete program.

4. Customize the archiving object `ZC_SBOOK##` as follows:

After 10 deleted objects, a commit is to take place in the database.

- a) Call transaction `AOBJ`.

You are in the view *View Cluster Editing: Initial Screen*.

- b) Select your archiving object `ZC_SBOOK##`.

- c) Double-click *Customizing Settings* in the dialog structure.

You are in the view *View Cluster Editing: Initial Screen*.

- d) In the *Settings for Delete Program* area, in the input field *Commit Counter* field, enter the value **10**.

- e) Choose *Save*.

- f) To confirm the prompt for the workbench request, press Enter.



LESSON SUMMARY

You should now be able to:

- Making Archiving-Object-Specific customizing settings.
- Name possible variants in data archiving.

Customizing File Names and Paths



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Maintain file names and file paths.

File Names and File Paths (Basis Customizing)

Business Example

Your project team knows the basic structure of an archiving object.

You now want to learn about the different customizing areas for an archiving object.

You want to find out how the file names and file paths of archive files are defined and which other customizing settings are required for an archiving object. If the archive file is to be transferred to an external storage medium, this customizing must be considered.

File Names and File Paths (Basis Customizing)

Definition of File Names



- A logical file name must be assigned to each archiving object in customizing. It defines the physical name for an archive file and for each needed operating system the path in which the archive files are to be stored.
- The logical file names and paths have the advantage that, unlike the physical file names and paths, they are platform-independent. They also better support the execution of changes.
- SAP delivers archiving objects with a proposal for the logical file name. When new archiving objects are introduced, you must check the proposed value or create a new one if required.
- This maintenance takes place in transaction FILE. You can find a jump to this transaction in the customizing area in transaction SARA in the group *Basis Customizing* via the entry *Cross-Client File Names/Paths*. For more information, see SAP Note 2370836.

Client-specific Definition of File Names

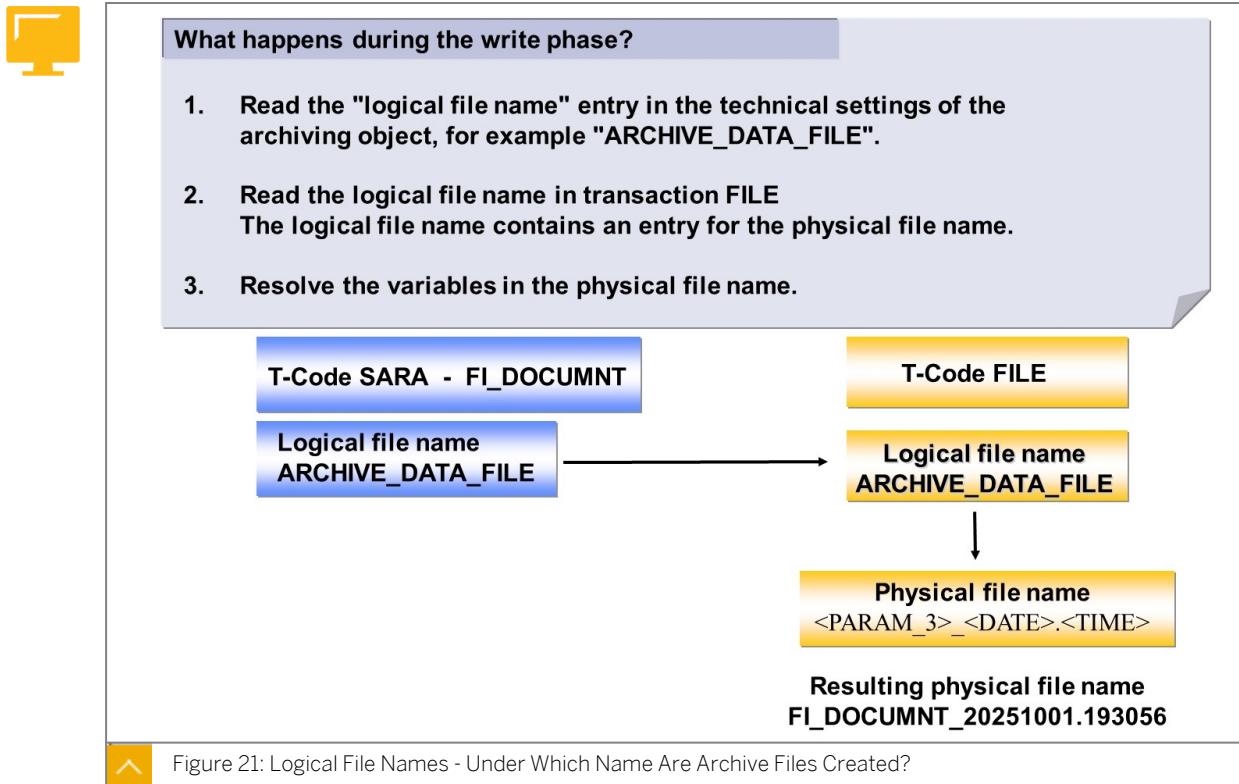


- Transaction SF01 is available for client-specific file name maintenance.
- Client-specific maintenance is only possible for file names.
- You can access this transaction in the Customizing area in transaction SARA in the *Basis Customizing* group by choosing *Client-Specific File Names*.

- Client-specific maintenance of file names is not recommended. Please only use it if really necessary.
- If you have made both client-independent and client-specific settings, the system uses the latter at runtime.

Logical file names - Under which name are archive files created?

The archive write program reads the logical file name from the customizing of the archiving object. The logical file name is resolved and the system finds the desired physical name for the archive file.



The preceding figure shows the schema for forming a physical file name when creating archive files. You can use this procedure to check the values set.

If you move your archive files directly to an external storage system, the maintenance of the file name is less important because the file is deleted from the file system after it has been stored.

When defining the physical file name (field *Physical file*), you can use certain parameters to form the name of the archive file. You can find their definition in the field help of the corresponding input field.

ADK-specific use of parameters when defining the physical file name



- When defining the physical file name (field *Physical file*), You can use the following parameters to form the name of the archive file.

You can also find their definition in the field help of the corresponding input field.

- Param_1: two-character application ID, taken from customizing of the archiving object

- Param_2: Single-character alphanumeric number that is used to retain the uniqueness of the archive file name. The number gets incremented during a run when you create an archive file name. There are a maximum of 36 possible entries: 0-9 and a-z/A-Z.
- Param_3: ADK fills this parameter with the name of the archiving object.

ADK-specific physical file name parameters - recommendations



- We recommend that you use at least PARAM_2, PARAM_3, date, and time for the file names.
- The names should be designed in such a way that the files can be recognized using a wildcard at operating system level.

An example of this could be a name that is recognized using FI_DOCUMNT2025*.

For more information, see SAP Note 35992.

Logical file paths - In which directory are archive files created?

Definition of File Paths



- Depending on the operating system, the archive files are stored in different directories. Different operating systems, such as UNIX or NT, use a different syntax for paths.
- For this reason, platform-independent logical file paths are used.

Procedure when Defining File Paths



- Decide on the file directory in which the files are to be created.
- Definition of a logical file path in the function *Logical File Path Definition*.
- Define the required directories in the *Assignment of Physical Paths to Logical Path*.
- Entry of the logical path name in definition of the logical file name.

Procedure of the system for determining the file system and the path when creating new archive files.

1. Read Log. File name in transaction FILE.

An entry for the logical file path is stored in the logical file name, for example,
ARCHIVE_GLOBAL_PATH.

2. Read logical file path in transaction FILE.

3. Reads the assignment of the logical path to the physical path specifically for the required operating system. Entries can be, for example:

UNIX: /usr/sap/<SYSPID>/sys/global/<FILENAME>

NT: <P=DIR_GLOBAL>\<FILENAME>



Caution:

<FILENAME> must be the last entry for the physical path.

The parameter <FILENAME> will be replaced with the physical file name.

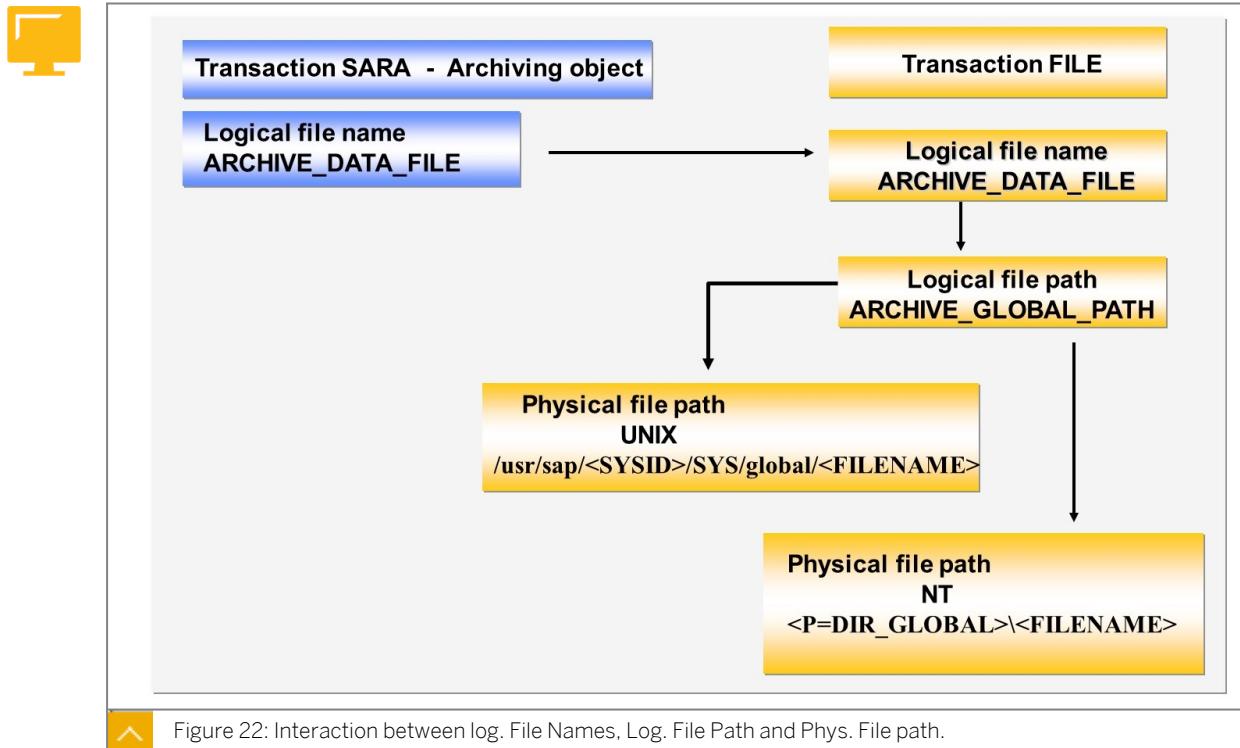


Figure 22: Interaction between log. File Names, Log. File Path and Phys. File path.

Unit 2

Exercise 7

Carry Out the Customizing of the file names and paths for an archiving object

Business Example

You have read how file names and file paths are assigned to the relevant archiving object.

To be able to implement this later, you now want to carry out the entire handling along the following task.



Note:

Whenever ## is used in a word or object title, please replace ## with the group number assigned to you.

1. Why do you define a logical file path and a logical file name?

Why are logical and physical file names and paths used in data archiving and not only the physical file names and paths? Name two advantages.

2. Define a logical file path ZARCHIVE_GLOBAL_PATH_GRP##.

3. Define a logical file name: ZARCHIVE_DATA_FILE_GRP##. Use the following data:

Table 5:

Field	Value
Physical File Name	Should be <ul style="list-style-type: none">• Archiving Object• Date• Time• A single-character parameter for additional differentiation of the files.• The name of the person who performed the archiving run included.
Logical File Path	zarchive_global_path_grp##

Field	Value
Application Area and Data Format	<can be left empty>

4. You have only one platform for application servers in your company. Assign a physical path for UNIX to the logical path. Use path **<P=DIR_GLOBAL>/<FILENAME>**.
5. Assign the logical file name **ZARCHIVE_DATA_FILE_GRP##** to the archiving object **ZC_SBOOK##**.

Unit 2 Solution 7

Carry Out the Customizing of the file names and paths for an archiving object

Business Example

You have read how file names and file paths are assigned to the relevant archiving object.

To be able to implement this later, you now want to carry out the entire handling along the following task.



Note:

Whenever ## is used in a word or object title, please replace ## with the group number assigned to you.

1. Why do you define a logical file path and a logical file name?

Why are logical and physical file names and paths used in data archiving and not only the physical file names and paths? Name two advantages.

Logical file names and paths have the advantage that they are platform-independent, unlike the physical file names and paths. Another advantage is that the logical file names and paths better support the execution of changes.

2. Define a logical file path ZARCHIVE_GLOBAL_PATH_GRP##.

- a) Call transaction SARA or follow the path:

Tools → Administration → Administration → Data Archiving. Enter ZC_SBOOK## as the object name.

You are in the *Archive Administration: Initial Screen* view.

- b) Choose *Customizing*.

You are in the *Data Archiving Customizing* dialog box.

- c) In the *Basis Customizing* group, choose *Cross-Client File Names/Paths*.

You are in the *Logical File Path Definition* view.

- d) Choose *New Entries*.

- e) Enter the logical file path: ZARCHIVE_GLOBAL_PATH_GRP##.

- f) Enter **global path group ##** as the name.

- g) Choose *Save*.

- h) Create a new workbench request with the description **BIT660-##**.

3. Define a logical file name: `ZARCHIVE_DATA_FILE_GRP##`. Use the following data:

Table 5:

Field	Value
Physical File Name	Should be <ul style="list-style-type: none"> • Archiving Object • Date • Time • A single-character parameter for additional differentiation of the files. • The name of the person who performed the archiving run included.
Logical File Path	<code>zarchive_global_path_grp##</code>
Application Area and Data Format	<can be left empty>

- a) After the previous task, you are already in the correct transaction and in the view *Logical File Path Definition*.
- b) On the left-hand side of the screen, double-click *Logical File Name Definition, Cross-Client*.
 You are in the *Logical File Name Definition, Cross-Client* view.
- c) Choose *New Entries*.
- d) Enter the logical file name `zarchive_data_file_grp##`.
- e) Also enter **Archive Data File Group ##** as the name.
- f) Enter the following as the physical file name: `<PARAM_3>_<DATE>_<TIME>_<PARAM_2>_<F=EXAMPLE>`.
- g) Enter the logical path `zarchive_global_path_grp##`.
- h) Choose *Save*.
- i) Confirm the prompt for your workbench request.
4. You have only one platform for application servers in your company. Assign a physical path for UNIX to the logical path. Use path `<P=DIR_GLOBAL>/<FILENAME>`.
- a) You are already in the correct transaction after the previous task. On the left-hand side of the screen, choose the *Logical File Path Definition* view.
- b) Position the cursor on your group-specific logical file path `zarchive_global_path_grp##`.
- c) Choose the subsection *Assignment of Physical Paths to Logical Path*.
 You are in the view *Change Assignment of Physical Paths to Logical Path*.
- d) Choose *New Entries*.

You are in the *New Entries: Details of Added Entries* view.

- e) Choose *UNIX* as the syntax group.
 - f) As physical path enter `<P=DIR_GLOBAL>/<FILENAME>`.
 - g) Choose Save.
 - h) Confirm the prompt for your workbench request.
5. Assign the logical file name `ZARCHIVE_DATA_FILE_GRP##` to the archiving object `ZC_SBOOK##`.
- a) Go back to transaction *SARA*. Alternatively, you can call it again. You are then in the *Archive Administration: Initial Screen* view.
 - b) Enter `ZC_SBOOK##` as the object name.
 - c) Choose *Customizing*.
You are on the *Data Archiving Customizing* screen.
 - d) In the *Archiving Object-Specific Customizing* selection area, choose *Technical Settings*.
You are in the *Data Archiving Customizing* view.
 - e) Enter the logical file name: `zarchive_data_file_grp##`.
 - f) Choose Save.
 - g) Confirm the prompt for your workbench request.



LESSON SUMMARY

You should now be able to:

- Maintain file names and file paths.

Performing Application-Specific Customizing



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Perform application-specific customizing using the example of FI and SD

General Statements about Application-Specific Customizing

Business Example

The various departments involved in your data archiving project require you to develop application-specific criteria for the archivability of your data.

To do this, the project team must familiarize themselves with the available options in the application-specific Customizing of the various archiving objects.

General Statements about Application-Specific Customizing

General Statements about Application-Specific Customizing 1/2



- The scope of this customizing is application-specific. Generally you can do the following here: Define criteria for the archivability of data for each archiving object.
- These criteria are evaluated during the archiving runs. In particular, during the archive write program. Possible would be also the preprocessing or the postprocessing program.
- Residence periods are a typical archivability criteria.

You specify the minimum amount of time a business object must remain in the database before it can be archived.

- These settings are made in special customizing - in the transactions of the respective application. You can branch to it from transaction SARA.

Choose *Tools → Administration → Administration → Data Archiving* and enter the required archiving object.

Then choose *Customizing* and double-click the function in the *Application-Specific Customizing* area.

The application-specific Customizing of the archiving objects is sometimes very different. This lesson uses examples from the FI and SD environment to illustrate typical properties and differences.

General Statements about Application-Specific Customizing 2/2



- Application-specific Customizing is optional.

- If an archiving object does not offer it, only your entries on the selection screen and the checks in the respective program decide which data is to be processed (for example, be archived).
- Nowadays, (especially new) archiving objects offer the maintenance of retention periods using ILM (Information Lifecycle Management). As a result, this application-specific customizing is no longer offered as frequently in SARA.
- If you already use this customizing, you can continue to use it and do not have to move it to ILM. At the time of archiving, the archiving object checks in both places whether you have defined retention periods (residence times).

Choose *Tools* → *Administration* → *Administration* → *Data Archiving* and enter the required archiving object.

Then choose *Customizing* and double-click the function in the *Application-Specific Customizing* area.

The application-specific Customizing of the archiving objects is sometimes very different. This lesson uses examples from the FI and SD environment to illustrate typical properties and differences.

Application-Specific Customizing: FI_DOCUMNT

This customizing is done in special transactions of the Financial Accounting application. You can branch to it from transaction SARA. Choose *Customizing* → *Application-Specific Customizing*. The possible settings are:



- Maintain account type life
- Maintain document type life
- (The term *life* is used here as a synonym for residence times.)

The archiving conditions are as follows:



- The document header must have exceeded the document type life and
- The document item must have exceeded the account life and
- The document must not contain any items that have not been cleared.
- If you use the table ACDOCA (journal entry line items): Upstream archiving objects may have to be archived first if the document has a reference to other applications.

An example of Customizing for document life can be the following entry:



- Company Code: 0001 Document Type: * Document Life: 090
- Company Code: * Document Type: KR Document Life: 120
- As a result, all documents for company code 0001 remain in the system for at least 90 days. Only documents of document type KR remain in the system for 120 days.
- If there is no entry in customizing, the residence time is 9999 days.

Documents with withholding tax usually remain in the system for 450 days. There are special regulations for the United States.

The task of the data archiving team is to find out which residence periods shall be maintained.

Secondary and Primary Index for Object FI_DOCUMNT

Secondary Index of Financial Accounting Documents - General Statements



- By maintaining the account type lives, you can define the life (residence period) for the secondary index.
- When maintaining account type lives, you can define how long it is to be retained.
- Secondary indexes should remain in the database for as long as a line item overview is required for an account.

Secondary index of financial accounting documents in SAP ERP (that is, Table ACDOCA is NOT used)



- In addition to the tables of the actual Financial Accounting documents, there are the secondary index tables that are required for a fast line item display for an account.
- The secondary index represents a short document that is required to access FI documents from an item point of view.
- It is not cleaned up automatically during the deletion run because it can be used for the item view of an archived FI document.

The tables of the secondary index of financial accounting documents in SAP ERP are:



- BSIS (Accounting: Secondary Index for G/L Accounts)
- BSID (Accounting: Secondary Index for Customers)
- BSIK (Accounting: Secondary Index for Vendors)
- BSAS (Accounting: Secondary Index for G/L Accounts (Cleared Items))
- BSAD (Accounting: Secondary Index for Customers (Cleared Items))
- BSAK Accounting: Secondary Index for Vendors (Cleared) Items))
- BSET (document segment tax data), BVOR (cross-company code posting transactions), BSEC (document segment one-time data)

Secondary index of financial accounting documents in SAP S/4HANA (that is, Table ACDOCA is used)



- The secondary index tables exist as CDS views (not as transparent tables).
- As a result, the views would not contain any information about archived documents. However, since this is desired, additional transparent secondary index tables have been introduced that are filled during the deletion phase of archiving.
- They have been added to the definition of the views. As a result, they also contain information about archived financial accounting documents.

The tables and views of the secondary index of financial accounting documents in SAP S/4HANA are:



- The views just mentioned. Their names correspond to the secondary index tables from SAP ERP.
- In addition, the following tables are filled during the deletion phase of archiving:
 - BSAS_BCK (Accounting: Secondary Index for G/L Accounts (Cleared Items))
 - BSAD_BCK (Accounting: Secondary Index for Customers (Cleared Item))
 - BSAK_BCK (Accounting: Secondary Index for Vendors (Cleared Items))
 - BSIS_BCK (Accounting: Secondary Index for G/L Accounts) if the G/L account is managed only at line item level and not on an open item basis.

If you do not want to fill these secondary index tables, activate the BAdI `FI_DOCUMNT_IDX_DEL` (Archiving FI Documents: Delete Secondary Indexes Immediately).

There are also the secondary index tables `BSID_BCK` (Accounting: Secondary Index for Customers) and `BSIK_BCK` (Accounting: Secondary Index for Vendors). They are filled during the migration to SAP S/4HANA. After the migration, its content is deleted. Archiving does not feel these tables. As a result, they should be empty.

This also applies to table `BSIS_BCK` (Accounting: Secondary Index for G/L Accounts) if it is managed on an open item basis. (LINE (line items), the G/L accounts are always managed.)

Postprocessing Program for Archiving Object FI_DOCUMNT



- If the secondary index life (residence period) that you have set has expired, you can use the postprocessing program of the archiving object `FI_DOCUMNT` to remove the secondary index.
- Check of secondary index life (residence period):
 - Posting date < key date - secondary index life (without open item management).
 - Clearing date < key date - secondary index life (with open item management).
 - Check if related document is archived and deleted.
- If the secondary index has been deleted, a line item view of the documents is no longer possible.
- If you need a secondary index that has already been deleted, you can rebuild it using the program `SAPF048S`.

Primary Index of Financial Accounting Documents



- An index in the Archive Information System is used for fast access using the document numbers.
- As a result, you can still view archived documents in transaction `FB03`.

Recommendation: If you do not archive FI documents across company codes, you facilitate access because external auditors generally follow a company code-oriented approach.

Application-Specific Customizing: SD



- SD_VBAK (sales order) - transaction VORA.

Residence periods by sales organization and sales document type user exit activation possible.

- SD_VBRK (billing documents) - transaction VORR.

Residence times by sales organization and billing type.

Check for accounting document possible.

User exit activation possible

- RV_LIKP (deliveries) - transaction VORL.

Residence periods by sales organization and delivery type.

User exit activation possible.

In the standard system, the residence times refer to the document creation date. If this calculation base is to apply, the residence periods must be chosen generously.

For SD_VBAK and RV_LIKP, you can also select the date of the last change as the reference date/time during variant maintenance. Indicator *Residence Period: Change Date*.

Default values for residence periods are: 30 days each (minimum is 1 day).

For billing documents, it is recommended that you check the accounting document, that is, whether it has been cleared.

Archiving of SD Documents: Customer-Specific Check Routines/User Exits



- Objective: Perform additional customer-specific checks before archiving a document.

Examples:

- An internal procurement is running for a sales order. The sales order should remain in the system until production is complete.

In this case, the time to be checked does not refer to the creation date of the document.

- A purchase order is generated as part of the order. The purchase order is to be archived before the order.

- User exits can be set for orders, billing documents, and deliveries.

The procedure for creating a user exit is described in detail in the documentation.

Archiving SD Documents: Create User Exit



- Start the report SDCLVOFM (via transaction SE38)

- Select an archiving object using the report category:

REAK - Sales Documents (SD_VBAK)

RERK - Billing Document (SD_VBRK)

RELK - Deliveries (RV_LIKP)

- The *Change Mode* indicator must be set

- Execute the report SDCLVOFM.

Enter a form routine number.

You can use the *Source text* icon to enter the source code

The return value is in the variable SV_ARCHBAR.

The entry X stands for archivable, SPACE stands for cannot be archived.

- Activate the user exit by choosing *Edit → Activate*.
- Now enter the exit number in the field RNo in application-specific customizing.

Refer to SAP Note 114340 as part of the SD user exits.

Unit 2

Exercise 8

Execute Application-Specific Customizing in Data Archiving

Business Example

The specific requirements of the FI department are to be implemented for the archiving object FI_DOCUMNT.

In addition to defining a general residence period, two special cases should also be considered.



Note:

As soon as a group has maintained the entries correctly, they exist. Then do not change the entries again, just check them for correctness.

1. Check your document type customizing for FI_DOCUMNT for the following specification:

The life (residence period) of 365 days should apply for all company codes and all document types.



Note:

If there is already an entry for company code 1010, keep it and do not change it. This is selected in such a way that you can successfully archive documents from this company code in a subsequent exercise.

2. Check your document type customizing for FI_DOCUMNT for the following specification:

For the document type SB (G/L Account Posting), the term of 150 days is to apply in all company codes

3. Check your document type customizing for FI_DOCUMNT for the following specification:

For document type KR (vendor invoices), the validity period of 90 days is to apply in company code 1710.

Unit 2 Solution 8

Execute Application-Specific Customizing in Data Archiving

Business Example

The specific requirements of the FI department are to be implemented for the archiving object FI_DOCUMNT.

In addition to defining a general residence period, two special cases should also be considered.



Note:

As soon as a group has maintained the entries correctly, they exist. Then do not change the entries again, just check them for correctness.

1. Check your document type customizing for FI_DOCUMNT for the following specification:

The life (residence period) of 365 days should apply for all company codes and all document types.



Note:

If there is already an entry for company code 1010, keep it and do not change it. This is selected in such a way that you can successfully archive documents from this company code in a subsequent exercise.

- a) Call transaction SARA or choose the following path:
Tools → Administration → Administration → Data Archiving.
- b) Enter FI_DOCUMNT as the object name.
- c) Choose *Customizing*.
- d) Double-click *Maintain document type life* in the *Application-Specific Customizing* area.
You are in the view *Change View "Document Archiving: Documents Life"*.
- e) Check whether an entry is maintained there with the following column values:

Table 6:

Field	Value
Company Code	*
Document Type	*

Field	Value
Document Life	365

- f) Only if no entry is maintained with these column values, enter the corresponding values as specified in the table above. To do this, choose *New Entries*.
- g) Then make the corresponding entries as described in the table above.
- h) Choose *Save*.
2. Check your document type customizing for FI_DOCUMENT for the following specification:
For the document type SB (G/L Account Posting), the term of 150 days is to apply in all company codes
- a) You are still in the view *Change View "Document Archiving: Documents Life"*.
- b) Check whether an entry is maintained there with the following column values:

Table 7:

Field	Value
Company Code	*
Document Type	SB
Document Life	150

- c) Only enter it if no entry with these column values is maintained. To do this, choose *New Entries*.
- d) Then make the corresponding entries as described in the preceding table.
- e) Choose *Save*.
3. Check your document type customizing for FI_DOCUMENT for the following specification:
For document type KR (vendor invoices), the validity period of 90 days is to apply in company code 1710.
- a) You are still in the view *Change View "Document Archiving: Documents Life"*.
- b) Check whether an entry is maintained there with the following column values:

Table 8:

Field	Value
Company Code	1710
Document Type	KR
Document Life	90

- c) Only if no entry is maintained with these column values, make the corresponding entries in change mode. To do this, choose *New Entries*.
- d) Make the corresponding entries as described in the preceding table.
- e) Choose *Save*.



LESSON SUMMARY

You should now be able to:

- Perform application-specific customizing using the example of FI and SD

Learning Assessment

1. Archiving objects bundle the functions that are required to archive business objects.

Determine whether this statement is true or false.

- True
- False

2. The technical settings for archiving object-specific Customizing include:

Choose the correct answers.

- A Information about the storage system.
- B The logical file name.
- C Settings for the delete program.
- D Maximum size of the archive file.
- E The fields, for which an index is created.

3. The path under which the archive files of an archiving object are to be created is maintained using transaction PATH.

Determine whether this statement is true or false.

- True
- False

4. You can access application-specific Customizing using transaction SARA.

Determine whether this statement is true or false.

- True
- False

Learning Assessment - Answers

1. Archiving objects bundle the functions that are required to archive business objects.

Determine whether this statement is true or false.

True

False

Correct. The statement is correct.

2. The technical settings for archiving object-specific Customizing include:

Choose the correct answers.

A Information about the storage system.

B The logical file name.

C Settings for the delete program.

D Maximum size of the archive file.

E The fields, for which an index is created.

Correct. The statement: "The fields, for which an index is created is wrong".

3. The path under which the archive files of an archiving object are to be created is maintained using transaction PATH.

Determine whether this statement is true or false.

True

False

Incorrect. The relevant transaction is FILE.

4. You can access application-specific Customizing using transaction SARA.

Determine whether this statement is true or false.

True

False

Correct. The application-specific customizing can be called and maintained using transaction SARA.

UNIT 3

Exploring the Assignment of Archivable Data to Archiving Objects

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UNIT OBJECTIVES

- Identify the critical tables based on the “Size” and “Growth” criteria.
- Assign the table to the archiving object.
- Explain the procedure for a 1:n assignment between table and archiving object.
- Use transaction TAANA to determine optimal archiving criteria.
- List the business, technical, and legal aspects of data archiving.

Performing Database Analysis



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Identify the critical tables based on the “Size” and “Growth” criteria.

Database Analysis: Method Overview

Business Example

You are familiar with the principles of data archiving and the function of the archiving objects.

Before you can archive data, you must determine the status of your databases and which are your critical tables are.

Database Analysis: Method Overview

Generally speaking, a disproportionately growing database is the starting point for a data archiving project.

There are different ways to determine and monitor the size of databases:



- Transaction DBACOCKPIT (DB02) in the SAP system.

It provides you with information about the size of your database as a whole, as well as the size and growth of individual tables.

You will also learn about a history feature on how the tables grow within days and months.

- Analysis tools of the respective database itself
- Data Volume Management (DVM) Tools

The Data Volume Management (DVM) tools can be accessed e.g. For example, about [Data Volume Management | SAP Community](#) at <https://pages.community.sap.com/topics/data-volume-management>.

Every analysis of a database should start with one of these tools. In this way you can get an overview of the largest tables, which will affect which archiving objects you use during your first archiving session.

Sometimes it may be necessary to examine the tables more closely to determine the archiving objects that are most suitable for archiving.

Transaction DBACOCKPIT offers you for example, the following Information:

- The size of the entire database under *Current Status* → *Overview*.
- For the size of large tables, choose *System Information* → *Large Tables*.

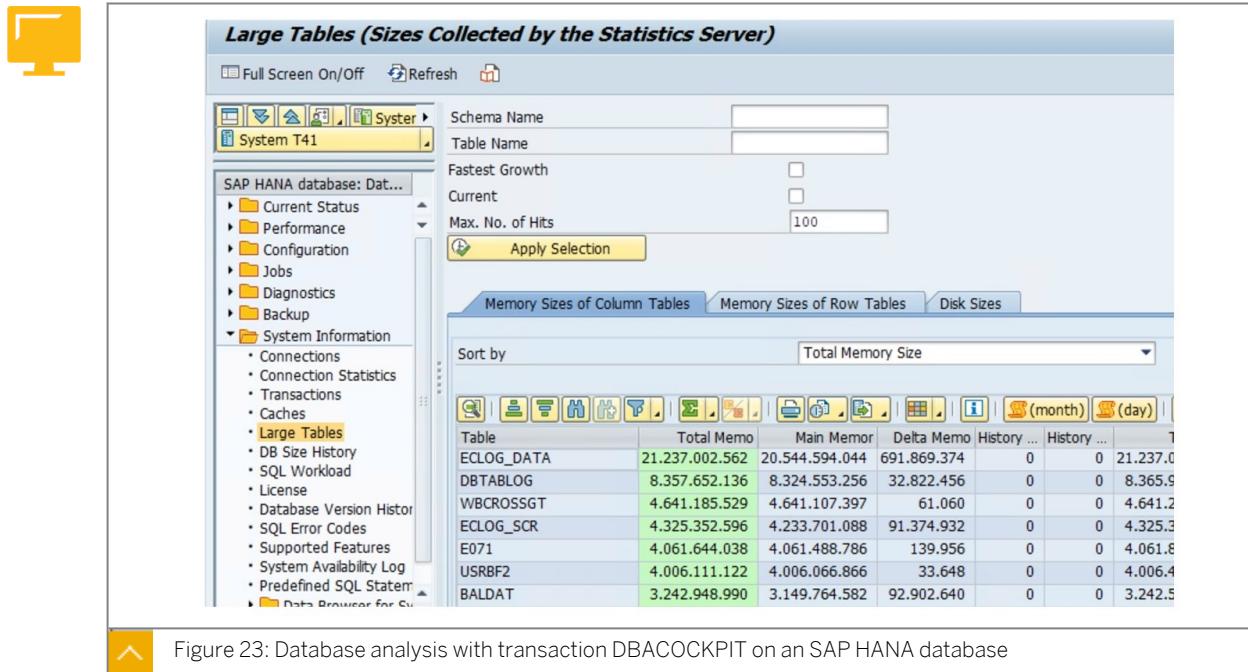


Figure 23: Database analysis with transaction DBACOCKPIT on an SAP HANA database

The figure shows a screenshot of transaction DBACOCKPIT on an SAP HANA database.

Working with transaction DBACOCKPIT 1/2



- In the tree on the left, choose *System Information* → *Large Tables*.
- Choose, for example the maximum number of largest tables you want to see and start the evaluation by choosing *Apply Selection*.
- Sort the result according to the size of the table or the number of entries.

Working with transaction DBACOCKPIT 2/2



- A second criterion besides the actual size of a table is the degree of its growth.
- You can query the corresponding values using the following pushbuttons, which you can find directly above the table:
 - Month
 - Day
 - Hours

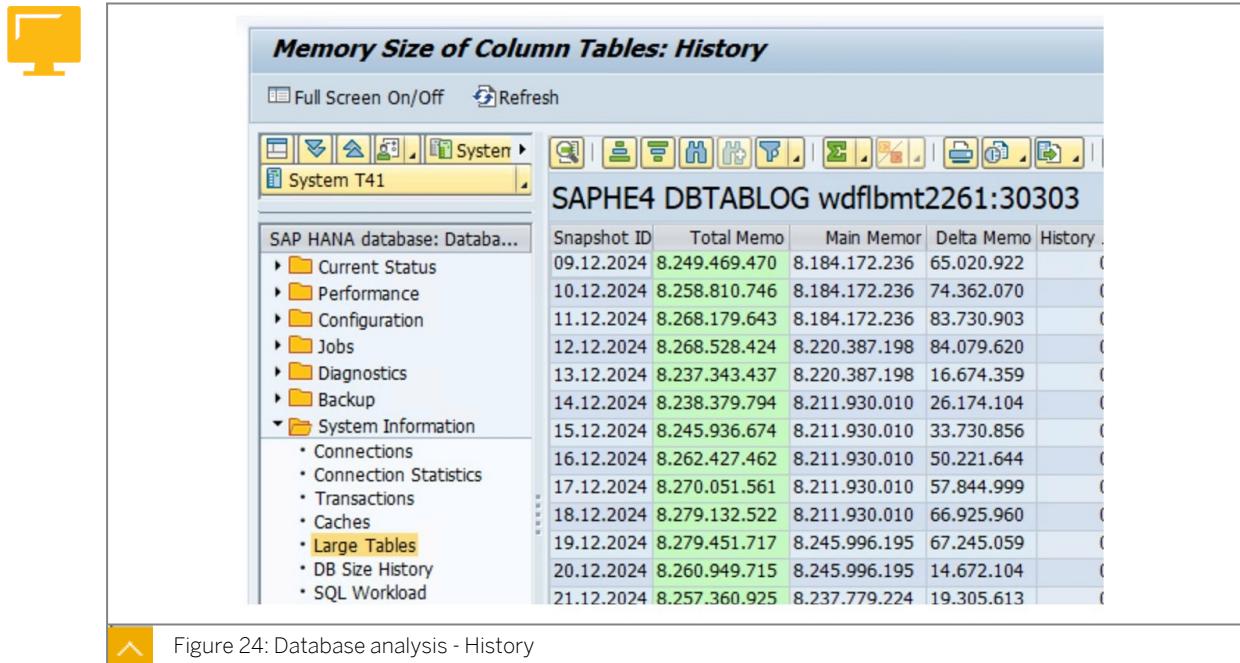


Figure 24: Database analysis - History

Unit 3

Exercise 9

Find Critical Tables

Business Scenario

Now that you know the basics of data archiving, you need to get an overview of critical tables in your database.

1. Find out the 5 largest tables in the training system and note them down

Unit 3

Solution 9

Find Critical Tables

Business Scenario

Now that you know the basics of data archiving, you need to get an overview of critical tables in your database.

1. Find out the 5 largest tables in the training system and note them down

- a) Call transaction DBACOCKPIT.
- b) In the tree on the left, choose *System Information* → *Large Tables*.
- c) In the *Max. No. of Hits* screen, enter the value **5**.
- d) Choose *Apply Selection*.
- e) Note down the 5 largest tables in the rows above.
You need this information in a subsequent exercise.



LESSON SUMMARY

You should now be able to:

- Identify the critical tables based on the “Size” and “Growth” criteria.

Unit 3

Lesson 2

Assigning Tables to Archiving Objects



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Assign the table to the archiving object.
- Explain the procedure for a 1:n assignment between table and archiving object.

Assignment of a Table to the Archiving Object

Business Example

You have found the most critical tables in your system. You now want to find out which archiving objects are used for these tables.

Assignment of a Table to the Archiving Object:



- The function Goto → Database Tables in the archive administration of transaction SARA finds the appropriate assignment of a table to the archiving object based on the structure information of an archiving object.
- This structure information is stored in transaction AOBJ, or it is stored using the BAdls ARC_OBJECT_ADD_TABLE or ARC_CLASS_ADD_TABLE.
- You can also access this function by calling transaction DB15.



The screenshot shows two overlapping Fiori cards. The top card is titled 'Tables and Archiving Objects/Data Destruction Objects' and has a sub-section 'Space Statistics'. The bottom card is titled 'Space Statistics'. Both cards are under the 'Archive Administration' header. The 'Space Statistics' section displays a table of data for an archiving object named 'WORKITEM'. The table includes columns for Table Name, Number of Rows, Table Space [KB], Index Space [KB], and Analysis Date. An arrow points from the 'Space Statistics' button at the bottom of the left card to the table in the right card, indicating they are related.

Table Name	Number of Rows	Table Space [KB]	Index Space [KB]	Analysis Date
SWFPROLEINST	8	104	9	
SWF_FLEX_C...	3.904	1.250	158	
SWPCMPCONT	0	73	1	
SWPNODE	4.287	2.239	169	
SWPNODELOG	19.461	7.445	524	
SWPSTEPLOG	88.238	23.428	1.820	
SWP_HEADER	23.756	1.800	322	
SWP_JOIN	881	1.344	102	
SWP_NODEWI	42.987	9.024	919	
SWCNCNTPO	361.526	263.307	3.216	
SWCNCNTPADD	1	108	9	
SWWEI	2.078	143	35	

Figure 25: Finding Out Which Tables Belong to an Archiving Object

Select the *Archiving Objects or Objects* radio button and enter a table in the *Objects for Table* field. Press *ENTER*. The system displays archiving objects that can remove data from this table.

You can also ask the reverse question. Select the *Tables from Which Data Is Archived ...* radio button and enter an archiving object in the *Tables for Object* field. Press *ENTER*. The system displays all tables whose records can be stored using this archiving object.

What do I have to do if more than one archiving object is found?

If you analyze a critical table in this way, you may be offered more than one archiving object. This is particularly possible for tables that contain general data, such as change documents and texts, which are usually archived using archiving classes together with the leading business objects.

If these are application tables, you need to clarify which processes in the company cause large amounts of data in this table.

Procedure for tables with several archiving objects:



- For certain tables, there are analysis reports from the applications that perform the table analysis.
Read the application documentation or search for suitable SAP notes.
- You can use transaction TAANA to perform an analysis for certain tables. (This transaction is introduced in another lesson.)

The application reports exist for example, for the line items of table COEP. You can also search for them in SAP notes. Use the name of the table and **table analysis, analysis report** and **analysis program** as key words..

Transaction TAANA, which is used to analyze table contents, provides special analysis variants for tables with several archiving objects. The transaction will be introduced in the next lesson.

Analysis reports for tables that are used in several places using the example of the table COEP:



- Analysis of table COEP with report RARCCOA1.
- Display of analysis data using report RARCCOA2.

Example of a Database Analysis: Table COEP

The RARCCOA1 report analyzes CO database tables for their object types. The object types determine the archiving objects.

Table 9: Analysis criteria of table COEP

Object Type in Table	Name	Archiving object
KS, KL	Cost Center	CO_CCMAST CO_TRANS (CO_TRANS replaces CO_ITEM and CO_TOTAL)
BP	Business Process	CO_PROCESS
IV	Lease-Out	RE_RNTL_AG

Object Type in Table	Name	Archiving object
OR, OP	Order	CO_ORDER pp_Order
EO	Profitability Segment	COPA2_xxx
HP	Cost Object	CO_KSTRG
CB	Sales Document	SD_VBAK
PR,NV,NP	Project	PS_PROJECT

If the report finds object types that reflect an order, the order category is also evaluated using the table AUFK.

