IBM® Sterling B2B Integrator Advanced Business Process Modeling V5.2.6.1

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Participant Guide

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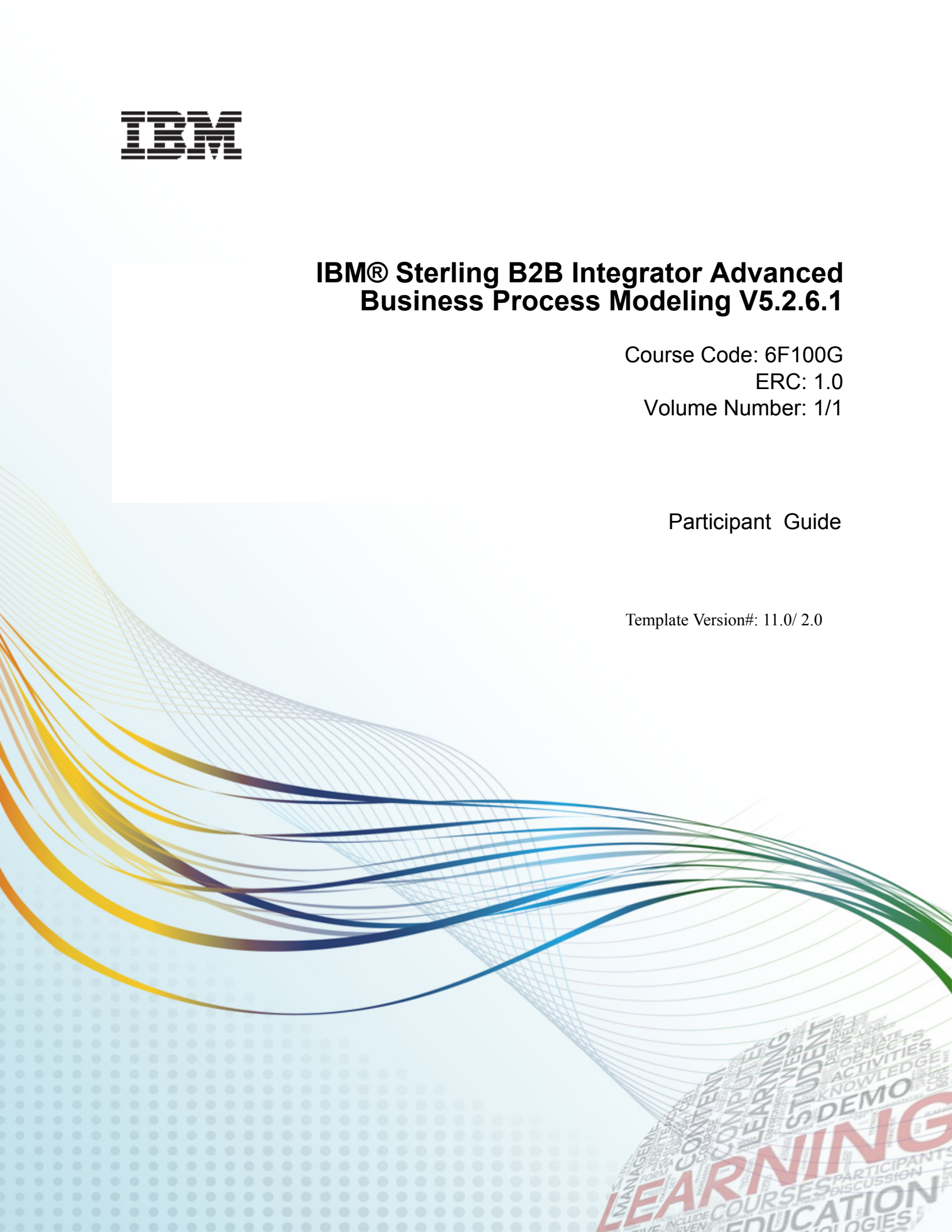

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Contents

Lesson 2.2: Importing Style Sheets

Lesson 2.3: Read Values from a Flat File

Lesson 2.4: Using a Database

Course wrap-up

Course overview

The course overview provides you with an overview of the course, course objectives and agenda, course organization, training environment, and other details specific to this course.

Course description

Overview

The IBM® Sterling B2B Integrator Advanced Business Process Modeling course trains participants on advanced business process modeling, services and adapters, business process to send the message to different storage locations and customize the built-in error business processes. It also guides to use JDBC adapter with the business process to receive configuration values from a database.

Course objectives

After completing this course, you should be able to:

- Differentiate between services, adapters, and activities as they relate to building business processes.
- Configure a business process using the message output options.
- Apply the Assign Service along with DOM or Doc features in a business process
- Create a business process to capture errors and to notify the user of an error.
- Create a business process to manage 997's.
- Create a business process to send data to different storage locations.
- Use the JDBC adapter to create a business process to receive configuration values from a database.

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Course description

(Continued)

Audience

The intended audience for this course are:

- The course is designed for end users, implementers, testers and supporters of the Sterling B2B Integrator.

Prerequisites

The prerequisites for taking this course are:

- 6F870G or 6F871G - IBM® Sterling B2B Integrator Fundamentals V5.2.6.1

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Course description

(Continued)

Curriculum relationship

The course is related with the 6F87G - IBM® Sterling B2B Integrator Fundamentals V5.2.6.1 of the standard curriculum.

Course elements

The informational content in the course is presented with the help of the following course elements:

Procedures

Procedural information demonstrates how to navigate to and configure the different feature in the application by explaining the important fields.

Exercise challenge

You are encouraged to practice tasks on the system to reinforce the concepts you are learning. Exercise Challenges enable you to test your understanding of the concepts by solving real-life business scenarios with minimal or no assistance.

Exercise walk-through

Enables you to solve real-life business scenarios with detailed step-by-step instructions to obtain the required results.

Optional exercise

Optional Exercises enable you to gain expertise by practicing some of the key concepts.

Course description

(Continued)

Course structure

The following units are a part of this course offering.

UNIT 1: INTRODUCTION TO SERVICES

- Lesson 1 - Basic BPML Concepts
- Lesson 2 - Service Editor Configuration Options
- Lesson 3 - Using the Assign

UNIT 2: SERVICES AND BUSINESS PROCESS IMPLEMENTATION

- Lesson 1 - Error Handling
- Lesson 2 - Importing Style Sheets
- Lesson 3 - Read Values from a Flat File
- Lesson 4 - Using a Database

Agenda

Duration

The duration of this course is 3 days / 24 hours.

Day 1

- Welcome - 30 minutes
- Unit 1 - INTRODUCTION TO SERVICES
  - Lesson 1: Basic BPML Concepts (3 hours)
  - Lesson 2: Service Editor Configuration Options (3 hour 30 minutes)
  - Lesson 3: Using the Assign (1 hour)

Day 2

- Unit 1 - INTRODUCTION TO SERVICES
  - Lesson 3: Using the Assign (2 hours)
- Unit 2 - SERVICES AND BUSINESS PROCESS IMPLEMENTATION
  - Lesson 1: Error Handling (3 hours)
  - Lesson 2: Importing Style Sheets (2 hours)
  - Lesson 3: Read Values from a Flat File (1 hour)

Day 3

- Unit 2 - SERVICES AND BUSINESS PROCESS IMPLEMENTATION
  - Lesson 3: Read Values from a Flat File (3 hours 30 minutes)
  - Lesson 4: Using a Database (4 hours)
- Course Wrapup (30 minutes)

Unit 1: Introduction to Services

This unit provides an overview of the business process modeling concepts, describe service editor configuration options and also learn the usage of the assign.

LESSON 1.1: Basic BPML Concepts

What this lesson is about

This lesson provides an overview of the Business Process Modeling Language (BPML) components.

What you should be able to do

After completing this lesson, you should be able to:

- Explain the activities that perform theBPML functions.
- Differentiate between services and adapters as they relate to Sterling B2B Integrator.
- Explain how Sterling B2B Integrator uses BPML.

Documentation

Sterling B2B Integrator and BPML

What is BPML?

Introduction

BPML is short for Business Process Modeling Language. It is an XML-based language for describing a business process. How much XML knowledge is in need to comprehend BPML? You need to know the basics of XML. For example, you need to know about elements and attributes, usage of start, end, and empty tags, and other basic XML concepts. An understanding of XPath is necessary to access document content. Advanced features such as DTD structure or various entity references are not needed.

Services and Adapters

Services and adapters are software components that do work. Business processes make calls to services and adapters to do this work. In order for a business process to interact with these components, you need to include services as steps in your business process. A service is a component of Sterling B2B Integrator, such as a translator. Services that access disk or other applications (outside of Sterling B2B Integrator) are known as adapters.

Exchanging Messages between Business Processes

In Sterling B2B Integrator, messages are exchanged with business processes by way of the produce and consume BPML activities. The produce activity sends a message and the consume activity receives a message from a process.

When the produce activity runs, it sends a message to the specified consuming processes; the produce activity does not wait for the message to actually be consumed. If the receiving process for the message is not correctly running a consume activity, then the message is queued until a matching consume activity runs. The message exchange is thus considered asynchronous.

While BPML supports this message exchange, it is a best practice in Sterling B2B Integrator to use the Invoke Business process service to start a child or parallel process and pass message information.

BPML Supported Activities

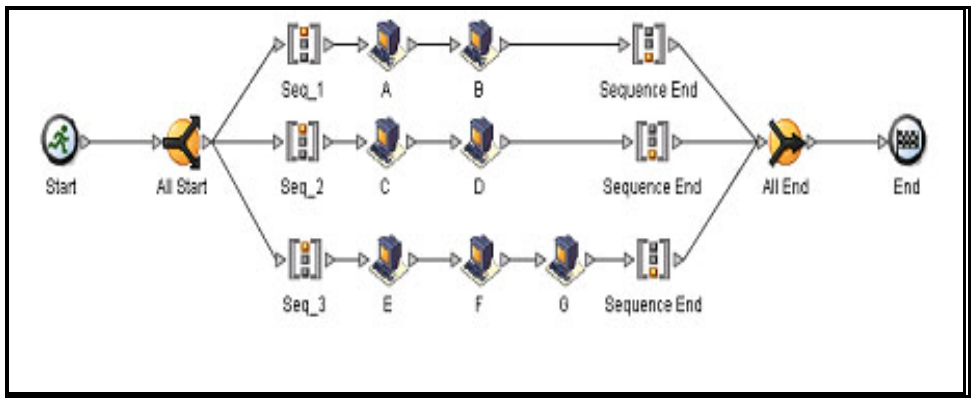
Introduction

This section provides a reference of the BPML activities that Sterling B2B Integrator recognizes. The activities are listed in alphabetical order for ease of reference.

All

The All activity (parent activity) contains two or more complex sub activities (child activities) that run simultaneously in the business process. However, nothing runs after the All activity until every child activity in the All activity has to complete. The following criteria provides a guide for using the All activity in a business process.

The following image depicts the Example Model:



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BPML Supported Activities

(Continued)

All

....(Continued)

The following table provides the example BPML :

```
<all>
  <sequence name="Seq_1">
    <operation name="A"> ... </operation>
    <operation name="B"> ... </operation>
  </sequence>

  <sequence name="Seq_2">
    <operation name="C"> ... </operation>
    <operation name="D"> ... </operation>
  </sequence>

  <sequence name="Seq_3">
    <operation name="E"> ... </operation>
    <operation name="F"> ... </operation>
    <operation name="G"> ... </operation>
  </sequence>
</all>
```

This All activity has three child activities: Seq_1, Seq_2, and Seq_3. Sterling B2B Integrator attempts to run all three simultaneously. Since running a sequence corresponds to running children of the sequence, Sterling B2B Integrator does operations A, C, and E simultaneously. These operations may take different amounts of time to complete, so the next operation to run vary. For example, operation C may complete long before A and E. As soon as C finishes, D starts.

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BPML Supported Activities

(Continued)

Assign

The Assign activity sets a value in the process data that is equal to a fixed value, either a number or a string. Additionally, it can incorporate XPath expressions. When the assign activity appears as an activity, it assigns from a constant to the process data. The *to* attribute corresponds to a path within the process data. The *from* attribute can be used to extract information from a previously assigned value. The *from* is usually found by using an XPath search in Process Data.

 Note

Sterling B2B Integrator does not recognize nested Assigns activities. Multiple Assign statements can be done through the Assign Service.

Using the Assign element

As a process runs, it obtains information from participants and communicates it to other participants. In Sterling B2B Integrator, participants can be services, adapters, or other processes.

An incoming document may contain a great deal of data, but the process participants may need only a small portion of that data. Therefore, the process needs to be selective about what it actually shares with different participants.

The process decides what information is relevant and uses the assign element to share that subset. The assign element takes a known value and includes it in an output message. In a similar manner, it can take a value from an input message and make it available for the process.

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BPML Supported Activities

(Continued)

Assign

....(Continued)

When using the assign element in an operation, you must know the parameters for the service. For example, the map name that the translator needs. In other words, the Assign element is used to control the individual parameters in an adapter or service. The following list describes the parameters for the assign element:

- The assignment source and target contexts depend on the manner in which the assign element is used.
- When the assign element is within the output element, it assigns from the process data to the outgoing message. The *to* attribute corresponds to the path within the message and is used to construct the message contents.

When the assign element is within the input element, it assigns from the incoming message to the process data. The *to* attribute corresponds to a value within the process data.

The schema for the assign activity as an independent activity is:

```
<assign to = ″x″> 3 </assign>
```

The schema for the assign element within an operation is:

```
<operation name=″name″>
   <participant name=″name of specific service″/>
   <output message-″output message from service″/>
   <input message=″input message for service″>
   <assign to=′z′ from =″x″/>
   </input>
</operation>
```

The assign element in a service:

```
<operation name="XML Encoder">
   <participant name="XMLEncoder"/>
   <output message="XMLEncoderTypeInputMessage">
   <assign to="." from="*"></assign>
   <assign to="map_name">app2xml</assign>
```

The output message in a Service is the configuration setting being sent to the service. For example the XMLEncoder seen above is assigning the name of a map to use.

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BPML Supported Activities

(Continued)

Choice

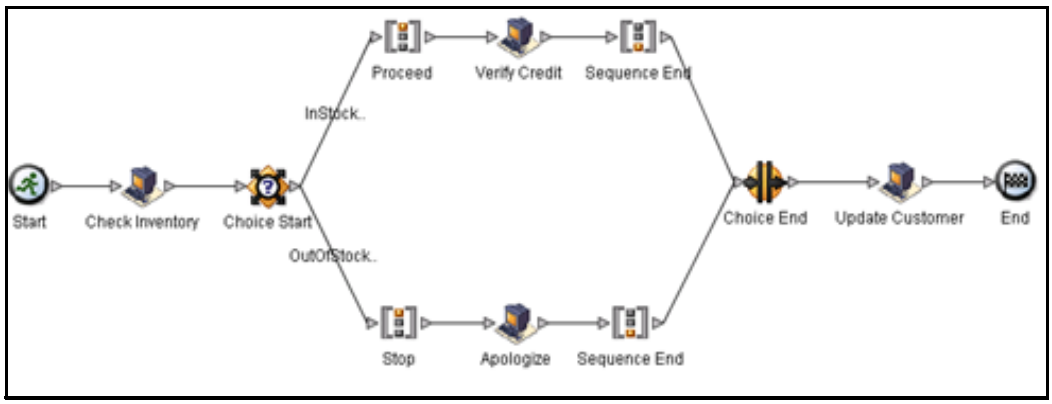
A Choice activity decides using rules, in the business process model as to which child activity to run. When the Choice activity is run, Sterling B2B Integrator checks off each of the edges of the choice element and runs the path of the first rule it finds to be true. An edge of a choice may have multiple rules; the process continues in a path if *any* of the rules in that path are found to be true. After Sterling B2B Integrator completes that activity, the choice itself is complete, and it runs no other activities in the choice after that point.

It is possible, however, to have choices where no activity is run because no rule was found to be true. If a child activity is not referenced, it never runs. If it is determined that no child activity is a candidate for running, the Choice activity immediately goes to Choice End.

Important

To model a deferred activity, use a Choice activity with a single branch. If the rule is not met the process will skip to the choice end, bypassing any activities before it. Commonly used to break a loop.

The following image shows how to implement the Choice activity in a business process model:



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BPML Supported Activities

(Continued)

Choice

....(Continued)

Branch Processing

The Choice activity makes it possible to model branch processing. Branch processing depends on a decision of the process specifying which child activity to run. One or more rules must be evaluated in order to decide. The select element is required and includes one or more case elements. Each case links the outcome of a rule to an activity. If the rule evaluates to true, or if the rule evaluates to false when the negative attribute is true, that activity is executed.

Multiple cases can reference the same child activity. In Sterling B2B Integrator, the order in which the case elements is shown is the order in which they are evaluated. The first case which evaluates to true determines the child activity to run.

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BPML Supported Activities

(Continued)

Choice

....(Continued)

The following table provides the example BPML

```
<process name="ProcessCustomerOrder">
  <rule name="BookInStock">
    <condition>foundBook = true </condition>
  </rule>
<sequence>
    <operation name="Check Inventory">
      <participant name="InventoryService">
        <output message="checkStockRequest">
          <assign to='ISBN'>1-56592-488-6</assign>
        </output>
        <input message name="checkStockResponse">
          <assign to="foundBook" from="InStock" />
        </input>
      </operation>
    <choice>
      <select>
        <case ref="BookInStock" activity="proceed"/>
        <case ref="BookInStock"
              negative="true" activity="stop"/>
      </select>
<sequence name="proceed">
        <operation name='Verify Credit Card'>
        </operation>
      </sequence>
<sequence name="stop">
        <operation name='Apologize'> ... </operation>
      </sequence>
    </choice>
<operation name='Update customer'> ... </operation>
  </sequence>
</process>
```

(Continued on next page)

BPML Supported Activities

(Continued)

Choice

....(Continued)

Focusing on the Choice activity, you can see it contains multiple edges, each of which has a rule. For now, think of a rule as something that is either true or false. In this case, before the process continues it checks to see whether the required book is in stock. The BookInStock rule will be true if the book is in stock, otherwise it is false.

The following table provides the example BPML:

```
<rule name="BookInStock">
<condition>foundBook = true </condition>
</rule>
```

Input

The input element accepts a message that is delivered to the process.

- Use the input element in the operation activity to accept a message that is delivered from a participant to the process (process input).
- Use the message attribute to reference the relevant message definition.
- Use the assign element to assign from the message contents to the process data. You can use multiple assignments for multi-part messages.

The following table provides the example BPML:

```
<input message>
  <assign/>*
</input>
```

(Continued on next page)

BPML Supported Activities

(Continued)

Join

This activity merges the results of a completed nested business process into the business process data. Use this activity to make a process wait for the completion of the processes referred by the **ref** attribute (an XPath expression for referencing an element in process data that holds process instance information).

The following table provides the example BPML:

```
<join ref>
```

OnFault Group

The OnFault Group activity associates a fault handling activity with a complex activity. Use it to recover from faults and allow the process to continue.

Operation

The Operation activity invokes an operation on a service.

- An operation involves a synchronous request/response message exchange with a possible fault message.
- When an operation is invoked, it delivers a request message and waits for a response message. If a fault is communicated, the operation faults.
- Usually in B2Bi the operation will have the name of the service you are invoking

The Operation activity produces the outgoing message through assignment to the service and waits for the incoming message in order for the activity to complete. The participant element (or service configuration name) is mandatory. The output element must precede the input element.

The following table provides the example BPML:

```
<operation name=”this is a service name”>
<participant name=”configuration name”/>
<output message=”what to send out”>
<assign />
</output>
<input message=’what comes back’>
<assign />
</input>
</operation>
```

(Continued on next page)

BPML Supported Activities

(Continued)

Output

The output element constructs a message that process delivers to a participant. The message attribute references the relevant message definition.

- Use the assign element to construct the contents of the message by assignment from the process data.
- Use multiple assignments for multi-part messages, no assignments are required for empty messages.

The following table provides the example BPML:

```
<output message>
<assign/>
</output>
```

Participant

The participant element defines or references a participant of the process. Sterling B2B Integrator recognizes this element only when it is used in the operation activity.

- Use the participant element to reference a participant within an activity.
- You must use the name attribute when defining the participant as a simple activity. Defining the participant as a simple activity defines a static participant.

Usually in B2Bi the participant will be the name of the service configuration to use.

The following table provides the example BPML:

```
<operation name="XML Encoder">
        <participant name="XMLEncoder"/>
```

(Continued on next page)

BPML Supported Activities

(Continued)

Process

Use the process element to define a top-level process. The top-level activity relates to Start and End activities.

The following table provides the example BPML:

```
<process name>
<rule name/>*
<activity name/>
/ (simpleActivity | complexActivity)
</process>
```

Produce

Use the Produce activity to send a message to a business process instance. The name attribute in the participant element must refer an element in process data that provides the necessary information to contact a process instance.

The following table provides the example BPML:

```
<produce name?>
  <participant name />
  (output message >
    <assign />*
  </output>
</produce>
```

(Continued on next page)

BPML Supported Activities

(Continued)

Repeat

Use the Repeat activity to run a portion of the business process multiple times. The **ref** attribute is the name of the activity that should be run again. The referenced activity must be an ancestor of the repeat activity. The **ref** will commonly be a sequence you would like to repeat.

The following table provides the example BPML:

```
<repeat ref/>
```

Rule

A rule is an expression that evaluates single or multiple conditions that are based on information that is known to the process or information that is communicated to the process. The conditional expressions allow for diverse business process decisions both internal to the process and external to the environment.

Complex activities often require that a process select one of several activities or even, on occasion, discriminate the information upon which it acts.

Rules can be built into activities that affect activity selection through branching and repeating actions and message consumption. In addition, rules can contain multiple conditions.

The contents of the condition activity must correspond to an expression that can be evaluated as either true or false. BPML mandates that these expressions be XPath expressions. In B2Bi the XPath expression works against Process Data.

A choice activity will use the rule evaluation to determine a course or branch to follow.

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BPML Supported Activities

(Continued)

Rule

....(Continued)

The rule element defines a rule, the conditions by which the rule is met and the dependency on other rules.

- The condition element formulates an expression. The condition is met if the expression evaluated to true; or when the negative attribute is true, if the expression evaluates to false.
- Multiple conditions that appear inside a rule imply logical order. This notation is for convenience in reading. Other forms of logical composition are fully supported in the XPath language.
- The select element in a choice determines which line activity runs based on a number of cases.

The following table provides the example BPML:

```
<rule name?>
  <condition/>+
</rule>
<condition>
expression
</condition>
<select>
  <case activity ref negative?/>*
</select>
```

(Continued on next page)

BPML Supported Activities

(Continued)

Sequence

A Sequence activity runs all of the activities in it when a process is run. The activities are run in the order they are listed in the sequence. The Sequence activity ends after all its sub activities are completed. All sub activities are executed in sequence. The sequence models a compound state that moves through a series of sub states, one for each sub activity. A transition is triggered upon the completion of a previous activity. This activity completes after the last sub activity is completed.

The following table provides the example BPML:

```
<process name="default">
  <sequence>
    <assign to="Recipient">joe@acme.com</assign>
<spawn name=Send_Email"/>
  </sequence>
</process>
```

In this case, the sequence has two activities: Assign and Send email. When the process is run, the system first runs Assign then runs Send email because that is the order of activities are listed in the sequence.

The following table provides the example BPML:

```
<sequence>
activity+
</sequence>
```

(Continued on next page)

BPML Supported Activities

(Continued)

Spawn

Use the Spawn activity to create an instance of a business process. The ref attribute must contain the name of a valid business process within the Sterling B2B Integrator system. The new business process instance process data is a copy of the parent process data when the Spawn activity ran. The child process and parent process are completed independent of each other; if one process completes (either normally or due to a fault), it has no effect on the other. After the spawn activity completes, an element in process data with the same name as the spawned process contains the instance information.

 Note

While spawn is a supported BPML activity in B2B Integrator it is a best practice to use the Invoke Business Process service when calling a child process.

The following table provides the example BPML:

```
<spawn ref/>
```

Lesson review

What you have been able to do

- Be familiar with the activities that perform the BPML functions
- Be able to differentiate between Services and adapters as they relate to Sterling B2B Integrator
- Be able to explain how Sterling B2B Integrator uses BPML

LESSON 1.2: Service Editor Configuration Options

What this lesson is about

In this lesson you learn about the output options, what they mean? and how they work? In addition, you learn how to interpret the results using these options .

What you should be able to do

After completing this lesson, you should be able to:

- Explain what each output option does to the content of a message.
- Configure a business process using one of the three output options.

How you will check your progress

- The progress of the course is analyzed based on the successful application of the exercises References

Documentation

Configuring Service Parameters

Message Exchange between BPML and Services and Adapters

Introduction

In this lesson, you will check in three business processes with a slight modification to each one. The only difference will be on the final file system adapter and changing the output message that is sent to the file system adapter service.

The three options include:

- Obtain message first, then Process Data
- Obtain Process Data first, then message
- Message Only

This will help to review the exchange of messages between BPML and services and adapters.

Message Exchange

Message exchange is a key ingredient in collaborative eBusiness protocols. BPML engages in a message exchange-based business process in which everything that interacts with a process does so through the exchange of messages. In Sterling B2B Integrator, business processes interact with services and adapters and other business processes.

Exchanging Messages with Services and Adapters

In Sterling B2B Integrator, whenever a business process runs an adapter or service there is an exchange of two messages. First, the business process sends a message to the service or adapter that contains the parameters that the service needs to run. The values of these parameters can either be constants or come from process data. After a service completes successfully, it sends its results back to the business process in a second message. The business process can select some of the contents of the message and place them into process data. This message exchange occurs synchronously (the process must wait for the response message before continuing).

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Message Exchange between BPML and Services and Adapters

(Continued)

Exchanging Messages with Services and Adapters ....(Continued)

The following table details the three different output messages:

Output Message	Description
Message Only	Send only service configuration information to a service.
Obtain message First, then Process Data	Send service configuration information, name-value pair in the Service editor, and business process data. If duplicate information exists between the service configuration and business process data, the business process data overrides the service configuration information.
Obtain Process Data First, then Message	Send service configuration information, name-value pair in the Service editor, and business process data. If duplicate information exists between the service configuration and business process data, the service configuration information overrides the business process data.

Exercise 1.2.1: Lab Environment Setup

Introduction

This exercise provides you with an overview of the lab environment and instructions to access the lab environment.

The exercise is a three step process:

1. Outline the set up of lab environment.
2. Access the Skytap image URL provided.
3. Access the lab environment.

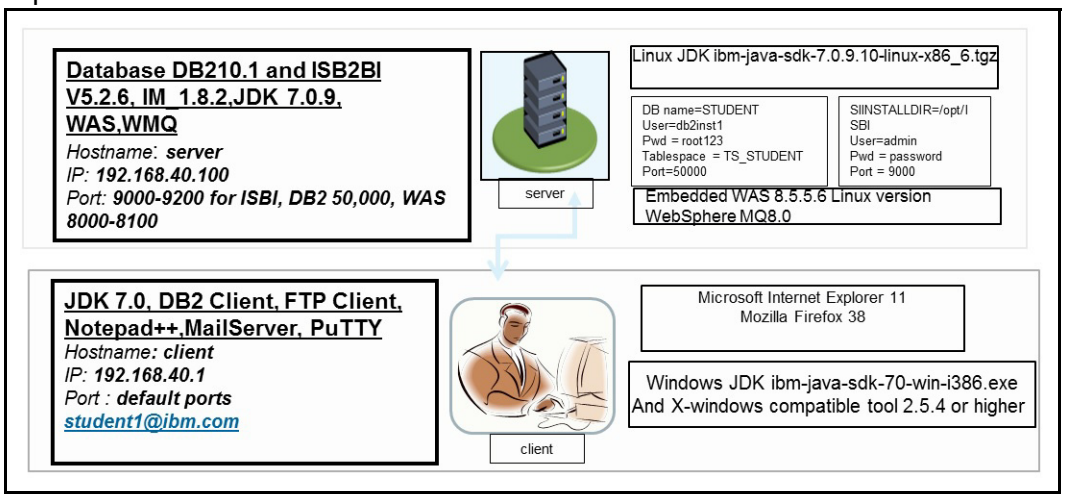
Instructions

Complete the following sets of procedure to access the lab environment and start the server.

Outline the set up of lab environment

The lab contains virtual images of two operating systems:

- Linux operating system, acting as a server, where database DB2, Sterling B2B Integrator V5.2.6.1 are installed.
- Windows operating system acting as a client with respective tools such as PuTTy, Notepad++, DB2 client, Mail server, to access the server application. The screen here depicts the environment.



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Exercise 1.2.1:Lab Environment Setup

(Continued)

Instructions

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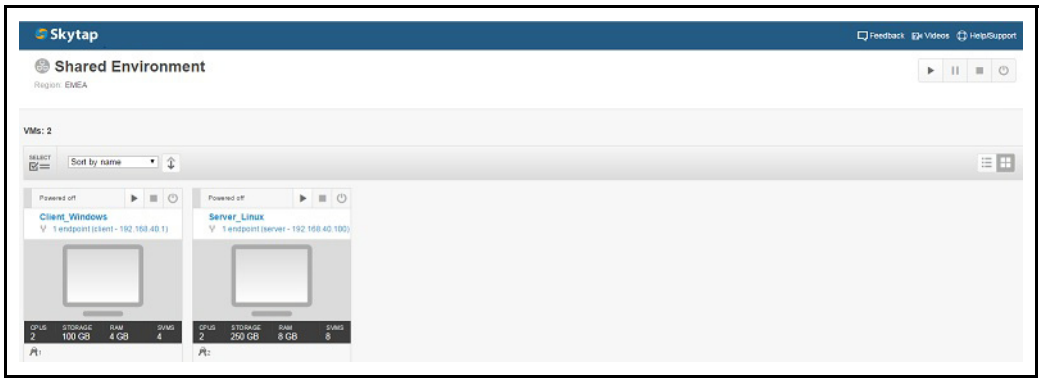
Access the Skytap image URL provided by your instructor

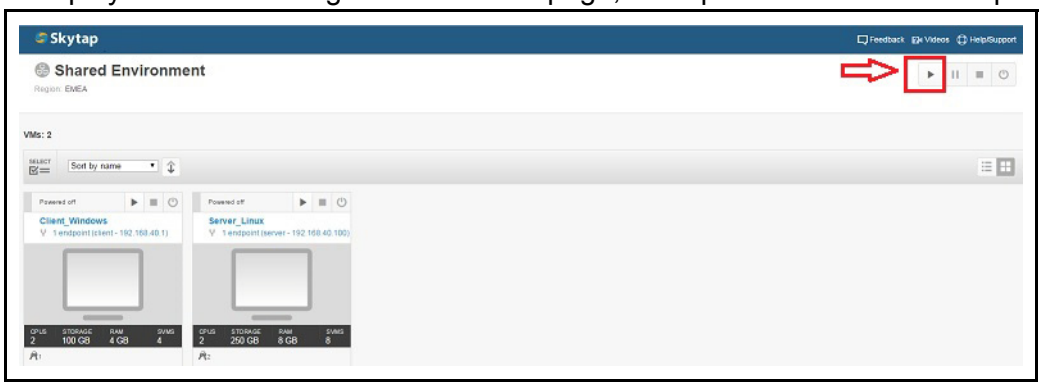
Each student is provided with a set of images to perform lab exercises. They are available through a cloud platform called Skytap. A unique URL to each student is provided to access the images. For example, the URL to access the image may resemble the following URL:

https://cloud.skytap.com/vms/b759ebb4c4237519651ab8171c??????/desktop

Step 1: In a web browser, open the URL you provided to you. You will see the screen shot as shown, when the link is accessed.



Step 2: Click the play button on image to start the machine. To start all the machines simultaneously, click the play button on the right corner of the page, as depicted in the screen capture..



Note

Ensure you suspend the image at the end of the training day. The controls to suspend, shut down, and power-off the images are available on the right corner of the URL page.

