Unit 4: SYSTEM HEALTH

This unit describes the system troubleshoot, monitor, and diagnostic tools in Sterling B2B Integrator troubleshoot. Also provides steps to maintain the system health the business process.

LESSON 4.1: Troubleshooter

What this lesson is about

This lesson introduces you to the Sterling B2B Integrator system troubleshooter utility. The troubleshooter is a graphical interface to system performance indicators. This lesson covers the components that are provided by the troubleshooter and the operator panel.

What you should be able to do

After completing this lesson, you should be able to:

- View database usage, services, and pools.
- View business process Queue, Usage statistics, and State information.
- Resume, restart, or terminate a business process.
- View system classpath and JNDI tree information.
- View the cleanup process.
- View environment statistics, including cache and memory used.
- View Remote Perimeter Server information if present.
- View Troubleshooter information about Sterling B2B Integrator cluster nodes.
- Monitor node information and threads with Cluster Monitor.

How you will check your progress

- The progress of the lesson is analyzed based on the successful application of the topics in the scenario and test the exercise independently.

References

Documentation

- Monitoring Operations:

  https://www.ibm.com/support/knowledgecenter/en/SS3JSW_5.2.0/com.ibm.help.performance_mgmt.doc/SIPM_MO_Overview.html

Troubleshooter Overview

Overview

The Troubleshooter tool is a graphical utility for monitoring system operation and diagnosing Sterling B2B Integrator system problems. Troubleshooter allows to view the system information about different nodes in a clustered environment, including DB usage and services, business process queue and usage information, and environment statistics.

Use the System Troubleshooter page to review system information and to start troubleshooting system issues in Sterling B2B Integrator.

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Troubleshooter Overview

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Select Node

The select node list allows to select a node in a clustered environment, triggering which node information to display in the System troubleshooting page.

Example

If you have two nodes in a cluster, Node 1 and Node 2 and you want to view the System troubleshooting page for Node 2, select Node 2 from the list and the System troubleshooting page for Node 2 displays. If you want to view Node 1 information, select Node 1 from the list and the system statistics and troubleshooting information for Node 1 displays.

Note

The Select Node list displays only if you are working in a clustered environment. Your selection mandates which node information displays in the remainder of the System troubleshooting page.

System Troubleshooting - System Status

System Status Overview

The System Status area shows the following information:

Option	Description
Stop the System	Stops the whole Sterling B2B Integrator cluster by using the script. After that, you still need to call the hardstop script to stop the whole system.
Select Node	The Select Node list is displayed only if you are working in a clustered environment. Displays the selected node information in the rest of the System troubleshooting page.
Host Information	The Host information displays the following information: Start time Uptime Host Location State Memory available Active threads
Classpath	Displays the Sterling B2B Integrator classpath.
JNDI Tree	Displays the JNDI tree in Sterling B2B Integrator.
Soft Stop	Stops a node of Sterling B2B Integrator by using the script interactively through the UI.
Database Usage	Displays the database space usage, database services (business process eligibility for archive, index, and purge), and environment pool usage.

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System Troubleshooting - System Status

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System Status Overview

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Option	Description
Business Process Queue Usage	Displays business process queue usage statistics such as cache disk usage, cache memory usage, queue statistics, and cache statistics.
Business Process Usage	Displays count of business processes by its state.
Cache Usage	Displays size and hit rate for object caches.
Threads	Displays active processes at a thread level.
Clean-Up Processes Monitor	Displays the time since the archive, index, purge, and recovery tasks were completed.
Controllers	The state and name of each controller or server in the Sterling B2B Integrator installation.
Adapters	Displays list of all the adapters in the system and their status.
Perimeter Server Status	The Perimeter Servers area displays the following information: Cluster node name (in a clustered environment only) Whether the perimeter server is on or off State, either enable or disable Name of the perimeter server Last activity

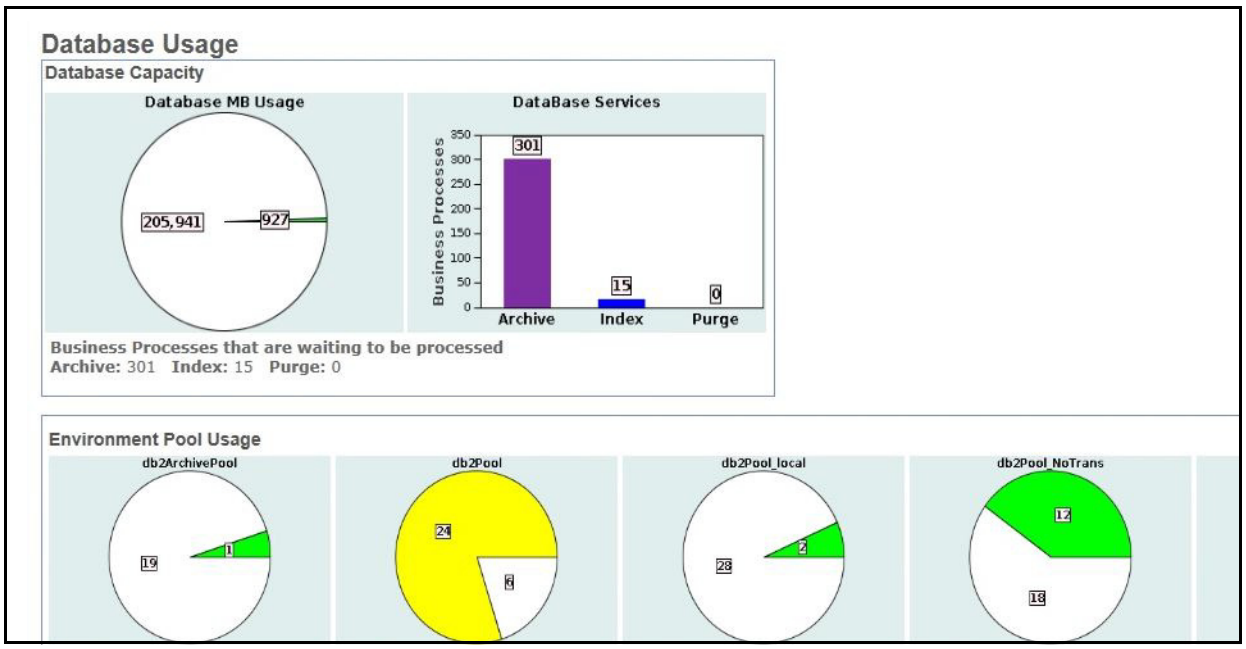
Note

System status information is collected and reported in real time. To view the most current system status, click **Refresh Status.**

Database Usage

Viewing Database Usage

To view database usage statistics, click **Database Usage** in System Troubleshooting page. The top of the Database Usage page shows the Database Capacity statistics, as shown in the screen capture:



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Database Usage

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Viewing Database Usage ....(Continued)

The Database Usage page includes information about the:

- Database Capacity
  - Database MB Usage - Size of the DB and the amount of the DB space that is used in megabytes.
    - Green indicates normal range
    - yellow is a warning
    - red is critical

Note

If the DB is set to auto-extend the reading can be 99% full all of the time, as it grows incrementally until allocated disk space is exceeded.

  - Database Services - Number of business processes that are waiting to be archived, indexed, or purged.
  - Environmental Pool Usage

Sterling B2B Integrator uses pools to store database connections. The bottom portion of the Database Usage page shows Environmental Pool Usage information. The database portion of the pool names changes depending on the database you are using.

- Database Access Test (runs whenever DB Usage screen is accessed)
  - Average Insert Time - Time the Database Access test took to test the number of database inserts indicated. This value must be monitored over time.
  - Number Inserts - Number that is performed to the database in the test. You can change the value in the dbAccessLoopCnt property in the install_dir/properties/ui.properties.in file and then run the script.
  - Insert Size - Size of inserts to the database that were used in the test. You can change the value in the dbAccessDataSize property in the install_dir/properties/ui.properties.in file and then run the script.

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Database Usage

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Viewing Database Usage

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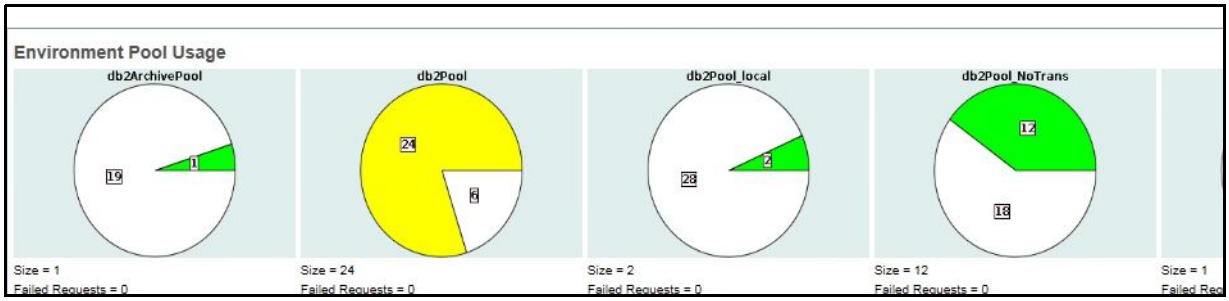
Example

The database is db2, you see db2Pool, as shown in the following figure.



Size is number of connections currently in the pool (not necessarily the max pool size). Failed Requests is the number of requests that must wait for a pool connection. If the pool is at max connections (as defined in tuning.properties) and Failed Requests is greater than zero, then pool size needs to be increased or Sterling B2B Integrator performance suffers.

To change pool settings:

1. Run the Performance Tuning Utility or manually edit the properties files.
2. Run the script.
3. Restart the system.

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Database Usage

(Continued)

Viewing Database Usage

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The following pool settings are found in jdbc.properties. Pools DB2Pool and DB2Pool_NoTrans are dynamic variables that are linked to tuning.properties.

Pool	Description
DB2UIPool	User interface connections
DB2Pool_NoTrans	Non-transactional pool connections - MAX_NONTRANS_POOL as defined in tuning.properties
DB2Pool_local	jdbc.properties
DB2Pool	Transactional pool connections - MAX_TRANS_POOL as defined in tuning.properties
DB2ArchivePool	jdbc.properties

Exercise 4.1.1: Pool Connections

Introduction

Alice adds a database pool connection in the Sterling B2B Integrator environment.

This activity is good rwhen users are building a business process to access information that is stored in the database. The benefit to your environment is to reduce resource contention and decrease the amount of database failed request. Also, the system is not competing for resources that are used internally by the Sterling B2B Integrator software.

This exercise includes the following tasks:

- Using the Resource Manager to import a code list.
- Review the imported code list.
- Adding a pool connection to the system by editing the jdbc_customer.properties.in and running .
- Creating a Lightweight JDBC adapter service configuration with the new pool connection.
- Creating a business process includes a Lightweight JDBC adapter and an Assign service.

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Exercise 4.1.1: Pool Connections

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Managing Resources

In Sterling B2B Integrator, resources are files, templates, and documents that are deployed in Sterling B2B Integrator to test various actions. Sterling B2B Integrator enables to import and export resources, which can save time and increase the accuracy of duplicating resources on various Sterling B2B Integrator systems that are set up for unique purposes. Specifically, the Import and export options enable to import resources from:

- A Sterling B2B Integrator test environment to a Sterling B2B Integrator production environment
- One Sterling B2B Integrator system to another

Note

To import and export resources from one Sterling B2B Integrator environment to another, both the environments can be in same version. The resources can be imported from lower version environment to higher version environment but from higher version environment to lower version environment is not compatible.

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Exercise 4.1.1: Pool Connections

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Managing Resources

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You can import and export the following resource types:

■ Accounts	■ Application Configurations (only SAP)
■ Business Processes	■ Communities
■ ebXML Specifications	■ Maps
■ Mailboxes	■ PGP Profiles
■ Perimeter Servers	■ Report Configurations
■ Schedules	■ XML Schemas
■ Service Configurations	■ Trading Partner Data
■ Web Resources	■ WSDL
■ Web Templates	■ XSLTs

Instructions

Importing Information into the Database

Complete the following steps to import data into database:

Step 1: From the web browser, access **http://192.168.40.100:9000/dashboard** URL by specifying **admin** for User ID and **password** for Password.

Step 2: Click **Sign In**.

Step 3: From the **Administration Menu**, click **Deployment** > **Resource Manager** > **Import/Export**.

Step 4: In the Import/Export Resources page, under Import, next to the Import Resources, click **Go!**.

Step 5: In the **Import Resources: Import File** page, browse to the **Lab Files** and select **swift_code_list.xml**. Leave the blank and click **Next**.

Step 6: Click **Next**, do not create resource tag.

Step 7: Click **Yes** to update object in database, click **Next**.

Step 8: Move **all six** items to the bottom window and click **Next**.

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Exercise 4.1.1:Pool Connections

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Instructions

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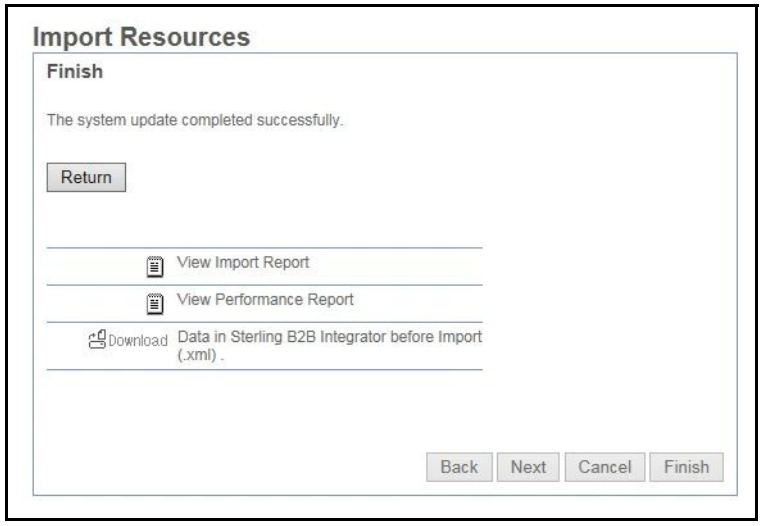
Step 9: Verify confirmation details and click **Finish**. Import Resource page is displayed as shown in the screen capture.



Step 10: Click **Return**.

Exercise 4.1.1: Pool Connections

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Instructions

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Verify Code List Information

Step 1: From the **Administration Menu**, click **Trading Partner** > **Code Lists**.

Step 2: Select **Search by Code List Name** and enter **SWIFT_Currencies**, click **GO!**

Step 3: Select **Source Manager**.

Step 4: Select **edit**, and view the code list of 190 currencies with Sender Code and Receiver code details.

Adding a New Pool Connection

Step 1: From the windows image, click **FileZilla** tool.

Step 2: Click the arrow next to **QuickConnect**.

Step 3: Select **sftp://root@192.168.40.100** to connect to the server system.

Step 4: From Remote site panel access **/opt/IBM/SterlingIntegrator/install/properties**

Step 5: Upload the **jdbc_customer.properties.in** file from c:\6F89G\Labfiles folder into **/opt/IBM/SterlingIntegrator/install/properties.**

Important

To simplify the exercise steps, in creating a new pool. The connection jdbc_customer.properties.in is edited and stored in the C:\6F89G\Labfiles folder. The edited steps are provided in the bullet point after this point.
You need to follow Step 6 to continue with the exercise.

Adding a New Pool Connection

The jdbc_customer.properties.in file is edited with following steps.

Note

Do not perform this step, It is a procedure only.

- Open jdbc_customer.properties.in file in Notepad++ tool.
- You must **copy a block of parameters**, locate the pool settings for. db2Pool.
- Highlight the entire block of setting and copy.
- Paste the db2Pool settings into the **jdbc_customer.properties.in** file in editor tool.

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Exercise 4.1.1: Pool Connections

(Continued)

Instructions

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Adding a New Pool Connection.

- Select Ctrl + H to replace db2Pool with jdbcService.db2PoolAT. After edit the file must match the screen capture.

```
db2PoolAT.driver=COM.ibm.db2.jdbc.net.DB2Driver
db2PoolAT.driver=com.ibm.db2.jcc.DB2Driver
db2PoolAT.url=jdbc:db2://&DB2_HOST;:&DB2_PORT;/&DB2_DATA;
db2PoolAT.catalog=&DB2_DATA;
db2PoolAT.dbname=&DB2_DATA;
db2PoolAT.varDataClassName=com.sterlingcommerce.woodstock.util.frame.jdbc.DB2VarData
db2PoolAT.user=&DB2_USER;
db2PoolAT.password=&DB2_PASS;
db2PoolAT.maxconn=20;
db2PoolAT.schema=&DB_SCHEMA_OWNER;
db2PoolAT.schema=&DB2_USER;
db2PoolAT.storedProcClassName=com.sterlingcommerce.woodstock.util.frame.jdbc.SybaseStore
db2PoolAT.testOnReserve=true
db2PoolAT.testOnReserveQuery=SELECT PRODUCT_LABEL from DB2INST1.SI_VERSION where PRODUCT
db2PoolAT.testOnReserveInterval=60000
db2PoolAT.maxRetries=100
db2PoolAT.blobPageSize=1024000
db2PoolAT.compressBlob=true
useNewStateAndStatusLogic=true
#db2PoolAT.cacheps=true
#db2PoolAT.cacheps=true
db2PoolAT.dbvendor=db2
db2PoolAT.buffersize=500
db2PoolAT.maxsize=&MAX_TRANS_POOL;
db2PoolAT.initsize=&MIN_TRANS_POOL;
db2PoolAT.factory=com.sterlingcommerce.woodstock.util.frame.jdbc.ConnectionFactory
db2PoolAT.behaviour=2
db2PoolAT.lifespan=0
db2PoolAT.idletimeout=86400000
```

- In the customer_overrides.properties file, edit **db2PoolAT.testOnReserveQuery** parameter adds the schema to the table used in the query. The modified query is as follows.

  `SELECT PRODUCT_LABEL from DB2INST1.SI_VERSION where PRODUCT_LABEL =?`

- Remove the comment for the **db2PoolAT.maxconn** parameter.
- Save the file. The procedure is completed.

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Exercise 4.1.1: Pool Connections

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Instructions

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Adding a New Pool Connection

Step 6: From the PuTTy window, change directory to **/opt/IBM/SterlingIntegrator/install/bin** directory to shut down the system by hardstop command.

```
./hardstop.sh
```

Step 7: Click **Enter**.

Step 8: Enter **./setupfiles.sh** and click **Enter**.

Step 9: Enter **./run.sh** to start the server and click **Enter**.

Step 10: Enter **password** for Passphrase.

Step 11: Click **Enter**.

Step 1: From the web browser, access **http://192.168.40.100:9000/dashboard** URL, by specifying **admin** for UserID and **password** for Password.

Step 2: Click **Sign In**.

Step 3: In the **Administration Menu**, select **Operations** > **System** > **Troubleshooter**.

Step 4: Under System Status page, click **Database Usage** link. Click **OK** to proceed.

Step 5: Under **Environment Pool Usage**, you can view the created **db2PoolAT** pool.

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Exercise 4.1.1: Pool Connections

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Instructions

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Creating the Lightweight JDBC Adapter Service Configuration

Step 6: In the **Administration Menu**, select **Deployment** > **Service** > **Configuration**.

Step 7: In the Create section, next to New Services, click **Go!**.

Step 8: In the Service Configuration: Select Service Type page, type **Lightweight JDBC Adapter** and click **Next**.

Step 9: In the Services Configuration: Name page, complete the fields that are listed in the following table by using the parameters that are given and click **Next**.

Field	Value
Name	AT_pool
Description	db2AT pool
Select a group	None

Step 10: In the Service Configuration: AT_pool: Properties page, select **This Lightweight JDBC Adapter will not start a new business process** and click **Next** two times.

Step 11: In the Services Configuration: AT_pool: Properties: Parameters page, complete the fields that are listed in the following table for the parameters given:

Field	Value
Pool Name	db2PoolAT
XML Results Root Tag	ATDocument
XMLResults Row Tag	ATQuery
Query Type	Select
SQL Statement	Select

Step 12: Click **Next**.

Step 13: Verify that the service is enabled for the business processes and click **Finish**.

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Exercise 4.1.1: Pool Connections

(Continued)

Instructions

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Creating a Business Process to Extract Data Records

Step 1: In the **Administration Menu**, select **Business Processes** > **Manager**.

Step 2: In the Run Graphical Process Modeler section, click **Go!**.

Note

Click Allow and continue to allow blocked note in popup screen.

Step 3: Click **Run**.

Step 4: Enter **admin** for User ID and **password** for Password.

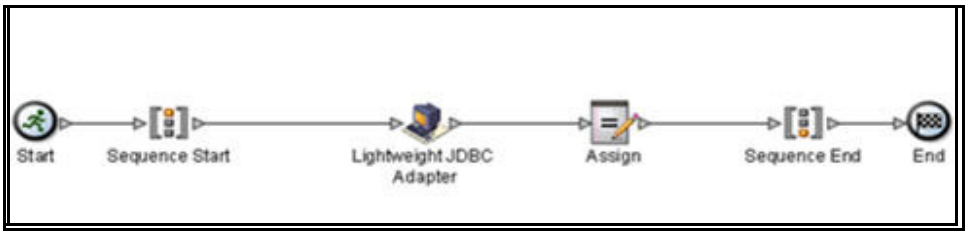
Step 5: Select **View** > **Refresh Services**.

Step 6: Select **File** > **New**.