Table 10: Order Categories

Purchase Order Category	Name	Archiving object
Type 01-06	Internal Order	CO_Order
Type 10	Production Order	PP_ORDER
Type 30	Maintenance Order	PM_ORDER
Type 40	Process Order	PR_ORDER

Sales orders have the object type VB, not OR. They are not affected by the order types of table AUFK.

The RARCCOA2 display report prepares the data that was determined by the RARCCOA1 report. By default, this analysis report reads the tables COEP, COEJ, COSP, COSS, COST and ACDOCA. The table selection can be determined on the selection screen.

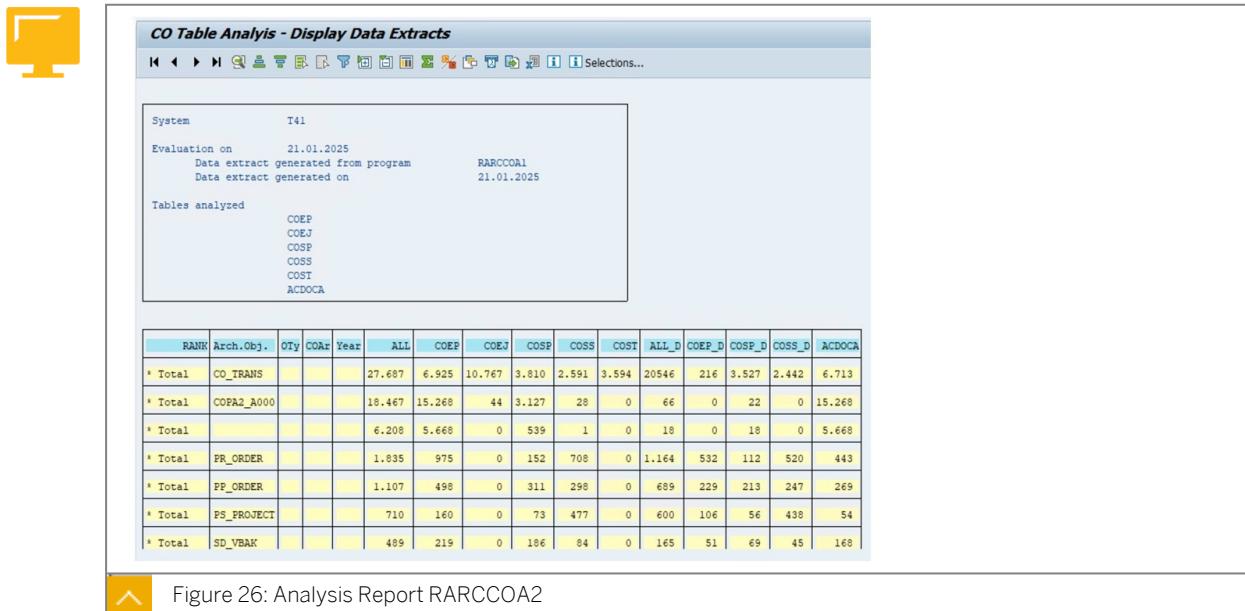
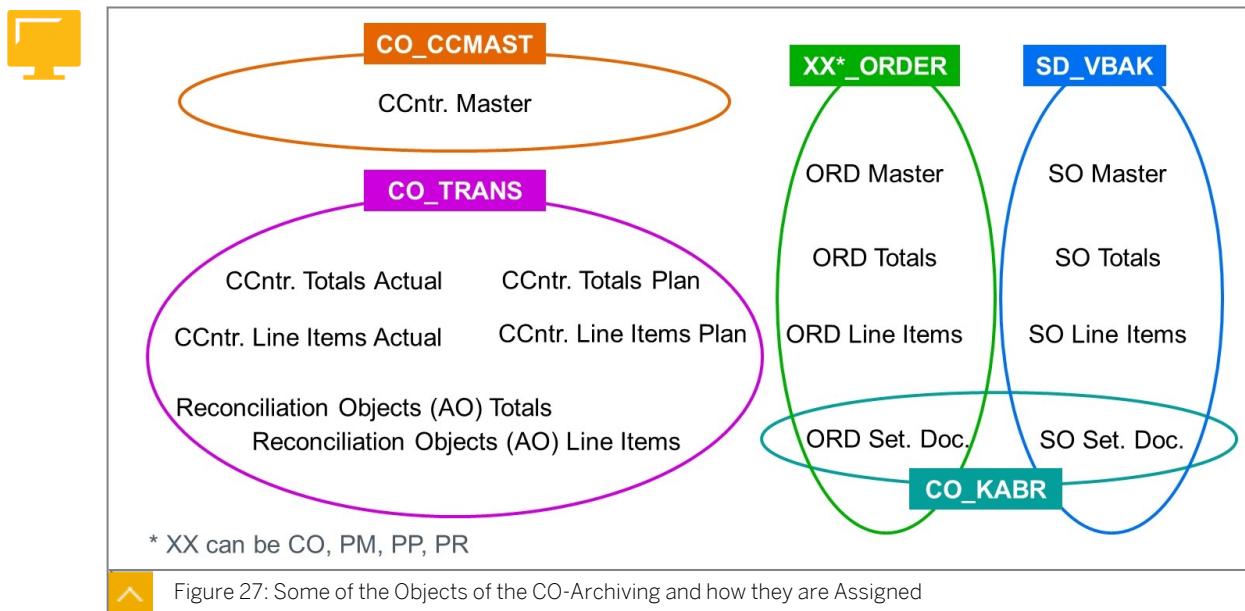


Figure 26: Analysis Report RARCCOA2

The following graphic gives you an overview of important CO objects and the ways to apply them.



Information about archiving object CO_TRANS:

- CO_TRANS replaces the archiving objects CO_ITEM and CO_TOTAL.
- For long-running business objects, such as cost centers, the line items can be archived with CO_TRANS.
- Even if the line items grow and have to be archived extremely quickly, the archiving object CO_TRANS should be used.
- CO_TRANS also archives reconciliation objects (AO) even though they are no longer required in SAP S/4HANA. However, this function is supported so that you can archive legacy data that arose before the transition to SAP S/4HANA. See SAP Note 2426075.
- CO_TRANS does not support orders and SD orders.
- In the case of task-like business objects, such as orders and sales and distribution documents, the line items are to be archived as part of the overall object, that is, using the archiving objects CO_ORDER and SD_VBAK.
- SAP Note 2230377 "Archiving: CO transaction data with CO_TRANS" and the SAP Notes mentioned therein provide you with further information.

Information about archiving cost centers:

- When archiving cost center master data, the archiving object CO_CCMAST replaces the object CO_COSTCTR.
- For more information, see SAP Note 645962 "Archiving object CO_CCMAST: Documentation".

Information on archiving in Profit Center Accounting:

- Tables GLPC* (for example GLPCT) of Profit Center Accounting are available in SAP S/4HANA and SAP S/4HANA Cloud Private Edition, but should not be used in the long term.

- The recommendation is that you migrate from classic Profit Center Accounting to the "Profit Center Accounting in Universal Journal" function before the compatibility package license expires.
- Archiving with the archiving objects EC_PCA_SUM, EC_PCA_ITM, EC_PCA_MD is therefore replaced by archiving with FI_DOCUMNT.
- For more information, see for example in SAP Notes:
2269324 "Compatibility Scope Matrix for SAP S/4HANA",
993220 "EC-PCA - Classic Profit Center Accounting",
2425255 "Profit Center Accounting in the Universal Journal in SAP S/4HANA / On-Premise and Private Cloud".

Regular Work of the Data Administrator

Employees who are responsible for data archiving in the company should perform certain tasks with a certain frequency.

The following list includes these activities:



- Regular monitoring of the size growth of the database. Set a critical threshold for your tables.
- If new tables that are not yet contained in your list of data to be archived become critical, assign suitable archiving objects to the tables.
- If you cannot find an archiving object for a table, the process in which the table is filled must be analyzed, or you must contact the relevant SAP application.



- Regularly review the documents that we mentioned in the "Support for the Data Archiving Project" section in Lesson 1.
In particular, the information and tools for "Data Volume Management".
- If you are not on the latest support package by default, check whether new notes have been created for your objects before each new archiving.

Mostly Used Archiving Objects in Customer Landscapes

List of the Mostly Used Archiving Objects in Customer Landscapes



- The following list contains the most important archiving objects that have emerged over time across customer systems.
- Note that the list is based on a cross section and can look very different if, for example, you are using an industry solution.
- You can find an example, IS-U (Utilities), at the end of the list.



- BC_DBLOGS (Archiving Changes to Customizing Tables)
- BC_SBAL (Archiving Object for Application Log)
- BC_XMB (Archiving Object for the Integration Engine)
- CHANGEDOCU (Change Documents)
- CO_COPC (Archiving Product Costing Data)

- CO_TRANS (CO line items and totals)
- CO_ORDER (Orders with transaction data)
- COPA1_* (COPA costing-based, operating concern *)
- COPA2_* (COPA account-based, operating concern *)
- FI_ACCPAYB (Vendor master data)
- FI_ACCRECV (Customer master data)
- FI_DOCUMNT (Financial Accounting Documents)
- FI_MKKDOC (FI-CA: Document)
- FI_SL_DATA (Totals and line items in FI_SL)
- IDoc (IDoc - Intermediate Document)
- MM_ACCTIT (MM Subsequent Posting Data for Accounting Interface)
- MM_EBAN (Purchase Requisitions)
- MM_EINA (Purchasing Info Records)
- MM_EKKO (Purchasing Documents)
- MM_MATBEL (Material Documents)
- MM_MATNR (LO: Material Master Records)
- MM_SPSTOCK (LO: Batches and Special Stocks)
- PM_EQUI (Equipment)
- PM_IFLOT (Functional locations)
- PP_ORDER (Production Order)
- PP_PLAN (Routings)
- RV_LIKP (Deliveries)
- SD_COND (Condition records for pricing)
- SD_VBAK (Orders)
- SD_VBRK (Billing documents)
- SD_VTTK (SD shipments)
- WORKITEM (Work items from the workflow system)



- As an example of an industry solution, IS-U stands for utilities.
- For example, the following objects are used here most frequently:
 - FI-CA Documents (Accounting Documents)
 - ISU_PRDOCL (Print Document Line Items)

- ISU_PRDOCH (Print Document Headers)
- ISU_BILLZ (Billing Document Line Items)
- ISU_BBP (Budget Billing Plans)

Unit 3 Exercise 10

Assign Tables to Archiving Objects

Business Scenario

You have performed a database analysis and identified the largest tables. You now want to find out the appropriate archiving objects for the tables.

Task 1: Find the Archiving Objects for the 5 Largest Tables in your Training System

You have identified and noted these tables in the exercise Find Critical Tables.

1. Which of the five tables have an archiving object?

Note the names of the 5 tables in the lines and check whether these tables have an archiving object.

2. How would you behave if you were not offered an object?

Task 2: Use the Analysis and Display Reports for the CO Line Items

1. For tables COEP, COSS, and COEJ, what help is there to find out the archiving object that promises the most benefit?

Unit 3

Solution 10

Assign Tables to Archiving Objects

Business Scenario

You have performed a database analysis and identified the largest tables. You now want to find out the appropriate archiving objects for the tables.

Task 1: Find the Archiving Objects for the 5 Largest Tables in your Training System

You have identified and noted these tables in the exercise Find Critical Tables.

1. Which of the five tables have an archiving object?

Note the names of the 5 tables in the lines and check whether these tables have an archiving object.

- a) Call transaction DB15 or choose *Goto → Database Tables* in the archive administration of transaction SARA
- b) Select the *Archiving Objects* or *Objects* radio button.
- c) In the *Objects for Table* input field, enter the required table and choose *Show Tables*.
- d) The system displays the appropriate archiving object(s) in the *Object* column. Make a note.

2. How would you behave if you were not offered an object?

- a) You must clarify whether the application intends to reduce the table by other means. For more information, see the application documentation or search for suitable SAP Notes.
- b) If nothing is planned, you must clarify with SAP whether the development of an archiving object is planned.
- c) It may be necessary to clarify which processes in your company fill the table.

Task 2: Use the Analysis and Display Reports for the CO Line Items

1. For tables COEP, COSS, and COEJ, what help is there to find out the archiving object that promises the most benefit?

- a) Go to transaction SE38.

You are in the *ABAP Editor: Initial Screen* view.

- b) In the *Program* input field, enter the report name RARCCOA1 and choose *Execute*.

You are in the *CO Table Analysis - Generate Data Extract* view.

- c) In the *Tables to be analyzed* area, select all tables and choose *Execute*.

- d) After executing the report, choose *Back*.

You are back in the *ABAP Editor: Initial Screen* view.

- e) In the *Program* input field, enter the report name RARCCOA2 and choose *Execute*.

You are in the *CO Table Analysis - Display Data Extract* view.

- f) Now analyze the results.



LESSON SUMMARY

You should now be able to:

- Assign the table to the archiving object.
- Explain the procedure for a 1:n assignment between table and archiving object.

Determining Appropriate Selection Criteria with Transaction TAANA



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Use transaction TAANA to determine optimal archiving criteria.

Transaction TAANA – a Table Analysis Function

Business Example

You want to find out how the data in the table to be archived is distributed across the various fields of the archiving program selection screen so that you can make the appropriate selection conditions for optimal archiving.

If several archiving objects are possible for a table, you want to find out whether all or only certain of them are possible when looking at the specific data in your system.

You can use transaction TAANA to find an answer to these questions.

Transaction TAANA – a table analysis function:



- You can use transaction TAANA to analyze the distribution of data of a table to selected fields, such as time periods or organizational units.
- From this, you can derive selection criteria for the archive write program that promise the greatest success to minimize the data in the database.

In Financial Accounting, you don't want to archive, for example company codes and years in which hardly any data was posted. The question arises as to which company codes and for which fiscal years there are the most documents.

- You can also use this transaction to determine how many records of a table can be archived with which archiving object if several archiving objects are possible.

Transaction TAANA - Analysis Variants:



- Each analysis is based on an analysis variant.
- You must specify this when scheduling an analysis, in addition to the table to be analyzed.
- The analysis variant specifies the fields on which the distribution of data is to be analyzed.
- SAP delivers analysis variants. You are free to create additional analysis variants yourself.
- The analysis results are stored in the database in separate tables belonging to the transaction TAANA.

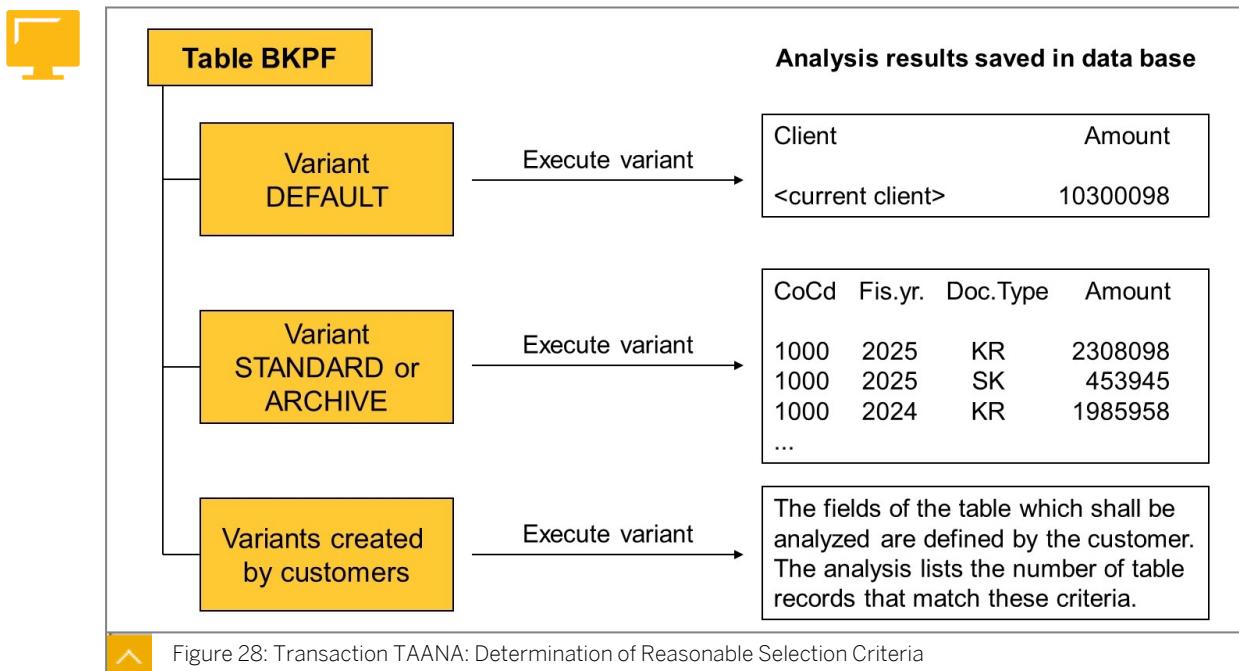


Figure 28: Transaction TAANA: Determination of Reasonable Selection Criteria

In principle, the variant **DEFAULT** exists in the system for each table. This variant determines the number of records in the specified table in the current client.

Each application should provide a variant for its tables that contains archiving-relevant criteria. This variant should have the name **STANDARD** or **ARCHIVE**.

Each customer can create their own customer-specific variants, if required.

Performing Analyses



- Call transaction **TAANA**.
- Choose *Table Analysis* → *Execute*.
- Enter the table to be analyzed.
- Enter the analysis variant to be used.

If you use the input help for the *Analysis Variant* input field, the existing variants are displayed on the left-hand side of the screen.

If no suitable variant exists, you must create one yourself. The procedure for this is described below.

- Use the *Data Selection* pushbutton, if you do not want to analyze the entire table, but for example only table entries for specific years, or company codes.

Displaying the Analysis Results:

- You can see the analysis results on the left-hand side of the screen.
- Expand the required table.
- Double-click the row with the desired analysis.

You can see the result on the right-hand side of the screen.

In the *Settings* → *Central Settings* menu item, in the *Column Names* group, you can decide whether you want to see the field labels or the technical field names.

- The colors of the traffic lights before an analysis represent the following statuses:
 - Green – everything is fine
 - Yellow – analysis is based on a variant that has been changed in the meantime
 - Red - An error occurred during the analysis

**Caution:**

If the result of the analysis is very extensive (for example, because the variant contains a field that is too selective), the system issues the warning "Table analysis is very large. Loading the file can take a long time".

You can confirm this warning with *Enter* if you want to view a comprehensive analysis.

SAP Note 2266294 enables you to implement additional authorizations when displaying the analysis results..

Data Management in Table Analysis



-

**Caution:**

Analyses are stored in the database in special tables belonging to TAANA. Therefore, delete the results as soon as you no longer need them.

- The table analysis provides you with tools for managing the data of its tables. You can find them under *Utilities* → *Reorganize Analyses*.
- You also have two analysis variants that you can use to analyze the distribution of data in TAANA.

These are the variants for table *TAAN_DATA*.

2 ways to check whether a suitable analysis variant already exists for your table.



- In transaction TAANA choose *Table Analysis* → *Execute*. Enter the required table and call the field help for input field *Analysis Variant*. Or:
- In transaction TAANA, choose *Environment* → *Analysis Variants* or call transaction *TAANA_AV*.

On the left-hand side of the screen, you see the existing analysis variants, sorted by the tables for which they are defined.

If no suitable analysis variant exists, you can create a customer-specific analysis variant as follows:



- In transaction TAANA, choose *Environment* → *Analysis Variants*.
- Choose *New Entries* and enter the table to be analyzed.
- Assign a name from the customer namespace to the analysis variant.
- Select the fields to be analyzed.

**Caution:**

Note that the more selective the selected fields, the less meaningful the analysis is.

Document number, for example, is a very selective field. In the worst case, each document is listed in the analysis.

Good criteria are organizational units that can have few values. In general, this includes: company code, controlling area, fiscal year, period, document type, ...

- Save the analysis variant.

The analysis variant is available for any number of analyses.

- If it is no longer needed, you can remove it from by choosing *Edit → Delete*.

Ad Hoc Analysis Variants



- If you only want to quickly create an analysis variant for the table analysis that is currently to be executed, you can also create an ad hoc analysis variant.
- The definition of an ad hoc analysis variant is not saved; it is only available for the current table analysis.
- You do not need a workbench request for an ad hoc analysis variant.
- To create an ad hoc analysis variant, in transaction TAANA, choose *Table Analysis → Execute*.

Enter the required table and call the field help for the *Analysis Variant* input field. Choose *Ad hoc variant* and select the fields for the analysis variant.

- Ad hoc analysis variants are only created in this way, that is, not using *Environment → Analysis Variants*.

Special Functions for Field Selection in (Ad Hoc) Analysis Variant - Subfield Analysis



- You have selected the fields to be analyzed. However, you may want to analyze only part of the field.
- You can make the relevant restrictions in the left part of the screen, in addition to the field name in the columns *Subfield: Offset* and *Subfield: Length*.

Special Functions for Field Selection in (Ad Hoc) Analysis Variant - Total length of variable-length fields



- Tables with a large amount of space can contain fields of variable length (for example fields that are mapped on the database as large objects (LOBs)).
- In this case, it can be helpful to analyze the total of the lengths of these variable-length fields in addition to the number of entries in the table.
- If you want to do so, select the checkbox in the *Length* column to the right of the selected field.

- Note that this checkbox is only ready for input for fields of the DDIC types LCHR, LRAW, RAW, STRING, and XSTRING and the field *Column Length* is only displayed for tables that contain a field with one of the DDIC types mentioned.

For more information, see SAP Note 2155448.

Virtual Fields for Analysis Variants

Virtual Fields for Analysis Variants - What they offer to you

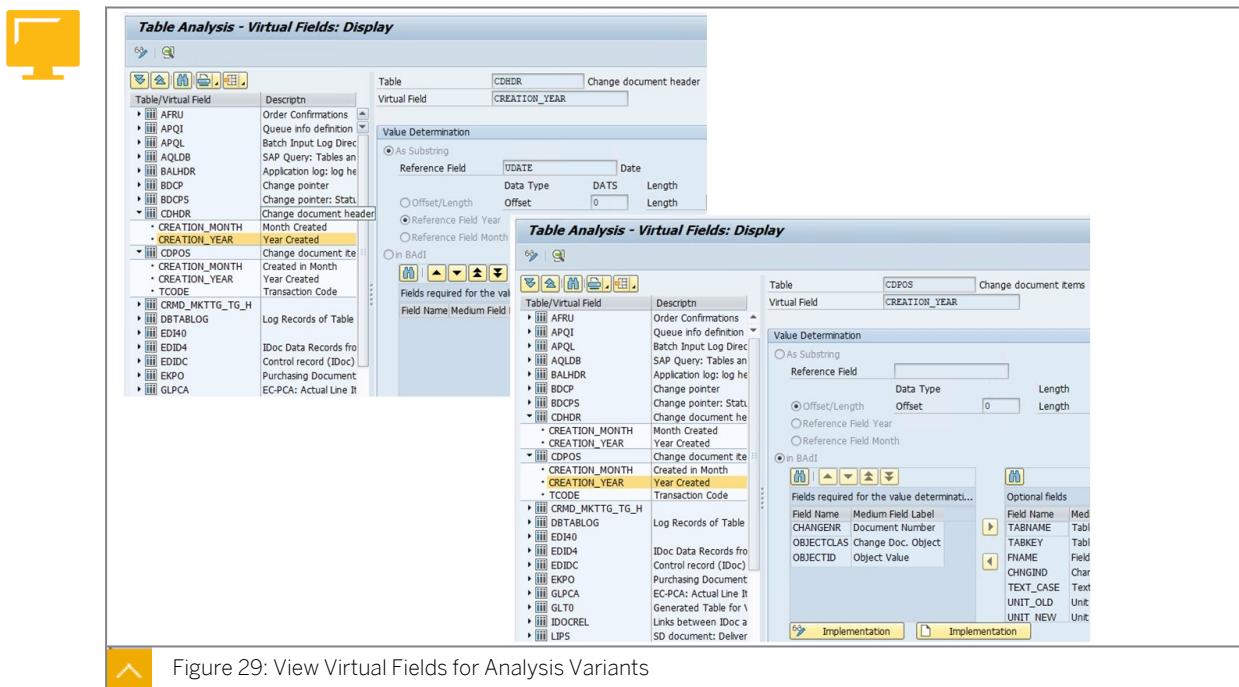


1. Analysis of a table field part, for example, the year in a date field, to examine the distribution of data over the year. (SAP does not recommend that you analyze entire date fields because it is a very selective field.)
2. Analysis of a virtual field that is not contained in the table to be analyzed, but whose value can be determined from existing table fields and/or from other tables.
 - A virtual field can, for example be the archiving object for tables that are assigned to several archiving objects.
 - An analysis using this kind of a virtual field would return the distribution of table records based on the responsible archiving object. This enables you to determine which archiving object can be used to store most of the data in a table.
 - The field value of this type of virtual field is determined in a BAdI implementation for which ABAP programming skills are required.

Show Virtual Fields



- You can see the virtual fields that have already been defined in transaction TAANA Environment → *Virtual Fields*
- Alternatively, you can call transaction TAANA_VF.
- When you define analysis variants, the virtual fields are displayed after the actual fields of the respective table without a special indicator.



The figure shows the screen to see, or change virtual fields.

Creating Virtual Fields for Analysis Variants

To Create Virtual Fields

- In transaction TAANA, from the menu, choose *Environment → Virtual Fields*. Alternatively, you can call transaction `TAANA_VF`.
- Then choose *Edit → New Entries*.
- Specify the name of the virtual field and the table for which you want to create it.

Create Virtual Fields - Define Value Determination

- Use a radio button in the *Value Determination* group to choose whether the virtual field is determined from part of another field of the table (subfield), or whether its value is determined in a Business Add-In (BAI).
- In the first case, you must specify a reference field and the required offset and length.

To do this, you have three options: *Offset/Length*, *Year from the reference field*, or *Month from the reference field*.

You already know the *Offset/Length* option from the definition of fields for an ad hoc analysis variant.

- If the value determination is to take place in a BAI, you must first specify in the group *Fields Required for Value Determination* those fields of the affected table whose consideration results in the value of the virtual field. You can then create an implementation for the BAI definition `TAANA_VIRTUAL_FIELDS` by choosing the *Create Implementation* pushbutton.

Create Virtual Fields - Define Technical Properties

- In the *Technical Attributes* group, specify an associated type for the virtual field.
- You can do this by specifying a data element, or a data type and a description.

- If the virtual field is defined as a subfield with *year from the reference field* or *month from the reference field*, the system automatically proposes a data element.

Transaction TAANA: Jumps to the definition of tables and virtual fields

In many places in the transactions discussed for table analysis, you have the option of branching to the definition of an object.

Table Analysis: Jumps to The Definition of Tables and Virtual Fields

- When you schedule a new analysis in transaction TAANA, you can double-click a field name that is contained in the selected analysis variant to go to the definition of the corresponding table (Data Dictionary). If it is a virtual field, you jump to its definition in transaction TAANA_AV.
- In transaction TAANA_AV, you can double-click a field name to jump to the definition of the corresponding table (ABAP Dictionary).
- By double-clicking a virtual field in transaction TAANA_AV, you can branch to the definition of this field (transaction TAANA_AV).
- In transaction TAANA_VF, you can double-click a table or field name to jump to the definition of the corresponding table (ABAP Dictionary).

Unit 3

Exercise 11

Perform a Table Analysis Using Transaction TAANA

Business Scenario

You want to analyze the distribution of the data of a table across selected fields (for example organizational units, time periods) before you decide which data exactly you want to archive. You use transaction TAANA to perform such an analysis of the table.

1. Determine whether there is already an analysis variant for the batch stocks table MCHB that can be used to determine selection criteria for archiving. If so, start a table analysis with this variant in the background.
2. You want to quickly determine which object creates the most data in the change document table CDHDR.
To do this, create an ad hoc analysis variant with the field OBJECTCLAS if no suitable analysis variant already exists. Then start the analysis online.
3. Get an overview of all tables for which analysis variants exist in your system. Check out for example the definition of the analysis variant STANDARD for the application log log header table BALHDR or for the table SWWWIHEAD "Workflow Runtime: Header Table".
To do this, use the function *Environment → Analysis variants* in transaction TAANA.
4. Repeat the steps for the table SWWWIHEAD.
5. In the definition of the analysis variant STANDARD for the table CDHDR, you saw the fields CREATION_MONTH and CREATION_YEAR. These fields do not belong to the Data Dictionary definition of table CDHDR. This means that they must be virtual fields.
Look at the definition of the virtual field CREATION_YEAR. To do this, use the function *Environment → Virtual Fields*.

Perform a Table Analysis Using Transaction TAANA

Business Scenario

You want to analyze the distribution of the data of a table across selected fields (for example organizational units, time periods) before you decide which data exactly you want to archive. You use transaction TAANA to perform such an analysis of the table.

1. Determine whether there is already an analysis variant for the batch stocks table MCHB that can be used to determine selection criteria for archiving. If so, start a table analysis with this variant in the background.
 - a) Call transaction TAANA.
 - b) Choose *Start Table Analysis (F8)*.
You are on the *Start Table Analyses* dialog screen.
 - c) Enter **MCHB** as the *Table Name* and use the F4 help for the *Analysis Variant* input field to display all existing analysis variants.
You are on the *Analysis Variants: Selection* dialog box.
 - d) You see an analysis variant named *STANDARD*.
A suitable analysis variant therefore exists.
 - e) Select the *STANDARD* analysis variant and choose *Continue*.
You are back on the *Start Table Analyses* dialog screen.
 - f) In the *Processing Options* area, select the *In the Background* radio button.
 - g) Choose *Continue*.
You are in the *Start Time* dialog box.
 - h) To start the analysis, choose *Immediate* and then *Save*.
You are in the *Table Analysis: Administration* view.
 - i) As soon as the started job is finished, you see a green traffic light in the *Table/Analysis/Field list* column for table MCHB.
 - j) Use the *Edit → Refresh* function to see the progress of the analysis.
 - k) Double-click the green traffic light to display the analysis results on the right-hand side of the screen.
2. You want to quickly determine which object creates the most data in the change document table CDHDR.
To do this, create an ad hoc analysis variant with the field OBJECTCLAS if no suitable analysis variant already exists. Then start the analysis online.

- a) Call transaction TAANA.
 - b) Choose *Table Analysis* → *Perform (F8)*.
You are on the *Start Table Analyses* dialog screen.
 - c) Enter **CDHDR** as the *Table Name* and use the F4 help for the *Analysis Variants* input field to display all existing analysis variants.
You are on the *Analysis Variants: Selection* dialog screen.
 - d) Expand the analysis variants to display their fields.
 - e) An analysis variant **STANDARD** exists, but it contains more fields than you require.
 - f) Choose *Ad hoc Variant*.
 - g) Use the arrow keys to move the *OBJECTCLAS* field from the *Optional fields* group to the *Analysis variant fields* group.
 - h) Choose *Continue*.
The ad hoc variant you have just defined is already selected.
 - i) Choose *Continue*.
You are back on the *Start Table Analyses* dialog screen
 - j) In the *Processing Options* area, select the *Online* radio button.
 - k) Choose *Continue*.
 - l) As soon as the started job is finished, you see a green traffic light in the *Table/Analysis/Field List* column for table CDHDR.
 - m) Double-click the green traffic light to display the analysis results on the right-hand side of the screen.
3. Get an overview of all tables for which analysis variants exist in your system. Check out for example the definition of the analysis variant **STANDARD** for the application log log header table **BALHDR** or for the table **SWWWIHEAD** "Workflow Runtime: Header Table".
To do this, use the function *Environment* → *Analysis variants* in transaction TAANA.
 - a) Call transaction TAANA.
 - b) In the menu, choose *Environment* → *Analysis Variants*.
 - c) Confirm the information dialog box.
 - d) On the left-hand side of the screen, you can now see all tables for which an analysis variant exists.
 - e) Choose, for example, the table **BALHDR** and check the corresponding analysis variants.
 - f) Double-click the analysis variant **STANDARD**. On the right-hand side of the screen, you can now see the definition of the analysis variant.
 4. Repeat the steps for the table **SWWWIHEAD**.
 - a) Expand the entries for it in the left-hand part of the screen.
 - b) Double-click the analysis variant **STANDARD**.

5. In the definition of the analysis variant STANDARD for the table CDHDR, you saw the fields CREATION_MONTH and CREATION_YEAR. These fields do not belong to the Data Dictionary definition of table CDHDR. This means that they must be virtual fields.

Look at the definition of the virtual field CREATION_YEAR. To do this, use the function *Environment → Virtual Fields*.

- a) You are on the *Table Analysis - Analysis Variants* screen. From the menu, choose *Environment → Virtual Fields*
- b) Confirm the information dialog box.
- c) In the left-hand part of the screen, select the table *CDHDR* and then double-click the name of the virtual field *CREATION_YEAR*.
- d) On the right-hand side of the screen, you can now see that the virtual field *CREATION_YEAR* is defined as the year from the date field *CDHDR*.



LESSON SUMMARY

You should now be able to:

- Use transaction TAANA to determine optimal archiving criteria.

Explaining the Data Analysis Phase During the Data Archiving Project



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- List the business, technical, and legal aspects of data archiving.

Objectives of the Data Analysis Phase

Business Example

Once you have found an appropriate archiving object, you must determine the dependencies between the data to be archived and decide on the relevant archiving sequence.

Objectives of the Data Analysis Phase

The content of this project phase is as follows:



- Determination of critical tables and their archiving objects.
- Definition of residence times for the objects.
- Checking the processes used – has everything been considered in the context of the process?
- Determination of requirements for archived data.
- Creation of a functional specification that must be accepted by the data archiving team.

In the data analysis phase, you need to analyze the database size, table growth, and system performance from a technical point of view. For critical tables, you must determine the archiving objects and processes that use the data. One of the main tasks of the analysis phase is to define criteria for when which data can be removed from your system (Clarification of Residence Times). Based on these criteria, a recommendation can be given for or against the archiving of data. It also clarifies dependencies and any additional checks that may be required. Requirements for archived data are defined and grouped together in a functional specification. This specification should be presented to the different departments involved and must be approved by them. It is best to obtain this approval in writing.

This type of analysis must not be confused with the constant work of the system administrator. Their routine tasks are database monitoring and maintaining system performance in day-to-day operations.

Data Analysis Phase: Dependencies Between Archiving Objects

The critical tables and the assigned archiving objects are determined, for example using transaction DBACOCKPIT and DB15.

If you have identified several archiving objects as candidates, you must define a suitable archiving sequence for these objects. In any case, the system ensures that your database does not become inconsistent due to data archiving.

When determining the sequence from a business perspective, it is best to use the process logic. Ask yourself what you want to do, but you may not be able to if a certain business object has been archived. In the IS-U industry solution, for example, reversals are no longer possible if the corresponding billing documents have been archived.

The system supports you in creating a suitable sequence:



- Check the network graphic for the selected archiving objects.
- Read the documentation for the selected archiving object.
- Check your business processes for additional dependencies.
- Perform a test run with data that is as productive as possible.
- Have the different departments, whose data is affected, test whether their processes, including display functions, still work.

You can find the network graphic under SARA → Goto → *Network Graphic*. It shows the dependencies between the archiving objects. On the right is the selected object and to the left all the archiving objects whose data should be archived from the database before the selected archiving object in order to be able to archive as much data as possible with the selected archiving object.

However, there is no other function behind the network graphic as such; it is a purely auxiliary tool for finding effective sequences of the data archiving runs. You can also use SAP Note 391350 to position the network graphic in data archiving.

The network graphic always displays the last date of an archiving run with this archiving object. Runs whose data is also deleted are highlighted in green. Runs whose data still exists in the database because the deletion phase has not yet been completed are highlighted in yellow.

Checking the results of productive runs in the test system by the user department ultimately answers the question of whether all dependencies have been identified.

Choosing the Correct Archiving Sequence

How do you choose the correct archiving sequence?



- In particular, if the analysis of the database has produced a large number of critical tables and therefore a large number of archiving requirements from very different areas, the question “Where do we start now?“.
- The following list is based on experience of SAP consultants in the area of data archiving. It shows archiving sequences used by customers.
- However, you must always check that this list is valid in your company. In particular, if you use an industry solution or use processes in modified form, it can look very different.

Choosing the correct archiving sequence



1. MM_MATBEL (Materials management: Material documents) → MM_INVBEL (Materials management: Inventory documents) → MM_REBEL (Materials Management: Invoice Documents).
2. MM_EKKO (Purchasing Documents) → MM_EBAN (Purchase Requisitions) → MM_EINA (Purchasing Info Records) → MM_ASMD (Service Master).
3. SD_VFKK (Shipment Costs) → SD_VTTK (Shipping Documents) → RV_LIKP (Deliveries) → SD_VBRK (Billing Documents) → SD_VBAK (Sales Documents) → SD_COND (Pricing Condition Records)
4. RL_TA (MM-WM: Warehouse management: Transfer orders) → RL_TB (MM-WM: Warehouse management: Transfer requirements) → RL_LUBU (MM-WM: Warehouse mgmnt: Posting change notices) → RL_LINKP (MM-WM: Warehouse mgmnt: System inventory records) → RL_LINV (MM-WM: Warehouse mgmnt: Invent.count recs.history)
5. MM_ACCTIT (MM- Accounting interface posting data)
6. FI_DOCUMNT (Financial Accounting Documents) → FI_SL_DATA (FFI Special Ledger: Totals and Line Items)
7. CO_ORDER (Orders with Transaction Data) → PP_ORDER (Production Order) → PR_ORDER (Process Order)
8. CO_TRANS (CO Line Items and Totals) → CO_CCMAST (Cost Center Master Data).
9. COPA1_* (COPA costing-based, operating concern *) → COPA2_* (COPA account-based, operating concern *)
10. AM_ASSET (Asset - Master Data, Values and Transactions)
11. IDOC (IDoc - Intermediate Document)
12. MM_SPSTOCK (LO: Batches and Special Stocks) → MM_MATNR (LO: Material Master Records)

The following statements refer to the order between the rows.

An arrow indicates a mandatory order of the lines. Otherwise, the sequence can be seen as a proposal:

1 -> 2 (to be read as: objects from line 1 before objects from line 2)

2 -> 3

5 -> 6, 5 -> 12

6 -> 7

1 -> 8 (since MM creates commitments in CO) 1 -> 8, 7 -> 10

As an example of an industry solution, IS-U stands for utilities. This results in the following sequences:



1. FI-CA Documents (Accounting Documents)
2. ISU_PRDOCL (IS-U: Print Document Line Items)
3. ISU_PRDOCH (IS-U: Print Document Headers)

4. ISU_BILLZ (IS-U: Billing Line Item) or ISU_BBP (IS-U: Budget Billing Plans)

Budget billing plans (ISU_BBP) are displayed at the same level as the billing documents, that is, they can be archived if the corresponding print document has been archived completely (lines and header).

5. ISU_BILL (IS-U: Billing Document Headers)

6. ISU_EABL (IS-U: Meter Reading Results)

For data protection reasons (GDPR), you can also archive meter reading results before the corresponding billing documents (see SAP Note 2516189).

7. ISU_PROFV (IS-U: EDM Profile Values)

For data protection reasons (GDPR), you can also archive profile values before the billing document is archived (see SAP Note 2972166).



Note:

These experiences from SAP consulting do NOT release you from your own process analysis, tests with live data, and the examination of the test results by the user departments.

Data Analysis Phase From the Perspective of the Different Project Groups

The different groups involved in a data archiving project have to clarify different questions in the data analysis phase. The following three lists are designed to help you pinpoint the issues that need to be clarified.

Analysis from the auditing point of view:



- Which legal requirements exist for data storage?
- Have the legal requirements from different states or countries been considered?
- Do you need a special tool to display the data?
- Which fields (all or subsets) of a document must be displayed from a revision point of view?
- Is process context required from revision point of view?
- Is there a need to create detailed reports?
- Which access authorizations are required for the data?
- Is the archived data protected against manipulation?

Analysis from a Business Point of View



- Process analysis as a prerequisite for determining the residence times:
 - Classification of the data to be archived in the company processes.
 - Clarify when a business process is completed.

- Which processes access the data to be archived.
- Which processes refer to data to be archived.
- Determine the dependencies between the archiving objects based on the network graphic, documentation, and process analysis.
- Definition of residence times.
- Determination of display requirements from a business perspective:
 - Which data is to be displayed?
 - In what form should it be displayed?
 - Is the process context required?

Analysis from a Technical Point of View



- Clarify server configuration and backup concept for archiving runs.
- Selection of the storage medium for secure storage after data archiving:
 - Which access times can be tolerated?
 - How high can the administrative costs be?
 - Is an optical document archiving planned (for example for ArchiveLink, GOS attachments).
 - Are print lists planned for data archiving?

You must figure out how often data will be accessed after archiving to be able to decide how to store archived data so it is available for accesses. Try to estimate (ABC analysis) together with the different departments how frequently data will be accessed within one month, six months, and one year after archiving.

If you decide to store data on external media, you must make long-term plans for recopying this data periodically because the hardware and data storage media will likely become obsolete over the years.



LESSON SUMMARY

You should now be able to:

- List the business, technical, and legal aspects of data archiving.

Learning Assessment

1. The table analysis with transaction DBACOCKPIT provides the following information:

Choose the correct answers.

- A Information about the total size of your database.
- B Information about the size of individual tables.
- C Information about the growth of individual tables.
- D Information on how the tables grow within days and months (history function).
- E Information about how many data was archived, and when.

