

Sterling Integrator®

Archive and Purge

Version 5.1

Sterling Commerce
An IBM Company

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Overview

Archiving your business process data protects your critical data, conserves database disk space, and file system disk space (when using documents on disk) thereby improving the efficiency of Sterling Integrator.

Archive and purge clean up business process data in Sterling Integrator. The archive and purge operation searches for eligible records to archive from the live database tables. You can schedule archive and purge operation or perform them manually.

Archive or purge is not the only source of cleanup in Sterling Integrator. Other services may need additional requirements or considerations and are discussed in the respective service documentation. For example, to purge mailbox messages, you should use the Mailbox Delete service, which deletes messages in one or more mailboxes.

Archive Business Process Data

Sterling Integrator uses a set of components to move business process data that has reached its specified lifespan out of the live database. These components include:

- Index Business Process service
- Backup Business Process service
- Purge service

Data that has been removed using the Backup Business Process component can later be restored to the same version of Sterling Integrator using the Restore Business Process component.

Business process data written to the database is determined by the persistence level specified in the Business Process Manager or in the `noapp.properties` file. Decreasing the persistence level increases the business process performance at the cost of full-tracking for each step of the business process.

Business processes are eligible for archiving as soon as their archive flag is set by the Index Business Process service. You do not have to wait until a business process exceeds its lifespan before archiving it. After the archive flag is set, the business process is then archived the next time the Backup Business Process service is run either by schedule (at 2 A.M. each morning) or manually. The data is still available in the system because it cannot be purged (with the Purge service) until it has exceeded its lifespan.

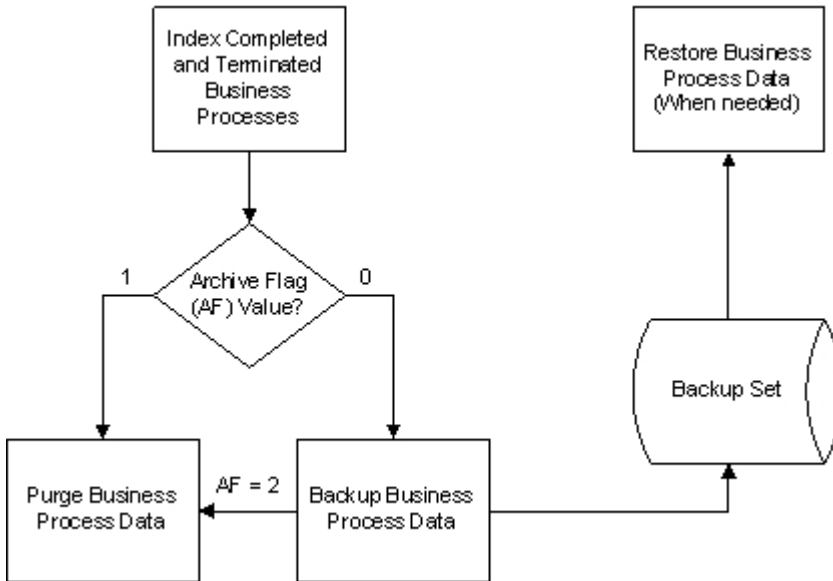
The Restore Business Process service restores archived business process data from physical media to a Sterling Integrator restored data location, where it can be searched and viewed.

The Index Business Process service runs a process that looks for archiving parameters defined in the business process. When the process finds these parameters, the process creates summary information and writes the information to a table in the database.

The Backup Business Process service runs based on how you have configured your archive settings. The Backup Business Process service retains the business process and its related data to a file system as Java™ serialized objects for backup or purging. The Purge service then runs and removes data from the database, file system, or both as specified in the archive settings.

You cannot archive active business process instances (for example, halting, halted or interrupted). Only data for completed or terminated business processes that have been indexed can be archived.

The following figure shows the archiving process.



The Archive Flag is initially set by the Index Business Process service to 0 or 1. Valid values are:

- 0 - Back up data
- 1 - Purge data without performing a back up
- 2 - Data back up sets the flag to 2, which purges data

You cannot delete a workflow definition of a business process (using the Source Manager of the Business Process Manager) while an instance of that process is being indexed, archived, or purged.

In the same manner that you schedule business processes, you can schedule the intervals at which you want Sterling Integrator to index, archive, and purge the contents of the database.

You can also define the lifespan, or the length of time, in days and hours, to retain the data in Sterling Integrator live database tables. This is the length of time until the business process instance expires.