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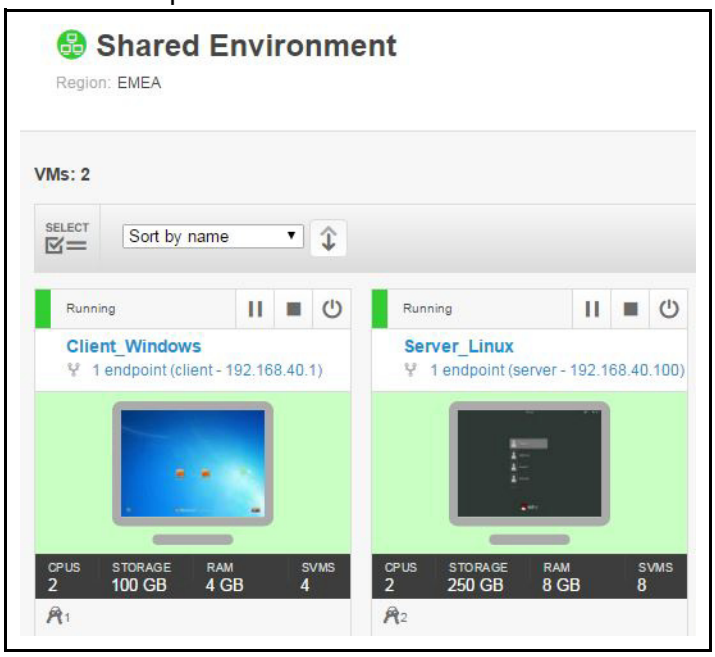
Exercise 1.2.1:Lab Environment Setup

(Continued)

Instructions

....(Continued)

Step 3: It might take a few minutes to start the image. You can view the progress of the image startup as displayed in the screen capture.



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Exercise 1.2.1:Lab Environment Setup

(Continued)

Instructions

....(Continued)

Access the lab environment

Step 1: Click windows image on the environment to access windows system.

Note

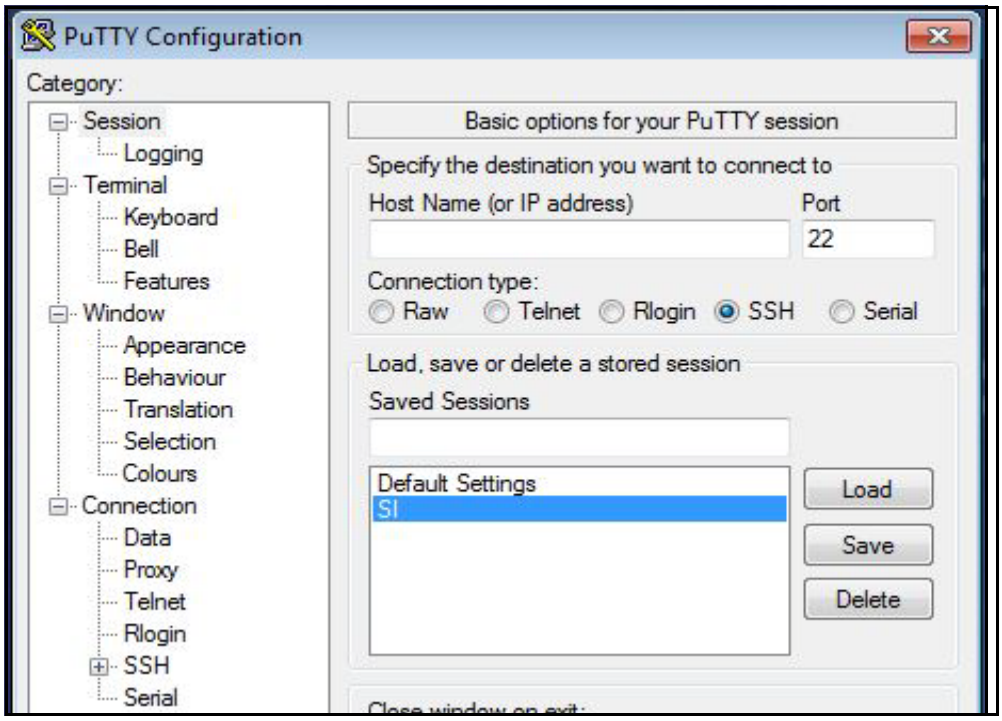
In the login window, specify **Administrator** as the user ID and **root123** as the password.

Step 2: Click **Enter**.

Step 3: From Desktop, click **PuTTY** exe file to access the server image.

Step 4: In the PuTTY Configuration window, select the **SI** from the Saved Sessions list and click **Load**.

Step 5: Click **Open** to access server image.



Step 6: Click **No** in the PuTTY Security Alert window.

Step 7: Specify **root** as the user ID and root123 as the **password**, and click **Enter**.

Exercise 1.2.2: Starting Sterling B2B Integrator

Introduction

This exercise provides you the scripts to start and stop the Sterling B2B Integrator server.

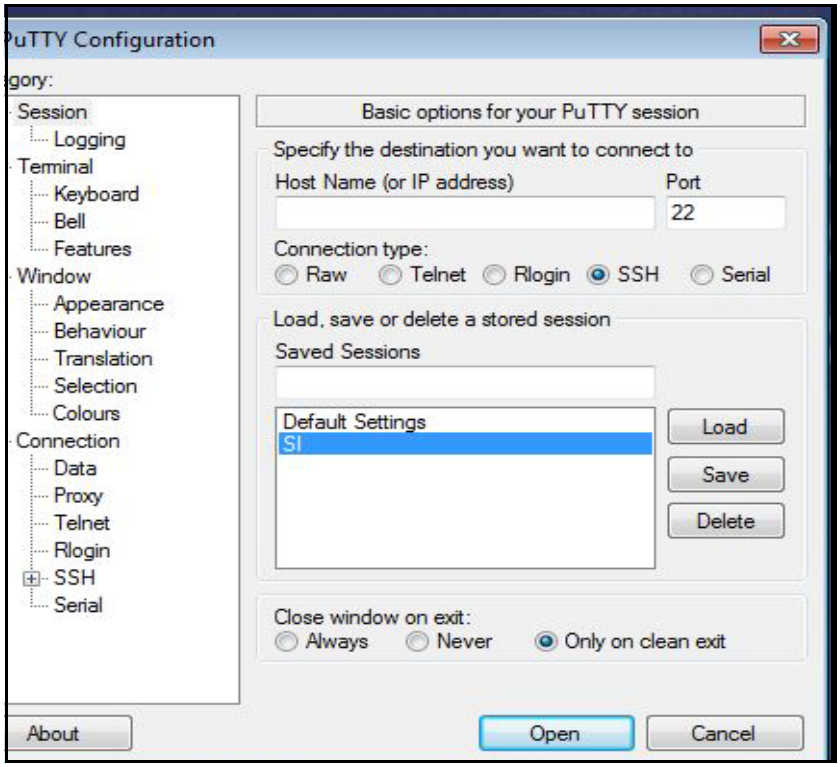
Instructions

Follow the steps that are listed to start the Sterling B2B Integrator:

Step 1: From the windows image, access Desktop, double-click **PuTTY.exe** file.

Step 2: Access Sterling B2B Integrator server through PuTTY.

Step 3: Select **SI** in the **Saved Sessions** and click **Open** as depicted in the following screen capture. The PuTTY session opens.



Step 4: Login as **root** with the password **root123**.

(Continued on next page)

Exercise 1.2.2:Starting Sterling B2B Integrator

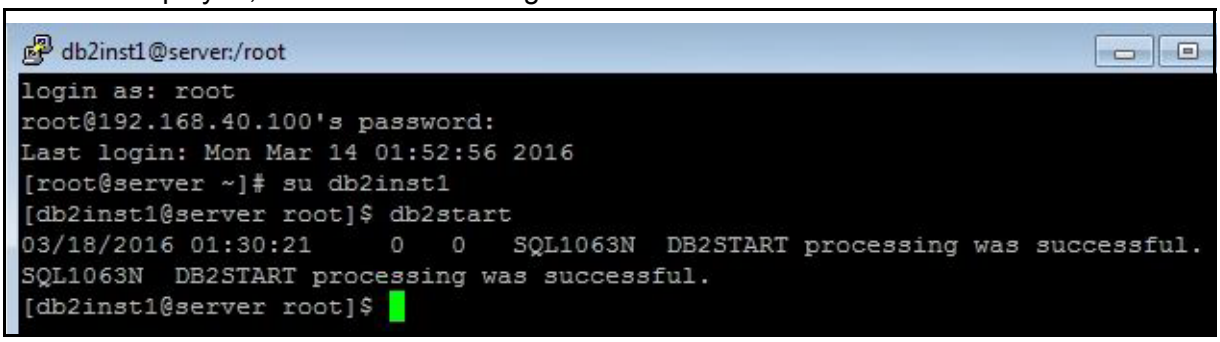
(Continued)

Step 5: Login as database user to start DB2 database.

i. From **PuTTY** window, enter *su db2inst1 and click **Enter**.*

ii. Enter ***db2start**, and click **Enter**.*

iii. Upon successful start, the message <db2start> processing was successful' is displayed, as shown in the image..



Step 6: Access Sterling B2B Integrator installation directory to start the Sterling File Gateway application.

Step 7: To switch user from **db2inst1** to root user, enter ***su root*** and click **Enter**.

Step 8: Enter password as **root123** and click **Enter**.

Step 9: Run the following command to change from existing directory location to the Sterling B2B Integrator installation bin directory. And press **Enter**

cd /opt/IBM/SterlingIntegrator/install/bin

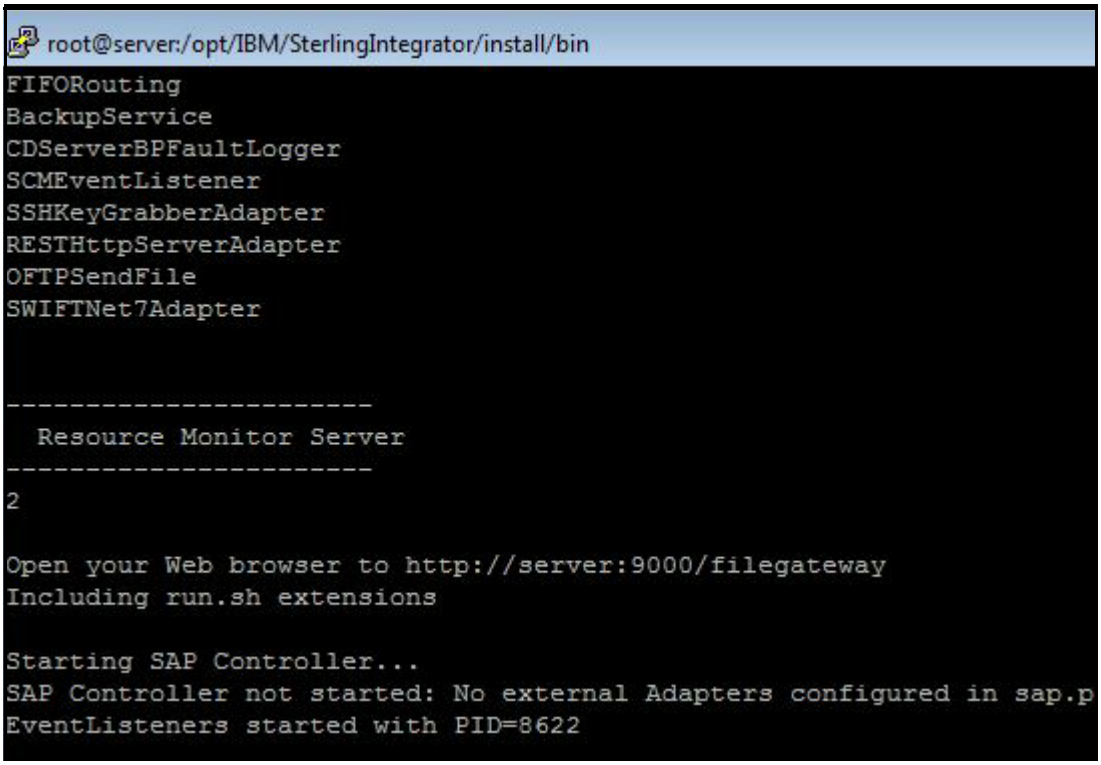
(Continued on next page)

Exercise 1.2.2:Starting Sterling B2B Integrator

(Continued)

Step 10: Enter ***./run.sh*** command to start the application.

Step 11: Enter **password** as the passphrase and press **Enter**. The screen capture displays a successful starting of the Sterling B2B Integrator server:



(Continued on next page)

Exercise 1.2.2:Starting Sterling B2B Integrator

(Continued)

Instructions

....(Continued)

Step 12: Open a web browser to, access *http://192.168.40.100:9000/dashboard* URL.

Step 13: Sign in as admin with the password as password. The Admin Console home page opens.

Complete the following steps to stop the Sterling B2B Integrator server:

Step 1: At the server command prompt, run the following command to change from existing directory location to the Sterling B2B Integrator installation bin directory. And press **Enter.**

cd /opt/IBM/SterlingIntegrator/install/bin

Step 2: Enter ***./hardstop.sh*** command to stop the application.

Note

Repeat the previously followed steps to start the Sterling B2B Integrator server again to perform the next exercises given in the course.

Exercise 1.2.3: Creating File System Adapter Configuration

Introduction

In this exercise you learn to create the file system adapter configuration.

Before you configure the file system adapter, you need to create extraction and collection folders on the Linux server

You will add two folders to /home/student called:

- fscoll
- fsext

Instructions

Creating the folders

Complete the following steps to create the collection and extraction folders:

Step 1: Open PuTTY and login to SI instance by using root account.

Step 2: Go to the student directory with the following command:

```
cd /home/student
```

Step 3: Create two new folders by using the following commands:

```
mkdir fscoll fsext
```

Creating the Service Configuration

Complete the following steps to create the service configuration:

Step 1: Open Sterling B2B Integrator.

Step 2: Log in to the Admin Console by using the following credentials.

```
Username: admin
Password: password
```

Step 3: In the Admin Console, select **Deployment > Service > Configuration**.

Step 4: In the Create section, next to New Services, click **Go!**

Step 5: In the Services Configuration: Select Service Type dialog box, type **file system adapter** and click **Next**.

(Continued on next page)

Exercise 1.2.3:Creating File System Adapter Configuration

(Continued)

Instructions

....(Continued)

Step 6: In the Services Configuration: Name dialog box, complete the fields that are listed in the following table using the values given:

Parameter	Value
Name	adv_fsa
Description	Test file system adapter
Select a group	None

Step 7: Click **Next**.

Step 8: In the Services Configuration: Collection dialog box, complete the fields that are listed in the following table as per the values given:

Parameter	Value
Collection folder	/home/student/fscoll
Filename filter	Leave Blank
Collect files from sub folders within and including the collection folder?	No
Use the absolute file path name for the document name?	No
Start a business process once files are collected?	No

Step 9: Click **Next**.

Step 10: In the Services Configuration: Extraction dialog box, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Extraction folder	/home/student/fsext
Unobscure File Contents?	Accept the Default
Filenaming convention	Use the original file name as the extracted file name

Step 11: Click **Next**.

Step 12: Verify that the service is enabled for business processes and click **Finish**.

(Continued on next page)

Exercise 1.2.4: Obtain Process Data First, then Message

Introduction

In this exercise you learn to configure the file system adapter output message to obtain the process data first, then message.

Instructions

Step 1: Log in to the Sterling B2B Integrator adminconsole, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: On the Business Process Manager page, under the **Graphical Modeling** section, click **Go!** to Run Graphical Process Modeler.

Step 4: Click **OK** for JDK version.

Step 5: Click **Run** install.

Step 6: Enter username as **admin** and password as **password**.

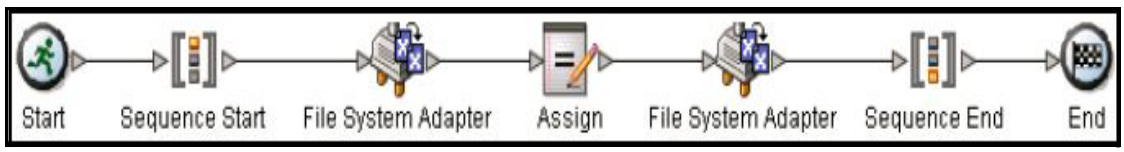
Step 7: The Graphical Process Modeler opens. Select **File > New**.

Step 8: Click View **> Stencil** and select the **BPML** and **All Services** stencil sets.

Step 9: Move the following stencils to your workspace.

- Start (1)
- End (1)
- Sequence Start (1)
- Sequence End (1)
- File System Adapter (2)
- Assign (1)

Step 10: Arrange and connect the stencils as shown in the following screen capture:



(Continued on next page)

Exercise 1.2.4:Obtain Process Data First, then Message

(Continued)

Instructions

....(Continued)

Step 11: Click the first **File System Adapter** stencil. In the Service Editor-File System Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	adv_fsa
Action	collection

Important

The File System Adapter scans the /home/student/fscoll directory.

Step 12: Click the **Assign** stencil. In the Property Editor-Assign pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Constant	/home/student/fscoll
To	extractionFolder

Important

The Assign service places the tag extractionFolder into process data with the value of /home/train/fscoll.

(Continued on next page)

Exercise 1.2.4:Obtain Process Data First, then Message

(Continued)

Instructions

....(Continued)

Step 13: Click the second **File System Adapter** stencil. In the Service Editor-File System Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	adv_fsa
Output Msg	Obtain Process Data first, then Messages
Action	Extraction
extractionFolder	/home/student/fsext

Important

The file system adapter writes the file into /home/student/fsext directory if process data does not have a value in the extractionFolder parameter.

Step 14: Click **File > Save** and validate the process with the name **AB_PDthenmessage.bp**.

Exercise 1.2.5: Check in and Testing the AB_PDthenmessage Business Process

Introduction

In this exercise, you learn to check in and test the AB_PDthenmessage business process.

This exercise consists of the following three steps:

1. Check in business process.
2. Execute the busines process.
3. Analyze the results.

Instructions

Complete the following step to check in the AB_PDthenmessage business process:

Step 1: Log in to the Sterling B2B Integrator adminconsole, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: In the Create section, next to Process Definition, click **Go**!

Step 4: In the Editor: Process Name dialog box, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	AB_PDthenmessage
Select an input mode for defining the new process	Check in Business Process that is created by the graphical modeling tools

Step 5: Click **Next.**

Step 6: In the **Editor: Process: AB_PDthenmessage**: Check in dialog box, click Browse and select **AB_PDthenmessage.bp**. Click **Open**.

Step 7: In the **Editor: Process: AB_PDthenmessage:** Check in dialog box, in the Description text box, type **Process Data, then Message** and click **Next**.

Step 8: Use the default setting for the remaining parameters. Verify that the Business Process is enabled when you click **Finish**.

(Continued on next page)

Exercise 1.2.5:Check in and Testing the AB_PDthenmessage Business Process

(Continued)

Instructions

....(Continued)

Complete the following step to execute the AB_PDthenmessage business process:

You need to copy **InventoryOf3.xml** from Windows client system Desktop/Data files to **/home/student/fscoll** on the Linux server where B2Bi is running.

Note

You can use Filezilla to transfer the file. There is a preconfigured connection for root and student using the arrow next to the QuickConnect button. Choose the root user connection.

Step 1: Access desktop from windows image, open FileZilla.

Step 2: Select sftp://root@192.168.40.100 from the server drop down list and click Quickconnect. You are now connected to the server image.

Step 3: Copy **InventoryOf3.xml** from windows client **Desktop/Data files** to **/home/student/fscoll** on the Linux server.

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: From the Business Process manager screen, search for the **AB_PDthenmessage.bp** business process.

Step 4: Click **execution manager** when you get the results screen.

Step 5: Click **execute** in the execution manager screen.

Step 6: Select **Go!**

(Continued on next page)

Exercise 1.2.5:Check in and Testing the AB_PDthenmessage Business Process

(Continued)

Instructions

....(Continued)

Complete the following steps to analyze the results.

Important

The file **InventoryOf3.xml** should be placed into the /home/train/fsext directory. The value in the message takes precedence over the value in the Process Data for the parameter extractionFolder as the default behavior.

Step 1: On the **Execute Business Process page**, click **Status report**.

Step 2: Review the message successfully written **InventoryOf3.xml** to /home/train/fsext directory.

Step 3: Access desktop from windows image, open FileZilla.

Step 4: Select sftp://root@192.168.40.100 from the server drop down list and click Quickconnect. You are now connected to the server image.

Step 5: Browse to /home/train/fsext directory on the Linux server.

Step 6: Verify that the file **InventoryOf3.xml** is listed.

Exercise 1.2.6: Obtaining the Message first, then Process Data

Introduction

In this exercise you learn to configure the file system adapter output message to obtain the message first, then process data.

Instructions


Note

If you would not like to build the business process from scratch, you can do a save as and change the name to AB_messagethenPD and execute Step 13 in the following exercise steps.

Step 1: Log in to the Sterling B2B Integrator adminconsole, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: On the Business Process Manager page, under the **Graphical Modeling** section, click **Go!** to Run Graphical Process Modeler.

Step 4: Click **OK** for JDK version.

Step 5: Click **Run** install.

Step 6: Enter username as **admin** and password as **password**.

Step 7: The Graphical Process Modeler opens. Select **File > New**.

Step 8: Click **View > Stencil** and select the **BPML** and **All Services** stencil sets.

Step 9: Move the following stencils to your workspace.

- Start (1)
- End (1)
- Sequence Start (1)
- Sequence End (1)
- File System Adapter (2)
- Assign (1)

(Continued on next page)

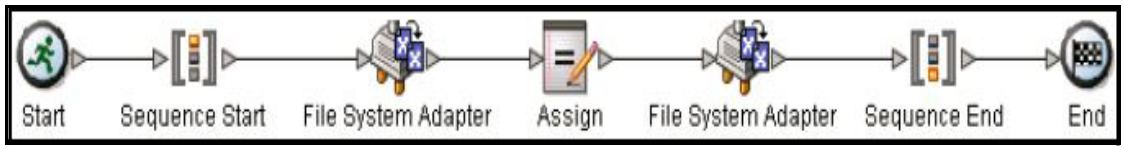
Exercise 1.2.6:Obtaining the Message first, then Process Data

(Continued)

Instructions

....(Continued)

Step 10: Arrange and connect the stencils as shown in the following screen capture:



Step 11: Click the first **File System Adapter** stencil. In the Service Editor-File System Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	adv_fsa
Action	collection

Important

The File System Adapter scans the /home/student/fscoll directory.

Step 12: Click the **Assign** stencil. In the Property Editor-Assign pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Constant	/home/student/fscoll
To	extractionFolder

Important

The Assign service places the tag extractionFolder into process data with the value of /home/train/fscoll.

(Continued on next page)

Exercise 1.2.6:Obtaining the Message first, then Process Data

(Continued)

Instructions

....(Continued)

Step 13: Click the second **File System Adapter** stencil. In the Service Editor-File System Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	adv_fsa
Output Msg	Obtain Message first, then Process Data
Action	Extraction
extractionFolder	/home/student/fsext

Important

The file system adapter writes the file into /home/student/fsext directory if process data does not have a value in the extractionFolder parameter.

Step 14: Click **File > Save** and validate the process with the name **AB_messagethenPD.bp.**

Exercise 1.2.7: Check in and Testing the AB_messagethenPD Business Process

Introduction

In this exercise, you learn to check in and test the AB_messagethenPD business process.

This exercise consists of the following three steps:

1. Check in business process.
2. Execute the business process.
3. Analyze the results.

Instructions

Complete the following step to check in the AB_messagethenPD business process:

Step 1: Log in to the Sterling B2B Integrator adminconsole, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: In the Create section, next to Process Definition, click **Go**!

Step 4: In the Editor: Process Name dialog box, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	AB_messagethenPD
Select an input mode for defining the new process	Check in Business Process created by the graphical modeling tools

Step 5: Click **Next.**

Step 6: In the **Editor: Process: AB_messagethenPD**: Check in dialog box, click Browse and select **AB_PDthenmessage.bp**. Click **Open**.

Step 7: In the **Editor: Process: AB_messagethenPD:** Check- n dialog box, in the Description text box, type **Process Data, then Message** and click **Next**.

Step 8: Use the default setting for the remaining parameters. Verify that the Business Process is enabled when you click **Finish**.

(Continued on next page)

Exercise 1.2.7:Check in and Testing the AB_messagethenPD Business Process

(Continued)

Instructions

....(Continued)

Complete the following step to execute the AB_messagethenPD business process:

You need to copy **InventoryOf3.xml** from Windows client system Desktop/Data files to **/home/student/fscoll** on the Linux server where B2Bi is running.

Note

You can use Filezilla to transfer the file. There is a preconfigured connection for root and student using the arrow next to the QuickConnect button. Choose the root user connection.

Step 1: Access desktop from windows image, open FileZilla.

Step 2: Select sftp://root@192.168.40.100 from the server drop down list and click Quickconnect. You are now connected to the server image.

Step 3: Copy **InventoryOf3.xml** from the windows client **Desktop/Data files** to **/home/student/fscoll** on the Linux server.

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: From the Business Process manager screen, search for the **AB_messagethenPD** business process.

Step 4: Click **execution manager** when you get the results screen.

Step 5: Click **execute** in the execution manager screen.

Step 6: Select **Go!**

(Continued on next page)

Exercise 1.2.7:Check in and Testing the AB_messagethenPD Business Process

(Continued)

Instructions

....(Continued)

Complete the following steps to analyze the results:

Important

The file InventoryOf3.xml should be placed into the /home/student/fscoll directory. The value from process data takes precedence over the value from the message.

Step 1: Access desktop from windows image, open FileZilla.

Step 2: Select sftp://root@192.168.40.100 from the server drop-down list and click Quickconnect. You are now connected to the server image.

Step 3: Browse to /home/train/fscoll directory on the Linux server.

Step 4: Verify that the file **InventoryOf3.xml** is listed.

Exercise 1.2.8: Using the Messages Only Option

Introduction

In this exercise you learn to configure the file system adapter output message with messages only option.

Instructions

Note

If you would not like to build the business process from scratch, you can do a save as and change the name to AB_messageonly and execute Step 13 in the following exercise steps.

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: On the Business Process Manager page, under the **Graphical Modeling** section, click **Go!** To Run Graphical Process Modeler.

Step 4: Click **OK** for JDK version.

Step 5: Click **Run** install.

Step 6: Enter username as **admin** and password as **password**.

Step 7: The Graphical Process Modeler opens. Select **File > New**.

Step 8: Click **View > Stencil** and select the **BPML** and **All Services** stencil sets.

Step 9: Move the following stencils to your workspace.

- Start (1)
- End (1)
- Sequence Start (1)
- Sequence End (1)
- File System Adapter (2)
- Assign (1)

(Continued on next page)

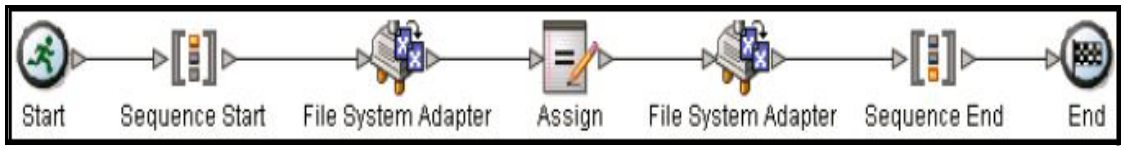
Exercise 1.2.8:Using the Messages Only Option

(Continued)

Instructions

....(Continued)

Step 10: Arrange and connect the stencils as shown in the following screen capture:



Step 11: Click the first **File System Adapter** stencil. In the Service Editor-File System Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	adv_fsa
Action	collection

Important

The File System Adapter scans the /home/student/fscoll directory.

Step 12: Click the **Assign** stencil. In the Property Editor-Assign pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Constant	/home/student/fscoll
To	extractionFolder

Important

The Assign service places the tag extractionFolder into process data with the value of /home/train/fscoll.

(Continued on next page)

Exercise 1.2.8:Using the Messages Only Option

(Continued)

Instructions

....(Continued)

Step 13: Click the second **File System Adapter** stencil. In the Service Editor-File System Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	adv_fsa
Output Msg	Obtain Message first, then Process Data
Action	Extraction
extractionFolder	/home/student/fsext

Important

The file system adapter writes the file into /home/student/fsext directory if process data does not have a value in the extractionFolder parameter.

Step 14: Click **File > Save** and validate the process with the name **AB_messageonly.bp.**

Exercise 1.2.9: Check in and Testing the AB_messageonly Business Process

Introduction

In this exercise, you learn to check in and test the AB_messageonly business process.

This exercise consists of the following three steps:

1. Check in business process.
2. Execute the busines process.
3. Analyze the results.

Instructions

Complete the following step to check in the AB_messageonly business process:

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: In the Create section, next to Process Definition, click **Go**!

Step 4: In the Editor: Process Name dialog box, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	AB_messageonly
Select an input mode for defining the new process	Check in Business Process that is created by the graphical modeling tools

Step 5: Click **Next.**

Step 6: In the **Editor: Process: AB_messageonly**: Check in dialog box, click Browse and select **AB_PDthenmessage.bp**. Click **Open**.

Step 7: In the **Editor: Process: AB_messageonly:** Check in dialog box, in the Description text box, type **Process Data, then Message** and click **Next**.

Step 8: Use the default setting for the remaining parameters. Verify that the Business Process is enabled when you click **Finish**.

(Continued on next page)

Exercise 1.2.9:Check in and Testing the AB_messageonly Business Process

(Continued)

Instructions

....(Continued)

Complete the following step to execute the AB_messageonly business process:

You need to copy **InventoryOf3.xml** from Windows client system Desktop/Data files to **/home/student/fscoll** on the Linux server where B2Bi is running.

Note

You can use Filezilla to transfer the file. The preconfigured connection for root and student by using the arrow next to the QuickConnect. Choose the root user connection.

Step 1: Access desktop from windows image, open FileZilla.

Step 2: Select sftp://root@192.168.40.100 from the server drop down list and click Quickconnect. You are now connected to the server image.

Step 3: Copy **InventoryOf3.xml** from the windows client **Desktop/Data files** to **/home/student/fscoll** on the Linux server.

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: From the Business Process manager screen, search for the **AB_messageonly.bp** business process.

Step 4: Click **execution manager** when you get the results screen.

Step 5: Click **execute** in the execution manager screen.

Step 6: Select **Go!**

(Continued on next page)

Exercise 1.2.9:Check in and Testing the AB_messageonly Business Process

(Continued)

Instructions

....(Continued)

Complete the following steps to analyze the results.

Important

The service cannot access the Primary Document from the process data because you did not send Process Data to the service. Primary Document is stored in Process Data namely, a link under the tag PrimaryDocument.

Step 1: From the Execute Business Process screen, view the result. Observe business process execution ended with error.

Step 2: For more information on the executed business process click **Info** under the Instance Data column.

Lesson review

What you have been able to do

- Explain what each output option does to the content of a message.
- Configure a business process using one of the three output options.

LESSON 1.3: Using the Assign

What this lesson is about

In this lesson, you learn to collect and move data by using the Assign..

What you should be able to do

After completing this lesson, you should be able to:

- Describe DOMToDoc and DocToDOM and when to use them in a business process.
- Use the DoctoDOM function to create a business process to convert a primary document into process data.
- Use the DOMtoDoc function to create a business process that runs an XPath query, against the process data DOM and saves the node into a workflow document.
- Create a looping variable that collects multiple files and starts an individual process for each one.

Documentation

Assign Activity

XMLEncoder Service vs. DOMToDoc and DocToDOM

Overview

The XML Encoder is a service that is provided as part of the base product in the Sterling B2B Integrator. DocToDOM and DOMToDoc are engine calls that B2Bi can use to move information from Primary Document to Process Data or vice versa.

The XML Encoder service provides nearly the same functions as the DOMToDoc and DocToDOM functions:

- Doc equals the workflow document or Primary Document
- DOM (Data Object Model) is the process data of the business process.

The following list identifies the differences between the XML Encoder service and the DOMToDoc and DocToDOM functions:

- When moving data from Process Data to the Primary Document, the XML Encoder requires that a new root element is created in primary document.
- DocToDOM allows manipulation of parts of the primary document without moving the entire document to process data. This can keep process data smaller and cleaner.
- DocToDOM/DOMToDoc can be more efficient as the call is done as part of the BPML processing instead of calling and starting a service.
- The XML Encoder is documented, whereas DOMToDoc and DocToDOM are not documented as well.
- The XML Encoder must be used if the primary document is non XML data.