2. To analyze the table COEP, you use the report RARCOEP1.

Determine whether this statement is true or false.

- True
- False

3. If you find several objects that need to be archived during the data analysis phase, a suitable archiving sequence must be created. You can use the process logic as a basis.

Determine whether this statement is true or false.

- True
- False

4. What is the purpose of transaction TAANA?

Choose the correct answer.

- A You can use transaction TAANA to analyze the fields of a table.
- B Transaction TAANA analyzes how the fields of tables are used in several tables.
- C You can use transaction TAANA to analyze how data of a table is distributed across selected fields. (for example: Organizational Units, Time Periods).

Learning Assessment - Answers

1. The table analysis with transaction DBACOCKPIT provides the following information:

Choose the correct answers.

- A Information about the total size of your database.
- B Information about the size of individual tables.
- C Information about the growth of individual tables.
- D Information on how the tables grow within days and months (history function).
- E Information about how many data was archived, and when.

Correct. The statement "Information about how many data was archived, and when" is wrong.

2. To analyze the table COEP, you use the report RARCOEP1.

Determine whether this statement is true or false.

- True
- False

Correct. To analyze the table COEP, you use the report RARCCOA1.

3. If you find several objects that need to be archived during the data analysis phase, a suitable archiving sequence must be created. You can use the process logic as a basis.

Determine whether this statement is true or false.

- True
- False

Correct. The statement is correct.

4. What is the purpose of transaction TAANA?

Choose the correct answer.

- A You can use transaction TAANA to analyze the fields of a table.
- B Transaction TAANA analyzes how the fields of tables are used in several tables.
- C You can use transaction TAANA to analyze how data of a table is distributed across selected fields. (for example: Organizational Units, Time Periods).

Correct. Transaction TAANA is used to analyze how data of a table is distributed across selected fields.

UNIT 4

Performing Data Archiving with Transaction SARA

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UNIT OBJECTIVES

- Execute functions of transaction SARA.
- Authorization checks in the context of data archiving.
- Monitor archiving jobs.
- Display and Interpret Logs.
- Interpret Archiving Statistics.
- Describe the procedure for errors and restart scenarios.
- Describe the structure and management of administrative data.
- Explore the job interruption of the write phase.

- Store Archive Files.
- Describe the purpose and requirements of a long-term archiving plan.

Planning and Executing Data Archiving



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Execute functions of transaction SARA.
- Authorization checks in the context of data archiving.

Execution of Archiving in Transaction SARA

Business Example

After the analysis phase is finished, the project team starts archiving data.

Execution of archiving in transaction SARA

Performing archiving involves the following steps:



- Check customizing settings
- Schedule write jobs
- Check job logs and save if necessary
- Ensure that archive files are stored
- Schedule deletion jobs
- Check job logs and save if necessary.
- Distribute information about archived data to departments
- If possible, you should first perform the steps mentioned above in a test system with a copy of the production data when implementing new archiving objects

Archiving runs are usually scheduled in transaction SARA. See SAP Note 2356091 if you want to schedule runs outside transaction SARA.

Before executing the delete job, you must ensure that the created archive files are available and stored.

Archiving programs create a log. You need to consider what to do with the logs after data archiving.

Experience from data archiving projects shows that the more information about the archiving process is distributed, the higher the acceptance in the user department. We therefore recommend that you forward the appropriate data to the relevant departments after a data archiving run.

Functions of Transaction SARA

The following is a maximum list of the functions that can be available for an archiving object when transaction SARA is called.



- Preprocessing (optional)
- Write
- Delete
- Postprocessing (optional)
- Read
- Storage System (optional)
- Management

The action buttons in transaction SARA correspond to the programs offered by an archiving object. These were introduced in the lesson on the structure of an archiving object. In addition, there are the action buttons *Storage System* and *Management*.

The *Management* function is about the administration of data archiving. It informs you about the archiving runs that you have performed for the respective archiving object.

If you have specified in the technical settings of archiving-specific customizing that the archive files are to be stored in an external storage system, the *Storage System* action appears. From there, you can move archive files to an external storage system.

Scheduling the Write Program

Scheduling the Write Phase - Maintain a Variant for the Write Program



- In the variant for the write program, you specify how you want to parameterize the write program.
- If you reuse a variant for the write program for which associated jobs are still existing, a dialog box appears with this information. You can confirm it and continue archiving, or you can branch from the dialog box to job management and delete the job logs.
- If you select the *Enhanced (Create, Change, Copy, Delete)* checkbox in the group *Edit Variants* in the menu *Settings → Central Settings*, you can also copy or delete a variant.

You will find more information about the above checkbox in its field help (F1) or in SAP Notes 2565848 (Central user-specific settings in the data archiving environment) and 2520093 (Archive Administration: Advanced Variant Maintenance (Write, Preprocessing and Postprocessing)).

Scheduling the Write Phase - Defining the User



- Scheduling a write phase also means defining the user under whose name the run is to take place.
- If you start data archiving centrally, it is easiest if the user under which the write program is started has SAP_ALL authorization, since each archiving object can check its own authorization objects.

You can enter a system user (background user) as the user.

Scheduling the Write Phase - Define Start Time and Spool Parameters



- Now define the start point.
- Define the spool parameters.

The standard print dialog, which you call using the *Spool Parameters* button, has the *Properties* button, which, among others, offers the following options:

- You can include a cover page defined by the system administrator in the spool log. The cover sheet can contain information such as date, time, authorization, user, release, system.
- You can include the selection cover page in the spool log. You then see the values of the variant with which you started the archiving program.

Please note during the maintenance of the spool parameters, that the job logs can take on a larger scope and it is not advisable to output the log to the printer immediately.

Definition of Variants for the Write Program – Examples

In Release SAP R/3 Enterprise (that is, since the beginning of the 2000s), a project was set up to standardize the most important archiving objects used by customers (see SAP Note 577847). The requirements created there have also been valid for all new archiving objects created since then.

Common components of the selection screens of all (standardized) archiving programs



- You decide in which mode the program is to be executed in the group *Processing Options*.
You use the *Test Mode* and *Production Mode* radio buttons to select the mode in which the program is to be executed.
- In the *Detail Log* and *Log Output* fields, you can specify the required details for the output of a business object-specific log.
- In the *Archiving Session Note* input field, you can write a note for the archiving session directly when creating the variant for the write program.

The business object-specific log should provide you with information about which business objects were processed (for example, archived in the write program) and which ones, why not. The log consists of a summarized log and - if you wanted it in the *Detail Log* field - a detail log.

In the *Log Output* field, you decide whether the business object-specific log is to be written to the spool and/or to the application log. The application log will be introduced in the next lesson.

A delete program does not have to offer the business-object-specific log because it is clear here which business objects are being processed - they are those that exist in the archive file.

A note on the archiving session helps you to find the session in archive administration.

For more information about the individual input fields, see the field help (F1).

You will now find examples of variants of write programs. They refer to frequently used archiving objects. More examples are provided in the appendix of the course.

Variants for the Write Program for FI_DOCUMNT (Financial Accounting Documents)

Possible selection criteria are:



- Company Codes
- Document Numbers
- Fiscal Year/Period
- Document Type
- Minimum number of days in the system
- Key Date

The key date is the reference date for the validation of document type life and account type life.

The entry in *Min. No. of Days in the System* in the variant maintenance is related to the *Key Date*. The minimum number of days is subtracted from the key date. All documents after this date are ignored when the data is selected. You can use these settings to minimize the duration of the write program.

If the account lives in application-specific customizing are higher than the minimum number of days in the system, their values are used as a criterion for archivability.

If you want to schedule the jobs periodically, you must leave the *key date* empty. The current date is used at runtime.

Archivability Criteria for FI_DOCUMNT (Financial Accounting Documents)



- For accounts with open item management, the documents must be cleared.
- Runtime Checks:
 - Posting date < key date - document type life.
 - Posting date < key date - account type life (without open item management).
 - Clearing date < key date - account type life (for open item management).
 - Creation date < key date - minimum number of days in the system.
 - Change date < key date - minimum number of days in system.

Variants for the Write Program for RV_LIKP (Deliveries)

The following parameters can be set for the object RV_LIKP:



- Delivery Category
- Document Number
- Delivery Type
- Created On
- Shipping Point/Receiving Point
- Sales Organization
- Change Date: Residence Time

Set the checkbox if you want the change date to be used instead of the creation date of the delivery for the residence time check.

Read the field help (F1) for more information about this and the following checkboxes.

- Check Residence flow documents
- Check Flow Documents Residence
- Do Not Check Transportation Planning
- Check FI Document
- Archive Attachments

Here you can determine whether generic object services (GOS) attachments are to be archived together with the corresponding delivery.

The coding of the preprocessing program is identical to that of the write program in test mode. As a result, it is obsolete. We recommend that you use the write program in test mode because you can control which messages are to be output in the log in more detail than in the preprocessing program.

Archivability Criteria for RV_LIKP (Deliveries)



- SAP Notes 138666 and 93141 list the conditions that are checked during archiving.
- For example, the billing document must be completed like any subsequent document of the delivery before the delivery can be archived. However, the billing document does not necessarily have to be archived beforehand.

Variants for Write Program SD_VBRK (Billing Documents)

The following parameters can be set for the object SD_VBRK:



- SD document
- Billing Type
- Created On
- Sales Organization
- Company Code
- Change Date: Residence Time

Here you can specify that the reference date for calculating the residence time is not the creation date of a document, but the date of its last change.

- Check Flow Documents Residence

The checkbox controls whether the residence time must also be reached for the documents in the document flow of the billing document so that the billing document can be considered archivable.

The check is performed on the basis of the creation date of the respective flow document with the residence time valid for the respective billing document.

Archivability Criteria for SD_VBRK (Billing Documents)



- SAP Note 138666 lists the conditions that are checked during archiving.

- For example, for a billing document, both the posting status and the overall status must be completed.

Variants for write program: SD_VBAK (Sales Documents)

The following parameters can be set for the object SD_VBAK:



- SD Documents
- Sales Document Type
- Created On
- Sales Organization
- Residence Period: Change Date

Here you can specify that the reference date for calculating the residence time is not the creation date of a document, but the date of the last change.

- Residence Period in Document Flow
- Check Purchase Order
- Check Journal Entry

If you select the checkbox, the system checks whether the sales document is cleared in accounting.

- Check Valid-To Date

This checkbox only affects sales documents with a 'valid to' date (inquiry, quotation, scheduling agreement, contract, item proposal, and so on) and only if this valid-to date is maintained.

If you select this checkbox, the system rejects the archiving of a sales document with a valid-to date if the valid-to date is not in the past.

- Archive Attachments

Here, you can determine whether generic object services (GOS) attachments are to be archived together with the corresponding sales document.

Archivability Criteria for SD_VBAK (Sales Documents)



- Sap Note 481577 lists which archivability criteria apply to the sales documents.
- You can also find helpful information in FAQ note 547748.
- For example, if you select the *Check Purchase Order* checkbox, the system checks the existence of a purchase order for the current order in table EKKO and the existence of a purchase requisition for the current order in table EBAN. In the case of direct external procurement (third-party order or individual purchase order), the check should be activated. Otherwise, there is a risk that the vendor's invoice (invoice receipt) can no longer be entered.
- An offer is, for example, archivable if the corresponding order has been delivered. (In this case, the delivery is not checked.)
- A standard order is only archivable if a goods issue has been posted and billed for the delivery.

The document flow check checks whether the successor documents of the current sales document have the overall processing status Completed. In detail, we proceed as follows:

The system selects the follow-on documents in table VBFA.

The follow-on documents of the documents in the hit list are checked in table VBUK for the overall processing status *Completed*.

Controlled Interruption of the Write Phase and Scheduling of the Delete Program

Controlled interruption of the write phase



- Remember that you can interrupt the write phase in a controlled manner.
- This is particularly useful for fixed maintenance windows.
- The concept of interruption is described in the lesson "Cross-Archiving Object Customizing".

Scheduling the Delete Program



- Now schedule the delete program for each archive file if you have not selected automatic scheduling in customizing or if you have only executed this in test mode.
- If you select the *Existing Inactive Info Structures* checkbox in the *Warnings - Before Deletion* group in the menu *Settings → Central Settings* in Archive Administration, the system checks whether info structures exist for the archiving object in the Archive Information System (AS).

If this is the case, the system checks whether at least one of them is active.

If none of the info structures is active, a dialog box appears with a corresponding information text. The dialog box provides several options for selection, including the activation of selected info structures.

Scheduling the Delete Program - Storing Before or After the Delete Phase



- If you have activated the sequence *Store Before Deleting* in customizing for the archiving object, only archive files that have already been stored are displayed in the archive selection for deletion.
- If you select the *Store Before Deleting: Existence of Unstored Files* checkbox in the *Warnings - Before Deletion* group in the *Settings → Central Settings* menu item in Archive Administration, the system checks whether unstored files exist before displaying the archive selection for deletion.

If this is the case, a warning is displayed.

For more information about the above checkboxes see their field help (F1) or SAP Notes 2586921 (Run selection for deletion: Information about the existence of archive files that have not been stored) and 2565848 (Central user-specific settings in the data archiving environment).

Options for scheduling delete jobs outside archive administration



- You can use program RSARCHD to schedule the delete programs outside archive administration.
- You can use it to restrict the maximum number of parallel delete jobs, among other things.

- For more information, see also SAP Note 205585 (Scheduling ADK delete jobs outside SARA).
- For more information on this topic, see, for example, SAP Notes 133707 and 205585.

As already mentioned in lesson 1, you can use program RSARCHD to schedule the delete programs outside archive administration.

Resuming a paused write phase



- Remember that you can only continue an interrupted write phase if the delete phase was successful for all archive files of the run.

Since no pointer or similar is set internally, it is not clear in an interrupted run how many or which documents of the selection set have already been archived. To ensure that you do not archive data twice, you must first complete the deletion phase.

- If you set the checkbox *Existence of Interrupted, Incomplete Sessions* in the group *Warnings - Before Continuing* in the menu *Settings → Central Settings* in Archive Administration, the system checks whether there are still interrupted but incomplete archiving sessions when you choose *Goto → Continue*.

If this is the case, a warning is displayed.

For more information about the above checkbox see its field help (F1) or in SAP Notes 2520094 (Continue: Information about the existence of interrupted but incomplete archiving sessions), as well as 2565848 (Central user-specific settings in the data archiving environment).

Prerequisites for Starting an Archiving Run

The prerequisites for starting an archiving run are listed below.



- Specific consultation with the business department regarding the start of archiving and the data to be archived.
- Check customizing settings (residence times, selection conditions).
- Successful test with live data.
- Consult with system administration (storage space, system settings).
- If necessary: Schedule the preprocessing program.

Agree with the business department and system administrator whether archiving is to be carried out during a working day or at the weekend.

Perform a test run in which no real archive files are created. The test run enables an accurate estimation of the data volume and runtimes.

Discuss the following resource requirements with your system administrator



- Memory requirement
- Free jobs for background processing
- Disk space for the archive files

General values for the system configuration cannot be specified; the settings depend on your company-specific system configuration. You must make settings that enable mass data processing. Talk to your system administrators.

You can find the disk space required for archive files in the standard log of the archive write program executed in test mode.

Authorization Checks in the Context of Data Archiving

Authorization checks in the context of data archiving take place in three places



- Authorization checks by archive administration (ADK):
Performed by the authorization object `S_ARCHIVE`.
- Authorization checks from the applications to which the archiving object belongs
- Authorizations for Background Processing
Performed by the authorization objects `S_BTCH_JOB` and `S_BTCH_NA1` or `S_BTCH_NAM`.

During data archiving, authorizations are checked both by archive administration (ADK) and by applications.

Check done by Archive Administration (ADK): Authorization object `S_ARCHIVE`

The authorization object `S_ARCHIVE` (Archiving) is used to check the execution authorization of the programs of the archiving object and transaction SARA.

The authorization object `S_ARCHIVE` (Archiving) checks for:



- Activity: Which activities can be executed?
- Application area: Which application area (FI, SD, ...) can be edited.
- Archiving object: Which specific archiving object can be processed?
- For more details, see transaction SU21.

Authorizations for Background Processing



- The authorization object `S_BTCH_JOB` (Background Processing: Operations on Background Jobs) executes the authorization check for scheduling background jobs.
- A user who wants to schedule an archiving run under the name of another person also requires the authorization `S_BTCH_NA1` (Background Processing: Specification of a user name + program) or `S_BTCH_NAM` (Background Processing: Background User Name).

Authorization Checks of Applications



- Each archiving object can (but does not have to) check authorization objects from the environment of its own application.
- You can find out which authorizations are checked in detail in the documentation for the archiving object.

Examples of Authorization Objects of the Application



- Archiving object SD_VBAK (Sales Documents):
 - Authorization object V_VBAK_AAT (Sales Document: Authorization for Sales Document Types).
 - Authorization object V_VBAK_VKO (Sales Document: Authorization for Sales Areas).
- Archiving object MM_MATBEL (Materials Management: Material Documents)
 - Activity 06 (delete) from authorization object M_MSEG_WMB (material documents: plant).

Remember that application-specific authorizations are also required for reading archives.

You must maintain the archiving authorizations in accordance with your planning; you use them to define who is to perform which tasks in the context of data archiving.

Roles in Data Archiving

The Role SAP_BCCM_DATA_ARCHIVING (Data Archiving Administrator)



- The role SAP_BCCM_DATA_ARCHIVING (Data Archiving Administrator) is available to you.
- It already contains the authorization objects S_ARCHIVE and S_BTCH_NA1.
- For more authorization objects for this role, see, for example, transaction PFBCG.

Unit 4 Exercise 12

Execute the Archive Write and Delete Programs

Business Example

After the project team has performed customizing and analysis, the actual data archiving must now be executed.



Note:

Whenever the characters ## are used, please replace ## with the group number that has been assigned to you.

Task 1: Archive financial accounting documents using FI_DOCUMNT

First, check the technical customizing of the archiving object.



Note:

As soon as a group has maintained the entries correctly, they exist. In this case, only check whether they really apply.

1. The setting for the deletion program should refer to the manual two-step procedure (archive first, then explicitly delete).
2. The connection to the external storage system should be activated. The required content repository is 00.
The sequence should be: first delete phase, then storage of the file. Storage should not be started automatically by the system.
3. The logical file name should be ARCHIVE_DATA_FILE.

Task 2: For each group, archive and delete the financial accounting documents that are assigned to your group (and only those documents).

Table 11:

Group	Company Code	Document Number from	Document Number to	Fiscal Year
1	1010	4900000910	4900000929	2024
2	1010	4900000930	4900000949	2024
3	1010	4900000950	4900000969	2024
4	1010	4900000970	4900000989	2024
5	1010	4900000990	4900001009	2024

Group	Company Code	Document Number from	Document Number to	Fiscal Year
6	1010	4900001010	4900001029	2024
7	1010	4900001030	4900001049	2024
8	1010	4900001050	4900001069	2024
9	1010	4900001070	4900001089	2024
10	1010	4900001090	4900001109	2024
11	1010	4900001110	4900001129	2024
12	1010	4900001130	4900001149	2024
13	1010	4900001150	4900001169	2024
14	1010	4900001170	4900001189	2024
15	1010	4900001190	4900001209	2024
16	1010	4900001210	4900001229	2024
17	1010	4900001230	4900001249	2024
18	1010	4900001250	4900001269	2024
19	1010	4900001270	4900001289	2024
20	1010	4900001290	4900001309	2024
21	1010	4900001310	4900001329	2024
22	1010	4900001330	4900001349	2024
23	1010	4900001350	4900001369	2024
24	1010	4900001370	4900001389	2024
25	1010	4900000640	4900000659	2023
26	1010	4900000660	4900000689	2023
27	1010	4900000690	4900000709	2023
28	1010	4900000710	4900000729	2023
29	1010	4900000730	4900000749	2023
30	1010	4900000750	4900000769	2023
31	1010	4900000770	4900000789	2023
32	1010	4900000790	4900000809	2023

1. In transaction SARA, create a variant for the write program with the name **GRP##**.
2. Enter the company code, the from-to range with document numbers, and the fiscal year for which the documents from your group are to be archived. You can find this information under the number of your group in the preceding table.
If the system issues a message informing you about open periods in the archive period, confirm this message and continue.

3. Choose test mode as the *processing options*.
4. Request a complete detail log. The log must be written to the list and the application log.
5. Enter your group number, your group-specific from-to document numbers, and the company code and year as the archiving session note.
6. Then maintain the variant attributes using the *Variant Attributes* button at the top of the screen.
In the *Description* field, enter a description of your choice.
Save your variant.
Return to the *Archive Administration: Create Archive Files* view.

Task 3: Make the settings for job and spool parameters and start the write phase of the archiving run

1. Define the start date for your background job for the archiving variant GRP## in transaction SARA.
You want to have an immediate start date for your job.
2. Define the spool parameters. The printer **1p01** is to be used for the output device. Request the output of the selection screen cover sheet in the spool because you want to see the selections from your variant there.
3. Both traffic lights should now all be green.
You have now made all the settings for starting the write program. Now start the job using the *Execute* icon and monitor your jobs in the job overview.
4. You have performed a test run. At the end of the write job, check in the log and the spool whether the documents can be archived and how much space the archive files would require.
5. If the log declares that the documents can be archived, start archiving again with the same variant, but this time in production mode.
The entries for spool parameters and start date should show a yellow traffic light, that is, they do not need to be maintained again.

Can you repeat the job without problems?

6. If the documents have been archived successfully, run the delete program in production mode.
The entries for spool parameters and start date should have a yellow traffic light, that is, they do not have to be maintained again.



Note:

Make sure that you only process the archive files that you have created.

7. In transaction FB03, display one of the documents that you archived.

Execute the Archive Write and Delete Programs

Business Example

After the project team has performed customizing and analysis, the actual data archiving must now be executed.



Note:

Whenever the characters ## are used, please replace ## with the group number that has been assigned to you.

Task 1: Archive financial accounting documents using FI_DOCUMNT

First, check the technical customizing of the archiving object.



Note:

As soon as a group has maintained the entries correctly, they exist. In this case, only check whether they really apply.

1. The setting for the deletion program should refer to the manual two-step procedure (archive first, then explicitly delete).
 - a) Call transaction SARA or follow the path:
Tools → Administration → Administration → Data Archiving.
 - b) Use **FI_DOCUMNT** as the *Archiving Object*.
 - c) Choose *Customizing*.
 - d) Under *Archiving Object-Specific Customizing*, choose *Technical Settings*.
 - e) Check whether the *Not Scheduled* option is set in the *Settings for Delete Program* group and in the *Delete Jobs* group.
2. The connection to the external storage system should be activated. The required content repository is 00.
The sequence should be: first delete phase, then storage of the file. Storage should not be started automatically by the system.
 - a) You are still in the technical settings of archiving object-specific customizing.
 - b) In the *Place File in Storage System* section, enter **00** in the *Content Repository* field. Do not set the *Start Automatically* checkbox directly below.
 - c) In the *Sequence* section, choose *Delete Before Storing*.

3. The logical file name should be `ARCHIVE_DATA_FILE`.
 - a) You are still in the technical settings of archiving object-specific customizing.
 - b) In the *Logical File Name* field, enter the value `ARCHIVE_DATA_FILE`.
 - c) Choose Save.

Task 2: For each group, archive and delete the financial accounting documents that are assigned to your group (and only those documents).

Table 11:

Group	Company Code	Document Number from	Document Number to	Fiscal Year
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9	1010	4900001070	4900001089	2024
10	1010	4900001090	4900001109	2024
11	1010	4900001110	4900001129	2024
12	1010	4900001130	4900001149	2024
13	1010	4900001150	4900001169	2024
14	1010	4900001170	4900001189	2024
15	1010	4900001190	4900001209	2024
16	1010	4900001210	4900001229	2024
17	1010	4900001230	4900001249	2024
18	1010	4900001250	4900001269	2024
19	1010	4900001270	4900001289	2024
20	1010	4900001290	4900001309	2024
21	1010	4900001310	4900001329	2024
22	1010	4900001330	4900001349	2024
23	1010	4900001350	4900001369	2024
24	1010	4900001370	4900001389	2024
25	1010	4900000640	4900000659	2023
26	1010	4900000660	4900000689	2023

Group	Company Code	Document Number from	Document Number to	Fiscal Year
27	1010	4900000690	4900000709	2023
28	1010	4900000710	4900000729	2023
29	1010	4900000730	4900000749	2023
30	1010	4900000750	4900000769	2023
31	1010	4900000770	4900000789	2023
32	1010	4900000790	4900000809	2023

1. In transaction SARA, create a variant for the write program with the name **GRP##**.
 - a) Return to the initial screen of transaction SARA or choose *Tools → Administration → Administration → Data Archiving* and enter **FI_DOCUMENT** as the archiving object.
 - b) Choose *Write*.
 - c) Enter **GRP##** as the variant.
 - d) Choose *Edit*.
2. Enter the company code, the from-to range with document numbers, and the fiscal year for which the documents from your group are to be archived. You can find this information under the number of your group in the preceding table.
 If the system issues a message informing you about open periods in the archive period, confirm this message and continue.
 - a) Enter the entries in the *Company Codes, Document Numbers, and Fiscal Year/Period* in the *Financial Accounting Documents* section
 - b) Enter periods 01 to 99 for your fiscal year.
3. Choose test mode as the *processing options*.
 - a) Select the *Test Mode* entry in the *Processing Options* section.
4. Request a complete detail log. The log must be written to the list and the application log.
 - a) In the *Detail Log* field, choose *Complete*.
 Note that a complete detail log should only be requested for archiving small amounts of data. For more information, see the field help (F1).
 - b) In the *Log Output* field, choose *List and Application Log*.
 In practice, you should choose either the list or the application log as the storage location. To get to know both alternatives, we select both here.
5. Enter your group number, your group-specific from-to document numbers, and the company code and year as the archiving session note.
 - a) In the *Archiving Session Note* field, enter your group number, your group-specific from-to document numbers, as well as the company code and year.
6. Then maintain the variant attributes using the *Variant Attributes* button at the top of the screen.
 In the *Description* field, enter a description of your choice.

Save your variant.

Return to the *Archive Administration: Create Archive Files* view.

- a) Choose *Attributes*.
- b) In the *Description* field, enter a description of your choice.
- c) Choose *Save*.
- d) Choose *Back* to return to the *Archive Administration: Create Archive Files* view.

Task 3: Make the settings for job and spool parameters and start the write phase of the archiving run

1. Define the start date for your background job for the archiving variant GRP## in transaction SARA.

You want to have an immediate start date for your job.

- a) Choose *Start Date*.
- b) Choose *Immediate*.
- c) Choose *Save*.

This returns you automatically to the *Archive Administration: Create Archive Files* view.

2. Define the spool parameters. The printer **1p01** is to be used for the output device. Request the output of the selection screen cover sheet in the spool because you want to see the selections from your variant there.

- a) Choose *Spool Parameters*.
- b) Enter **1p01** as the *Output Device*.
- c) Choose *Properties*.
- d) Expand the entry *Cover sheets* and double-click the entry *Selection cover sheet*.
- e) Select the *Selection cover page* checkbox below.
- f) Choose *Continue* to return to the *Background Print Parameters* view.
- g) Choose *Continue* to return to the *Archive Administration: Create Archive Files*.

3. Both traffic lights should now all be green.

You have now made all the settings for starting the write program. Now start the job using the *Execute* icon and monitor your jobs in the job overview.

- a) Choose the *Execute* icon in the *Archive Administration: Create Archive Files* view.
The system issues the message **New archiving job was scheduled**.
- b) Choose the *Job* icon (quick info: Job Overview) or Goto → Job Overview. You see all jobs for **FI_DOCUMNT**.



Hint:

The name of the job contains **_WR1** before the date and time.

- c) You can use the *Job CreatedBy* column to find your jobs. You can also directly call transaction **SM37** and display only your jobs.

4. You have performed a test run. At the end of the write job, check in the log and the spool whether the documents can be archived and how much space the archive files would require.
 - a) Check your write job in the job overview until it has the status **Finished**.
 - b) In the *Job Overview*, select your write job and choose *Spool* (quick info: Display spool list).
 - c) Select the line and choose the icon with the glasses icon *Display contents*.
You see statistics about the archive file that was simulated in your test run. Below you can see a summarized log of the financial accounting documents that have been processed. This log always appears. Below you can see the required detail log.
5. If the log declares that the documents can be archived, start archiving again with the same variant, but this time in production mode.
The entries for spool parameters and start date should show a yellow traffic light, that is, they do not need to be maintained again.

Can you repeat the job without problems?

No, you had to confirm this time that you want to use the same variant again. Since you have changed the settings for processing options to production mode, this is ok.

- a) Return to the *Archive Administration: Create Archive Files* view.
- b) Choose *Edit*.
- c) Are there any problems?
Yes. A dialog box appears with the confirmation prompt: The variant you selected is already in use. Do you still want to change this variant?
If you want, you can now cancel and delete the jobs. Alternatively, you can confirm the prompt by choosing *Yes*.
Confirm that you want to change the variant and set the indicator *Production Mode* in the *Processing Options* section.
- d) Save your variant again.
- e) Choose *Back* to return to the basic screen.
- f) Then choose the *Execute* icon.
- g) A dialog box appears with the message **The selected variant is already being used in a write job.**
The note of the system should help you not to accidentally archive data twice.
In our case, however, it must be ignored because our first run was a test run.
- h) In the dialog box that appears, choose *Continue*.
- i) Choose the *Job* icon (quick info: *Job Overview*) or *Goto → Job Overview*.
- j) In the job overview, select your write job as soon as it has finished and choose *Spool* (quick info: *Display spool list*).

- k) Select the line and choose the icon with the glasses icon *Display contents*. Check the spool that has been created.
Your documents should be archived.
6. If the documents have been archived successfully, run the delete program in production mode.
The entries for spool parameters and start date should have a yellow traffic light, that is, they do not have to be maintained again.



Note:

Make sure that you only process the archive files that you have created.

- a) To delete, return to the basic screen of transaction SARA and choose *Delete*.
b) Choose *Archive Selection*.
c) Make sure that you only select your archive run and choose *Continue*.
d) Choose *Execute*.
The system issues the message **New deletion jobs have been scheduled**.
7. In transaction FB03, display one of the documents that you archived.
- a) Call transaction FB03 or choose *Accounting → Financial Accounting → Accounts Payable → Document → Display* and enter one of the documents you archived.
b) Press Enter.
c) You see the archived document. In addition, the system issues the message **Document <xyz> has already been archived** in the status line.



LESSON SUMMARY

You should now be able to:

- Execute functions of transaction SARA.
- Authorization checks in the context of data archiving.

Monitoring Data Archiving



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Monitor archiving jobs.
- Display and Interpret Logs.
- Interpret Archiving Statistics.
- Describe the procedure for errors and restart scenarios.

Monitoring of Archiving Jobs: Possible Logs

Business Example

Your archiving processes need to be monitored and controlled.

Archiving logs, statistics, and job logs are the source of information and support you in this task.

Monitoring of Archiving Jobs: Possible Logs

The following information is displayed when an archiving program, such as the preprocessing program, write program, or delete program, is executed and you can use it to monitor the archiving jobs:



- General information about the background job of the archiving program (job overview).
- The messages sent by the archiving job (job log).
- The logs (spool list) and/or application log issued by the archiving job.

Job Overview and Job Log

The job overview displays the background jobs for an archiving object.

You can branch from the job overview to the job log and to the spool list.

Note that the system issues a warning if you want to use archiving variants several times for which job logs still exist.

**Caution:**

As soon as the system displays a dialog box with a warning/information message, you should not simply click this window away. The system displays this type of window if you want to use variants more than once.

You also get it if you start a write run, but there are archive files in your system whose data has not yet been deleted from the database.

In both cases, there is a risk from a system point of view that you can archive data twice. You must be sure that this is not the case.

Job Overview and Job Log



- The job log contains all messages that a program running in the background sends.
- The archiving objects must meet certain requirements, for example, for the uniformity of their protocols. We then call them standardized archiving objects.
 - Standardized archive write programs should output a progress message in the job log every 30 minutes about how many objects have been processed up to now.
 - Standardized delete programs should inform you in the job log every 30 minutes about the percentage of the data in an archive file that has already been processed.
- A customer-specific formatting of the job overview is possible. To do this, choose the menu option *Settings → Layout → Change Layout*. You can then include fields in the display or remove fields from the current display.

For more information about the requirements for standardized archiving objects, see SAP Note 577847.

Logs (spool list and application log)

The information in the spool list and the application log is also affected by the requirements for standardized archiving objects.

The following criteria apply to standardized archiving objects:



- The spool list starts with the archiving session log and archive file log (**ADK statistics**).
It is always written to the spool list.
It contains information about the processed archive files and runs, for example, the number of the archiving session, the size of the archive files in MB, the affected tables, and the number of processed table entries.
- The application log then follows if you have selected its output in the spool list. It is application-specific and should contain information about the business objects being processed.
Alternatively, you can have this log written to the application log. With that, you have, for example, the option to call the long text of a message (if available).



Test Mode: Statistics on Written Data Objects		
Type	No.	Description
ACDOCA	9.670	Universal Journal Entry Line Items
BKPF	1.923	Accounting Document Header
BSEG	4.836	Accounting Document Segment
CDHDR	90	Change document header
CDKEYTAB	90	Archiving class CHANGEDOCU transfer table structure
CDPOS	1.440	Change document items
FAGLFLLEXA	29.014	General Ledger: Actual Line Items
FAGL_SPLINFO	1.000	Splitting Information of Open Items
FAGL_SPLINFO_VAL	3.000	Splitting Information of Open Item Values

Summary		
Type	No.	Description
Archiving Session Number	000000	
Number of Written Data Objects	1.923	
Size of Archiving Session in MB	5,664	
Proportion of Header Data in %	0,8	
Occupied Database Space in MB	1,797	
- Tables	1,558	
- Indexes	0,230	
- Structures	0,009	

Type	No.	Description
ACDOCA	9.670	Universal Journal Entry Line Items
BKPF	1.923	Accounting Document Header
BSEG	4.836	Accounting Document Segment
CDHDR	90	Change document header
CDKEYTAB	90	Archiving class CHANGEDOCU transfer table structure
CDPOS	1.440	Change document items
FAGLFLLEXA	29.014	General Ledger: Actual Line Items
FAGL_SPLINFO	1.000	Splitting Information of Open Items
FAGL_SPLINFO_VAL	3.000	Splitting Information of Open Item Values

Figure 30: Archiving Session and Archive File Log



Log (Summary) for FI_DOCUMENT			
	Message	Obj. Disp.	Object (Example)
✓	Document can be archived	1923	1010/2024/4900000823
✗	CO Data not yet Archived	25	1010/2024/0100001356
✗	Document has open items	5	1010/2024/1800000486

17.02.2025 Archiving of Financial Accounting Documents: Write Program	
Detail Log for FI_DOCUMENT	
Object	Message
1010/2024/0100001356	✗ CO Data not yet Archived
1010/2024/0100001830	✗ CO Data not yet Archived
1010/2024/4900000823	✓ Document can be archived
1010/2024/4900000824	✗ CO Data not yet Archived
1010/2024/4900000825	✗ CO Data not yet Archived
1010/2024/1800000486	✗ Document has open items
1010/2024/0100001831	✗ CO Data not yet Archived
1010/2024/5000000035	✓ Document can be archived
1010/2024/4900000827	✓ Document can be archived
1010/2024/4900000830	✓ Document can be archived
1010/2024/4900000828	✓ Document can be archived
1010/2024/4900000831	✓ Document can be archived
1010/2024/4900000829	✓ Document can be archived
1010/2024/4900000832	✓ Document can be archived
1010/2024/4900000833	✓ Document can be archived
1010/2024/4900000834	✓ Document can be archived
1010/2024/4900000835	✓ Document can be archived
1010/2024/4900000836	✓ Document can be archived

Figure 31: Business Object Specific Log

As described in the last lesson, the log of the processed business objects provides you with information about which objects were processed (for example, archived in the archive write program) and why not.

The log consists of a *Log (Summary)* and - if you requested it in the variant - a *Detail Log*.

This log can either be written to the spool list and/or to the application log. You make the decision in the variant (for example, archive write program) in the *Log Output* field.

Monitoring of Archiving Jobs: Call Logs

Calling up the Logs



- You can call up the logs listed above to monitor the archiving jobs in the following ways:
 - From archive administration by choosing *Goto → Job overview*.
 - From archive administration by choosing *Goto → Logs*.
- The data archiving monitor in CCMS provides a special view of this information.
- You have already learned about the first option. In the following, we will introduce you to the other options.

The Log Function

The log function is available to you through *Goto → Logs* and can be called on the initial screen of archive administration or in administration.



Figure 32: The Log Function

Logs in Archive Administration - The Advantages



- After the call, you see in the left-hand part of the screen the existing logs sorted according to the archiving object, the action (for example, preprocessing, writing, and deleting), the date and time

The most recent log is selected.
- The log function has the advantage that you can also display the logs for all archiving objects if you have not entered an archiving object before you called it up.
- It also has the advantage that you can access different logs from one place.

Logs in Archive Administration - Contents



- In the *Processing Options* column, you can see whether the program has been started in the test or production mode.
- In the *Session* column, you can see the number of the corresponding archiving session.

If the run number could not be determined (for example, for preprocessing programs or in test mode of an archive write program), this column is empty.

- If you set the *Display Log Status in the Log Hierarchy* checkbox in the *Settings → Central Settings* menu option in the *Logs* group, the system displays whether logs with error messages or warnings are contained in all nodes in the hierarchy of the logs.
- To display the required log for a specific log entry, select it in the list on the left-hand side of the screen and choose the log to be displayed, such as the job log or the application log, using the right mouse button.

For more information about the log status in the log hierarchy, see the field help (F1) for the above checkbox or SAP Note 2565848 (Central user-specific settings in the data archiving environment).

The business object specific log



- The business object-specific log is displayed directly in the right-hand part of the log display.
- If detailed information is available for a business object, you can display it by choosing the magnifying glass icon in the *Detail* column.
- By selecting the question mark in the *Long Text* column, you get the long text for the message (if available).
- You can remove selected business object-specific logs from the system by choosing *Environment → Delete Application Logs*.
- If the business object-specific log was not created, a corresponding message text appears.

Possible reasons are, for example, that the archiving program in question does not support this function, or that the user requested the log output in the spool list and not in the application log.

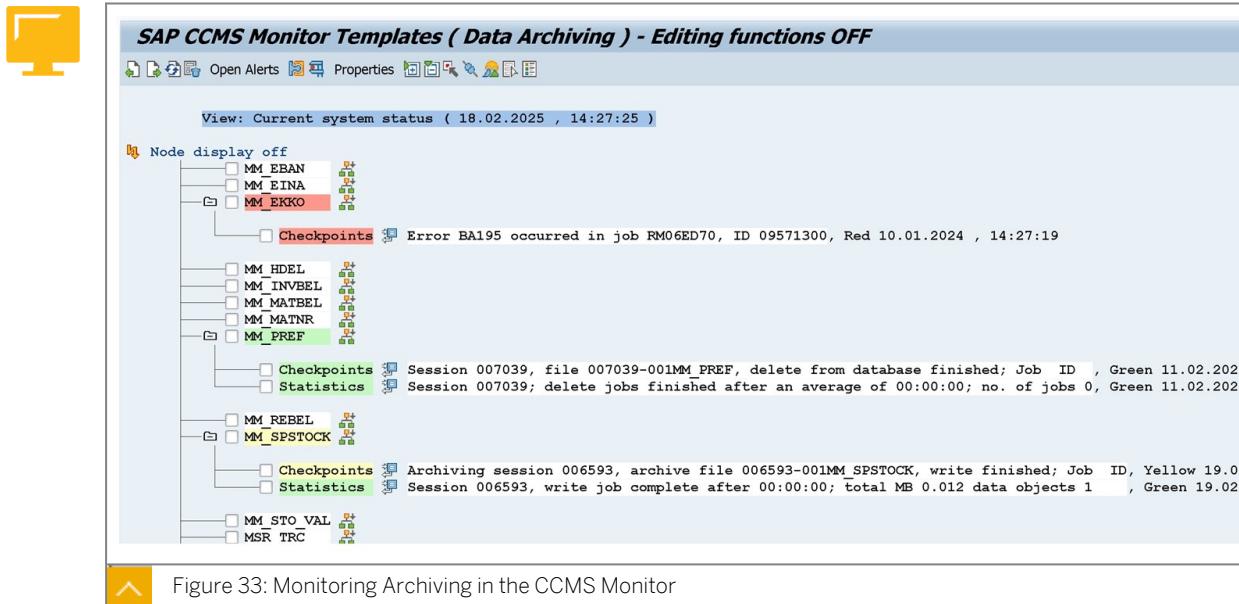
Data Archiving Monitor in CCMS

Data Archiving Monitor in CCMS - The Call



- There is a jump to data archiving from the general monitoring tool CCMS.
- You can find this monitor under *Tools → CCMS → Control/Monitoring → CCMS Monitor Sets* or using transaction RZ20.

Choose *SAP CCMS Monitor Templates → Data Archiving*.



Data Archiving Monitor in CCMS - the functionality



- The data archiving monitor is intended for the system administrator, who can monitor archiving sessions in its familiar environment, the CCMS monitor.
- For example, he or she receives information about progress control during data archiving.
- The data archiving monitor also provides an overview of the archiving objects for which sessions already exist in the system.
- It also provides statistical data on the archiving objects used, the duration of the archiving run, and the size of the archive (MB, number of objects).
- The data archiving monitor can generally be switched on or off.

You maintain the corresponding entry in the technical settings of cross-archiving-object customizing.