Step 7: Move the following stencils to your workspace:

Start (1)
End (1)
Sequence Start (1)
Sequence End (1)
Lightweight JDBC Adapter (1)
Assign (1)

Step 8: Arrange and connect the stencils as shown in the following illustration:



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Exercise 4.1.1: Pool Connections

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Instructions

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Creating a Business Process to Extract Data Records

Step 9: Open the Properties Editor for the Lightweight JDBC Adapter and select **AT_pool** for the configuration. Complete the fields in the following table by using the parameters that are given:

Note

To override service configuration, select Options > Preferences > Service Editor tab. Check Override Service Configuration Values check box.

Field	Value
param1	SWIFT_Currencies
paramtype1	String
row_name	ATQuery
sql	select * from CODELIST_XREF_ITEM where list_name = ?
InitialWorkFlowID	[Not Applicable]
pool	db2PoolAT
StartNewWorkFlow	This Lightweight JDBC Adapter will not start a new business process
result_name	ATDocument

Note

The Lightweight JDBC Adapter extracts data records from the SWIFT_Currencies code list and create an XML formatted primary document.

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Exercise 4.1.1: Pool Connections

(Continued)

Instructions

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Creating a Business Process to Extract Data Records

Step 10: Click the Assign stencil. In the Property Editor – Assign pane, complete the fields that are listed in the following table for the parameters given:

Field	Value
From	DocToDOM
To	Temproot

Note

This assign service moves the Primary Document into Process Data.

Step 11: Save the business process with the name **AT_db2AT**. Save the business process in **C:\6F89G\Labfiles** folder.

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Exercise 4.1.1: Pool Connections

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Instructions

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Check In and Test the Business Process

Step 1: In the **Administration Menu** and chose **Business Process** > **Manager**.

Step 2: In the **Create** section, next to Process Definition, click **Go!**

Step 3: In the Editor: Process Name dialog box, complete the fields in the following table for the parameters given:

Field	Value
Name	AT_db2ATPool Process
Check in Business Process created by the Graphical Modeling Tool	Select

Step 4: Click **Next**. The Check-in-page appears.

Step 5: Browse and open **AT_db2AT.bp**.

Step 6: In the Description text box, type **Using the db2AT pool** and click **Next**.

Step 7: Use the **default setting for the remaining parameters**. Verify that the Business Process is enabled when you click **Finish**.

Testing the Business Process

Step 1: From the **Administration Menu,** select **Business Process** > **Manager**.

Step 2: From the Business Process manager screen, search for the **AT_db2ATpool** business process.

Step 3: Click **execution manager** when you get the results screen.

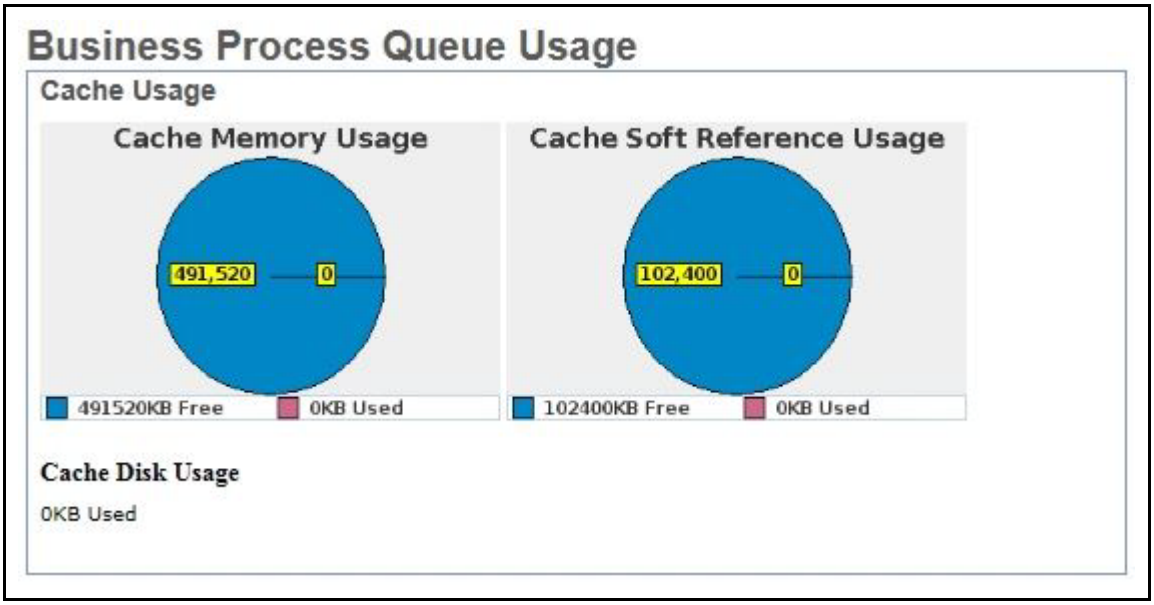
Step 4: Click **execute** in the execution manager screen.

Step 5: Click **Go!**. Observe the separate Execute Business Process window, while the business process runs.

Business Process Queue Usage

View Business Process Queue Usage

The Business Process Queue Usage page allows to diagnose problems with business process queues. To view the business process usage statistics, click **Business Process Queue Statistics** in System Troubleshooting -page. The top of the Business Process Queue Usage page shows the Cache Usage as shown in the following screen capture:



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Business Process Queue Usage

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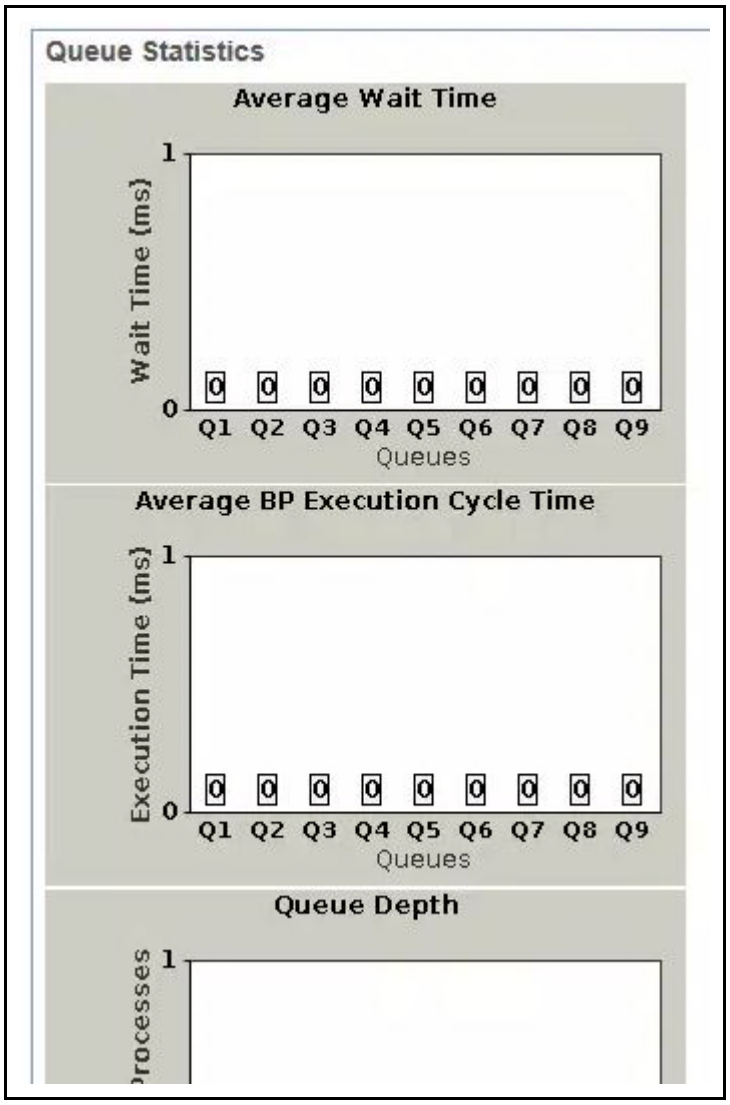
View Business Process Queue Usage ....(Continued)

The Queue Statistics is as shown in the following figure:



The Business Process Queue Usage page includes information about the:

- Cache Usage
  - The amount of memory available for cache and the amount consumed.
  - The amount of disk space available for cache and the amount consumed.

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Business Process Queue Usage

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View Business Process Queue Usage ....(Continued)

- Queue Statistics
  - The Average Wait Time for business processes per queue.
  - The average business process execution cycle time, which includes the execution times of several steps. It captures the average time that business processes are active on threads before rescheduled. The number of business processes in each queue.
  - Number of business processes within the data size ranges that are processed.
  - The number of business processes that ran without being cached and the number that are currently in cache. BP Queue Usage - Queue Statistics
  - The number of business processes in queues.

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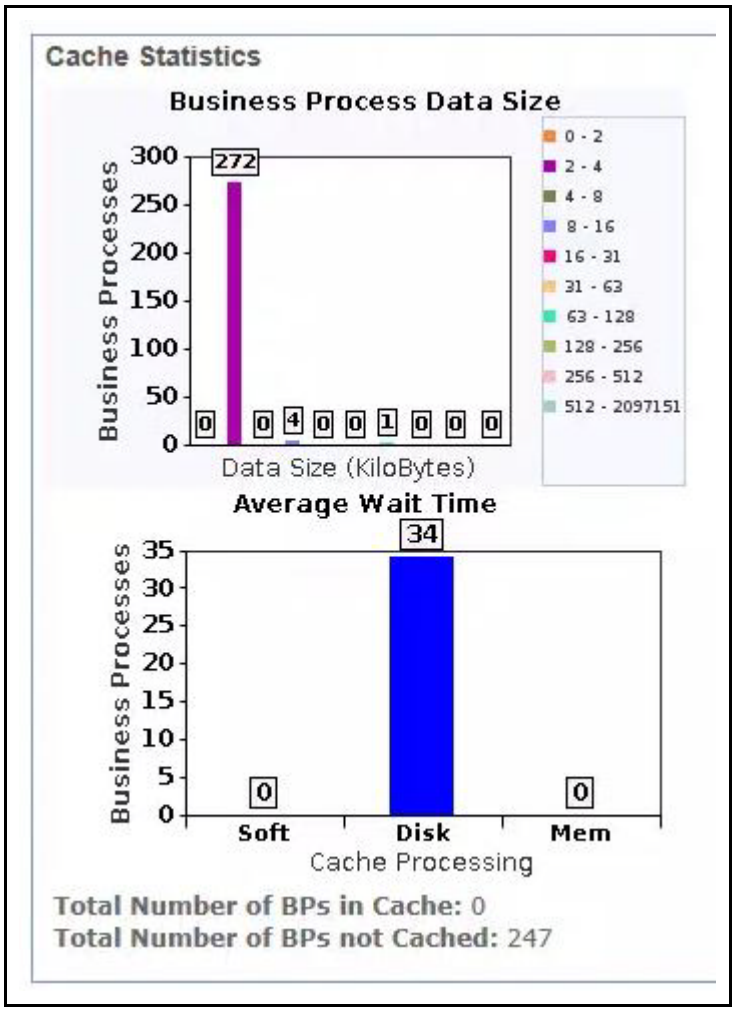
Business Process Queue Usage

(Continued)

View Business Process Queue Usage ....(Continued)

- Cache Statistics

  The Sterling B2B Integrator scheduler access three main context cache locations to speed up processing. Statistics for these three cache locations are reported on the Business Process Usage page under Cache Statistics, as shown in the following screen capture:



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Business Process Queue Usage

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View Business Process Queue Usage ....(Continued)

This Business Process Queue Usage page allows to determine the:

- Number of business processes within the data size ranges that are processed.
- Number of business processes that ran without being cached and the number that are currently in cache.
- Cache location so that you can determine the number of business processes that were found in the Soft Reference Cache, Memory Cache, and Disk Cache.
  - Soft Reference Cache: A soft reference is a kind of Java reference that tells the JVM to “keep this object around you can.” The JVM reclaims these objects if it is running out of memory.
  - Memory Cache: Fixed size memory cache for small objects
  - Disk Cache: On-disk cache with asynchronous deletion

    Processing occurs fastest if the context data retrieved can be found in Soft Reference Cache, followed by Memory Cache and is slowest if it is necessary to retrieve it from Disk Cache.

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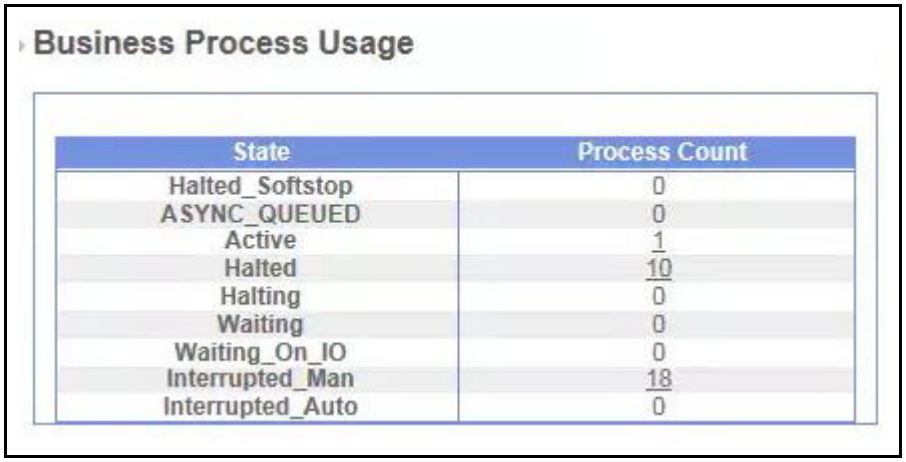
Business Process Usage

View Business Process Usage

To see business processes in various states, click BP Usage to access the following Business Process Usage table.The page provides the information about the following business process states.

- ASYNC_QUEUED
- Active
- Halting
- Waiting
- Waiting_On_IO
- Interrupted_Man
- Interrupted_Auto



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Business Process Usage

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View Business Process Usage ....(Continued)

You can click a Process Count number to see all business processes in that state and control business process execution.

Choices for active status are restart, stop, and expedite. Choices for interrupted status are resume, restart, and terminate.

Business Process Issues

You can find that the number of business processes in a halting, halted, waiting, or interrupted state increases. These states indicate that either performance is inadequate and corrective action is required, or you have business processes that have errors and need manual attention. Symptoms of an increasing number of business processes in a halting, halted, waiting, or interrupted state includes:

- Slows system performance
- Database getting full or having performance issues
- Business processes complete with errors, which places them in a halted state
- Business Process Usage report shows an increasing number of business processes in a halted, halting, waiting, or interrupted state

Resolve Business Process Issues

Halted, Halting, Waiting, or Interrupted business processes

In Sterling B2B Integrator, business processes that fail receive a state of halted. The failed business processes are not placed in a completed state, because if Sterling B2B Integrator gave a failed business process a state of completed, the failed business processes must be archived or purged without corrective action taken. Giving a failed business process a state of halted enables to take manual corrective action without the business process archived or purged.

- Halted or interrupted business processes: A business process in a Halting, Halted, Interrupted_Man, or Interrupted_Auto state requires immediate attention because the business process is stopped processing. In Sterling B2B Integrator, business processes remain in a halted or interrupted state until some action is taken on the business process.

  When you notice a halted or interrupted business process, you have two options:

  - Terminate the business process.
  - Restart the business process.
- Waiting business processes: A business process in a waiting state might not require immediate attention; the business process can write on a resource or a document from another business process.

 Note

If you notice numerous business processes in a waiting state, these states indicate a performance issue that requires attention.

When you notice a business process in a waiting state, you have three options:

- Allow the business process to remain in the waiting state if it is waiting on resources or a service or activity that is disabled, but is enabled
- Terminate the business process
- Restart the business process

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Resolve Business Process Issues

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Potential Causes of Halted, Waiting, or Interrupted Business Processes

Determining the cause of an increasing number of business processes in a halting, halted, waiting, or interrupted state might require you to investigate many areas of the system and how you are implementing Sterling B2B Integrator.

Causes of an increasing number of business processes in a halting, halted, waiting, or interrupted state includes:

- System, business process, or activity schedules are disabled.

Example

if a business process requires an output from, or access to, a different service or business process that is scheduled to work, but the schedule is not turned on, the places the business process in a halted or waiting state.

- System errors.

Example

Java, JVM, out of memory errors, or operating system errors might cause a business process to halt or be interrupted. Check your business process logs for causes of the halted or interrupted business processes. If the logs show JVM errors, Java errors, or operating system errors, review your operating system documentation for resolutions.

- Sterling B2B Integrator stops running.

Example

Your site experiences a power outage and you must restart Sterling B2B Integrator after power is restored. The business processes at the time of the power outage might be in halted, interrupted, or waiting states after the recovery operations run, depending on the activities completed at the time of the outage.

Determining the Cause of Halted, Waiting, or Interrupted Business Process

To determine the cause of an increasing number of business processes in a halting, halted, waiting, or interrupted state, review:

- The Business Process Usage report on the **Operations** > **System** > **Troubleshooting** page. This report shows the number of business processes in the different states. Click the number next to the state to view detailed information about the process.

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Resolve Business Process Issues

(Continued)

Determining the Cause of Halted, Waiting, or Interrupted Business Process

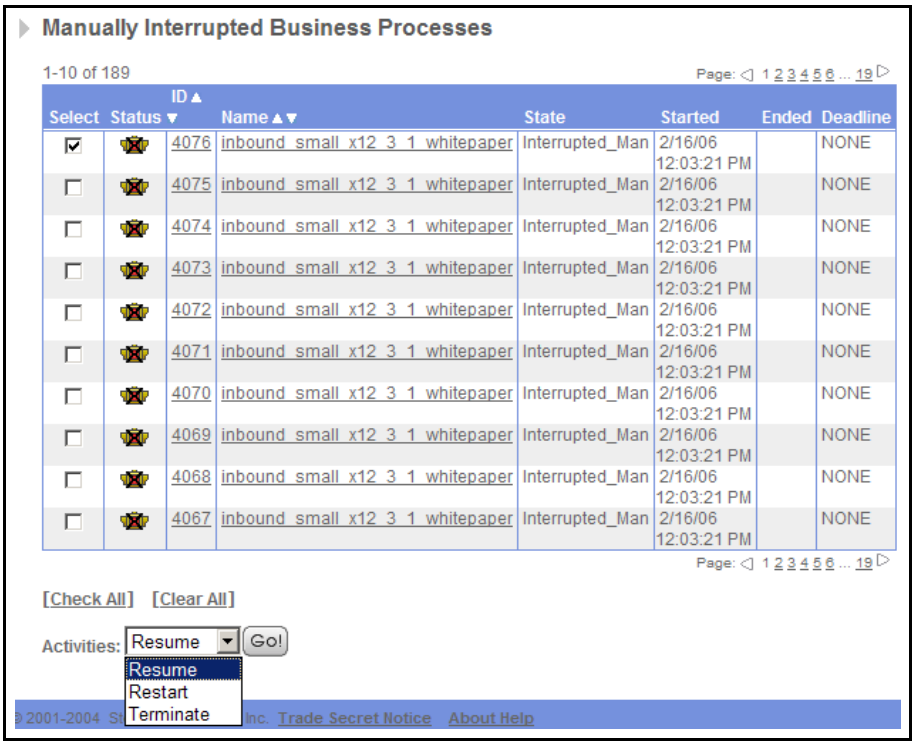
....(Continued)

- Appropriate system and business process schedules to verify that they are turned on.

Example

if you notice that many business processes are halting and each of these business processes depend on the schedule of another business process or service, this activity indicates that the scheduled business process or service might not be turned on.

- The Performance Statistics report for information that is related to the business process execution times. Increasing execution times for key business processes or activities indicate that a business process is not efficiently designed, or that a resource leak might occur.



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Classpath

Introduction

You can view the system classpath for debugging purposes and to verify whether third-party libraries are available in the classpath.

The classpath is an environment variable that tells the Java compiler javac.exe where to look for class files to import or java.exe where to find class files to interpret. Click classpath on the System Troubleshooting page in the System Status area. The screen capture lists few of the classpath of Sterling B2B Integrator application.

Note

Sometimes library conflicts where two different versions of the same package are installed and the wrong one is being used. Another problem is when an application is looking for a library and it is not in the path.

JNDI Tree

Introduction

You can view the system JNDI Tree for debugging purposes. Verify whether the expected resources.

Example

adapters or pool names, are in the JNDI tree. Click JNDI Tree on the System Troubleshooting page in the System Status area. The system JNDI Tree displays showing the JNDI name and class name pairs.

View a Node JNDI Tree in a Clustered Environment

You can view a specific node JNDI Tree for debugging purposes and to verify whether the expected resources, for example, adapters or pool names, are in the JNDI tree. This option is available only in a clustered environment.

In the System Status area, click node#, where # is the number of the node you want to view information about. The node JNDI Tree displays showing the JNDI name, class name pairs, and the node name as shown in the screen capture.

Clean-Up Processes Monitor

Clean-Up Processes Monitor

You can view how long the processes are available, since the completion of different cleanup processes, including archiving, purging, and indexing. This status helps you see on one screen whether these processes are running and completing.