DocToDOM()

Introduction

This function moves the contents of a primary document (specified by the xpath_expression parameter) to a location in the process data DOM specified in the ***to*** attribute of the assign statement.

Usage

```
DocToDOM(xpath_expression )
```

Parameters

xpath expression (required): This expression is the XPath query to run against the process data DOM tree. The node returned needs to have a SCIObjectID attribute. This ID loads the document and parses it.

```
<assign to="primary_document_copy"from="DocToDOM(PrimaryDocument)">
</assign>
```

Exercise 1.3.1: Converting the Primary Document into Process Data

Introduction

In this exercise, you learn to convert the primary document into process data.

Instructions

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: On the Business Process Manager page, under the **Graphical Modeling** section, click **Go!** to Run Graphical Process Modeler.

Step 4: Click **OK** for JDK version.

Step 5: Click **Run** install.

Step 6: Enter username as **admin** and password as **password**.

Step 7: The Graphical Process Modeler opens. Select **File > New**.

Step 8: Click **View > Stencil** and select the **BPML** and **All Services** stencil sets.

Step 9: Move the following stencils to your workspace.

- Start (1)
- End (1)
- Sequence Start (1)
- Sequence End (1)
- Assign (1)

(Continued on next page)

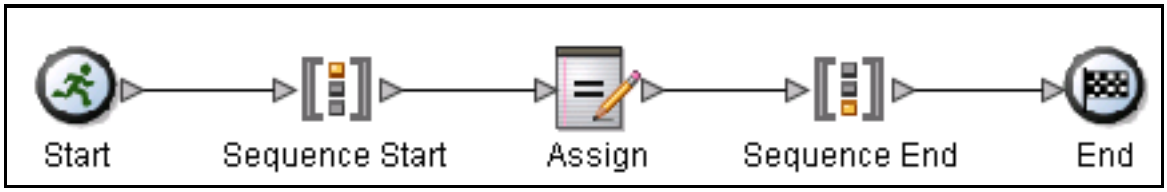
Exercise 1.3.1:Converting the Primary Document into Process Data

(Continued)

Instructions

....(Continued)

Step 10: Arrange and connect the stencils as shown in the following screen capture:



Step 11: Click the Assign Service and complete the fields that are listed in the following table based on the given value:

Parameter	Value
append	false
from	DocToDOM(PrimaryDocument)
to	Primary_document_copy

Step 12: Select **File** > **Save As**. Validate the business process (troubleshoot any errors), and name it **AB_DocToDOM.bp**.

Exercise 1.3.2: Check in and Test the AB_DocToDom Business Process

Introduction

In this exercise, you learn to check in and testing the AB_DocToDom Business Process.

This exercise consists of the following three steps:

1. Check in business process.
2. Execute the business process.
3. Analyze the results.

Instructions

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

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: In the Create section, next to Process Definition, click **Go**!

Step 4: In the Editor: Process Name dialog box, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	AB_DocToDOM
Select an input mode for defining the new process	Check in Business Process that is created by the graphical modeling tools

Step 5: Click **Next.**

Step 6: In the Editor: Process: AB_DocToDom: Check in dialog box, click Browse and select **AB_DocToDom.bp**. Click **Open**.

Step 7: In the Editor: Process: AB_DocToDom: Check in dialog box, in the Description text box, type **AB_DocToDOM exercise**. Click **Next**.

Step 8: Use the default setting for the remaining parameters. Verify that the Business Process is enabled when you click **Finish**.

(Continued on next page)

Exercise 1.3.2:Check in and Test the AB_DocToDom Business Process

(Continued)

Instructions

....(Continued)

Complete the following step to run the AB_PDthenmessage business process:

Step 1: Log in to the Sterling B2B Integrator adminconsole, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: From the Business Process manager screen, search for the **AB_DocToDOM.bp** business process.

Step 4: Click **execution manager** when you get the results screen.

Step 5: Click **execute** in the execution manager screen.

Step 6: In the Local Desktop file name, click Browse.

Step 7: Go to the **Desktop** > **DataFiles** folder and double-click the **InventoryOf3.xml** file.

Step 8: Select **Go!**

(Continued on next page)

Exercise 1.3.2:Check in and Test the AB_DocToDom Business Process

(Continued)

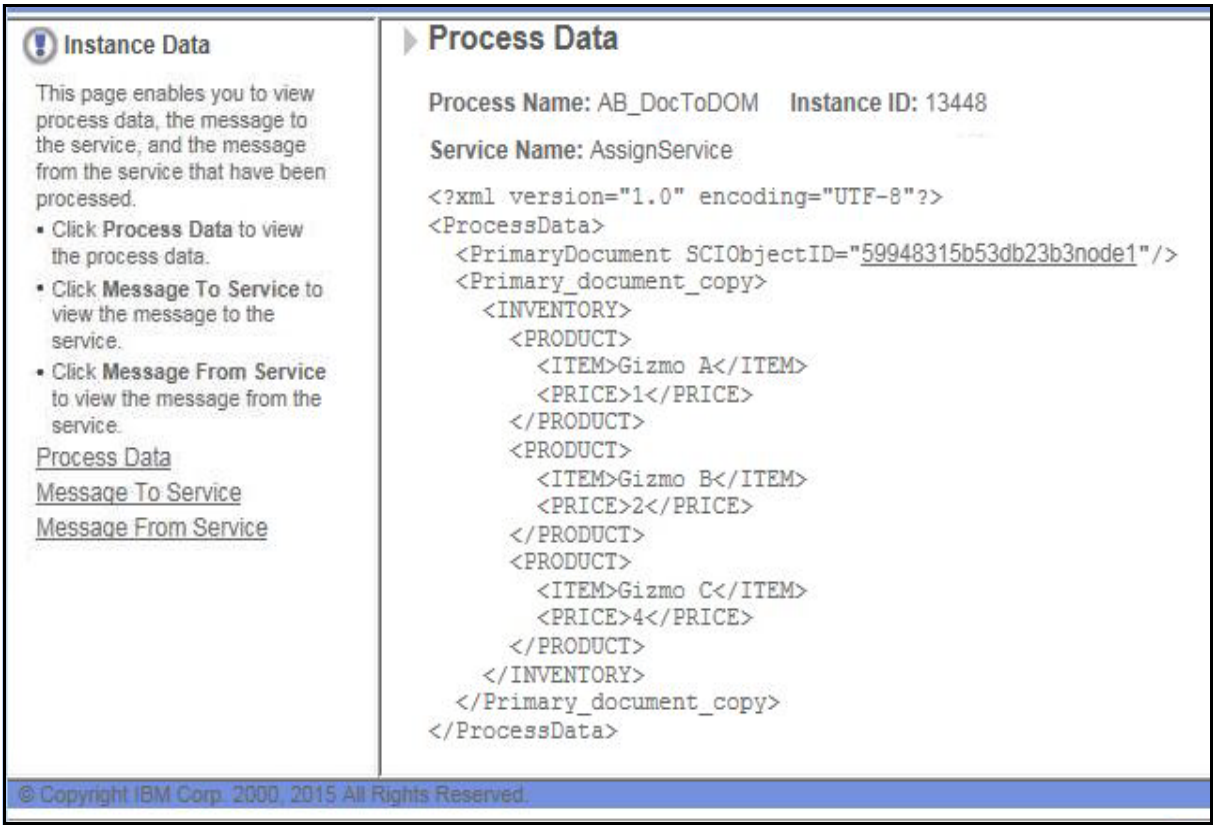
Instructions

....(Continued)

Complete the following steps to analyze the results.

Step 1: On the Execute Business Process page, click **Info** under the **InstanceData** column for the Assign Service step to view the process data output.

The Process Data page is displayed as depicted in the following screen capture:



Exercise 1.3.3: Convert Partial Primary Document to Process Data

Introduction

One of the advantages of using DocToDOM instead of the XML Encoder is that it can copy only part of the XML document instead of the entire document into Process Data as you did in the previous exercise.

In this exercise, you modify your assign statement so that sends one of the Inventory items instead of the entire document.

Instructions

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: On the Business Process Manager page, under the **Graphical Modeling** section, click **Go!** to Run Graphical Process Modeler.

Step 4: Click **OK** for JDK version.

Step 5: Click **Run** install.

Step 6: Enter username as **admin** and password as **password**.

Step 7: The Graphical Process Modeler opens. Select **File > New**.

Step 8: Click **View > Stencil** and select the **BPML** and **All Services** stencil sets.

Step 9: Move the following stencils to your workspace.

- Start (1)
- End (1)
- Sequence Start (1)
- Sequence End (1)
- Assign (1)

(Continued on next page)

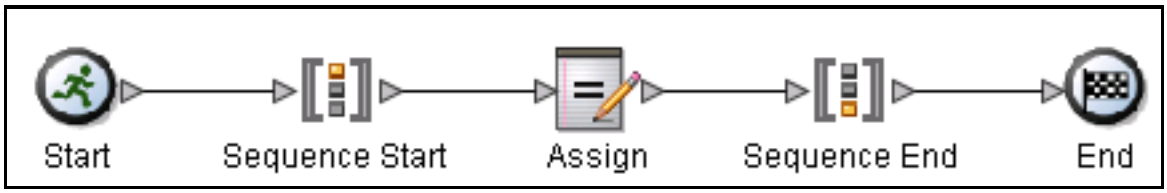
Exercise 1.3.3:Convert Partial Primary Document to Process Data

(Continued)

Instructions

....(Continued)

Step 10: Arrange and connect the stencils as shown in the following screen capture.:



Step 11: Click the Assign Service and complete the fields that are listed in the following table based on the given value:

Parameter	Value
append	false
from	DocToDOM(PrimaryDocument)//PRODUCT[1]
to	Primary_document_copy

Step 12: Select **File** > **Save AS**. Validate the business process (troubleshoot any errors), and name it **AB_DocToDOMPartial.bp**.

Step 13: Repeat Exercise 1.3.2 Check in and Test the AB_DocToDom Business Process by using the new AB_DocToDOMPartial name.

(Continued on next page)

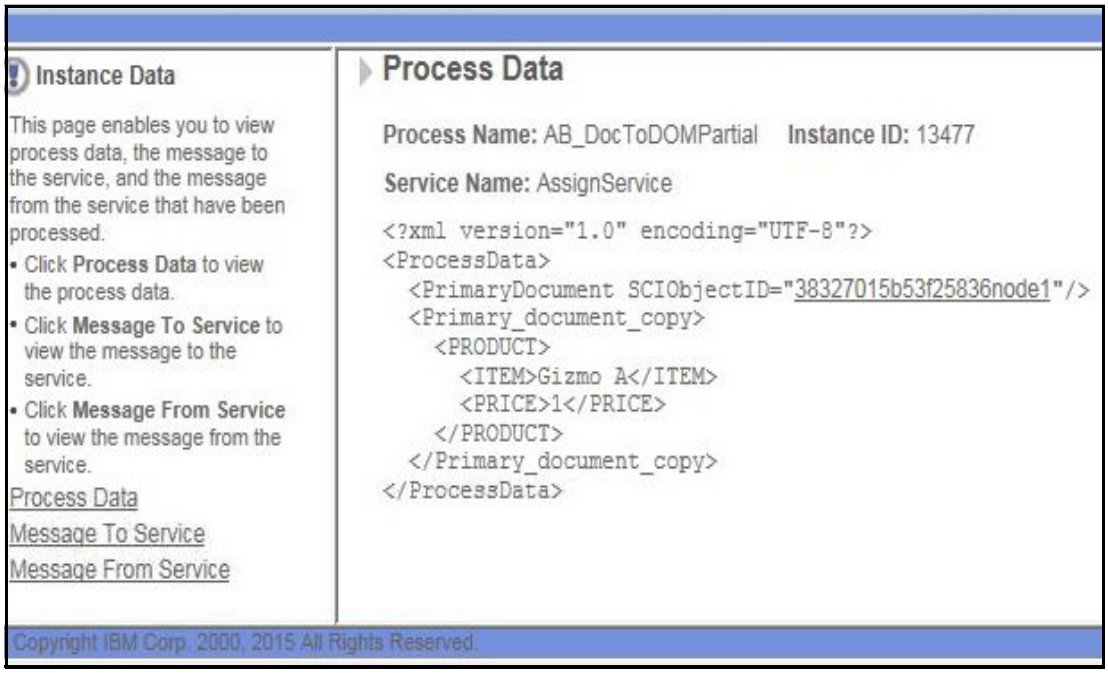
Exercise 1.3.3:Convert Partial Primary Document to Process Data

(Continued)

Instructions

....(Continued)

Step 14: The process data output is displayed as depicted in the following screen capture. Notice that one only product item is listed instead of the entire document.



Exercise 1.3.4: Create AB_DOMToDoc Business Process

Introduction

In this exercise, you learn to create a AB_DOMToDOC business process where first assign service takes the Primary Document, puts it in Process Data by using DocToDOM function. The second assign service inserts New Name Goes Here inside the tag <name>. In the third assign, put back the new/modified document to Primary Document by using DOMToDoc function.

Instructions

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: On the Business Process Manager page, under the **Graphical Modeling** section, click **Go!** to Run Graphical Process Modeler.

Step 4: Click **OK** for JDK version.

Step 5: Click **Run** install.

Step 6: Enter username as **admin** and password as **password**.

Step 7: The Graphical Process Modeler opens. Select **File > New**.

Step 8: Click View **> Stencil** and select the **BPML** and **All Services** stencil sets.

Step 9: Move the following stencils to your workspace.

- Start (1)
- End (1)
- Sequence Start (1)
- Sequence End (1)
- Assign (3)

(Continued on next page)

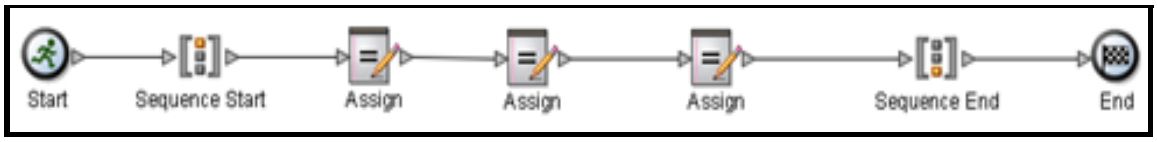
Exercise 1.3.4:Create AB_DOMToDoc Business Process

(Continued)

Instructions

....(Continued)

Step 10: Arrange and connect the stencils as shown in the following screen capture:



Step 11: Click the first **Assign** Service and complete the fields that are listed in the following table based on the given value:

Parameter	Value
from	DocToDOM(PrimaryDocument)
to	TempRoot

Step 12: Click the second Assign stencil. In the Property Editor-Assign, complete the fields that are listed in the following table based on the given value:

Parameter	Value
constant	New Name Goes Here
to	TempRoot/batch/po/billTo/name

(Continued on next page)

Exercise 1.3.4:Create AB_DOMToDoc Business Process

(Continued)

Instructions

....(Continued)

Step 13: Click the third Assign stencil. In the Property Editor-Assign, complete the fields that are listed in the following table based on the given value:

Parameter	Value
from	DOMToDoc(TempRoot,'PrimaryDocument')
to	.

Step 14: Select **File** > **Save As**. Validate the business process (troubleshoot any errors), and name it **AB_DOMToDoc**.bp .

Exercise 1.3.5: Check in and Test the AB_DOM To Doc Business Process

Introduction

In this exercise, you learn to check in the AB_DOMToDoc.bp and test it.

This exercise consists of the following three steps:

1. Check in business process.
2. Execute the business process.
3. Analyze the results.

Instructions

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

Step 1: Log in to the Sterling B2B Integrator admin console by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: In the Create section, next to Process Definition, click **Go**!

Step 4: In the Editor: Process Name dialog box, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	AB_DOMToDoc
Select an input mode for defining the new process	Check in Business Process that is created by the graphical modeling tools

Step 5: Click **Next**.

Step 6: In the **Editor: Process: AB_DOMToDoc:** Check in dialog box, click Browse and select **AB_DOMToDoc.bp**. Click **Open**.

Step 7: In the **Editor: Process: AB_DOMToDoc:** Check in dialog box, in the Description text box, type **Assign example** and click **Next**.

Step 8: Use the default setting for the remaining parameters. Verify that the Business Process is enabled when you click **Finish**.

(Continued on next page)

Exercise 1.3.5:Check in and Test the AB_DOM To Doc Business Process

(Continued)

Instructions

....(Continued)

Complete the following step to execute the **AB_DOMToDoc** business process:

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: From the Business Process manager screen, search for the **AB_DOMToDoc.bp** business process.

Step 4: Click **execution manager** when you get the results screen.

Step 5: Click **execute** in the execution manager screen.

Step 6: In the Local Desktop filename, click Browse.

Step 7: Go to the **Desktop** > **DataFiles** folder and double-click the **DOMToDoc.xml** file.

Step 8: Select **Go!**

(Continued on next page)

Exercise 1.3.5:Check in and Test the AB_DOM To Doc Business Process

(Continued)

Instructions

....(Continued)

Complete the following steps to analyze the results.

Step 1: Monitor the progress of the business process and wait till it completes.

Step 2: On the **Execute Business Process page**, click **Info** under the **InstanceData** column for the first Assign Service step to view the process data output.

The Process Data page is displayed as depicted in the following screen capture for the first assign service.


Process Data
Process Name: AB_DOMToDoc Instance ID: 13546
Service Name: AssignService
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
<PrimaryDocument SCIObjectID="14791115b5409d865node1"/>
<TempRoot>
<batch>
<po>
<billTo>
<name>Old Name</name>
<address1>123 ABC</address1>
<city>Dublin</city>
<state>OH</state>
<country>US</country>
<zip>43016</zip>
</billTo>

(Continued on next page)

Exercise 1.3.5:Check in and Test the AB_DOM To Doc Business Process

(Continued)

Instructions

....(Continued)

Step 3: On the **Execute Business Process page**, click **Info** under the **InstanceData** column for the second Assign Service step to view the process data output.

The Process Data page is displayed as depicted in the following screen capture for the second assign service.

(Continued on next page)

Exercise 1.3.5:Check in and Test the AB_DOM To Doc Business Process

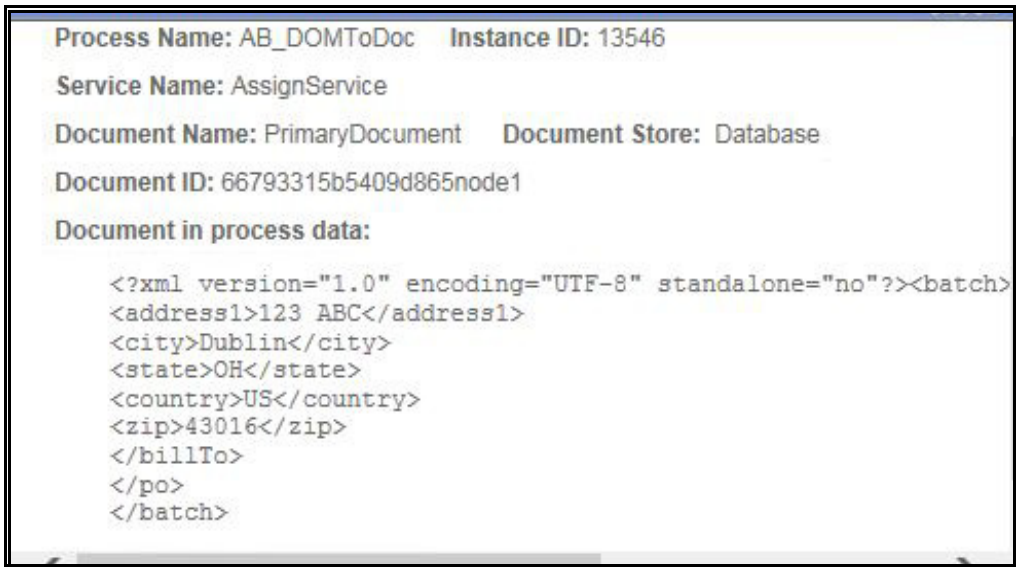
(Continued)

Instructions

....(Continued)

Step 4: On the **Execute Business Process page**, click **Info** under the **Document** column for the third Assign Service step to view the process data output.

The Primary Document page is displayed as depicted in the following screen capture for the third assign service.



Exercise 1.3.6: Check in the basicinventoryprocess Business Process

Introduction

In this exercise, you learn to check in the basicinventoryprocess business process and test it.

This exercise consists of the following steps:

1. Check in business process.
2. Execute the busines process.

Instructions

Complete the following steps to check in the **basicinventoryprocess** business process:

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: In the Create section, next to Process Definition, click **Go**!

Step 4: In the Editor: Process Name dialog box, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	basicinventoryprocess
Select an input mode for defining the new process	Check in Business Process that is created by the graphical modeling tools

Step 5: Click **Next.**

Step 6: In the **Editor: Process: basicinventoryprocess:** Check in dialog box, click Browse and select **basicinventoryprocess.bp**. Click **Open**.

Step 7: In the **Editor: Process: basicinventoryprocess:** Check in dialog box, in the Description text box, type **invoke business** and click **Next**.

Step 8: Use the default setting for the remaining parameters. Verify that the Business Process is enabled when you click **Finish**.

(Continued on next page)

Exercise 1.3.6:Check in the basicinventoryprocess Business Process

(Continued)

Instructions

....(Continued)

Complete the following step to execute the **basicinventoryprocess** business process:

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: From the Business Process manager screen, search for the **basicinventoryprocess.bp** business process.

Step 4: Click **execution manager** when you get the results screen.

Step 5: Click **execute** in the execution manager screen.

Step 6: In the Local Desktop file name, click Browse.

Step 7: Go to the **Desktop** > **DataFiles** folder and double-click the **InventoryOf3.xml** file.

Step 8: Select **Go!**

Step 9: Monitor the progress of the business process and wait until it completes. Analyze each step to view the details.

Exercise 1.3.7: Loop Variable with Adapter

Introduction

In this exercise, you learn to create a looping business process that collects multiple files and start an individual process for each primary document.

Instructions

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: On the Business Process Manager page, under the **Graphical Modeling** section, click **Go!** to Run Graphical Process Modeler.

Step 4: Click **OK** for JDK version.

Step 5: Click **Run** install.

Step 6: Enter username as **admin** and password as **password**.

Step 7: The Graphical Process Modeler opens. Select **File > New**.

Step 8: Click View **> Stencil** and select the **BPML** and **All Services** stencil sets.

Step 9: Move the following stencils to your workspace.

- Start (1)
- End (1)
- Sequence Start (3)
- Sequence End (3)
- File System Adapters (2)
- Choice Start (2)
- Choice End (2)
- Assign (3)
- Release Service (2)
- Invoke Business Process Service (1)
- Repeat (1)

(Continued on next page)

Exercise 1.3.7:Loop Variable with Adapter

(Continued)

Instructions

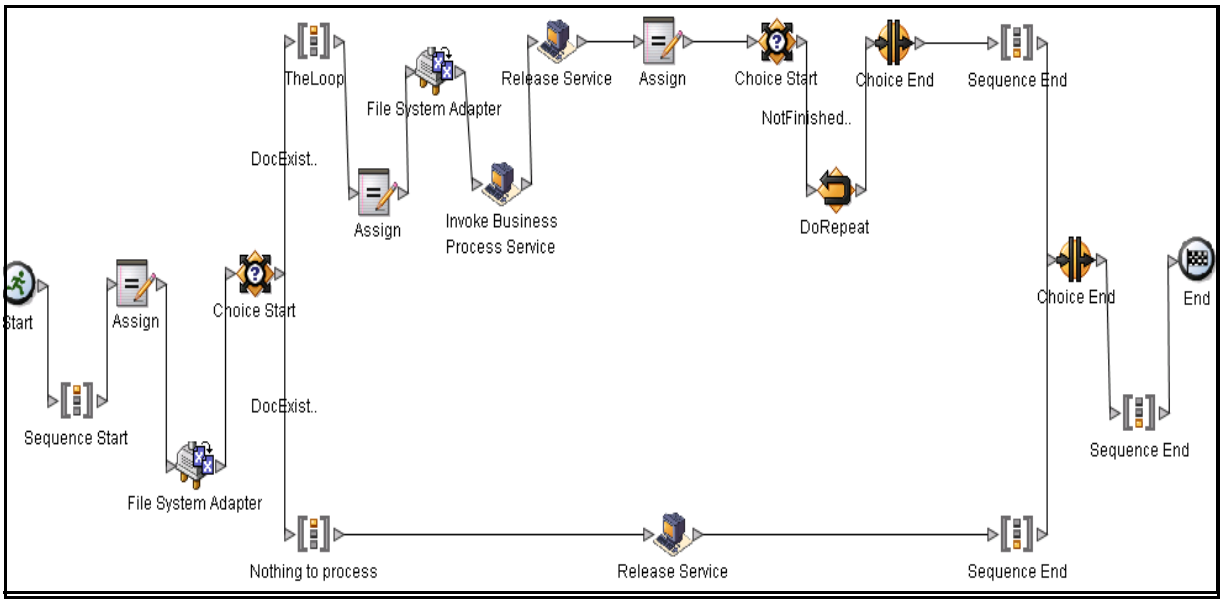
....(Continued)

Step 10: Change the name of the Sequence Start stencils.

a. Double-click the top sequence start and type **TheLoop** in the value column.

b. Double-click the bottom sequence start and type **Nothing to process** in the value column.

Step 11: Arrange and connect the stencils as shown in the following screen capture:



Step 12: Click the first Assign stencil. In the Property Editor-Assign, complete the fields that are listed in the following table based on the given value:

Parameter	Value
constant	1
to	loop_counter

Important

The Assign service creates a tag called “loop_counter” in the process data and place the value of 1 inside the tag.

(Continued on next page)

Exercise 1.3.7:Loop Variable with Adapter

(Continued)

Instructions

....(Continued)

Step 13: Click the File System Adapter stencil. In the Service Editor-File System Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
config	adv_fsa
action	Collection
CollectionFolder	/home/student/fscoll
collectMultiple	Yes

Important

The File System Adapter collects all files in the scan directory of /home/student/fscoll and places the file names into the tag of FSA_DocumentCount in process data.

Step 14: Click **Tools** > **Rule Manager** > **Add**.

Step 15: In the Rule Editor, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	FilesExist
Expression	count(/ProcessData/FSA_DocumentCount/text()) > 0

Step 16: Click **OK** twice to save the rule and close the window.

Step 17: On the top Edge Editor page, click **Add** to view the name and value columns. Select **FilesExist** for the name and true for the value.

Step 18: On the bottom Edge Editor, page, click **Add** to view the name and value columns. Select **FilesExist** for the name and not true for the value.

(Continued on next page)

Exercise 1.3.7:Loop Variable with Adapter

(Continued)

Instructions

....(Continued)

Step 19: Click the top **Assign** stencil. In the Property Editor-Assign pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
from	/ProcessData/*[local-name() =concat('FSA_Document',//loop_counter/text())]/@SCIObjectID
to	PrimaryDocument

Important

The Assign service works with your loop_counter variable and moves the correct document reference to the primary document. As the loop_counter variable increments, the document reference changes. XPath function local-name returns the local part of the XML tag name, ignoring any name-space components in the XML tag. The previous expression finds the first node where the local-name ="FSA_Document1", where "1" is the current loop-counter value.

Step 20: Click the **File System Adapter** stencil. In the Service Editor - File System Adapter page, complete the fields that are listed in the following table based on the given value:

Parameter	Value
config	adv_fsa
action	Extraction
extractionFolder	/home/student/fsext
assignFilename	Use the original filename as the extracted filename.

Important

The File System Adapter extracts the primary document and places the file into the extraction folder of /home/student/fsext.

(Continued on next page)

Exercise 1.3.7:Loop Variable with Adapter

(Continued)

Instructions

....(Continued)

Step 21: Click the **Invoke Business Process Service** stencil. In the Service Editor-Invoke Business Process Service pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
config	InvokeBusinessProcessService
INVOKE_MODE	Async
WFD_NAME	basicinventoryprocess

Important

The Invoke Business Process Service starts the business process of basicinventoryprocess by using the primary document as its input data.

Step 22: Click the **Release Service** stencil. In the Service Editor-Release Service pane, complete the fields that are listed in the following table based on the given value:

c. Config: Select ReleaseService

d. Click Advanced in lower right corner.

e. Click Add. Enter the following data and click OK.

Name	Value	XPath
TARGET	'PrimaryDocument'	Yes

Important

The Release service removes the primary document from the virtual memory of the business process.

(Continued on next page)

Exercise 1.3.7:Loop Variable with Adapter

(Continued)

Instructions

....(Continued)

Step 23: Click the last **Assign** service. In the Property Editor-Assign pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
from	loop_counter+1
to	loop_counter

Important

The Assign service increments the variable (loop_counter) by one and place the new value in process data and overwrite the original value.

Step 24: Click **Tools** > **Rule Manager** > **Add**.

Step 25: In the **Rule Editor**, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	NotFinished
Expression	number(//FSA_DocumentCount/text()) >=number(loop_counter)

Step 26: Click **OK** twice to save the rule and close the window.

Step 27: In the **Edge Editor** between Choice Start and Repeat Service, click **Add** to view the name and value column. Select **NotFinished** for the name and true for the value.

(Continued on next page)

Exercise 1.3.7:Loop Variable with Adapter

(Continued)

Instructions

....(Continued)

Step 28: Click the **Repeat** Service stencil. In the Property Editor - Release pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
name	DoRepeat
ref	TheLoop

Important

The Repeat Service allows the process to loop and return to the sequence start called **TheLoop**.

Step 29: Click the **Release** Service stencil on the bottom data flow. In the Service Editor-Release Service pane, complete the fields that are listed in the following table based on the given value:

a. Config select ReleaseService

b. Select Advanced in lower right corner. Enter the following data and click OK

Name	Value	XPath
TARGET	'PrimaryDocument'	Yes

Important

The Release Service removes the primary document from the virtual memory of the business process.

Step 30: Select **File** > **Save As**. Validate the business process (troubleshoot any errors), and name it **AB_fsa_loop.bp**.

Exercise 1.3.8: Checking In and Testing the AB_fsa_loop Business Process

Introduction

In this exercise, you learn to check in the AB_fsa_loop business process and test it.

This exercise consists of the following steps:

1. Check in business process.
2. Execute the business process.

Instructions

Complete the following steps to check in the **AB_fsa_loop** business process:

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: In the Create section, next to Process Definition, click **Go**!

Step 4: In the Editor: Process Name dialog box, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	AB_fsa_loop
Select an input mode for defining the new process	Check in Business Process that is created by the graphical modeling tools

Step 5: Click **Next.**

Step 6: In the Editor: Process: AB_fsa_loop: Check in dialog box, click Browse and select **AB_fsa_loop**. Click **Open**.

Step 7: In the Editor: Process: AB_fsa_loop: Check in dialog box, in the Description text box, type **Invoke business** and click **Next**.

Step 8: Use the default setting for the remaining parameters. Verify that the Business Process is enabled when you click **Finish**.

(Continued on next page)

Exercise 1.3.8:Checking In and Testing the AB_fsa_loop Business Process

(Continued)

Instructions

....(Continued)

Complete the following step to execute the **AB_fsa_loop** business process:

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: From the Business Process manager screen, search for the **AB_fsa_loop.bp** business process.

Step 4: Click **execution manager** when you get the results screen.

Step 5: Click **execute** in the execution manager screen.

Step 6: Select **Go!**

Step 7: Monitor the progress of the business process and wait till it completes.

Step 8: You see your loop BP and two instances of the basicinventoryprocess has run.

Step 9: When viewing, the steps in the loop BP notice both loops and the decision result for each loop and the different number when there the documents are unavailable.

Lesson review

What you have been able to do

- Describe DOM and Doc and when to use them in a business process.
- Use the DoctoDOM function to create a business process to convert a primary document into process data.
- Use the DOMtoDoc function to create a business process that executes an xpath query against the process data DOM and saves the node into a workflow document.
- Create a looping variable that collects multiple files and start an individual process for each one.

Unit 2: Services and Business Process Implementation

This unit describes error handling and invoking business process service, importing resources, read values from a flat file and create a business process to send data to different storages. You also learn to create and update a database and also run a query against the database to extract information.