Before You Archive

You can configure Sterling Integrator to automatically archive business process data as often as you need, or you can archive business process data manually.

For more information about changing the default settings in your archive schedule, refer to the topic [Configure Archive Schedules](#) on page 7.

For more information about archiving business process data manually, refer to the topic [Archive Business Process Data Manually](#) on page 10.

Note: You should not create your own service to back up the data (either manually or on a schedule). Similarly, you should not create your own service and then manually archive data at the same time that an archive process is automatically running (from a schedule in the Archive Manager). It can corrupt archived information as each process could be trying to archive the same data. Use the lock feature in the Archive Manager to prevent simultaneous manual and automatic archiving when using standard backup tools.

Before you begin to archive business process data, you should consider the following:

- Indicate default values that apply to all business process instances that you run.
- Schedule archive process depending on the volume of business processes that you run.
- Archive business level information for audit purposes, including:
 - Documents that support non-repudiation for AS1 and AS2 protocols
 - Correlations that provide searching ability
- Maintain data in live database tables, to enable faster retrieval for data that you want to view in the immediate future.
- Separate JVM is not required to back up data, thereby allowing you to allocate more resources to Sterling Integrator.
- Archive streamed-in documents that are much larger than the amount of available memory, because documents are not reassembled in memory prior to writing them on the disk. Instead, the backup process reads and writes raw DATA_TABLE pages.
- Run the backup process on only one node at a time in a cluster environment.

Configure Archive Schedules

You can define the location of the archive data when configuring archive schedule settings. After you configure and save the archive schedule, the archive process runs automatically based on the parameters you provided.

You can still archive manually, however, you should consider the scheduled archive before running the archiving activities manually.

For more information about running archiving manually, refer to the topic [Archive Business Process Data Manually](#) on page 10.

To configure archive settings (either the default settings or your manual settings):

1. From the **Administration** menu, select **Operations > Archive Manager**.
2. In the Archive Manager page that is displayed, under **Archive Configuration**, next to **Configure Archive Settings**, click **Go!**
3. On clicking Go, the Archive Manage UI lock-enabled message is displayed:

UI lock enabled. Lock will be released only by clicking Cancel or Finish in the wizard. Archive Manager

Click **OK**. If the lock is not released or if you close the page without clicking **Cancel** or **Finish**, you must use the Lock Manager function to release the lock.

4. In the Configure page that is displayed, enter information in the following fields and click **Next**.

Field	Description
Default values that business processes should remain in the system:	It indicates the lifespan of the business process to remain active in the system. Enter the values in Days and Hours fields.
Default values that trackable business process information remains in the system:	It indicates the additional time of trackable business process data, such as security information certificates and non-repudiation supporting documents, to remain active in the system. The trackable business process data includes archive or purge-related tables in a business process and is helpful when performing the data searches. These tables are retained longer than the tables in the same process that are deleted using the default lifespan set, for example, if you enter two days for lifespan of the process and one day

Field	Description
	for the trackable business process data, then trackable business process data remains active in the system for three days. Enter the values in Days and Hours fields.
Directory where archived data will be stored:	It indicates the directory where the archived data is stored. Enter the complete path to the archive location in the Backup Directory field.
Expired Business Processes should be:	It indicates if the expired business process should be archived or purged. Select the Archived radio button to archive the expired business process or the Purged radio button to purge the archived business process.

- In the Business Process Definitions page that is displayed, the left-side window displays the list of business processes that do not have the lifespan set as system default and the right-side window is populated with business process that have the lifespan set as system default.

To apply your archive settings to a business process, select and move it to the right-hand window. If you choose to remove archive settings for a business process, move it to the left-side window. You can also filter and search for business processes by name in the left-side window.

Note: The lifespan setting from the Configure page applies to all business processes that are set with a system default lifespan. Any processes in the right-side window will be set to the system default lifespan, and will pull the lifespan setting at indexing that is set in the Configure page. If you change the removal method (archive or purge), business processes that are not moved to the right-side window retain their previous removal method.

- Click **Next**.

- On clicking Next, the business process update message is displayed:

Updating of business processes will occur in the background and may take 30 minutes or more, depending on the number of processes selected

Click **OK**.

- In the Schedule Type page that is displayed, select the checkbox next to **Use 24 Hour Clock Display** if you want schedule archive in a 24 hour format.
- Select the archive process schedule by choosing one of the following radio buttons:
 - Run based on timer** - To archive or purge business process data based on the timer set (in hours and minutes).
 - Run daily** - To archive or purge business process data daily.
 - Run based on day(s) of the week** - To archive or purge business process data on specific days in a week.
 - Run based on day(s) of the month** - To archive or purge business process data on specific days in a month

- Click **Next**.