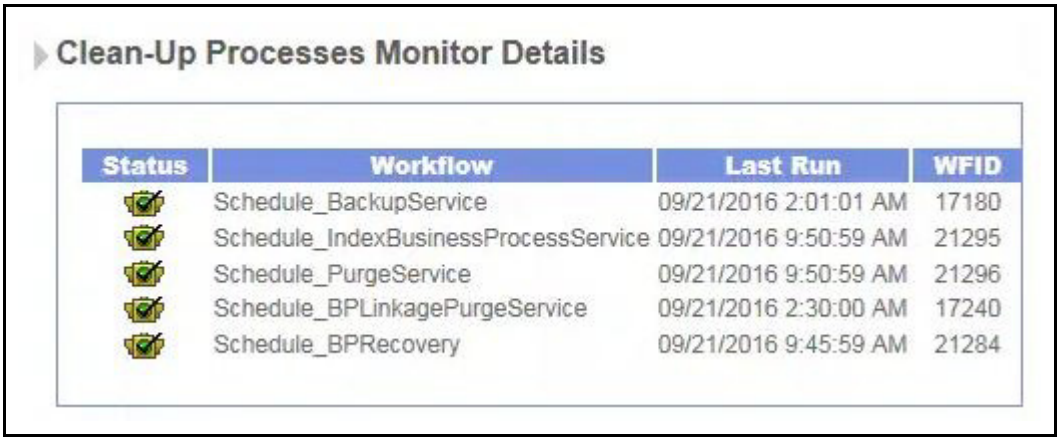
To view when a cleanup process is completed:

1. From the **Administration Menu**, select **Operations** > **System** > **Troubleshooter**.
2. In the **System Status** area, click **Clean-Up Processes Monitor**.

   The Clean-Up Processes Monitor Details window displays, showing the status, workflow (or cleanup process) name, the date, and time when the workflow was last run, and the workflow ID as shown in the screen capture.

   The Status column has the following values:

   - Red – More than four times the scheduled interval elapsed without a successful execution.
   - Yellow – More than three times the scheduled interval elapsed without a successful execution.
   - Green – The last scheduled instance that is completed successfully.
   - Gray – The process is never completed any scheduled instance or it is never scheduled.

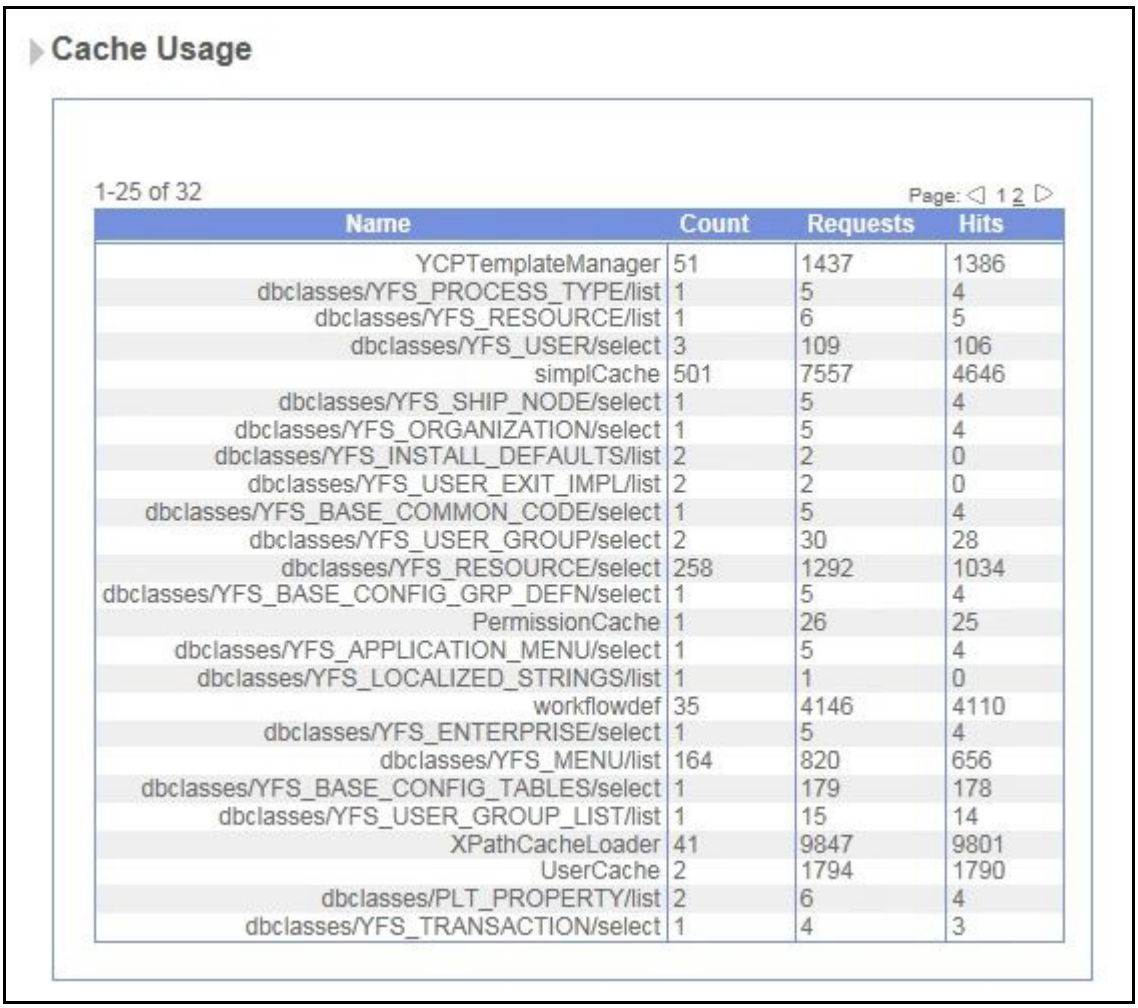


Cache Usage

Viewing Cache Usage

Sterling B2B Integrator uses caches to hold information that is frequently requested by the system. To change cache settings, see the Performance Tuning Utility. To view the cache usage statistics, in the Application Status area, click Cache Usage.

The Cache Usage report shows the following information for each cache type:



Name	Count	Requests	Hits
YCPTemplateManager	51	1437	1386
dbclasses/YFS_PROCESS_TYPE/list	1	5	4
dbclasses/YFS_RESOURCE/list	1	6	5
dbclasses/YFS_USER/select	3	109	106
simplCache	501	7557	4646
dbclasses/YFS_SHIP_NODE/select	1	5	4
dbclasses/YFS_ORGANIZATION/select	1	5	4
dbclasses/YFS_INSTALL_DEFAULTS/list	2	2	0
dbclasses/YFS_USER_EXIT_IMPL/list	2	2	0
dbclasses/YFS_BASE_COMMON_CODE/select	1	5	4
dbclasses/YFS_USER_GROUP/select	2	30	28
dbclasses/YFS_RESOURCE/select	258	1292	1034
dbclasses/YFS_BASE_CONFIG_GRP_DEFN/select	1	5	4
PermissionCache	1	26	25
dbclasses/YFS_APPLICATION_MENU/select	1	5	4
dbclasses/YFS_LOCALIZED_STRINGS/list	1	1	0
workflowdef	35	4146	4110
dbclasses/YFS_ENTERPRISE/select	1	5	4
dbclasses/YFS_MENU/list	164	820	656
dbclasses/YFS_BASE_CONFIG_TABLES/select	1	179	178
dbclasses/YFS_USER_GROUP_LIST/list	1	15	14
XPathCacheLoader	41	9847	9801
UserCache	2	1794	1790
dbclasses/PLT_PROPERTY/list	2	6	4
dbclasses/YFS_TRANSACTION/select	1	4	3

(Continued on next page)

Cache Usage

(Continued)

Viewing Cache Usage

....(Continued)

The Cache Usage page includes information about the:

- Cache name – Name of the cache
- Count – Number of objects in the cache
- Requests – Number of times an object was requested from the cache, regardless of success.
- Hits – Number of times an object was requested from the cache and found.

Note

The cache settings in tuning.properties for translation maps, Envelopes, and Other EDI affects the size of the corresponding cache areas here.

Resolutions for Inefficient Use of Cache

The following resolutions are for the inefficient use of cache, depending on the identified cause:

- Improperly Tuned Cache Performance Properties
- If you review the Cache Usage report and notice the number of requests that are increasing and the number of hits that are decreasing for the same cache, increase the cache values with the Performance Tuning Utility or manually increase the values in the install_dir/properties/cacheManager.properties file.
- Trade offs in increasing cache sizes include:
- Increasing the cache sizes too much can make the system no more effective than reading from the disk. Depending on your system and your configuration, you might need to adjust the cache settings to attain peak performance without losing the benefit of cache over disk.
- Increasing the cache sizes for items that are not used frequently can degrade performance because more resources are allocated to the caches, but are not being used.

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Cache Usage

(Continued)

Resolutions for Inefficient Use of Cache ....(Continued)

- High Cache Allocation for Less Frequently Used Large Objects

  If you review the Cache Usage report and notice the number of requests to a cache are low, you can be able to reduce the size of the cache values with the Performance Tuning Utility, or manually decrease the values in the install_dir/properties/cacheManager.properties.

  The low request number indicates that the objects in the cache are not used frequently with your business processes. Review the value for the cache property and reduce the cache size if the cache size is large.

  The trade-off in decreasing cache sizes is that decreasing the cache sizes too much can cause a reduced number of hits to the caches, which cause a call to the database for the data and increases the processing times.

  Depending on your system and your configuration, you might need to adjust the cache settings to attain peak performance without losing the benefit of cache over disk.

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Cache Usage

(Continued)

Resolutions for Inefficient Use of Cache ....(Continued)

- Low Cache Allocation for More Frequently Used Small Objects

  If you review the Cache Usage report and notice the number of requests to a cache are high and the number of hits to the cache are low, you might be able to increase the size of the cache values with the Performance Tuning Utility, or manually increase the values in the install_dir/properties/cacheManager.properties file.

  The high request number indicates that the objects in the cache are used frequently with your business processes.

  Review the value for the cache property and increase the cache size if the cache size is small. This activity is especially important for the smaller objects that are used frequently and are static in value. Cache retrieval is faster than disk or database retrieval.

  The trade-off in increasing cache sizes for smaller objects is that increasing the cache sizes too much can cause a reduced number of hits to the caches for other caches and objects.

  The call to the database for the data and increases the processing times. Depending on your system and your configuration, you might need to adjust the cache settings to attain peak performance without losing the benefit of cache over disk.

View Threads

Introduction

To view threads in Sterling B2B Integrator, in the Application Status area, click Threads.

The Threads report shows any threads on the system and their status.

(Continued on next page)

Controllers

Refreshing a Controller

You can refresh controllers in your environment with the System Troubleshooting page. To refresh a controller, in the Application Status area, next to the controller you want to refresh, click the refresh icon in the Refresh column.

The service controller can be refreshed when the configuration changes for a stateful adapter. The refresh must test all setup and initialization necessary for the adapter to function correctly.

If an adapter maintains a connection or connections to an end system, and the connectivity configuration changes, the refresh returns a false value to the service controller.

In this case, the service controller shuts down the adapter and then restarts it. This action prevents workflows from trying to start the adapter while connectivity changes are occurring. This method returns a Boolean value.

A true return indicates that the refresh that is completed successfully. A false return indicates that the adapter did not refresh, in which case the service controller shuts down the adapter and then restarts it.

Adapter Controllers

Introduction

You can view the adapters by its state that are currently active or stopped, to verify accuracy or to plan changes as needed.

Adapters can be enabled or disabled in the System Troubleshooting page. Clicking the adapter name displays its service settings, characteristics, and status details.

Perimeter Servers

Creating Perimeter Servers

You can follow the steps to create a new perimeter server:

1. Select Operations > Perimeter Servers from the Administration Menu. The Perimeter Servers page is displayed.
2. Click add to create a new perimeter server. The Perimeter Server Configuration page is displayed. The following table describes the fields in perimeter server configuration page.

Field	Description
Name	Name that you provided of the perimeter server to connect to.
Near End Configuration	
Interface Or IP	DNS name or IP address of the computer that you typed when you installed the perimeter server. Type * to allow Sterling Integrator to establish this value. This interface is used for the near end of the persistent connection to the perimeter server. Specify it only if your system has multiple interfaces and not all are able to connect to your DMZ. **Note**: Do not use in iSeries (OS/400) environments.

Note

The Near End Configuration fields are useful in environments involve firewalls with rules that are designed to allow specific IP addresses, ports, or both to create outbound connections. However, it is not allowed in iSeries (OS/400) environments.

(Continued on next page)

Perimeter Servers

(Continued)

Creating Perimeter Servers

....(Continued)

Field	Description
Local Port	Port number that you chose when you installed the perimeter server. Type 0 (zero) to allow Sterling Integrator to establish this value. This port is used for the near end of the persistent connection to the perimeter server. Specify a port other than 0 (zero) only if your firewall controls access to the DMZ based on the originating port. Specifying 0 (zero) allows Sterling B2B Integrator to choose any available port. **Note**: Do not use in iSeries (OS/400) environments.
Perimeter Server (far-end) is in less secure network zone	Check to enable the connection from Sterling Integrator to the perimeter server. To connect in the opposite direction, clear the checkbox.
Perimeter Server Host	DNS name or TCP/IP address of the computer that the remote perimeter server is installed on. If you specified an internal interface during your perimeter server installation, use that address here.
Perimeter Server Port	Port number that the remote perimeter server monitors for connections. is the port number that you specified during remote perimeter server installation.
Cluster Node	Node that is to be used with this perimeter server, if you are running in a clustered environment. If you are running in a clustered environment, you must select the node from the list.

(Continued on next page)

Perimeter Servers

(Continued)

Creating Perimeter Servers

....(Continued)

3. Clicking Next the **High/Low Watermark** page is displayed. The following table describes the fields in the High/Low Watermark page.

Field	Description
Inbound Connection	High: Highest inbound connection buffer size is the high watermark. When a trading partner sends data faster than Sterling Integrator can process. The excess data accumulates inside perimeter services in the inbound connection buffer. The buffer size reaches the High Inbound Connection value.The perimeter services stop receiving data for that connection until enough of excess data is processed by inbound connection buffer size drops to the Low Inbound Connection value. For example, if you set the High Inbound Connection value to 500 KB and the Low Inbound Connection value to 250 KB, perimeter services stop receiving data when the inbound connection buffer size reaches 500 KB and resumes receiving data when the inbound connection buffer size drops to 250 KB.
	Low: Lowest inbound connection buffer size is the low watermark.

Perimeter Servers

(Continued)

Creating Perimeter Servers

....(Continued)

4. Clicking Next the **High/Low Watermark** page is displayed. The following table describes the fields in the High/Low Watermark page.

Field	Description
Outbound Connection	High: Highest outbound connection buffer size is the high watermark. When Sterling Integrator sends data to a trading partner faster than the trading partner can receive it, the excess data accumulates inside perimeter services in the outbound connection buffer. The buffer size reaches the High Outbound Connection value, perimeter services stop sending data through that connection until enough of the excess data is sent that the outbound connection buffer size drops to the Low Outbound Connection value. For example, if you set the High Outbound Connection value to 500 KB and the Low Outbound Connection value to 250 KB, perimeter services stop sending data when the outbound connection buffer size reaches 500 KB and resumes sending data when the outbound connection buffer size drops to 250 KB.
	Low: Lowest outbound connection buffer size is the low watermark.

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Perimeter Servers

(Continued)

Creating Perimeter Servers ....(Continued)

5. Click Next and verify the perimeter server settings in the Confirm page.
6. Click the Finish to confirm the settings. The perimeter server is added to Sterling Integrator. You can now monitor the perimeter server by using the Troubleshooter page.

Note

The property settings for perimeter servers are stored in the Properties directory of the Sterling Integrator installation.

The following properties files are affected by the perimeter servers settings:

- perimeter.properties
- log.properties

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Perimeter Servers

(Continued)

Perimeter Server Status

To monitor the existing perimeter servers:

- Select the Operations > System > Troubleshooter from the Administration Menu. The System Troubleshooting page is displayed.
- Select the Perimeter Server Status link. The Perimeter Server window opens with the details of available perimeter servers.

The Perimeter Servers window displays the following information about the perimeter servers. If you are working in a clustered environment, the information that displays is mandated by the node you select from the Select Node list.

- Name of the cluster node that the perimeter server is associated - Cluster Node name (in a clustered environment only)
- State – Enabled or Disabled - Whether the perimeter server is on or off.
- Name of the perimeter server - Name of the perimeter server
- Last Activity - Date and time of the last activity the perimeter server used

View and Enable/Disable Perimeter Server

To enable a perimeter server, in the Perimeter Servers window, next to the perimeter server that you want to enable, in the On/Off column, select the checkbox. To disable the Perimeter server, clear the check box.

You can view the perimeter server settings to verify accuracy or to plan changes as needed. To view perimeter server settings, in the Name column, click the name of the perimeter server that you want to view.

 Note

The local or perimeter client/server is displayed in the Sterling B2B Integrator installation for this class and cannot be enabled, disabled, or viewed by using Troubleshooter. A true perimeter server or remote perimeter server must be installed to view its information.

System Troubleshooting - Databases Services

Introduction

If the Sterling B2B Integrator database is installed on this server, the Database Services area displays the following information.

- Host - Name of the host on which a database is installed.
- Location - Location or path of the database installation.
- State - State of the database, either active or inactive.

Important

The name for this area displays showing the name of the active database.

System Troubleshooting - RMIAPrime Services

Introduction

If RMIAPrime services are in use, the RMIAPrime Services area shows the following information:

- Host - Name of the host
- Location - Location or path to the RMIAPrime Service
- State - State of the RMIAPrime Service, either active or inactive

Important

These menus are not included in all Systems.

(Continued on next page)

Monitor Cluster Node Status

Node Status information

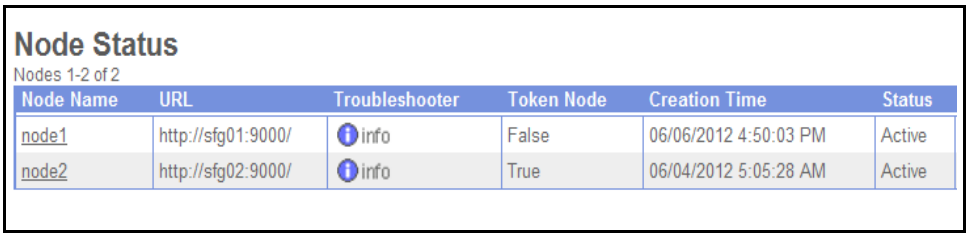
If you are working in a clustered environment, information is available about all the nodes in the cluster. The lab environment is of non-clustered environment.

To view node status information

From the Administration Menu, select Operations > System > Cluster > Node Status. The Node Status page shows the following information:

Note

Only in Cluster environment you will see this report.



The following table describes the Node Status page:

Column	Description
Name	Shows the name of the node. Click the name to view more details about the node.
URL	Shows the Uniform Resource Locator for the node.
Troubleshooter	Provides a link to the System Troubleshooter.

Monitor Cluster Node Status

(Continued)

Node Status information

Column	Description
Token Node	States whether it is the token node. Valid values include: True – is the token node. False – is not the token node.
Creation Time	Shows the date and time that the node was created.
Status	Shows the status of the node. Valid values include: Active – Node is working and available for processing Starting Ops – Node is starting up, but not available for processing Node went down – Node is not working and not available for processing

If a node went down, in the install_dir/bin directory of the node, run the hardstop.sh (UNIX) or hardstop.cmd (Windows) script and then run the run.sh (UNIX) or run.cmd (Windows) script. It stops all processing and restarts the node.

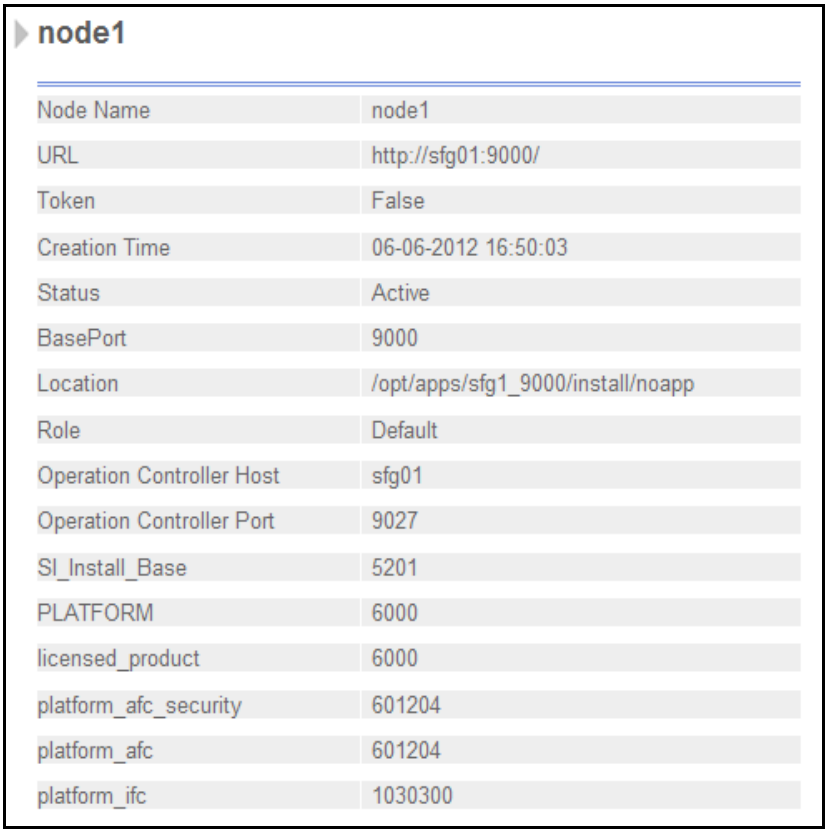
(Continued on next page)

Monitor Cluster Node Status

(Continued)

View Node Status Detail

To view more details about a node, click the Name of the node on the Node Status page. A page Appears that contain the information about the node, as shown in the following figure.