Data Archiving Monitor in CCMS - The Alert Function



- The data archiving monitor also provides an alert function if errors occur in the archive runs.
- The following alert colors are possible:
 - Red alerts: An error situation has occurred, for example:
File cannot be opened, file is not an archive file, write to new file failed; error during generation of an administration entry, insufficient maintained file name, and so on)
 - Yellow alerts: data is archived but not yet deleted from the database.
 - Green entry: everything is ok.
- It is possible to branch to the list of triggering jobs.

Monitoring of Archiving Jobs: Retention of Logs



- The logs in the job log and the spool list are deleted using the regular cleanup of spool jobs.
- You therefore need to think about what to do with the logs.
- If you are using an external storage system, you can store the logs there using the *Storage of Print Lists* function.
- You can also store the job log and the spool list from the log display by choosing *System → List → Save → Save*.
- Consider meaningful naming conventions. One option is, for example, the file name ARCH <year>_xxx>. (xxx stands for a number or for a period for more than one run).

Statistics in Data Archiving

Statistics in Data Archiving - Motivation



- After data archiving, the question is usually asked: What did the data archiving project bring us?
- The aim of data archiving projects is to recover storage space in the online database. During the deletion runs, data records are deleted from the database.
- It is therefore helpful for the persons responsible for data archiving projects to know how much space the data to be archived took up in the database.
- Data archiving creates statistical information for actions such as writing, deleting, and reloading.
- These statistics help the administrator to have arguments and specifications for requests, to better plan future archiving runs, and to provide the necessary resources.

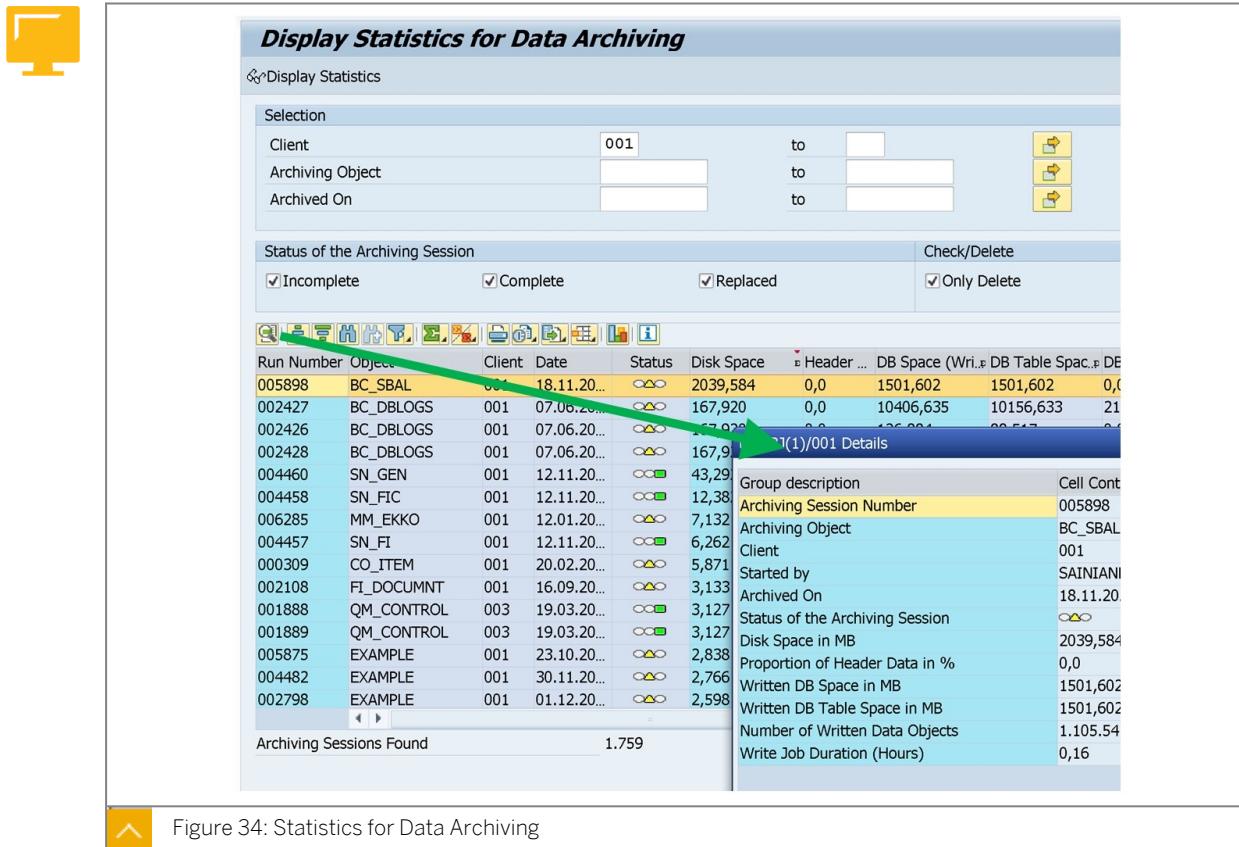


Figure 34: Statistics for Data Archiving

You can find detailed information about what the contents of the individual fields mean in the SAP online help.

You can call up the statistics data from different places:



- Button *Statistics* in *Archive Administration: Overview of Archiving Sessions*.
- Button *Statistics* in *Archive Administration: Initial Screen*.
- Transaction *SAR_DA_STAT_ANALYSIS*.
- You can also see the statistical data in the log of the write, delete, and reload programs - here in relation to the corresponding run.
- Note that the statistics information is stored in the database.

You can use the archiving object `BC_ARCHIVE` to archive them together with the administration entries.

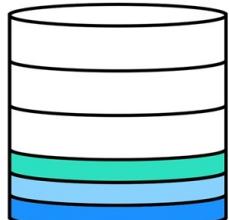
Initially, the archiving statistics were only calculated on the basis of the corresponding ABAP Dictionary object type, that is, the field length defined in the ABAP Dictionary was used in its calculation. These values can differ from the actual space used in the database, for example, if table fields have variable length (for example, data type LCHAR, LRAW, STRING, or XSTRING). SAP Note 2003678 (ADK: database-based statistics) provides information about this.

Procedure in case of errors

If problems occur with the data archiving programs, there are restart scenarios. The following graphic shows you how to proceed if problems occur with the write or delete program.

**Case 1:**

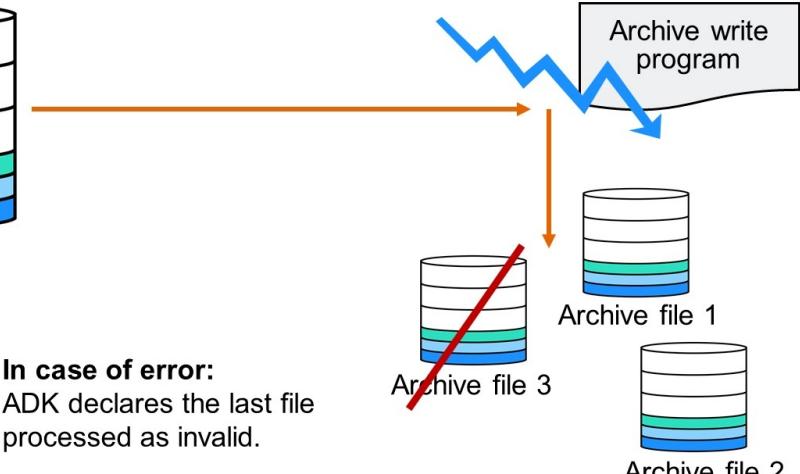
Delete program was already scheduled (automatically or manually) in production mode.



SAP Database

Case 2:

Delete program was not yet scheduled (automatically or manually) in production mode.

**In case of error:**

ADK declares the last file processed as invalid.

Figure 35: Restart After Program Error in Write Program

Regardless of how the delete program is to be started, the last file processed is declared invalid if an error occurs.

**Case 1:****Step 1:**

Wait for the end of the delete jobs (started in production mode) for the existing archive files.

Step 2:

Delete the defective archive file in the file system.

Step 3:

Carry out a new archiving run with the same selection criteria.

Case 2 – Alternative A:**Step 1:**

Schedule the delete jobs in production mode for the existing archive files and wait until they are finished.

Step 2:

Delete the defective archive file in the file system.

Step 3:

Carry out a new archiving run with the same selection criteria.

Case 2 – Alternative B:**Step 1:**

Delete all archive files that have already been created in the affected run.

Step 2:

Set the 'invalid session' indicator for the terminated run in archive administration.

Step 3:

Carry out a new archiving run with the same selection criteria.

Figure 36: Restart After Program Error in Write Program - Your Alternatives

As long as the deletion phase has not yet started in production mode, meaning that no data has been deleted from the database (case 2), you can void the run.

Your behavior in case 2 depends on whether or not you want all data of the selection to be processed within a run.

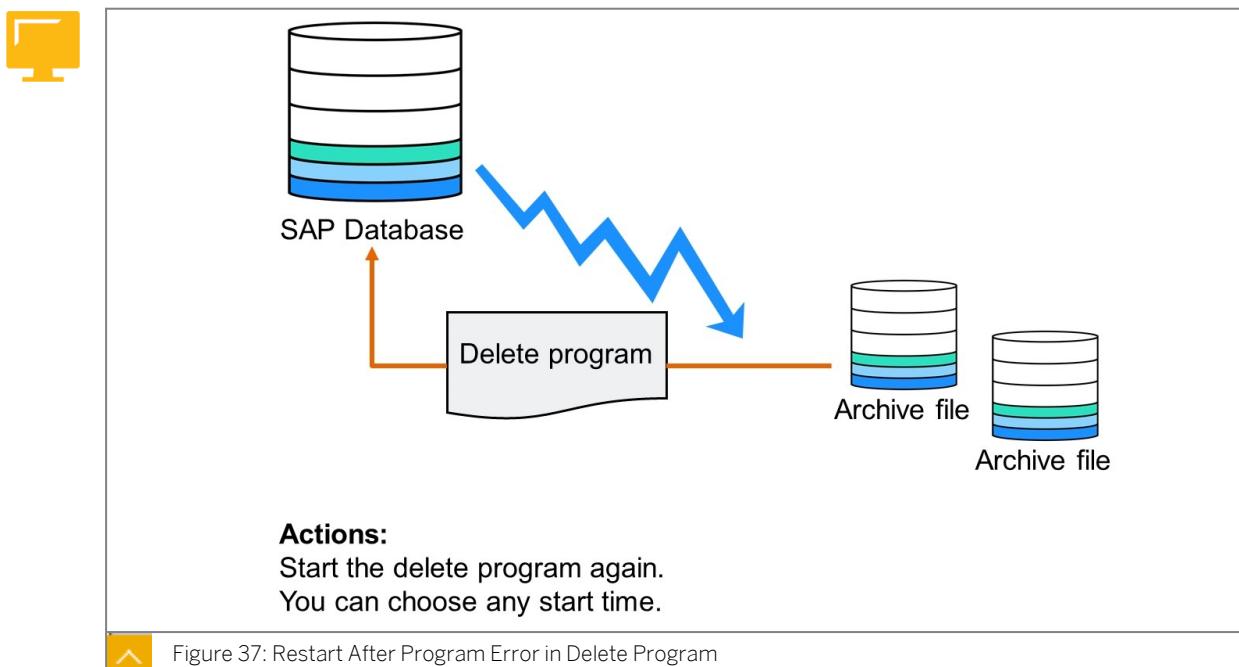
The defective archive file does not appear in data archiving management. Therefore, you only have to delete it in the file system.

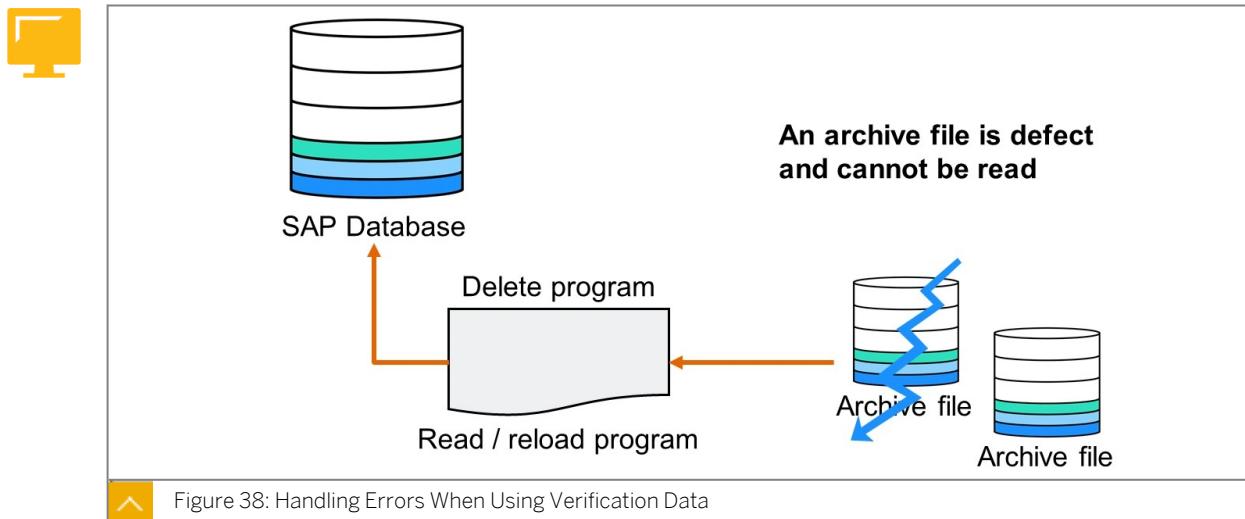
Case 2 - Alternative A:

If the deletion jobs have not been scheduled, schedule them. Note that this is only possible if the archiving run has the status Incomplete. As long as a terminated job exists for the archiving session or for an archive file, this is not the case. You must delete the terminated job in the job overview after you have analyzed it.

Wait for the delete phase completely before you execute the write program again with the same selections.

Alternative A in case 2 has the advantage that the time invested in the creation of the correct archive files is not lost.





Advantages of using Verification of Archive Files in Error Scenarios:



- If you use the function "Verify Archive Files before Deleting" (see Customizing) and in case errors appear, data from erroneous files will not be deleted.

The data of the archive files that passed the verification can be deleted from the database.

The data of the defective file must be archived again in a new archiving run and then deleted. Finally, the incorrect archive file must be removed manually from the administration data of the ADK.

- If verification errors occur when reading or reloading archive files, the data from the incorrect files is not read or reloaded.

Since the incorrect files must have passed the verification during deletion, it can be assumed that the archive files were subsequently destroyed by the customer, for example: by copying archive files.

SAP consulting may be able to repair the defective archive file at a charge.

Process Control: The Most Common Causes of Errors

The following list gives you an overview of the most common causes of errors during data archiving.

Most Common Causes of Errors During Data Archiving - Overview



- Insufficient memory space when the write program is running.
Recommendation: Test run to determine the file sizes and consult your system administrator.
- Jobs running in parallel that load heavily on the database.
If data archiving is not scheduled by the system administrator, you must ensure that data archivers and system administrators agree well.
- Make sure that the profile parameters of your system are set sufficiently. Your system must be designed for mass data processing.
- Missing note maintenance

You must make sure that notes are maintained, and in particular that they are currently maintained (subscribe to note).

Most problems with data archiving refer to the various archiving objects. SAP Note 102446 lists the subject areas to be addressed in the case of problems with archiving objects.

Unit 4

Exercise 13

Monitor the Flow Control

Business Scenario

You are the project manager in the archiving project in your company and you were asked how much storage space could be saved by archiving FI documents.

In this exercise, you display the logs and statistical data for the archived FI documents.

This also introduces you to the process flow control.

1. Display the logs and statistical data for the archived FI documents.

Use the log function to analyze the job overview, the job log, the spool list, and the application log for your archiving runs of the FI documents.

2. Call the statistics function from the basic screen of transaction *SARA* and display the data for your archiving runs of the FI documents.
3. Can you restart terminated deletion jobs at any time?

4. Can you restart terminated write jobs?

Monitor the Flow Control

Business Scenario

You are the project manager in the archiving project in your company and you were asked how much storage space could be saved by archiving FI documents.

In this exercise, you display the logs and statistical data for the archived FI documents.

This also introduces you to the process flow control.

1. Display the logs and statistical data for the archived FI documents.

Use the log function to analyze the job overview, the job log, the spool list, and the application log for your archiving runs of the FI documents.

- a) Choose *Tools* → *Administration* → *Administration* → *Data Archiving* to call transaction SARA.
- b) Call the log function by choosing *Goto* → *Logs* or the button *Logs*.
- c) The most recent log is displayed automatically. If it is not the one from your archiving session:
- d) In the tree on the left, expand the archiving object *FI_DOCUMNT*. The system now displays the actions for which logs exist.
- e) Expand an action.
- f) Select a run that you created.
- g) Use the right mouse button to choose *Job Overview*.
- h) Analyze them.
- i) Exit the screen by choosing the *Back* arrow (F3).
- j) Now use the right mouse button to choose *Job Log*.
- k) Analyze it.
- l) Exit the screen by choosing the *Back* arrow (F3).
- m) Now use the right mouse button to choose *Spool List*.
- n) Analyze the spool list.
It contains the archiving session/archive file-specific log (ADK statistics). If you wanted to save the business-object-specific log in the spool list in the variant of the corresponding archiving program, this log is then also displayed.
- o) Exit the screen by choosing the *Back* arrow (F3).

- p) Now use the right mouse button to choose *Application Log*. The system now displays the business object-specific log if you wanted to save it in the application log in the variant of the corresponding archiving program.
- q) Repeat the steps for the remaining actions of your archiving session.
2. Call the statistics function from the basic screen of transaction *SARA* and display the data for your archiving runs of the FI documents.
- Return to the initial screen of transaction *SARA*.
 - Enter *FI_DOCUMNT* as the archiving object.
 - Choose *Statistics*.
 - Enter the current date in the *Archived On* field.
 - Leave the other entries unchanged and choose the *Display Statistics* button at the top of the screen.
3. Can you restart terminated deletion jobs at any time?
-
-

- a) It is possible to restart terminated delete jobs. The system skips the records that have already been deleted.
- b) As long as a terminated job exists for the archiving session or for an archive file, the restart is not possible. You must delete the terminated job in the job overview after you have analyzed it.

4. Can you restart terminated write jobs?
-
-

- a) It is possible to set it up.

If the deletion phase has not yet started in production mode, you only have to decide whether or not you want to keep the archive files that have already been created. Depending on this decision, you carry out the rearchiving.

If the deletion phase has already been performed in production mode, you must complete it for all archive files created, before you start a new archiving session again (with the same variant of the archive write program).



LESSON SUMMARY

You should now be able to:

- Monitor archiving jobs.
- Display and Interpret Logs.
- Interpret Archiving Statistics.
- Describe the procedure for errors and restart scenarios.

Unit 4

Lesson 3

Managing Archiving Sessions and Files



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Describe the structure and management of administrative data.
- Explore the job interruption of the write phase.

Administration of Archiving Runs

Business Example

You have executed the archiving runs and now want to view the administrative data of these runs.

Administrative data in transaction SARA

The following graphic shows the screen for administration entries.



Archive Administration: Overview of Archiving Sessions	
	Logs Spool List Storage System Customizing Database Tables
Archiving Object MM_MATNR MM: Material master records	
	Sessions and Files for Archiving Object
	Incomplete Archiving Sessions
	3 - 14 (22.02.2017 - 14.07.2023)
	1 - 16 (24.01.2017 - 11.08.2024)
	Archiving Sessions Marked for Deletion
	13 (14.07.2023)
	Invalid Archiving Sessions
	2 (22.02.2017)

Figure 39: Archive Administration - Overview of Archiving Sessions

Archive Administration - Overview of Archiving Sessions



- If you navigate from transaction SARA for an archiving object to the administrative data, you see an overview of the archiving sessions that have been performed.
 - The runs are grouped into groups of 20.
 - A status is set for each archiving session.
- Choose the *Legend* icon to see the different statuses and their meaning.
- Using the *Find*, or *Set Filter* icon, you have the option of searching for archiving sessions or archive files, or restrict the number of runs and files displayed by means of a filter.

- You can use the *Change Layout* icon to select additional attributes (for example, date of archiving, user who started archiving) in the overview.

For more information about the above icons, see SAP Note 2313587 (Archive management: Enhancement of layout for displaying archiving sessions/archive files).

Partial reload means that some of the archived data has been reloaded into the database. (The prerequisite for this is that the archiving object supports the *reload* action.) A new run was created with the remaining data in the category *Complete Archiving Sessions*. The obsolete, original run is stored under *Replaced Archiving Sessions*.

The following figure shows the administration entries for an interrupted run. You can only continue the run once the deletion phase for the archive files that have already been created has been completed successfully.

Interrupted Session.
Can not be continued.

Sessions and Files for Archiving Object	Note
Incomplete Archiving Sessions	
Interrupted	
21 (09.10.2024)	
21 - 09.10.2024	78000 - 79000
000021-001WORKITEM	

Interrupted Session.
Can be continued.

Sessions and Files for Archiving Object	Note
Complete Archiving Sessions	
Interrupted	
21 (09.10.2024)	
21 - 09.10.2024	78000 - 79000
000021-001WORKITEM	

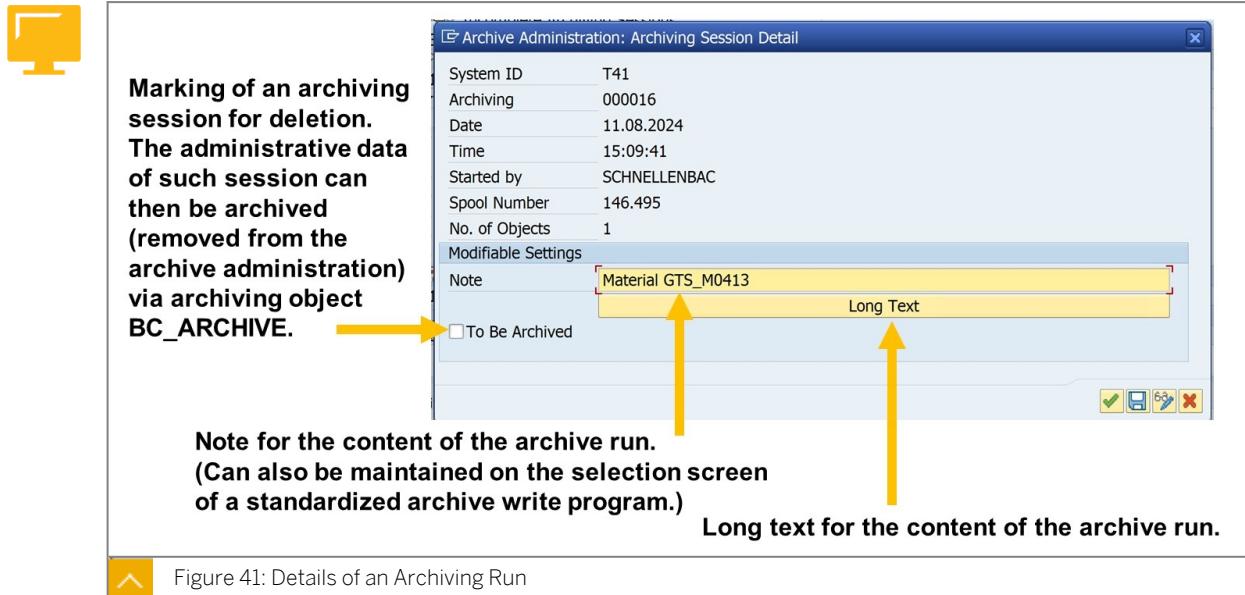
The meaning of the note for a run



- When you display the administrative data, you do not necessarily see which data is contained in a run.
- However, you can display the variant with which a run was started using the icon *User Input*, or display them for a run using the right mouse button
- To ensure that in situations, where you are offered archive runs, for example: when selecting for read programs, or in the Archive Information System (AS), you immediately know, which data is contained in the run, you should enter this information as a note for each archive run.
- Standardized archiving objects contain the option of maintaining this note on the selection screen of the archive write program.

If there are objects that do not allow this entry, or if you have not made an entry, we recommend that you maintain this entry manually in archive management.

The following graphic shows you where you make such an entry. Call the maintenance window by double-clicking the archiving session in the administration data.



The short text refers to the contents of the archive run. You should document the selection parameters used to be able to determine the content of archive files at a glance.

Since the selection parameters used can also be determined using the *User Input* icon on the basic screen of archive administration, subsequent maintenance of the note is possible at any time.

Administration of Archive Files

Archive management displays not only the data for archiving sessions, but also the data for the individual archive files.

3 Status specifications in the administration data for an archive file:



- In the *Status* field, you can see:

Write completed - data has been written to the file but has not yet been deleted from the database, or

Deletion completed - data is written to the file and deleted from the database.

- In the *Storage* fields, you can see the status with regard to storage in an external storage system.

This field is only displayed if you have entered a content repository in customizing.

Stored - file is in a storage system, or

Not stored - file is in file system

3 Status specifications in the administration data for an archive file:



- The *Archive file can be accessed* status describes whether ADK can access an archive file in the file system (green traffic light), or in a content repository (yellow traffic light), or not (red traffic light).

When the detailed display of archive files is called, a fileOpen always takes place, that is, this specification is always up-to-date.

Archiving Administration Entries



- If you archive data for years and your administrative data becomes very confusing, or if you want to make incorrect runs or empty runs invisible, you can also archive administrative data yourself.
- There is no pure deletion function for administration entries.
- The data of the archiving runs is subject to data archiving, that is, it is not deleted, but can be archived using archiving object BC_ARCHIVE (Archiving of Archive Administration Data).
- This data includes information about the archive run, its archive files, the user entries with which the run was started, the statistics information, and so on.

Archiving Object BC_ARCHIVE



- To be able to remove entries in archive management from the database, double-click the archiving session to call its administration data and set the *To Be Archived* indicator.
- The preprocessing program can be used to set the *To Be Archived* indicator automatically and not manually.
- You then execute an archiving run with the archiving object BC_ARCHIVE.
On the selection screen, you can decide which archiving sessions, for which the indicator is set, are to be archived.
- Note that there must be no more job logs in the job overview for the runs that you want to remove using BC_ARCHIVE.

Archiving Object BC_ARCHIVE - the Reload Function



- Of course, you must be able to reload archived administrative data into the database if required.

The usage of the reload function for archiving object BC_ARCHIVE is not critical.

On the selection screen, you can decide for which archiving object administrative data is to be reloaded.

- The administrative data is regenerated in its original status.

For more information, see SAP Note 70813 (Archiving: Removing Administrative Data).

Unit 4 Exercise 14

Archive Work Items from the Workflow System with Interruption of the Write Phase

Business Example

You want to archive work items from the workflow system in an archiving run. The number of work items to be archived, how much space they need for this in the file system, and the available time window are the limiting factors. You want to practice interrupting the write run in a controlled manner and then continue.



Note:

Whenever the characters ## are used, please replace ## with the group number that has been assigned to you.

Table 12:

Group	Work Item ID From	Work Item ID To
1	000000000001	000000024030
2	000000024030	000000025060
3	000000025060	000000083100
4	000000083100	000000083510
5	000000083510	000000083870
6	000000083870	000000084200
7	000000084200	000000084510
8	000000084510	000000084850
9	000000084850	000000085170
10	000000085170	000000085500
11	000000085500	000000085950
12	000000085950	000000086290
13	000000086290	000000086600
14	000000086600	000000086950
15	000000086950	000000087270
16	000000087270	000000087600
17	000000087600	000000087930
18	000000087930	000000088270

Group	Work Item ID From	Work Item ID To
19	000000088270	000000088600
20	000000088600	000000088900
21	000000088900	000000089240
22	000000089240	000000089570
23	000000089570	000000090050

1. In transaction SARA, create a variant for the write program of the archiving object WORKITEM with the name **GRP##**.

First, in test mode, archive (only) the work items that are assigned to your group (and only those documents) according to the above table.

Enter your group number as the *archiving session note*.

2. Once the write program is done in test mode, check the size of the archive file and the expected time required for archiving.

In everyday archiving, your system administrator must provide this space before the write run.

3. You now want to start an archiving run in production mode. The document quantity determined in the test run and the expected time required for archiving are too large for the specified time window. For this reason, you want to use the option of implicitly interrupting a write run.

As part of this exercise, a maximum value for the data volume (MB) should be entered for each run in cross-object Customizing. Check whether a for the above Insights of matching value, for example, 0.1 MB, is maintained. If not, set it accordingly.

4. In your archiving variant GRP## for the object WORKITEM, change the processing options from test mode to production mode and restart the archiving run.

5. Display the interrupted run in archive management. Now schedule the deletion job for your interrupted run.

6. Resume the interrupted write run. After the end of the run, display the administrative data again.

7. Finally, start the deletion run for the remaining amount of data.

Archive Work Items from the Workflow System with Interruption of the Write Phase

Business Example

You want to archive work items from the workflow system in an archiving run. The number of work items to be archived, how much space they need for this in the file system, and the available time window are the limiting factors. You want to practice interrupting the write run in a controlled manner and then continue.



Note:

Whenever the characters ## are used, please replace ## with the group number that has been assigned to you.

Table 12:

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7	000000084200	000000084510
8	000000084510	000000084850
9	000000084850	000000085170
10	000000085170	000000085500
11	000000085500	000000085950
12	000000085950	000000086290
13	000000086290	000000086600
14	000000086600	000000086950
15	000000086950	000000087270
16	000000087270	000000087600
17	000000087600	000000087930
18	000000087930	000000088270

Group	Work Item ID From	Work Item ID To
19	000000088270	000000088600
20	000000088600	000000088900
21	000000088900	000000089240
22	000000089240	000000089570
23	000000089570	000000090050

1. In transaction SARA, create a variant for the write program of the archiving object WORKITEM with the name **GRP##**.

First, in test mode, archive (only) the work items that are assigned to your group (and only those documents) according to the above table.

Enter your group number as the *archiving session note*.

- a) Call transaction SARA and enter the archiving object WORKITEM box.
- b) Choose *Write*.
- c) In the *Variant* field, enter **GRP##** and choose *Edit*.
- d) If a dialog box with the title *Screen Assignment Variants* appears, set the button *For All Selection Screens* and confirm with *Continue*.
- e) In the *Work Item ID* field, enter (only) the work items mentioned for your group in the above table.
- f) In the *Processing Options* group, select test mode.
- g) Enter your group number as the *Archiving Session Note*.
- h) Choose *Attributes* and enter a description of your choice in the *Description* field and choose *Save*.
- i) Choose *Back* to return from the variant maintenance.
- j) Press the *Start Date* button and select *Immediate* and *Save*.
- k) Choose *Spool Parameters* and select *Output Device 1p01*. Press the *Continue* button.
- l) On the *Archive Administration: Create Archive Files* screen, choose the *Execute* icon to start the write program in test mode.
- m) Monitor your job in the Job Overview.

2. Once the write program is done in test mode, check the size of the archive file and the expected time required for archiving.

In everyday archiving, your system administrator must provide this space before the write run.

- a) Call the job overview for the archiving object WORKITEM and select your write job.
- b) Choose *Display Spool List*.
- c) Select the output line and choose the *Display Contents* icon.

The system displays an overview of the checked, archivable, and non-archivable work items and the size of the archive file.

3. You now want to start an archiving run in production mode. The document quantity determined in the test run and the expected time required for archiving are too large for the specified time window. For this reason, you want to use the option of implicitly interrupting a write run.
As part of this exercise, a maximum value for the data volume (MB) should be entered for each run in cross-object Customizing. Check whether a for the above Insights of matching value, for example, 0.1 MB, is maintained. If not, set it accordingly.
 - a) Return to the basic screen of transaction SARA.
 - b) Choose the *Customizing* button. Choose *Cross-Archiving Object Customizing - Technical Settings*.
 - c) In the *Interrupt the Write Phase Automatically After* area, check whether the predefined value is entered in the *Max. MB per Session* field. Enter it and save your entries, if not.
4. In your archiving variant GRP## for the object WORKITEM, change the processing options from test mode to production mode and restart the archiving run.
 - a) Return to the basic screen of transaction SARA and choose *Write* for the object WORKITEM.
 - b) In the *Variant* field, enter **GRP##** and choose *Edit*.
 - c) In the *Confirmation Prompt* dialog box with the text *The variant you selected is already in use...*, choose *Yes*.
 - d) In the *Processing Options* group, select production mode.
 - e) Save the changed variant.
 - f) Choose *Back* to return to variant maintenance.
 - g) Under *Start Date*, maintain the date *Immediate* and under *Spool Parameters as Output Device* **1P01**, if the data has not yet been maintained (traffic light is red).
 - h) Choose *Execute*.
 - i) In the dialog box with the title *Confirm* and with the text *Caution. The selected variant is already used in an Write Job....* choose *Continue*.
 - j) Check the job overview.
5. Display the interrupted run in archive management. Now schedule the deletion job for your interrupted run.
 - a) Return to the basic screen of transaction SARA.
 - b) For the archiving object WORKITEM, choose *Management*.
 - c) You see interrupted runs. Find your run and note the number of the run.
 - d) Return to the basic screen of transaction SARA.
 - e) Choose *Delete* for the function.
 - f) Choose *Archive Selection* and select your run.
 - g) Press *Continue*.

- h) Under *Start Date*, maintain the date *Immediately* and under *Spool Parameters* and as *Output Device* enter **1P01**, if the data has not yet been maintained (traffic light is red).
 - i) Choose *Execute*.
 - j) Check the job overview.
- 6. Resume the interrupted write run. After the end of the run, display the administrative data again.
 - a) On the basic screen of transaction SARA, choose the menu option *Goto → Continue* for the object **WORKITEM**.
 - b) Select your archive run from the list of archive runs using the run number.
 - c) Press *Continue*.
 - d) In the *Scheduling Job* section, under *Start Date*, maintain the date *Immediate* and under *Spool Parameters* as *Output Device* **1P01**, if the data has not yet been maintained (traffic light is red).
 - e) Choose *Execute* to resume the archiving run.

The system resumes archiving with identical selection parameters and archives the documents that have not yet been written and then deleted from the database.
 - f) Return to the administrative data.

You find an incomplete session because the archive files of the continued archiving session have not yet been deleted.
- 7. Finally, start the deletion run for the remaining amount of data.
 - a) Return to the basic screen of transaction SARA and choose *Delete* for the archiving object **WORKITEM**.
 - b) In the *archive selection*, select your run.
 - c) Under *Start Date*, maintain the date *Immediate* and under *Spool Parameters* as *Output Device* **1P01**, if the data has not yet been maintained (traffic light is red).
 - d) Choose *Execute* to start the delete program.
 - e) Check the job overview.



LESSON SUMMARY

You should now be able to:

- Describe the structure and management of administrative data.
- Explore the job interruption of the write phase.

Storing Archive Files



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Store Archive Files.

Storage of Archive Files in an External Storage System

Business Scenario

Your archiving project has started successfully.

Your processes are stable, which is a result of your monitoring and process control activities.

You now want to save your archived data in an appropriate external storage system (because you have not selected automatic storage in archiving object-specific customizing).

Storing Archive Files in an External Storage System: Procedure

If you use an external storage system, you can move archive files to it automatically or manually afterwards.

Let's first discuss how you can see the current storage status of your archive files. To do this, choose the administration action button on the initial screen of archive administration, which you can do using transaction SARA or through

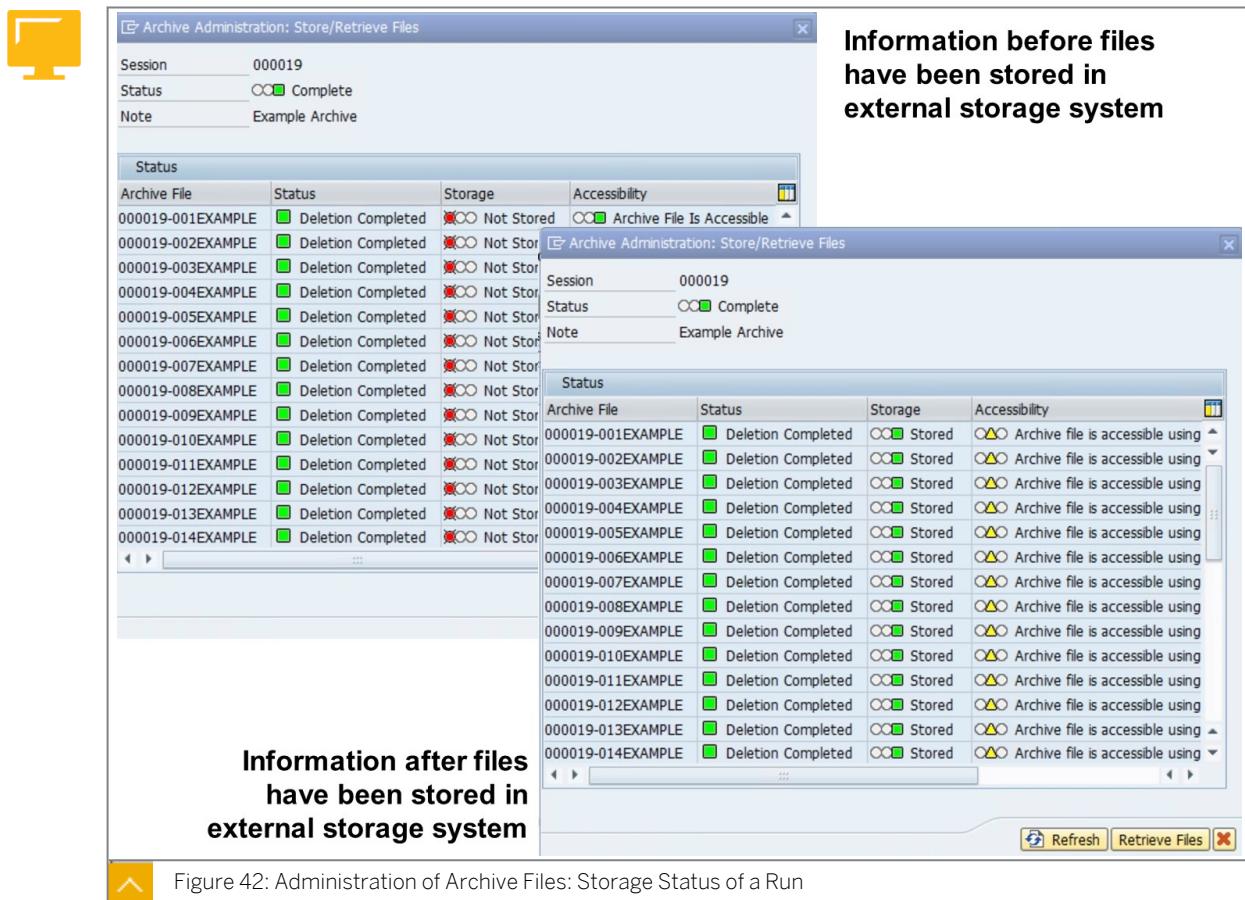
Tools → Administration → Administration → Data Archiving.

Overview of the storage status of a run or file



- You can see whether archive files are stored in an external storage system in archive administration.
- Select an archive file or a run and choose the *Storage System* button or the corresponding function using the right mouse button.
- The *Storage* column has a red traffic light if the archive file is not in the external storage system.

In this case, a red traffic light means no (!) error. It only shows the status with regard to storage.



Information after files have been stored in external storage system

Information before files have been stored in external storage system

Figure 42: Administration of Archive Files: Storage Status of a Run

Let's discuss what options you have with regard to the sequence of the storage and deletion phases before we explain the storage procedure.