11. In the Schedule Settings page that is displayed, the fields are displayed depending on the schedule type selected in Schedule Type page.

For all schedule types except **Run based on timer** type, you can schedule archive activity at regular intervals. To do this, select the checkbox next to **Check here to select time interval** and specify the start time, end time, and the interval.

To run the scheduled archive process when Sterling Integrator starts, as well as on the specified schedule, select the checkbox next to **At startup**. This option is not available if you select **Run based on day(s) of the month** on the Schedule Type page.

- If you selected **Run based on timer** in the Schedule Type page, enter numeric data in the **Hour(s)** and **Min(s)** fields to set how often the process should run.
- If you selected **Run daily** in the Schedule Type page, enter when you want to run the process each day. Click **add** to specify an entry. You can enter more than one item. Click **delete** to remove an entry.
- If you selected **Run based on day(s) of the week** in the Schedule Type page, enter when you want to run the archive process each day. For each time entry, select the day from the **Select Day(s)** drop-down list when you want to run the process. Click **add** to specify an entry. You can enter more than one item. Click **delete** to remove an entry.
- If you selected **Run based on day(s) of the month** on the Schedule Type page, enter the time when you want to run the process each month. For each time entry, select the day of the month from the **Select Day(s)** drop-down list when you want to run the process. Select **LDOM** to choose the last day of the month. Click **add** to specify an entry. You can enter more than one item. Click **delete** to remove an entry.

12. Click **Next**.

13. In the Schedule Exclusions (displayed if you selected **Run based on timer** in the Schedule Type page) and Date Exclusions page that is displayed, depending on your selection in the Schedule Type page, select the time and date when the archive process should not run.

Click **add** to specify an entry. You can enter more than one item. Click **delete** to remove an entry.

14. In the Confirm page that is displayed, review the changes you made, and perform one of the following tasks:

- To change your settings, click **Back**.
- To abandon the changes you carried out, click **Cancel**.
- To save the changes you carried out, click **Finish**.

Archive Business Process Data Manually

After you have configured archive settings, you can archive completed or terminated business process instances at any time.

To archive business process instances:

1. From the **Administration** menu, select **Operations > Archive Manager**.
2. In the Archive Manager page that is displayed, under **Archive Execution**, next to **Archive Business Processes**, click **Go!**
3. On clicking Go, the archive process confirmation message is displayed:
Are you sure you want to execute Archive process now? Click 'OK' to proceed or 'Cancel' to abort.
Click **OK** to run the archive process. Click **Cancel** to abandon the archive process.

Archive Log

Configure the Archive Log

Sterling Integrator compiles an archive log of business process data archived every day. The archive log provides details about business process instances, including errors encountered during archiving.

To configure the archive log settings:

1. From the **Administration** menu, select **Operations > System > Logs**.
2. On the System Logs page, under **Application Logs**, click the icon next to **Archive**. The Archive: Log Settings pop-up window is displayed.
3. On the Archive: Log Settings page, perform the following actions:
 - a) Select the maximum number of lines the log can contain from the **Roll Over Interval** drop-down list. After attaining the maximum number of lines set, it rolls over to a new log.
 - b) Select the **On** radio button to enable logging. Logging is disabled if you select **Off** radio button.
 - c) Click **Save**. The Environment pop-up window closes and you are redirected to the Sterling Integrator user interface.

View the Archive Log

Sterling Integrator compiles an archive log of business process data archived every day. The archive log provides details about business process instances, including errors encountered during archiving.

To view the archive.log file, use one of the following methods:

- To view the archive log using the Archive Manager:
 - a) From the **Administration** menu, select **Operations > Archive Manager**.
 - b) On the Archive Manager page, under **Archive Log**, next to **View Archive Log**, click **Go!**.
The Archive Log pop-up window displays the archive.log information.
- To view the archive log using the System Logs:
 - a) From the **Administration** menu, select **Operations > System > Logs**.
 - b) On the System Logs page, under **Application Logs**, click **archive.log**.

The Archive Log pop-up window displays the archive.log information.

Archive Reporting

The Archive Status report has two sections:

- The values of all of the configuration parameters, along with the results of the archive run and the name of the backup set directory.
- The results of the archive for each table, including the name of the table, the expected and actual row counts, and the elapsed time for each table. The tables are sorted by the actual table names. If no data is eligible for archiving, the second section does not contain any table information.