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Monitor Cluster Node Status

(Continued)

View Node Status Detail

....(Continued)

The following table describes some of the key detailed information for each node:

Information	Description
Location	Shows the directory path where the node is installed.
Role	States the role of the node.
Operation Controller Host	Shows the name of the server that is acting as the Operation Controller Host.
Operation Controller Port	Shows the port number for the Operation Controller.
Sterling B2B Integrator version	Shows which version of Sterling B2B Integrator is used for the node.
JVM Version	Shows the version number for the Java Virtual Machine.
JVM Vendor	Shows the vendor that provided the Java Virtual Machine.

Lesson review

What you have been able to do

After completing this lesson, you should have been able to:

- View Database Usage, Services, and Pools.
- View business process Queue, Usage statistics, and State information.
- Resume, restart, or terminate a business process.
- View system classpath and JNDI tree information.
- View the cleanup process.
- View environment statistics, including cache and memory used.
- View Remote Perimeter Server information if present.
- View Troubleshooter information about Sterling B2B Integrator cluster nodes.
- Monitor node information and threads with Cluster Monitor.

LESSON 4.2: Monitoring and Diagnostic Tools

What this lesson is about

This lesson introduces the procedures to gather information about the most useful Sterling B2B Integrator internal tools into one place and review to monitor and diagnose many performance and system problems with the Sterling B2B Integrator package.

What you should be able to do

After completing this lesson, you should be able to:

- Identify the most commonly used System Logs and their contents.
- Identify the most commonly used System Reports.
- Explain about Message Monitor to check messages.

How you will check your progress

- The progress of the lesson is analyzed based on the successful application of the topics in the scenario and test the exercise independently.

References

Documentation

- Managing System Logs:

  https://www.ibm.com/support/knowledgecenter/en/SS3JSW_5.2.0/com.ibm.help.performance_mgmt.doc/SIPM_MngSysLogs.html

Troubleshoot System Logs

Introduction

Sterling B2B Integrator has many components, including software applications, web servers, and database servers. To monitor the activities of each component, Sterling B2B Integrator generates log files.

Each operations server on a host has its own operations log file. Log files are created in the *install_dir*/logs directory (or, on Windows, the <*install-dir*>/logs directory). To prevent the system log files from taking up needed storage space and memory allocations, Sterling B2B Integrator generates a log file only when the component runs.

New log files are created every 24 hours, and normally at midnight. When the time changes to or from Daylight Saving Time, you must stop and restart Sterling B2B Integrator to create daily log files at the same time as before.

If the daily log file size limit is exceeded, another log file is created. If a pre-determined number of logs is exceeded, old logs are automatically deleted. If the interface links to a deleted log file (which displays a blank page), click a ink to a newer log file.

Important

If you are working in a clustered environment, the log information that displays is determined by the node you select from the Select Node list.

(Continued on next page)

Troubleshoot System Logs

(Continued)

Log File Naming Conventions

Use the following naming convention for a directory:

- UNIX - install_dir/logs/directory
- Windows - install-dir\logs\directory

In this convention:

- install_dir refers to the name of the installation directory.
- logs refer to the primary log directory.
- directory refers to the subdirectory created when you start Sterling B2B Integrator.

The log file is created ib LOGS_daymm_dd_yyyy_hhmmss format.

- LOGS identifies as log directory.
- daymm_dd_yyyy, it starts with the weekday, date in month, date, year format.
- hhmmss is the time in hours, minutes, seconds format.
- directory is the subdirectory created when you start Sterling B2B Integrator. All old log files are moved to the subdirectory for archiving.

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Troubleshoot System Logs

(Continued)

Log File Naming Conventions

....(Continued)

The naming convention for a log file is name.log.Dyyyymmdd.Thhmmss_#.

- name identifies the type of the log file.
- log is the file name extension, which indicates the type of file.
- Dyyyymmdd is the date in year, month, day format. The D at the beginning of the date means Date.
- Thhmmss is the time in hours, minutes, seconds format. The T at the beginning of the time means Time.
- _# is the increment of the log file. If attempt edto write a log file that exists, then _# is appended to the log file name, allowing to write the new file and save the integrity of the exiting file.

Example

If mylog.D20041101.T092022 exits and you save a new log file under the same name, the new file becomes mylog.D20041101.T092022_2, where the _2 indicates that it is the second in a sequence by using the same file name.

Important

The date and time additions in the naming convention might be part of the log file name. For example, noapp.log does not include the date and time information, but the ui.log.Dyyyymmdd.Thhmmss does include the date and time information.

When you start Sterling B2B Integrator, the install_dir/logs/log files are archived to a time-stamped subdirectory. When the archive is complete, Sterling B2B Integrator writes log files to the install_dir/logs directory again.

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Troubleshoot System Logs

(Continued)

Viewing Log File Contents

Note

If you are working in a clustered environment, the information that displays is mandated by the node you select from the Select Node list.

To view current log file contents in Sterling B2B Integrator:

1. From the Administration Menu, select Operations > System > Logs.
2. Select the appropriate log file. The log opens.

Note

The Sterling B2B Integrator interface displays only the last 2500 lines of a current log file. To view the entire log, you must have Read permission for the file system where Sterling B2B Integrator is located.

To view old log file contents in Sterling B2B Integrator:

1. In the install_dir/logs/log directory, locate the old log file that you want to view.
2. Open the log file in a text editor in read-only mode. The log contents display.

Analyzing Log File Contents

The contents of a log file can provide information about system activities and problems.

The format for entries that are written to a log file is:

YYYY-MM-DD HH:MM:SS.ss log level ‘message code’ Scope.Subsystem.Name ‘information string’.

In this format:

- YYYY-MM-DD is the date in year, month, day format.
- HH:MM:SS.ss is the time in hour, minutes, seconds format.

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Troubleshoot System Logs

(Continued)

Analyzing Log File Contents ....(Continued)

- Log level is the condition that is used to determine the type of information that is written to the log. The log level conditions are:
  - FATAL - Collects fatal and critical error information.
  - ERRORDTL - Collects only error conditions, with a detailed description of the error.
  - ERROR - Collects only error conditions such as exceptions and error messages
  - WARN - Collects non-fatal configuration messages.
  - SQLDEBUG - Collects SQL statements that are being run.
  - INFO - Collects basic operational information.
  - TIMER - Collects timing information.
  - COMMTRACE - Collects communication trace information.
  - DEBUG - Collects basic debugging statement including system state and code paths.
  - VERBOSE - Collects extra debugging statements (like XML information) that describe and explain what is happening in the system.
  - ALL - Collects information about all the conditions.

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Troubleshoot System Logs

(Continued)

Analyzing Log File Contents ....(Continued)

- Message code describes the activity or problem, by using the following format:
  - The first 4 digits specify the scope (like Work-flow, Ops, Util).
  - The next digit specifies the log severity level (default conventions use 1 for error/exception, 2 for Debug messages, 3 for Warnings and 4 for info/All messages).
  - The next 3 digits specify the subsystem (like Work-flow Queue or Work-flow Engine).
  - The last 4 digits specify the error number.
- Scope.Subsystem.Name is a text description of the affected part of Sterling B2B Integrator (like Workflow, Ops, Util); the Sterling B2B Integrator subsystem (like Workflow Queue or Work-flow Engine); and what occurred (Name)
- Information string is a brief description of the activity that occurred.

The following message is an example of this format:

```
[2012-05-30 11:06:55.661] ALL 000440020297
SERVICES.SERVICES_CONTROLLER.INFO_sdi_getName startup: loading
HTTP_SEND_ADAPTER
```

At 11:06:55.661 a.m. on May 30, 2012, Sterling B2B Integrator was started and attempted to load the HTTP Send adapter (HTTP_SEND_ADAPTER). The message also shows the scope (Services); the affected part of Sterling B2B Integrator (Services Controller); what occurred (INFO_sdi_getName); and the error code (0297).

(Continued on next page)

Troubleshoot System Logs

(Continued)

Changing Log Settings

You can control the logs in Sterling B2B Integrator by specifying settings for either the global or individual log types.

Changing Log Settings for a Global Log

You can change log settings globally by using the customer_overrides.properties file, which prevents customized property file changes from being overridden by updates or patches.

When you change the settings for the global log properties, you must follow the following format for each property:

```
logService.Property=Value
```

where the:

- logService identifies the log.properties file in the customer_overrides.properties file.
- Property is the global property of the log.properties file that you want to set.
- Value is the property setting of the log.properties file.

Example

defaultlog.maxnumlogs=15 – Sets the maximum number of the log type that is specified as the default log (systemlogger by default) to 15.
uilogger.maxnumlogs=20 – Sets the maximum number of UI type logs to 20.

(Continued on next page)

Troubleshoot System Logs

(Continued)

Changing Log Settings

....(Continued)

The following table provides the log type name for each log file name that is defined by default in the log.properties file. If you change the file name, use the original file name from the table to find the log type name.

File name of Log	Log type
alerterlogger.log	alerterlogger
archive.log	archivelogger
Authentication.log	AuthenticationLogger
cdinterop.log	cdinteroplogger
cdinterop_cdjava.log	cdinteropcdjavalogger
ceuinterop.log	ceulogger
common3splogger.log	common3splogger
corbadapter.log	corbadapter
datastore.log	datastore
delete.log	deletelogger
ebXML.log	ebXMLlogger
EDIINT.log	EDIINTLogger
event.log	event
ftp.log	ftplogger
ftpclient.log	psftpclientlogger

(Continued on next page)

Troubleshoot System Logs

(Continued)

Changing Log Settings

....(Continued)

File name of Log	Log type
http.log	httplogger
httpclient.log	httpclientlogger
jetty.log	jettylogger
lifecycle.log	lifecycleLogger
mailbox.log	mailboxlogger
mgmtdash.log	neo
noapp.log	noapplogger
oftp.log	oftplogger
ops_exe.log	opslogger
Perimeter.log	PSLogger
pipeline.log	pipelinelogger
report.log	reportlogger
resourcemonitor.log	resourcemonitorlogger
mif.log	rnlogger
sap.log	saplogger
schedule.log	schedulelogger
Security.log	SecurityLogger

(Continued on next page)

Troubleshoot System Logs

(Continued)

Changing Log Settings

....(Continued)

File name of Log	Log type
servicesctl.log	sclogger
sftpclient.log	sftpclientlogger
sftpserver.log	sftpserverlogger
si_exe.log	silogger
sql.log	sqllogger
SyncEngine.log	SyncEngineLogger
system.log	systemlogger
system.log	purgelogger
test.log	testlogger
tracking.log	tracking
txtrace.log	txtracelogger
ui.log	uilogger
ui_performance.log	ui_perf_logger
webdav.log	webdavlogger
WebSphereMQSuite.log	wsmqSuiteLogger
webx.log	webxlogger
wf.log	wflogger
wfexception.log	wfexception_logger
wfstatistics.log	wfstatistics

(Continued on next page)

Troubleshoot System Logs

(Continued)

Changing Log Settings ....(Continued)

To globally change the property file settings by using customer override property file:

1. In the install_dir/properties directory, locate (or create, if necessary) the customer_overrides.properties file.
2. Open the customer_overrides.properties file in a text editor.
3. Specify the settings for the global log properties with the following format: `logService.`*Property*`=`*Value*
4. Save and close the customer_overrides.properties file.
5. Stop and restart Sterling B2B Integrator to use the new values.

(Continued on next page)

Troubleshoot System Logs

(Continued)

Changing Log Settings

....(Continued)

Changing Log Settings for an Individual Log

For an individual log, you can specify the following information:

- Location of the log file
- The number of lines to the log file to be saved
- The number of details to log

The following table describes the options available to use when you configure the settings for an individual log type:

Note

If you are working in a clustered environment, the information that displays is mandated by the node you select from the Select Node list.

(Continued on next page)

Troubleshoot System Logs

(Continued)

Changing Log Settings ....(Continued)

Option	Description
Location	Specifies the absolute path for the log file.
Rollover Interval	If **newloggers** is set to false, specifies the point at which the oldest lines in the log file are deleted as new lines are created. If **newloggers** is set to true (default), is the maximum number of lines that are allowed in 50000 lines 100000 lines 150000 lines 200000 lines In this case, the term “lines” refers to logical lines (entries) and not to physical line.
Logging Level	Specifies the amount of detail to log. Choose one of the following values: On – set the logging level to **ALL**, which includes debugging (creates larger files) Off – set the logging level to **ERROR** (Default), which only logs errors (creates smaller files) Setting the logging level to **ALL** could generate an excessive amount of debugging information. You must lower the logging level after you have retrieved the debugging information you need.

(Continued on next page)

Troubleshoot System Logs

(Continued)

Changing Log Settings ....(Continued)

To change log settings for an individual log type:

1. From the Administration Menu, select Operations > System > Logs.
2. Click the icon next to the type of log for which you want to change the log settings.
3. On the Log Settings page, specify settings for the options.
4. Click Save.

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Troubleshoot System Logs

(Continued)

Log File Types

Note

In a clustered environment, the information that displays is mandated by the node you select from the Select Node list.

You can access the following log files through the Sterling B2B Integrator interface:

Log Type	Log Name	Description
Central Operations Server		
Operations Security	opsSecurity.log	Used by the security components. Indicates problems with startup, passwords, and passphrases.
Operations Server	ops.log	Used by the operations server.
	opsServer.log	Receives all log messages the operations servers generate at startup.
IBM® Sterling Gentran:Server® for UNIX		
Data Adapter		Logs activities of the Sterling Gentran:Server for UNIX adapter. You cannot turn logging on or off for Sterling Gentran:Server for UNIX data adapter. Note: The Sterling Gentran:Server for UNIX logs are displayed only if you have Sterling B2B Integrator configured for Sterling Gentran:Server for UNIX.

(Continued on next page)

Troubleshoot System Logs

(Continued)

Log File Types

....(Continued)

Log Type	Log Name	Description
Application Logs		
Adapter Server	servicesctl.log	Used by the service controller component.
Alerter	alerterlogger.log	Logs notification failures and Alert own errors in the Alert Service. When debug is turned on, it also logs all Alert information, such as all defined alerters and filters information.
Archive	archive.log	Used by the archive components.
Business Process Exceptions	wfexception.log	Tracks the exceptions that occur while a business process is running.
Business Process Execution	wf.log	Captures information specific to running a business process.
Business Process Policy Statistics	wfstatistics.log	Contains work-flow policy statistics generated by the work-flow scheduling policy. The actual content depends on the scheduling policy in place, but basically it contains XML time stamps followed by XML records.
Connect:Direct Server Adapter Protocol Layer	cdinterop_cdjava.log	Used by the Connect:Direct Server adapter.

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Troubleshoot System Logs

(Continued)

Log File Types

....(Continued)

Log Type	Log Name	Description
Connect:Direct Server and Requester Adapter and Services	cdinterop.log	Used by the Connect:Direct Server and Requester adapter with related services
Connect:Enterprise Server Adapter and Services	ceuinterop.log	Used by the Connect:Enterprise Server adapter.
Corba Adapter	corbaadapter.log	Used by the CORBA components.
Dashboard and Community Management	mgmtdash.log	Used by the Dashboard and Community Management components.
Datastore	datastore.log	Contains messages from any of the datastore components. Commonly used to isolate the cause of an abnormal system process termination.
Delete Resources	delete.log	Logs information about resources that have been deleted from Sterling B2B Integrator.
Document Tracking	tracking.log	Logs document tracking activities.
ebXML Business Process Execution	ebXML.log	Logs ebXML business process execution activities.
EDIINT AS1 and AS2	EDIINT.log	Used by the EDIINT components.

(Continued on next page)

Troubleshoot System Logs

(Continued)

Log File Types

....(Continued)

Log Type	Log Name	Description
Event Framework	event.log	Logs event framework activities for events completed in Sterling B2B Integrator.
FTP Client Adapter and Services	ftpclient.log	Used by the FTP Client Adapter and related services.
FTP Server	ftp.log	Used by the FTP server components.
G:Server UNIX Lifecycle	lifecycle.log	Used by the Gentran:Server for UNIX Lifecycle components when loading lifecycle records.
Gentran:Server for UNIX Lifecycle Purge Service	system.log	Used by the Gentran:Server for UNIX Lifecycle purge components when purging lifecycle records.
HTTP Client Adapter and Services	httpclient.log	Used by the HTTP Client Adapter and related services.
HTTP Server Adapter	http.log	Used by the HTTP Server Adapter.
Integrator Administration	ui.log	Used by the Sterling B2B Integrator interface.
Jetty HTTP Server	jetty.log	Used by the Jetty HTTP Server.
Log.ResourceMonitorLog	resourcemonitor.log	Used by the Resource Monitor.

(Continued on next page)

Troubleshoot System Logs

(Continued)

Log File Types

....(Continued)

Log Type	Log Name	Description
Mailboxing Subsystem	mailbox.log	Used by the mailbox components in Sterling B2B Integrator.
OFTP Administration	oftp.log	Logs OFTP administration activities.
Perimeter Services	Perimeter.log	Used by the perimeter servers components in Sterling B2B Integrator.
Pipeline	pipeline.log	Used by the pipeline components.
Report	report.log	Used by the reporting components.
RosettaNet Business Process Execution	rnif.log	Used by the RosettaNetTM components.
SAP Adapter Administration	sap.log	Used by the SAP® components.
Schedule	schedule.log	Logs scheduling activities.
Security	security.log	Used by the security components. Indicates problems with startup and component licensing.
SFTP Client Adapter and Services	sftpclient.log	Used by the SFTP Client adapter and related services.
SFTP Common Log	common3splogger.log	Logs SFTP security errors.
SFTP Server Adapter	sftpserver.log	Used by the SFTP Server adapter.

(Continued on next page)

Troubleshoot System Logs

(Continued)

Log File Types

....(Continued)

Log Type	Log Name	Description
SQL Manager	sql.log	Logs queries sent to the database by the SQL Query service.
SyncEngine Components	SyncEngine.log	Logs synchronization engine activities
System	system.log	Used as a general logging service, typically the default system log.
	noapp.log	Used on an application server independent system as a general activity log.
System Output/Error Redirect	noapp.log	Used to provide additional system log information.
Translation Trace Output	txtrace.log	Used as a logging service that helps with map debugging. This log contains debugging messages that show how the translator traversed the maps definition and how the translator matched each block of data against the map.
User Authentication	Authentication.log	Logs user authentication attempts and activities.
Web Extension	webx.log	Used by the Web Extensions components in Sterling B2B Integrator.

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Troubleshoot System Logs

(Continued)

Log File Types

....(Continued)

Log Type	Log Name	Description
WebSphereMQ Suite	WebSphereMQSuite.log	Used by the WebSphereMQ Suite Async Receiver adapter and related services.
Windows Service Sterling B2B Integrator log	si_exe.log	Log file created by the Sterling B2B Integrator Windows service.
Windows Service Ops log	ops_exe.log	Log file created by the Opserver Windows service.

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Troubleshoot System Logs

(Continued)

Log File Types

....(Continued)

The following table describes log files for Sterling B2B Integrator as a Windows service:

Log Name	Description
ScheduleBackup.log	Temporary file that is created when Sterling B2B Integrator Windows service stops.
Backuplogs.log	Temporary file created when Sterling B2B Integrator Windows service stops.
ScheduleStopOps.log	Temporary log file that can be ignored.

The following table describes log files for the DMZ perimeter server:

Log Name	Description
PSLogger.Dyyyymmdd.Thhmmss	Logs perimeter server information for the DMZ perimeter server.
StartupPS.log	Logs startup activities for the DMZ perimeter server.

System Reports

System Reports

The Sterling B2B Integrator Internal System Reports displays the following reports. To access the Sterling B2B Integrator Internal System Reports, from the Administration window select **Operations** > **Reports** > **List All**.