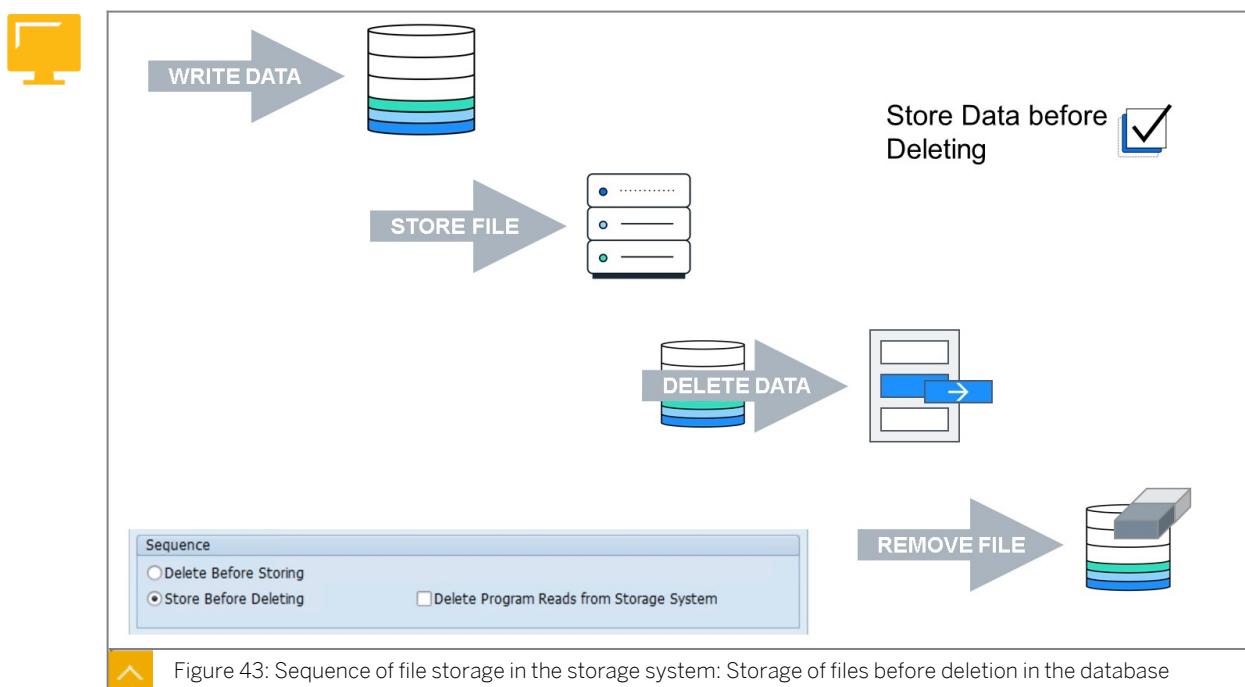
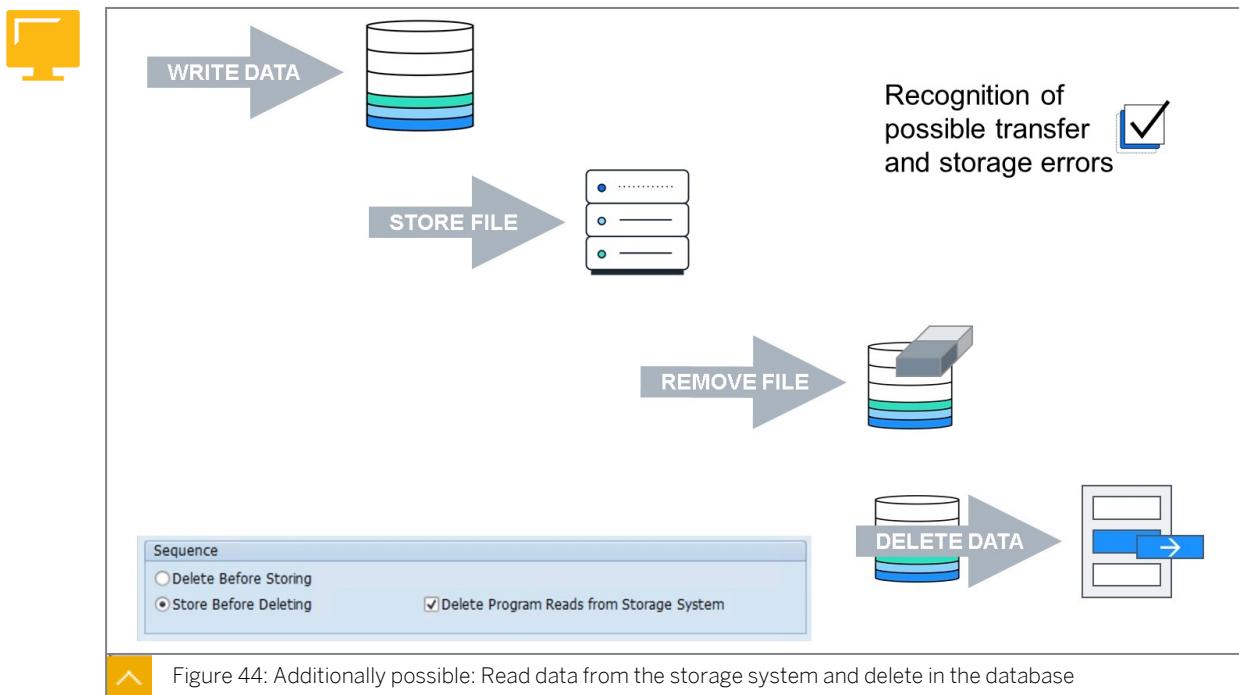


Figure 43: Sequence of file storage in the storage system: Storage of files before deletion in the database

You can also decide whether the delete program reads from the external storage system or from the archive file in the file system.

If the delete program is to work with the archive file in the file system, the file is left in the file system when it is stored in the external archive. This file is then deleted automatically at the end of the delete program.

However, if you choose the setting *Delete Program Reads from Storage System*, the archive file is automatically deleted in the file system after it has been stored in the external storage system.

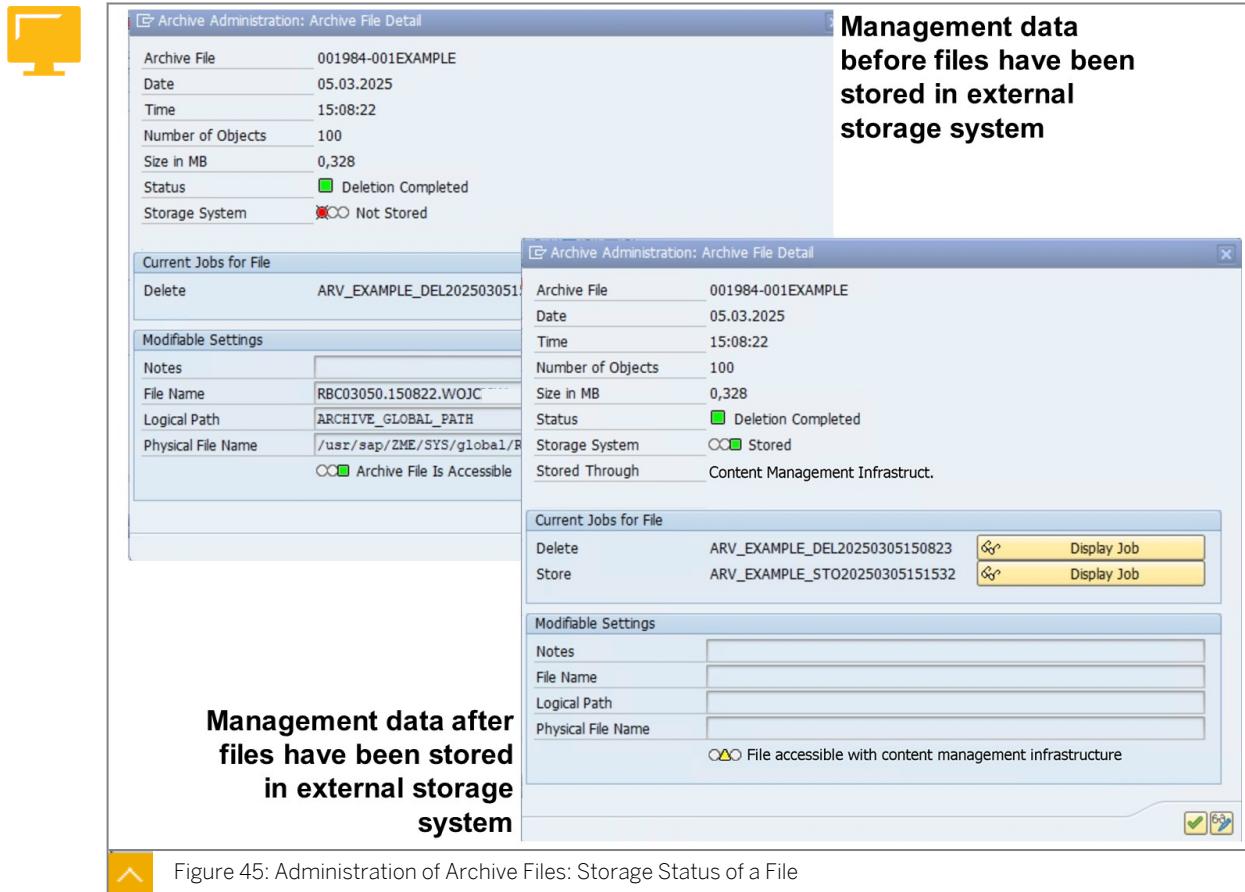


Storing Archive Files in an External Storage System: Procedure



- To schedule a job for storing archive files in the external storage system, choose the *StorageSyst.* button on the initial archive administration screen and then the *Store Files* button.
- As you know, this storage can take place before or after the deletion of the corresponding database entries.

We do not recommend that you store data from archive administration by selecting a run and choosing the *Storage System* button.



The administration data no longer contains any entries for the file name and logical path after it has been stored in an external storage system.

Retrieval of archive files from an external storage system back to the file system



- If you need an archive file again in the file system, you can retrieve it from the external storage system.
- To schedule a job for retrieving stored archive files into the file system, choose the *StorageSyst.* button on the initial archive administration screen and then the *Retrieve Files* button.
- During retrieval, the system copies the stored files back to the file system.
- The name for the provided files is regenerated by the system, so it no longer corresponds to the old file name.

Scheduling storage jobs outside archive administration

Options for scheduling storage jobs outside archive administration:



- As already mentioned in unit 1, you can also use the program `RSARCH_STORAGE_SCHEDULER` to schedule the storage of archive files outside archive administration.
- Among other things, you can determine the maximum number of parallel storage jobs.

- For more information, see SAP Note 2412832 (Scheduling of storage jobs outside transaction SARA).

Check and Verification of Archive Files

How to check and verify the archive files



- You can use the program RSARCH_CHECK_FILES to check or verify your archive files.
- You can determine for which archiving objects, archiving runs, or files, the accessibility of the archive files is to be determined.
- You can decide whether the checksums of the archive files are to be verified.

Saving Archive Files on Tertiary Media

Data must still be accessible after archiving. For this reason, a strategy for the secure storage of archive files must be developed.

Saving archive files on tertiary media (CMS, HSM)



- Using external storage systems (automated storage)
 - Minimal administration effort
- Without using external storage systems (manual storage) You must ensure the following yourself:
 - Data Medium Maintenance
 - Data Medium Management

Interfaces for storing archive files on tertiary media using external storage systems:



- Content Management Service (CMS).
Storage in a content server of the type external storage system.
- HSM system (hierarchical memory management system) for simulating a "Infinite" filesystems with connected tertiary medium management.

For information about using HSM and an external storage system, see SAP Note 71935 use of storage systems.



Note:

There are systems that also provide the option of saving documents using ArchiveLink In addition to HSM functions. These storage systems contain an integrated HSM system.

Archive Files in File System

Storage of archive files without using external storage systems (manual storage)



- Manual storage can take place using CD, WORM, tapes.

- You can also store the archive files in a file system that is subject to the standard backup rules of file systems. (A file system which is not the same as the one in which the files were created.)
- There is no official interface solution for manual storage.
ADK cannot manage the archive files or access them directly.

Advantages and disadvantages of storage without using external storage systems (manual storage):



- Benefits
 - Quick Access
 - No problems with storage media migration and exchange
- Cons
 - Higher storage media price compared to CD, WORM, Tape
 - Check legal regulations
 - Consider file system limits
 - Security and failure concept under your own responsibility

Note the following when storing without using external storage systems (manual storage):



- You must check whether storage on disk is possible in accordance with the applicable legal regulations.
- If files remain in the file system, you must ensure that unauthorized access to this file system is not possible.
- You must also back up the files using operating system tools. (Security Concept).

Archive Files in an HSM System

The advantages and disadvantages of this type of storage are as follows:



- Benefits
 - Short access time for block access
 - Fast access time for reporting (for block access)
 - Direct access to a document is possible
 - Scalable system
 - Smart access (moving frequently read data to fast memory)
 - Support for data medium administration
- Cons
 - Acquisition Costs

- Usually no support for ArchiveLink
- Storage capacity can be limited due to the restriction of the files to be managed in the file system (for example, limited INODE entries on UNIX)

Evaluate the possible restrictions. Make sure that block access is possible with the respective HSM system. Check whether an HSM can also use ArchiveLink functions.

Archive Files in Jukebox via Content Management Service (CMS)

The advantages and disadvantages of this type of storage are listed below.



- Benefits
 - Saving of print lists possible
 - Scalable system
 - Durable data carriers
 - Support for data medium administration
 - Jukebox can also be used for other tasks in the SAP system
- Cons
 - Media migration may be necessary
 - High acquisition costs
 - Administration effort for the storage system
- Keep in mind
 - In individual storage systems, administration data is stored in a separate database. This database must be part of a company's backup concept.
 - When estimating the costs of an external storage system, note whether or not the costs are calculated according to individual licenses for users. Archival providers differ greatly in this respect.

Unit 4 Exercise 15

Manage Archive Files

Business Example

Since your company intends to store the generated archive files later, you should now use the additional option of triggering the external storage from archive management in addition to using the administration functions.

Your project team attaches great importance to well-written notes about the numerous runs and files, as this is the only way to ensure a quick overview for the administrator.



Note:

Whenever ## is used in a word or object title, please replace ## with the group number assigned to you.

Task 1: Execute the data archiving write phase for your archiving object ZC_SBOOK##

1. Schedule a write job for your archiving object ZC_SBOOK## in production mode with a meaningful note.
You can find out the airline (CARRID) and the posting date (ORDER_DATE) from your trainer.
2. Check your write job.
3. Check and, if necessary, add Your note on the archiving session and on the archive files, so that it clearly describes which data was archived.

Task 2: Store the generated ZC_SBOOK## archive files in an external storage location as a final storage option

1. Store the archive files of ZC_SBOOK## in the content repository of the external storage system that you have already specified in Customizing.
2. Once your job has finished, look at the entries for your archive file again in archive administration. What has changed?

Task 3: Check the information provided to you in archive management.

1. Where are the files stored?

2. Are the files accessible?

3. How many archive files are there and how large are they?

Task 4: Execute the data archiving delete phase for the successfully archived data.

1. Define a background job. Use the production variant of your delete program. The job should start immediately. After the job, check the administration entries. What has changed now?
2. Check the administration entries for your archive files as soon as your job has finished. What has changed now?

Task 5: Store the generated FI_DOCUMNT archive files in an external storage location as an option for final storage.

1. Store the archive files for the archiving object FI_DOCUMNT that you archived and deleted in the exercise on financial accounting documents in the content repository of the external storage system that is already specified in customizing. Check and, if necessary, add to the notes for your run in the administrative data.



Note:

The following solution steps show you an alternative way of storing archive files in an external storage location. However, as mentioned in the lesson above, we recommend that you do not go along this path, but the one you used above to store the ZC_SBOOK## archive files, that is, the way using the action button *StorageSyst.* and then *Storing Files*. That's the safe way.

Task 6: Communication with other departments.

1. You have successfully archived and created a meaningful note in the administrative data for your run. What else should you do?

Task 7: Reduce the number of administration entries in archive administration.

1. Can you also reduce the number of administration entries in archive administration for your archive runs?

Manage Archive Files

Business Example

Since your company intends to store the generated archive files later, you should now use the additional option of triggering the external storage from archive management in addition to using the administration functions.

Your project team attaches great importance to well-written notes about the numerous runs and files, as this is the only way to ensure a quick overview for the administrator.



Note:

Whenever ## is used in a word or object title, please replace ## with the group number assigned to you.

Task 1: Execute the data archiving write phase for your archiving object ZC_SBOOK##

1. Schedule a write job for your archiving object ZC_SBOOK## in production mode with a meaningful note.
You can find out the airline (CARRID) and the posting date (ORDER_DATE) from your trainer.
 - a) Call transaction SARA or follow the path:
Tools → Administration → Administration → Data Archiving and enter **zc_sbook##** as the *Archiving Object*.
 - b) Under Actions, choose *Write*.
You are in the *Archive Administration: Create Archive Files* view.
 - c) Enter **GRP##** as the variant and choose *Edit*.
You are in the *Edit Variant: Report Variant GRP##* view.
 - d) Enter the airline and posting date for your group in the appropriate fields.
 - e) Set the *Production Mode* indicator in the *Processing Options* section.
 - f) In the *Archiving Session Note* field, enter information of your choice that you consider useful for the administrator.
 - g) Choose *Attributes* and enter a description of your choice in the *Description* field.
 - h) Choose *Save*.
 - i) Choose *Back*.
You are back in the *Archive Administration: Create Archive Files* view.
 - j) Choose *Start Date*.

You are in the *Start Time* dialog box.

k) Choose *Immediate*.

l) Choose *Save*.

You are back in the *Archive Administration: Create Archive Files* view.

m) Choose *Spool Parameters*.

You are on the *Background Print Parameters* dialog box.

n) Enter **1p01** as the *Output Device*.

o) Choose *Continue*.

You are back in the *Archive Administration: Create Archive Files* view.

p) Choose *Execute*.

2. Check your write job.

a) choose *Job Overview*.

b) Check your write job.



Hint:

The name of the job contains _WRI before the date and time

c) As soon as your job has finished, select your write job and choose *Spool*.

You are in the *Output Controller: List of Spool Requests* view.

d) Select your spool request and choose *Display contents*.

You are in the *Graphical display of spool request* view.

3. Check and, if necessary, add Your note on the archiving session and on the archive files, so that it clearly describes which data was archived.

a) Return to the initial screen of transaction **SARA**.

b) Choose *Management*.

You are in the *Archive Administration: Overview of Archiving Sessions* view.

c) Expand the overview so that you can find your incomplete archiving session. Double-click your run.

You are on the *Archive Administration: Archiving Session Detail* screen.

d) Choose *Change* and add your note if necessary.

e) Choose *Continue*.

Task 2: Store the generated ZC_SBOOK## archive files in an external storage location as a final storage option

1. Store the archive files of **ZC_SBOOK##** in the content repository of the external storage system that you have already specified in Customizing.

a) Return to the initial screen of transaction **SARA**.

b) Choose the action button *StorageSyst.* and then the button *Store Files*.

You are in the *Archive Administration: Store Files* view.

- c) Choose *Archive Selection*. Select your archive run.
- d) Choose *Continue*.
- e) Choose *Start Date*.
- f) Choose *Immediate*.
- g) Choose *Save*.

You are in the *Archive Administration: Store Files* view.

- h) Choose *Execute*.

2. Once your job has finished, look at the entries for your archive file again in archive administration. What has changed?

- a) Return to the initial screen of transaction SARA.

- b) Choose *Management*.

You are in the *Archive Administration: Overview of Archiving Sessions* view

- c) If necessary, expand the overview.

- d) Double-click your archive file.

You are in the dialog screen *Archive Administration: Archive File Detail*.

- e) Pay attention to the status information (traffic light icons).



Note:

The status information displays several statuses. In this exercise, only the archiving status in the *Store* row is important. It should be **stored**. The other statuses are not important for the exercise.

Task 3: Check the information provided to you in archive management.

1. Where are the files stored?

- a) You are still on the *Archive Administration: Archive File Details* screen.

- b) The files are stored in the external storage system.

2. Are the files accessible?

- a) You are still on the *Archive Administration: Archive File Detail* screen.

- b) Status display in the *Modifiable Settings* area: **Archive file can be accessed**.

3. How many archive files are there and how large are they?

a) You are still on the *Archive Administration: Archive File Details* screen.

b) The entry for *Size in MB* displays the file size.

c) Choose *Continue*.

You are back in the *Archive Administration: Overview of Archiving Sessions* view.

d) If necessary, expand the overview and count the archive files that are listed during your archiving session.

Task 4: Execute the data archiving delete phase for the successfully archived data.

1. Define a background job. Use the production variant of your delete program. The job should start immediately. After the job, check the administration entries. What has changed now?

a) Return to the initial screen of transaction SARA.

b) Choose *Delete*.

You are in the *Archive Administration: Execute Delete Program* view.

c) Choose *Archive Selection*. Select only your archive run.

d) Choose *Continue*.

e) Choose *Start Date*.

f) Choose *Immediate*.

g) Choose *Save*.

h) Choose *Spool Parameters*.

You are on the *Background Print Parameters* dialog box.

i) Enter **LP01** as the output device.

j) Choose *Continue*.

You are in the *Archive Administration: Execute Delete Program* view.

k) Choose *Execute*.

2. Check the administration entries for your archive files as soon as your job has finished. What has changed now?

a) Choose *Management*.

b) You can now find your session under *Complete Archiving Sessions*.

c) If necessary, expand the structure and select your file by double-clicking it.

You are on the *Archive Administration: Archive File Detail* screen.

d) You see the *Status* as **Deletion Completed**.

Task 5: Store the generated FI_DOCUMNT archive files in an external storage location as an option for final storage.

1. Store the archive files for the archiving object **FI_DOCUMNT** that you archived and deleted in the exercise on financial accounting documents in the content repository of the external

storage system that is already specified in customizing. Check and, if necessary, add to the notes for your run in the administrative data.



Note:

The following solution steps show you an alternative way of storing archive files in an external storage location. However, as mentioned in the lesson above, we recommend that you do not go along this path, but the one you used above to store the `ZC_SBOOK##` archive files, that is, the way using the action button *StorageSyst.* and then *Storing Files*. That's the safe way.

a) Return to the initial screen of transaction SARA.

b) Enter `FI_DOCUMENT` as the archiving object.

c) Choose *Management*.

You are in the *Archive Administration: Overview of Archiving Sessions* view.

d) Expand the *Complete Archiving Sessions* structure and select only your archiving session.

e) Choose *Storage System*.

You are on the *Archive Administration: Store / Retrieve Files* dialog screen.

f) Choose *Store Files*.

g) Return to the *Archive Administration: Overview of Archiving Sessions* view.

h) Select your archiving run by double-clicking it.

You are on the *Archive Administration: Archiving Session Detail* screen.

i) Choose *Change*.

j) Check and, if necessary, add to the note for your run under *Note* so that it contains helpful information for the administrator.

k) Choose *Save*.

Task 6: Communication with other departments.

1. You have successfully archived and created a meaningful note in the administrative data for your run. What else should you do?

a) Also inform the relevant department which data has been archived.

Task 7: Reduce the number of administration entries in archive administration.

1. Can you also reduce the number of administration entries in archive administration for your archive runs?

a) Yes. You can use the archiving object `BC_ARCHIVE` to archive administration entries and reload them if required.



LESSON SUMMARY

You should now be able to:

- Store Archive Files.

Performing Conception and Implementation in the Project Data Archiving



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Describe the purpose and requirements of a long-term archiving plan.

Conception and Design Phase of a Data Archiving Plan

Business Example

You have completed the analysis phase and now have to create a concrete plan for the first archiving runs.

In the long run, you need to plan how data archiving is handled as a regular and recurring process in your organization.

Design and design phase of a data archiving plan

The goals of the design phase are 1/2:



- Development of a concrete concept for archiving data of critical tables in the database.

At the end of this step, you can see which data is to be archived.

The concept contains residence times, requirements for archived data, the archiving sequence, a procedure description for accessing the archived data, and technical notes for storing and saving the archive files.

The concept is based on a precise process analysis and testing by the business departments.

The user department, revision, and IT department must then agree in writing.

- Create an implementation and test plan.

The aim is to create a project plan for data archiving. A concrete timetable should be drawn up as well as a list of activities indicating the responsibility of the staff.

The goals of the design phase are 2/2:



- Create a long-term archiving plan. Data archiving is not a one-time process, but a constantly recurring process.

The aim here should be to develop an archiving plan that can be used to proactively archive data over a long period of time. In this way, the growth of the database can be controlled.

- Based on business criteria, a quantity structure should be created that reflects the expected data quantities as accurately as possible.

Project Archiving: Implementation And Going Live Phase

Implementation and going live essentially mean the implementation of the archiving concept.

Focus of the Implementation and Going Live Phase



- Implementation of archiving based on the activities defined in the design phase.
- Implementation of the necessary technical settings.
- Implementation of application-specific customizing.
- Exact definition of which selection parameters are used for archiving.
- Agreement on who carries out data archiving.

Precise clarification of the selection criteria is necessary to take into account the enterprise-specific maintenance windows and not to load the database unnecessarily. A problem can be selections that are too wide or too narrow. Selections that are too wide are disproportionately burdensome in your system. Selections that are too narrow often do not provide a true benefit on the database side due to the small amounts entered.

Triggering data archiving from a central point makes it easier to consult with the system administration to ensure that data archiving and other system-burdensome work do not affect each other.

Of course, the system administrator can also schedule archiving.

Pre-implementation steps for test and production operation 1/2



- Check SAP Notes.
- Set up the jobs for background processing in the application or database server.
- Performing customizing for data archiving:
 - General Settings
 - Technical settings
 - Application-Specific Settings

Pre-implementation steps for test and production operation 2/2



- Maintenance of variants.
- Configuration of the file server.
- If used: Configuration of an external storage system for saving the archive files AFTER data archiving.
- Performing transports to the production system.

Search for SAP Notes with the following keywords:

- ADK
- Archiving

- SARA
- Name of Archiving Object

The SAP Notes should be viewed periodically. You can subscribe to SAP Notes so that you are notified by e-mail when there is a change. SAP Notes should always be maintained with the latest version.

Test Phase



- Test archiving under realistic conditions: Choose the dataset as identical as possible to the production system.
- After the archiving run, analyze the logs and forward them to the user department.
- Specify when non-archivable data is to be corrected.
- Check display functionality together with department.
- Have the user department test whether dependencies of the data are set correctly; archivable data must not be missing unexpectedly at another point.
- After satisfactory tests and the approval of the user department, the customizing settings and, if necessary, your own read programs are transported to the production system.

If no test system with a sufficient amount of data is available, the test must be performed as a test run in the production system.

Test runs show how much data can be archived and thus provide an overview of the storage requirements on the file system used.

Test runs can also show whether the settings for the residence times defined by the user departments have been reasonably chosen with regard to the duration of archiving.

Production Phase: Preparation for Data Archiving

Production Phase - Preparations: Before the first archiving, you should check the following parameters and correct them if necessary:



- General Customizing: Logical File Name, Server
- Cross-Object Customizing: Verification Data, Access Check, Data Archiving Monitor
- Object-Specific Customizing: Link to Archive, Size of Archive File
- Application-Specific Customizing: Residence Times
- Delete Program Settings
- Scope of selected data (saved as variants)
- Check the deletion indicators, and so on.
- Check of available memory space (increase if necessary)

Productive Phase - Execution of Data Archiving



- Define the archiving sequence according to your process logic.
- Perform the following steps for each archiving object:



- If necessary: Schedule preprocessing program
- Schedule archiving program (choose time with low load)
- Job Monitoring
- Save Archive Files
- Schedule Deletion Program
- Enter the selected data as a note for the archiving run
- Forward information about successful archiving runs to departments
- Check System Logs
- Check Read Access

Productive Phase: Postprocessing for Data Archiving



- Archive index creation (if not already done)
- Backing up the archive files
- Planning of postprocessing programs (if necessary)

For more information about resetting number ranges after data archiving, see SAP Note 781802.

Performance and Data Archiving

Data archiving should always take place if as few users as possible work in the system, since the system load increases due to the large amounts of data processed during data archiving.

As mentioned several times, the selection parameters must also not become a critical factor. Think carefully about which selections you make in which maintenance windows

Creating a Long-Term Archiving Plan

The following points should be included in a long-term archiving plan:



- Procedure concept for archiving all data objects that have exceeded a certain residence time.
- Concept for the management of archive files.
- Concept for storing archive files on tertiary storage media.
- Responsibilities for the above.
- Procedure documentation for accessing the archived data and displaying it to the user.

Data archiving is not a one-time process, but a recurring process.

Therefore, in the implementation project, you agree between departments, auditing, and system administration on specific residence times, archiving sequences, and other archivability criteria. Who triggers archiving (IT or user department), the archiving process, and the periodicity of archiving are also determined there.

The result is recorded in a document that is then used as the basis for creating a regular archiving plan.



LESSON SUMMARY

You should now be able to:

- Describe the purpose and requirements of a long-term archiving plan.

Learning Assessment

1. Which logs are created in the data archiving process?

Choose the correct answers.

- A Job Overview
- B Job Log
- C Network Protocol
- D Spool List
- E Application Log

2. Possible statuses of the archiving sessions are:

Choose the correct answers.

- A Complete
- B Incomplete
- C Index is built
- D Replaced
- E Invalid
- F Marked for Archiving

3. A data archiving project is to create a plan for long-term archiving. What is behind this plan?

Choose the correct answers.

- A Documentation about the archiving process and how to access and display archived data in the application.
- B List of all applications, which will be used in the future in productive mode.
- C Procedure to archive all objects that have exceeded a specific residence time.
- D Concept for storing archive files on external storage media.
- E Persons who are responsible for the above.

Learning Assessment - Answers

1. Which logs are created in the data archiving process?

Choose the correct answers.

- A Job Overview
- B Job Log
- C Network Protocol
- D Spool List
- E Application Log

Correct. The typical logs in archiving are: the job overview, the job log, the spool list, and the application log.

2. Possible statuses of the archiving sessions are:

Choose the correct answers.

- A Complete
- B Incomplete
- C Index is built
- D Replaced
- E Invalid
- F Marked for Archiving

Correct. There is no status: "Index is built".

3. A data archiving project is to create a plan for long-term archiving. What is behind this plan?

Choose the correct answers.

- A Documentation about the archiving process and how to access and display archived data in the application.
- B List of all applications, which will be used in the future in productive mode.
- C Procedure to archive all objects that have exceeded a specific residence time.
- D Concept for storing archive files on external storage media.
- E Persons who are responsible for the above.

Correct. The statement: "List of all applications, which will be used in the future in productive mode" is wrong.

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UNIT OBJECTIVES

- Explain the options for accessing archived data.
- Understand Special Read Programs.
- Describe the Archive Explorer.
- Create and customize an Archive Information Structure.
- Archive Explorer.
- Describe the purpose of the Data Relationship Browser (DRB).
- Explain the purpose of the Data Retention Tool (DART).

Unit 5

Lesson 1

Accessing Archived Data



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Explain the options for accessing archived data.
- Understand Special Read Programs.

Access to Archived Data - Overview

Business Example

You have finished archiving your data.

You now want to perform read access to the archived data.

Access to Archived Data - Overview

SAP provides different ways to access archived data. The following graphic shows which options are available to you.

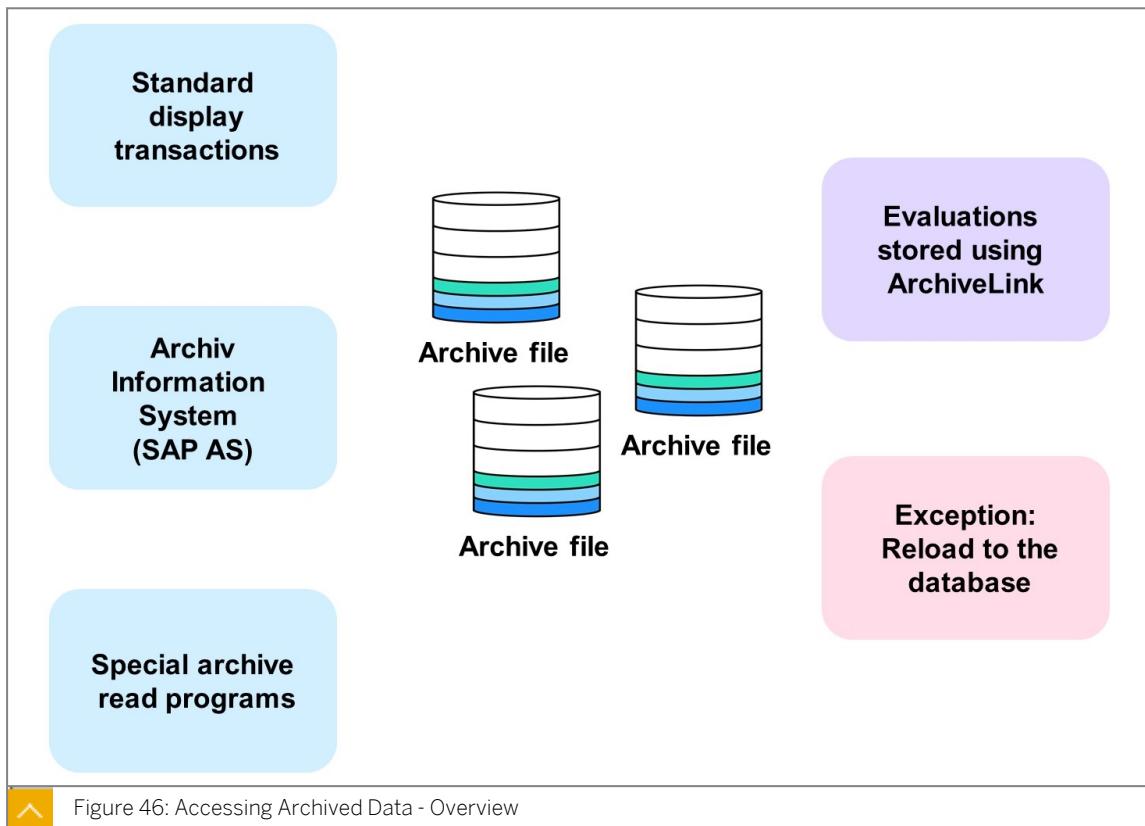


Figure 46: Accessing Archived Data - Overview

Access to Archived Data - Overview



- Access using a standard display transaction means that the user department can access archived data using a transaction, a report, or an app, as it also uses it for non-archived data.
An Archive Information System (AS) index (called an archive information structure, or info structure) is the prerequisite for this access.
- Special archive read program means that the application provides special programs or transactions for archive access. These read the archive files you selected sequentially and completely without an index.
- The **Archive Information System (AS)** is a cross-application tool for indexing archive files. It also provides a way to display archived data. However, this is a technical, that is, not a business view of the data.
- The "reload archived data into the database" function is a correction function and not a reporting function.
- "Evaluations stored via ArchiveLink" means, for example, the option of accessing stored print lists.
- The application determines which of the possible accesses are available for a business object. The scope depends, among other things, on which accesses are required in each case.

The following applies to standardized archiving objects:



- Provision of read access to archived data from the application, provided this access makes sense from a business point of view.
The decision as to whether an archive access is to take place is generally made in the data source dialog box (e. g. under *Extras → Data Source*).
If this is a read access in which only one or only a few objects are displayed, the application can always use an index to search for requested data in the archive. The user then has no option to determine the data source. An example of this is transaction FB03 (Display Document).
- Technical access using the AS is possible.
- There is a connection to the **Document Relationship Brower (DRB)**.

Note that:



- SAP does not intend to extend every standard reporting of data in the database to archived data.
- In principle, access to archive files is only possible from the system in which the data was archived.

Exception Function: Reload Archived Data to Database

Reloading archived data into the database



- Note that the reload function is a correction function and is not available for all archiving objects.

- We differentiate between two scenarios in which you might have a desire for reload in your project.
 - Scenario 1: Reload to database immediately after archiving.
 - Scenario 2: Reload to database some time after archiving.
- In a production system, you should only reload data if you notice an incorrect selection, incorrectly maintained residence times, or similar immediately after archiving.
- If a reload request is sent to you long time after archiving, you must always clarify what the origin of the request is.

In reality, this is often a display request that must not be fulfilled by reloading data.

- When you reload data that has already been archived for a long time, inconsistencies may occur if, for example: number ranges are obsolete and have been reassigned. During the reload, the new number range is then overwritten.
- The reload function is not critical for archive management entries that were removed from the database using the archiving object BC_ARCHIVE.

Reloading can only be used for scenario 1. Otherwise, clarify what the background of the reload request is and contact SAP if necessary. (For information about the reload function from ADK development, see SAP Note 53064).

Access using a standard display transaction of the application

Access to the required archived business objects has been realized here using the standard display transaction, or a report, or an app that the department already uses for data that has not been archived.

A suitable index (archive information structure) must be set up in the Archive Information System (AS) so that this access can be carried out at the usual speed.

Access using a standard display transaction of the application



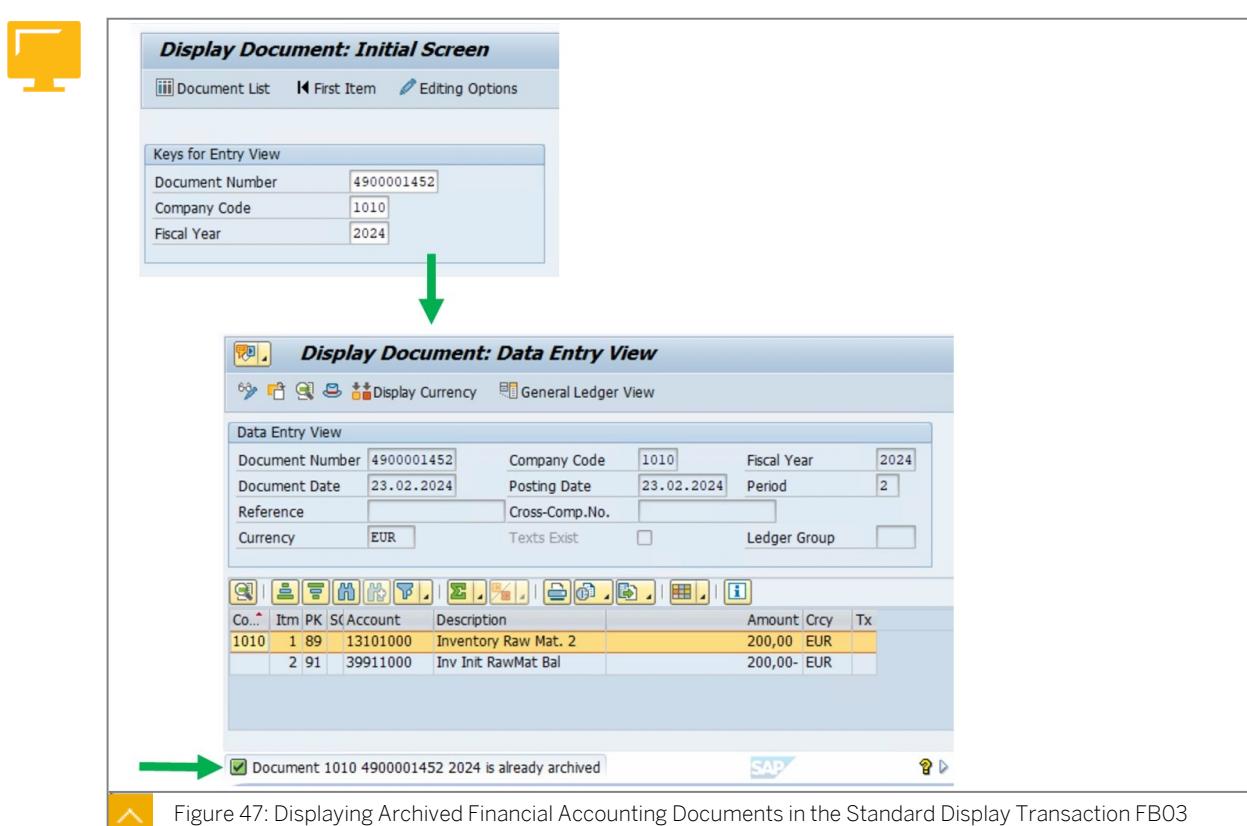
- Standardized archiving objects (for example, FI_DOCUMNT, SD_VBAK, SD_VBRK, RV_LIKP, MM_MATBEL, EC_PCA_ITM) provide these accesses.
- The Archiving Object
 - FI_DOCUMNT (Financial Accounting Documents) uses the standard display transaction FB03 for the display.
 - SD_VBAK (Sales Documents) the standard display transaction VA03.
 - RV_LIKP (Deliveries) the standard display transaction VL03N.
- Here, the system automatically searches for a document in the archive if it was not found in the database and if a suitable information infrastructure (info structure) (using the example of financial accounting documents SAP_FI_DOC_DRB1, or a customer-specific info structure for the field catalog SAP_FI_DOC_001) is active.

A data source dialog box for deciding whether the search is to take place in the database and/or in the archive is not offered because the transactions mentioned above represent a single document transaction and a search can take place very quickly in both data sources

- However, transaction KE5Z for displaying profit center actual line items is not a single document transaction. Therefore, it offers the data source dialog box. This enables the user to decide whether archived data (archiving object EC_PCA_ITM) is to be displayed.
- Material documents (MM_MATBEL) use the display of the material document list via transaction MB51.
- For production orders (PP_ORDER), the system navigates to the order information system as it is used in the standard system. If an active and filled archive information structure exists, the system uses the index of the archive information system to access the data.

The profile used determines which data is displayed in the order information system.

It is possible to branch from the orders to detailed information, but not to all information. Configuration data is used for not displayed.



Special Archive Read Programs

Special Archive Read Programs - Usage Area



- Applications can provide special reports that evaluate archived data and display it in a way that makes sense from a business point of view.
- Each application should provide at least one such report if, contrary to the recommendations for standardized archiving objects, it does not provide access via a standard display transaction of the application.
- The application decides how many reports it provides and whether they can read data from the database as well as archived data.

The financial accounting documents archived with archiving object FI_DOCUMNT can for example be read using the reports that are offered in transaction SARA.

Customer-specific reports for archive access



- If you have written customer-specific reports for archive access and want to call them from transaction SARA using the *Read* function, you must enter them in the table ARCH_REPOW using transaction SM30.
- Enter the archiving object and the name of the report.
- Do not enter anything as the *Report Type* - leave the type empty.
- If this is not a report, but a transaction, enter **TR** as the *Report Type*.

Unit 5 Exercise 16

Execute Sequential Read Accesses with the Help of Special Archive Read Programs

Initial Scenario

You have archived data and want to test whether the required access to this data is possible. You start with the sequential read accesses that you want to call from transaction SARA.



Note:

The exercise uses the financial accounting documents you archived from previous exercises, as well as an archive with deliveries (RV_LIKP) that the training team has prepared for you.

Task 1: Create a compact document journal

1. Use report RFBELJ00 to create a compact document journal. To do this, use only the archive file you created as the data source.

Task 2: Display a delivery archived using archiving object RV_LIKP

1. Display the delivery already archived by the training team with the number 80000001 using the read program S3LIKPAU.

Execute Sequential Read Accesses with the Help of Special Archive Read Programs

Initial Scenario

You have archived data and want to test whether the required access to this data is possible. You start with the sequential read accesses that you want to call from transaction SARA.



Note:

The exercise uses the financial accounting documents you archived from previous exercises, as well as an archive with deliveries (RV_LIKP) that the training team has prepared for you.