The status report does not show error and exception information, which is shown in the archive log.

Status reporting uses the standard Sterling Integrator application programming interface to capture stdout and stderr to report results. Reporting does not capture results from the Command Line Adapter 2.

Work with Archived Business Process Data

Restore Archived Business Process Data

To restore archived business process data:

1. From the **Administration** menu, select **Operations > Archive Manager**.
2. On the Archive Manager page, under **Restore Manager**, next to **Manage Restoring Business Processes**, click **Go!**
3. On the Restore Manager page, enter the full path for the restore directory in the **Restore Directory** field. The restore directory stores archived data that you want to restore.
4. Click **Go!** to restore the data in Sterling Integrator.

View Restored Business Process Data

To view archived business process data restored in Sterling Integrator:

1. From the **Administration** menu, select **Business Processes > Monitor > Advanced Search > Business Processes**.
2. Under Search Location, select **Restore Tables**.
3. In the Business Process Monitor Advanced Search page, under **Search Location**, next to **Select the area to search from**, select the **Restore Tables** radio button.
4. In the Business Process Monitor Search (Restore) page, complete one of the following steps:
 - Click **Go!** at the bottom of the page to view all restored business process data.
 - Search for specific restored business process data. Indicate any combination of the following criteria and click **Go!:**
 - Process ID – Display data identified by the number assigned by Sterling Integrator when the business process ran.
 - Business Processes – Display data for business processes with names that contain the specified character or string.

- System Business Processes – Display data for Sterling Integrator system business processes with names that contain the specified character or string.
- State – Display data for business processes with a final state (that is, All, Completed, and Terminated) that corresponds to the specified state.
- Status – Display data for business processes with a final status (that is, All, Success, and Error) that corresponds to the specified status.
- Start date and time range – Display data for business processes run within the specified start dates and times.

Remove Restored Business Process Data

To remove business process data restored from archive tables:

1. From the **Administration** menu, select **Operations > Archive Manager**.
2. In the Archive Manager page, under **Restore Manager**, next to **Manage Restoring Business Processes**, click **Go!**
3. In the Restore Manager page, under **Cleanup**, next to **Clean restore** area, click **Go!**
4. When prompted with the message: Are you sure you want to clean the restore area?, click **OK**.

After cleaning the restore area, the following confirmation message is displayed:

Successfully completed cleaning the restore area.

Troubleshooting

If you have addressed the issues described in the topic *Before You Archive* on page 6 and the archiving or purging process did not appear to work properly, check for the following issues:

- From the **Administration** menu, select **Business Processes > Monitor > Central Search**.
 - In the Central Search page, under Search Options, next to Business Process box, enter `Schedule_BackupService` and click **Go!**
 - In the Central Search Results page, click the business process that matches your search. Verify that `Schedule_BackupService` business process completed successfully. `Schedule_BackupService` must run for data to be removed from the live database tables.
- From the **Administration** menu, select **Deployment > Schedules**.
 - In the Schedules page, under Search, next to **by Name:**, enter `IndexBusinessProcessService` and click **Go!**.
 - Verify that the default time for this service to run is every ten minutes.
- From the **Administration** menu, select **Business Processes > Monitor > Central Search**.
 - In the Central Search page, under **Search Options** , next to the **Business Process** box, enter `Schedule_IndexBusinessProcess` and click **Go!**.
 - In the Central Search Results page, click the business process that matches your search. Verify that `Schedule_IndexBusinessProcess` business process completed successfully. `Schedule_IndexBusinessProcess` must run to set the expiry dates for completed business processes.
- From the **Administration** menu, select **Business Processes > Monitor > Advanced Search > Business Processes**.
 - In the Business Process Monitor Advanced Search page, under **Search Location** , next to **Select the area to search from** , select **Live Tables** .
 - Perform the following tasks under **Search Using Business Process Name:**
 1. Select **ALL** for Business Processes, System Business Processes, State, and Status.
 2. Set the Start Date and End Date to include business processes that should have been archived according to the default value set in the Archive Manager configuration.
 3. Click **Go!**
 4. In the Monitor page, under the **Expires** column, click **Info** for the business process archive schedule information.

5. In the Business Process Expiration pop-up window that is displayed, verify that the business process is scheduled for archive. If the information is not displayed or if it reflects a past date, the business process has not been configured for archiving. You must terminate the business process manually, configure the archive settings, and then run the business process again.
- Check the archive log for errors.

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