Category of Report	Report
adapterjvm	■ AdapterJVMReport
Admin Audit	■ AdminAuditByObjectType ■ AdminAuditByPrincipal
Authentication	■ AuthenticationByEndPoint1 ■ AuthenticationByPrincipal ■ AuthenticationByProtocol
Authorization	■ AuthorizationByPrincipal ■ AuthorizationByProtocol ■ AuthorizationByResourceType
Business Process Definition List	■ BPDefList_ByBPDefStatus ■ BPDefList_ByBPName
Business Process Detail	■ BPDetail_ByBasicStatus ■ BPDetail_ByBPName ■ BPDetail_ByState
DB Stats	■ dbstats - Displays BPs by name, number of runs, and status.
deprecationreport	■ DeprecationReport

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System Reports

(Continued)

System Reports

....(Continued)

Category of Report	Report
EDI Reports	■ EDIOutAck_GroupLevel_ByAckStatus ■ EDIOutAck_GroupLevel_BySenderReceiver ■ EDIOutAck_InterchangeLevel_ByAckStatus ■ EDIOutAck_InterchangeLevel_BySenderReceiver ■ EDITransDetail_GroupLevel_ByEnvelope ■ EDITransDetail_GroupLevel_BySenderReceiver ■ EDITransDetail_InterchangeLevel_ByEnvelope ■ EDITransDetail_InterchangeLevel_BySenderReceiver ■ EDITransDetail_TransacLevel_ByEnvelope ■ EDITransDetail_TransacLevel_BySenderReceiver
Map Lists	■ MapList_ByMapName ■ MapList_ByMapType
SystemDetails Logs	■ systemDetails_Logs
Traffic	■ TrafficByAdapter ■ TrafficByEndPoint1 ■ TrafficByProtocol
Traffic Summary	■ TrafficSummaryByAdapter ■ TrafficSummaryByEndPoint1 ■ TrafficSummaryByProtocol
Translation Service	■ TranslationService

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System Reports

(Continued)

System Reports ....(Continued)

Category of Report	Report
WFFactModel Detail	■ WFFactModelDetail BPAdvRes MIN ■ WFFactModelDetail BPAdvWait ■ WFFactModelDetail BPComp MIN ■ WFFactModelDetail BPCont ■ WFFactModelDetail BPContErr ■ WFFactModelDetail BPDeActRes MIN ■ WFFactModelDetail BPDeadline At ■ WFFactModelDetail BPDeadline Chk ■ WFFactModelDetail BPDeadline Ms ■ WFFactModelDetail BPErrComplete ■ WFFactModelDetail BPError ■ WFFactModelDetail BPErrStart ■ WFFactModelDetail BPException ■ WFFactModelDetail BPFTerm

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System Reports

(Continued)

System Reports

....(Continued)

Category of Report	Report
WFFactModelDetail	■ WFFactModelDetail BPINT MIN ■ WFFactModelDetail BPRelDBErr ■ WFFactModelDetail BPResumed MIN ■ WFFactModelDetail BPResumeErr ■ WFFactModelDetail BPRes MIN ■ WFFactModelDetail BPStarted MIN ■ WFFactModelDetail BPSubStErr ■ WFFactModelDetail BPSubSt MIN ■ WFFactModelDetail BPTerm MIN ■ WFFactModelDetail BPThrowable ■ WFFactModelDetail BPWait ■ WFFactModelDetail CnxtCachWarn ■ WFFactModelDetail DelExpCon MIN ■ WFFactModelDetail RemEventErr ■ WFFactModelDetail RemEvent MIN ■ WFFactModelDetail ServEnded ■ WFFactModelDetail ServError ■ WFFactModelDetail ServStarted

Message Monitor

Introduction

In Sterling B2B Integrator, business processes use messages to communicate with each other. Certain business processes create Produce and Consume messages (asynch communication hand off to the database). The Produce business processes produce messages to be consumed. The Consume business processes wait for messages from the Produce business processes.

Sometimes the hand off between the Produce and Consume business processes does not occur—the produced message has no waiting Consume process, or the waiting Consume process waits without success for the produced message. Use the Message Monitor to track unsuccessful message hand-offs within Sterling B2B Integrator.

Special Considerations

Some special considerations about messages that are monitored within Sterling B2B Integrator:

- The Message Monitor pages of the Sterling B2B Integrator interface show only messages that are associated with a FAILED Produce or Consume activity. Messages that are successfully produced or consumed are not monitored.
- Messages are tied closely to business processes. Search for messages by business process name, type of business process (Produce or Consume), and date and time that the associated business process step invokes the Produce or Consume activity. But messages also have identities separate from business processes. Messages have names, and their names can be used as search input.

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Message Monitor

(Continued)

Special Considerations

- Sometimes Produce and Consume business processes must choose between messages with the same name. For example, two Produce processes that are run at different times; both produce a message that is named OutMsg1. So the two messages in Sterling B2B Integrator named OutMsg1, but with different start date/times. When a Consume process detects the two messages, it consumes the OutMsg1 with the later start date/time. The situation also works in reverse. Two Consume processes request an identically named message (InMsg1). When a Produce process produces InMsg1, the Produce process produces InMsg1 for the Consume process with the earlier start date/time.
- An unsuccessful message remains in Sterling B2B Integrator until an appropriate Produce or Consume business process step completes the message hand off and uses the message.

 Note

Unsuccessful messages NEVER expire or time out.

Exercise 4.2.3: Check in the AT_produce and AT_consume business process

Introduction

Alice wants to test the consume bpml activity. Alice received two business process from the development team, which he checks in the AT_produce and AT_ consume business process to run the AT_produce business process to send a message to the AT_consume business process.

Instructions

AT_produce

Complete the following steps to check in the AT_produce business process.

Step 1: From the web browser, access **http://192.168.40.100:9000/dashboard** URL, by specifying **admin** for UserID and **password** for Password.

Step 1: Click **Sign In**.

Step 2: From the Administration Menu, select **Business Processes** > **Manager.** The **Business Process Manager** page is displayed.

Step 3: Click **Go!** Next to Process Definition under Create.

Step 4: Type **AT_produce** as **Name**.

Step 5: Select Check in Business Process that is created by the graphical modeling tool and click Next.

Step 6: Browse to the **C:\6F89G\Labfiles** directory and select **AT_produce.bp** for the file name.

Step 7: Enter **produce** for the description and click **Next** to continue.

Step 8: Set the persistence level to be **Full** and take the remaining defaults, click **Next** to continue.

Step 9: Do not set a deadline for this process, click **Next** to continue.

Step 10: Take the default for life span, click **Next** to continue.

Step 11: Verify that the business process is enabled and click **Finish**.

Step 12: Click **Return**, the Business Process Manager page is shown

(Continued on next page)

Exercise 4.2.3: Check in the AT_produce and AT_consume business process

(Continued)

Instructions

....(Continued)

AT_Consume

Complete the following steps to check in the consume business process:

Step 1: From the Administration Menu, select **Business Processes** > **Manager.** The **Business Process Manager** page is displayed.

Step 2: Click **Go!** Next to Run Graphical Process Modeler.

Step 3: Enter User ID as **admin** and Password as **password**. The Graphical Process Modeler opens.

Step 4: Click **File** menu and select **Open**.

Step 5: Go to **C:\6F89G\Labfiles** folder and select AT_consume.bp.

Step 6: Click Consume. The consume property editor opens.

Step 7: Enter **AT_consume** in the **Participant** text box.

Step 8: Click the **Save** icon and select **Yes** to validate on save.

Step 9: Close the Graphical Process Modeler.

Step 10: In the **Business Process Manager** page, click **Go!** next to Process Definition under Create.

Step 11: Type **AT_consume** as **Name**.

Step 12: Select Check in Business Process that is created by the graphical modeling tool and click **Next**.

Step 13: Browse to the **C:\6F89G\Labfiles** and select **AT_consume.bp** for the file name.

Step 14: Enter **consume** for the description and click **Next** to continue.

Step 15: Set the persistence level to be **Full** and accept the remaining defaults, click **Next** to continue.

Step 16: Do not set a deadline for this process, click **Next** to continue.

Step 17: Take the default for life span, click **Next** to continue.

Step 18: Verify that the business process is enabled and click **Finish**.

Exercise 4.2.4: Run the AT_Produce Business Process with InventoryOf11.xml

Instructions

Complete the following steps to execute the process:

Step 1: From the Administration Menu, select **Business Processes** > **Manager.** The **Business Process Manager** page is displayed.

Step 2: In the Search text box, type AT_produce and click **Go!**.

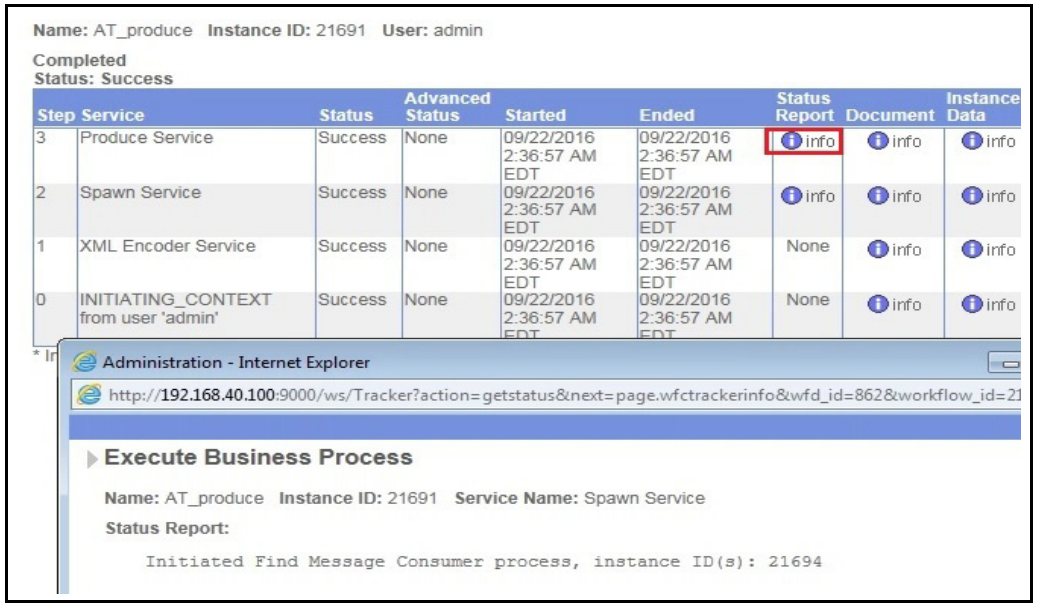
Step 3: Click the **execution manager** icon for the process.

Step 4: Click the **execute** icon.

Step 5: Browse to C:\6F89G\Labfiles and select **InventoryOf11.xml**.

Step 6: Click **Open** and then **Go!**. Observe the separate Execute Business Process window while the business process runs.

Step 7: Click the info of Produce Service to view the Consume process initiated message with the instance ID as 21694. In your lab, the Instance ID would be different.



Step 8: Close the Execute Business Process window when the business process is complete.

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Exercise 4.2.4:Run the AT_Produce Business Process with InventoryOf11.xml

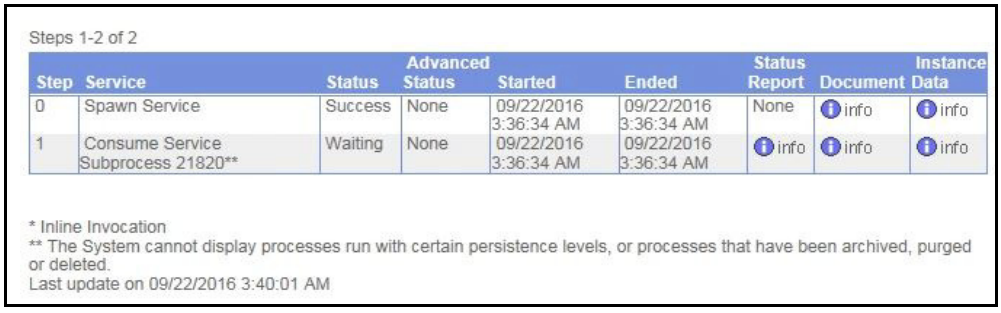
(Continued)

Instructions

....(Continued)

Step 9: From Administration Menu select Business Processes > Monitor > Current Processes to view AT_consume process is executed

Step 10: Click AT_consumer Instance ID to analyze the result, as shown in the screen capture.



Steps 1-2 of 2

Step	Service	Status	Advanced Status	Started	Ended	Status Report	Document	Instance Data
0	Spawn Service	Success	None	09/22/2016 3:36:34 AM	09/22/2016 3:36:34 AM	None	info	info
1	Consume Service Subprocess 21820**	Waiting	None	09/22/2016 3:36:34 AM	09/22/2016 3:36:34 AM	info	info	info

* Inline Invocation
** The System cannot display processes run with certain persistence levels, or processes that have been archived, purged or deleted.
Last update on 09/22/2016 3:40:01 AM

Exercise 4.2.5: Create an Unsuccessful Message

Instructions

Complete the following steps to create an unsuccessful message by running AT_consume process:

Step 1: From the Administration Menu, select **Business Processes** > **Manager** from the **Administration Menu**, the Business Process Manager page appears.

Step 2: In the Search text box, type **AT_consume** and click **Go!**.

Step 3: Click the **execution manager** icon for the process.

Step 4: Clear Enable the check box and click **Ok** to confirm.

Step 5: Click **Return**.

Step 6: Click **Return** to go back to the **Business Process Manager** page.

Step 7: In the Search text box, type **AT_produce** and click **Go!**.

Step 8: Click the **execution manager** icon for the process.

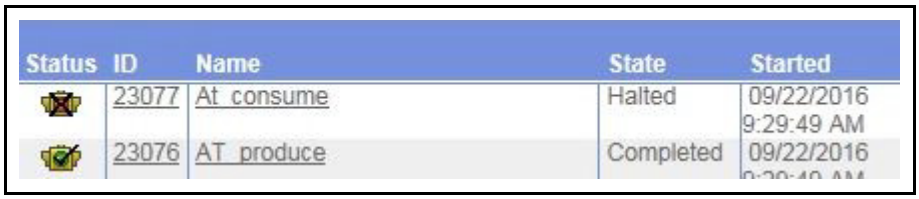
Step 9: Click the **execute** icon.

Step 10: Browse to **C:\6F89G\Labfiles** and select **InventoryOf11.xml**.

Step 11: Click Open and then **Go!**. Observe the separate Execute Business Process window while the business process runs.

Step 12: Close the Execute Business Process window when the business process is complete.

Step 13: From the Administration Menu, select **Business Processes** > **Monitor** > **Current Processes** to view the result as shown in the screen capture.



Status	ID	Name	State	Started
	23077	At_consume	Halted	09/22/2016 9:29:49 AM
	23076	AT_produce	Completed	09/22/2016

(Continued on next page)

Exercise 4.2.5: Create an Unsuccessful Message

(Continued)

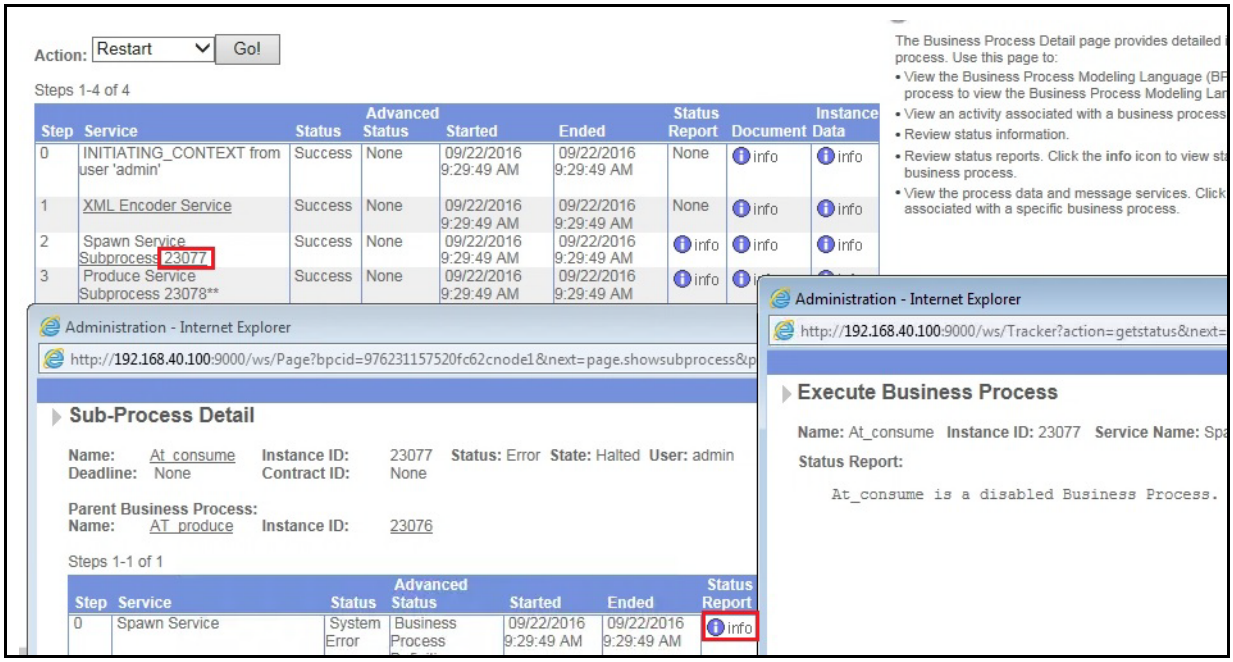
Instructions

....(Continued)

Step 14: From the Administration Menu, select **Operations** > **Message Monitor**. The **Message Monitor** page opens.

Step 15: In the Message Monitor page, under **List**, for both **Alphabetically** and **by choose,** select 'A' and click **Go!**.

Step 16: Verify the information and click the current instance ID of **AT_produce** hyper link to analyze further the status of the process as shown in the screen capture.f



Search Unsuccessful Messages

Introduction

Search for unsuccessful message by using the following search methods:

- Message Name – Display messages whose names contain the specified character or string.
- Start Date From and Start Date To – Display messages for which the related BP step invoked the Produce or Consume activity at the specified start date and time on whether Sterling B2B Integrator has outstanding unsuccessful messages.
  - If Sterling B2B Integrator has no unsuccessful messages, the Start Date From field displays the current system date and time minus 1 minute, and the Start Date To field displays the current system date and time plus 1 minute.
  - Unsuccessful messages in Sterling B2B Integrator, the Start Date From field displays the date and time of the unsuccessful message with the earliest start date and time, minus 1 minute; and the Start Date To field displays the date and time of the unsuccessful message with the start date and time, plus 1 minute.
- Alphabetically or by message type (ALL, Producer, or Consumer) – Display messages initiated by business processes that:
  - Names starting with a particular letter or number that is selected from the Alphabetically list. Default is ALL (all business processes).
  - Are either Produce or Consume processes, or both (ALL).

(Continued on next page)

Search Unsuccessful Messages

(Continued)

Introduction

....(Continued)

The following information is given for each message:

- Type – Type of business process that is associated with the message, either Produce or Consume.
- ID – ID of the business process that is associated with the message. Click an ID in this column to display the Business Process Details page for the BP.
- Process Name – Name of the associated Produce or Consume BP. Click a process name in this column to display the BPML of the BP.
- Searching for Unsuccessful Messages
- Message Name – Name of the unconsumed message.
- Start Time – Start date and time of the associated step within the BP.

Lesson review

What you have been able to do

After completing this lesson, you should have been able to:

- Identify the most commonly used System Logs and their contents.
- Identify the most commonly used System Reports.
- Explain about Message Monitor to check messages.

LESSON 4.3: Maintenance and Cleanup

What this lesson is about

This lesson introduces you to the Sterling B2B Integrator services to monitor, maintain to diagnose many performance and system problems.

What you should be able to do

After completing this lesson, you should be able to:

- Use the following maintenance and cleanup services:
  - Index Business Process service.
  - Archive Business Process service.
  - Export and import business process with Resource Tags.
  - Purge the services.
  - Purge Business Process Linkage service.
  - BPRecovery service.

How you will check your progress

- The progress of the lesson is analyzed based on the successful application of the topics in the scenario and test the exercise independently.

References

Documentation

- Monitoring Operations:

  https://www.ibm.com/support/knowledgecenter/en/SS3JSW_5.2.0/com.ibm.help.performance_mgmt.doc/SIPM_MO_Overview.html

Archiving and Purging

Archiving and Purging

Archiving your business process data not only protects your critical data, but also conserves database disk space, improving the efficiency of Sterling B2B Integrator. Sterling B2B Integrator uses a set of components to move business process data out of the database and onto a persistence level of long-term storage.

Persistence level determines the level of detail that is written to the database as a business process runs. Decreasing the persistence level increases the business process performance at the cost of full-tracking for each step of the business process.

The components include:

- Index Business Process service
- Archive business process service
- Purge business process service

When a business process terminates, before data archive or purge, the business process must first be indexed.

The Index Business Process service runs a process that looks for archiving parameters that are 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 amount of information that is written to the table depends on the level of persistence that is chosen for the business process.

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Archiving and Purging

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Archiving and Purging ....(Continued)

For information that is written to the table, the Archive Business Process service runs according to how it is configured in the archiving settings. Archive Business Process service retains the business process and its related data to a file system as JAVA serialized objects for later backup to tape, some other long-term storage medium, or purging. The Purge Business Process service then runs and removes any data from the database that is specified in archive settings not to retain.

In the same manner that you schedule business process, you can schedule the intervals at which you want Sterling B2B Integrator to archive and purge the contents of the database.

When an Archive list is generated, it can be used only for backing up documents. Do not delete files that are on the archive list. All deleting files must be based on the Purge list only. Also, you cannot process the Purge list until all files on the archive list were successfully backed up. This action prevents deleting documents that are not archived. If you delete documents that are not archived, then you cannot restore the files later.

Scheduling and the Index Process

Scheduling and the Index Process

Indexing is primarily done to facilitate purging and taking backup of business processes. It is also done to extract information from various business processes and documents to make the system run more efficiently. However, this extraction is expensive enough that you do not want to extract immediately while the documents are being processed. Instead, indexing runs in the background and collects this information after the documents and business processes are done. The problem is that if indexing falls behind, then the system gets slow - which makes indexing even slower, and everything snowballs until the system becomes unusable. Running indexing every 10 minutes allows Sterling B2B Integrator to keep up.

Index Business Process Service

Index Business Process Service

The Index Business Process Service selects all completed or terminated business process data and business processes for archiving or purging. This service creates an entry for each completed or terminated business process in the WF_INST_S table and updates the following tables:

- WORKFLOW_CONTEXT
- DOCUMENT
- DOCUMENT_EXTENSION
- DATA_TABLE
- CORRELATION_SET
- WORKFLOW_LIFESPAN
- DOCUMENT_LIFESPAN
- WORKFLOW_DATA

How is the Index Business Process Used?