Task 1: Create a compact document journal

1. Use report RFBELJ00 to create a compact document journal. To do this, use only the archive file you created as the data source.
 - a) Call transaction SARA.
 - b) Enter **FI_DOCUMENT** as the archiving object and choose the *Read* button.
 - c) Select report *RFBELJ00 "Compact Document Journal"* as the *Read Program* and choose *Execute* (F8).
 - d) Select the *Data Sources* button at the top of the screen.
You are in the *Select data source* dialog box.
 - e) Since you call the report from transaction SARA, the checkbox *Database* is not set and the *Archive* checkbox is set.
 - f) Choose *Archive Selection*.
You are on the *Archive Administration: Select Files for Read Program* screen.
 - g) Select your archive run there.
 - h) Choose *Continue* twice.
 - i) Choose *Execute*.
The Compact Document Journal is generated and displayed.

Task 2: Display a delivery archived using archiving object RV_LIKP

1. Display the delivery already archived by the training team with the number 80000001 using the read program S3LIKPAU.
 - a) Call transaction SARA.

b) Enter `RV_LIKP` as the *Archiving Object*.

c) Choose the *Read* function.

The read program `S3LIKPAU` is already preselected.

d) Choose *Execute*.

e) Enter **80000001** as document selection.

Your training team has archived this document as part of the preparations.

f) Choose *Execute*.

The system displays the existing runs for the archiving object `RV_LIKP`.

g) Select the run that contains the delivery 80000001.

h) Press *Continue*.

You see the delivery 80000001.



LESSON SUMMARY

You should now be able to:

- Explain the options for accessing archived data.
- Understand Special Read Programs.

The Archive Information System and Index-Based Read Access



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Describe the Archive Explorer.
- Create and customize an Archive Information Structure.
- Archive Explorer.

The Archive Information System – Motivation

Business Example

You want to search in archived data and display the results. You want to access the archived data from the application. You need an index for these functions.

The Archive Information System – Motivation



- Fast access to archived data requires an index.
- The first applications that offered index-based read access to archived data (financial accounting and material documents) had to provide an index concept themselves.
- This application-specific index was reflected in application-specific index tables as well as in an index creation and deletion program written specifically for these tables.
- In older releases, these index creation and deletion programs could be executed from transaction SARA using the INDEX action button.

The Archive Information System – Origin



- The more applications wanted to offer index-based read access to archived data, the more important it was to make index accesses available quickly and uniformly in the archiving environment.
- A tool was required that can be used to create an individual index of the archived business objects quickly and uniformly for each archiving object.
- This index should be able to be used by the standard display transactions of the applications for fast archive access. The Archive Information System (AS) was created from this motivation.
- As a result, the AS is a generic solution that works identically across different application areas and can also be used for customer solutions.

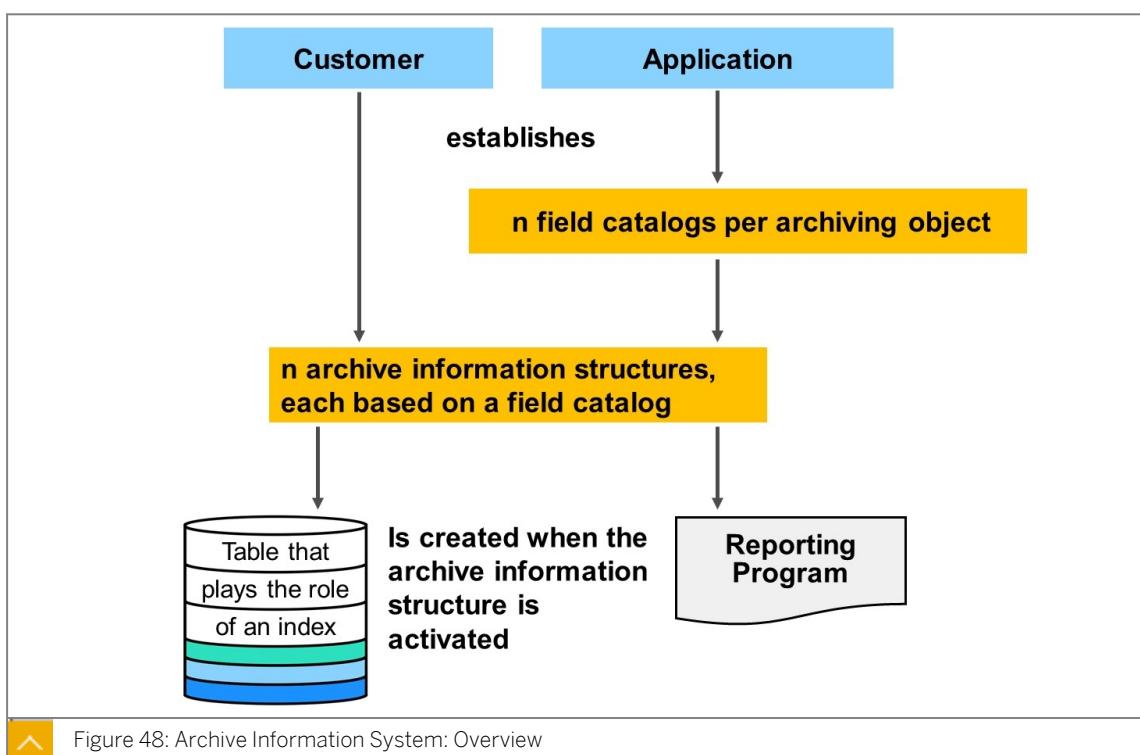
- You can find a jump to the AS behind the *Information System* pushbutton in transaction SARA.

Overview of the Archive Information System

The archive information structure



- An index in the Archive Information System is called an archive information structure (also known as an archive information structure or info structure).
- Customers either use the archive information structures delivered by SAP, which are in the SAP namespace, or start with SAP_, or they create their own info structures.
- In the Archive Information System, a table, that is generated when an archive information structure is activated, plays the role of an index. This table is then filled with an extract of the archived data.



The field catalog



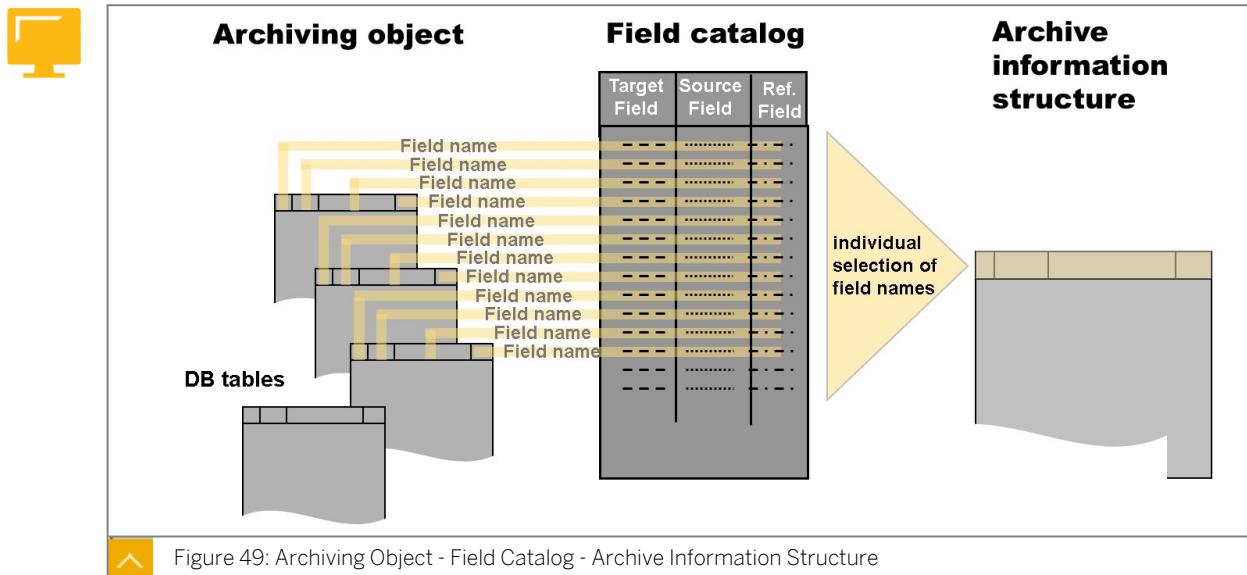
- Each archive information structure is based on exactly one field catalog.
- A field catalog defines a template on the basis of which an archive information structure can be created.

This is a type of superset of fields that can be used for an archiving object for certain search strategies.

- The structure of field catalogs is often complicated. Its creation requires very good technical knowledge of the corresponding archiving object.

For this reason, field catalogs are created by the application that creates an archiving object.

- Customers should only create customer-specific field catalogs for SAP standard archiving objects in exceptional cases.
- The SAP field catalogs begin with *SAP_*. In the meantime, they can also be in a namespace. The usual namespace rules apply here.



An archiving object and its archive information system objects

- An archive information structure and a field catalog always belong to exactly one archiving object.
- There can be several archive information structures for an archiving object.

Which Standard Display Requires Which Archive Information Structure?

- If standard display transactions support archive access via the AS, they usually have archive access, for example, using an option to specify the data source as the database and/or archive for the evaluation.
- These can be found, for example, in the *Extras → Data Source* menu. Which info structures, or info structures for which field catalogs, represent the prerequisite for index-based archive access describes:
 - the documentation that you can call up after selecting the “Data Source Dialog Box” using the *i* button, or
 - the documentation of the respective archiving object
- A data source dialog box for deciding whether the search is to take place in the database and/or in the archive is not offered if the transaction represents a single document transaction (such as transaction *FB03*) and a search in both data sources can take place very quickly.

Creating and Changing Archive Information Structures

The following describes how you can create and change archive information structures. The former may be necessary if a standard display transaction offers index-based archive access, and provides a field catalog but no infostructure.

To create an archive information structure, proceed as follows:

Creating an Archive Information Structure



- Call the transaction `SARJ`, or the transaction `SARI` and choose *Customizing*.
- Enter a name for the new archive information structure.
- Choose *Create*.
- Select the description for the info structure, the corresponding archiving object, and the required field catalog.
- Transfer only required *selectable fields* of the field catalog to the archive information structure.
- Save the archive information structure.

When you create an archive information structure, note the following:



- In the beginning, the name of archive information structures delivered by SAP started with `SAP_`.
- In the meantime, archive information structures (as well as field catalogs) can also be created in the usual namespaces.
- Therefore, for your customer-specific info structure, choose a name that does not start with "SAP_", or create it in the customer namespace.
 - All key fields of the field catalog that are defined as not selectable in the field catalog are automatically transferred to the archive information structure.
 - The Archive Information System is an indexing tool.

You should keep archive information structures **as small as possible so that you only use them to find** an archived business object.

Subsequent change of an Archive Information Structure

The field selection and the settings of an archive information structure can be changed subsequently. However, do not change any of the info structures delivered by SAP.

Proceed as follows:



- Deactivate the archive information structure (*Archive Infostructure* → *Deactivate*)
- Delete the index table for the archive information structure (*Utilities* → *Delete Tables*).
Deleting the index table is mandatory if you want to add new fields.
- Remove fields or add new ones (*Archive Infostructure* → *Change*).
- Activate the information structure again (*Archive Infostructure* → *Activate*).

- Fill the information structure again. We describe this topic in detail below.

Activating and Filling Archive Information Structures

If you have determined the required archive information structure, you must activate it and create it for the required archive files.

Choose *Tools → Administration → Administration → Data Archiving*. Choose the *Information System* pushbutton and then *Customizing*.

In the *Archive Infostructure* field, enter the name of the required info structure and choose *Archive Infostructure → Activate*.

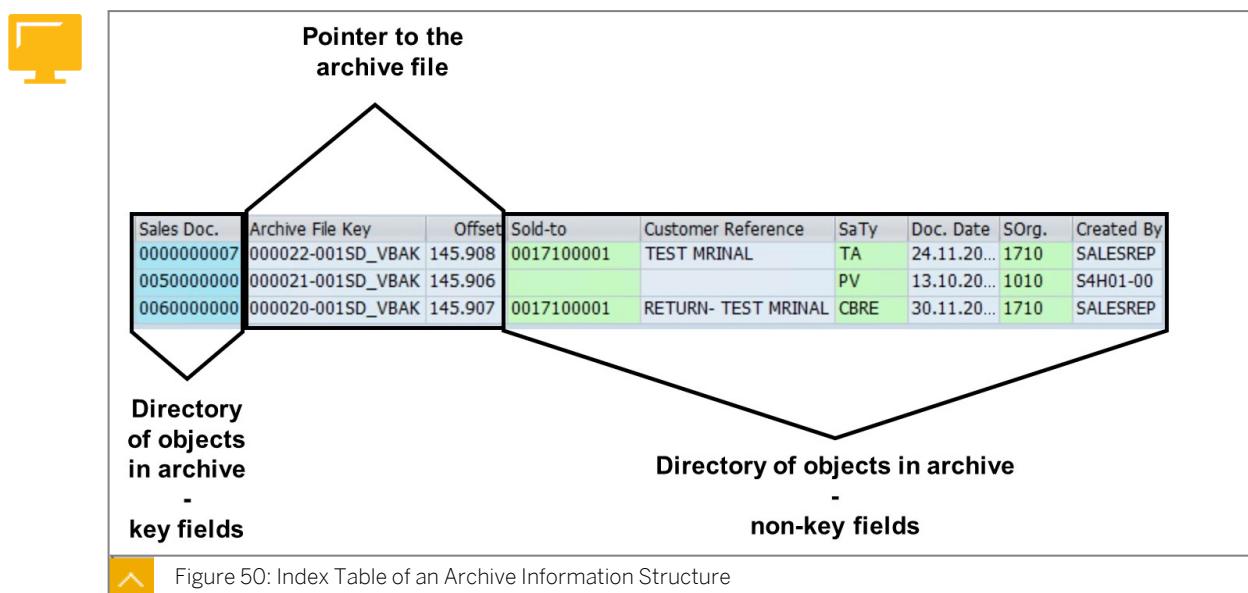
As soon as an archive information structure is activated, a new transparent database table is created.

The database table contains all fields of the archive information structure and also the archive file key and the offset of a so-called data object in this file.

The following graphic shows the structure of an archive information structure using sales documents as an example.

There is one entry in the table for each sales document. The sales document field is a key field. The development team of this field catalog has decided that fast access should also be possible using the fields sold-to party, customer reference, sales document type, and so on, but these fields do not have to be in the key of the index table.

In addition, the archive information structure contains the unique fields "archive file key" and "Offset" that enables direct access to a sales document in the archive file



Fill Archive Information Structure with Index Information

Archive information structures can be filled with index data in two ways. You can see both on the following graphic.

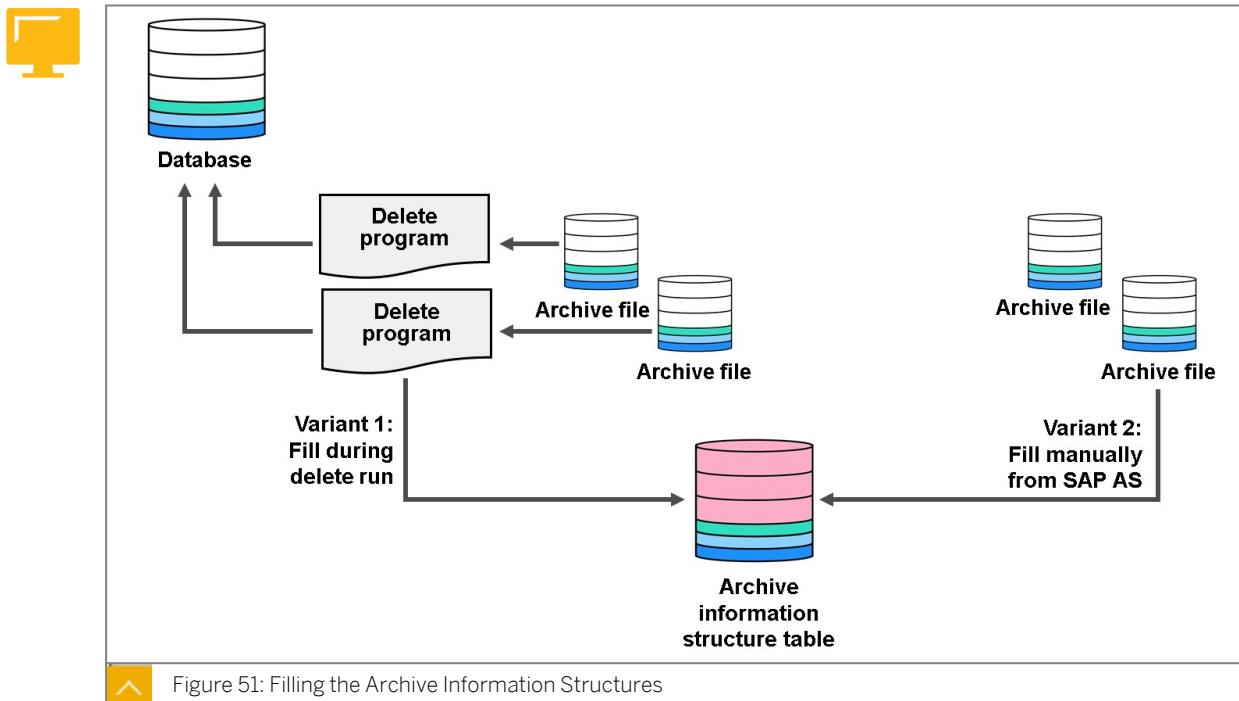


Figure 51: Filling the Archive Information Structures

You fill the index table with data from archive files automatically during the deletion run of data archiving, or explicitly using an AS administration function.

If an archive information structure is active, it is automatically filled with data during the deletion phase of an archiving run. By specifically activating and deactivating the archive information structures before the deletion program is started, you can control that only those archive information structures that are really permanently used as the information medium are set up by default.

In this context, note that SAP applications use the AS as an indexing tool and therefore the archive information structures must be filled permanently with required data so that standard display functions of the application can execute the archive accesses that you require.

Status Management of Archive Information Structures

You can use status management in the AS to see whether data is contained in the archive information structures at all, and if so, from which archive runs they originate.

Call transaction `SAR_STATUS` or choose *Tools → Administration → Administration → Data Archiving*. Choose the *Information System* pushbutton and then choose *Status*. Choose the *Status per Infostructure* pushbutton.

The screenshot shows two side-by-side tables from the SAP Archive Information System Status Management interface.

Left Table (Session Status):

Sessn	Date	Archiving Session	Note	Fill Status	Infostructure	Archive File Key
000020	09.11.2024	All	Complete	SAP_DRB_VBAK_01	000020-001SD_VBAK	-
000019	09.11.2024	50000000	Complete	SAP_DRB_VBAK_01	000019-001SD_VBAK	-

Right Table (Info Structure Status):

Infostructure	Arch.Obj.	Fill Status	Archive File Key	Date	File Status
SAP_DRB_VBAK_01	SD_VBAK	Green			
SAP_SD_VBAK_IRF	SD_VBAK	Red			

Figure 52: AS Status Management

In status management, you can see whether the data of the run is contained in the archive information structure table or not. This does not include the runs for which the deletion phase has not yet taken place.

Filling and Deleting Information Structures – 3 Possibilities

- When you call *Status management*, you can choose between *Status Per Archive* and *Status Per Infostructure*
- With the *Status Per Archive*, all complete archiving sessions for the specified archiving object are displayed.
- With the *Status Per Infostructure*, all existing info structures for an archiving object are displayed.
- When you call *Customizing*, enter an Archive Infostructure and choose *Environment → Fill Structure*, all complete archiving sessions for the archiving object behind the specified infostructure are displayed.

A red traffic light means that the data is not in the table; a green traffic light means that the table contains the data of the run, access to it is possible.

A red traffic light means that the information structure table is not filled, a green traffic light means that the archive information structure table is filled with all data from all runs. As soon as you see a yellow traffic light, you know that although the info structure table contains data, it does not contain the index data of all runs.

If you do not keep the info structures permanently filled, you can fill them directly from the AS at any time using the *Status* function.

If you are in the *Status Per Infostructure*, the system transfers the data of all available runs for the archiving object to the info structure. If you are in the *Status Per Archive*, you can select from the existing runs the data for which you want to have in the info structure.

Filling and Deleting Information Structures – Automation Options

- Alternatively, you can use the report `AS_BUILD_SCHEDULER`. By doing this, you automate manual tasks that you would otherwise perform in transaction `SAR_STATUS`.

- The report provides you with additional options:



- Filling and deleting of inactive info structures.
- Processing takes place at archive file level. In the archive selection, you can also select individual files for processing.
- Parallel processing of the filling and deleting jobs.
- The report does not set an exclusive table lock during deletion and therefore enables parallel processing of the deletion jobs.
- For more information about the report, see [SAP Note 2717642](#) "Scheduling subsequent setup/reduction jobs of the Archive Information System".

Data Management in the Archive Information System

Tables are generated as part of the Archive Information System. These tables can become relatively large. The "lifetime" of the data is in the range of a few years.

Partitioning of Information Structures



- To handle large amounts of data in the Archive Information System efficiently, it is possible to partition the information structures.
- As a result, not all data is written to a single table, but distributed to several tables.
- The partitioning criterion is the date of creation of the archiving run.
- The concept is so flexible that the partitioning does not have to be set from the beginning. With really large amounts of data, rebuilding would be quite time-consuming.
- This means that data that has already been created can remain. All accesses to the Archive Information System remain the same.

You can configure partitioning from the initial screen of the AS by choosing *Archive Information Structures* → *Customizing* and then after entering an info structure by choosing *GoTo* → *Partitioning*.

Important Characteristics in the Subsequent Introduction of the Partitioning of Information Structures



- The partitioning configuration is part of the transport object ASIS (info structure).
- For this reason, you can only execute these without modification for info structures in the customer namespace.
- If you plan to use an SAP infostructure and cannot exclude the possibility of creating a partitioning over time, we recommend that you create an infostructure in the customer namespace (based on the same field catalog).

In addition to partitioning, the Archive Information System also provides the option of specifying the table (or tables) for an info structure. This offers you some advantages.

Freely Definable Names for the Info Structure Tables



- By default, the info structure tables are generated in the ZARIX* namespace.
- If required, you can specify the table name.

- Predefined tables can be transported to the various systems.
In particular, the table is called the same in each system, which makes database administration easier.
- You can also define the required technical settings for the specified tables.
Otherwise you have to make these settings directly in the production system, which is usually not desired.

More Flexible Rules for the Index Tables



- The tables generated for an info structure can have more fields than the info structure.
- These surplus fields must not be used, but it enables you to remove fields from the info structure without having to rebuild it.
- The basic configuration of partitioning or the use of fixed tables only requires you to specify the date from which the entries for an info structure are to be written to which table.
- The date refers to the creation date of the archiving run.
- If you omit the table name, the system automatically generates a suitable table.

We will discuss some special features if you want to make changes to the info structure, e. g. add a new field. If you use partitioning and have not specified any table names, you have to deactivate the infostructure, delete the table and the program for the infostructure, and then perform the required changes and activate and fill the info structure again. You can do so in transaction SARJ or SAR_STATUS.

However, if you enter fixed table names, the same steps are necessary. However, the system does not allow you to delete the table in transaction SARJ. You must delete the table separately in the ABAP Dictionary (transaction SE11) and create and transport a separate transport request for this. You must also pay attention to the sequence of the transports and transport the deletion first.

Therefore, when you implement partitioning with fixed table names, check whether you actually need them and note the more cumbersome way of making changes to the info structure.

Partitioning for Info Structures – Special Features in an S/4HANA System



- If partitioning is necessary for reasons of data volume, use SAP HANA partitioning if possible.
- This has the advantage that it is carried out on the basis of the content of the info structures.

The partitioning of the Archive Information System is only carried out on the basis of the archiving date.

- Ideally, SAP HANA should access the correct partition immediately using suitable index procedures.
- In archive information system partitioning, on the other hand, all tables of the info structure must be read to determine which archive file contains the data searched for.

- If you already have a large volume of data, you may be familiar with SAP HANA partitioning and can also use this knowledge for the info structure tables.
- You do not have to familiarize yourself with archive information systems partitioning.
- For more information about HANA partitioning, see [SAP Note 204468](#) "FAQ: SAP HANA Partitioning".
- Check, for example, the section: "Are there specific partitioning recommendations for specific SAP applications and tables?".

Access to Individual Objects in AS (Archive Explorer)

Archive Explorer in the Archive Information System



- In addition to the main function as an indexing tool, the Archive Information System (AS) also provides an option for displaying the archived data technically, that is, not from a business perspective.
- This index-based search and access to an archived business object takes place using the *Archive Explorer* function on the initial screen of AS.
- Enter the required archiving object and select an active archive information structure. If only one structure is active, the field can remain empty.
- Execute the transaction. The system displays the records of the archive information structure table. The display is similar to the table view in transaction SE16.
- On the initial screen of the Archive Explorer, you can use the menu option *Settings → Central Settings* and decide in the group *Column Names* whether you want to see the field labels or the technical field names as column names on the next screens.

For more information about the *Settings* menu option see SAP Note 2565848 (Central user-specific settings in the data archiving environment).

Archive Explorer - the Result List and the Technical View



- For the results list - the list of records of the archive information structure, that is, the index table that represents an extract of the archived data, access to the archive files is not yet required.
- You can access the archived business object directly from the list display by double-clicking it. The archive file is only accessed here.
- The individual data record is accessed using the offset that is stored in the archive information structure. The corresponding position in the archive file is read directly.
- This **technical view of the AS** is based on the fields of the archive information structure.

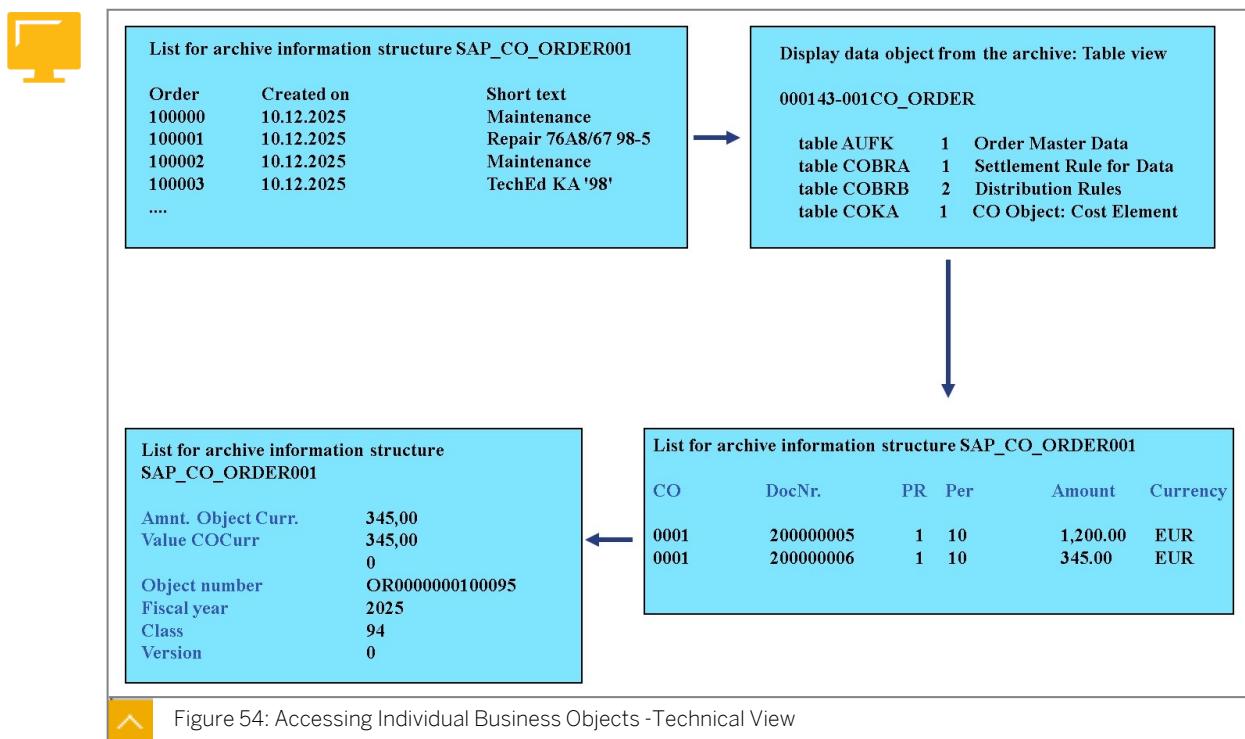
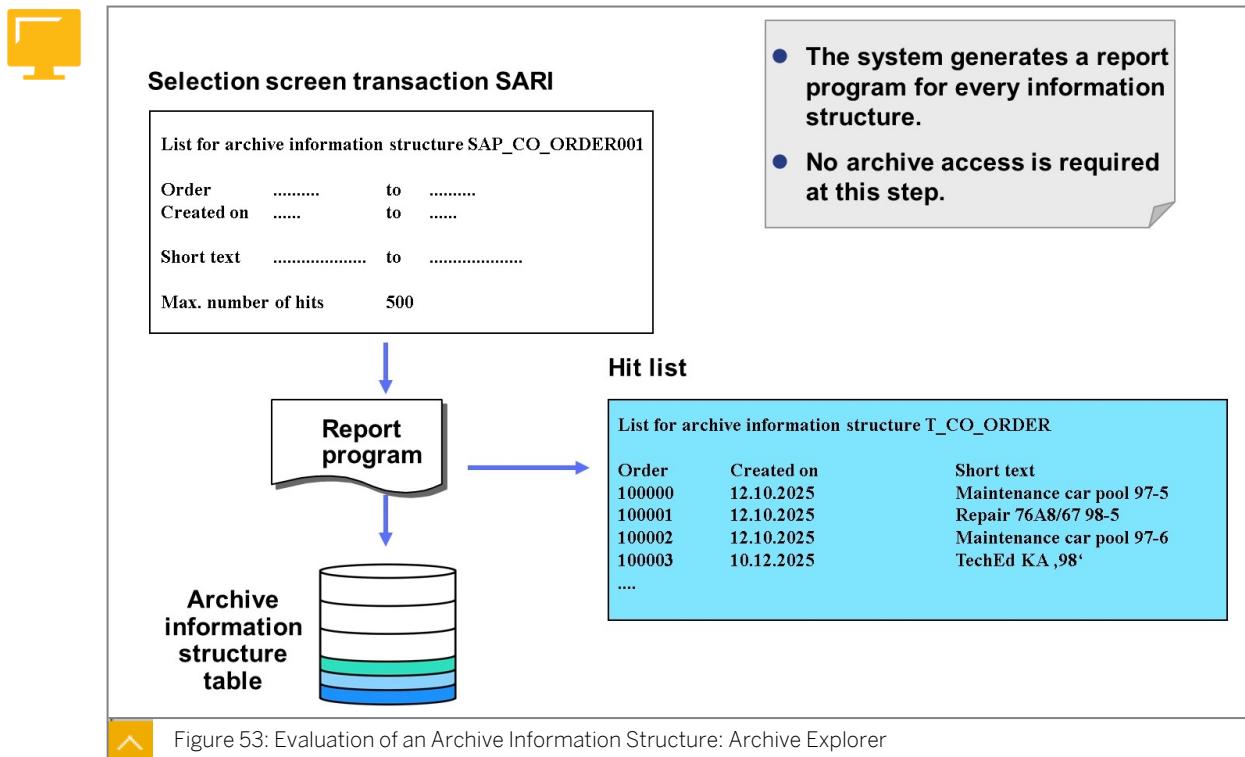
Archive Explorer - Availability



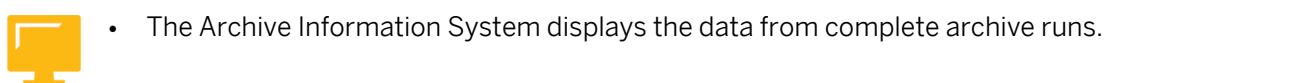
- The report on which the technical view is based is created when the archive information structure is generated and has all fields of the archive information structure as selection parameters.

You must not change it.

- The technical view, that is, a view of the index table and your data, is available for each archive information structure.



Ad-hoc Evaluation



- However, it is also possible to display data that has not yet been deleted from the database, but is only written to the archive.
- It is also possible to display data that has been archived and deleted from the database, but for which an archive information structure has not yet been set up.
- You access this function from the *Archive Explorer* using the menu option *Archive Infostructure → Ad-hoc Evaluations*.
- The prerequisite for this function is an active archive information structure that does not have to contain any records. The function offers all readable archiving sessions, opens the file(s) you selected, and displays the data according to the specified archive information structure.

The Following Application Areas Are Used for Ad-hoc Evaluations:



- A quick test after archiving that the data is readable and completely outsourced.
- Sporadic archive accesses (single document or list) for which it is not worth filling the archive information structure and therefore a database table.
- In the case of an ad-hoc evaluation, it takes longer for the results list to be displayed because instead of reading the table behind the archive information structure, it is necessary to read the archive files that you have selected.

Archive Explorer - Business Views



- Since the Archive Information System has its main function as an indexing tool, all applications should enhance suitable display accesses so that they can also find the data required in the archive using an archive information structure.
- In the first few years of the Archive Information System, some applications used a different approach in transition - they offered the so-called business views (individual business displays). This is shown in the following figure.
- You can see whether an archiving object offers business views in table `AIND_STR5`.



List for archive information structure SAP_CO_ORDER001

Order	Created on	Short text
100000	10.12.2025	Maintenance
100001	10.12.2025	Repair 76A8/67 98-5
100002	10.12.2025	Maintenance
100003	10.12.2025	TechEd KA '98'
....		

Display data object

Choose the desired display function

Show master data Business view X

Display Internal Order: Master data xxx

Order	100003	Order type	PFE1
Short text	TechED KA ,98'		
System status	Rel	DLT	SETC
Status number	0		

Control data

Currency	EUR
Order category	1

Figure 55: Accessing Individual Business Objects -Business View

Authorization Checks in the Archive Information System



- The display of the archive information structure table checks the activity 03 of the authorization object S_ARCHIVE. (The AS is designed as a generic solution for all objects and has no specific application knowledge.)
- The technical view checks the activity 03 of the authorization objects S_TABU_NAM or S_TABU_DIS. (The first offers a table as the authorization field and the second offers a table authorization group.)
- When the archived data is accessed directly, the activity 03 of the authorization object S_ARCHIVE is checked.
- SAP Notes 175901 and 2266294 enables you to implement user-specific business authorizations.

The standard business views usually run through the corresponding application checks. If you create your own business views, you must implement the check accordingly.

Access to individual objects in AS if there is no suitable archive-enabled standard display transaction

To check whether an archive information structure is delivered, call the Archive Information System (transaction SARI) and choose *Customizing*. You can then use the F4 help to search for existing archive information structures.

For the selected archive information structure, check whether the field selection meets your requirements.

If you cannot find an archive information structure, determine whether a field catalog exists for the archiving object. As mentioned in previous lessons, archiving objects must meet certain standards (see SAP Note 577847). One of them requires the existence of at least one field catalog.

To search for a field catalog, choose in the customizing menu *Environment* → *Field Catalogs* and then check whether a field catalog exists for your archiving object.

If, contrary to your expectations, you do not find an archive information structure or field catalog, you would have to request them from the SAP application.

Unit 5

Exercise 17

Perform Direct Access and Evaluations in the Archive Information System

Business Scenario

In this exercise, you will create an archive information structure, use a field catalog, activate an archive information structure, and fill an index in the Archive Information System (SAP AS). These steps then allow you to use standard display transactions also to see archived data.



Note:

Whenever ## is used in a word or object title, please replace ## with the group number assigned to you.

Task 1: Prepare an archive infostructure for your archiving object ZC_SBOOK##

1. Create an archive information structure ZC_SBOOK## based on the ZC_SBOOK## field catalog of the same name. It should contain all fields that the corresponding field catalog offers.

Use the following data:

Field	Value
(Archive) Info Structure	ZC_SBOOK##
Info Structure Description	Group ##
Archiving object	ZC_SBOOK##
Field Catalog	ZC_SBOOK##

2. Check the status of the archive information structure you just created in the Archive Information System.
3. Is the info structure filled?
4. Fill your infostructure with the data of your archive run.
5. Display a list of the records in the archive information structure.
6. Answer the question.

Has an archive file been accessed up to now?

7. Use the technical view of the Archive Explorer to display a record of the table SBOOK that you have archived.

Task 2: Execute standard display transactions to access archived financial accounting documents.

The department wants to use transaction FB03 to access the financial accounting documents that you archived in the previous exercises. Ensure such archive access. Check if it works.

1. You have taken from the documentation of the archiving object FI_DOCUMNT that an info structure for the field catalog SAP_FI_DOC_001 must be active for this. Check whether this is the case.
2. Check whether the info structure is set up for your archive files.
3. Display the financial accounting document that you archived in the previous exercises using the standard display transaction FB03. You have just made the necessary preparations.

Task 3: Execute standard display transactions to access archived data.

The department wants to use transaction VA03 to access archived orders. Another team has made the necessary preparations. You should check whether the archive access works.

1. Display the order already archived by the training team with the document number **60000000** using the standard display transaction VA03. The training team has already made the relevant preparations in SAP AS.

Perform Direct Access and Evaluations in the Archive Information System

Business Scenario

In this exercise, you will create an archive information structure, use a field catalog, activate an archive information structure, and fill an index in the Archive Information System (SAP AS). These steps then allow you to use standard display transactions also to see archived data.



Note:

Whenever ## is used in a word or object title, please replace ## with the group number assigned to you.

Task 1: Prepare an archive infostructure for your archiving object ZC_SBOOK##

1. Create an archive information structure ZC_SBOOK## based on the ZC_SBOOK## field catalog of the same name. It should contain all fields that the corresponding field catalog offers.

Use the following data:

Field	Value
(Archive) Info Structure	ZC_SBOOK##
Info Structure Description	Group ##
Archiving object	ZC_SBOOK##
Field Catalog	ZC_SBOOK##

- a) Call the SAP AS using transaction SARI, or from SARA by choosing the *Information System* pushbutton.
- b) Choose *Customizing*.
- c) In the *Archive Infostructure* field, enter **ZC_SBOOK##**.
- d) Choose *Create*.
- e) Enter the values mentioned above as the *infostructure description*, *Archiving Object*, and *Field Catalog*.
- f) Choose *Create*.

You are in the *Create Object Directory Entry* dialog box.

g) Choose *Local Object*.

You can see that the system has already transferred all key fields.

h) Also choose the optional field *ORDER_DATE* as an *Info structure field*.

i) Choose *Save*.

j) Return to the basic screen of the Customizing function.

You are on the *Archive Retrieval Configurator* dialog screen.

k) Choose *Activate*.

l) In the *Infostructure f. Retention Management* dialog box, choose *RM*.

m) Confirm the dialog box that informs you about the successful activation of the info structure.

2. Check the status of the archive information structure you just created in the Archive Information System.

a) Call the SAP AS using transaction **SARI** or from transaction **SARA**.

b) Choose *Status*.

c) Enter **zc_sbook##** as the *Archiving Object*.

3. Is the info structure filled?

a) Choose *Status Per Infostructure* and analyze the results.

b) You can see that the info structure is empty (red traffic light).

4. Fill your infostructure with the data of your archive run.

a) Select your archive infostructure.

b) Choose *Fill Structures*.

c) Choose **Dialog** as the *processing type*.

d) Confirm the dialog box that informs you about the successful setup of the info structure.

5. Display a list of the records in the archive information structure.

a) Call the SAP AS using transaction **SARI**.

b) Choose *Archive Explorer*.

c) Enter **zc_sbook##** as the *Archiving Object*.

d) Enter **zc_sbook##** as the *Archive Infostructure*.

e) Choose *Evaluate*.

The system displays the selection parameters of the generated report. They correspond to the fields of the selected archive information structure.

f) Enter the flight data that you archived in previous exercises and choose *Execute*.

You are in the *List for Archive Infostructure ZC_SBOOK##* view and the system displays a list of the records of the archive information structure.

6. Answer the question.

Has an archive file been accessed up to now?

No, because it is the display of the records of an info structure table. The SAP AS does not have to open and read archive files here. However, when the archive information structure was filled, the archive files were accessed.

7. Use the technical view of the Archive Explorer to display a record of the table SBOOK that you have archived.
 - a) You are still in the *List for Archive Infostructure ZC_SBOOK##*.
 - b) Double-click a record to display the technical view.
You are now in the view with the name of the archive file from which the record you selected originates.
 - c) Double-click the table name SBOOK.
You are now in the *Display Data Object from Archive: Table SBOOK* view.
 - d) Select a row and choose the magnifying glass icon to see details, that is, all fields of the table record in this case.

Task 2: Execute standard display transactions to access archived financial accounting documents.

The department wants to use transaction FB03 to access the financial accounting documents that you archived in the previous exercises. Ensure such archive access. Check if it works.

1. You have taken from the documentation of the archiving object FI_DOCUMNT that an info structure for the field catalog SAP_FI_DOC_001 must be active for this. Check whether this is the case.
 - a) Call the SAP AS using transaction SARI.
 - b) Choose *Customizing*.
 - c) Call the input help (F4) for the Archive Information Structure field. Search for info structures for the archiving object **FI_DOCUMNT**.
 - d) You can find the info structure SAP_FI_DOC_DRB1. Choose it.
 - e) Choose *Display* to see their details.
 - f) In the *Field catalog* field, you can see that the info structure belongs to the required field catalog SAP_FI_DOC_001.
 - g) Choose the *Technical Data* pushbutton.
The *Info Structure Active* checkbox is set, which means that the info structure is active.
2. Check whether the info structure is set up for your archive files.
 - a) Call the AS using transaction SARI.
 - b) Choose *Status*.
 - c) Enter **FI_DOCUMNT** as the *Archiving Object*.
 - d) Choose *Status per Archive*.
Check the traffic light for your archive run to green.