LESSON 2.1: Error Handling

What this lesson is about

This lesson provides details about an error handling and Invoking business process service. You learn to build a business process with the on fault group to capture errors. Also, you will customize the error handling process for when an error occurs.

.What you should be able to do

After completing this lesson, you should be able to:

- Describe the services, adapters, and activities that can be used in a business process that captures errors.
- Analyze the parameters that are set up for services, adapters, and activities that are used in a business process that captures errors.
- Create business processes to capture errors and to notify the user of an error.

Documentation

Sterling B2B Integrator and BPML- OnFaultElement

OnFault Element

Overview

The onFault element is used to handle errors. You can include onFault elements in any complex activity for which it may be necessary to recover from faults so that the process can continue. The onFault element contains a fault handling activity. For information about using the onFault group in the GPM, refer to the GPM documentation.

The following specifications apply to the onFault element:

- If the complex activity containing the onFault activity faults before the complex activity is finished, the onFault activity runs.
- If the complex activity containing the onFault activity finishes successfully, the onFault activity finishes successfully, too.
- Sterling B2B Integrator accepts multiple onFault elements within a single complex activity, making it possible to handle different fault codes.
  - Each set of onFault elements must use a unique fault code.
  - Omit the code attribute for only one element when using multiple onFault elements for a single complex activity. Here is the syntax:

```
<onFault code?>
activity+
</onFault>
```

- In BPML, each fault can be associated with a unique code attribute. If the code attribute is provided, the associated onFault element is triggered only by a fault that matches that code attribute. For example, the onFault element has a code attribute set to SystemBusy. If the operation results in a fault associated with a different code attribute, the SystemBusy onFault element does not run.
- You can force the process to run the onFault activity for any fault encountered, by omitting a code attribute.
- If there are multiple layers of joins in BPML, each layer has onFault defined, an error occurs in the branch, and the final join of the inner join layer carries the error, the onFault of this layer is executed (even though the execution of the onFault does not have an error) and the error in the inner final join is propagated to the next layer of the join. This should not happen, because the inner layer of the join went to the inner onFault route and the on fault completes successfully. Avoid using complex multiple join layers in the BPML. Use Invoke Service Sync Mode for the branches; this mode merges all data from the subprocesses.

Exercise 2.1.1: Setting up the onFault Service

Introduction

In this exercise, you learn to setup the onFault Service in the business process.

Instructions

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: On the Business Process Manager page, under the **Graphical Modeling** section, click **Go!** to Run Graphical Process Modeler.

Step 4: Click **OK** for JDK version.

Step 5: Click **Run** install.

Step 6: Enter username as **admin** and password as **password**.

Step 7: The Graphical Process Modeler opens. Select **View > Refresh Services** to get an updated configuration of the FSA instance in the business process.

Step 8: Select **File > New**.

Step 9: Click View **> Stencil** and select the **BPML** and **All Services** stencil sets.

Step 10: Move the following stencils to your workspace:

- Start (1)
- End (1)
- Sequence Start (1)
- Sequence End (1)
- File system adapter (1)
- OnFault Group (1)
- XML Validation Service (1)

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Exercise 2.1.1:Setting up the onFault Service

(Continued)

Instructions

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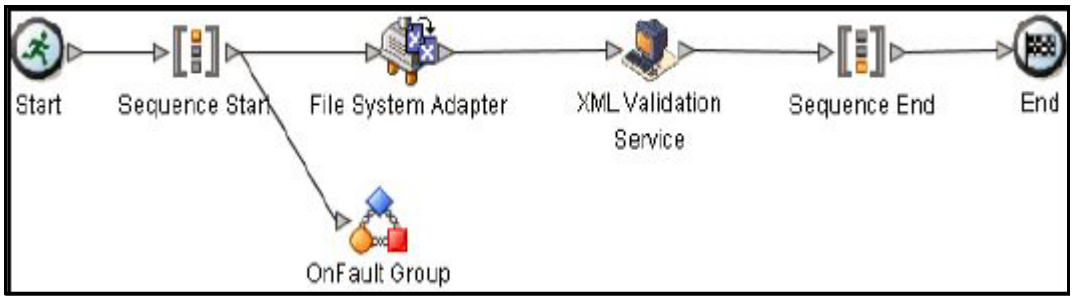
Step 11: Arrange and connect the stencils as shown in the following illustration:



Step 12: Click the **File System Adapter** stencil. In the Service Editor-File System Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	adv_fsa
Action	Collection

Important

The file system adapter scans the /home/student/fscoll directory.

Step 13: Click the **XML Validation Service** stencil. In the Config list, select **XML Validator_WellFormed**.

Important

The XML Validation Service rejects any non XML input file.

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Exercise 2.1.1:Setting up the onFault Service

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Instructions

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Step 14: Click the OnFault Group stencil. In the Property Editor-OnFault Group, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	First Fault
Error Value	No files to collect

Important

The file system adapter scans the /home/student/fscoll directory. If no files exist in the directory when the process starts, the adapter processes an error message with the status of "No files to collect." The error value is case-sensitive.

Step 15: In the Property Editor-OnFault Group, click **Add** to create a second fault and complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	Second Fault
Error Value	Leave Blank  Important This parameter is an error catch-all.

Step 16: In the Navigation pane, locate and click **First Fault**. Between the OnFault Start and OnFault End, add an **Assign** activity.

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Exercise 2.1.1:Setting up the onFault Service

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Instructions

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Step 17: 10. In the **First** Fault, click the **Assign** activity. In the Property Editor-**Assign**, complete the fields that are listed in the following table based on the given value:

Parameter	Value
constant	No Data to Collect
to	Results

Important

The Assign service places the tag Results into process data with the value of "No Data to Collect."

Step 18: In the **Navigation** pane, locate and click the **Second Fault**. Between the OnFault Start and OnFault End, add an Assign activity.

Step 19: Click the **Assign** activity. In the Property Editor-**Assign**, complete the fields that are listed in the following table as per the valuegiven:

Parameter	Value
constant	Second Fault
to	Results

Important

The Assign service places the tag Results into process data with the value of "Second Fault".

Note

This exercise demonstrates how Sterling B2B Integrator handles different error levels. Because the error message of No files to collect is not usually a critical error, you probably do not need error notification. However, if a customer sends non XML data, the second fault captures the error message and you get the message in Process Data.

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Exercise 2.1.1:Setting up the onFault Service

(Continued)

Instructions

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Step 20: Select **File** > **Save As**. Validate the business process (troubleshoot any errors), and name it **AB_onfault.bp**.

Important

In practice, a customer would typically not use the Assign activity. Instead, most customers tend to use the SMTP Send adapter to send an email notification in the event of a critical error.

Exercise 2.1.2: Checking-in and Testing the AB_onfault Business Process

Introduction

In this exercises, you learn to check in and execute the AB_onfault.bp.

This exercise consists of the following three steps:

1. Check in business process.
2. Execute the business process.
3. Analyze the results.

Instructions

Complete the following step to check in the AB_onfault.bp business process:

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: In the Create section, next to Process Definition, click **Go**!

Step 4: In the Editor: Process Name dialog box, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	AB_onfault
Select an input mode for defining the new process	Check in Business Process created by the graphical modeling tools

Step 5: Click **Next.**

Step 6: In the **Editor: Process: AB_onfault**: Check in dialog box, click Browse, and select **AB_PDthenmessage.bp**. Click **Open**.

Step 7: In the **Editor: Process: AB_onfault:** Check in dialog box, in the Description text box, type **Process Data, then Message** and click **Next**.

Step 8: Use the default setting for the remaining parameters. Verify that the Business Process is enabled when you click **Finish**.

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Exercise 2.1.2:Checking-in and Testing the AB_onfault Business Process

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Instructions

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Complete the following step to execute the AB_onfault.bp business process:

Step 1: Access desktop from windows image, open FileZilla.

Step 2: Select **sftp://root@192.168.40.100** from the server drop down list and click Quickconnect. You are now connected to the server image.

Step 3: Copy **InventoryOf3.xml** from the windows client **Desktop/Data files** to **/home/student/fscoll** on the Linux server.

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: From the Business Process manager screen, search for the **AB_onfault.bp** business process.

Step 4: Click **execution manager** when you get the results screen.

Step 5: Click **execute** in the execution manager screen.

Step 6: Select **Go!**

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Exercise 2.1.2:Checking-in and Testing the AB_onfault Business Process

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Instructions

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Complete the following steps to analyze the results:

Expected results for this exercise are:

- InventoryOf3.xml will run successfully (No errors).
- No File to collect will trigger 1st Fault.
- File1.txt will fail XML Validation and trigger the 2nd fault.

Testing the Business Process with No Input File:

Step 1: From the Business Process manager screen, search for the **AB_onfault.bp**.

Step 2: Click **execution manager** when you get the results screen.

Step 3: Click **execute** in the execution manager screen.

Step 4: Click **Go!**

Step 5: Review the output of the process.

Testing the Business Process with file1.txt:

Step 1: Copy **file1.txt** to the /home/student/fscoll directory.

Step 2: From the Business Process manager screen, search for the **AB_onfault.bp**.

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

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

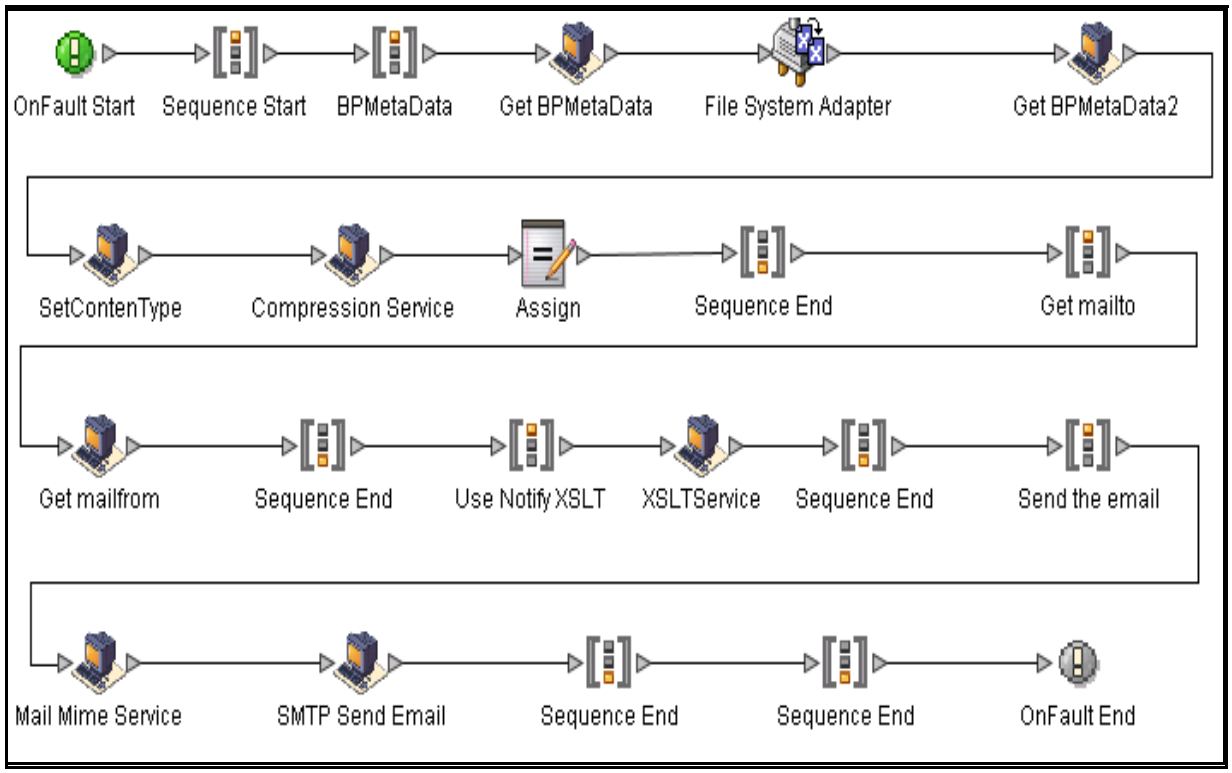
Step 5: Click **Go!** to review the output of the process.

Reviewing the EmailOnError Business Process

Introduction

The EmailOnError business process is included with the base Sterling B2B Integrator product and is inserted into the database upon completing the installation and can be used to capture errors. This section describes the activities, services, and adapters that are used in the business process. The file system adapter is not part of the standard EmailOnError business process. However, you will add this service in your exercise to write out the primary document for easy reprocessing.

The following figure depicts the the EmailOnError business process:



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Reviewing the EmailOnError Business Process

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Get BP Meta Data Activity

The BP Get Metadata (Business Process Metadata) activity runs a database query and returns the value of the business process error, the workflow ID (business process ID) and other information about the business process and inserts it into Process Data.

This first BP Meta Data is used to gather the workflow ID for use later in the business process.

The following table lists the fields and value that are used in the Get BP Meta Data activity to capture errors:

Parameter	Value
Name	Get BPMetaData
Config	BPMetaDataInfoService
Message To Service: Output Msg	Obtain Message first, then Process Data
Message To Service: Message Name	Xout
CORRELATION	false
DISPOSITION	true
LINKAGE	true
TRACE	false
Message From Service: Input Msg	Allow message write
WORKFLOW_ID	■ //BPDATA/WORKFLOW_ID/text() ■ Use XPATH

Example

Here is an example of how the BP Get Meta Data updates the process data.

```
<Prev_NotSuccess_Adv_Status>schema:validationerr</Prev_NotSuccess_Adv_Statu
s>
<WORKFLOW_ID>11524</WORKFLOW_ID>
```

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Reviewing the EmailOnError Business Process

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File System Adapter

The file system adapter collects (imports) files from the file system and extracts (exports) files to the file system. The collected file becomes the primary document in a business process for file collection. A primary document is input to the file system adapter for file extraction. This FSA is not part of the EmailOnError BP but is added as part of the exercise.

Get BP Meta Data 2 Activity

The BP Get Meta Data 2 activity runs a database inquire and returns all information that is associated with the workflow ID (business process ID).

The following table lists the fields and value that is used in the Get BP Meta Data 2 activity to capture errors:

Parameter	Value
Name	Get BPMetaData2
Config	BPMetaDataInfoService
Message To Service: Output Msg	Obtain Message first, then Process Data
Message To Service: Message Name	Xout
CORRELATION	true
DISPOSITION	true
LINKAGE	true
TRACE	true
Message From Service: Input Msg	Allow Process Data write

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Reviewing the EmailOnError Business Process

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Get BP Meta Data 2 Activity

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Example

Here is an example of how the BP Get Meta Data 2 activity updates the process data.

```
<BPDATA>
<WORKFLOW_ID>11524</WORKFLOW_ID>
<WFD_ID>595</WFD_ID>
<WFD_VERSION>1</WFD_VERSION>
<WFD_NAME>AB_onfault</WFD_NAME>
<WFD_DESCRIPTION>on fault</WFD_DESCRIPTION>
<WFD_STATE>ACTIVE</WFD_STATE>
<WFD_STATUS>ERROR</WFD_STATUS>
<WFD_TYPE>NORMAL</WFD_TYPE>
<WFD_PRIORITY>4</WFD_PRIORITY>
<WFD_PERSISTENCE_LEVEL>DEFAULT</WFD_PERSISTENCE_LEVEL>
<WFD_LIFE_SPAN>2880 Minute(s)</WFD_LIFE_SPAN>
<WFD_STORAGE_TYPE>DEFAULT</WFD_STORAGE_TYPE>
<WFD_RECOVERY_LEVEL>DEFAULT</WFD_RECOVERY_LEVEL>
<WFD_DOC_TRACKING_FLAG>false</WFD_DOC_TRACKING_FLAG>
<WFD_DEADLINE_INTERVAL>-1</WFD_DEADLINE_INTERVAL>
<WFD_EVENT_LEVEL>FULL</WFD_EVENT_LEVEL>
</BPDATA>
```

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Reviewing the EmailOnError Business Process

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Get Document Information Service Type

The Get Document Information Service Type service allows information obtained from the document to be used in the business process at run time. You can also use the service to set certain information about the document in the business process.

The following table lists the fields and value that is used in the Get Document Information Service Type service to capture errors:

Parameter	Value
Name	GetDocumentInfoServiceType
Config	GetDocumentInfoService
Message To Service: Output Msg	Obtain Message first, then Process Data
Message To Service: Message Name	Xout
CORRELATION	false
BodyName	WorkTrace.xml
Message From Service: Input Msg	Allow Process Data write

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Reviewing the EmailOnError Business Process

(Continued)

Get Document Information Service Type ....(Continued)

Example

Here is an example of how the Get Document Information Service Type service updates the process data with information from the primary document.

```
<ProcessData>
<BodyName>WorkTrace.xml</BodyName>
<BodyLength>2762</BodyLength>
<DocumentBodyLength>2762</DocumentBodyLength>
<DocumentLength>2762</DocumentLength>
<DocumentId>630:1827:138556bd15c:si:node1</DocumentId>
<DocumentSubject/>
<DocumentCreateTime>2012-07-04 22:50:44.275</DocumentCreateTime>
<DocumentModifiedTime>2012-07-0422:50:44.275</DocumentModifiedTime>
<DocumentPreviousDocId>719:1817:138556bd15c:si:node1</DocumentPreviousDocId
>
<DocumentLifeSpan>0 Minutes</DocumentLifeSpan>
<DocumentInitialId>719:1817:138556bd15c:si:node1</DocumentInitialId>
<DocumentMaxInlineBodySize>102400</DocumentMaxInlineBodySize>
<DocumentPurgeAfter>2012-07-04 22:50:44.294</DocumentPurgeAfter>
<DocumentStorageType>DATABASE</DocumentStorageType>
<DocumentWorkflowId>36046</DocumentWorkflowId>
<Encrypted>false</Encrypted>
<DocumentType>0</DocumentType>
```

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Reviewing the EmailOnError Business Process

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Compression Service

The following options are available with the Compression service:

- Compression: Use this option to compress (deflate/create a .zip file) a document or group of documents in the business process context. With the Compress option, parameters can be set to specify whether the files should be deflated or stored. If the files are being compressed, parameters can be set to determine the level of compression. You can also use the Compression option to store files without compressing them.
- Decompression: Use this option to inflate a compressed file and put a specified document into the primary document or to decompress the file and start a business process for each document. The Decompression option inflates a compressed file and enables you to use the resulting decompressed files in business processes.

Important

While decompressing, if you choose to put a specific document in the primary document area, but fail to specify a file name when multiple files exist in the compressed input file, Sterling B2B Integrator selects the first of the files present, as determined by the compression utility that produced the compressed file.

If the compression or decompression completes without error, a Done message is written to the status report. If it was unsuccessful, an error message is written to the status report.

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Reviewing the EmailOnError Business Process

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The following table lists the fields and value that are used in the Compression Service to capture errors:

Parameter	Value
Name	Compression Service
Config	Compression Service
Message To Service: Output Msg	Obtain Message first, then Process Data
Message Name	compressionInputMessage
bpml_name	[Not Applicable]
compressed_filename	WorkFlowTrace.zip
compression_action	Compress
compression_level	9
compression_type	Store
doc_to_compress	Primary Doc
docStorageType	SystemDefault
Message From Service: Input Msg	Allow Process Data write

Important

The primary document is compressed and the file name is workflowtrace.zip. This file is sent through email by your SMTP Send adapter.

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Reviewing the EmailOnError Business Process

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Assign

The Assign activity sets a value in the process data that is equal to a fixed value, either a number or a string. Additionally, it can incorporate XPath expressions.

When the Assign activity is an activity, it assigns a constant to the process data. The to attribute corresponds to a path within the process data. The from attribute extracts information from a previously assigned value.

The following table lists the fields and value that are used in the Assign activity to capture errors:

Parameter	Value
append	false
from	PrimaryDocument/@SCIObjectID
to	DocumentAttachment

Important

The Assign activity moves the workflowtrace.zip reference to process data and place the value inside the tag of DocumentAttachment.

User Service

The User service extracts user data from the Sterling B2B Integrator database for use within the business process as it runs. The user data can be as little as a last name or as much as all the data in the user profile that is setup by the system administrator. A business process can also reference the User service to help route documents from person to person.

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Reviewing the EmailOnError Business Process

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User Service

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The following table lists the fields and value that are used in the User Service to capture errors:

Parameter	Value
Name	Get mailfrom
Config	User Service
Message To Service: Output Msg	Obtain Message first, then Process Data
Message To Service: Message Name	UserServiceTypeInputMessage
MethodName	getEmail
Message From Service: Input Msg	Allow message write
mail-mime-recipient	■ //UserService/getEmail/text() ■ Use XPATH
xport-smtp-mailto	■ //UserService/getEmail/text() ■ Use XPATH

Example

Here is an example of how the User Service updates the process data with information from the database.

```
<mail-mime-recipient>student01@si.localdomain</mail-mime-recipient>
<xport-smtp-mailto>student01@si.localdomain</xport-smtp-mailto>
```

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Reviewing the EmailOnError Business Process

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XSLT Service

The XSLT Service enables you to use XSLT style sheets in Sterling B2B Integrator. The XSLT Service performs transformation of an XML document from specified location (primary document or process data) using selected XSLT. It can also validate input XML.

The following table lists the fields and value that are used in the XSLT Service to capture errors:

Parameter	Value
Name	XSLTService
Config	XSLTService
Message To Service: Output Msg	Obtain Message first, then Process Data
Message To Service: Message Name	XSLTServiceInputMessage
input_pd_xpath	/
xml_input_from	Process Data
xml_input_validation	No validation
xslt_name	EmailOnError
Message From Service: Input Msg	Allow Process Data write

Here is an example of how the XSLT Service updates the primary document with information from process data and reformat the output using the EmailOnError XSLT Style Sheet that is checked into the database. The service builds the details of the email that is sent by the SMTP Send adapter.

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Reviewing the EmailOnError Business Process

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The following error occurred on Business Process ID 11524:Schema:validationerr.

```
BP Details
==========================================================================
Error:              schema:validationerr
Name:               AB_onfault
Description:        on fault
Workflow ID:        11524
Workflow Version:   1
State:              ACTIVE
Status:             ERROR
Priority:           4
Persistence Level:  DEFAULT
Storage Type:       DEFAULT
Recovery Level:     DEFAULT
Doc Tracking Flag:  false
BP Deadline:        -1
==========================================================================
```

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Reviewing the EmailOnError Business Process

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Mail Mime Service

The Mail Mime service constructs a new MIME message or parses an existing MIME message. To construct a MIME message for outgoing e-mail, the service picks up the input data from the primary document. This becomes the body of the e-mail. Attachment data may be read from the file system, the document area, or both. All data is merged together into a single multipart MIME message. The resulting MIME message is placed in the primary document.

The following table lists the fields and value that are used in the Mail Mime Service to capture errors:

Parameter	Value
Name	Mail Mime Service
Config	MailMimeService
Message To Service: Output Msg	Obtain Message first, then Process Data
Message To Service: Message Name	MailMimeServiceInputMessage
mail-mime-body	true
mail-mime-operation	build
mail-mime-subject	concat('Error in workflow: ',BPDATA/WORKFLOW_ID/text(),concat (' BP Name : ',BPDATA/WFD_NAME/text(),'))
mail-mime-use-doc-area	true
parse	Build a new message
Message From Service: Input Msg	Allow Process Data write

Important

The Mail Mime service pulls together the output from the XLST Style sheet and the compressed data file (workflowtrace.zip) and builds a link in process data.

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Reviewing the EmailOnError Business Process

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SMTP Send Email

The Sterling B2B Integrator SMTP Send adapter allows documents to be sent to any valid email address by using an accessible mail server (usually one maintained by the company that is running Sterling B2B Integrator). It does so by enabling Sterling B2B Integrator to mail (send) documents using SMTP, within Sterling B2B Integrator, to the mail server.

A business process runs with the trading partner information that sends/receives documents. As part of the business process, the SMTP Send adapter picks up the primary document and sends it to the mail server, which does further processing of the document. This adapter is commonly used to send email notification about documents that were sent or processed or need some action from the recipient.

It is important to note that this adapter does not send the email on its own. Sterling B2B Integrator needs a separate email server to actually send the email. The email server connection information is setup as part of the adapter's service configuration.

The following table lists the fields and value that we will use in the SMTP Send email adapter:

Parameter	Value
Name	SMTP Send Email
Config	SMTP_SEND_ADAPTER
Message To Service: Output Msg	Obtain Process Data first, then Messages
Message To Service: Message Name	Xout
b2b-raw-message	true
smtpHost	myhost
smtpPort	25
xport-smtp-mailhost	192.168.40.1
xport-smtp-mailport	25
xport-smtp-mailto	student01@ibm.com
Message From Service: Input Msg	Allow Process Data write

Important

The SMTP Send adapter sends an email the output from the XLST Style sheet and the compressed data file (workflowtrace.zip).

Exercise 2.1.3: Build a Process to Capture Errors

Introduction

In this exercise, you will work with the AB_onfault business process and the EmailOnError business process. You will merge the EmailOnError business process into the error handling of the Second Fault and remove the simple assign that was put into the process and replace it with the BPML code of the EmailOnError process. Thus, you can capture all the details about your error.

Instructions

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: From the **Search** section, in the **Process Name** text box, type, **EmailOnError**,and click **Go!.**

Step 4: In the **Business Process** dialog box, click **Source Manager**.

Step 5: In the **Source Manager** dialog box, click **edit**.

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Exercise 2.1.3:Build a Process to Capture Errors

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Instructions

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Step 6: Select and copy the BPML code. Click in the BPML code window. Highlight and copy all of the code between <process> and </process>. Do not include the first and last tag in the process.

The BPML code is given in the following table:

```
 <sequence>
    <sequence name="BPMetaData">
      <operation name="Get BPMetaData">
        <participant name="BPMetaDataInfoService"/>
        <output message="Xout">
          <assign to="DISPOSITION">true</assign>
          <assign to="LINKAGE">true</assign>
          <assign to="." from="*"></assign>
        </output>
        <input message="Xin">
          <assign to="WORKFLOW_ID"
from="//BPDATA/WORKFLOW_ID/text()"></assign>
        </input>
      </operation>
```

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Exercise 2.1.3:Build a Process to Capture Errors

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Instructions

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```
<operation name="Get BPMetaData2">
        <participant name="BPMetaDataInfoService"/>
        <output message="Xout">
          <assign to="DISPOSITION">true</assign>
          <assign to="LINKAGE">true</assign>
          <assign to="CORRELATION">true</assign>
          <assign to="TRACE">true</assign>
          <assign to="." from="*"></assign>
        </output>
        <input message="Xin">
          <assign to="." from="*"></assign>
        </input>
      </operation>

<operation name="SetContenType">
        <participant name="GetDocumentInfoService"/>
         <output message="xout">
         <assign to="." from="*"/>
         <assign to="BodyName">WorkTrace.xml</assign>
         </output>
         <input message="xin">
        <assign to="." from="*"/>
       </input>
       </operation>
```

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Exercise 2.1.3:Build a Process to Capture Errors

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Instructions

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```
<operation name="Compression Service">
        <participant name="CompressionService"/>
        <output message="compressionInputMessage">
          <assign to="compressed_filename">WorkFlowTrace.zip</assign>
          <assign to="compression_action">Compress</assign>
          <assign to="compression_level">9</assign>
          <assign to="compression_type">Store</assign>
          <assign to="doc_to_compress">primary_doc</assign>
          <assign to="docStorageType">sd</assign>
          <assign to="." from="*"></assign>
        </output>
        <input message="inmsg">
          <assign to="." from="*"></assign>
        </input>
      </operation>
<assign to="DocumentAttachment"
from="PrimaryDocument/@SCIObjectID"></assign>
</sequence>
    <sequence name="Get mailto">
      <operation name="Get mailfrom">
        <participant name="UserService"/>
        <output message="UserServiceTypeInputMessage">
          <assign to="MethodName">getEmail</assign>
          <assign to="." from="*"></assign>
        </output>
        <input message="inmsg">
          <assign to="mail-mime-recipient"
from="//UserService/getEmail/text()"></assign>
          <assign to="xport-smtp-mailto"
from="//UserService/getEmail/text()"></assign>
        </input>
      </operation>
```

(Continued on next page)

Exercise 2.1.3:Build a Process to Capture Errors

(Continued)

Instructions

....(Continued)

```
 </sequence>
    <sequence name="Use Notify XSLT">
      <operation name="XSLTService">
        <participant name="XSLTService"/>
        <output message="XSLTServiceInputMessage">
          <assign to="xml_input_from">ProcData</assign>
          <assign to="input_pd_xpath">/</assign>
          <assign to="xml_input_validation">NO</assign>
          <assign to="xslt_name">EmailOnError</assign>
          <assign to="." from="*"></assign>
        </output>
        <input message="inmsg">
          <assign to="." from="*"></assign>
        </input> </operation>
</sequence>
    <sequence name="Send the email">
      <operation name="Mail Mime Service">
        <participant name="MailMimeService"/>
        <output message="MailMimeServiceInputMessage">
          <assign to="mail-mime-body">true</assign>
          <assign to="mail-mime-operation">build</assign>
          <assign to="mail-mime-subject" from="concat('Error in workflow :
',BPDATA/WORKFLOW_ID/text(),concat(' BP Name :
',BPDATA/WFD_NAME/text(),''))" />
          <assign to="mail-mime-use-doc-area">true</assign>
          <assign to="parse">false</assign>
          <assign to="." from="*"></assign>
        </output>
        <input message="inmsg">
          <assign to="." from="*"></assign>
        </input>
      </operation>
```

(Continued on next page)

Exercise 2.1.3:Build a Process to Capture Errors

(Continued)

Instructions

....(Continued)

```
 <operation name="SMTP Send Email">
        <participant name="SMTP_SEND_ADAPTER"/>
        <output message="Xout">
          <assign to="." from="*"></assign>
          <assign to="xport-b2b-mode">off</assign>
          <assign to="b2b-raw-message">true</assign>
          <assign to="xport-smtp-mailfrom">student1@ibm.com</assign>
          <assign to="xport-smtp-mailhost">192.168.40.1</assign>
          <assign to="xport-smtp-mailport">25</assign>
        </output>
        <input message="Xin">
          <assign to="." from="*"></assign>
        </input>
      </operation>
</sequence>
```

Step 7: Click **Cancel** to exit the Business Process.

Step 8: From the Admin Console, select **Business Processes > Manager**.

Step 9: Search for the **AB_OnFault** business process and select **Go**!

Step 10: Click **Source Manager**.

Step 11: Click **edit.**

Step 12: Go to the bottom of the BPML code. Find the **onFault tag**:

```
<onFault>
<assign to="results">Second Fault</assign>
</onFault>
```

(Continued on next page)

Exercise 2.1.3:Build a Process to Capture Errors

(Continued)

Instructions

....(Continued)

Step 13: Remove the **assign** statement and replace this line of code by doing an edit/paste.

Step 14: In the Description text box, type **Advanced BPM onFault Exercise**.

Step 15: Click **Next four** times.

Step 16: Set **new version** of the process as the **default process**.

Step 17: Select **Next** and **Finish** to complete the business process check-in.

Exercise 2.1.4: Writing Out A Primary Document To An Error Handling Directory

Introduction

The EmailOnError business process does not have a file system adapter in the process. In your process, you need to add a file system adapter to your On Fault Handling so that you can write out the primary document to an error handling directory. This step is beneficial for reprocessing the data.

Do this activity in the GPM. Check out the AB_onfault and open the business process in the GPM.

Instructions

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: On the Business Process Manager page, under the **Graphical Modeling** section, click **Go!** to Run Graphical Process Modeler.

Step 4: Click **OK** for JDK version.

Step 5: Click **Run** install.

Step 6: Enter username as **admin** and password as **password**.

Step 7: The Graphical Process Modeler opens.Click **File > Open**.

Step 8: Browse and open the **AB_onfault** business process.

Step 9: Click the **OnFault Group** stencil.

Step 10: In the Property Editor-OnFault Group, the name value of **First Fault** and **Second Fault** is removed because of the edits that were done in the source manager to the BPML code. You must recreate the values. Type First Fault on the line that is showing the Error Value of **No files to collect**.

(Continued on next page)

Exercise 2.1.4:Writing Out A Primary Document To An Error Handling Directory

(Continued)

Instructions

....(Continued)

Step 11: Type Second Fault for the line that does not have an error value. The entries should match the following line.