The Index Business Process service is pre-configured. The service does not require third-party files, and does not have application requirements. This service is related to the Archive Business Process service and the Purge Business Process Linkage service. The Index Business Process service cannot initiate any business process.

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Index Business Process Service

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How is the Index Business Process Used?

Configuring the Index Business Process Service

The following table describes the fields that are used to configure the Index Business Process service:

Parameter	Description
Name	Unique and meaningful name for the service configuration.
Description	Meaningful description for the service configuration, for reference purposes.
Select a Group	Select one of the options: None – You do not want to include this configuration in a group at this time. Create New Group – You can enter a name for a new group in this field, which will then be created along with this configuration. Select Group – If you have already created one or more groups for this service type, they are displayed in the list. Select a group from the list
Run as User	Enter the user ID to associate with this service when run.
Do not use schedule	If field is selected, it does not get scheduled to run.
Run service based on timer	Valid values are the hour and minutes at which to run the service.
Run service daily at	Valid values are the hour and minutes at which to run the service, daily.
Run service weekly on	Valid values are the day of the week, the hour, and the minutes at which to run the service.

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Index Business Process Service

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Summary of Index Business Process Service

The following list summarizes the highlights of the Index Business Process service:

- The Index Business Process service marks the business process expiration date and stages data to be archived or purged.
- User interface and system performance suffers.
- Database eventually run out of disk space.
- If disabled or failed, none of the business processes can be archived or purged. Contact support to resolve.
- It might require manual cleanup.

Exercise 4.3.1: View Scheduled Services

Instructions

Complete the following steps to view the scheduled services:

Step 1: From the **Administration Menu,** select **Deployment** > **Schedules**.

Step 2: In the **Schedules** page, under List section, make sure that **ALL** is selected for Search by Scheduler Type.

Step 3: Click **Go!** in the List section.

You can see a list of the schedule of different type set-up to run. If you want to change a system default, you would click **edit** next to the schedule.

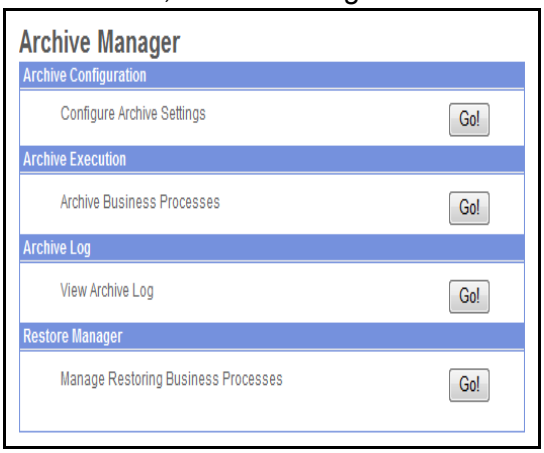
Configure Default Archive Settings

Configuring Default Archive Settings

When configuring, default archive settings, you can define whether Sterling B2B Integrator archive data for business process instances inside or outside of Sterling B2B Integrator. After you configure and save the archive schedule, the archive process is automatic and runs based on the time parameters you provided during configuration.

To configure default archive settings:

1. Select Operations > Manager from the Administration Menu. The Business Process Manager page is displayed.
2. From the Operations menu, select Archive Manager.
3. In the Archive Configuration section, next to Configure Archive Settings, click Go!.



4. Click OK to enable the lock for the Archive Manager and prevent others from updating archiving settings at the same time that you are updating them.
5. Type numeric values in the Days and Hours fields to indicate the duration that business process data must remain active in Sterling B2B Integrator. It indicates the lifespan of the business process to remain active in the system.

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Configure Default Archive Settings

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Configuring Default Archive Settings ....(Continued)

6. Type numeric values in the Days and Hours fields to indicate the duration that must be able to track business process data (such as certificates that contain security information and documents that support non-repudiation must remain active in Sterling B2B Integrator).
7. Enter the directory path where the archived data is stored. Enter the complete path to the archive location in the Backup Directory field.
8. Select either Archive or Purge to indicate whether to archive or purge expired business processes and click Next.
9. In the Business Process Definitions page, 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 has the lifespan set as system default.
   - To apply your archive settings to a business process, select and move it to the right window.
   - If you choose to remove archive settings for a business process, move it to the left-side window.


Note

You can also filter and search for business processes by name in the left-side window. 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 is set to the system default lifespan, and pulls 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.

10. Click Next. The business process update message is displayed: Updating of business processes occur in the background and might take 30 minutes or more, depending on the number of processes selected. Click OK.

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Configure Default Archive Settings

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Configuring Default Archive Settings ....(Continued)

11. To create a schedule to archive or purge business process data, indicate whether to use a 24-hour clock display (that is, 24-hour time system numbers 1 - 24, rather than repeating the cycle of 12 hours twice), select one of the Schedule Type page, and then click Next:
    - To set a timer to archive or purge business process data, select Run based on a timer.
    - To archive or purge the business process data daily, select Run Daily.
    - To archive or purge business process data on a specific day in a week, select Run based on days of the week.
    - To archive or purge business process data on a specific day in a month, select Run based on days of the month.
12. In the Schedule Settings page, the fields are displayed depending on the schedule type that is selected in Schedule Type page. Enter the values based on the option from Schedule Type page and click Next.
    - Run based on timer - Enter numeric data in the Hours and Min fields to set how often the process run.
    - Run daily - 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.
    - Run based on day(s) of the week - Enter when you want to run the archive process each day. For each time entry, select the day from the Select Days from the list when you want to run the process. Click add to specify an entry. You can enter more than one item and you can also click delete to remove an entry.
    - Run based on day(s) of the month - 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 Days in the list when you want to run the process. Select LDOM for 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.

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Configure Default Archive Settings

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Configuring Default Archive Settings ....(Continued)

Note

To run the scheduled archive process when Sterling B2B Integrator starts, on the specified schedule, select the checkbox next to At start up. This option is not available if you select Run based on days of the month on the Schedule Type page.

13. To apply the schedule options when Sterling B2B Integrator runs, select At startup.
14. If you are not using a time interval, skip this step. If you are using a time interval, complete the following steps, as applicable:
    a. In the From and To fields, type the time to start and end the interval, ensuring that you also select a.m. or p.m.
    b. In the Select Days field, select the number of days.
    c. From Every, Hours, and Minutes lists, select how long the interval lasts, and then go to step 12.

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Configure Default Archive Settings

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Configuring Default Archive Settings ....(Continued)

15. If you are not using a time interval:
    a. Type the time to start the interval in the default time field, ensuring that you also select a.m. or p.m.
    b. In the Select Days field, select the number of days in between intervals.
16. Click add to specify the scheduled time that you have indicated for archiving or purging and click Next.
17. To indicate exclusion dates that archiving or purging must not occur, complete the following steps:
    a. In the Month field, select the month not to run archive or purge.
    b. In the Days field, select the days of the month in which not to run archiving or purging.
    c. Click add to specify the exclusion dates for archiving or purging and click Next.
18. In the Confirm page that is displayed, review the changes that you made. Click Finish to update your archiving or purging schedule in Sterling B2B Integrator.

Exercise 4.3.2: Archive to an Offline Location

Introduction

Alice moves all the archived business process as per the company policies to create space in the Sterling B2B Integrator system.

Instructions

Complete the following steps to configure default archive settings:

Note

Before you set up the off line archive, rerun the Basic Inventory business process. The business process that you will archive/restore for this exercise.

Step 1: From the Administration Menu, select **Archive Manager**. The **Archive Manager** page is displayed.

Step 2: In the Archive Configuration section, click **Go!** Next to Configure Archive Settings.

Step 3: View the default configurations and click **Cancel**.

Note

If you have modified any configuration settings click **Finish** and confirm the changes.

Initiating Archiving

After you configuring archive settings, you can initiate archiving for all completed or terminate business process instances at any time.

Complete the following steps to initiate archiving:

Step 1: From the Sterling B2B Integrator Operations menu, select **Archive Manager**.

Step 2: In the **Archive Execution** section, click **Go!** To run the archiving process.

Step 3: Click **OK** and the confirm the Archive execution.

Step 4: Observe the separate Execute Business Process window while the business process runs.

Step 5: Close the Execute Business Process window when the business process is complete.

Step 6: Go to the archive directory **arc_data**, under /opt/IBM/SterlingIntegrator/install in FileZilla.

Step 7: The folder is named with the archived date followed by the created time.

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Exercise 4.3.2: Archive to an Offline Location

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Viewing Archived Business Process Data

The only archived business process data that you can view from its archived location is data that is archived to archive tables within Sterling B2B Integrator. To view archived business process data that is archived to an off line location, you must first restore that data within Sterling B2B Integrator.

Viewing the Archive Log

In Sterling B2B Integrator, you can view the archive log with either the:

- Archive Manager
- System logs

Using the Archive Manager

Complete the following steps to view the archive log with the Archive Manager:

Step 1: From the Sterling B2B Integrator **Operations** menu, select **Archive Manager**.

Step 2: In the **Archive Log** section, click **Go!**. The log details are displayed in a new window.

Step 3: View the log details.

Step 4: Close the archive.log window.

Using the System Logs

Complete the following steps to view the archive log with the system logs:

Step 1: From the Sterling B2B Integrator **Operations** menu, select **System** > **Logs**.

Step 2: Click the link **archive.log** to view the archive log details.

Step 3: View the log details.

Step 4: Close the archive.log window.

Exercise 4.3.3: Restore Archived Business Process Data Offline

Introduction

After archive business process data to an offline location, Alice restore data into Sterling B2B Integrator to verify that the archive was successful.

Instructions

Complete the following steps to restore archived business process data from an offline location:

Step 1: From the Sterling B2B Integrator **Operations** menu, select **Archive Manager**. The **Archive Manager** page is displayed.

Step 2: Click **Go!** Under the Restore Manager.

Step 3: In the restore directory field you can view the following path:

```
/opt/apps/sfg1_9000/install/arc_data/CHOOSE_DATE_DIR_HERE
```

Step 4: Replace the last part of the path with the directory name that was created in the last exercise.

 Note

Ensure that you type the same path name as the archive directory created by you.

Step 5: Click **Go!** To restore the data in Sterling B2B Integrator

Step 6: Observe the separate Execute Business Process window while the business process runs.

Step 7: Close the Execute Business Process window when the business process is complete.

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Exercise 4.3.3: Restore Archived Business Process Data Offline

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Instructions

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Viewing Restored Business Process Data

Complete the following steps to view archived business process data that you restored in Sterling B2B Integrator:

Step 1: From the Sterling B2B Integrator Business Process menu, select **Monitor** > **Advanced Search** > **Business Processes**.

Step 2: Under Search Location, select **Restore Tables**.

Step 3: In the Business Process Monitor Search (Restore) page, complete one of the following steps:

- Search with the **Process ID** that is unique number that is assigned by Sterling B2B Integrator when the business process ran. You can enter the process ID and click **Go!** To view the specific restored business process data.
- Search for specific restored business process data with the combination of the following search criteria. You can choose the search criteria and click **Go!**.
  - Business Process – Display data for business processes whose names contain the specified character or string.
  - System Business Processes – Display data for Sterling B2B Integrator system business processes whose names contain the specified character or string.
  - State – Display data for business processes whose final state corresponds to the specified state.
  - Status – Display data for business processes whose final status corresponds to the specified status.
  - Start date/time range – Display data for business processes that are run within the specified start dates and times.

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Exercise 4.3.3: Restore Archived Business Process Data Offline

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Instructions

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Instructions

Complete the following steps to clear the restore area:

Step 1: From the Sterling B2B Integrator Administration Menu, select **Operations** > **Archive Manager.**

Step 2: Click **Go!** Under **Restore Manager.**

Step 3: To clean the restore area, click **Go!** Under **Clean up** next to **Clean restore area**.

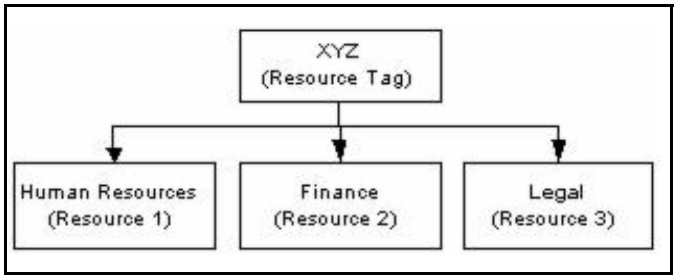
Step 4: Click **Ok** to confirm for cleaning the restore area. The successful completion status message displayed in the Restore Manager page

Resource Tags

Overview

A resource tag is a name that you use to identify a group of associated resources. A resource tag is much like a company name, with each department a web resource associated with the resource tag. For example, XYZ company has Human Resources, Finance, and Legal departments. The company name, XYZ, is the resource tag, and the Human Resources, Finance, and Legal departments are web resources that are associated with the XYZ resource tag.

Sterling B2B Integrator allows to associate a resource with more than one resource tag.



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Resource Tags

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Additional Information on Resource Tags

Before you can create a resource tag, resources to associate with the tag must be saved in Sterling B2B Integrator.

Managing resource tags involves:

- Creating resource tags
- Editing a resource tag to add or delete resources from the tag
- Copying the resource tag to use as the basis for a new tag with a different name
- Deleting resource tags that becomes obsolete.

You can create resource tags that are needed to define your resource groupings, and you can also create a tag during the import resources procedures to assign a new tag immediately to the imported resources.

You cannot import resources (.xml or .jar files) greater than 10 MB through the Sterling B2B Integrator interface. Creating resource tags is a way to separate resources to keep the file size down.

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Exercise 4.3.4: Import and Export Using Resource Tags

Introduction

Alice bundles and tests the process, starting with the word AT_ by using import. And export the process to others team to test in another environment.

Instructions

Complete the following steps to create resource tags:

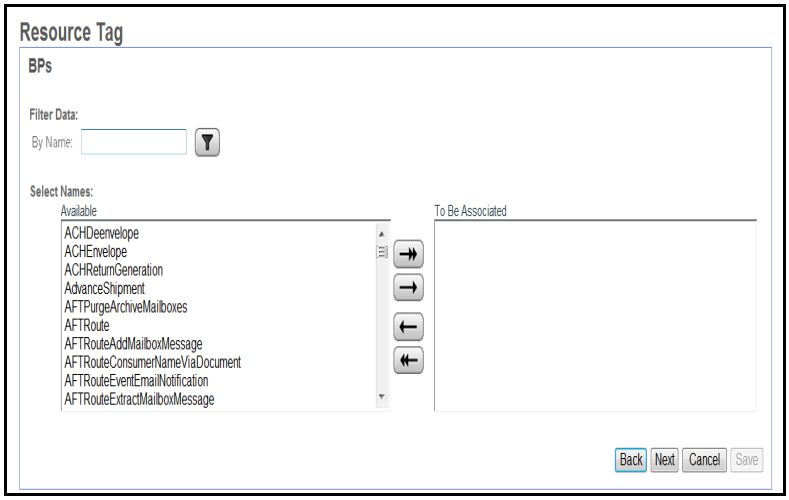
Step 1: From the Administration Menu, go to **Deployment** > **Resource Manager** > **Resource Tags**.

Step 2: Click **Go!** Under **Create** next to New Resource Tag.

Step 3: Type **AT** for the Resource Tag name, and use the same name for the description and click **Next**.

Step 4: Place a check mark in the box next to **Business Processes** for the Resource Type and click **Next**.

Step 5: Type the unique identifier (use “AT_” as an identifier) in the Filter Data by Name, and click the **filter** icon.



Step 6: Click the double arrow icon to associate all your business processes and click **Next**.

Step 7: Click **Finish**.

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Exercise 4.3.4: Import and Export Using Resource Tags

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Instructions

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Exporting Resources

Complete the following steps to export resources by following the steps that are listed.

Step 1: From the Administration Menu, select **Deployment** > **Resource Manager** > **Import/Export**.

Step 2: Click **Go!** Next to Export Resources.

Step 3: Accept the default of XML file for the type of format you wish to export to.

Step 4: Click **Next**.

Step 5: Click **Yes** when prompted: Do you wish to export resources that are based on a tag name and select your Resource Tag name from the list.

Step 6: Click **Finish**.

Step 7: Click **Download**.

Step 8: Click **Save**.

Step 9: For the file name type **Export** and save the file to a directory of your choice.

Step 10: Click **Save**.

Step 11: Click **Return**.

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Exercise 4.3.4: Import and Export Using Resource Tags

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Instructions

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Importing Resources

Complete the following steps to import resources.

Step 1: Click **Go!** Next to Import Resources.

Step 2: Browse to where you save the **.xml** file and click **Open**.

Step 3: Leave the pass phrase blank and click **Next**.

Step 4: Place the word **NEW** in front of the tag name that appears for the tag name, and leave the description as **defaulted**.

Step 5: Click **Next**.

Step 6: Select **Yes** when prompted: Some objects imported might exist in the system. Do you wish to update them? Click **Next**.

Step 7: Click the **double-arrow** to select all your processes and click **Next**.

Step 8: Click **Finish** and **Return**.

Purge Service

Purge Service

The Purge service looks for eligible records to delete from the Live DBs. It is a preconfigured server and does not require any configuration or third-party files. It is an internal service not be used in a business process. It is available on all platforms, does not have any application requirements, and does not initiate a business process.

Generally, the Purge service is invoked by the Scheduler. The Purge Service runs on a schedule (every ten minutes by default). The Purge service physically removes records that are flagged as eligible for deletion from the Live system DBs. Eligibility for this service is determined by the Index Business Process service, which scans the Live and Off line systems and flags records reached their Purge eligibility date and time.

Summary of the Purge Service

The following list summarizes the highlights of the Purge service:

- The service purges data already been archived or flagged to be purged.
- The database size grows and eventually runs out of disk space.
- The user interface and system performance suffers.
- None of the business processes can be purged from disabled status.
- Might require manual cleanup.

Purge Business Process Linkage Service

Purge Business Process Linkage Service

The Purge Business Process Linkage service checks all hierarchical data in the WORKFLOW_LINKAGE table. If all business processes of a hierarchical instance is archived or purged, then it removes the hierarchical linkage records from the table. This service can also be scheduled during configuration.

When the Purge Business Process Linkage service is run, it is cleaning up the detailed data about the execution of the business process, which after some period is not useful. When a business process (or anything it touches) is purged, it is necessary to also clean up linkage information. If this process is not run, incorrect query results might occur or common types of queries in Sterling B2B Integrator run more slowly.

The Purge Business Process Linkage service does not require third-party files, is available on all platforms, and does not have application requirements. The Purge Business Process Linkage service cannot initiate a business process.

Generally, the service is invoked by the Scheduler. By default, the service runs every day at 2:00 AM. Status values are returned as either Success or Error.

The following are known restrictions for the Purge Business Process Linkage Service:

- The service cannot have multiple configurations.
- This service is an internal service only and not be used in a business process.

BPRecovery Service

BPRecovery Service

The BPRecovery service runs at system startup and scheduled intervals. You can indicate the level of recovery for the business process if the business process halts during execution. The levels are:

- Auto Resume - Resume the business process at the point at which the business process halts.
- Auto Restart - Restart the business process from the beginning.
- Terminate - Terminate the business process.
- Manual - Requires you to resume or restart the business process manually.

Summary of the BPRecovery Service

The following list summarizes the highlights of the BPRecovery service:

- The service runs at system startup and scheduled intervals.
- The service marks business processes active during an abnormal shutdown as interrupted.
- If the BPRecovery service is not running or failing, then processes stay in Active status and no action can be taken on them (terminate, restart, resume).
- The processes cannot be archived, so the database size grows and eventually runs out of disk space.
- If you are having problems with the BPRecovery service, contact support to resolve.
- Might require manual cleanup.

 Note

If you are using the file system Option for Document Storage on any Business Processes (files 1 gig and bigger). Manual cleanup is required to remove these files from your system. Files can be found in the Sterling B2B Integrator <install_dir>/documents/CCYY/MM. The archive manager does not remove the files from this directory.

Lesson review

What you have been able to do

After completing this lesson, you should have been able to:

- Use the following maintenance and cleanup services:
  - Index Business Process service
  - Archive Business Process service
  - Purge service
  - Purge Business Process Linkage service
  - BPRecovery service

LESSON 4.4: Scheduling

What this lesson is about

The lesson introduces the phases to create, enable, disable, and delete schedules and procedures to set up schedules for report creation.

What you should be able to do

After completing this lesson, you should be able to:

- Describe scheduling basics.
- Explain different phases in creating schedules.
- Explain the procedure to enable, disable, and delete schedules.
- Explain the steps to set up schedules for reports and stand-alone services.

How you will check your progress

- The progress of the lesson is analyzed based on the successful application of the topics in the scenario and test the exercise independently.

References

Documentation

- Monitoring Operations:

  https://www.ibm.com/support/knowledgecenter/en/SS3JSW_5.2.0/com.ibm.help.performance_mgmt.doc/SIPM_MO_Overview.html

Scheduling Basics

Scheduling Basics

In the application, a schedule is a resource in the database that stores time and date information separately from the scheduled activity. Schedules identify when to run the activity (hourly, daily, weekly, or monthly) and when to skip the normal interval by excluding a certain time, time range, or date. Each schedule is used for just one business process, service, or report, so you must create separate schedules for each business activity.