3. Display the financial accounting document that you archived in the previous exercises using the standard display transaction FB03. You have just made the necessary preparations.

a) Call transaction FB03 .

b) Enter the key of the FI document you archived in the previous exercises and choose *Enter*.

The system displays the document. The message in the status line informs you that the document has been archived.

Task 3: Execute standard display transactions to access archived data.

The department wants to use transaction VA03 to access archived orders. Another team has made the necessary preparations. You should check whether the archive access works.

1. Display the order already archived by the training team with the document number **60000000** using the standard display transaction VA03. The training team has already made the relevant preparations in SAP AS.

a) Call transaction VA03.

b) Enter order **60000000** and choose *Enter*.

The system displays the document. The message in the status line informs you that the document has been archived.



LESSON SUMMARY

You should now be able to:

- Describe the Archive Explorer.
- Create and customize an Archive Information Structure.
- Archive Explorer.

Using the Document Relationship Browser (DRB)



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Describe the purpose of the Data Relationship Browser (DRB).

Document Relationship Browser (DRB): Overview

Business Example

You have discovered that SAP offers a tool for displaying linked objects (documents). The tool displays the links between objects (documents) in the database as well as those that you have archived.

You would like to get more information about the tool.

Document Relationship Browser (DRB): Overview



- The purpose of the DRB is to search for and display an object (document) and the objects (documents) linked to it.
- The DRB is therefore used to display objects that belong to a business transaction or a process.
- After accessing an object of a certain type, such as a sales order, the system displays which objects are linked to this object.
- The DRB supports the search and display of documents in the database and in archives.
- Each document is identified internally with its BOR object key. The DRB only works with the BOR object keys. The respective application takes over the display of the documents and the determination of the respective links.

For an object to be found and displayed in the DRB, the responsible application must provide the following:

- A service (function module) for determining possible links to a specific document
- A service (function module) for displaying a document
- An archive information structure for the underlying archiving object if archived documents are also to be taken into account

For each document, the applications only deliver the documents directly linked to this document. The application also defines what a directly linked document is.

Within the display in the DRB, each document is displayed only once to avoid cyclical and therefore unnecessarily complicated display. The total quantity of displayed documents however always remain the same, regardless of the sequence in which you navigate through the tree of linked documents.

The DRB and its Functions



- Call via role SAP_DRB.
- Call from the standard display transactions (where supported)
- Personalization of display is possible
- Support for additional documents
- Display of documents in remote systems possible (ALE support)

Role-based display and personalization

You can call the DRB using the role SAP_DRB. To do this, enter the role in your user master record (maintenance in transaction SU01) on the roles tab page.

The next time you log on to the system, you are offered the user menu *Document Relationship Browser* and can access documents in the areas of Logistics (Sales and Distribution, Materials Management) and Accounting (Financial Accounting, Controlling, Enterprise Controlling).



Display Roles

Role

Role	SAP_DRB	<input type="checkbox"/> Obsolete
Description	Document Relationship Browser (SAP DRB)	
Target System		<input checked="" type="checkbox"/> No destination

Navigation tabs: Description, Menu, Applications, Workflow, Authorizations, User, MiniApps

Hierarchy

- Role Menu
 - Document Relationship Browser
 - Logistics
 - Sales and Distribution
 - Contact
 - Sales Document
 - Delivery
 - Billing Document
 - Materials Management
 - Purchase Requisition
 - Purchase Order
 - Material Document
 - Logistics Invoice Verification
 - Accounting
 - Financial Accounting
 - Accounting Document

Figure 56: User Role SAP_DRB

If you do not make any further customizing settings, users with the role SAP_DRB are always offered access to all integrated objects that are related to the specified documents.

However, you can use personalization to restrict access to objects.

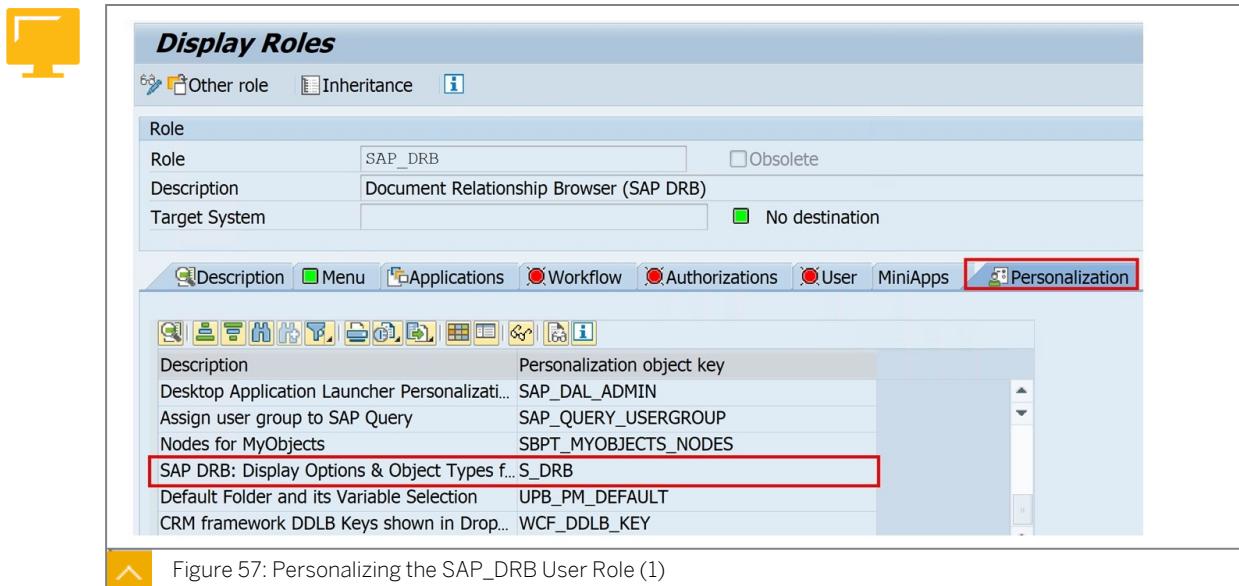
- In user administration (SU01), choose the *Personalization* tab page and double-click the line *S_DRB* (*Display Options & Object Types for Document Links*).

The system displays a screen that is empty on the left-hand side and contains all accessible object types on the right-hand side.

- If you want to restrict access in a user-oriented way, select the required objects on the right side and copy them to the left side using the arrow keys.
- You can change the display form from tree control to *list*.
- You can use the node displays to influence the performance of the DRB by choosing *optimal performance* for the entry.

Optimal performance means that when the link tree is displayed, the system does not check whether the document that is behind the link can actually be accessed.

When you enter the optimum display, the system always accesses the document, which can increase the runtimes for larger document link trees.



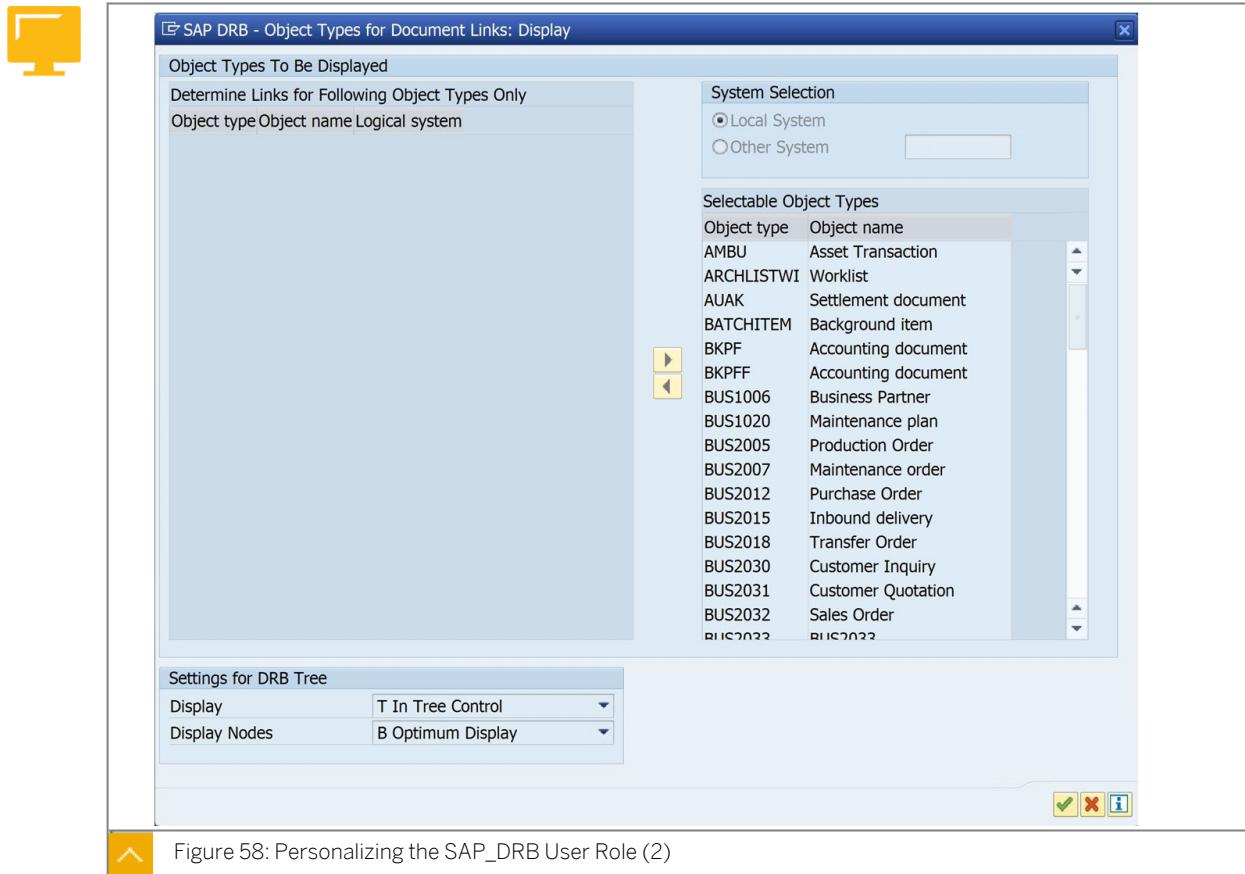


Figure 58: Personalizing the SAP_DRB User Role (2)

An empty left side means that the user has access to all objects. This ensures that a newly added object does not have to be explicitly included to the list of accessible objects.

As soon as you have copied an object to the left-hand side, the display is personalized and each new object must be selected explicitly.

If you do not work with the complete role SAP_DRB, but want to include certain transactions in dedicated existing user roles, you can find the corresponding transactions in the definition of the role SAP_DRB itself.

Proceed as follows

- To do this, display the role in transaction PFCG or navigate from the role in the user master record by double-clicking it.
 - Choose the *Menu* tab.
 - Expand the menu and select your desired document.
 - Use the right mouse button to choose *Display Details*.
- You see the transaction or report used.

Calling the DRB from the Standard Display Transactions

The DRB can be called from any document display transaction that supports the DRB. In this case, you will find a *Relationship Browser* entry in the menu.

In general, you can go to this by choosing *Environment* → *(Document Environment)* → *Relationship Browser* or *Extras* → *Relationship Browser*.

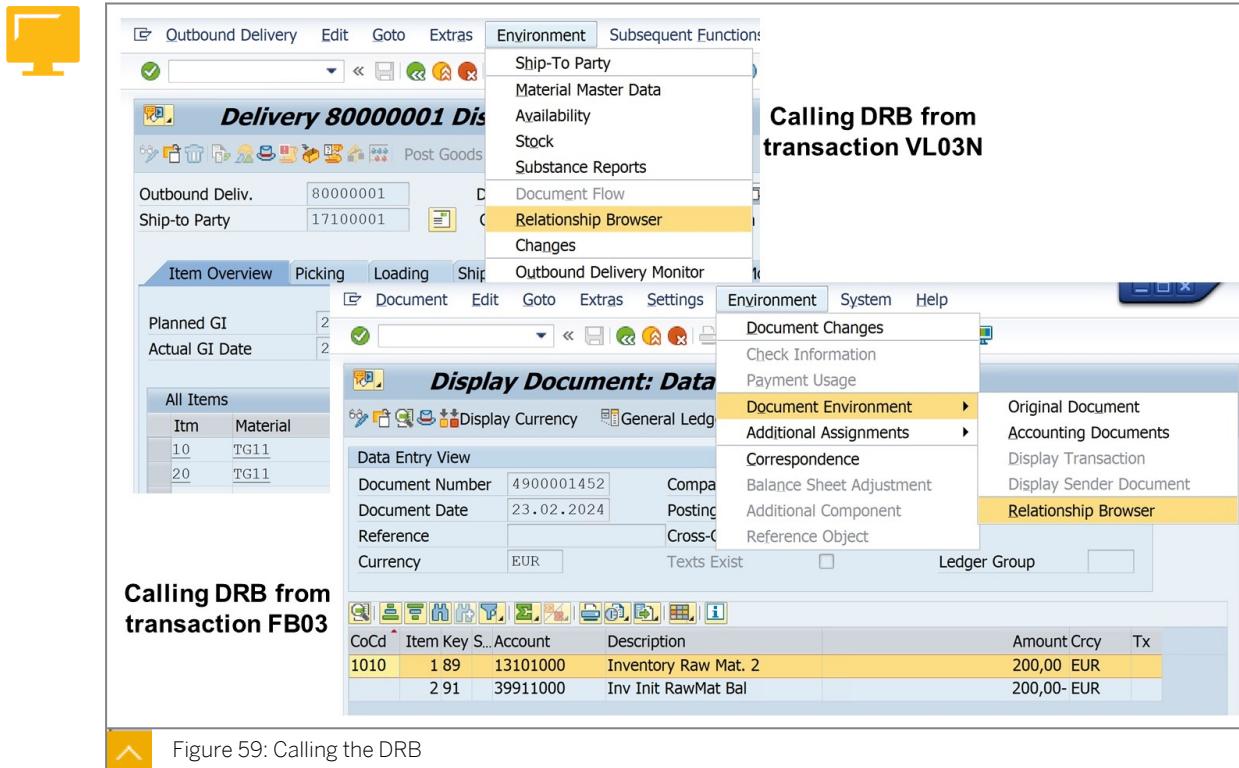


Figure 59: Calling the DRB

Supported Objects

You can use personalization to see the supported objects of the DRB. In addition to the TOP objects, this includes the following objects: work item, IDoc, production order, confirmation document, profit center document, a special purpose ledger document, account statement line items, accounting document direct input, settlement document, profitability analysis (costing), funds management.

Search for documents and their display format

From the display of the links, you can double-click to branch to the display of each document.

The information is read either from the database or from the Archive Information System.

As soon as the link tree of the document is displayed, you can change the layout of the document display. Proceed as follows:

- Choose the *Select Layout* icon and then *Change Layout*.
- Set the required layout.

By default, the description for the item is displayed. You can also select:

- Which logical system was used (technical name or description text)
- The document originates from the archive or database (origin of the document)
- The key of the document
- The object type used

Specifying the logical system is particularly useful if document links are displayed across systems.



Document Relationship Browser

Verknüpfungsbaum	Beschr.	Herkunft
▪ Retoure	0060000000	Archiv
▪ Auslieferung	0084000000	Datenbank
▪ Kundeneinzelfaktura	0090000003	Datenbank
▪ Buchhaltungsbeleg	1710 0090000003 2015	Datenbank
▪ Buchhaltungsbeleg	1710 1400000002 2015	Datenbank
▶ Buchhaltungsbeleg	1710 0090000001 2015	Datenbank
▶ Buchhaltungsbeleg	1710 0090000004 2015	Datenbank
▶ Buchhaltungsbeleg	1710 0090000005 2015	Datenbank
• Kostenrechnungsbeleg	A000 A000005T00	Datenbank
• Kostenrechnungsbeleg	A000 A000005000	Datenbank
▪ Materialbeleg	4900000142 2015	Datenbank
• Buchhaltungsbeleg	1710 4900000004 2015	Datenbank
• Kostenrechnungsbeleg	A000 A000005N00	Datenbank
▪ Kundeneinzelfaktura	0090000000	Datenbank
▪ Auslieferung	0080000000	Datenbank
• Kundenauftrag	0000000007	Archiv
▪ Materialbeleg	4900000131 2015	Datenbank
• Buchhaltungsbeleg	1710 4900000001 2015	Datenbank
• Kostenrechnungsbeleg	A000 A000000200	Datenbank
▪ Buchhaltungsbeleg	1710 0090000000 2015	Datenbank
• Buchhaltungsbeleg	1710 1400000006 2016	Datenbank
• Kostenrechnungsbeleg	A000 A000000300	Datenbank



Figure 60: DRB: Link Tree of a Document



- If a longer list of links is displayed for a document, you can quickly set up the link display again from another document.
To do this, select the required document and choose *As A Start Object* using the right mouse button.
- You can display the DRB procedure at runtime by choosing *Goto - Logs*. The DRB stores what it has done in the logs. In particular, you can also find information about reasons if documents could not be found.

Display of Documents in Remote Systems

If a linked object that exists in another system is determined for an object, the DRB automatically extends its determination to the remote system.

When you double-click the document, the DRB calls the external logical system via RFC and displays the document. This type of ALE integration works as soon as the DRB works correctly in the systems involved.

Transaction ALO1

Calling the DRB from Transaction ALO1



- You can also use transaction ALO1 to call the DRB.
It provides DRB functionality based on some of the most commonly used objects.
- The document links are displayed in the same way here, regardless of whether the documents originate from the database or from the archive.
- By double-clicking on the relevant line, you branch to the document display.
If the document has already been archived, it can only be displayed if a suitable archive information structure has been set up.

- If an attachment exists for an archived document, this can also be displayed.
- As soon as a document is displayed in its standard transaction, the navigation to the attachments takes place in the same way as the application provides for it in the standard system.

 **Accounting Documents**

Document Number	1800000485	to	<input type="text"/>
Company Code	<input type="text"/>	to	<input type="text"/>
Fiscal Year	<input type="text"/>	to	<input type="text"/>
Posting Period	<input type="text"/>	to	<input type="text"/>
Posting Date	<input type="text"/>	to	<input type="text"/>
Document Type	<input type="text"/>	to	<input type="text"/>
Reference	<input type="text"/>	to	<input type="text"/>

Search in Database
 Search in Database and SAP
 Search DB, SAP AS, and Arch

**Selection screen:
Search for related documents
starting with a not archived
financial document**

 **Document Relationship Browser**

Relationship Tree	Descriptn	Origin
▼ Accounting document	1010 1800000485 2023	Database
▼ CustIndivBillingDoc	0090000113	Archive
• Debit Memo Request	0070000008	Database
• Service Order/Quotation	Srv Order-Adv Exec. / 8000000021 / Maintenance Servi...	Not Found
• Maintenance order	000004000160	Database
▸ PM order confirmatn	0000003201 00000001	Database
▸ PM order confirmatn	0000003202 00000001	Database
▸ PM order confirmatn	0000003203 00000001	Database
▸ PM order confirmatn	0000003204 00000001	Database
▸ PM order confirmatn	0000003205 00000001	Database
▸ PM order confirmatn	0000003206 00000001	Database
▸ PM order confirmatn	0000003207 00000001	Database
• Accounting document	1010 2300000264 2023	Database
• Controlling Document	A000 0300003706	Database
• Material Document	4900001442 2023	Database
• Accounting document	1010 4900000636 2023	Database
• Controlling Document	A000 A0000CI300	Database
• Execution Order Item	Exec. Ord'r Itm (Qtn) / 0000000010	Not Determinable
• Execution Order Item	Execution Order Item / 0000000010	Not Determinable
• Controlling Document	A000 A0000CI400	Database

Tree of related documents (both from data base and archive)

 Figure 61: Display Leading Document DB

In the following example, the leading document is not in the database, but in an archive.

The screenshot shows the SAP Fiori interface for the Document Relationship Browser (DRB). The top bar displays "Search for Documents with Relationships (Incl. Archive)". On the left, there's a sidebar with a computer icon and the text "Determine docmnt relationships/display docmnts (inc. archive)" and "Point of entry". Below this, under "SD:", the "Sales Documents" option is selected. A tree view titled "Sales Documents" shows relationships between Sales Document, Sales Document Type, Sales Organization, Sold-to Party, Material, and Customer Reference. To the right, a vertical text box reads: "Selection screen: Search for related documents starting with an archived sales document". The main area is titled "Document Relationship Browser" and contains a table with columns "Relationship Tree", "Descriptn", and "Origin". The table lists various document types and their details, such as Returns, Outbound Delivery, CustIndivBillingDoc, Accounting document, Material Document, and Sales Order. Some rows are expanded to show more detail.

Tree of related documents (both from data base and archive)

Selection screen:
Search for related documents starting with an archived sales document

Relationship Tree	Descriptn	Origin
>Returns	0060000000	Archive
Outbound Delivery	0084000000	Database
CustIndivBillingDoc	0090000003	Database
Accounting document	1710 0090000003 2015	Database
Controlling Document	A000 A000005000	Database
Material Document	4900000142 2015	Database
Accounting document	1710 4900000004 2015	Database
Controlling Document	A000 A000005N00	Database
CustIndivBillingDoc	0090000000	Database
Outbound Delivery	0080000000	Database
Sales Order	0000000007	Archive
Material Document	4900000131 2015	Database
Accounting document	1710 0090000000 2015	Database
Controlling Document	1710 1400000006 2016	Database
	A000 A000000300	Database

Figure 62: Display Leading Document from Archive

The documentation for the respective archiving object and its DRB connection tells you for which field catalog an archive information structure must be set up.

Unit 5 Exercise 18

Work with the Data Relationship tool Browser (SAP DRB)

Business Example

You want to display document links using the SAP DRB tool.

Task 1: Use the SAP DRB tool

1. In transaction FB03, look at the financial accounting document 0090000003 from company code 1710 and fiscal year 2015. (Alternatively, or in addition, you can view one of the financial accounting documents that you have archived.) Call up the document links for this via the DRB. Display the origin of the data in the layout and check which of the linked documents were read from the archive.
2. Enter the role SAP_DRB in your user master record, log on to the system again, and then analyze the document links to sales document 60000000.
3. Familiarize yourself with the effects of personalization. Maintain for your user in the personalization of the SAP DRB *Optimum Performance Under Display Nodes*. In addition, select only the sales order for display. At the end, log off from the system and log on again and call the DRB again.

Work with the Data Relationship tool Browser (SAP DRB)

Business Example

You want to display document links using the SAP DRB tool.

Task 1: Use the SAP DRB tool

1. In transaction FB03, look at the financial accounting document 0090000003 from company code 1710 and fiscal year 2015. (Alternatively, or in addition, you can view one of the financial accounting documents that you have archived.) Call up the document links for this via the DRB. Display the origin of the data in the layout and check which of the linked documents were read from the archive.
 - a) Call transaction FB03 for financial accounting documents.
 - b) Enter the financial accounting document mentioned above. Alternatively, you can enter a financial accounting document that you have archived. You can find the key of this document either in the log of the archive write phase, or in the Archive Explorer, or in the respective exercise task.
 - c) Press *Enter*.
 - d) *Environment → Document Environment → Relationship Browser*.
 - e) Choose *Change Layout....*
 - f) In the *Column Set* table on the right, select the *Origin (Description.)* entry and move it to the left.
 - g) Choose *Transfer (ENTER)*.
You can now see the origin of the data.
 - h) Expand the entries in the tree on the left and analyze the documents and their origin.
2. Enter the role SAP_DRB in your user master record, log on to the system again, and then analyze the document links to sales document 60000000.
 - a) Call transaction SU01 for user maintenance and enter your user.
 - b) Choose *Change*.
 - c) Choose the *Roles* tab.
 - d) Enter the role **SAP_DRB** in your user master record and save your entries.
 - e) Log out of the system and log on again.
The user menu *Document Relationship Browser* appears.

- f) Open the *Logistics → Sales and Distribution* folder.
 - g) Double-click *Sales Document*.
 - h) Enter **60000000** as the sales document.
 - i) Select the *Search in database and SAP AS* radio button because the sales document has been archived and a suitable info structure is available
 - j) Choose *Execute*.
The result is a line with data for the order document.
 - k) Double-click the line to branch to the display of the documents that are linked to the order.
 - l) By drilling down, you can see all linked documents.
 - m) Choose *Change Layout....*
 - n) In the *Column Set* table on the right, select the *Origin (Description)* entry and move it to the left.
 - o) Choose *Transfer (ENTER)*.
You can now see the origin of the data.
3. Familiarize yourself with the effects of personalization. Maintain for your user in the personalization of the SAP DRB *Optimum Performance Under Display Nodes*. In addition, select only the sales order for display. At the end, log off from the system and log on again and call the DRB again.
- a) Call transaction **SU01** for user maintenance and enter your user.
 - b) Choose *Change* and branch to the *Personalization* tab.
 - c) Double-click to display the entry **S_DRB**.
 - d) From the objects on the right, move the entry **BUS2032 Sales Order** to the left side.
 - e) Under *Display Nodes*, select **Optimum Performance**.
 - f) Choose *Continue*.
 - g) Choose *Save*.
 - h) Log off from the system and log on again.
 - i) Test the result of your settings by calling the DRB again for sales document **60000000**.



LESSON SUMMARY

You should now be able to:

- Describe the purpose of the Data Relationship Browser (DRB).

Describing Data Archiving and Tax Aspects



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Explain the purpose of the Data Retention Tool (DART).

Data Archiving and Tax Aspects

Your company's auditing department has informed you that you need to provide data for a tax audit for a specific period of time.

You have heard that one of these tools that can be used to meet these requirements should be the Data Retention Tool (DART).

Now you want to get an overview of the DART tool.

Data Archiving and Tax Aspects

The Data Retention Tool (DART) works as a large data copier and is used to extract company code-dependent and period-dependent, tax-relevant data from the database.

DART works across modules and preserves integrative aspects by also extracting master data related to the transaction data.

To access DART, choose *Accounting → Financial Accounting → General Ledger → Periodic Processing → Data Retention Tool*.



DART...

... stands for Data Retention Tool and is used for the extraction of data for tax purposes

... It was originally developed for the US market to support customers in meeting the legal data retention requirements put forth by US tax authorities

... provides SAP users with extract programs to copy data located in the SAP database

... works across modules and preserves integrative aspects by also extracting master data related to the transaction data..



Figure 63: What Is DART?

DART Extracts



- DART extracts the desired data from the database.
- The data must be extracted using DART before data archiving (ADK).
- DART creates extracts.

Extracts are ASCII files in a defined file system.

You name the file system in customizing for DART.

You can save the extract files on tertiary media, such as a storage system.

- In its functions, DART allows you to display the contents of extracts in the information system.

DART Views



- Views can be generated according to the requirements that the tax authority makes to the customer as part of an audit.

The intention of the majority of customers is not to hand over to the tax authorities the complete extracts of company codes and fiscal year periods, but only the data that the authority specifically requests as part of an audit.

- The views contain a subset of the extract data.
- Views therefore include data from extracts that the tax authorities want to evaluate using external tools.
- You can display the views in a format that can be read by external tools (for example, SAP Audit Format) and pass it to the tax authority.
- You can also save the view files in a storage system.
- To do this, you maintain a DART-specific document type in DART Customizing and trigger storage from the DART information system.
- You can use checksums to ensure that the file was not changed when it was stored in an external storage system.

The intention of the majority of customers is not to hand over to the tax authorities the complete extracts of company codes and fiscal year periods, but only the data that the authority specifically requests as part of an audit.

You achieve this goal by creating views on the extract. You can specify the required data in the views. You can use more than one extract as input and generate the views in SAP Audit format. As a result, the files for an external tax tool can be read immediately without further effort.

Like DART in general, views should also not be used for reporting requirements. Views are used to provide tax authorities with a reduced amount of data tailored to their requirements. They increase runtimes when you define complex queries and diverse joins in views for reporting instead.

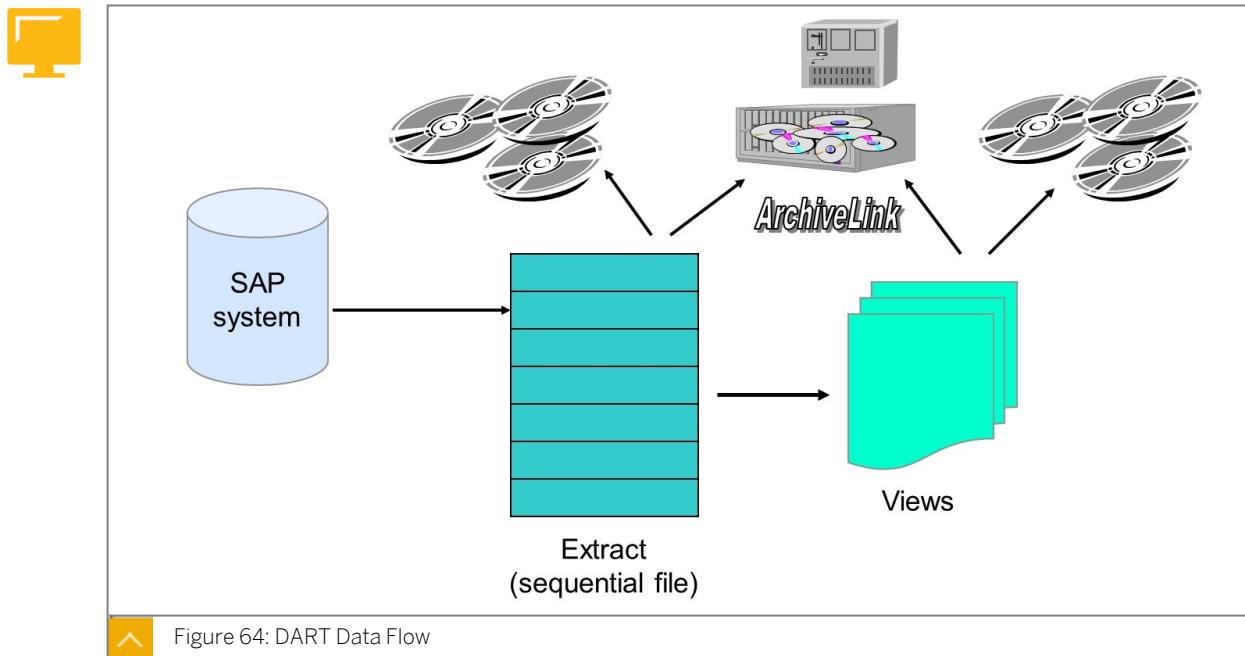


Figure 64: DART Data Flow

The figure illustrates the data flow of DART.

What data does DART store in extracts?

DART can store for example the following data in extracts:

- Transaction data of the modules FI, CO, AM, MM, SD, TR
- Related Master Data
- If required, customer-specific tax-relevant data
- DART can be enhanced on a customer-specific basis

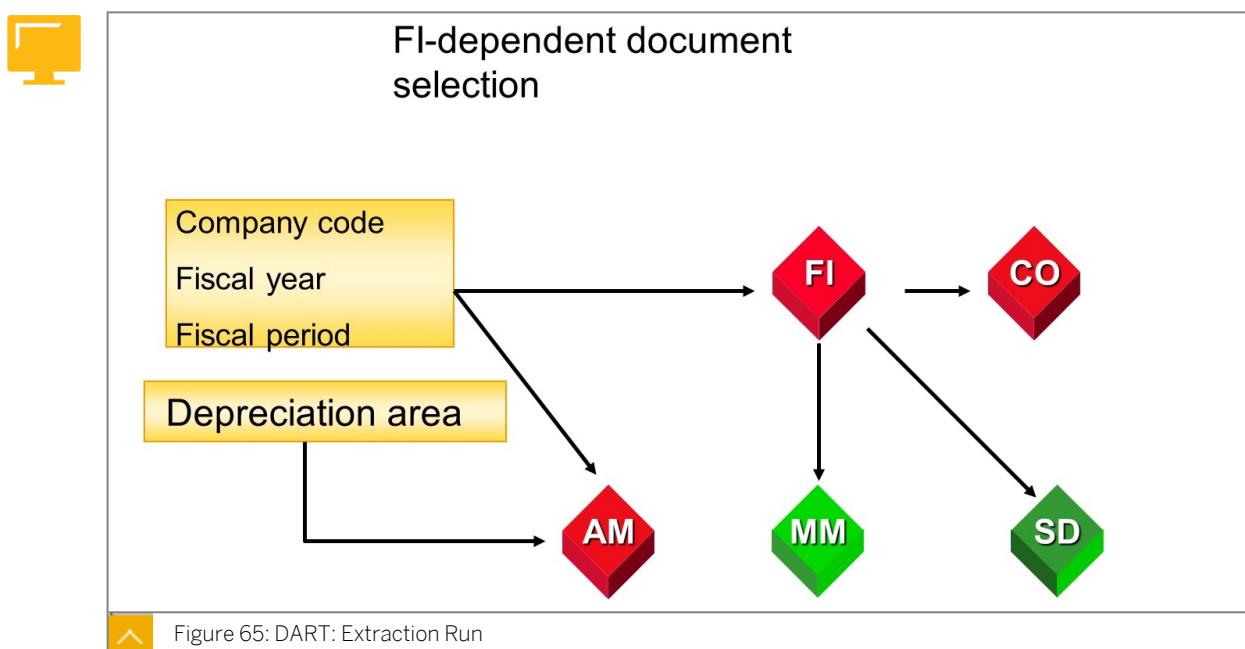


Figure 65: DART: Extraction Run

The figure illustrates the selection criteria of DART.

Extensibility of DART

- In Customizing, you can define which modules DART is to consider.
- Each customer can also extract their own customer-specific data.
DART extracts data from the database only.
- The scope of DART was defined in cooperation between the working groups of ASUG and DSAG and is to be regarded as a standard on a minimum consensus.
- This means that each customer must check whether their company has additional tax-relevant data that is not included in the standard DART scope and then enhances the standard scope on a customer-specific basis.

How does a DART extraction run work

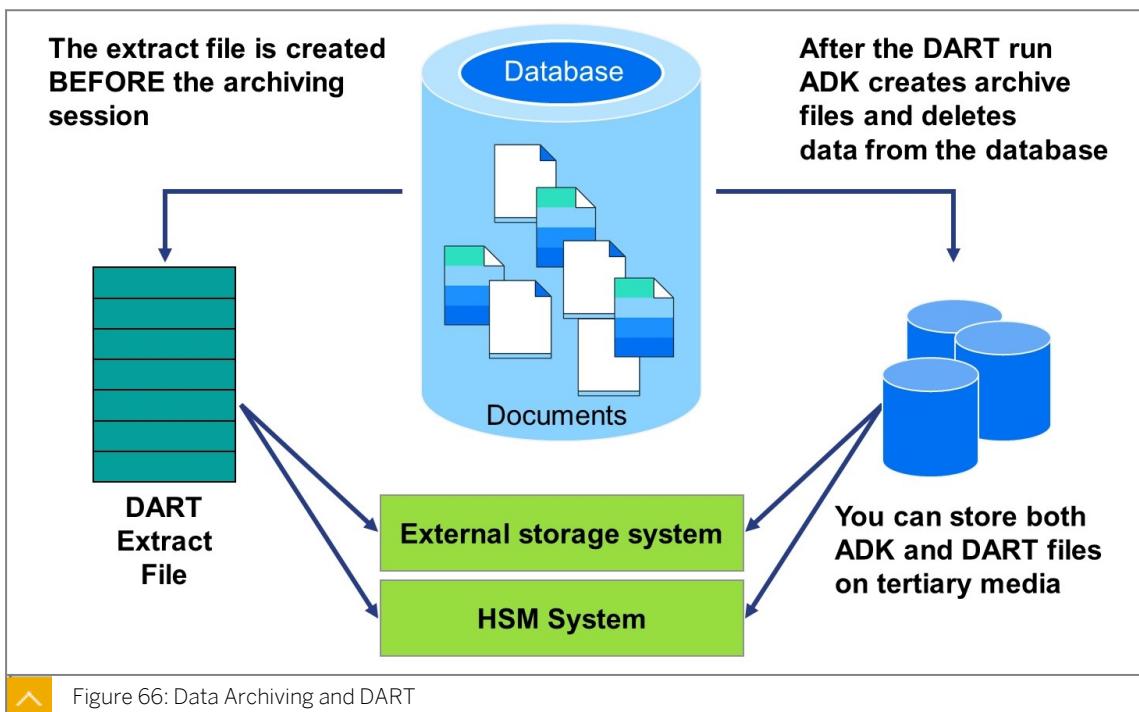


- DART runs should refer to settled periods.
- If you schedule DART runs for periods that are still open, the system issues a warning.
- During an extraction run, DART first reads the FI documents and then extracts all related documents of the business process chain.
- In this way, DART ensures the document statement. AM (Asset Management) documents are read independently of FI documents.

Extraction Runs and Checksums

- In Customizing for DART, you can define that checksums are to be written to the extract.
- A check program can subsequently determine differences between the documents that exist in the database for a period and those of the DART extract.
- In such cases, the corresponding document must be determined and the DART extract may have to be regenerated.

DART and Data Archived Using ADK



To ensure that the data is complete, a DART extract must be created before data archiving.

Structure of dart extract and structures for data export

DART extracts the data from the online database during an extraction run without deleting the original data.

The structures for the data export are:



- Defined in data dictionary
- A subset of the source table fields
- Character fields (numeric fields are converted)
- Stored in the metadata of the extracts in their structure definition

You can enhance the standard system using user exits. You can:

- Include fields in the standard structures
- Add completely new structures (data sources)
- If you add new structures (data sources), you must provide extraction modules that fill these segments and you must make settings in customizing so that customer-specific data is also extracted.

In its functions, DART allows you to display the contents of extracts in the information system.



Caution:

DART is not designed and implemented as a reporting tool. If you misuse it as such, you must expect non-optimized runtimes.

DART versus ADK

DART and ADK have different goals and must therefore be dealt with individually.



DART file

- Purpose: make data available to meet the requirements of e.g. US and German tax authorities
- Consistent, integrated snapshot of different data sources
- No change to source data
- Add master data and structure information
- ASCII text format / SAP AS format
- Efficient and flexible query tools

ADK archive

- Purpose: Remove data from SAP database
- TCO aspects
- Specific data sources (defined by the archiving objects)
- Deletion of the source data in the database
- Add structure information
- Access only via ADK using SAP system



Figure 67: DART and ADK

DART Installation and Training

The following is a list with some notes about DART.



- SAP Note 582583 – Release strategy DART (including DART data catalog as Excel file)
- SAP Note 390184 - SAP Audit Format for DART Views
- SAP Note 426827 – German program translation of DART and German documentation
- SAP Note 543072 - Solution Scenario for Industry Solutions based on FI-CA
- You can get an overview of the DART tool in course **WDE680** (1 day)



LESSON SUMMARY

You should now be able to:

- Explain the purpose of the Data Retention Tool (DART).

Learning Assessment

1. What are the options for accessing archived data?

Choose the correct answers.

- A The use of standard transactions.
- B The use of special archive read programs
- C Archive Explorer in the Archive Information System (AS)
- D The Data Retention Tool (DART)

2. The Archive Information System is a generic solution whose functionality can be used for all applications.

Determine whether this statement is true or false.

- True
- False

3. The Document Relationship Browser is used to display data that belongs to a business process.

Determine whether this statement is true or false.

- True
- False

4. Data extraction with DART must take place before data archiving (ADK).

Determine whether this statement is true or false.

- True
- False

Learning Assessment - Answers

1. What are the options for accessing archived data?

Choose the correct answers.

- A The use of standard transactions.
- B The use of special archive read programs
- C Archive Explorer in the Archive Information System (AS)
- D The Data Retention Tool (DART)

2. The Archive Information System is a generic solution whose functionality can be used for all applications.

Determine whether this statement is true or false.

- True
- False

Correct. The Archive Information System is a generic solution whose functionality can be used for all applications.

3. The Document Relationship Browser is used to display data that belongs to a business process.

Determine whether this statement is true or false.

- True
- False

Correct. The Document Relationship Browser is used to display the relationships between the objects that belong to a business process.

4. Data extraction with DART must take place before data archiving (ADK).

Determine whether this statement is true or false.

- True
- False

Incorrect. Data extraction with DART must take place before data archiving (ADK).

Lesson 1

Exploring Additional Topics

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UNIT OBJECTIVES

- Explain more topics.

Exploring Additional Topics



LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Explain more topics.

Transaction Codes – Application Components and The Search for Notes

Important transaction codes are:

Table 13: Important transaction codes

Transaction Code	Explanation
SM36	Tools, CCMS, Jobs, Definition
SM37	Tools, CCMS, jobs, maintenance
SARA	Tools, Administration, Administration, Data Archiving
DB02	Tools, CCMS, Control/Monitoring, Performance menu, Database, Tables/Indexes
DB15	Tools, CCMS, DB administration, data archiving
FB00	Accounting, Financial Accounting, General Ledger, Environment, User Parameters, Editing Options
Access THE IMG	Tools, Business Engineer, Customizing Implementation Projects, SAP Reference IMG
OMEX	IMG: Materials Management, Purchasing, Purchase Requisition, Define Tolerance Limit for Archiving
OMEY	IMG: Materials Management, Purchasing, Purchase Order, Define Tolerance Limit for Archiving
OMEZ	IMG: Materials Management, Purchasing, RFQ/Quotation, Define Tolerance Limit for Archiving
OMEE	IMG: Materials Management, Purchasing, RFQ/Quotation, Define Tolerance Limit for Archiving
OMEN	IMG: Materials Management, Purchasing, Scheduling Agreement, Define Tolerance Limit for Archiving
OMB9	IMG: Materials Management, Inventory Management, Define Document Life

Transaction Code	Explanation
KOT2	IMG: Controlling, Overhead Cost Controlling, Overhead Orders, Order Master Data, Define Order Types
OACO	IMG: Basis, Basis Services, ArchiveLink, Storage System Settings, Maintain Storage System
OAC3	IMG: Basis, Basis Services, ArchiveLink, Basic Settings, Maintain Links
OAC2	IMG: Basis, Basis Services, ArchiveLink, System Settings, Maintain Document Classes
OADO	Tools, Business Documents, Basic Settings, Customizing, Object Links

Determine Component (Application Component) for an Archiving Object

- Under this link [How to find out the relevant area in case of a Data Archiving issue](#), you can read how to determine the component (application component) for an archiving object.
- With the help of this component, you can then, for example search for SAP Notes.