Name	Error Value
First Fault	No files to collect
Second Fault	

Step 12: In the Navigation pane, click **Second Fault** (lower left corner of screen).

Step 13: Delete the line that is connecting **Get BPMetaData** and **Get BPMetaData2**.

Step 14: Place a **File System Adapter** between the **Get BPMetaData** and **GetBPMetaData2**. Connect the lines.

Step 15: Click the File System Adapter stencil. In the Service Editor-File System Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value	Use XPath
Config	adv_fsa	
Action	Extraction	
assignedFilename	concat('BusinessProcessID.',//ProcessData/WORKFLOW_ID/text(),'.txt')	Yes
extractionFolder	/home/student/fsext	
assignFilename	Assign a specific name	

Important

By default, the GPM accepts values for services from the services configuration. To override these default configurations, click Options > Preferences. Choose the ‘Service Editor’ tab, and click the check box to select ‘Override Default Service Configurations’.

(Continued on next page)

Exercise 2.1.4:Writing Out A Primary Document To An Error Handling Directory

(Continued)

Instructions

....(Continued)

Step 16: Click the **SMTP Send Adapter stencil**. In the Service Editor-SMTP Send Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	SMTP_SEND_ADAPTER
smtpHost	myhost
smtpPort	25
xport-smtp-mailhost	192.168.40.1
xport-smtp-mailsubject	Lesson 4
xport-smtp-mailsubjectencoding	ASCII
xport-smtp-mailto	student1@ibm.com
xport-smtp-mailfrom	anyone@stercomm.com

Step 17: Select **File > Save As**. Validate the business process (troubleshoot anyerrors), and name it **AB_onfault_w_detailerrorhandling.bp**.

Exercise 2.1.5: Check In and Test the AB_onfault_w_detailerror-handling Business Process

Introduction

In this exercise, you learn to check in and test the AB_onfault_w_detailerrorhandling business process.

This exercise consists of the following three steps:

1. Check in business process.
2. Execute the business process.
3. Analyze the results.

Instructions

Complete the following step to check in the AB_onfault_w_detailerrorhandling business process:

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: In the Create section, next to Process Definition, click **Go**!

Step 4: In the Editor: Process Name dialog box, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	AB_onfault_w_detailerrorhandling
Select an input mode for defining the new process	Check in Business Process created by the graphical modeling tools

Step 5: Click **Next.**

(Continued on next page)

Exercise 2.1.5:Check In and Test the AB_onfault_w_detailerror-handling Business Process

(Continued)

Instructions

....(Continued)

Step 6: In the **Editor: Process: AB_onfault_w_detailerrorhandling**: Check in dialog box, click Browse and select **AB_PDthenmessage.bp**. Click **Open**.

Step 7: In the **Editor: Process: AB_onfault_w_detailerrorhandling :** Check in dialog box, in the Description text box, type **Process Data, then Message** and click **Next**.

Step 8: Use the default setting for the remaining parameters. Verify that the Business Process is enabled when you click **Finish**.

Complete the following steps to execute the AB_onfault_w_detailerrorhandling business process:

You need to copy **file1.txt** from Windows client system Desktop/Data files to **/home/student/fscoll** on the Linux server where B2Bi is running.

 Note

You can use Filezilla to transfer the file. There is a preconfigured connection for root and student using the arrow next to the QuickConnect button. Choose the root user connection.

Step 1: Access desktop from windows image, open FileZilla.

Step 2: Select **sftp://root@192.168.40.100** from the server drop down list and click Quickconnect. You are now connected to the server image.

Step 3: Copy **file1.txt** from the windows client **Desktop/Data files** to **/home/student/fscoll** on the Linux server.

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: From the Business Process manager screen, search for the **AB_onfault_w_detailerrorhandling** business process.

Step 4: Click **execution manager** when you get the results screen.

Step 5: Click **execute** in the execution manager screen.

Step 6: Select **Go!**

(Continued on next page)

Exercise 2.1.5:Check In and Test the AB_onfault_w_detailerror-handling Business Process

(Continued)

Instructions

....(Continued)

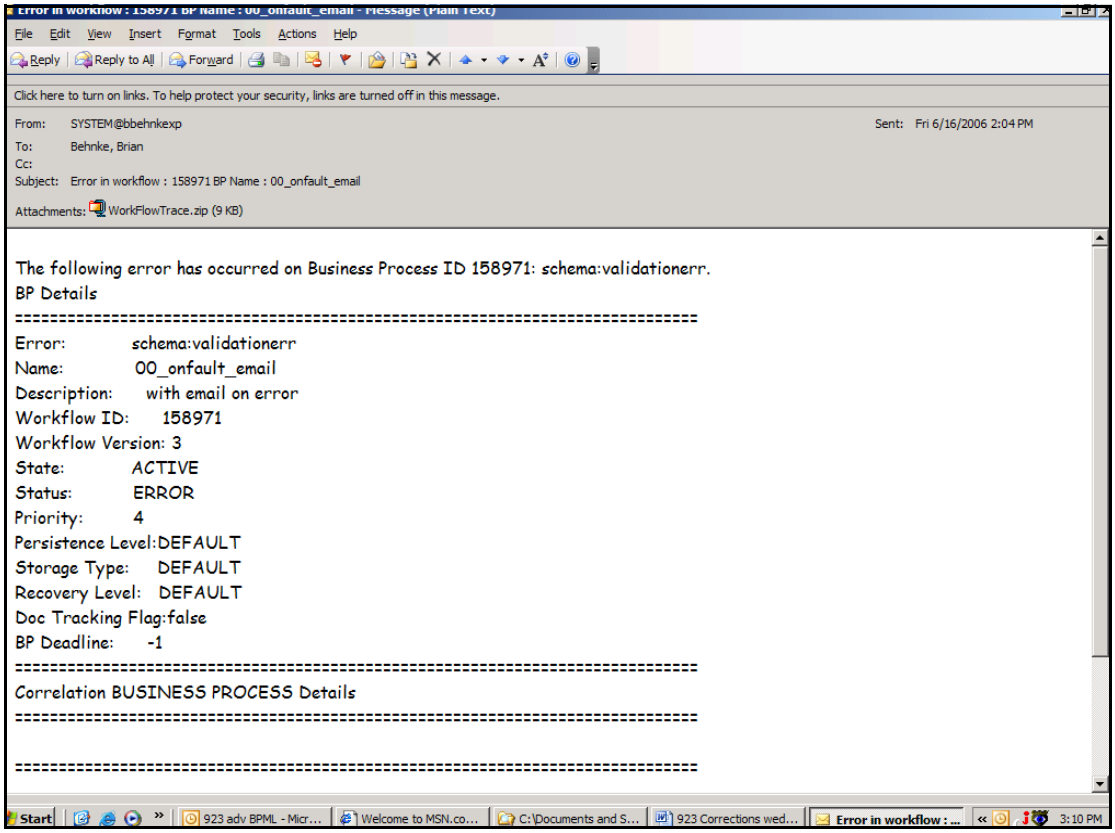
Complete the following steps to analyze the results:

Step 1: From the windows desktop, Click **Start** > **Windows Live Mail**

Step 2: Log in with the username: **student1** and password: **password1**.

Step 3: Check your inbox. You should have received an email about the error.

The following screen capture depicts the email message received in the inbox:



Lesson review

What you have been able to do

- Describe the services, adapters, and activities that can be used in a business process that captures errors.
- Analyze the parameters that are set up for services, adapters, and activities that are used in a business process that captures errors.
- Create business processes to capture errors and to notify the user of an error.

LESSON 2.2: Importing Style Sheets

What this lesson is about

In this Lesson, you will work with importing resources into your database, reject 997 documents, XLST Style Sheets and the inbound X12 DeenvelopeUnified business process.

What you should be able to do

After completing this lesson, you should be able to:

- Import and export resources.
- Create a business process to manage 997.

Documentation

Sterling B2B Integrator and BPML- Importing Style sheets

Managing Resources

Resources

In Sterling B2B Integrator, resources are files, templates, and documents that are deployed in Sterling B2B Integrator to perform various actions.

Sterling B2B Integrator enables you 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 you to import resources from:

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

To limit import and export issues when moving from one Sterling B2B Integrator environment to another Sterling B2B Integrator environment, both environments should be on the same version.

The following are some example resource types you can import and export:

- 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

(Continued on next page)

Managing Resources

(Continued)

Scenario

You have been provided a bundled .jar file that you need to be imported into the database. The file contains the following information:

- Trading Envelopes (ISA, GS, ST)
- XSLT Style Sheet (ib997)
- XML Encoder Map (lwIB997-LW)

The Trading Partner information is required in this lesson so that Sterling B2B Integrator can link up the input data (EDI) with your new AB_edi997_email business process that you will create in this lesson. A production environment can have one file system adapter scanning an input directory for EDI input data. When the file system adapter finds an input file, it starts the X12DeenvelopeUnified business process. The X12DeenvelopeUnified business process is a standard process that is added to the database while installing Sterling B2B Integrator. The X12DeenvelopeUnified verifies the trading partner information/envelopes (ISA, GS, and ST) and start a new business process. Your new AB_edi997_email business sends an email notification when a rejected 997 is processed.

The XSLT Service updates the primary document with information from process data and reformats the output using the ib997 XSLT Style Sheet that is imported into the database. The service builds the details of the email that is sent by the SMTP Send Adapter.

The XML Encoder Map (lwIB997-LW) is called by the XML Encoder Service and convert the EDI formatted data into XML formatted data and place the data into process data. Your new business process uses this information to determine whether you received a rejected 997 document and if so, sends the EDI Coordinator an email notification.

Exercise 2.2.1: Importing Information into the Database

Introduction

In this exercise, you learn to import information into the database using the import resources.

Instructions

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the Administrative menu, click **Deployment > Resource Manager > Import/Export.**

Step 3: At the Import/Export Resources page, under the Import Resources section, click **Go!**

Step 4: At the Import Resources: Import File page, click browse and goto **C:\Data Files** folder

Step 5: Select **Importfiles.jar**. Leave the Passphrase blank and click **Next**.

Step 6: Leave the **Create Resource Tag** fields blank, and click **Next**.

Step 7: Select **Yes** to update objects in the database, and click **Next**.

Step 8: Move all three envelopes to the **To Be Imported** window and click **Next**.

Step 9: Move **ib997** into the **To Be Imported** window and click **Next**.

Step 10: Move **IwlB997-LW** map into the **To Be Imported** window and click **Next**.

Step 11: On the **Security** page, type **SI52** for the **Passphrase**. Click **Next**.

Step 12: On the **Confirm** page,Verify confirmation details and click **Finish**.

Exercise 2.2.2: Download & Install Map Editor

Introduction

In the following exercise, you will download the Map Editor, check out the lwIB997 map, and open the map within the map editor.

Instructions

Complete the following steps to download and install the Map Editor :

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the Administrative menu, click **Deployment > Map**.

Step 3: Click **Go**! in the Download and Install section; next to Download Map Editor (EN).The system opens the File Download dialog box.

Step 4: Select **Save**.

Note

Internet Explorer will stop you from running the file because it believes it is an unsecured file from the web. So you must save it.

Step 5: Internet Explorer will present another security warning. Click **View Downloads**.

Step 6: Right click the file download and click **Run Anyways**.

Step 7: Click **Yes** if you see a security warning, asking if you want to install “MapEditorInstall...”.

Step 8: Click **Next** in the Map Editor Setup Welcome screen.

Step 9: Click **Next** in the Choose Destination Location screen.

Step 10: Accept the default folder in the Select Program Folder option, and click **Next**.

Step 11: When the Setup Wizard completes click **Finish.**

(Continued on next page)

Exercise 2.2.2:Download & Install Map Editor

(Continued)

Instructions

....(Continued)

Complete the following steps to check-out the **lwlB997** Map:

Step 1: Log in to the Sterling B2B Integrator admin console, by specifying **admin** as the user ID and **password** as password.

Step 2: From the Administrative menu, click **Deployment > Maps.**

Step 3: In the search window, type **B997** and click **Go**!

Step 4: Click **Source Manager**.

Step 5: Click **Check Out**.

Step 6: Click **OK** on the confirmation screen.

Step 7: In the **Save** window that open at the bottoms of the browser click the down arrow next to save, and click **Save As**.

Step 8: Save this map to **C:\Program Files (x86)\Sterling Commerce\MapEditor\Source Maps**.

(Continued on next page)

Exercise 2.2.2:Download & Install Map Editor

(Continued)

Instructions

....(Continued)

Complete the following steps to reviewing the **lwIB997** map:

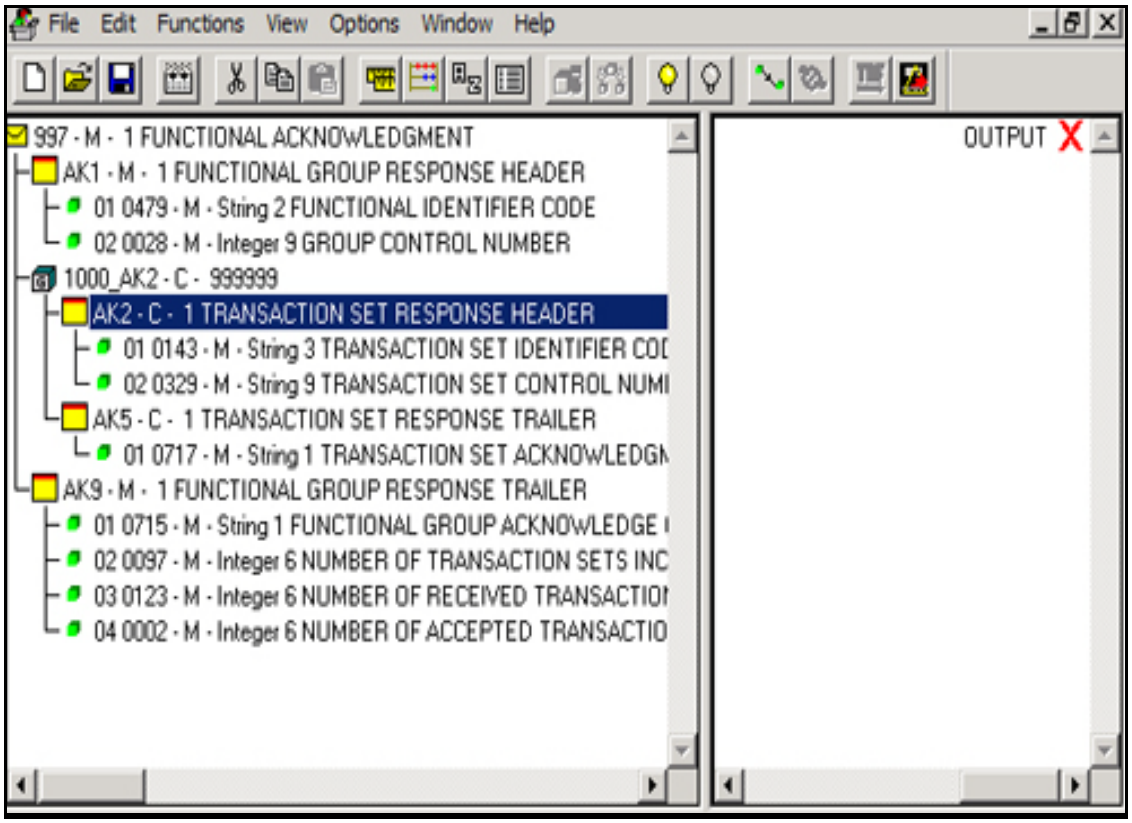
Step 1: Select **Start > All Programs > IBM® Sterling B2B Integrator Map Editor >IBM Sterling B2B Integrator Map Editor**.

Step 2: Click **File > Open**.

Step 3: Go to **C:\Program Files (x86)\Sterling Commerce\Map Editor\SourceMaps** and click **lwIB997**.

Step 4: The map should open in the Map Editor and follow these instructions to match the following illustration. Click **View > Expand All.**

Step 5: Click **View > Show Active** Only



XSLT Style Sheet

XSLT Style Sheet

XSLT (Extensible Stylesheet Language Transformations) is a language for transforming XML documents into other XML documents, or other formats such as HTML for web pages, plain text or XSL Formatting Objects.

The XSLT Service is capable of transforming an XML document from a specified location by using a selected XSLT. It can also input XML validation.

The XSLT Style sheet, we imported is used to format XML data into a more readable format. The input information can be pulled from a business process and it works with either the primary document or the process data.

Exercise 2.2.3: Reviewing ib997 XSLT Style Sheet

Introduction

In the following exercise, you will review an XSLT Style Sheet that is called by a business process to format XML data when a rejected 997 is received from the trading partners.

Instructions

Step 1: From the Admin Console, click **Deployment > XSLT.** The XSLT page opens.

Step 2: At the **XSL Style Sheet Name** text box, type i**b997** and click **Go!**

Step 3: At the **XSLT** page, under the **Name** column, click **ib997** to review the XSLT Style Sheet.

Step 4: Below you will find the output format after the ib997 style sheet has been invoked from a business process.

```
Functional Group ID: PO
Group Control Number: 000000001

Set Type: 850
Transaction Set Control Number: 00001

Transaction Set Acknowledgement Code: R
Transaction Set Syntax Error Code: 5

Functional Group Acknowledgement Code: R
Number of Transaction Sets Included: 1
Number of Received Transaction Sets: 1
Number of Accepted Transaction Sets: 0
Functional Group Syntax Error Code:
```

Exercise 2.2.4: Create a Business Process to Send a Notification to the EDI Coordinator

Introduction

In the following exercise, you create a business process to send an e-mail to notify the EDI Coordinator when an inbound acknowledgment indicates rejection.

Instructions

Complete the following steps to use your updated configuration information from the Import process:

Step 1: In the GPM window, select **View > Refresh Services** to get updated configuration information for the XML Encoder Service and the XSLT service. Or open a new GPM instance.

Step 2: Move the following stencils to your workspace:

- Start (1)
- End (1)
- Sequence Start (2)
- Sequence End (2)
- XML Encoder Service (1)
- Assign (2)
- Choice Start (1)
- Choice End (1)
- XSLT Service (1)
- SMTP Send Adapter (1)

(Continued on next page)

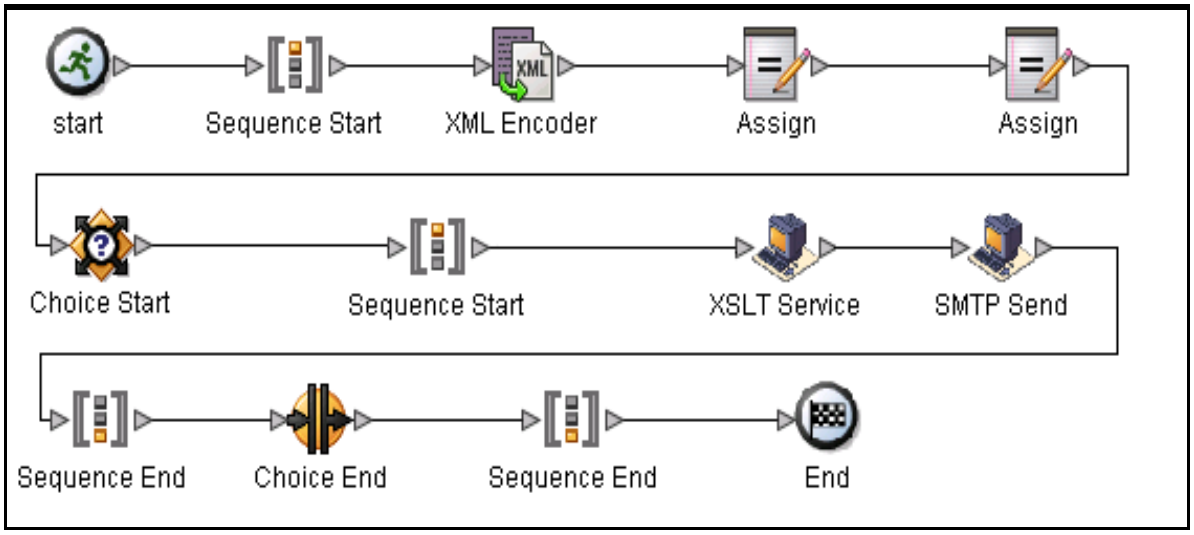
Exercise 2.2.4:Create a Business Process to Send a Notification to the EDI Coordinator

(Continued)

Instructions

....(Continued)

Step 3: Arrange and connect the stencils as shown in the following illustration:



Step 4: Change the name of both Sequence Start.

a. Double-click the first **Sequence Start** stencil. In the Property Editor-Sequence Start pane, type **start** in the value column.

b. Double-click the second **Sequence Start** stencil. In the Property Editor-Sequence Start pane, type **Outbound_Rejected** in the value column.

(Continued on next page)

Exercise 2.2.4:Create a Business Process to Send a Notification to the EDI Coordinator

(Continued)

Instructions

....(Continued)

Step 5: Click the **XML Encoder Service** stencil. In the Service Editor-XML Encoder pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	XMLEncoder
edi_input_element _delimiter	2A*
edi_input_segment_delimiter	7E~
edi_input_sub_element_delimiter	7D}
exhaust_input	Yes
Map_name	lwIB997
mode	Encode non-XML document
output_to_process_data	No

Important

The XML Encoder Service converts the EDI to an XML format.

Step 6: Click the first **Assign** stencil. In the Property Editor-Assign pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
from	DocToDOM(PrimaryDocument)/AK9/_0123/text()
to	DocsRecd

Important

The Assign service places the tag DocsRecd into process data with the number of AK9 segments in the process data that show "R" (rejected).

Example

<DocsRecd>1</DocsRecd>

(Continued on next page)

Exercise 2.2.4:Create a Business Process to Send a Notification to the EDI Coordinator

(Continued)

Instructions

....(Continued)

Step 7: Click the second **Assign** stencil. In the Property Editor-Assign pane,complete the fields that are listed in the following table based on the given value:

Parameter	Value
from	DocToDOM(PrimaryDocument)/AK9/_0002/text()
to	DocsAccepted

Important

The Assign service places the tag DocsAccepted into process data with the number of AK9 segments in the process data that show "A" (accepted).

Example

<DocsAccepted>0</DocsAccepted>

Step 8: Select **Tools > Rule Manager > Add**.

Step 9: In the **Rule Editor,** complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	Outbound_Docs_Accepted
Expression	boolean(//DocsRecd = //DocsAccepted)

Step 10: Click **OK** twice to save the rule and close the window.

Step 11: In the **Edge Editor**, click **Add** to view the name and value column. Select **Outbound_Docs_Accepted** for the name and not true for the value.

(Continued on next page)

Exercise 2.2.4:Create a Business Process to Send a Notification to the EDI Coordinator

(Continued)

Instructions

....(Continued)

Step 12: Click the **XSLT Service** stencil. In the Service Editor-XSLT Service pane,complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	XSLTService
xml_input_from	Primary Document
xml_input_validation	No Validation
xslt_name	ib997

Step 13: Click the **SMTP Send Adapter.** In the Service Editor-SMTP Send pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	SMTP_SEND_ADAPTER
smtpHost	myhost
smtpPort	25
xport-smtp-mailhost	192.168.40.1
xport-smtp-mail	subject 997 Rejected
xport-smtp-mailsubjectencoding	ASCII
xport-smtp-mailto	student1@ibm.com

Step 14: Select **File > Save As.** Validate the business process (troubleshoot any errors), and name it **AB_edi997_email.**

(Continued on next page)

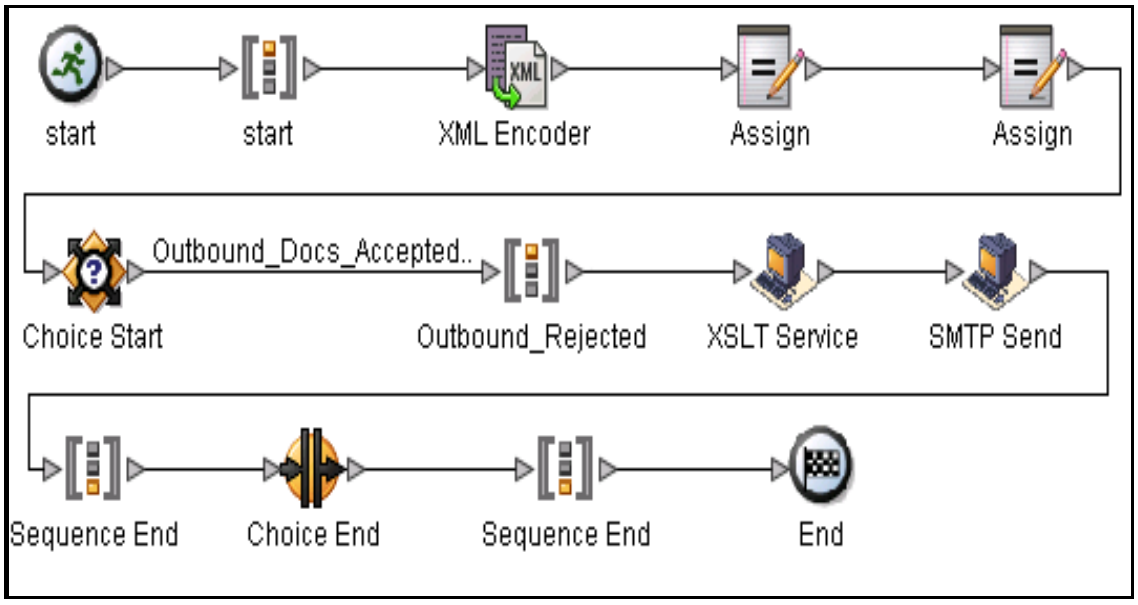
Exercise 2.2.4:Create a Business Process to Send a Notification to the EDI Coordinator

(Continued)

Instructions

....(Continued)

The following illustration portrays how your AB_edi997_email business process should look:



Exercise 2.2.5: Check in the AB_edi997_email Business Process

Introduction

In the following exercise, you will check in the AB_edi997_email business process.

Instructions

Complete the following steps to check in the business process:

Step 1: Open the Admin Console and select **Business Processes > Manager**.

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

Step 3: In the Editor: **Process Name** page, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	AB_edi997_email
Select an input mode for defining the new process	Check in Business Process created by the graphical modeling tools

Step 4: Click **Next.**

Step 5: In the Editor: Process: AB_edi997_email: Check in page , click **Browse** and select **AB_edi997_email business process**. Click **Open.**

Step 6: In the Editor: Process: AB_edi997_email: Check in page, **Description** text box, type **Rejected 997 with email notification** and click **Next.**

Step 7: Use the default settings for the remaining parameters. Verify that the Business Process is enabled and click **Finish.**

Exercise 2.2.6: Adding the AB_edi997_email Business Process to the ST Envelope

Introduction

In the following exercise, you learn adding the AB_edi997_email Business Process to the ST Envelope.

Instructions

Step 1: Open the Admin Console and select **Trading Partner > Document Envelopes > Envelopes.**

Step 2: At the Document Envelopes page, under the **List** section, click **Go!**

Step 3: At the Document Envelopes page, click **source manager** for the envelope Petbling Inbound ST.

Step 4: At the Envelope Source Manager page, click **edit.**

Step 5: At the Document Envelopes page, next to the **Description/Comments t**ext box, type **Invoke BP AB_edi997_email.bp.**

Step 6: Click **Next** five times.

Step 7: At the Document Envelopes page: Petbling Inbound ST (Inbound X12 ST SE Envelope: Invoking a Business Process: Business Process List, in the Business Process List list, select the business process **AB_edi997_email.bp**.

Step 8: Accept all defaults for all the pages and select this edited business process as the **Default Version.**

Step 9: Click **Finish.**

Exercise 2.2.7: Running the Business Process with an Accepted 997

Introduction

In the following exercise, you will execute the Business Process with an Accepted 997.

Instructions

Step 1: Open the Admin Console and select **Business Process > Manager**.

Step 2: At the Business Process Manager page, in the **Search** section, next to **Process Name**, type **X12** and click **Go!**

Step 3: At the Business Process Manager page, click **execution manager** for the X12DeenvelopeUnified business process.

Step 4: At the Execution Manager page, click **execute.**

Step 5: At the Execute Business Process Input, next to the Local Desktop file name text box, browse to the **C:\Data Files** folder and select **997.accepted.txt**.

Step 6: Click **Go!**

Step 7: Monitor the progress of the business process. When it completes, go to the Current Processes monitor and note that **AB_edi997_email** was invoked.

Step 8: .For the 997.Accepted file an email should not have been sent.

Exercise 2.2.8: Running the Business Process with a Rejected 997

Introduction

In the following exercise, you will execute the Business Process with an rejected 997.

Instructions

Step 1: Open the Admin Console and select **Business Processes > Manager**.

Step 2: At the Business Process Manager page, in the **Search** section, next to **Process Name**, type **X12** and click **Go!**

Step 3: IAt the Business Process Manager page, click **execution manager** for the X12DeenvelopeUnified business process.

Step 4: At the Execution Manager page, click **execute**.

Step 5: At the Execute Business Process Input windows, next to the Local Desktop filename text box, browse to the **C:\Data Files** folder and select **997.rejected.txt**.

Step 6: Click **Go!**

Step 7: Monitor the progress of the business process. When it completes, go to the current process monitor and verify that the **AB_edi997_email** business process was invoked.

Important

The XSLT Service and SMTP Send adapter SHOULD RUN with this input file.

(Continued on next page)

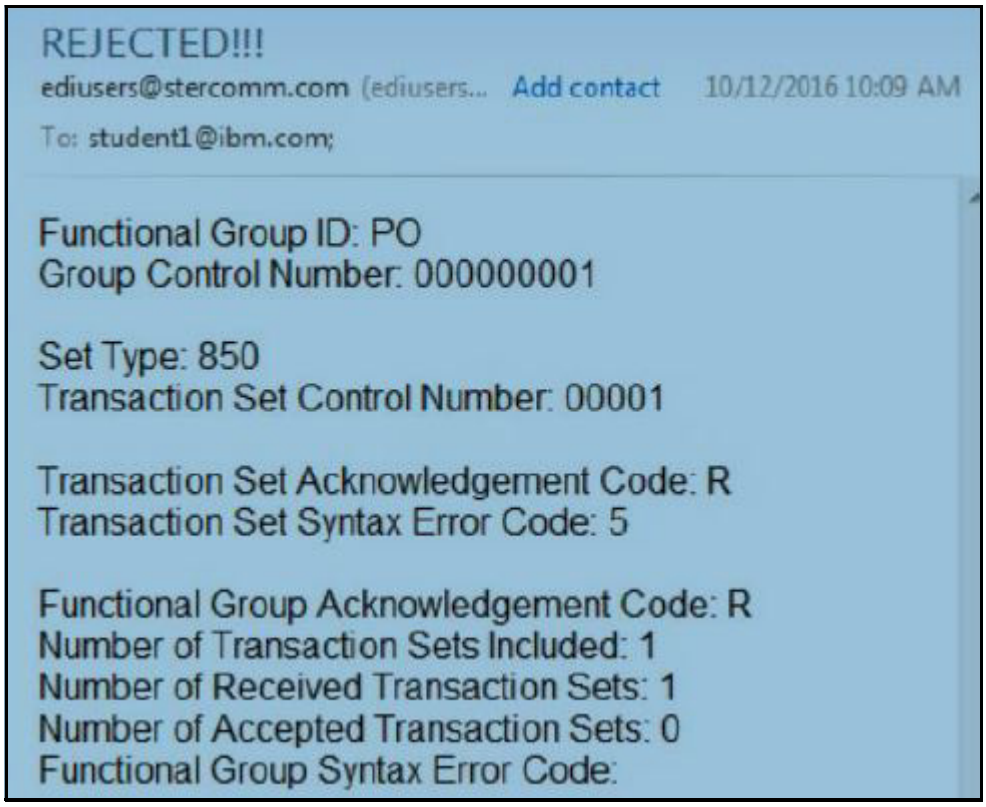
Exercise 2.2.8:Running the Business Process with a Rejected 997

(Continued)

Instructions

....(Continued)

The following output is received from the SMTP Send adapter to your email system.



Lesson review

What you have been able to do

- Import and export resources.
- Create a business process to manage 997.