Phase 1 Scheduling Prerequisites and Setup in a Test Environment

1. Meet the licensing, permissions, and environmental requirements for the resource you want to schedule.
2. In a test environment, create or configure the business process, service, or scheduled report. Manually test the business process, service, or report to verify that the activity works as planned.
3. In a test environment, create the schedule for the business process, service, or report.

When you complete the scheduling wizard, the new schedule is enabled and runs when the first scheduled time period is reached. Additionally, if you select, it runs at startup option, the scheduled activity runs one time immediately after the schedule is saved in the database. Thereafter, the activity runs when the application is restarted.

Phase 2 Testing Schedules in a Test Environment

Test and troubleshoot the schedule in the test environment

- Know how to test scheduled activities by disabling the schedule, running the activity manually, and enabling the schedule. Newly created schedules are automatically enabled, so you must disable the schedule running the activity manually. Schedule can result with errors if you run the same activity manually when the schedule is running the activity automatically. After the manual test, you must enable the schedule again or it does not operate.

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Scheduling Basics

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Scheduling Basics ....(Continued)

In the scheduling wizard, do not use the Do not schedule option to stop or disable a schedule. If you select this option, you cannot enable the schedule in the future. Instead, you must re-create the schedule. Use this option only to indicate that a service or report never use a schedule.

- Test the schedules in your test environment to verify that the service, business process, or report runs as scheduled and within the acceptable time parameters. For example, you might create a file system adapter configuration to collect files from a file system with a schedule of every day, every 20 minutes. The schedule is not important if the file system adapter configuration does not collect the correct files from the correct file system. In this case, you must correct the service configuration testing the schedule.
- Be sure to test the schedule under regular performance conditions in your test environment. For example, testing can reveal that the size of scheduled reports or business processes and requires you to move the scheduled times based on the system processing loads. In addition, you can find that running an activity at an interval that is too short is not productive. In this case, you can edit the schedule and extend the time interval between executions.
- Create processing time benchmarks based on the size of the reports or outputs expected to refine the schedule further, so that you can schedule similar activities in the future with accuracy.

Phase 3 Exporting Schedules to the Production Environment

1. Export the schedule from your test environment and import it into your production environment.

You import and export schedules just like you import and export any other resource. You can export and import one or more schedules at the same time.

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Scheduling Basics

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Scheduling Basics ....(Continued)

a. In your production environment, verify that the imported schedule is enabled and monitor the scheduled activity. After the time interval for the schedule, verify the outputs for the business process, service or adapter, or report.
b. If the outputs were correct and within the acceptable time parameters, the test was successful.
c. If the outputs were correct, but not within the acceptable time parameters, you need to edit the schedule.
d. If t\ the scheduled output does not run, verify the activity by using monitoring capabilities in the application.

2. In the production environment, monitor and adjust the schedule as needed.
   a. You need to disable and enable schedules in your production environment if you need the output of the scheduled activity at a time outside of the normal schedule. For example, you need to run a report for an urgent meeting when the next scheduled report run is the following day. In this case, you run the report manually to have the most current information for the meeting. In this case, you must disable the schedule to reduce the chances of errors, run the report manually, and then re-enable the schedule so the report runs automatically again

Scheduling Prerequisites and Planning

Introduction

When you create a schedule, you are doing more than setting a time and a date for an activity to run. You must consider how the schedule works within the application overall, and with your and your trading partners' businesses.

Creating a schedule to automate activities can help your business in many ways, such as faster response times and improved communications with your value chain partners. However, creating a schedule for an activity that runs at the wrong time results in a missed business opportunity or scheduling an activity, that is resource-intensive during your peak processing times can cause decreased system performance, errors, or lost revenue for the company.

Scheduling Licenses and Permissions

Before you can set up schedules in a test or production environment, you must meet the following prerequisites:

- You must have the license file for the services and activities you want to schedule.
- You must have the security permissions that are applied to your user account.

Permission	Description
UI BP Manager	Allows you to download the Graphical Process Modeler, and create and manage business processes.
UI Reports	Allows you to create, manage, and schedule reports.
UI Services	Allows you to install, configure, manage, and schedule services.

(Continued on next page)

Scheduling Prerequisites and Planning

(Continued)

Scheduling Licenses and Permissions ....(Continued)

Permission	Description
UI Scheduler	Allows you to schedule business processes, search for schedules and edit business process and service schedules.
UI Import/Expor	Allows you to export the schedules and associated business processes, services, or reports to another system of the application, and import the schedules and resources into the application.
UI Logs	Allows you to view the schedule.log and reports.log files for troubleshooting schedules.

Scheduling Considerations for Upgrades and Environments

Schedules After Upgrades

When you upgrade the application, your schedules are upgraded to the new version, and run based on the configured schedule setting.

After you upgrade the application, you can verify schedules by selecting **Deployment > Schedules > Search**. Locate each schedule and verify that it is enabled and defined correctly.

Schedules in the AS2 Edition

In the AS2 Edition of the application, you can set up schedules for business processes only. The AS2 Edition does not support reports or schedules for services.

- The default schedules for business processes after you install AS2 Edition.
- AS2 Edition lists only the schedules for business processes that are created in the AS2 Edition.

However, the complete version of the application lists schedules for business processes that are created in both the complete version and in the AS2 Edition.

Scheduling Consideration

This section summarizes various considerations for scheduling business processes, services, and reports.

Basic information about the Activity Being Scheduled

What type of activity are you scheduling and where does the output from the activity go?

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Scheduling Considerations for Upgrades and Environments

(Continued)

Scheduling Consideration ....(Continued)

Example	Comments
Are you scheduling a business process, report, or service?	Be sure the business process, report, or service is created or configured and that you know the name of the resource. For example, you need to schedule an export activity, but you can schedule only the **Export** service when the service is in a business process. You must create the business process that includes the **Export** service and then schedule the business process. The activity that is scheduled determines how you create the schedule. Some services can be scheduled independent of a business process.
If scheduling a business process, does data need to be passed to the business process?	The Scheduler can pass XML data to a business process when it invokes it. You define name-value pairs for the data when creating the schedule.

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Scheduling Considerations for Upgrades and Environments

(Continued)

Scheduling Consideration

....(Continued)

Example	Comments
Who or what business process or service needs the output from the scheduled business process, service, or report?	For example, your manager may require a report at a specific time daily, or a business process may require the output from another business process. This example question determines who to send the output to or what business process or service is invoked by the scheduled activity.
Is the business process or service that uses the output also scheduled?	For example, you may schedule a business process that produces an invoice that is required by another scheduled business process. This example question determines the dates and times of the schedule, since the scheduled activity that produces the output must complete before the second scheduled activity starts.
Are you running the business process, service, or report manually as well as on a schedule?	For example, you may need to run a report manually at times in a rush situation, but the report is scheduled to run every hour. To avoid errors, you do not want to manually run the report at the time it is scheduled to run. You must disable the schedule before manually running the scheduled activity.

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Scheduling Considerations for Upgrades and Environments

(Continued)

Scheduling Consideration ....(Continued)

Deadlines that impact scheduled times

Are there internal and external deadlines that impact when the schedule must be set? Deadlines can determine the dates and times when an activity must be scheduled to run

Example	Comments
Reporting time frames for your company	Reporting various types of information to different departments within your company can affect schedules for your business processes, services, and reports
Priority or strategy changes of your company	Priority and strategy changes can cause changes in which business processes take priority over other business processes, and which reports rise in importance over other reports. These situations can affect the scheduling of activities in the application. Considering these issues helps you determine types of schedules, and which activities to run during peak or non-peak processing hours.
Trading partner agreements	Trading partner agreements includes stipulations regarding document turnaround times, fines associated with missing critical response times, and other information that is important to your communication with your trading partners throughout your value chain. For example, a trading partner that requires you to process a document within 30 minutes of receiving the document.

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Scheduling Considerations for Upgrades and Environments

(Continued)

Scheduling Consideration ....(Continued)

Dates that impact excluded times

Are there dates or times when the schedule does not need to run? Holidays and other events can determine the dates and times that a schedule must exclude or that a low priority schedule must include.

Example	Comments
Holidays and company calendars	Holidays and company calendars can determine the best time to run a large report or business process. Alternatively, holidays can determine dates to exclude in your schedules. For example, if you have a large report that is due on January 3 of each year and your company is closed January 1 for New Year's day, you can decide to schedule the report to run on January 1 when more resources are available in the application. On the other hand, you may skip January 1 for a routine report that is not needed when the company is closed.
Periods of higher processing times during the quarter	Low priority schedules must exclude high-volume processing times.

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Scheduling Considerations for Upgrades and Environments

(Continued)

Scheduling Consideration

....(Continued)

Example	Comments
Scheduled maintenance of the application or other systems that integrate with the application, either at your company or your trading partners.	Scheduled maintenance is necessary for all systems. When you are conducting maintenance on the application or other systems that integrate with it, you can disable schedules that are to run during those periods. Or you can schedule activities around those periods. Either of these adjustments reduces performance level problems caused by schedules attempting to run but generating errors, or by schedules placed in a waiting status. In addition, if you consider your trading partners scheduled maintenance, you can schedule your activities around those periods and use the application resources for other processing.

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Scheduling Considerations for Upgrades and Environments

(Continued)

Scheduling Consideration ....(Continued)

Peak and Non-peak Processing Time

On your system, what are the peak and non-peak processing times during the day, week, or month?

Peak and non-peak processing times can help you determine when to run high priority and low priority activities in the application to increase performance and maximize the use of system resources.

Example	Comments
For example, you receive the largest amount of processing requests for the application every day between 8:00 a.m.and 5:00 p.m. You do not want to schedule non-priority work during this time interval.	Peak processing times are times that low priority schedules must avoid or exclude, so that the application performance levels are not reduced.
For example, you receive the least amount of processing requests for the application every day between 2:00 a.m.and 5:00 p.m. Schedule non-priority work during this time interval.	Non-peak processing times are times that low priority schedules must include, so that the application performance levels are not reduced.

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Scheduling Considerations for Upgrades and Environments

(Continued)

Scheduling Consideration

....(Continued)

The Processing Time and Frequency of the Scheduled Activity

The processing time and frequency of the scheduled activity affects scheduling intervals.

Example	Comments
Total processing time required for the business process, service, or report	Total processing time is critical for scheduling business processes, services, and reports, so that you do not have overlapping executions. For example, if a business process takes 30 minutes to complete, you should not schedule the business process to run every 10 minutes; otherwise, errors can occur
Frequency at which the data or processing is required	Determining the frequency at which data or processing is required helps you determine the schedule type to use with the activity. For example, if a File System adapter configuration collects documents from a file system every 10 minutes, so the documents can be used in another business process, the best schedule type is timer. If, however, the service configuration collects documents every Friday at 3:00 p.m., then the best schedule type is weekly.

Enable, Disable, or Delete a Schedule

Enable a Schedule

Enabling a schedule makes the schedule active and causes the associated activity to run according to the schedule settings. A schedule must be enabled to run.

1. Select Deployment > Schedules.
2. Use Search or List to identify the schedule you want and click Go!.

   To find a report schedule, look for the business process created for the schedule. The format is reportname_scheduleBP.
3. On the Schedules page, locate the schedule and select the check box in the Enabled column.

   The schedule is enabled immediately and runs at the next scheduled time

Disable a Schedule

Disabling a schedule makes the schedule inactive. Disable a schedule to stop it for editing or to run the activity manually.

1. Select Deployment > Schedules.
2. Use Search or List to identify the schedule you want and click Go!.

   To find a report schedule, look for the business process created for the schedule. The format is reportname_scheduleBP.
3. On the Schedules page, locate the schedule and clear the check box in the Enabled column.

   The schedule is disabled immediately, till it is enabled again.

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Enable, Disable, or Delete a Schedule

(Continued)

Delete a Schedule

Delete a schedule independently of the activity that it is scheduled to invoke. The Delete function does not delete the business process, service, or report that the schedule invokes. Disabling a schedule stops the schedule from running, but keeps the activity active in the application.

Note

Do not delete, the pre-configured services for archiving, indexing, or purging. Deleting these services negatively impact the performance of your system.

1. Select Deployment > Schedules.
2. Use Search or List to identify the schedule you want and click Go!.

   To find a report schedule, look for the business process created for the schedule. The format is reportname_scheduleBP.
3. On the Schedules page, locate the schedule and select Delete.

   The Resource Summary screen displays the scheduling data for you to review.
4. Click Next to continue with the deletion.

   The Confirm screen is displayed.
5. Click Delete to confirm that you want to delete the business process schedule.

   The schedule is deleted immediately. Other business processes associated with this schedule, such as bootstrapped processes.
6. Click Return to continue.

(Continued on next page)

Schedules for Report

(Continued)

Introduction

You can set up schedules for reports so that they run automatically at hourly, daily, weekly, or monthly intervals. The application does not schedule any reports by default. Consider these guidelines:

- The report configuration must exist before you set up the schedule.
- You can have only one schedule per report configuration.
- After a scheduled report is generated, it can be stored on your file system or sent via email (in .zip format) to a recipient. You set up these choices as part of the report schedule.
- Creating a schedule for a report automatically creates a business process by using the default report name reportname_scheduleBP. The business process for a schedule is listed with other business processes when you select Deployment > Schedules > List > Business Processes.
- You can also schedule a report through the Report Service, if the report configuration is predefined and you provide the report configuration name and the format of the report.

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Exercise 4.4.1: Create a Report Schedule

Introduction

Alice configures to create a scheduled report, that runs every 24 hours.

Instructions

Complete the following steps to create a scheduled report:

Step 1: From the Administration Menu, select **Operations** > **Reports**

Step 2: Click **Go!** Next to **Schedule Report**, under **Schedule**. The **Report Configurations** page is displayed.

Step 3: Select the report **BPDetail_ByBPName** from the Choose Report To Schedule list.

Step 4: Select the output format as **PDF** from the Format list and click **Next**.

Step 5: To store the report on the file system, select the **Store Reports On File System** checkbox.

Step 6: If you want to send the report as an email, select email Address and enter the Subject, email Address, Host, and Port.

Step 7: Click **Next.**

Step 8: Select the **24 Hour Clock Display** check box to use the 24 hr clock.

Step 9: Select the schedule type as **Run based on timer** and click **Next**.

Note

Depending on the schedule type, schedule report wizard displays different **Schedule Settings** pages.

Step 10: Enter the required time interval in Select Time of the Timer Schedule Setting page. For this example, to view the report, give time interval as 2 minutes and click **Next**.

Step 11: Enter any time duration that you want to exclude in the **Schedule Exclusions** page. In this exercise, do not enter any exclusions and click **Next**.

Step 12: Enter any dates that you want to exclude in the **Date Exclusions** page. In this exercise, do not enter any exclusions and click **Next**.

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Exercise 4.4.1: Create a Report Schedule

(Continued)

Instructions

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Step 13: Review the setting in the **Confirm** page and click **Finish**.

Step 14: Go to **/opt/apps/sfg1_9000/install/reports** in FileZilla and the view the PDF report.

Step 15: From the Administration Menu, select **Deployment** > **Schedules**. The Schedules page is displayed.

Step 16: Enter **BPDetails_BYBPName_ScheduleBP** in the text box next to Search by Name and click **Go!**.

Step 17: You can view the schedule **BPDetails_BPName_ScheduleBP**. For this exercise, since you scheduled the report for every 2 minutes, disable this schedule to avoid unnecessary creation of reports.

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Edit a Report Schedule

Edit a Report Schedule

You can edit a report schedule in two ways:

- From Operations > Reports, you can locate the report that you want and edit its schedule. Use this method if you want to modify the format of the report or how it is delivered to the file system or to an email recipient. However, this method makes disabling the schedule more cumbersome.
- From Deployment > Schedules, you can locate the business process that was created for the report schedule and edit it. This method makes it easy to disable the schedule editing it. However, you cannot adjust the format of the report or how it is delivered to the file system or to an email recipient.

To edit a report schedule

1. Know the name of the business process that corresponds to the report schedule you want. Business processes for report schedules are named reportname_scheduleBP (where is the name of the default report configuration).

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Edit a Report Schedule

(Continued)

Edit a Report Schedule ....(Continued)

2. Choose any of the following methods in the table:

Note

In the table heading, Method A and Method B represents
Method A: To modify the format of the report, how it is delivered, and scheduling times:
Method B: To modify only scheduling times and preserve the report format and delivery option.

Method A	Method B
1. Disable the business process for the report schedule you want. Select Deployment > Schedules > List > Business Processes. In the list, clear the Enabled check box next to the report schedule you want. Click Return. 2. Select Operations > Reports. Use Search or List to display the report you want. In the list, click edit in the Schedule column for the report you want. 3. Indicate the report format. Click Next. 4. Indicate the delivery options for storing the report on the file system or for sending it to an e-mail recipient. Click Next.	1. Disable the business process for the report schedule you want. Select Deployment > Schedules > List > Business Processes. In the list, clear the Enabled check box next to the report schedule you want. 2. In the list, click edit next to the report schedule you want.

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Edit a Report Schedule

(Continued)

Edit a Report Schedule ....(Continued)

3. Work through the scheduling wizard to adjust the schedule.

   You can run a schedule based on a timer, daily, days of the week, or days of the month.

   Click **Finish** to save and apply the changes to the schedule.
4. Enable the business process that corresponds to the report schedule you edited.

Example of a Report Schedule

This scheduling example consists of three scheduling activities:

- Scheduling a report every day at a specific time, including exclusions. (Daily schedule)
- Scheduling a report one day each week at a specific time. (Weekly schedule)
- Scheduling a report one day a month at a specific time. (Monthly schedule)

Your manager requires you to provide three reports at different times, all in HTML format:

- Report 1 on business processes that are in a waiting status each day by 10:00 AM, except on holidays such as New Year day, January 1.
- Report 2 on the number of functional acknowledgements from a specified sender ID that are overdue during the week by 11:00 AM each Wednesday.
- Report 3 on business process definitions that were modified during the month by 4:00 PM on the last day of the month.

You can set schedules to automatically generate these reports for you and have the report information e-mailed to you, reducing your time spent on reporting issues. The preceding requirements set by your manager, you determine that you need 45 minutes to prepare each of the reports for your manager, so the email report shows you 1 hour before the deadlines set by your manager.

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Edit a Report Schedule

(Continued)

Edit a Report Schedule ....(Continued)

The following table describes the schedule parameters that you set for each report:

Report	Schedule Settings
Report 1	Report to schedule: BPDetail_ByState. This report provides the states of each business process that are running in the application. Format: HTML E-mail Address: ■ Subject: Report 1 ■ E-mail Address: yourname@yourcompany.com ■ E-mail Host: your e-mail host server name ■ E-mail Port: your e-mail port number Schedule Type: Daily Schedule Time: 9:00 a.m. Date Exclusions: 1 - January
Report 2	Report to schedule: EDIOutAck_GroupLevel_BySenderReceiver. This report provides the status of acknowledgements based on sender or receiver IDs. Format: HTML E-mail Address: ■ Subject: Report 2 ■ E-mail Address: yourname@yourcompany.com ■ E-mail Host: your e-mail host server name ■ E-mail Port: your e-mail port number Schedule Type: Day(s) of the week Schedule Time: 10:00 a.m. Wednesday

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Edit a Report Schedule

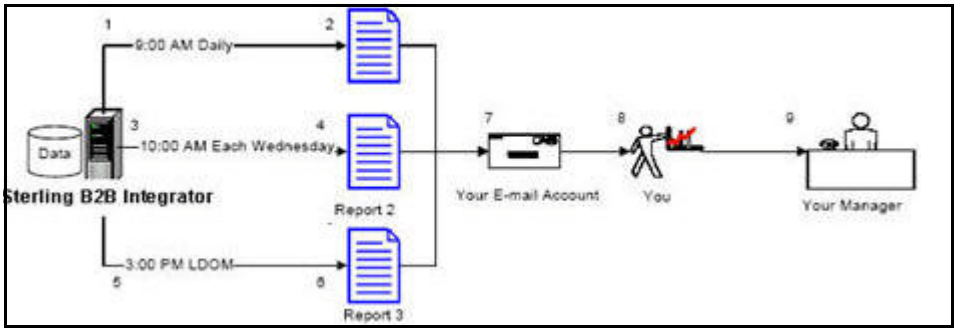
(Continued)

Edit a Report Schedule

....(Continued)

Report	Schedule Settings
Report 3	Report to schedule: BPDefList_ByBPDefStatus. This report provides a list of business process definitions by status. Format: HTML E-mail Address: ■ Subject: Report 3 ■ E-mail Address: yourname@yourcompany.com ■ E-mail Host: your e-mail host server name ■ E-mail Port: your e-mail port number Schedule Type: Day(s) of the month Schedule Time: 3:00 p.m. LDOM (Last Day Of Month) Date Exclusions: None

The following figure shows the reports that are running on schedule, being e-mailed to you, and you providing the reports to your manager:



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Edit a Report Schedule

(Continued)

Edit a Report Schedule ....(Continued)

1. The BPDetail_ByState report (Report 1) runs at 09:00 AM. every day.
2. The report is created and mailed to your email account.
3. Each Wednesday at 10:00 AM, the EDIOutAck_GroupLevel_BySenderReceiver report (Report 2) runs.
4. The report is created and mailed to your email account.
5. On the last day of each month (LDOM) at 3:00 PM, the BPDefList_ByBPDefStatus report (Report 3) runs.
6. The report is created and mailed to your email account.
7. You retrieve the reports from your email account at the appropriate times and create the reports for your manager.
8. You deliver the reports to your manager by the specified deadlines.