Data Archiving in MM and SD

Application-Specific Customizing: MM

MM_MATBEL

IMG or transaction OMB9

The document life of material documents can be set by plant and transaction/event type in customizing.

Default setting: 200 calendar days for all transaction types.

MM_EBAN

IMG or transaction OMEX

Residence time of purchase requisitions by document type and item category

MM_EKKO

IMG or transaction OMEE/OMEN/OMEY

Residence time of all purchasing documents as well as additional checks of outline agreements by document type and item category can be set in customizing.

MM_MATBEL

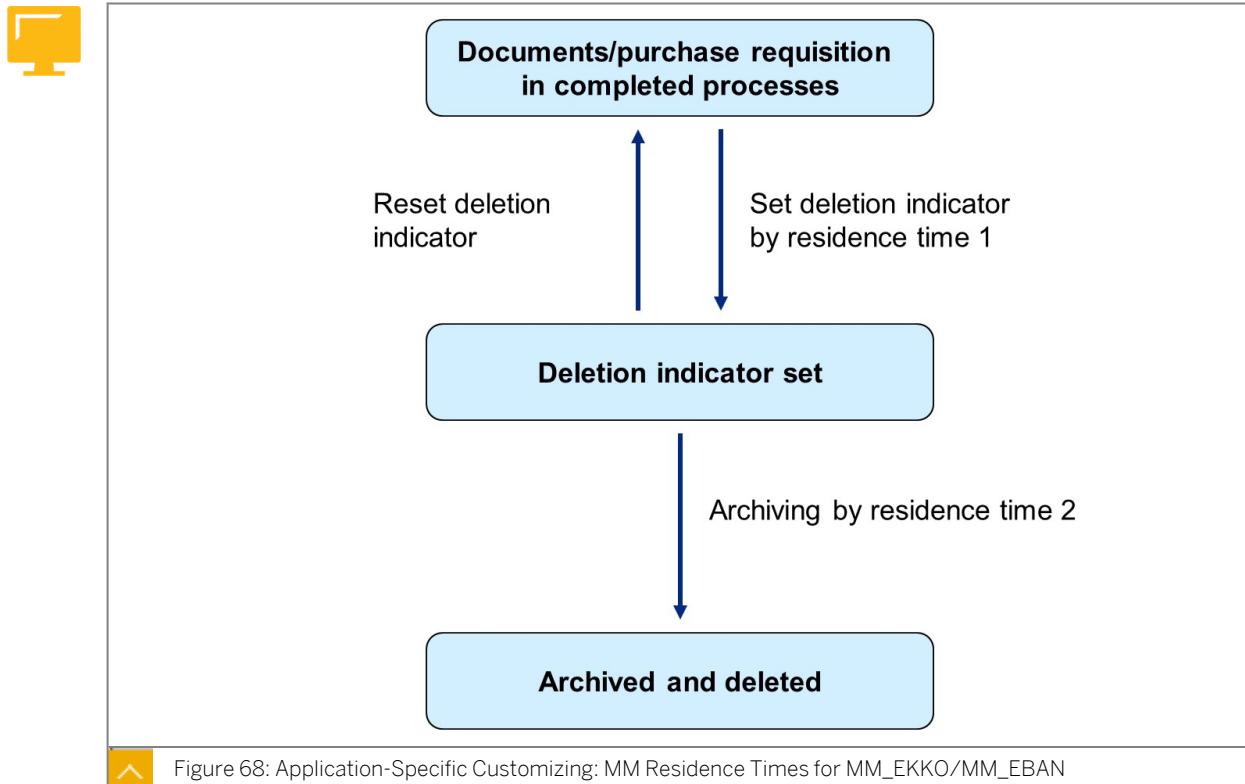
The residence time depends on the posting date in the document header.

MM_EKKO/MM_EBAN

If you want to define new document types, you must specify a value for the residence time. If no such value is entered in customizing, archiving cannot take place.

The residence time is based on the last item change or the last transaction time.

SAP recommends that you maintain uniform residence times for all document types



The figure shows the relation of different residence times.

Residence time 1

Number of days after which the archiving program can set the deletion indicator.

Default value MM_EBAN 10, MM_EKKO 30 days

Residence time 2

Number of days after which the archiving program can delete documents with the deletion indicator.

Default value MM_EBAN 20, MM_EKKO 30 days

The procedure for checking two residence times is not only available for MM objects, but also in CO and PP, for example.

Authorization Check MM



- MM_MATBEL
M_MSEG_WMB (activity 06 - delete)
- MM_EBAN
M_BANF_EKG
M_BANF_BSA
M_BANF_WRK(Activity 06 - delete)
- M_BANF_BSA
MM_EKKO
M_ANFR_EKO

M_ANFR_EKG
M_ANFR_BSA
M_ANFR_WRK
M_BEST_EKO + analog M_ANFR_*

M_RAHM_EKO + analogous to M_ANFR_* (activity 06 – delete)

There is at least one application-specific authorization object for each archiving object.

if necessary:

You can determine the authorization objects used using a search using "authority- check" within the archiving program.

Otherwise, the authorization objects are stored in the documentation.

AUTHORIZATION CHECK SD



- SD_VBAK
 - V_VBAK_AAT: id 'AUART' field auart / id 'ACTVT' field actvt_act
 - V_VBAK_VKO:
 - id 'VKORG' field vkorg id
 - 'VTWEG' field vtweg id
 - 'SPART' field spart
 - ID 'ACTVT' Field actvt_act
- SD_VBRK
 - V_VBRK_FKA: id 'FKART' field fkart / id 'ACTVT' field act vt_act V_VBRK_VKO:
 - id 'VKORG' field vkorg / id 'ACTVT' field actvt_act
- RV_LIKP
 - V_LIKP_VST: id 'VSTEL' field * / id 'ACTVT' field actvt_act

Application-specific authorizations are also required for reading archives.

Job scheduling and variant maintenance: MM_EBAN / MM_EKKO:



- Single-level archiving
 - In single-level archiving, a deletion indicator is set for each complete item. At the same time, the item is archived and deleted. The system checks the parameter Residence Time 1.
- Two-Step Archiving
 - In two-step archiving, the system sets a deletion indicator for complete items within an archiving run.

The system checks the Parameter Residence Time 1.

In the next archiving program run, all items with a deletion indicator are archived and deleted. The system checks the parameter Residence Time 2.

There is no reload function for MM documents.

The two-step archiving process ensures increased data security.

Job Scheduling and Variant Maintenance: MM_MATBEL

Tips for improving the performance of MM_MATBEL

Tips for improving the performance of MM_MATBEL



- Users who perform tasks in the archiving area should have authorizations for all plants.
- Apply the same document type life to a transaction type in a plant.
- Make restrictions using the material document number.
- Do not make any restrictions for the plant in the selection.
- Make restrictions using the material document year.

If the checks in the archiving program have to be carried out at document item level, the runtime is increased by approximately three times.

See also SAP Note 48009.

Data Archiving with PP Objects (PP_ORDER)

The archiving of production orders takes place in three steps:

- Preliminary stage: a deletion indicator and deletion flags are set in the order
- Writing phase: orders with deletion flags are written into the archive
- Deletion phase: archived orders are deleted from the database

A deletion flag means that the order can no longer be posted to and goods movements are no longer possible.

The deletion flag can be reset (transaction CO02).

Deletion indicator means that the order is released for archiving.

The deletion indicator cannot be reset.

The orders are archived in a two-step procedure:

- Residence time 1: Time between deletion flag and deletion indicator
- Residence time 2: Time between deletion indicator and archiving

When you set the deletion indicator, the residence time 1 is checked in customizing for the production order types (transaction OPJH). The default time is 1 month.

During archiving, the residence time 2 is checked.

Preprocessing Program

Prerequisites for setting the deletion flag:

- No open purchase orders or purchase requisitions
- Order settled in CO
- No open inspection lots
- No open confirmations and goods movements

- No delivery documents whose goods movements have not been posted completely
- No static assembly orders
- Collective orders can only be processed as a whole
- OCM: No open change flags, plus/minus components or plus/minus operations

Static assembly orders are generated from sales orders and are linked 1:1 with the corresponding SD order. They are processed as part of the SD order.

If the orders are collective orders, the entire collective order must be completed in order to archive the orders.

Prerequisite for setting the deletion indicator:

- The deletion flag is set
- The residence time 1 has expired

For orders without a deletion flag, the deletion indicator can be set at the same time as the deletion flag if the residence time 1 is zero.



Caution:

If the parameter Delivery Date Overrun is used, undelivered orders are not taken into account.

In preliminary runs that only contain undelivered orders, undelivered orders must be provided with a deletion flag and deletion indicator. Delivery date overrun is initial in this case.

Selection Condition Max. Entries.

- In the case of average large orders, 10,000 is a tested value for the specification max. Entries.
- Note that more orders are selected internally from the database than for "max. Entries" is specified.

For performance reasons, the selection criteria should be specified as specifically as possible. In particular, old orders that have already been processed should be excluded using an order number or date range.

Technical background:

In a first step, the system selects all orders that correspond to the selection criteria.

However, the restriction selection profile status is not taken into account here.

If Set Deletion Indicator Is Active, orders that already have the status deletion indicator are also selected.

The system then removes all orders that do not match the selection profile status or that have the status "Deletion Indicator".

All requests for which the user does not have authorization are also removed.

The orders selected in this way are then checked individually and the deletion flag or deletion indicator is set until the maximum the specified number of entries has been reached.

Example:

The deletion indicator is to be set. The selection includes 200,000 orders, the value max. "Entries" is set to 10,000. One in three orders do not pass the check for the deletion flag. In this case, the system checks whether the deletion flag can be set for the first 15,000 orders. Of these orders, the deletion indicator is set for 10,000.

Write Program

Prerequisite for archiving:

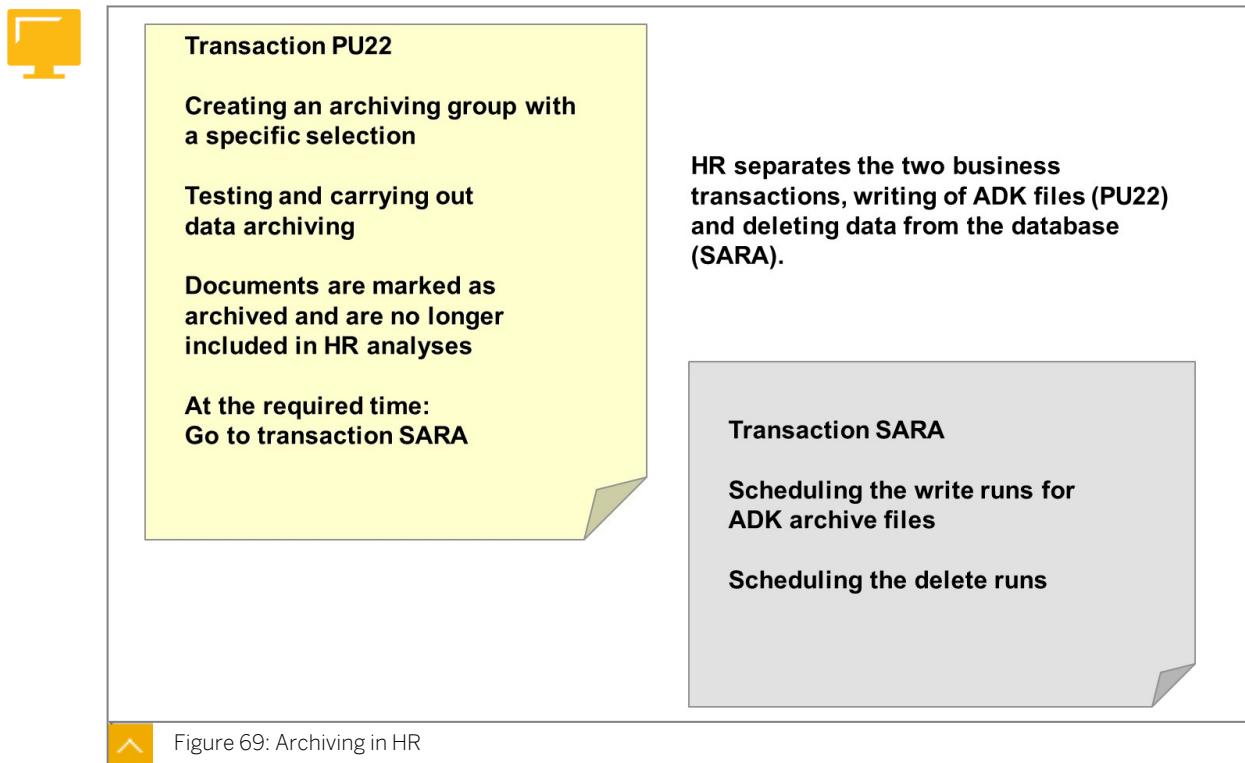
- The deletion indicator is set.
- The residence time 2 has expired.

Selection condition max. Entries": in the case of average large orders, 10,000 is a proven value for this indication.

Technical background: The system selects orders that meet the selection criteria and for which the deletion indicator is set. However, the system selects a maximum of only as many orders as for "Max. Entries". The system then removes all requests whose processing the user does not have authorization for, or for which the residence time 2 has not yet expired. The orders selected in this way are then written to the archive in blocks.

Selection condition block size: block size should not exceed 10. It means that a COMMIT is triggered on the database for every 10 orders that are written to the archive.

Data Archiving in HR and IDOC Data Archiving



To create an archiving group, the HR number range interval for HRARCHIVE must be maintained under ABAP Workbench, Development, other tools.

Enter an interval with NR 01 and the required number range.

The archiving group describes the selection of the required data.

The customer creates them using the Create button, assigns a name, and can be guided through the application menu.

Once the archiving group has been created, you can assign the required personnel numbers and then test the archiving.

If the test is successful, trigger the execution.

The execution flags the documents in the system to Archived.

After the execution, you can complete the business side with "Exit" or you can cancel the flag.

At a time when the load is low, you can branch to transaction SARA to physically write the data to archive files and delete it from the database.

The required object is called automatically.

IDOC Data Archiving



- The status of the IDOCs determines whether it can be archived.
- The check is performed using transaction WE47 (table TEDS3).
- IDOCs do not have any application-specific Customizing
- There is no special sequence with regard to other archiving sessions.
- Links between application object and IDOCs can also be archived (see Options in the Archive Write Program)

The status of the IDOCs must contain the value X in the LANGUA field of the TEDS3 table - maintenance and display using transaction WE47.

The table TEDS3 can be maintained using transaction WE47. (See SAP Note 179046)

Only completed transactions should be archived.

SAP Notes for processing the linking of objects and IDOCs:

505608 (ALE: Reorganization IDOCREL)

Data Archiving for Profit Centers and Special Purpose Ledgers

Profit Center Accounting Line Items: EC_PCA_ITM/EC_PCA_SUM



- The archiving objects EC_PCA_SUM, EC_PCA_MD, EC_PCA_ITM are available in SAP S/4HANA onPremise, but should no longer be used in the long term. See SAP Notes 2269324, 2993220, 2425255. They have almost been replaced by FI_DOCUMNT.

"This means that you have to migrate from classic Profit Center Accounting to the designated alternative function "Profit Center Accounting in Universal Journal" (universal journal) in SAP S/4HANA before the compatibility package license expires.."

- If you use the above archiving objects, note the following:
 - Line items can be archived at any time.
 - Totals records must not be archived before the line items.
 - Totals records cannot be archived from the current fiscal year.

Read the hints on the objects before you archive them for the first time. You can access the hints from the following functions: **Archive** or **Delete** with *Goto → How-to*.

You decide whether line items or totals are to be archived by selecting the archiving object.

In accordance with the selection criteria, data from the additional ledger 8Z, export ledger 8E, and, if available, reporting ledger 8C is also archived during archiving in addition to the data for ledger 8A.

By default, the line items are archived sorted by profit center (corresponds to account-based archiving in older variants of the write programs).

Sorted archiving enables you to access individual records using the AS. In urgent cases, unsorted archiving can be made available to SAP after consultation with the responsible development department. Use case: Considerable amounts of data must be archived in a short period of time, regardless of later read accesses.

For performance reasons, we recommend that, in addition to the controlling area and fiscal year, the company code, record type, and, if necessary, profit center group.

Profit Center Accounting Line Items: Notes on Data Avoidance



- Check for which years you require the line items and switch on the update for these years only in transaction 1KEF.
- Check whether the data of upstream modules is transferred in too detailed a form.
- Check how long the profit center accounting line items have to be kept in the system.

Check for “too detailed” (point 2 of the slide):

- Transaction 3KEH: For each controlling area, you can specify accounts whose transactions are also to be included in Profit Center Accounting. Check whether the entries are necessary.
- Use document summarization for line items:
You can find the settings using transaction OKE8.
SAP Note 198519 contains a program that helps you find the most effective summarization strategy.

SAP Note 203545 enables you to determine the organizational units and periods to which the data of the table GLPCA is assigned.

For detailed information about data reduction in Profit Center Accounting, see SAP Note 178919.

Special purpose ledger: FI_SL_DATA



- As a rule, there are large Z tables with entries for special ledgers.
- Totals records cannot be archived before line items.
- Records of line items can be archived at any time if you are working without a split processor.

You can archive the FI-SL line items sorted by account or by document number. Unsorted archiving is no longer supported. As a result, you must first convert the pooled tables to transparent tables in order to archive the corresponding ledgers.

When archiving data from ledgers that are connected to the split processor, note that the FI documents must first be archived with the object FI_DOCUMNT. If an associated FI document is found in the database for an FI-SL line item during account-based archiving, this line item is

excluded from archiving. In the case of document-by-document archiving, the entire FI-SL document is excluded from archiving.

Note also that the settings made in archive Customizing are effective for both "totals archiving" and "line item archiving", that is, they may have to be set separately for the respective archiving type.

Sap Notes 171294 and 317219 contain notes on determining meaningful selections, which evaluation options are available, and comments about Customizing.

Crossarchiving-check and deletion using CRM archiving as an example

CRM business objects, such as activities or sales transactions, that belong to a completed business process, or master data that is no longer required, such as business partners or products, can be archived.

All CRM business objects must first undergo an archivability check in the preprocessing phase.

If the result of the check is positive, the business objects are given the status *Can Be Archived* (I1100) and *Can Be Deleted* (I1102).

The write program selects all objects that have the status *Archivable*.

A CRM archiving object either has a deletion program according to the traditional deletion concept or supports the status-controlled deletion concept. (for example, Product Master Data: PRODUCT_MD).

Archivability Check

The archivability check can be carried out in two ways::

- Using the cross-archiving-object check program.

You can use the cross-object check to check the archivability of business objects for several archiving objects at the same time.

Another advantage is the option of executing several check jobs in parallel for each archiving format. As a result, you can achieve a higher throughput of checked business objects and therefore a higher performance of the check.

We recommend that you use this program if you want to check a large number of objects, for example, as is the case for business transactions.

- Using an archiving-object-specific check program (preprocessing program)

This program is only executed for one archiving object.

Parallel processing of the check is not possible here, so this method is less suitable for mass data.

SAP development decides whether an archiving object also supports the cross-archiving-object check or only has the archiving-object-specific check program (preprocessing program). Most CRM archiving objects support both concepts.

Technical Process for Checking and Deleting

During the check, the system first preselects the business objects to be checked.

It has the task of selecting the business objects according to the values stored in the variant. Among other things, the residence times and the resubmission date are taken into account.

In the archiving object-specific preprocessing program, the preselection takes place only once. In the cross-archiving-object check program, on the other hand, in accordance with customizing, which is described in more detail below.

The preselection enables you to exclude business objects that are not relevant before the actual check. The result is a list of business objects that are subjected to the actual, application-specific check.

In the case of cross-archiving-object checks, parallel processing is possible. To do this, the list is bundled package by package and distributed to different LUWs via the server group.

If the checks for a business object are positive, the status *Can Be Archived* and *Can Be Deleted* is set and a BDoc (Business Document) with flow type 'A' (Archiving) is sent.

BDocs contain change information about the checked business objects that are sent to connected systems. Most systems sort these a BDocs because the information is not processed there. The BDocs for Mobile Sales and Groupware Integration are relevant.

To prevent a previously unsuccessful business object from being checked again, the program records the date of the last archivability check for each checked object. In combination with the resubmission time that can be set in Customizing, the system calculates in the next program run whether the object is to be checked again.

Objects with the status *Archivable* are not checked again.

Cross-object deletion works in the same way as cross-object checks.

It enables the deletion of business objects for multiple archiving objects.

Customizing for Cross-Archiving Object Check and Deletion

The activation of an archiving object for the check and/or. The deletion program is executed in cross-archiving-object Customizing under Check and Delete. It provides you with an overview of all archiving objects that support this concept. From there, you can double-click an archiving object to navigate to the specific Customizing.

Activation

Set the *Check Active (Deletion Active)* checkbox for an archiving object if you want to use the cross-archiving-object check (delete) for this archiving object. The delete active checkbox is only available for archiving objects that also support deletion using the status-controlled main program..

After you double-click an archiving object, the following functions are available to you on the customizing screen Cross-Object Check and Delete.

Parameters for the Cross-Object Check Framework Program

- The *Number of Calls* preselection module defines the total number of times the preselection function module is called.

As soon as this value is reached, the archiving object is taken from the program run.

As a rule, 10,000 calls are preset..

- The *Package Size* preselection module defines the number of business objects that are selected in the database each time the preselection function module is called.

The default setting is 50,000 objects.

Package Size Check Module During the check, the business objects determined during the preselection are divided into individual subpackages in order to be processed in parallel. You use this parameter to specify how many business objects it should be.

As a rule, 500 objects are preset.

- *Resubmission in Days* defines the number of days after which a business object that cannot yet be archived can be checked again..

By setting a corresponding value, for example, 10 days, you can prevent objects that have already been checked from being included in the check pool again and again, which means that the check duration is extended unnecessarily.

The default setting is 10 days. If there is no entry, or the *Resubmission in Days* is set to 0, the resubmission is 30 days.

- In the *Active Variant* field, you can specify the variant to be used by the work program. You can use this to define a selection of the data that the check program is to process specifically for each archiving object.

The *Test/production mode* option is only valid for the archiving-object-specific check in a preprocessing program. For cross-archiving-object checks, these parameters are filled according to the process control of the cross-archiving-object check program.

Parameters for the Cross-Object Delete Main Program

These setting options are only displayed for an archiving object if the object also supports this function.

- The *Number of preselection* module calls determines how often the preselection module of the delete program is to be called. As soon as this value is reached, this archiving object is taken from the program run..

The preselection function module of the delete program has the task of selecting all business objects with the status can be deleted, bundling them, and transferring them to the cross-archiving-object deletion program.

- The *Package Size preselection* module defines the number of business objects that are selected in the database each time the preselection function module is called.

The *Package Size deletion* module defines the size of the subpackages to be processed in parallel by the delete program

Changing The Customizing Settings

Activating the check or deletion for an archiving object has no effect on a running cross-object program.

An archiving object deactivated during runtime is taken from the program run if it has not yet been processed at this time. To end the program prematurely, you must deactivate all active archiving objects.

Performing a Cross-Archiving-Object Check and Deletion

From archive administration, you can schedule the relevant job by choosing *Check/Delete* in the application toolbar.

Once you have chosen the appropriate action, you can maintain the parallel processing parameters and the processing options in the variant. (Flow control overrides the mode of the archiving-object-specific variant during the check run.)

Performing an Archiving-Object-Specific Check

You can schedule the archiving-object-specific check using the *Preprocessing* button in archive administration.

Check Log

From archive administration, you can use the *Check/Delete* button in the application toolbar to access the execution screen for the check. The *Application Log* button takes you to a

screen in which you can call the check log for a selected archiving object and a selected time frame.

Write and Delete

The write and delete run is scheduled using archive administration.

If the archiving object supports cross-archiving-object deletion, you must first schedule a verification program (confirmation program) using archive administration.

This verifies and checks the created file and sets the status *Archived* for the CRM business objects.

You schedule the verification program using the *Delete* button instead of the "traditional" delete program. You can choose between test mode and production mode.

The deletion itself is then carried out using cross-archiving-object deletion.

A test or Production mode is not available for selection here. The deletion always takes place in production mode.

Application-independent problems

- The check is performed using the archiving-object-specific preprocessing program..
 - The program has a very long runtime.
 - The program terminates with memory problems. The number of objects is too large. As a result, too many BDocs are generated, which leads to massive memory consumption.

For releases lower than 5.0, SAP Notes 489052, 703742, and 704057:

Reduce the *Package size preselection* module parameter.

We recommend that you use the cross-archiving-object check program for mass data checks. (Release < 5.0, SAP Note 500551).

- *No residence time can be determined for transaction type* is displayed in the log.

Maintain the residence time for the transaction type or add at least the placeholder * in residence time maintenance in the *Transaction Type* field with a time specification.

- In Releases < 5.0, the cross-archiving-object check program runs in test mode for a very long time or does not terminate.

The parameter *Number of Calls Preselection* module does not have the value 1.

Change the value for the test run.

To avoid having to change the Customizing between the test and production run, implement SAP Note 750610.

- In Releases < 5.0, the cross-object check program terminates with the error COMPUTE_INT_PLUS_OVERFLOW.

Reduce the parameter *Package Size of Check Module*. See SAP Note 666150.

Consulting SAP Notes in the area of CRM-BF-AR



- 2306936 - BDOCs in CRM archiving
- 2187544 - FAQ: AR: Preprocessing
- 1921853 - FAQ: AR: Performance
- 1706358 - Dumps during archiving of CRM documents

- 1328066 - Archiving concept in CRM
- 996154 - FAQ: AR: Archiving crm documents

Customizing Storage Systems in the SAP System

Content Repository Definition (HTTP) in Transaction OACO



- Technische Definition der Steuerung des externen Content Servers
 - **Content Rep.:** Unique ID for a Content Server
 - **Description:** descriptive text for the content repository
 - **Docarea:** ArchiveLink (as of 4.6C, not mandatory)
 - **Storage Type:** HTTP Content Server
 - **Log:** Name of the log for front-end communication to the content server that differs from the standard (see "Integration of External Clients")
 - **Version No.:** Interface Version ArchiveLink Used
 - **HTTP Serv.:** Port: Address of HTTP Content Server with Port
 - **HTTP Script:** Program used to process communication
 - **Base path:** Directory in which the SAP application places files that are to be stored.
 - **Archive path:** Directory in which the files to be retrieved from the storage system are placed
 - **Output device:** Output device used by the spool to format print list and archive files

Implementation Guide (IMG): *Basis → Basis Services → ArchiveLink → Basic Settings → Maintain Content Repositories (transaction OACO)*.

When you switch to "Full Administration", all input fields are activated.

Version no.: Maintain the version of the ArchiveLink interface for which the storage system used is certified. We recommend that you use storage systems that are certified for the current SAP interface version.

Server communication to storage systems takes place using HTTP

Basic path is required for storing print lists, archive files, DMS originals Archive path is required when SAP accesses archive files or when stored print lists are accessed from SAP (for example, if they are to be printed again).

Additional functions directly from the transaction:

- Send Certificate to Content Server
- Connection test or Status Query with Content Server
- Jump to Content Server Administration (transaction CSADMIN)

The "No Signature" indicator should not be set in production operation, since communication with the content server otherwise works without security (asynchronous encryption of the URLs for accessing the documents). This is only useful for test, documentation, and training purposes, or if only use within the network/intranet is generally planned.

Definition of Relationships



- Which documents (document type) are assigned to which business object (object type), in which storage system are they stored, in which table are the links kept, and how long do these links remain online?
 - The delivered relationships between the object type and the document type are described in the documentation "ArchiveLink – Application Scenarios".
 - Different documents can be stored in different content repositories (storage systems)
 - Status Flag
 - 'X': Documents can currently be stored in this content repository (storage system)
 - <> 'X': This content repository (storage system) contains Documents, but currently no documents are stored there
- Four standard link tables (TOA01, TOA02, TOA03, TOAHR) for distributing the link entries in different database areas.

Implementation Guide (IMG): *Basis → Basis Services → ArchiveLink → Basic Settings → Maintain Links (transaction OAC3)*.

SAP Easy Access: *Tools → Business Documents → Basic Settings → Links*.

When you define the links, you activate the ArchiveLink functionality for the selected business objects. In scenario and application Customizing, you define this for a selected scenario (for example: bar code storage) and a concrete application (for example, Financial Accounting).

For each standard document type delivered by SAP, a basic setting with reference to a non-existent content repository should be specified in the delivery Customizing client. Therefore, if the standard document type is to be used, only the active content repository is to be assigned.

If the link tables supplied by SAP are not sufficient for load balancing or for organizational reasons, the customer is free to activate further tables based on the basic table definition. The new table must be activated correctly and then activated (via IMG: *Basis → Basis Services → ArchiveLink → System Settings → Maintain Link Tables* or SAP Easy Access: *Tools → Business Documents → Basic Settings → Customizing → Link Tables*) ArchiveLink is known.

AS: Create and Change Field Catalogs

The following describes how you can work with field catalogs.

The structure of field catalogs is often complicated. Your creation requires very good technical knowledge of the corresponding archiving object. For this reason, field catalogs are created by the application that creates an archiving object. You should only create customer-specific field catalogs for SAP standard archiving objects in exceptional cases.

Creating a Field Catalog



- Call transaction SARI.
Select *Customizing*.
Choose the menu entry *Environment → Field Catalog*
- Then make the following entries:

- - Enter the required archiving object.
- Specify whether the File Name field is to be part of the key or not.
- Specify whether the Offset field is to be part of the key or not.
- Save the field catalog.
- Then choose *Field Selection* and specify the table fields for the field catalog that are to be available to the information structures.

You can also flag the fields that you declare as key fields as selectable. All key fields that are not flagged as selectable are automatically transferred to every archive information structure that is based on the field catalog.

The key in an archive information structure can have a maximum of 16 fields. If the key contains offset and file name, the number of remaining key fields is shortened to 14 or 13 if the client is included in the key.

When do you need filename or offset as part of the key?

The keys in the archive information structure table must always be unique.

If the business data does not guarantee uniqueness, the name of the archive file must be included in the key.

Then an order could e.g. with number 4788 from different archiving sessions can be stored in the information structure table without any problems.

If uniqueness is not ensured even within an archiving run, the offset of the document in the archive file must also be transferred to the key.

For performance reasons, you should avoid making the offset and file name the key.



Caution:

To create a field catalog and archive information structures, you need a technical and business understanding of the tables of the archiving object, since you have to list the tables and table fields explicitly.

A field catalog contains more than one table: Standard field catalog order with item

The field selection in field catalogs should include the fields that are searched for as expected.

A field catalog can therefore contain fields from more than one table. You can see an example below:



Table 14: Field catalog with more than one table

Field No.	Target Field	Key	Tab	Field	oblig
10	vbeln	x	VBAK	vbeln	
20	posnr	x	VBAP	posnr	
25	kunnr		VBAK	kunnr	
30	bstnk		VBAK	bstnk	
40	netwr		VBAK	netwr	
50	waerk		VBAK	waerk	

...					
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The field selection comprises two tables (VBAK and VBAP) for which you must specify the link field.

To do this, you use the *Other Source Fields* function.



The tables VBAK and VBAP are joined with *Other Source Fields*

Here, the reference field from both tables is specified.

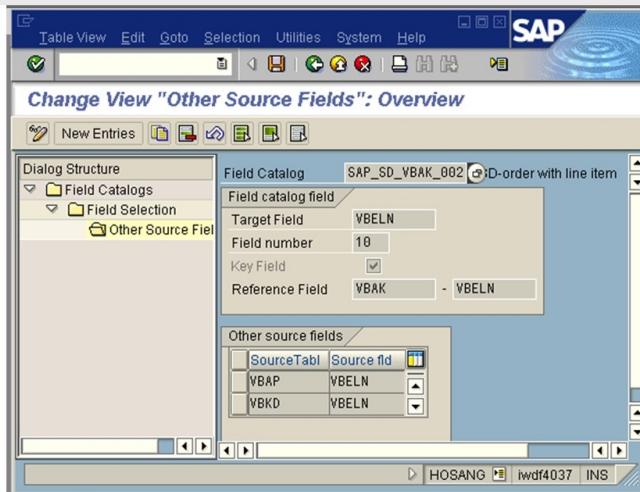


Figure 70: Table Join in the Archive Information System

The key fields of the field catalog from table VBAK must also exist in table VBAP and are assigned to fields of table VBAK using the *Additional Source Fields* function.

Subsequent Change of a Field Catalog

If a field catalog is changed after an archive information structure has been created and activated, the structure table must be deleted and rebuilt.

Proceed as follows:



- Deactivate the archive information structure (Customizing – Archive Information Structure – Deactivate).
- Delete the structure table (Customizing – Utilities – Delete Table).
- Add fields to the field catalog or delete fields (Customizing – Environment – Field Catalog).
- Activate the archive information structure again (Customizing – Archive Information Structure – Activate).

Phases of a Data Archiving Project - More Detailed Description

Assemble the project team

The following groups are possible members of a data archiving project.

The exact composition of the groups varies depending on the size and internal organization of the company and may therefore differ from the information below.



- IT Department – Database Administration SAP System Administration.
- Application owners (of all affected modules) or business department.
- Controlling, Revision
- External: external audit, external service providers, for example, Consultant

Data archiving is a cross-departmental activity. It should be understood as such and implemented accordingly.

If possible, the project team should be composed of representatives of all affected departments, depending on the size of the company.

The project team sets up a catalog with requirements for the archived data, creates the archiving concept, and executes the archiving.

During archiving, it is not sufficient to delete the relevant business objects from the database. It is much more important to consider the business environment in which the business objects are embedded to understand the effects of archiving. Since some of the application objects are used in cross-application process chains, the persons responsible for the individual applications should be included in the archiving project.

Project Management



- The main tasks of project management are:
 - Coordination, monitoring, and adherence to the implementation plan.
 - Understand and communicate the principles of the SAP data archiving concept
 - Check whether data archiving uses other archiving concepts, for example, optical archiving, must be coordinated.
 - Development and guarantee of a uniform and homogeneous archiving solution

There must be at least one project coordinator to act as a single point of contact.

When working internationally, there should be a contact person and a central project coordinator in each country.

Project coordinators also take on very strong moderator functions.

IT department is usually responsible for ...



- Database Analysis
- Archivelink customizing (if desired).
- Creation of archive files.
- General Customizing settings for archiving, configuring the SAP system (batch server, transports, notes).
- Infrastructure setup (processes, storage space, and so on).
- Where applicable: Provision of programming resources (own tables, display programs, and so on)

- Backup strategy, reorganization of indexes and DB statistics, and possibly the database itself.

Experience shows that it makes sense to find a central location where the archive files are created. It is important that this office communicates the archiving schedule and the result of archiving to the relevant departments.

The time for creating customer-specific reports should not be set too short.

Application Owners



- Are the interface to the department.
- Bring knowledge about the modules and business processes used into the project.
- Must be able to classify the data to be archived in the overall context of the company.
- Determine possible dependencies between business objects and estimate the quantity structure for archiving.
- Perform application-specific Customizing.

Application owners are the connection to the processes in the company:

- What are the processes?
- Which have been modified?
- Are additional checks required?
- Have additional dependencies been created?

If there are no application owners in the company, their role must be assumed by the user departments.

Departments



- From the point of view of the relevant department, the following questions must be answered:
 - Which data can be archived?
 - When is the data to be archived (e.g. B. Year-End Closing?)
 - How should the data be presented? (printout, screen, ...)
 - Which access time is acceptable?
- Is the data also used by other departments?

The question "how is the data used in the company" is a central question in every data archiving project. Their complexity must not be underestimated.

Revision/Controlling



- The task of auditing or controlling is to define the legal requirements for the archived data.
- In particular, country-specific rules and regulations must be taken into account.
- In this context, you must also check whether special requirements for an external audit must be taken into account.

- The internal audit also checks the procedure descriptions that must be created as part of the data archiving project.

Multinational companies must adhere to different country-specific rules and regulations regarding data retention.

Procedure descriptions refer to the following:

- General Procedure for Data Archiving
- Procedure for Malfunctions
- Procedure if archived documents are to be displayed again.

Urgent recommendation: an external auditor and the responsible tax authority must review and approve the company's own data archiving strategy.

Archiving Checklist

Project Team Assembly



- Members need to know company processes
- Knowledge holders must have free resources
- Responsibilities must be clear

Analyze



- Analysis of database and tables
- Estimating expected data volumes
- Definition of Archiving Objects
- Analysis from the auditing point of view:
 - What are the legal requirements for data retention?
 - for international companies: the country-specific receivables are taken into account correctly in each case
 - A special tool for formatting the data must be available.
 - are displayed
 - The process context is required from a revision point of view
 - detailed reports have to be created, which
 - Which access authorizations are required for the data
 - The archived data is protected against manipulation.

Check procedure descriptions:



- Procedure if a document is not found online in the database
- General Procedure for Data Archiving
- Procedure for Possible Malfunctions

Analysis from a Business Point of View



- Process analysis as a prerequisite for determining the retention periods (residence times)
 - Classification of the data to be archived in the company processes
 - Clarify when a business process is completed
 - Which processes access the data to be archived
 - Which processes refer to data to be archived
- Determine dependencies between archiving objects based on network graphic, documentation, and process analysis
- Determination of retention period (residence time)
- Determination of display requirements from a business perspective
 - Which data is to be displayed
 - In what form should they be displayed?
 - The process context is required.

Analysis from a Technical Point of View



- Clarify server configuration and backup concept for archiving runs
- Selection of the storage medium for secure storage after data archiving
 - Which access times can be tolerated
 - How high can the administrative costs be
 - Optical document archiving with ArchiveLink is planned.
 - Print lists are planned as part of data archiving
 - How many read and write drives do you need clarification about ABC analysis in the department: How often is data accessed in parallel in 1 month, 6 months, one year?
- Consider Retention Period of Archived Data and Administration Entries
 - Archiving possible using BC_ARCHIVE.
 - Data media may have to be copied over the years.

Design and design



- For your own developments: Specifications for programming and testing
- Set up an archiving concept for creating and managing archive files
 - Based on the results of the analysis phase
 - Finally determines the sequence of data archiving
 - Finally defines the technical environment
 - Contains the display functions for archived data

- Setting up a long-term enterprise-wide archiving concept: Data archiving as a recurring process.

Implementation Plan

- Implementation Plan: Who does what and when
- Check sap notes - transport notes to test and production system
 - Data Archiving Customizing
 - Logical file name and path (transaction FILE)
 - Application-specific Customizing, for example, setting retention periods (residence times) (transaction SARA)
 - Archiving-object-specific settings (transaction SARA)
- Configuration of File Server for Data Archiving
- Implementation of an optical archive system: implementation, configuration, customizing
- Create procedure descriptions
- Project Team Training

Implementation Run Plan (2)



- Pilot phase: Testing under realistic conditions
 - Log to department for correction of documents that have not been completed
 - Test the user department to determine whether all data required for day-to-day business is still available after data archiving
 - Written acceptance of the test results by the department
- If required:
 - Development of customer-specific read programs
 - Development of customer-specific programs for Y/Z tables
- Creating the user procedure description for accessing archived data
- End-user training

Implementation Run Plan (3)



- Performing Data Archiving in the Production System
 - Transports/Customizing
 - Agreement System Administration – Department
 - Job Monitoring
- Communicate the results of the productive archiving to the user departments (for example, through an Excel list)

Postprocessing



- Statistics Update
- Index Reorganization
- Database reorganization if there is no longer an existing or extremely extended space requirement for the table
- Backup of created archive files



LESSON SUMMARY

You should now be able to:

- Explain more topics.

Learning Assessment

1. It is possible to archive totals documents before the corresponding line item documents are archived.

Determine whether this statement is true or false.

- True
 False

2. The *deletion* flag means that the production purchase order can no longer be changed and that material movements can no longer be changed in this production purchase order.

Determine whether this statement is true or false.

- True
 False

3. There is at least one application-specific authorization object for each archiving object in MM and SD.

Determine whether this statement is true or false.

- True
 False

4. You use transaction SARJ to create field catalogs.

Determine whether this statement is true or false.

- True
 False

Learning Assessment - Answers

1. It is possible to archive totals documents before the corresponding line item documents are archived.

Determine whether this statement is true or false.

True

False

Correct. The line item documents are to be archived first.

2. The *deletion* flag means that the production purchase order can no longer be changed and that material movements can no longer be changed in this production purchase order.

Determine whether this statement is true or false.

True

False

Correct. The *deletion* flag means that the production purchase order can no longer be changed and that material movements can no longer be changed in this production purchase order.

3. There is at least one application-specific authorization object for each archiving object in MM and SD.

Determine whether this statement is true or false.

True

False

Correct. There is at least one application-specific authorization object for each archiving object in MM and SD.

4. You use transaction SARJ to create field catalogs.

Determine whether this statement is true or false.

True

False

Incorrect. You use transaction SARA to create field catalogs.