LESSON 2.3: Read Values from a Flat File

What this lesson is about

This lesson enables you to create a business process to send data to different locations.

What you should be able to do

After completing this lesson, you should be able to:

- Create a business process to convert flat files into process data and to place the primary document into different storage locations.
- Create a child business processes to transfer files to a particular storage location.
- Set up a remote mailbox to accept files from a business process.Documentation.

Documentation

s

Sterling B2B Integrator Services and Adapters

The Business Problem

Overview

Our environment stores data files in the following locations:

- File system
- UNIX box that is reached using the FTP protocol
- Mailbox document storage system

Based on the Company sending the input file Sterling B2B Integrator should place the output file into one of the three storage systems as per information in a trigger file (flat file). Your assignment is to build a business process that converts the flat file into process data, picks up the input file, makes a decision based on the input file and transfers the data to the correct document storage system.

The following table lists the parameters for the three different companies:

Field Name	Description	File System Storage	FTP System Storage	Mailbox System Storage
Comm_id	Company Name	CompanyFilesystem	CompanyFTP	CompanyMailbox
Comm_protocol	Communication Protocol	FileSystem	FTP	Mailbox
Remote_host	Host DNS Name or IP Address	localhost	192.168.40.100 (Unix box)	localhost
Remote_username	Communications user access ID	admin	admin	remote_user
Remote_password	Communications user access password	password	password	password
Source_directory	Directory where the data file is pickup	/home/student/filesystem	/home/student/fsftp	/home/student/mailbox
Destination_directory	Directory where the data file is delivered to	/home/student/fsext	si/fromsi	/outbound
Input_filename	Input Filename	850.txt	850.txt	850.txt

(Continued on next page)

The Business Problem

(Continued)

Overview

....(Continued)

Field Name	Description	File System Storage	FTP System Storage	Mailbox System Storage
Output_filename	Output Filename	file2fsa	file2ftp	file2mailboxsystem
Representation Type	Data Transfer Type: ■ Ascii ■ Binary ■ None	Ascii	Ascii	Ascii
Preprocess	Preprocessing needs to occur before this data is moved to the destination: ■ Yes ■ No	N	Y	Y
Extraction_policy	Number of times the file can be extracted (1)	1	1	1

This table lists the different fields where we will be gathering information. Each field could have a different value depending on the company.

(Continued on next page)

The Business Problem

(Continued)

Preparing Folders for File Transfers

Add or confirm the following folders to the /home/student/ folder.

- fsftp
- filesystem
- mailbox
- fsext
- fscoll

Important

The Map Editor must be downloaded from the prior lesson before starting this exercise.

Exercise 2.3.1: Creating a New Map

Introduction

In the following exercise, you need to create a map to describe the flat file layout. The XML Encoder Service uses this map to convert non-XML data into XML and places the results in process data. The business process uses the values as parameters to make routing decisions.

Instructions

Step 1: From the windows desktop, click **Start > All Programs > IBM® Sterling B2B Integrator Map Editor > IBM Sterling B2B Integrator Map Editor** .

Step 2: Map editor window opens. Click **File > New**.

Step 3: Select **Sterling B2B Integrator** as the type of map.

Step 4: Create a map with the name **flatfile2xml**, click **Next.**

Step 5: In the **Map wizard - Input Format** dialog box, select **Create new data format using this syntax** and then select **Positional (VDA, GENCOD, Application files, and so on)** from the list.

Step 6: Click **Next**.

Step 7: In the **Map wizard - Output Format** dialog box, select **Create new data format using this syntax** and then select **XML** (Extensible Markup Language) from the list.

Step 8: Click **Next** and then **Finish**.

Step 9: Select **INPUT** on the source side of the map, right-click, and select Create Sub > Record.

Step 10: In the **Positional Record** Properties dialog box, in the Please enter the name text box, type **Header.**

Step 11: Click the **Tag** tab.

Step 12: In the **Tag** tab, next to the Tag text box, type **HDR** and then click **OK**.

Step 13: Put the cursor on the **Header Record**, right-click, and select **Edit** Fields…

(Continued on next page)

Exercise 2.3.1:Creating a New Map

(Continued)

Instructions

....(Continued)

Step 14: Click **New**. Use the table that is given here to populate the corresponding field details.

a. Click **New** to start each new row
b. Select **Auto Position** before exiting this screen.
c. Click **Close** to exit the screen.

Name	Data type	Max length
Company_name	String	20
Comm_protocol	String	11
Remote_host	String	20
Remote_user_id	String	20
Source_directory	String	25
Destination_directory	String	20
Filename	String	20
Data_type		6
Preprocess		1
Extractable_count		1

(Continued on next page)

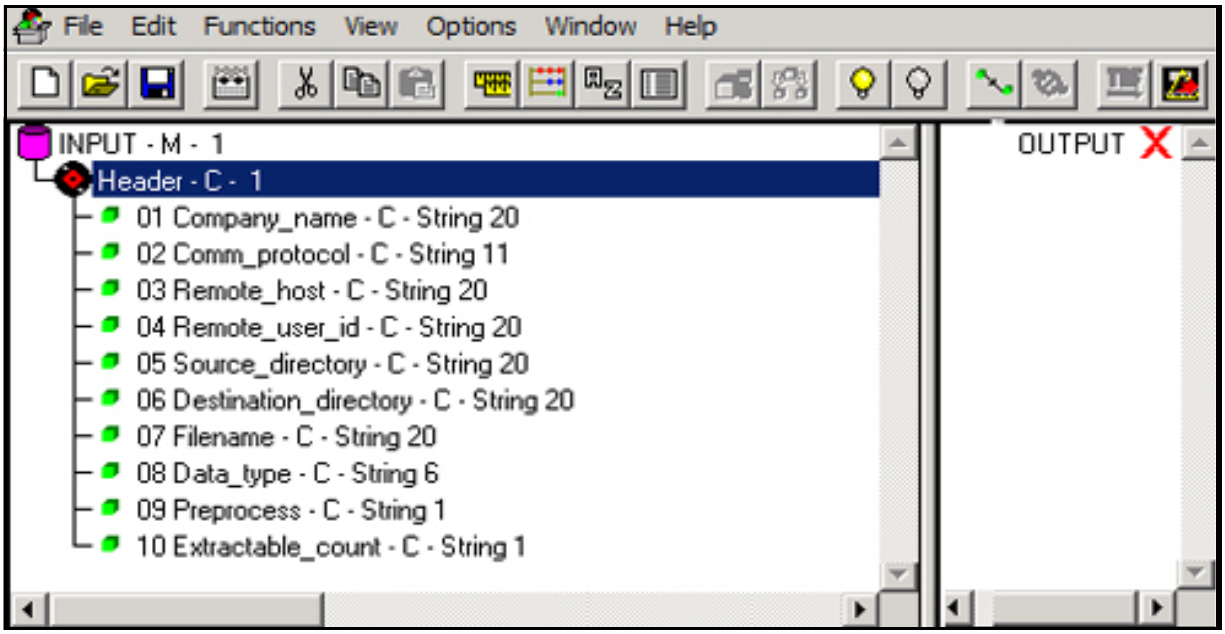
Exercise 2.3.1:Creating a New Map

(Continued)

Instructions

....(Continued)

The following map shows how your map should look:



Step 15: Select **File > Save** to save the map (name the map flatfile2xml). Verify that the file extension is **.map**.

Step 16: When asked if you want to increment the version of the map, click **Yes**.

Step 17: Select **INPUT,** right-click, and select **Compile XML Encoder Object…**to compile the map.

Step 18: Click **Save**.

(Continued on next page)

Exercise 2.3.1:Creating a New Map

(Continued)

Instructions

....(Continued)

Complete the following steps to check in the map:

Step 1: From the Admin Console, select **Deployment > Maps.**

Step 2: At the **Check in** section, next to Check in new Map from Map Editor, click **Go**!

Step 3: At the **Map Check In: Select Maps** page, next to Map file name (.map or .mxl), click Browse… and go to the map file: **C:\Program Files\SterlingCommerce\Map Editor\Source Maps\flatfile2xml.map.**

Step 4: Click **Open.**

Step 5: At the **Map Check In: Select Maps** page, next to Compiled Map file name (.txo or .ltx), click Browse… and go to the compiled map file: **C:\ProgramFiles\Sterling Commerce\Map Editor\Compiled Maps\flatfile2xml.ltx.**

Step 6: Click **Open.**

Step 7: At the **Map Check In: Select Maps** page, next to Check in **Comments**, type **flatfile2xml example.**

Step 8: Click **Next.**

Step 9: Click **Finish.**

Convert Flat file to Process data

Business Process Overview

Since this business process will be rather large we will build and test the business process in different stages. Also since this is a training environment each new stage will bring in a new topic for us to cover.

The following overview explains the different stages of the business process that we will build to convert a flat file into process data and use that information to place the resulting document in the correct storage location.

Topic	Exercise Usage	Lab image
Use an Assign service to place a decision value into process data within the results tag.	Creating a Business Process to Determine Document Storage Location by making sure the appropriate assign is triggered.	Yes
The FTP adapter to place data in the UNIX box storage system.	Sending Data to the UNIX storage system. Replacing the assign with services to send a document over FTP.	Yes
The Mailbox Add adapter to place data in the Mailbox Storage System.	Sending Data to the Mailbox Storage System Replacing the assign with steps to add the file directly to a mailbox you create.	Yes

Exercise 2.3.2: Creating a Business Process to Make a Storage Decision: File Transfer

Introduction

Before creating our main business process we will create our child business process that will be called from the main process. It may seem counter productive to create the child first, but it will help with building the main process. With the child already checked in to B2Bi it can be selected from a list of available business processes in the GPM for the Invoke Business Process service. Also the main process will be able to be fully tested.

.

Instructions

Complete the following steps to create the File Transfer Subprocess:

Step 1: Log in to the Sterling B2B Integrator adminconsole, by specifying **admin** as the user ID and **password** as password.

Step 2: From the **Administration menu**, click **Business Processes > Manager**.

Step 3: On the Business Process Manager page, under the **Graphical Modeling** section, click **Go!** to Run Graphical Process Modeler.

Step 4: Click **OK** for JDK version.

Step 5: Click **Run** install.

Step 6: Enter username as **admin** and password as **password**.

Step 7: The Graphical Process Modeler opens. Select **View > Refresh Services** to get an updated configuration of the FSA instance in the business process.

Step 8: Select **File > New**.

Step 9: Click View **> Stencil** and select the **BPML** and **All Services** stencil sets.

(Continued on next page)

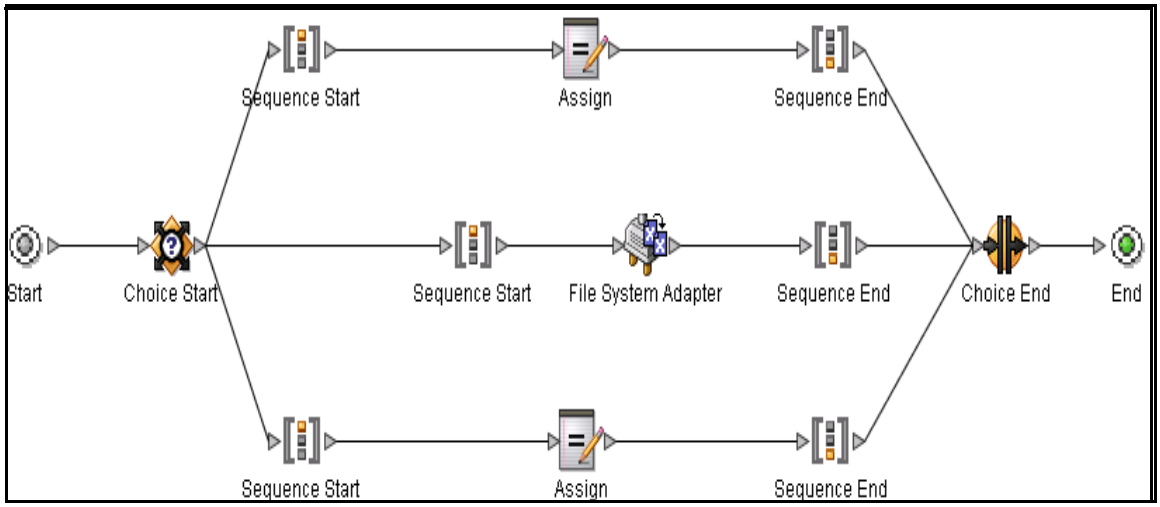
Exercise 2.3.2:Creating a Business Process to Make a Storage Decision: File Transfer

(Continued)

Step 10: Move the following stencils to your workspace:

- Start (1)
- End (1)
- Sequence Start (3)
- Sequence End (3)
- File system adapter (1)
- Choice Start (1)
- Choice End (1)
- Assign (2)

Step 11: Arrange and connect the stencils as shown in the following illustration:



(Continued on next page)

Exercise 2.3.2:Creating a Business Process to Make a Storage Decision: File Transfer

(Continued)

Instructions

....(Continued)

Step 12: Change the name of the three Sequence Start stencils.

a. Double-click the top **Sequence Start** stencil. In the Property Editor-Sequence Start pane, type **FTP** under the value column.

b. Double-click the middle **Sequence Start** stencil. In the PropertyEditor-Sequence Start pane, type **File System** under the value column.

c. Double-click the bottom **Sequence Start** stencil. In the Property Editor-Sequence Start pane, type in **Mailbox** under the value column.

Step 13: Click the top **Assign** stencil. In the Property Editor-Assign pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
constant	FTP Data Flow
to	Results

Important

The Assign service places the tag Results into process data with the value of **FTP Data Flow.**

Step 14: Click the **File System Adapter** stencil. In the Service Editor-File System Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value	XPath
config	adv_fsa	
Action	Extraction	
assignedFilename	/ProcessData/INPUT/Header/Filename/text()	Yes
assignFilename	Assign a specific name	
extractionFolder	/home/student/fsext	No

Important

The File System Adapter places the output file in the destination directory that is found in process data.

(Continued on next page)

Exercise 2.3.2:Creating a Business Process to Make a Storage Decision: File Transfer

(Continued)

Instructions

....(Continued)

Step 15: Click the bottom **Assign** stencil. In the Property Editor-Assign pane, and complete the fields that are listed in the following table based on the given value:

Parameter	Value
constant	Mailbox Data Flow
to	Results

Important

The Assign service places the tag Results into process data with the value of Mailbox Data Flow.

Step 16: Change the name of the **Choice Start** stencil:

a. Double-click the Choice Start.

b. In the Property Editor-Choice Start under the Value column, type Protocol.

Step 17: Select **Tools > Rule Manager** and click **Add**.

Step 18: In the Rule Editor, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	Comm protocol FTP
Expression	/ProcessData/INPUT/Header/Comm_protocol/text() = 'FTP'

Step 19: Click **OK** twice to save the rule and close the window.

Step 20: Click the **edge** between the Protocol and FTP stencils to view the Edge Editor.

(Continued on next page)

Exercise 2.3.2:Creating a Business Process to Make a Storage Decision: File Transfer

(Continued)

Instructions

....(Continued)

Step 21: In the **Edge Editor,** click **Add** to view the name and value column. Complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	Comm protocol FTP
Value	true

Step 22: Select **Tools > Rule Manager** and click **Add**.

Step 23: In the **Rule Editor**, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	Comm protocol File System
Expression	/ProcessData/INPUT/Header/Comm_protocol/text() = 'filesystem'

Step 24: Click **OK** twice to save the rule and close the window.

Step 25: Click the edge between the Protocol and File System stencils to view the Edge Editor.

Step 26: In the **Edge Editor,** click **Add** to display the name and value column. Complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	Comm protocol File System
Value	true

(Continued on next page)

Exercise 2.3.2:Creating a Business Process to Make a Storage Decision: File Transfer

(Continued)

Instructions

....(Continued)

Step 27: Select **Tools > Rule Manager** and click **Add**.

Step 28: In the **Rule Editor**, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	Comm protocol Mailbox
Expression	/ProcessData/INPUT/Header/Comm_protocol/text() = 'mailbox'

Step 29: Click **OK** twice to save the rule and close the window.

Step 30: Click the edge between the Protocol and Mailbox stencils to view the **Edge Editor.**

Step 31: In the **Edge Editor,** click **Add** to view the name and value column. Complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	Comm protocol Mailbox
Value	true

Step 32: Select **File > Save As**. Validate the business process (troubleshoot any errors), and name it **AB_FileTransfer.bp**.

(Continued on next page)

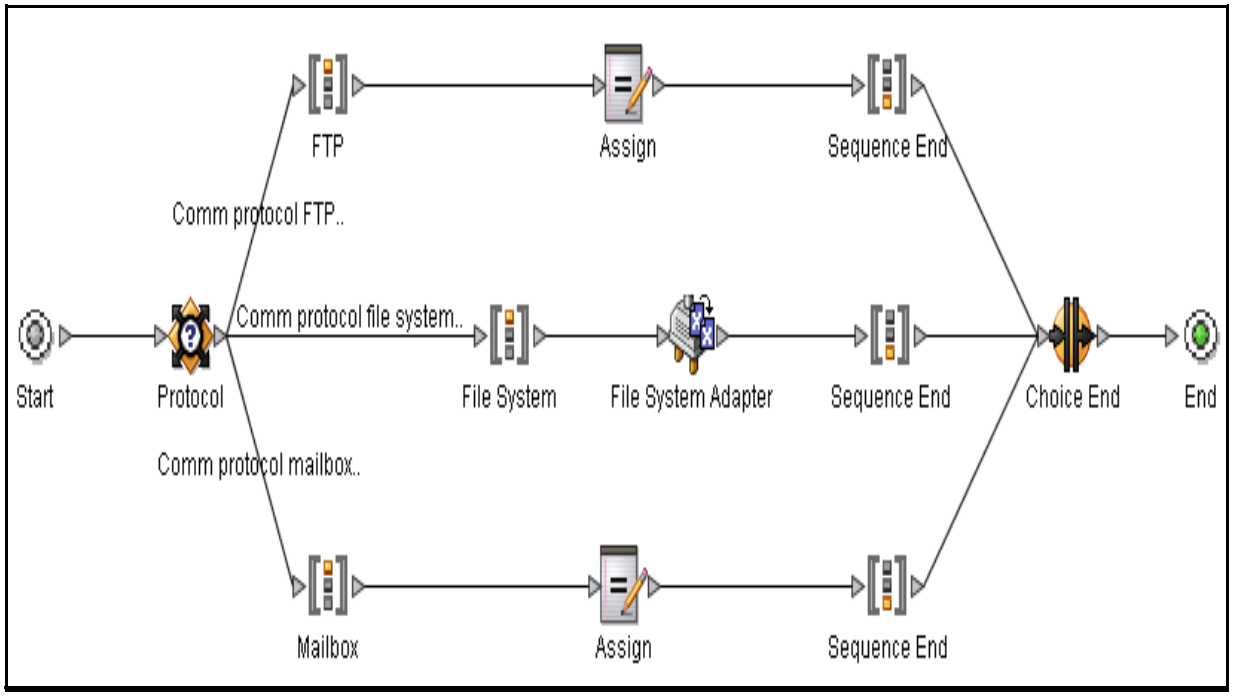
Exercise 2.3.2:Creating a Business Process to Make a Storage Decision: File Transfer

(Continued)

Instructions

....(Continued)

The following illustration portrays how the file transfer process will look:



Exercise 2.3.3: Checking In the AB_FileTransfer Business Process

Introduction

In this exercise, you learn to check in the AB_FileTransfer business process.

Instructions

Complete the following steps to check in the business process:

Step 1: Open the Admin console and click **Business Processes > Manager.**

Step 2: At the Business Manager page, in the **Create** section, next to Process Definition, click **Go!**

Step 3: At the **Editor: Process Name** page, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	AB_FileTransfer
Check in Business Process created by the Graphical Modeling tool	Select

Step 4: Click **Next.**

Step 5: Click **Browse** and navigate to select **AB_FileTransfer.bp** and click **Open**.

Step 6: Type **File transfer** for the description and click **Next.**

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

Exercise 2.3.4: Create a Business Process to Make a Document Storage Decision: Flatfile to XML

Introduction

In the following exercise, you create a business process to make a document decision. You will use the Assign Service to place a representation of the decision as a value in process data under a tag name results.

Note

Create a Document Keyword Replace service named SyncEngine_DocKeywordReplace or a name of your choice, before this exercise. This service can be created through Deployment > Services > configuration menu option in the Sterling B2B Integrator interface and accepting all the defaults.
If there is not a service configuration present in B2Bi for a service an icon will not appear in the GPM.
There is not a default service configuration out of the box for the Document Keyword Replace service.

Instructions

Step 1: Open the Graphical Process Modeler. If it is already open, click **View > Refresh Services**.

Step 2: Click **File > New**.

Step 3: Move the following stencils to your workspace:

- Start (1)
- End (1)
- Sequence Start (1)
- Sequence End (1)
- File system adapters (2)
- XML Encoder Service (1)
- Release Service (1)
- Choice Start (1)
- Choice End (1)
- Document Keyword Replace (1)
- Invoke Business Process Service(1)

(Continued on next page)

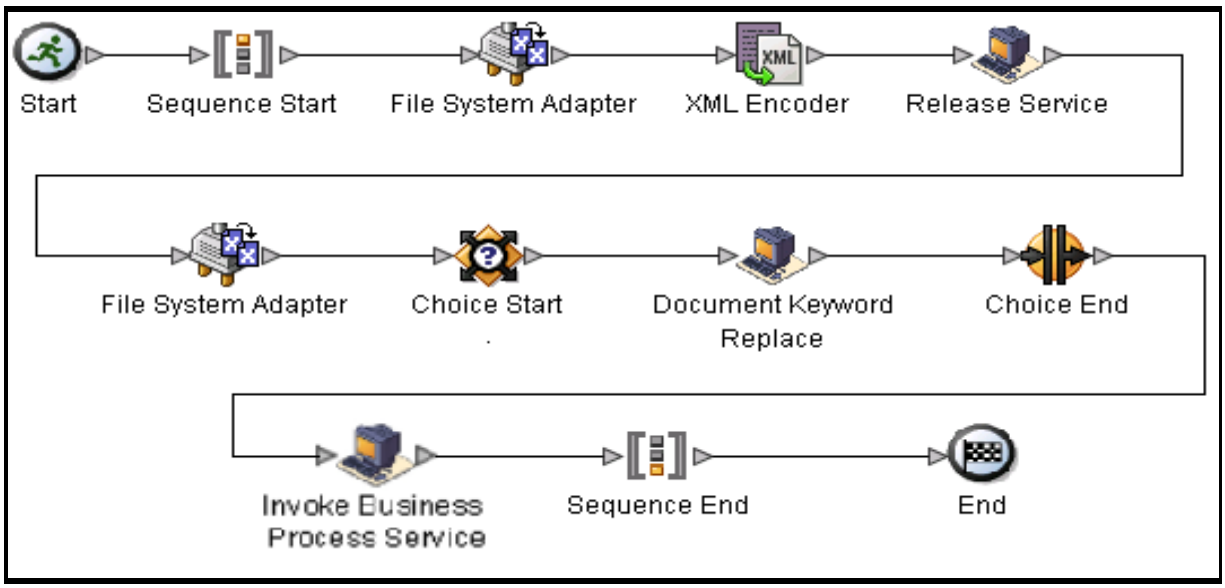
Exercise 2.3.4:Create a Business Process to Make a Document Storage Decision: Flatfile to XML

(Continued)

Instructions

....(Continued)

Step 4: Arrange and connect the stencils as shown in the following illustration:



Step 5: Change the name of the **Sequence Start** stencil:

a. Double-click the Sequence Start.

b. In the Property Editor-Sequence Start under the Value column, type **Main**.

(Continued on next page)

Exercise 2.3.4:Create a Business Process to Make a Document Storage Decision: Flatfile to XML

(Continued)

Instructions

....(Continued)

Step 6: Click the first **File System Adapter** stencil. In the Service Editor-File System Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	adv_fsa
Action	Collection
collectionFolder	/home/student/fscoll
noFilesSetSuccess	Yes

Important

The file system adapter scans the /home/student/fscoll directory.

Step 7: Click the **XML Encoder** stencil. In the Service Editor-XML Encoder pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	XML Encoder
exhaust_input	Yes
map_name	flatfile2xml
Mode	Encode non-XML document
output_to_process_data	Yes

Important

The XML Encoder Service converts your primary document of EDI data into XML and places the output into process data. This function is accomplished by calling the XML encoder map flatfile2xml.

(Continued on next page)

Exercise 2.3.4:Create a Business Process to Make a Document Storage Decision: Flatfile to XML

(Continued)

Instructions

....(Continued)

Step 8: Click the **Release Service** stencil. In the Service Editor-Release Service pane, configure as follows.

a. In the Configuration list, select **ReleaseService**.

b. Click **Advanced** (lower right corner).

c. Click **Add** to add a row. Complete the field that is listed in the following table based on the given value:

Parameter	Value	XPath
TARGET	'PrimaryDocument'	Yes

Important

The Release Service removes the primary document from the virtual memory (Process Data) of the business process. We only wanted to use the flat file to load variables into Process Data for our decision making. By removing the document we make our process more efficient. The next step will collect a new file that will be transferred to the appropriate storage.

Step 9: Click **OK**.

(Continued on next page)

Exercise 2.3.4:Create a Business Process to Make a Document Storage Decision: Flatfile to XML

(Continued)

Instructions

....(Continued)

Step 10: Click the second **File System Adapter** stencil. In the Service Editor-File System Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value	XPath
Config	adv_fsa	
Action	Collection	
CollectionFolder	/ProcessData/INPUT/Header/Source_directory/text()	Yes
noFilesSetSuccess	Yes	
deleteAfterCollect	No	

Important

The file system adapter scans the source directory that is found in process data. The deleteAfterCollect will leave the file in the directory so you do not have to keep resupplying the file every time the process runs. In the real world you would want the file deleted to avoid duplicates.

Step 11: Change the name of the **Choice Start** stencil

a. Double-click the Choice Start.

b. In the Property Editor-Choice Start under the Value column, type **Preprocess.**

Step 12: Select **Tools > Rule Manager** and click **Add.**

Step 13: In the **Rule Editor,** complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	Preproses
Expression	/ProcessData/INPUT/Header/Preprocess/text() = 'Y'

(Continued on next page)

Exercise 2.3.4:Create a Business Process to Make a Document Storage Decision: Flatfile to XML

(Continued)

Instructions

....(Continued)

Step 14: Click **OK** twice to save the rule and close the window.

Step 15: Click the edge between the Preprocess and Document Keyword Replace stencils to view the **Edge Editor** pane.

Step 16: In the Edge Editor pane, click **Add** to view the name and value column.Complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	preprocess
Value	true

Step 17: Configure the Doc Keyword by clicking **Document Keyword Replace**.

a. In the Service Editor-Document Keyword Replace, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	SyncEngine_DocKeywordReplace
literal_bufferSize	102400
literal_mode	true
literal_readAheadSize	8192

b. Click **Advanced** (lower right corner).

(Continued on next page)

Exercise 2.3.4:Create a Business Process to Make a Document Storage Decision: Flatfile to XML

(Continued)

Instructions

....(Continued)

c. Click **Add** to add a row. Complete the fields that are listed in the following table based on the given value:

Parameter	Value	XPath
keyword1	7E	
keywordtype1	hex	
replace1	00	
replacetype1	hex	

Important

The Document Keyword Replace replaces the ~ character with the new line character throughout the entire primary document file.

Step 18: Configure the **Invoke Business Process** Service:

a. In the Service Editor-Invoke Business Process Service, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	InvokeBusinessProcessService
Invoke_Mode	Inline
WFD_Name	AB_FileTransfer

Important

The Invoke business process will call the subprocess AB_FileTransfer. The Inline mode will run the subprocess as steps in the parent. The decision on which storage location will be made in the subprocess based on information this process has loaded into Process Data.

(Continued on next page)

Exercise 2.3.4:Create a Business Process to Make a Document Storage Decision: Flatfile to XML

(Continued)

Instructions

....(Continued)

Step 19: Select **File > Save As**. Validate the business process (troubleshoot any errors), and name it **AB_flatfile2xml.bp**.

Exercise 2.3.5: Check in and Test the AB_flatfile2xml Business Process

Introduction

In this exercise, you learn to check in and execute the AB_flatfile2xml business process.

Instructions

Complete the following steps to check in the business process:

Step 1: Open the Admin console and click **Business Processes > Manager.**

Step 2: At the **Business Manager** page, in the **Create** section, next to **Process Definition**, click **Go**!

Step 3: At the **Editor: Process Name** dialog box, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	AB_flatfile2xml
Check in Business Process that is created by the Graphical Modeling tool	Select

Step 4: Click **Next.**

Step 5: Click **Browse** and select **AB_flatfile2xml.bp** and click **Open**.

Step 6: Type **flat file to xml** for the description and click **Next.**

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

Important

You run the business process three times. Each time with a different starting file for each of the three companies.

(Continued on next page)

Exercise 2.3.5:Check in and Test the AB_flatfile2xml Business Process

(Continued)

Instructions

....(Continued)

Testing the File System Process

Step 1: Copy **filesystem.txt t**o the **/home/student/fscoll** directory and **850.txt** to the **/home/student/filesystem** directory.

Note

Create filesystem directory under /home/student folder before copying the file.

Step 2: .On the **Business Process Manager** page, search for the **AB_flatfile2xml.bp.**

Step 3: .On the **Business Process Manager** page, click **execution manager.**

Step 4: .On the **Execution Manager** page, click **execute**.

Step 5: .On the **Execution Manager** page, select **Go!** and review the output of the process.

Step 6: Check the status report of last **adv_fsa service** to ensure that file was copied to **/home/student/fsext/file2fsa**

Step 7: Check the **/home/student/fsext** directory for the output file.

(Continued on next page)

Exercise 2.3.5:Check in and Test the AB_flatfile2xml Business Process

(Continued)

Instructions

....(Continued)

Testing the FTP Process

Step 1: Enable FTP server adapter in Sterling B2B Integrator. Go to **Deployment > Services > Configuration.**

Step 2: Search for FTP Server Adapter. Enable the FTP Server Adapter.

Step 3: Copy **ftp.txt** to the /**home/student/fscoll** directory and copy **850_7E.txt** to the /home/student/fsftp directory.

Note

Create fsftp directory under /home/student folder prior to copying the file.

Step 4: On the **Business Process Manager** page, search for the **AB_flatfile2xml.bp.**

Step 5: .On the **Business Process Manager** page, click **execution manager.**

Step 6: .On the **Execution Manager** page, click **execute**.

Step 7: .On the **Execution Manager** page, select **Go!** and review the output of the process.

Step 8: Check the final assign service and verify that **FTP Data Flow** was written out in the Results tag.

(Continued on next page)

Exercise 2.3.5:Check in and Test the AB_flatfile2xml Business Process

(Continued)

Instructions

....(Continued)

Testing the Mailbox Process

Step 1: Copy **mailbox.txt** to the /home/student/fscoll directory and copy **850_7E.txt** to the /home/student/mailbox directory.

Note

Create mailbox directory under /home/student folder prior to copying the file.

Step 2: On the **Business Process Manager** page, search for the **AB_flatfile2xml.bp.**

Step 3: .On the **Business Process Manager** page, click **execution manager.**

Step 4: .On the **Execution Manager** page, click **execute**.

Step 5: .On the **Execution Manager** page, select **Go!** and review the output of the process.

Step 6: Check the final assign service and verify that **Mailbox Data Flow** was written out in the Results tag.

FTP Client Services

FTP Client Services

The FTP Client Adapter uses the following FTP Client services to communicate with a remote FTP server (an FTP server outside of Sterling B2B Integrator). Each of the FTP Client services has a predefined service configuration, performs a particular function (such as PUT, GET, and LIST), and is invoked from a business process.