Schedules for Stand-alone Services

Introduction

You can set up schedules only for those services and adapters that can be run as a stand-alone service. However, all services and adapters can be included in a business process that is scheduled.

Creating a schedule for a service is part of creating the service configuration. You can schedule stand-alone services so that they run automatically on hourly, daily, weekly, or monthly intervals. Consider these guidelines:

- You schedule only that service. You cannot create a schedule and apply it to many services at the same time.
- The schedule settings are stored in the database you use with the application and are internal to the application *only*. Schedules for applications that are external to the application do not affect the service and adapters schedules that you create within the application.
- Some stand-alone services and adapters are supplied with default schedules when the application is installed.
- The run as User option is available only to super users. It is not available to subgroups of the Admin group or other groups.

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Schedules for Stand-alone Services

(Continued)

Introduction

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Following table lists the stand-alone services and adapters that can create schedules:

Stand-alone Services and Adapters	
B2B Mail Client adapter	IBM Information Exchange FTP adapter
BackupService	Index Business Process Service
Command Line2 adapter	Java Database Connectivity (JDBC) adapter
Connect:Enterprise adapter	Lightweight JDBC adapter
EDI Enveloping Service	Mailbox Evaluate All Automatic Routing Rules service
EDI Overdue Acknowledgment Check Service	Mailbox Evaluate Routing Rules service
File System adapter	Mailbox Scheduled Delete service
FTP Get adapter	Oracle AQ JMS Queue adapter
Gentran:Server UNIX Purge Process Service	Oracle AQ JMS Topic adapter
Gentran:Server Windows adapter	Perf Data Purge service
GXS ICS FTP adapter	Purge service
	Purge Business Process Linkage service
	Retention processor

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Schedules for Stand-alone Services

(Continued)

Create a Schedule for a stand-alone Service

You create a service schedule when you configure the service.

1. Install the service or adapter.
2. To configure the service, select Deployment > Services > Configuration.
3. Search for the services that you want to schedule and click edit.
4. Complete the steps that are required for the service or adapter in the scheduling wizard.
5. You can run a schedule based on a timer, daily, days of the week, or days of the month.
6. Click Finish. The schedule is saved, enabled, and ready to run.

Edit a Schedule for a stand-alone Service

1. Disable the schedule that you are editing. This action prevents errors in case the schedule is running at the time you are working.
2. Select Deployment > Schedules.
3. Type the name of the schedule in the Search field and click Go!.
4. Alternately, select Services in the List box, click Go!., and click Edit next to the schedule you want in the list.
5. Work through the scheduling wizard to adjust the schedule.
6. You can run a schedule based on a timer, daily, days of the week, or days of the month.
7. Click Finish to save and apply the changes to the schedule.
8. Enable the schedule.

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Schedules for Stand-alone Services

(Continued)

Delete a Schedule for a stand-alone Business Process or Service

1. In the application, select Deployment > Schedules.
   In the application AS2 Edition, select Administration Menu > Schedules.
2. Type the name of the schedule in the Search field and click Go!.
   Alternately, use the List box, select Business processes or Services, and click Go!.
3. Click Delete next to the schedule you want to delete.
   The Resource Summary screen displays with the scheduling data for you to review.
4. Click Next to continue with the deletion.
   The Confirm screen displays.
5. Click Delete to confirm.
   The schedule is deleted immediately. Any other business processes associated with this schedule, such as bootstrapped processes.

Example of a stand-alone Service Schedule

This example consists of two scheduling activities:

- Weekly schedule
  Scheduling a file system adapter one day each week at a specific time.
- Monthly schedule
  Scheduling a Gentran:Server Windows adapter one day a month at a specific time.

By analyzing your past processing trends, you determine you have a file system that you must collect data for every week, and you also need to collect information from a rarely used file system one time a month from which you create a report for your manager.

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Schedules for Stand-alone Services

(Continued)

Example of a stand-alone Service Schedule ....(Continued)

Using the analysis of your processing volumes and peak times, and the importance of both of these processes, you determine that you can schedule both services during non-peak hours:

- File System adapter 1 (weekly) – 07:00 AM. each Monday
- File System adapter 2 (monthly) – 06:00 AM. LDOM (last day of month)

The following table describes the schedule parameters that you set for the file system adapters:

Service	Schedule Settings
File System adapter 1	Service to schedule: File System adapter Timer or Clock: Clock (Weekly) System: node1 Execution Day: Every Monday Scheduled Time(s): 07:00 a.m. Excluded Time(s): None Excluded Dates: None At startup: No,Run As User: Admin
File System adapter 2	Service to schedule: File System adapter Timer or Clock: Clock (Monthly)) System: node1 Execution Day: LDOM (last day of the month) Scheduled Time(s): 06:00 a.m. Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin

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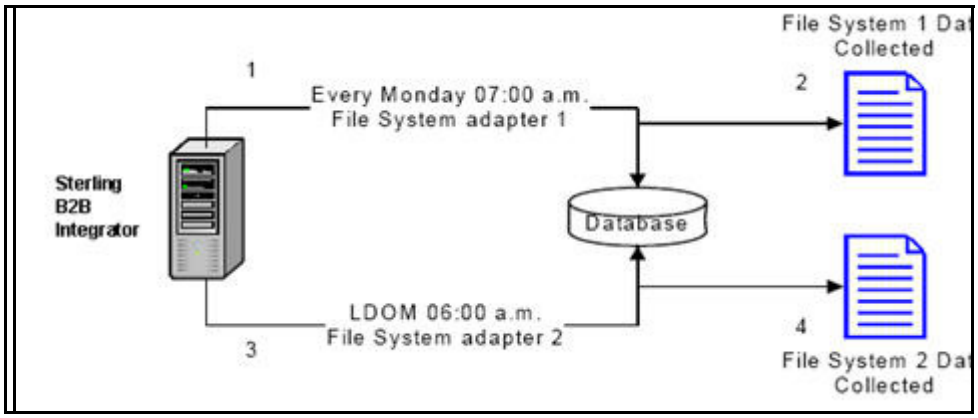
Schedules for Stand-alone Services

(Continued)

Example of a stand-alone Service Schedule ....(Continued)

This figure shows the services that are running on schedule and the data that is being collected from the file systems:



1. Every Monday at 07:00 AM. the File System adapter 1 runs in the application and checks File System 1 for data.
2. Data in File System 1 is collected and brought into the application for use by the appropriate business process or service.
3. At 06:00 AM. on the last day of each month, the File System adapter 2 service runs in the application and checks File System 2 for data.
4. Data in File System 2 is collected and brought into the application for use by the appropriate business process or service, so that you can create the report for your manager.

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Schedules for Stand-alone Services

(Continued)

Default Schedules for Supplied Services and Adapters

Some services and adapters are supplied with default schedules when the application is installed. You can edit the default schedules to meet your needs.

Service or Adapter Supplied During Installation	Default Schedule Settings
AFTPurgeArchiveMailboxes Ensures that messages stored in AFT's archive mailboxes are made eligible for purging soon after their corresponding AFT Routes are purged	Enabled: Yes Schedule Type: Business Process Timer or Clock: Clock System: node1 Execution Day: Every Day Scheduled Time(s): 04:00 a.m. Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin
AssociateBPsToDocs Associates expired documents with the business process to enable archiving and purging **Note**: Do not delete this service. Deleting it will impair system performance.	Enabled: Yes Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 0 hours and 30 minutes Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin

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Schedules for Stand-alone Services

(Continued)

Default Schedules for Supplied Services and Adapters ....(Continued)

Service or Adapter Supplied During Installation	Default Schedule Settings
AutoTerminate Terminates business processes that have been in a specified state for more than a specified number of days	Enabled: Yes Schedule Type: Service Timer or Clock: Clock System: node1 Execution Day: Every Day Scheduled Time(s): 04:00 AM Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin
BackupService Backs up complete or terminated business process data	Enabled: Yes Schedule Type: Service Timer or Clock: Clock System: node1 Execution Day: Every Day Scheduled Time(s): 02:00 a.m. Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin

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Schedules for Stand-alone Services

(Continued)

Default Schedules for Supplied Services and Adapters ....(Continued)

Service or Adapter Supplied During Installation	Default Schedule Settings
BPExpirator Continues waiting services when their timeout period expires	Enabled: Yes Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 0 hours and 15 minutes Excluded Time(s): None Excluded Dates: None At startup: Yes Run As User: Admin
BPLinkagePurgeService Purges expired business process hierarchical data. **Note:** Do not delete this service. Deleting it impairs the system performance	Enabled: Yes Schedule Type: Service Timer or Clock: Clock (Daily) System: node1 Execution Day: Every Day Scheduled Time(s): 02:30 a.m. Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin.

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Schedules for Stand-alone Services

(Continued)

Default Schedules for Supplied Services and Adapters ....(Continued)

Service or Adapter Supplied During Installation	Default Schedule Settings
BPRecovery Recovers incomplete business processes	Enabled: Yes Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 0 hours and 45 minutes Excluded Time(s): None Excluded Dates: None At startup: Yes Run As User: Admin
CheckExpireService Checks to see if certificates are about to expire	Enabled: Yes Schedule Type: Service Timer or Clock: Clock System: node1 Execution Day: Every Day Scheduled Time(s): 02:30 a.m. Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin

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Schedules for Stand-alone Services

(Continued)

Default Schedules for Supplied Services and Adapters ....(Continued)

Service or Adapter Supplied During Installation	Default Schedule Settings
DataStoreFileSyste	Enabled: No Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 0 hours and 1 minute Excluded Time(s): None Excluded Dates: None At startup: Yes Run As User: Admin
DBMonitor Monitors the database for common conditions that may be signs of problems with database health	Enabled: Yes Schedule Type: Service Timer or Clock: Clock System: node1 Execution Day: Monday Scheduled Time(s): 04:00 a.m. Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin

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Schedules for Stand-alone Services

(Continued)

Default Schedules for Supplied Services and Adapters ....(Continued)

Service or Adapter Supplied During Installation	Default Schedule Settings
DocumentStatsArchive Recalculates the documents statistics	Enabled: Yes Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 0 hours and 30 minutes Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin
IndexBusinessProcessService Moves completed or terminated business process data into the index tables in the database **Note:** Do not delete this service. Deleting it impairs system performance.	Enabled: Yes Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 0 hours and 10 minutes Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin

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Schedules for Stand-alone Services

(Continued)

Default Schedules for Supplied Services and Adapters ....(Continued)

Service or Adapter Supplied During Installation	Default Schedule Settings
IWFCDriverService Recovers IWFC objects from the wfc_error/iwfc directory and attempts to start the subprocess. If the subprocess starts, the file is deleted; otherwise, the file remains in the directory for the next scheduled run time.	Enabled: Yes Schedule Type: Service Timer or Clock: Clock (Daily) System: node1 Execution Day: Every Day Scheduled Time(s): 03:00 a.m. Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin
MailboxEvaluateAllAutomaticRules Evaluates all mailbox rules designated for automatic processing	Enabled: No Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 0 hours and 1 minutes Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin

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Schedules for Stand-alone Services

(Continued)

Default Schedules for Supplied Services and Adapters ....(Continued)

Service or Adapter Supplied During Installation	Default Schedule Settings
MailboxEvaluateAllAutomaticRulesSubMin Evaluates all mailbox rules designated for automatic processing	Enabled: No Schedule Type: Business Process Timer or Clock: Timer System: node1 Execution Day: Every Day Execution Time: Every 0 hours and 10 seconds Excluded Time(s): None Excluded Dates: None At startup: No Run As User: admin
MessagePurge Purges expired user messages **Note:** Do not delete this service. Deleting it impairs system performance.	Enabled: Yes Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 0 hours and 30 minutes Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin

(Continued on next page)

Schedules for Stand-alone Services

(Continued)

Default Schedules for Supplied Services and Adapters ....(Continued)

Service or Adapter Supplied During Installation	Default Schedule Settings
NonEDiInboundFSAdapter Collects files from the install_dir/nonediinbound/collect directory for translation purposes	Enabled: No Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 2 hours and 0 minutes Excluded Time(s): None Excluded Dates: None At startup: Yes Run As User: Admin
NonEDiOutboundFSAdapter Collects files from the install_dir/nonedioutbound/collect directory for translation purposes	Enabled: No Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 2 hours and 0 minutes Excluded Time(s): None Excluded Dates: None At startup: Yes Run As User: Admin

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Schedules for Stand-alone Services

(Continued)

Default Schedules for Supplied Services and Adapters ....(Continued)

Service or Adapter Supplied During Installation	Default Schedule Settings
PartialDocumentCleanUp Purges incomplete documents that have expired	Enabled: Yes Schedule Type: Service Timer or Clock: Timer System: node 1 Execution Day: Every Day Scheduled Time(s): Every 2 hours and 0 minutes Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin
PerfDataPurgeService Purges data from YFS_STATISTICS_DETAILS	Enabled: Yes Schedule Type: Service Timer or Clock: Clock System: node1 Execution Day: Every Day Scheduled Time(s): 03:00 a.m. Excluded Time(s): None Excluded Dates: None At startup: No Run As User: admin

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Schedules for Stand-alone Services

(Continued)

Default Schedules for Supplied Services and Adapters ....(Continued)

Service or Adapter Supplied During Installation	Default Schedule Settings
ProduceMsgPurgeService Purges expired user messages **Note:** Do not delete this service. Deleting it impairs system performance.	Enabled: Yes Schedule Type: Service Timer or Clock: Clock System: node1 Execution Day: Every Day Scheduled Time(s): 02:00 a.m. Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin
PurgeService Purges completed or terminated business process data from live tables **Note:** Do not delete this service. Deleting it impairs system performance.	Enabled: Yes Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 0 hours and 10 minutes Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin

(Continued on next page)

Schedules for Stand-alone Services

(Continued)

Default Schedules for Supplied Services and Adapters ....(Continued)

Service or Adapter Supplied During Installation	Default Schedule Settings
RetentionProcessor Purge eligible records from the Reporting Services data repository	Enabled: Yes Schedule Type: Service Timer or Clock: Clock System: node1 Execution Day: Every Day Scheduled Time(s): 02:00 a.m. Excluded Time(s): None Excluded Dates: None At startup: No Run As User: Admin
Scheduled_AlertService Checks business processes for error statuses	Enabled: No Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 0 hours and 30 minutes Excluded Time(s): None Excluded Dates: None At startup: Yes Run As User: Admin

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Schedules for Stand-alone Services

(Continued)

Default Schedules for Supplied Services and Adapters ....(Continued)

Service or Adapter Supplied During Installation	Default Schedule Settings
SyncEngine_DataCleanManager Cleans the data in the SyncEngine tables when all of the tasks are completed based on a syncopsetid process	Enabled: No Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 20 hours and 45 minutes Excluded Time(s): None Excluded Dates: None At startup: Yes Run As User: Admin
SycnEngine_TaskManager Manages tasks for the SyncEngine	Enabled: No Schedule Type: Service Timer or Clock: Timer System: node1 Execution Day: Every Day Scheduled Time(s): Every 6 hours and 0 minutes Excluded Time(s): None Excluded Dates: None At startup: Yes Run As User: Admin

Lesson review

What you have been able to do

After completing this lesson, you should have been able to:

- View database Usage, Services, and Pools.
- Describe the basic of schedules.
- Explain different phases in creating schedules.
- Explain the procedure to enable, disable, and delete schedules.
- Explain the steps to set up schedules for reports and stand-alone services.

Scripts

Introduction

Scripts are used to run set of instructions to process specific activities in Sterling B2B Integrator system. The scripts are stored in <install_dir>/bin directory. In the training environment, the directory path is /opt/IBM/SterlingIntegrator/install/bin.

Depending on the operating system, you are using for Sterling B2B Integrator, script files have one of the following file extensions:

- .sh for UNIX
- .sh.date for UNIX
- .cmd for Windows
- .cmd.date for Windows

Some scripts can have an .in extension of the entire script name. The .in version of the script is the initial script that is used during the startup process. If you change these scripts, you change the initial scripts permanently. The .in scripts overwrite the changes that are made to the counterpart scripts when you run the setup files script.

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Scripts

(Continued)

Frequently used scripts

The table indicates frequently used scripts by the implementers and administers are:

File Name	Description
AddLicenseSet	Adds new license information to the database during installation. Deletes the old license file. Saves the old license set in the install_dir/logs directory in a file named similar to oldLicenseSetXMLdate/timeStamp.xml. This file is saved in a subdirectory with a date and time stamp. For example, install_dir/logs/logs_03142016_074334.
deployer	Deploys Sterling B2B Integrator components into the application server environment during installation. Deploys additional components into the application server environment through the InstallService.
deleteVendorJars	Deletes third party jar files.
dump_info	Dumps database information for support purposes after installation.
enccfgs	Encrypts the database and applications server passwords stored in the configuration file. Do not run this script twice; otherwise, error can occur.
hardstop	Stops Sterling B2B Integrator and all processes immediately. The .cmd version stops the Sterling B2B Integrator Windows service and the MySQL Windows service, if MySQL is the database.
InstallService	This script installs the Sterling B2B Integrator packages during installation. This script installs additional packages after installation. Also installs patches downloaded from the Support On Demand website.
install3rdParty	Adds the password library and the jdbc drivers to tmp scripts during installation. Adds third-party components (properties, library and .jar files) to the Sterling B2B Integrator environment after installation.
patchJNLP	Changes the internal IP address used by applications downloaded with Java Web Start.
run.sh	Starts Sterling B2B Integrator. There is no .cmd file equivalent to this script.

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Scripts

(Continued)

Frequently used scripts

....(Continued)

File Name	Description
setupfiles	Applies configuration changes to an installation.
softstop	Shuts down Sterling B2B Integrator, allowing all processes in progress to complete before stopping.
startWindowsService.cmd	Starts the Noapps, Ops, and the Sterling B2B Integrator Windows services. There is no .sh file equivalent to this script.
stopWindowsService.cmd	Stops the Sterling B2B Integrator Windows service. There is no .sh file equivalent to this script.
tee.exe	Used for logging. There is no .sh file equivalent to this file. Do not use or edit this file.
tmp.cmd	Used by many scripts to obtain Sterling B2B Integrator environment information. Do not use or edit this script. There is no .sh file equivalent to this script.
workflowLauncher	Starts business processes from the command line.

For more scripts, view **/opt/IBM/SterlingIntegrator/install/bin** directory through FileZilla tool in the lab environment.

For more details about the scripts refer:

http://www.ibm.com/support/knowledgecenter/SS3JSW_5.2.0/com.ibm.help.bin_directory.doc/SI_binDir_files.html

Exercise 4.5.4: Run Business Process

Introduction

Alice starts a business process execution from the command line, which in turn will help in real time tuning in future.

Instructions

Complete the following steps to run the business process through command line:

Step 1: From the windows image, click **FileZilla** tool.

Step 2: Click drop down icon next to **QuickConnect**.

Step 3: Select **sftp://root@192.168.40.100** to connect to the server system.

Step 4: From the Local site panel, copy InventoryOf3.xml file from C:\6F89G\Labfiles to Remote site panel, navigate to **/home** directory.

Step 5: From the windows image, click PuTTY icon to access the server system.

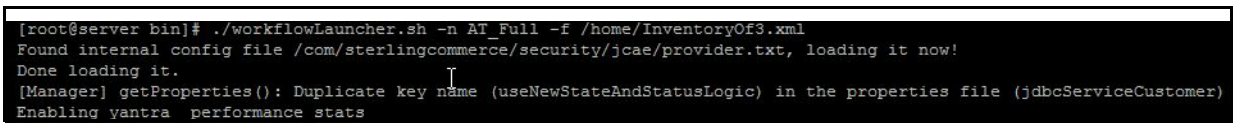
Step 6: Enter **root** as Login as and **root123** as Password.

Step 7: Change the directory to bin directory as:

```
cd /opt/IBM/SterlingIntegrator/install/bin
```

Step 8: Enter **./workflowLauncher.sh -n AT_Full -f /home/InventoryOf3.xml**.

Step 9: Click **Enter**, to view result, as shown in the screen capture.



Step 10: Alternatively, you can view the process in **Business Process** > **Monitor** > **Current Process** of dashboard.

Exercise 4.5.5: Create Database Details

Introduction

Alice need to extract the database information from the Sterling B2B Integrator system for the support team to analyze the database details of the system.

Instructions

Complete the following steps to run dumpinfo script:

Step 1: From the windows image, click PuTTY icon to access the server system.

Step 2: Enter **root** as Login as and **root123** as Password.

Step 3: Change the directory to bin directory as:

```
cd /opt/IBM/SterlingIntegrator/install/bin
```

Step 4: Enter **./dump_info.sh > dump_info.log** .

Step 5: Click **Enter**. A file with name “dump_info.log will be created in the /opt/IBM/SterlingIntegrator/install/bin directory.

Step 6: Type **ls dump_info***.

Step 7: Click **Enter** to view the dump_info.log file.

Step 8: Type **vi dump_info.log**.

Step 9: Click **Enter** to view the content of the file.

Step 10: Enter Esc **:q!** to exit from vi tool.

Lesson review

What you have been able to do

After completing this lesson, you should have been able to:

- Explain about HealthCheck tool.
- Discuss the importance of HealthCheck tool.
- Explain the procedure to install HealthCheck tool.
- Describe the steps to customize HealthCheck tool.
- Explain the importance of the scripts in Sterling B2B Integrator.