- FTP Client Begin Session Service: Starts an FTP session with an external trading partner to exchange business documents.
- FTP Client CD Service: Changes directories on the FTP server of the trading partner.
- FTP Client DELETE Service: Removes a document from the remote system.You would use this service to remove a file from the directory after completing
- a success GET Service. This prevents the file from being pulled multiple times.
- FTP Client End Service: Ends an FTP session with the FTP server of the external trading partner. The service would be used as the last functional
- activity in a business process that sends an FTP request to a trading partner.This service can be used only if the FTP Client Begin Session service was
- used previously in the business process.
- FTP Client GET Service: Retrieves one or more documents from a specified directory on the FTP server of the trading partner. You would use this service
- to retrieve documents from a trading partner and move them into Sterling B2B Integrator when the FTP protocol is required as the transport mechanism.
- FTP Client LIST Service: Retrieves a list of documents in a specified directory on the trading partner's FTP server. You would use this service to retrieve a list of files in a specified directory of the trading partner.

(Continued on next page)

FTP Client Services

(Continued)

FTP Client Services ....(Continued)

- FTP Client MOVE Service: Renames a document or moves a document from directory to another. You would use this service to rename or move a document on the FTP server of a trading partner. Sterling B2B Integrator uses the FTP Client MOVE Service, working through the FTP Client Adapter, to move the specified document from one directory to another.
- FTP Client PUT Service: Places a document or documents in a specified directory on the FTP server of the trading partner. You would use this service to transfer a document or documents from Sterling B2B Integrator to a trading partner when the FTP protocol is required as the transport.
- FTP Client PWD Service: Prints the working directory on the FTP server of the trading partner. You would use this service to get information about the current working directory on the FTP server of the trading partner.
- FTP Client QUOTE Service: Passes custom commands to the FTP server of the trading partner. You would use this service to pass commands that the FTP server can support, but, which are not included in the standard protocol.
- FTP Client SITE Service: Sends site-specific control commands to an FTP server.
- Obscure Data - Process Data Values: Inserts up to five pre-configured parameter name-value pairs into process data. The values that are associated with each of the parameter names are masked by replacing the original content with an unintelligible version. The unobscured plain text value can be retrieved by using the revealObscured XPath function.

Exercise 2.3.6: Adding an Obscure Data - Process Data Values

Introduction

In this exercise, you learn to add an obscure data configuration.

Instructions

Step 1: From the Admin console, click **Deployment > Services > Configuration.**

Step 2: At the Service Name text box, type **FTPClientObscureParameter** and click **Go**!

Step 3: Click **Edit.**

Step 4: Click **Next.**

Step 5: In the first blank name-value pair box, type the following values against corresponding fields:

- Parameter Name: admin
- Parameter Value: password

Important

The parameter value gets encrypted.

Step 6: In the second blank name-value pair box, type the following values against corresponding fields:

- Parameter Name: remote_user
- Parameter Value: password

Important

The parameter value gets encrypted.

Step 7: Click **Next.**

Step 8: Verify that the service is enabled and click **Finish.**

Exercise 2.3.7: Send Data to the UNIX Box

Introduction

In this exercise, you will replace the FTP results Assign service with the FTP client services and send data to your UNIX box storage system.

Instructions

Complete the following steps to create the Business Process.

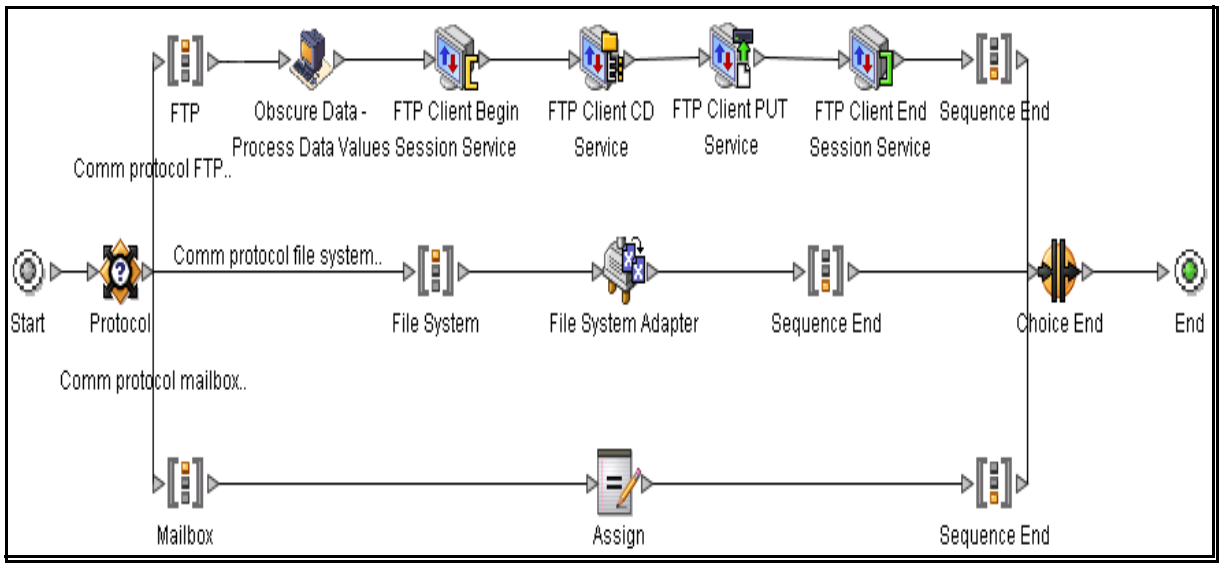
Step 1: Open the GPM. If it is already open, make sure to refresh services.

Step 2: Open the **AB_FileTransfer bp**. Select **File > Save As**. Name the business process **AB_FileTransfer_w_ftp.bp.**

Step 3: Move the following stencils to your workspace:

- Obscure Data - Process Data Values
- FTP Client Begin Session Service
- FTP Client CD Service
- FTP Client PUT Service
- FTP Client End Session Service

The following picture shows the updated AB_FileTransfer_w_ftp business process.



(Continued on next page)

Exercise 2.3.7:Send Data to the UNIX Box

(Continued)

Instructions

....(Continued)

Step 4: Click the **Obscure Data - Process Data Values** stencil. In the Service Editor-Obscure Data Process Value pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	FTPClientObscureParameter
obscureName0	Accept the default
obscureVal 0	Accept the default

Important

The Obscure Data - Process Data Values places the tag password into process data with the value of the password in an obscure format. If an unauthorized person views Process Data they will b unable to view the password.

(Continued on next page)

Exercise 2.3.7:Send Data to the UNIX Box

(Continued)

Instructions

....(Continued)

Step 5: Click the **FTP Client Begin Session** service stencil. In the Service Editor-FTP Client Begin Session pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value	XPath
Config	FTPClientBeginSession	
FTPClientAdapter	FTP Client Adapter	
RemoteHost	/ProcessData/INPUT/Header/Remote_host/text()	Yes
RemotePasswd	//ProcessData/admin/text() The parameter value gets encrypted. Using the expression //*[local-name()=//Remote_user_id/text()]/text() for RemotePasswd avoids the need to change the bp if the remote_user id changes.	Yes
RemotePort	9032	
RemoteUserId	/ProcessData/INPUT/Header/Remote_user_id/t ext()	Yes
UsingRevealed Passwd	false	

Important

The FTP Client Begin Session Service uses input values from process data to connect to a remote server.

(Continued on next page)

Exercise 2.3.7:Send Data to the UNIX Box

(Continued)

Instructions

....(Continued)

Step 6: Click the **FTP Client CD** service stencil. In the Service Editor-FTP Client CD Service pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value	XPath
Config	FTPClientCD	
Directory	/ProcessData/INPUT/Header/Destination_directory/text()	Yes

Step 7: Click the **FTP Client PUT** service. In the Service Editor-FTP Client PUT Service pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value	XPath
Config	FTPClientPut	
ConnectionType	Active	
RemoteFileName	/ProcessData/INPUT/Header/Filename/ text()	Yes
RepresentationType	/ProcessData/INPUT/Header/Data_typ e/text()	Yes
ResponseTimeout	200	

Important

The FTP Client PUT Service uses the input values from process data move the primary document to the server.

Step 8: Click the **FTP Client End Session** service.

Step 9: In the Service Editor-FTP Client End Session Service, in the **Config** list, select **FTPClientEndSession.**

Step 10: Select **File > Save.** Validate the business process (troubleshoot any errors).

Exercise 2.3.8: Check in and Test the AB_flatfile_w_ftp Business Process

Introduction

In this exercise, you learn to check in and test the AB_flatfile_w_ftp business process.

Instructions

Complete the following steps to check in the business process:

Create an FTP directory

Step 1: From the windows desktop,open command prompt.

Step 2: Type **cd**

Step 3: Type **ftp**. You will get the ftp prompt.

Step 4: Enter **open 192.168.40.100 9032.**

Step 5: Enter **admin** as user and **password** as password.

Step 6: You are now logged into ftp. Enter **mkdir si.**

Step 7: Enter **cd si.**

Step 8: Enter **mkdir fromsi.**

Note

The fromsi directory is created under the si directory in the FTP server.

(Continued on next page)

Exercise 2.3.8:Check in and Test the AB_flatfile_w_ftp Business Process

(Continued)

Instructions

....(Continued)

Checking In the Business Process

Step 1: Open the Admin Console and select **Business Process > Manager**.

Step 2: Search for **AB_flatfile_w_ftp BP.**

Step 3: Click **Source Manager** for your file transfer bp.

Step 4: Check out the BP to obtain a lock.

Step 5: Click **Go!** for Check In an updated version.

Step 6: In the Editor: Process: Check in dialog box, click Browse, and select **AB_FileTransfer_w_ftp.bp** and click **Open.**

Step 7: In the Editor: Process: AB_flatfile_w_ftp.: Check in dialog box, in the **Description** text box, type **Added FTP Process** and click **Next.**

Step 8: Use the default setting for the remaining parameters until **Set Default Version**. Set the Added FTP as the Default Version.

Important

Whenever a child process is called B2Bi always use the default version. If your version has errors when testings make sure to set the latest version default.

Step 9: Verify that the Business Process is enabled when you click **Finish.**

(Continued on next page)

Exercise 2.3.8:Check in and Test the AB_flatfile_w_ftp Business Process

(Continued)

Instructions

....(Continued)

Testing the FTP Process

Step 1: Copy **ftp.txt** to the /**home/student/fscoll** directory and copy **850_7E.txt** to the **/home/student/fsftp** directory

Step 2: From the Business Process manager screen, search for the **AB_flatfile2XML** business process.

Step 3: Click **execution manager.**

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

Step 5: Select **Go**!

Step 6: Connect to ftp server.

Step 7: Go to the **si > fromsi** folder.

Step 8: Run the **ls** command. Note that the **file2ftp** file exists here.

Troubleshooting

The most common error point is with the Obscure password reveal for the FTP Client Begin Service. Check XPath on all settings. Also on the Process Data Instance Info screen while looking at results, check Message To Service to make sure all fields have the correct values. An example would be password reveal failing. Message to service shows Remote_user_ID has no value because of typo.

Sterling B2B Integrator Mailbox Services

Introduction to Mailbox Services

Following are the Sterling B2B Integrator Mailbox services.

Mailbox Add Service

The Mailbox Add service provides the ability to add messages to a particular mailbox. The service enables the specification of a message name, the mailbox where the message should be added, and the extraction policy. If the Mailbox Add service fails and the document cannot be added to the specified mailbox, the message is placed into a dead letter mailbox. The Deadletter mailbox provides temporary data storage until the administrator can correct the problem.

Mailbox Add Extraction Policies

One of three extraction policies is assigned to a message when it is added to a mailbox. These policies control when extraction of a message is allowed. The following table describes the extraction policies:

Policy	Description
Extract a limited number of times	Carries a count, which is reduced whenever the document is extracted. You can use this policy: ■ When the count is one, the message is like a normal letter that is placed into a drop-box. After the message is extracted once, it is no longer available. ■ When the count is greater than one, the message is available to multiple users. The extraction succeeds, but after the count goes to zero, no one can extract the message.
Extractable until some future date	Enables extraction until the date is reached and disables extraction after the date is passed. This policy is like a coupon that expires on a certain date.
Extractable (or not) until further notice	Enables or disables all extractions until an administrator changes the policy.

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Sterling B2B Integrator Mailbox Services

(Continued)

Introduction to Mailbox Services ....(Continued)

Mailbox Query Service

The Mailbox Query service enables you to select a similar grouping of messages. For example, a user can specify the return of messages that fall between two dates. The Mailbox Query service supports multiple parameters, including:

- Mailbox path
- Message name pattern
- Message ID
- User ID
- Start date and time
- End date and time
- Messages extractable
- Order by
- Ascending/descending

Mailbox Delete Service

The Mailbox Delete service enables you to remove outdated or obsolete messages. This service supports a parameter list similar to that of the Mailbox Query service.

Mailbox Scheduled Delete Service

The Mailbox Scheduled Delete service enables you to schedule a delete operation for a message in one or more mailboxes. As with all Sterling B2B Integrator scheduled services, the Mailbox Scheduled Delete service can be configured to run at a specified date and time, or periodically, such as once a month or twice a week.

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Sterling B2B Integrator Mailbox Services

(Continued)

Introduction to Mailbox Services ....(Continued)

Mailbox Extract Begin Service

The Mailbox Extract Begin service starts to extract messages from a mailbox. If the extractability is ExtractableCount=1, the Mailbox Extract Begin service locks the message until the extraction is complete and decrements the extract count to 0. If the ExtractableCount=x, x number of Mailbox Extract Begin services can lock the message. The extract count is decremented once for each extraction. You can use this service in one of the following modes:

- Mailbox Extract Begin service with CommitNow=No – This mode is the default mode. In this mode, you must include the Mailbox Extract Abort service and Mailbox Extract Commit service in your business process. If the processing involves transmission of the message content to a trading partner, and the transmission fails, the business process may call the Mailbox Extract Abort service. The extract abort resets the extractable count to its original value. With the extractable count reset, the message remains extractable. This makes automated reprocessing of the message possible after the transmission problem has been addressed.
- Mailbox Extract Begin service with CommitNow=Yes – In this mode, all messages are extracted and committed in a single step. If an error occurs during the extraction, such as a protocol failure, the message count is not incremented back to the original count.

Mailbox Extract Abort Service

Used if there is a failure after the Mailbox Extract Begin service begins extracting the file. If the extract policy of the message is a count, this service increments the count to the value again before the Mailbox Extract Begin service reduced the count. This service must be used with the Mailbox Extract Begin service.

Mailbox Extract Commit Service

Completes the extraction. This service must be used with the Mailbox Extract Begin service.

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Sterling B2B Integrator Mailbox Services

(Continued)

Introduction to Mailbox Services ....(Continued)

Mailbox Evaluate Routing Rule Service

The Mailbox Evaluate Routing Rule service evaluates a mailbox routing rule The Sterling B2B Integrator Mailbox system administrator creates several automatic Mailbox Routing Rules that target specific mailboxes to execute specific business processes. This service evaluates those routing rules on a schedule established by the system administrator using the Mailbox Evaluate Routing Rule service.

The Evaluate Routing Rule Service is scheduled system wide and not usually built into a business process. It can be controlled from Deployment > Schedules.

Mailbox Evaluate All Automatic Routing Rules Service/Submin

Evaluates all automatic routing rules. Automatic routing rules are evaluated against all messages added to Sterling Integrator Mailbox since the previous evaluation. Messages added successfully to a mailbox are processed by the automatic routing rules even if the Sterling B2B Integrator system fails and requires restarting.

Usually Routing Rules are set to run automatically and are triggered by Mailbox Evaluate All Automatic Routing Rules Service submit. This service is enabled in the system schedules out of the box.

Exercise 2.3.9: Send Data to the Mailbox

Introduction

In the following exercise, you replace the Assign service with the Mailbox Add service.

Instructions

Creating the Business Process

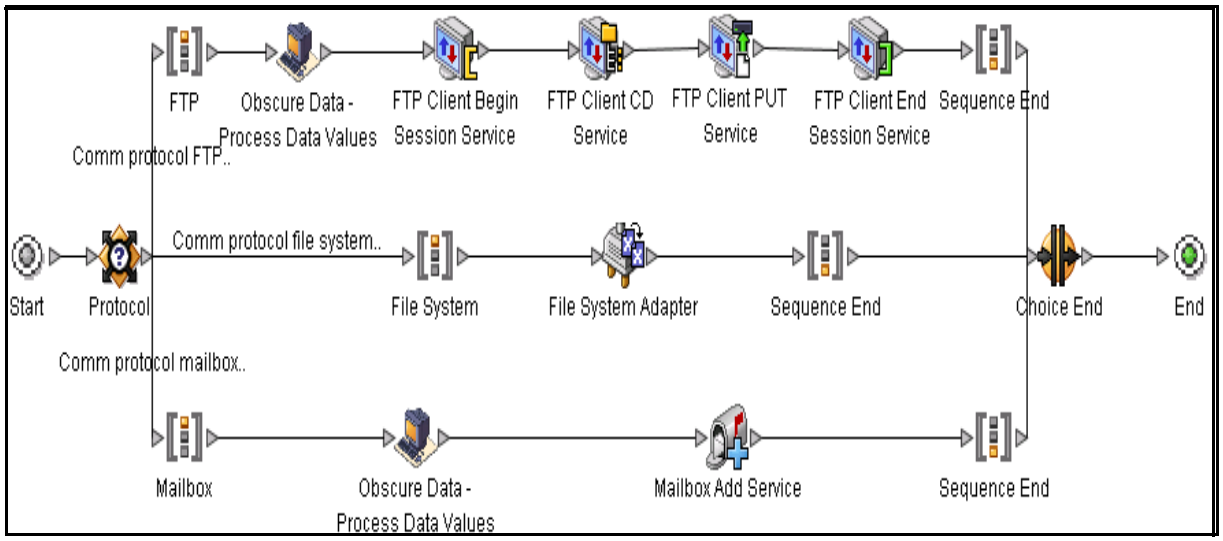
Step 1: Open the GPM. If it is already open make sure to refresh services.

Step 2: Open **AB_Filetransfer_w_FTP**.

Step 3: Delete the bottom **Assign** service from the business process and replace with the following stencils:

- Obscure Data - Process Data Value (1)
- Mailbox Add Service (1)

Step 4: Arrange and connect the stencils as shown in the following illustration:



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Exercise 2.3.9:Send Data to the Mailbox

(Continued)

Instructions

....(Continued)

Step 5: Click the **Obscure Data - Process Data Values** stencil. In the Service Editor-Obscure Data Process Value pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Config	FTPClientObscureParameter
obscureName1	Accept the default
obscureVal 1	Accept the default

Important

The Obscure Data - Process Data Values places the tag remote_user into process data with the value of the password in obscure format.

Example

<remote_user>AAAAAgAAAAQAAAAeAAAAHAAAAAMAAAAKAAAALQAAABE=
</remote_user>

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Exercise 2.3.9:Send Data to the Mailbox

(Continued)

Instructions

....(Continued)

Step 6: Click the **Mailbox Add Service** stencil. In the Service Editor-Mailbox Add Service pane, complete the fields listed in the following table using the value given:

Parameter	Value	XPath
Config	MailboxAdd	
ContentType	/ProcessData/INPUT/Header/Data_type/text()	Yes
ExtractableCount	/ProcessData/INPUT/Header/Extractable_count/t ext()	Yes
MailboxPath	/ProcessData/INPUT/Header/Destination_director y/text()	Yes
MessageName	/ProcessData/INPUT/Header/Filename/text()	Yes

Important

The Mailbox Add Service inserts the primary document into the mail repository and places the file into the /outbound folder for the remote_user account.

Step 7: Select **File > Save As.** Validate the business process (troubleshoot any errors), and name the business process **AB__FileTransfer_w_mailbox.bp.**

Exercise 2.3.10: Check in the AB_FileTransfer_w_mailbox Business Process

Introduction

In this exercise, you learn to check in the **AB_FileTransfer_w_mailbox** business process.

Instructions

Complete the following steps to check in the business process:

Step 1: Open the Admin Console and select **Business Process > Manager**.

Step 2: Search for your **AB_FileTransfer** business process.

Step 3: Click **Source Manager** for your file transfer bp.

Step 4: Click **Check out** to obtain a lock.

Step 5: Click **Go!** for Check In an updated version

Step 6: Click **Next**.

Step 7: In the Editor: Process: AB_FileTransfer_w_mailbox: Check in dialog box, click **Browse** select **AB_FileTransfer_w_mailbox.bp** and click **Open**.

Step 8: In the Editor: Process: AB_flatfile_w_mailbox: Check in dialog box, in the **Description** text box, type **Added Mailbox file** add and click **Next.**

Step 9: Use the default setting for the remaining parameters until Set Default Version. Set the **Added Mailbox Add as the Default Version**

Step 10: Click **Finish.**

Important

Whenever a child process is called B2Bi will always use the default version. If your version has errors when testing make sure to set the latest version default.

Exercise 2.3.11: Remote Mailbox User Account

Introduction

In this exercise, you learn to create remote mailbox user account.

Instructions

Step 1: From Sterling B2B Integrator Administration menu, click **Accounts > User Accounts**.

Step 2: At the **Create** page, next to **Create a new Account,** click **Go**!

Step 3: At the New Account page, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Authentication Type	local
User ID	remote_user (case sensitive)
Password	password (case sensitive)
Confirm Password	password (case sensitive)
Policy	Leave Blank
SSH Authorized User Key	Leave Blank
Session Timeout	120
Accessibility	ADMIN UI
Dashboard Theme	Accept the Default

Step 4: Click **Next.** Again, click **Next** on the SSH page.

Step 5: At the Groups page, select **Mailbox Browser Interface Users** in the Available pane and click the single arrow to move it to the Assigned pane.

Step 6: **Click Next. At the Permissions page,** select /**Mailbox** and **Mailbox Global Query** in the Available pane and click the single-arrow to move the Assigned pane.

Step 7: Click **Next.**

(Continued on next page)

Exercise 2.3.11:Remote Mailbox User Account

(Continued)

Instructions

....(Continued)

Step 8: At the **User Information** page, complete the fields that are listed in the following table based on the given value:

Parameter	Value
First Name	Enter your first name
Last Name	Enter your last name
E-mail	Enter your email address
Pager	Leave Blank
Preferred Language	English
Manger Id	Leave Blank
Identity	Accept default

Step 9: Click **Next**.

Step 10: At the **Confirm** page, review the user account settings. Are the settings correct?

- If Yes, click Finish to create the user account.
- If No, click Back, make the necessary changes,

Step 11: Click **Finish**.

Exercise 2.3.12: Create a Mailbox and Assigning Permissions

Introduction

In the following exercise, you need to set up two different mailboxes for remote_user, one for inbound and another for outbound. You need to build the complete path one step at a time; therefore, you need to complete the exercise 2 times.

Inbound path: /remote_user/inbound

Outbound path: /remote_user/outbound

Instructions

Creating the Mailbox remote_user

Step 1: From the Sterling B2B Integrator Administration menu, click **Deployment > Mailboxes > Configuration.**

Step 2: At the **Create** section, click **Go!**

Step 3: Leave the Filter by Name field blank.

Step 4: At the Mailbox Configuration Mailbox: Name page complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	remote_user
Description	Test for Mailbox

Step 5: Click **Next.**

Step 6: At the **Mailbox Configuration Assign Groups page**, in the **Available Groups** section, click **Mailbox Browser Interface Users** and the arrow to move to the **Selected Users** box.

Step 7: Click **Next.**

Step 8: At the **Mailbox Configuration Assign User** page, in the **Available Users** section,click **remote_user** and the arrow to move to the **Selected Users** box.

Step 9: Click **Next.**

Step 10: At the **Mailbox Configuration Confirm** page, verify theerify the mailbox configuration and click **Finish.**

(Continued on next page)

Exercise 2.3.12:Create a Mailbox and Assigning Permissions

(Continued)

Instructions

....(Continued)

Creating the Mailbox “inbound”

Step 1: From the Sterling B2B Integrator Deployment menu, select **Mailboxes > Configuration**.

Step 2: At the **Create** section, click **Go**!

Step 3: Leave the Filter by Name field blank.

Step 4: At the Mailbox: Name page, select **/remote_user** and complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	inbound
Description	Test for Mailbox

Step 5: Click **Next**.

Step 6: At he **Mailbox Configuration Assign Groups** page, in the **Available Groups** section, click **Mailbox Browser Interface Users** and the arrow to populate the **Selected Users** box.

Step 7: Click **Next.**

Step 8: At the **Mailbox Configuration Assign User** page, in the **Available Users section**, click **remote_user** and the arrow to populate the Selected Users box.

Step 9: Click **Next.**

Step 10: At the **Confirm** page, verify the mailbox configuration and click **Finish.**

(Continued on next page)

Exercise 2.3.12:Create a Mailbox and Assigning Permissions

(Continued)

Instructions

....(Continued)

Creating the Mailbox outbound

Step 1: From the Sterling B2B Integrator Deployment menu, select **Mailboxes > Configuration**.

Step 2: At the **Create** section, click **Go**!

Step 3: Leave the Filter by Name field blank.

Step 4: At the Mailbox: Name page, select **/remote_user** and complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	outbound
Description	Test for Mailbox

Step 5: Click **Next**.

Step 6: At he **Mailbox Configuration Assign Groups** page, in the **Available Groups** section, click **Mailbox Browser Interface Users** and the arrow to populate the **Selected Users** box.

Step 7: Click **Next.**

Step 8: Onthe **Mailbox Configuration Assign User** page, in the **Available Users section**, click **remote_user** and the arrow to populate the Selected Users box.

Step 9: Click **Next.**

Step 10: At the **Confirm** page, verify the mailbox configuration and click **Finish.**

Exercise 2.3.13: Create a Virtual Root

Introduction

In an earlier exercise, you set up two mailboxes; inbound and outbound, with the absolute path of /remote_user/inbound & /remote_user/outbound.

In this exercise, you will set the virtual root path to /remote_user so that the user will see only the relative path of /inbound and /outbound. The virtual root directory is the home directory for your user when they access the mailbox system. The user can only move forward in the directory structure.

Instructions

Step 1: From the Administration menu, click **Deployment > Mailboxes > Virtual Roots.**

Step 2: At the **Create** section, click **Go!**

Step 3: At the **Virtual Root Configuration User ID page**, leave the Filter by ID box blank , at the select box, click **remote_user** to specify the User ID that you want to create the virtual root for.

Step 4: Click **Next.**

Step 5: At the **Virtual Root Configuration Mailbox Name** page, leave the Filter by Name field blank.

Step 6: At the **Virtual Root Configuration Mailbox Name** page, in the select box, select **/remote_user** to specify the mailbox that you want to be the virtual root of the User ID.

Step 7: Click **Next.**

Step 8: At the confirm page, click **Finish.**.

Exercise 2.3.14: Test the Mailbox

Introduction

In this exercise, you will execute the mailbox business process.

Instructions

Testing the Mailbox process

Step 1: Copy **mailbox.txt** to the **/home/student/fscoll** directory.Since we set our second FSA not to delete upon collection you should not have add a 850_7E.txt to the /home/student/mailbox directory

Step 2: From the Business Process manager screen, in the **Search** seciton, enter **AB_flatfile2xml** and click **Go.**

Step 3: Click **Execution Manager**.

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

Step 5: For Run As User, enter **remote_user.**

Step 6: Select **Go!**

Step 7: Review the output of the process

Verify the file transfer completed successfully

Step 1: From the admin console, click **Deployment > Mailboxes > Messages.**

Step 2: Click **Go**! to view all messages.

Note

The file transfer can also be verified by accessing the /output folder in MailboxBrowser Interface (MBI). The MBI will be covered in the next section.

Mailbox Browser Interface

Overview

The MBI is a web Application that can be used inside your secure network or in the DMZ (demilitarized zone) of your company. This feature has nothing to do with the FTP server function. Its main function is to allow for easy user access into the mailbox system using HTTP server adapters.

To run the MBI inside of your secure network, no configuration is required.

Connecting Trading Partners to the MBI

In order for your trading partners to use the MBI, you must:

- Create a user account for each trading partner.
- Assign trading partners to the Mailbox Browser Interface Users group.
- Provide each trading partner the URL of your web server.
- If your MBI application is inside your secure network, use the following URL: http://<SIhost>:<SIport>/mailbox, where <SIhost> is the IP address or host name of the computer where the Sterling B2B Integrator web application is installed and <SIport> is the port that the Sterling B2B Integrator web application is running on.

(Continued on next page)

Mailbox Browser Interface

(Continued)

Accessing the Mailbox Browser Interface

To access the Mailbox Browser Interface complete the following steps:

1. Open a new session of Internet Explorer.
2. Type the IP address that you are connecting to in the address line.

 Example

http://192.168.40.100:9000/mailbox

 Hint

This is the same as accessing the B2Bi interface except we are replacing dashboard with mailbox

3. In the Network Password page, type your login and password.

 Example

Login: remote_user Password: password

4. Search the /outbound mailbox for the filename file2mailbox system.

Using the MBI

The MBI enables you to interact with mailboxes that you have access to in Sterling B2B Integrator. The following functions are available using the MBI:

- Changing Your Password
- Sending a Message to a Mailbox
- Searching for Messages in a Mailbox
- Viewing and extracting

(Continued on next page)

Mailbox Browser Interface

(Continued)

Using the MBI

....(Continued)

Searching for Messages in a Mailbox

When you search for a message in a mailbox, you use the Search command and specify the search criteria as describe in the following table: To send a message to a mailbox:

Parameter	Description
Mailbox	Mailbox that you want to search or select All to search all mailboxes you have permission to search.Required.
Message Name	Message name or partial message name for your search. You can use the asterisk (*) as a wildcard.
Message ID	Message ID for your search.
From	Beginning date and time range for your search. Date format is yyyy-mm-dd. Time format is hh:mm:ss AM/PM.
To	Ending date and time range for your search. Date format is yyyy-mm-dd. Time format is hh:mm:ss AM/PM.

(Continued on next page)

Mailbox Browser Interface

(Continued)

Using the MBI

....(Continued)

Search Results

From the Search Results page, you can sort the search results by clicking any of the following column headings: Name, ID, Created, Size, Mailbox. The Search Results page contains the following information:

Parameter	Description
Extract	Click to download the message (file) to your computer.
Name	Name of the message. Click to view the message in a browser window.
ID	Message ID that is assigned by the Sterling B2B Integrator Mailbox.
Created	Date and time the message was created.
Size	Size of the message in bytes.
Mailbox	Name of the mailbox that contains the message.
Extract Policy	Policy that is used to govern the extractability of the message: Count – Message is extractable a specific number of times (specified in Policy Value column). Until – Messages are extractable until a specified date (specified in the Policy Value column). Extractable – If Policy Value is Yes, the message is infinitely extractable. If Policy Value is No, the message is not extractable.
Policy Value	Identifies the values for the policy that is identified in Extract Policy.

(Continued on next page)

Mailbox Browser Interface

(Continued)

Using the MBI

....(Continued)

Viewing and Extracting Messages

- To view the message, click the message name in a browser window.
- To extract the message, click Extract next to the message name that you want to extract.

Lesson review

What you have been able to do

- Create a business process to convert flat files into process data and to place the primary document into different storage locations.
- Create a child business processes to transfer files to a particular storage location.
- Set up a remote mailbox to accept files from a business process.Documentation.

LESSON 2.4: Using a Database

What this lesson is about

This lesson provides details about using a database ,how to create and update a database. Also, you will learn how to run a query against the database to extract information.

.What you should be able to do

After completing this lesson, you should be able to:

- Create a business process to receive configuration values from a database using the Lightweight JDBC Adapter.

Documentation

Lightweight Java Database Connectivity (JDBC) adapter

Exercise 2.4.1: Create a Lightweight JDBC Adapter Configuration

Introduction

In this exercise, you learn to create a lightweight JDBC adapter configuration.

Instructions

Complete the following steps to create a Lightweight JDBC adapter Configuration:

Step 1: Log in to the Admin Console.

Step 2: From the Admin Console, click **Deployment > Services > Configuration**.

Step 3: At the **Services Configuration** page, in the **Create** section, next to New Service, click **Go**!

Step 4: In the **Service Configuration: Select Service Type** page, type **Lightweight JDBC adapter** and click **Next.**

Step 5: In the **Services Configuration: Name** dialog box, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	adv_query
Description	Lightweight JDBC adapter
Select a group	None

Step 6: Click **Next.**

Step 7: In the **Service Configuration: adv_query: Properties** dialog box, select **This Lightweight JDBC Adapter will not start a new business process** and click **Next.**

(Continued on next page)

Exercise 2.4.1:Create a Lightweight JDBC Adapter Configuration

(Continued)

Instructions

....(Continued)

Step 8: In the **Services Configuration: adv_query: Properties: Parameters** dialog box, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Pool Name:	db2pool
XML Results Root Tag:	Document
XML Results Row Tag:	Query

Step 9: Click **Next.**

Step 10: Verify that the service is enabled for business processes and click **Finish.**

Exercise 2.4.2: Create a Table in the Sterling B2B Integrator Database

Introduction

In this exercise, you learn to create a table in the Sterling B2B Integrator database.

Instructions

Step 1: Log in to the Sterling B2B Integrator Admin Console.

Step 2: In the Admin Console, click **Operations > Systems > Support Tools > SQL Manager.**

Step 3: At the **SQL Manger** command window, type:

```
Create table filetransfer (comm_id char(40),
comm_protocol char(10),
remote_host char(15),
source_directory char(60),
destination_directory char(60),
input_filename char(20),
output_filename char(20),
success char(3),
transfer_flag char(3))
```

Step 4: Check that your table was successfully created by typing the following command at the **SQL Manager:**

```
select * from filetransfer
```

Exercise 2.4.3: Create a Business Process to Insert Data Records

Introduction

In this exercise, you will create a business process to insert data records.

Instructions

Step 1: Open the GPM. If it is already open, click **View > Refresh Services**.

Step 2: Click **File > Open** and double-click **AB_FileTransfer.bp** (This business process is the original created in lesson 6).

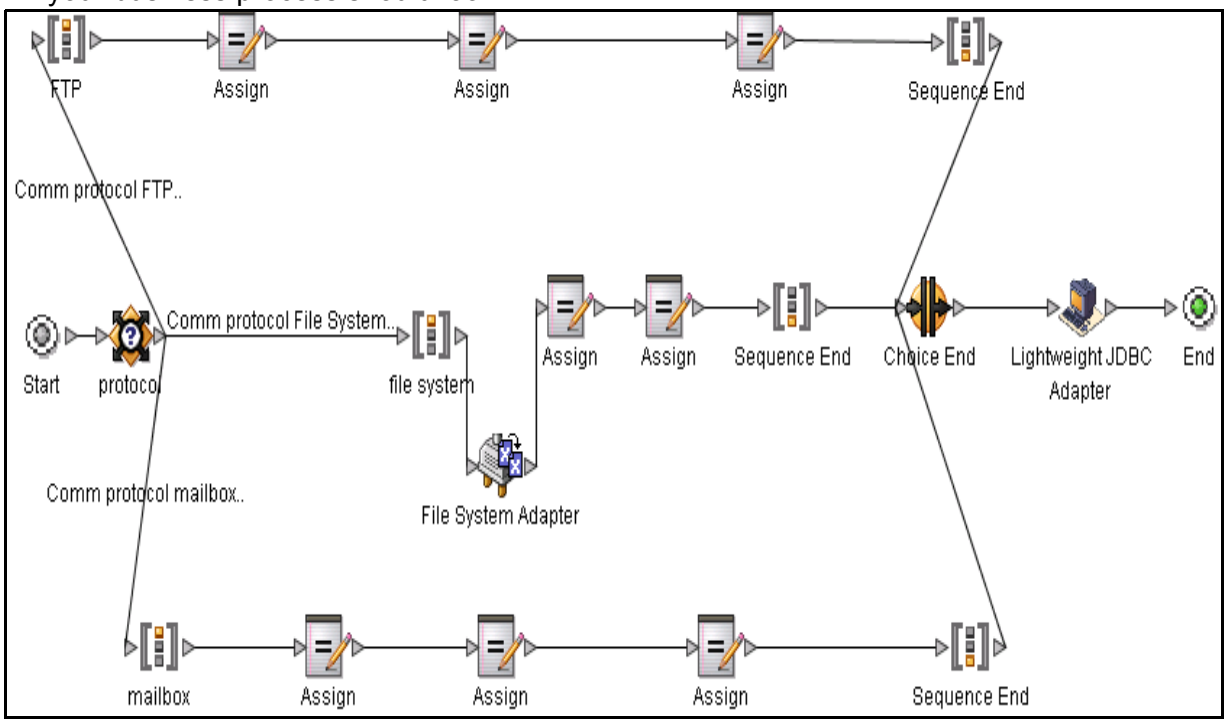
Step 3: Add new **Assign** services to each row in the data flow:

a. In the FTP (top) row, add two Assign services after the current Assign service.

b. In the File System (middle) row, add two Assign services after the File System Adapter.

c. In the mailbox (bottom) row, add two Assign services after the current Assign service.

Step 4: After **Choice End**, add the **Lightweight JDBC Adapter**. The following illustration portrays how your business process should look.



(Continued on next page)

Exercise 2.4.3:Create a Business Process to Insert Data Records

(Continued)

Instructions

....(Continued)

Step 5: Click the first **Assign** Service that you just added on the top row. In the Property Editor-Assign pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
constant	yes
to	success

Important

The Assign service places the tag success into process data with the value of Yes.

Step 6: Click the second **Assign** Service that you just added on the top row. In the Property Editor-Assign pane, complete the fields that are listed in the following table as per the valu given:

Parameter	Value
constant	yes
to	transfer_flag

Important

The Assign service places the tag transfer_flag into process data with the value of Yes. This step is important in the second part of this exercise because your second business process pulls the records with the transfer_flag value set to Yes.

(Continued on next page)

Exercise 2.4.3:Create a Business Process to Insert Data Records

(Continued)

Instructions

....(Continued)

Step 7: Click the first **Assign** Service that you just added on the middle row. In the Property Editor-Assign pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
constant	yes
to	success

Important

The Assign service places the tag success into process data with the value of "Yes."

Step 8: Click the second **Assign** Service that you just added on the middle row. In the Property Editor-Assign pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
constant	yes
to	transfer_flag

Important

The Assign service places the tag transfer_flag into process data with the value of "Yes." This step is important in the second part of this exercise because your second business process pulls the records with the transfer_flag value set to "Yes."

(Continued on next page)

Exercise 2.4.3:Create a Business Process to Insert Data Records

(Continued)

Instructions

....(Continued)

Step 9: Click the first **Assign** Service that you just added on the bottom row. In the Property Editor-Assign pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
constant	yes
to	success

Important

The Assign service places the tag success into process data with the value of "Yes."

Step 10: Click the second **Assign** Service that you just added on the bottom row. In the Property Editor-Assign pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
constant	yes
to	transfer_flag

Important

The Assign service places the tag transfer_flag into process data with the value of Yes. This step is important in the second part of this exercise because your second business process pulls the records with the transfer_flag value set to Yes.

(Continued on next page)

Exercise 2.4.3:Create a Business Process to Insert Data Records

(Continued)

Instructions

....(Continued)

Step 11: Open the **Properties Editor** for the **Lightweight JDBC adapter** and select **adv_query** for the configuration. Complete the fields in the following table using the value given:

Parameter	Value	XPath
param1	/ProcessData/INPUT/Header/Company_name/text()	Yes
param2	/ProcessData/INPUT/Header/Comm_protocol/t ext()	Yes
param3	/ProcessData/INPUT/Header/Remote_host/text ()	Yes
param4	/ProcessData/INPUT/Header/Source_directory/ text()	Yes
param5	/ProcessData/INPUT/Header/Destination_direct ory/text()	Yes
param6	/ProcessData/FileName/text()	Yes
param7	/ProcessData/INPUT/Header/Filename/text()	Yes
param8	//success/text()	Yes
param9	//transfer_flag/text()	
paramtype1	String	
paramtype2	String	
paramtype3	String	
paramtype4	String	
paramtype5	String	
paramtype6	String	
paramtype7	String	
paramtype8	String	
paramtype9	String	

(Continued on next page)

Exercise 2.4.3:Create a Business Process to Insert Data Records

(Continued)

Instructions

....(Continued)

Parameter	Value	XPath
pool	db2pool	
query_type	Insert	
result_name	Document	
row_name	Query	
sql	insert into filetransfer values(?,?,?,?,?,?,?,?,?)	
StartNewWorkFlow	This Lightweight JDBC Adapter will not start a new business process	

Important

The Lightweight JDBC adapter inserts data records into your filetransfer table, the values comes from process data.

Step 12: Click the **Message from Service** tab of the Lightweight JDBC Adapter.

Step 13: In the Input Msg list, select **Allow message write.**

Step 14: Click **Add.**

(Continued on next page)

Exercise 2.4.3:Create a Business Process to Insert Data Records

(Continued)

Instructions

....(Continued)

Step 15: Complete the fields in the following table using the value given:

Parameter	Value
Name	SQLOutput
Value	DocToDOM(PrimaryDocument)/Query/*
XPath	Yes

Important

This step places the return message from the SQL execution into Process Data rather than having it replace the Primary Document. This is a good trick to use for database lookups while still keeping your original Primary Document.

Step 16: Select **File > Save As.** Validate the business process (troubleshoot any errors), and name it **AB_FileTransfer_w_databaseinsert.bp**.

Exercise 2.4.4: Check In and Test the AB_flat file 2xml_w_databaseinsert Business Process

Introduction

In this exercise, you learn to check in the AB_FileTransfer_w_databaseinsert business process.

Instructions

Complete the following steps to check in the business process:

Step 1: Open the Admin Console and click **Business Process > Manager**.

Step 2: Search for your **AB_FileTransfer** BP.

Step 3: Click **Source Manager** for your file transfer bp.

Step 4: **Check out** the BP to obtain a lock.

Step 5: Click **Go!** for Check In an updated version

Step 6: In the Editor: Process: Check in dialog box, click **Browse** and go to **AB_FileTransfer_w_databaseinsert.bp**. Select it and click **Open.**

Step 7: In the Editor: Process: AB_flatfile_w_ftp: Check in dialog box, in the **Description** text box, type **Added Database Insert** and click **Next.**

Step 8: Use the default setting for the remaining parameters until Set Default Version. Set the **Added Database Insert** as the Default Version

Step 9: 9. Verify that the Business Process is enabled when you click **Finish.**

(Continued on next page)

Exercise 2.4.4:Check In and Test the AB_flat file 2xml_w_databa-seinsert Business Process

(Continued)

Instructions

....(Continued)

Complete the following steps to execute the business process three times.

Testing the File System Process

Step 1: Copy **filesystem.txt** to the /home/student/fscoll directory.

Step 2: Since we set our second FSA not to delete upon collection you should not have add a 850.txt to the /home/student/mailbox directory

Step 3: From the **Business Process manager** screen, search for the **AB_flatfile2xml.bp.**

Step 4: Click **execution manager** when you get the results screen.

Step 5: Click **execute** in the execution manager screen.

Step 6: Click **Go!**

Step 7: Review the output of the process by checking the Instance data of last **adv_query** service. The document of instance data should indicate that the one row has been affected in the database.

Step 8: Check the /**home/student/fsext** directory for the output file.

(Continued on next page)

Exercise 2.4.4:Check In and Test the AB_flat file 2xml_w_databa-seinsert Business Process

(Continued)

Instructions

....(Continued)

Testing the FTP Process

Step 1: Copy f**tp.txt** to the /**home/student/fscoll** directory.

Step 2: Since we set our second FSA not to delete upon collection you should not have to add a 850_7E.txt to the /home/student/fsftp directory

Step 3: From the **Business Process manager** screen, search for the **AB_flatfile2xml.bp.**

Step 4: Click **execution manager** when you get the results screen.

Step 5: Click **execute** in the execution manager screen.

Step 6: Click **Go!**

Step 7: Review the output of the process by checking the Instance data of last **adv_query** service. The document of instance data should indicate that the one row has been affected in the database.

Step 8: Check the final assign service that **FTP Data Flow** was written out in the **Results** tag.

(Continued on next page)

Exercise 2.4.4:Check In and Test the AB_flat file 2xml_w_databa-seinsert Business Process

(Continued)

Instructions

....(Continued)

Testing the Mailbox Process

Step 1: Copy **mailbox.txt** to the **/home/student/fscoll** directory.

Step 2: Since we set our second FSA not to delete upon collection you should not have to add a **850_7E.txt** to the /home/student/mailbox directory

Step 3: From the **Business Process manager** screen, search for the **AB_flatfile2xml.bp.**

Step 4: Click **execution manager** when you get the results screen.

Step 5: Click **execute i**n the execution manager screen.

Step 6: Click **Go!**

Step 7: Review the output of the process by checking the Instance data of last **adv_query** service. The document of instance data should indicate that the one row has been affected in the database.

Step 8: Check the final **Assign** service and verify that **Mailbox Data Flow** was written out in the Results tag.

Viewing Database Results

Step 9: In the Admin Console, click **Operations > Systems > Support Tools >SQL Manager.**

Step 10: To view your database inserts, type: **select * from filetransfer** at the command window.

Important

There should be at least three inserts into the database.There may be more if you ran the process more than three times due to troubleshooting. The rows should equal the number of times you ran the process successfully.

Exercise 2.4.5: Create a Process to Extract Data

Introduction

In this exercise, you will create a business process to extract data.

The key to the second part of the exercise is the transfer_flag column. You will build a business process that inquires into the database using a Lightweight JDBC Adapter and pull all records with the transfer_flag flag set to “Yes.”

It will then loop through the records and extract each record to the file system. Upon successful completion of your business process, the Lightweight JDBC

Adapter changes the transfer_flag to “No,” so the file is not reprocessed a second time.

Instructions

Step 1: Open the GPM. If it is already open, click **View > Refresh Services**.

Step 2: Select **File > New.**

Step 3: Move the following stencils to your workspace:

- Start (1)
- End (1)
- Sequence Start (2)
- Sequence End (2)
- Choice Start (1)
- Choice End (1)
- Assign (4)
- Lightweight JDBC Adapter (1)
- SubFlow (1)

(Continued on next page)

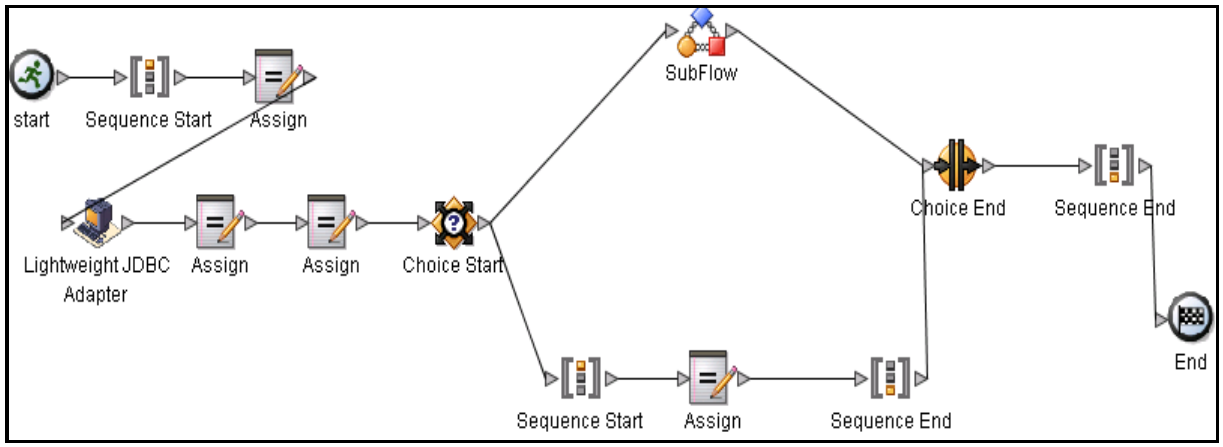
Exercise 2.4.5:Create a Process to Extract Data

(Continued)

Instructions

....(Continued)

Step 4: Arrange and connect the stencils as shown in the following illustration:



Step 5: Change the name of the first **Sequence Start** stencil:

a. Double-click the Sequence Start stencil.

b. In the Property Editor-Sequence Start under the value column, type Main.

Step 6: Click the first **Assign** stencil. In the **Property Editor - Assign** pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
Constant	1
To	loop_counter

Important

This Assign service sets a variable (loop_counter) to a value of one and places the tag into process data.

(Continued on next page)

Exercise 2.4.5:Create a Process to Extract Data

(Continued)

Instructions

....(Continued)

Step 7: Open the **Property Editor** for the **Lightweight JDBC Adapter** and select **adv_query** for the configuration. Complete the fields in the following table by using the value given:

Parameter	Value
param1	Yes
paramtype1	String
pool	db2pool
query_type	Select
result_name	Document
row_name	query
Sql	select * from filetransfer where transfer_flag = ?
StartNewWorkFlow	This Lightweight JDBC Adapter will not start a new business process.

Important

This Lightweight JDBC Adapter selects all database records with the transfer_flag flag set to “Yes” and creates a new primary document with the results.

Step 8: Click the second **Assign** stencil. In the **Property Editor–Assign** pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
From	DocToDOM(PrimaryDocument)
To	Temproot

Important

This assign service copies the Primary Document into Process Data.

(Continued on next page)

Exercise 2.4.5:Create a Process to Extract Data

(Continued)

Instructions

....(Continued)

Step 9: Click the third **Assign** stencil. In the **Property Editor–Assign** pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
From	count(/ProcessData/Temproot/Document/Query)
To	numberofdocs

Important

This assign service counts the tag of Query and places the amount inside the tag “numberofdocs”.

Step 10: Change the name of the **Choice Start** stencil:

a. Double-click the Choice Start stencil.

b. In the Property Editor-Choice Start under the Value column, type Database loop.

Step 11: Select **Tools > Rule Manager** and click **Add.**

Step 12: In the **Rule Editor,** complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	Files to process
Expression	number(//numberofdocs/text()) > 0

Important

The rule checks the number of docs. If greater than zero we know we have records to process. 0 = no records to process.

(Continued on next page)

Exercise 2.4.5:Create a Process to Extract Data

(Continued)

Instructions

....(Continued)

Step 13: Click **OK** twice to save the rule and close the window.

Step 14: Change the name of the **SubFlow** stencil:

a. Double-click the SubFlow stencil

b. In the Property Editor-SubFlow under the Value column, type Loop Process.

Step 15: Change the name of the **Sequence Start** stencil:

a. Double-click the Sequence Start.

b. In the Property Editor-Sequence Start under the value column, type Nothing to process.

Step 16: Click the edge between the **Database loop** and **Loop Process** (top data flow) to view the Edge Editor.

Step 17: In the Edge Editor, click **Add** to view the name and value column. Complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	Files to process
Value	true

Step 18: Click the edge between the **Database loop** and **Nothing to process** (bottom data flow) to view the Edge Editor.

Step 19: In the **Edge Editor**, click **Add** to view the name and value column. Complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	Files to process
Value	not true

(Continued on next page)

Exercise 2.4.5:Create a Process to Extract Data

(Continued)

Instructions

....(Continued)

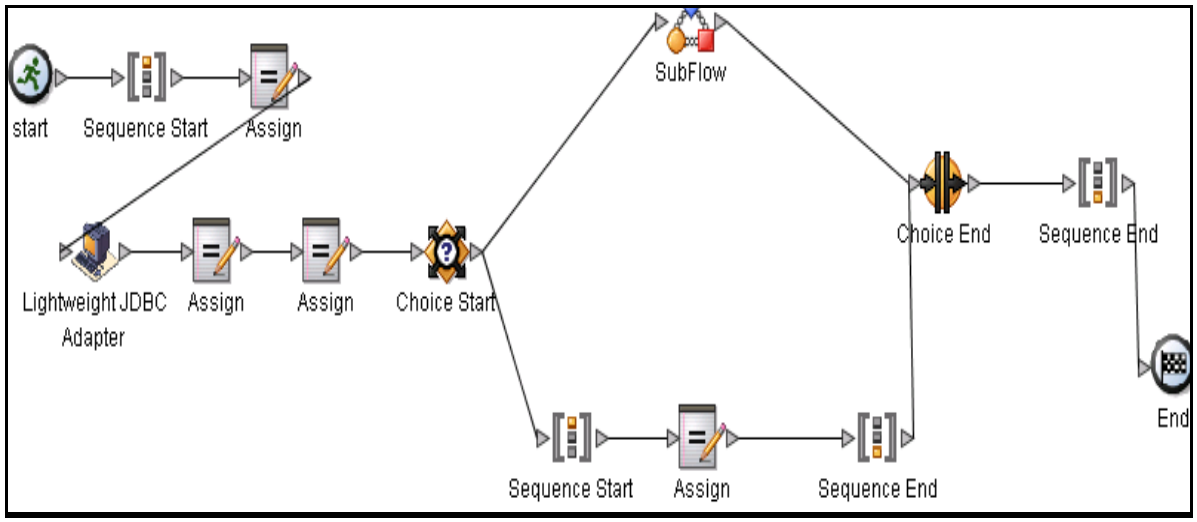
Step 20: Click the **Assign** stencil in the bottom data flow. In the **Property Editor–Assign** pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
constant	Nothing to process
to	Results

Important

This Assign service adds the tag Results to Process Data and place the value “Nothing to process” inside the Results tag.

The following illustration portrays how your business process should look:



Exercise 2.4.6: Create the Database loop Subflow

Introduction

In this exercise, you will learn to create the database loop subflow in the business process.

.

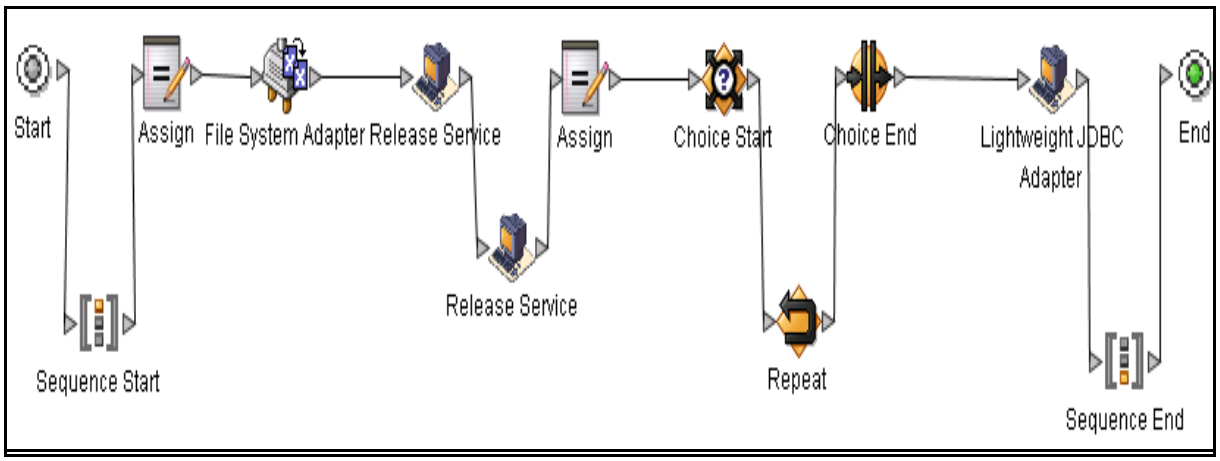
Instructions

Step 1: Click **Loop Process** (SubFlow) in the navigation pane (lower left corner of the screen).

Step 2: Move the following stencils to your workspace:

- Sequence Start (1)
- Sequence End (1)
- Choice Start (1)
- Choice End (1)
- Assign (2)
- Lightweight JDBC adapter (1)
- File system adapter (1)
- Release Service (2)
- Repeat (1)

Step 3: Arrange and connect the stencils as shown in the following illustration:



(Continued on next page)

Exercise 2.4.6:Create the Database loop Subflow

(Continued)

Instructions

....(Continued)

Step 4: Change the name of the **Sequence Start** stencil: a. Double-click the **Sequence Start** stencil. b. In the Property Editor-Sequence Start under the value column, type **The Loop**.

Note

A subflow is not the same as a sub or child process. It is a tool in the GPM to have 1 icon represent many, so you can have additional screen space for organization. This can only be used in the GPM if you edit the BPML and then load the process in the GPM the subflow would be replaced with a new sequence containing the services used in the subflow. It is still part of the same process.

Note

A child process is a separate business process that is called by the parent usually with an invoke service.

Step 5: Click the first **Assign** stencil. In the **Property Editor–Assign** pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
from	DOMToDoc(/ProcessData/Temproot/Document/Query[// ProcessData/loop_counter/text()],'PrimaryDocument')
to	.

Important

This Assign service moves the process data based from the current_loop variable and creates a primary document. The . represents current primary document. In other words make a new primary document using this information from ProcessData.

(Continued on next page)

Exercise 2.4.6:Create the Database loop Subflow

(Continued)

Instructions

....(Continued)

Step 6: Click the **File System Adapter** stencil. In the Service Editor-File System Adapter pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value	XPath
Config	adv_fsa	
Action	Extraction	
AssignedFilename	concat('Outputfilename.',//ProcessData//loop_counter/text(),'.txt')	Yes
AssignFilename	Assign a specific name	
extractionFolder	/home/student/fsext	

Important

This File System Adapter writes out the current primary document with the name of Outputfilename.[loop_counter].txt.Example: Outputfilename1.txt
As the loop iterates through each record a new output file will be created for each record (loop).

Step 7: Click the first **Release Service** stencil and in the **Service Editor-Release Service** pane, configure as follows.

a. In the Conf list, select ReleaseService.
b. Click Advanced (lower right corner).
c. Click Add to add a new row.

Parameter	Value	XPath
TARGET	'PrimaryDocument'	Yes

Important

This Release Service removes, from memory, the primary document, since it has been processed.

(Continued on next page)

Exercise 2.4.6:Create the Database loop Subflow

(Continued)

Instructions

....(Continued)

Step 8: Click the second **Release Service** stencil and in the **Service Editor-Release Service** pane, configure as follows.

a. In the Conf list, select ReleaseService.

b. Click Advanced (lower right corner).

c. Click Add to add a row.

Parameter	Value	XPath
TARGET	/ProcessData/Temproot/Document/Query[1]	

Important

This Release Service removes, from memory, the first loop (block) of process data. So the next loop sees the next block of information with the comm_id equal to CompanyFTP.

(Continued on next page)

Exercise 2.4.6:Create the Database loop Subflow

(Continued)

Instructions

....(Continued)

The BPML code shown is an example that release service removes from virtual memory.

```
<ProcessData>
  <loop_counter>1</loop_counter>
  <Temproot>
    <Document>
      <Query>
        <comm_id>CompanyFilesystem</comm_id>
        <comm_protocol>filesystem</comm_protocol>
        <remote_host>172.16.7.133172.16.7.133</remote_host>
        <source_directory>/home/student/filesystem</source_directory>
        <destination_directory>c:\fsext</destination_directory>
        <input_filename>850.txt</input_filename>
        <output_filename>file2fsa</output_filename>
        <success>Yes</success>
        <transfer_flag>Yes</transfer_flag>
      </Query>
      <Query>
        <comm_id>CompanyFTP</comm_id>
        <comm_protocol>FTP</comm_protocol>
        <remote_host>172.16.7.133</remote_host>
        <source_directory>c:\fsftp</source_directory>
        <destination_directory>si/fromsi</destination_directory>
        <input_filename>850.txt</input_filename>
        <output_filename>file2ftp</output_filename>
        <success>Yes</success>
        <transfer_flag>Yes</transfer_flag>
      </Query>
      <Query>
        <comm_id>CompanyMailbox</comm_id>
        <comm_protocol>mailbox</comm_protocol>
```

The release service wil
remove this information
from virtual memory

Continued on next page

(Continued on next page)

Exercise 2.4.6:Create the Database loop Subflow

(Continued)

Instructions

....(Continued)

```
        <remote_host>172.16.7.133</remote_host>
        <source_directory>c:\mailbox</source_directory>
        <destination_directory>/outbound</destination_directory>
        <input_filename>850.txt</input_filename>
        <output_filename>file2mailboxsystem</output_filename>
        <success>Yes</success>
       <transfer_flag>Yes</transfer_flag>
      </Query>
     </Document>
  </Temproot>
  <numberofdocs>3</numberofdocs>
</ProcessData>
```

Step 9: Click the **Assign** stencil. In the **Property Editor–Assign** pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
from	loop_counter+1
to	loop_counter

Important

This assign service increments your variable (loop_counter) by one.

Step 10: Select **Tools > Rule Manager** and click **Add**.

(Continued on next page)

Exercise 2.4.6:Create the Database loop Subflow

(Continued)

Instructions

....(Continued)

Step 11: In the **Rule Editor**, complete the fields that are listed in the following table based on the given value on the next page.

Parameter	Value
Name	Not Finished
Expression	number(//numberofdocs/text()) >=number(loop_counter)

Important

This rule compares the number of docs with the number in our loop counter to determine if we still have documents to process.

Step 12: Click **OK** twice to save the rule and close the window.

Step 13: Click the edge between the **Choice Start** and the **Repeat** stencil to display the **Edge Editor**.

Step 14: In the **Edge Editor**, click **Add** to view the name and value column. Complete the fields that are listed in the following table based on the given value:

Parameter	Value
Name	Not Finished
Value	true

(Continued on next page)

Exercise 2.4.6:Create the Database loop Subflow

(Continued)

Instructions

....(Continued)

Step 15: Click the **Repeat** stencil. In the **Property Editor–Repeat** pane, complete the fields that are listed in the following table based on the given value:

Parameter	Value
name	Do it again
ref	The Loop

Important

The Repeat Service returns your process to the start of your BPML loop by referencing the sequence start “TheLoop”.

Step 16: Open the **Property Editor** for the **Lightweight JDBC Adapter** and select **adv_query** for the configuration. Complete the fields in the following table using the value given:

Parameter	Value
param1	yes
paramtype1	string
pool	db2pool
query_type	Update
result_name	Document
row_name	Query
sql	update filetransfer SET transfer_flag = 'No' where transfer_flag = ?
StartNewWorkFlow	This Lightweight JDBC Adapter will not start a new business process.

Important

This lightweight JDBC Adapter updates the filetransfer section of your database and set the transfer_flag set to “No.” This prevents the information from being pulled multiple times.

Step 17: Select **File > Save As**. Validate the business process (troubleshoot any errors), and name it **AB_query_and_update.bp**.

Exercise 2.4.7: Check In & Test Business Process

Introduction

In this exercise, you learn to check in and execute the AB_query_and_update business process.

Instructions

Check In and Test the Business Process

Step 1: Open the Admin console 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 based on the given value:

Parameter	Value
Name	AB_query_and_update
Check in Business Process created by the Graphical Modeling tool	Select

Step 4: Click **Next.**

Step 5: Click **Browse** and select the **AB_query_and_update.bp.** Click **Open.**

Step 6: Type **Query and Update** and click **Next**.

Step 7: Use the defaults settings for the remaining parameters. Verify that the business process is enabled and click **Finish**.

(Continued on next page)

Exercise 2.4.7:Check In & Test Business Process

(Continued)

Instructions

....(Continued)

Testing the JDBC Adapter Query and Update Process

Step 1: From the **Business Process manager** screen, search for the **AB_query_and_update**.bp.

Step 2: Click **execution manager** when you get the results screen.

Step 3: Click **execute** in the execution manager screen.

Step 4: Click **Go!**

Step 5: Review the output of the process.

Viewing database Results

Step 1: Go to **Operations > System > Support Tools > SQL Manager.**

Step 2: To view your database inserts, type: **select * from filetransfer;**

Important

The records in the database should have their transfer_flag column updated with a value of “No”.

Lesson review

What you have been able to do

- Create a business process to receive configuration values from a database using the Lightweight JDBC adapter.

Course wrap-up

Course wrap-up enables you to submit an evaluation of the class and provides information on additional training options.

Completed objectives

Completed course objectives

This course was designed to enable you to:

- Differentiate between services, adapters, and activities as they relate to building business processes.
- Configure a business process using the message output options.
- Apply the Assign Service along with DOM or Doc features in a business process
- Create a business process to capture errors and to notify the user of an error.
- Create a business process to manage 997's.
- Create a business process to send data to different storage locations.
- Use the JDBC adapter to create a business process to receive configuration values from a database.

Course evaluation

Completing the evaluation

To ensure that the IBM® Sterling B2B Integrator Advanced Business Process Modeling V.5.2.6.1 is as effective as possible and meets the needs of customers, please share your feedback. Feedback on the site, curriculum, and instructor tell us what was good about the class and what can be improved.

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