

Week 2 Unit 4: Splitter/Gather – Working with Lists

Splitter/Gather – Working with Lists

Expected messages

Goals

Split a list into individual items, process items individually, and collect results for final reply message

Input Message

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header/>
  <soapenv:Body>
    <demo:OrderList_MT>
      <!--Zero or more repetitions:-->
      <orders>
        <orderNumber>10248</orderNumber>
        <customerName>?</customerName>
        <orderAmount>?</orderAmount>
        <currency>?</currency>
        <taxAmount>?</taxAmount>
      </orders>
      <orders>
        <orderNumber>10249</orderNumber>
        <customerName>?</customerName>
        <orderAmount>?</orderAmount>
        <currency>?</currency>
        <taxAmount>?</taxAmount>
      </orders>
      <orders>
        <orderNumber>10250</orderNumber>
        <customerName>?</customerName>
        <orderAmount>?</orderAmount>
        <currency>?</currency>
        <taxAmount>?</taxAmount>
      </orders>
    </demo:OrderList_MT>
  </soapenv:Body>
</soapenv:Envelope>
```

Output Message

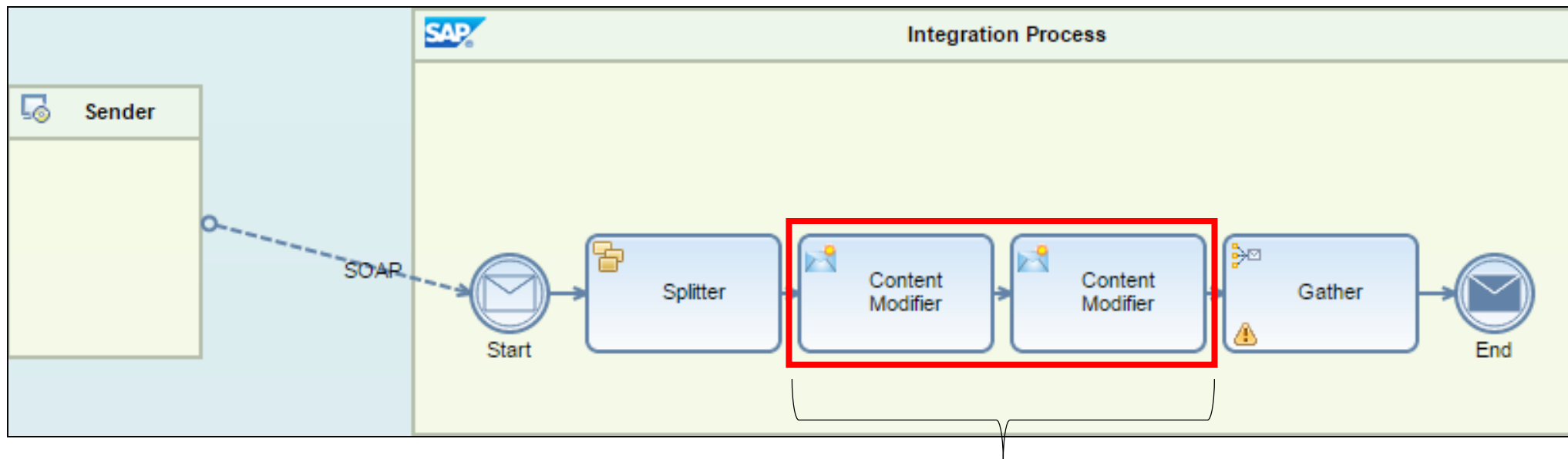
```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <multimap:Messages xmlns:multimap="http://schemas.xmlsoap.org/soap/extension/">
      <multimap:Message1>
        <orderDetails>10248</orderDetails>
        <orderDetails>10249</orderDetails>
        <orderDetails>10250</orderDetails>
      </multimap:Message1>
    </multimap:Messages>
  </soap:Body>
</soap:Envelope>
```

Splitter/Gather – Working with Lists

Integration flow with Splitter/Gather steps

Goals

Split a list into individual items, process items individually, and collect results for final reply message



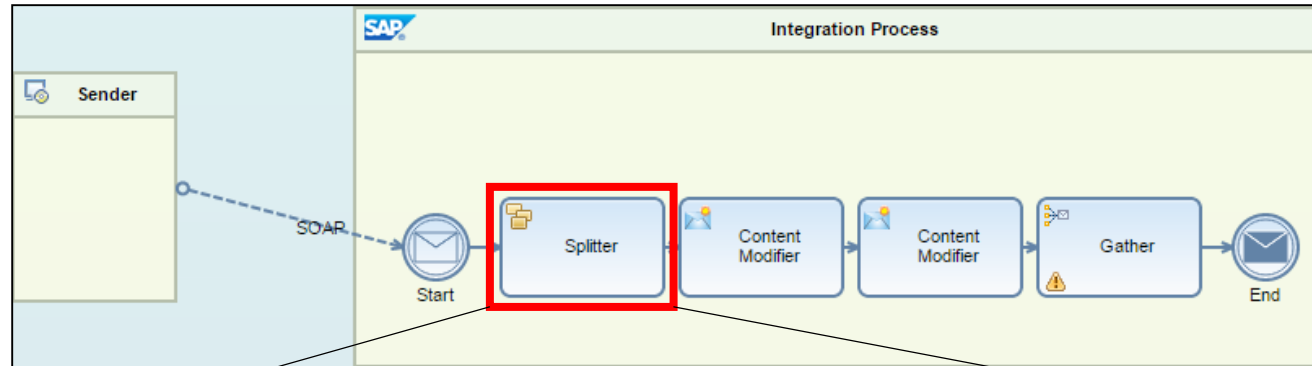
Important: Steps between "Splitter" and "Gather" are always executed as many times as the list has entries!

Splitter/Gather – Working with Lists

Configuration of the Splitter/Gather integration flow (1)

Goals

Split a list into individual items, process items individually, and collect results for final reply message



General Splitter

Splitter to break down composite message into series of messages

*XPath Expression:

//orders

Grouping:

1

Timeout (in s):

☒ Streaming

☐ Parallel Processing

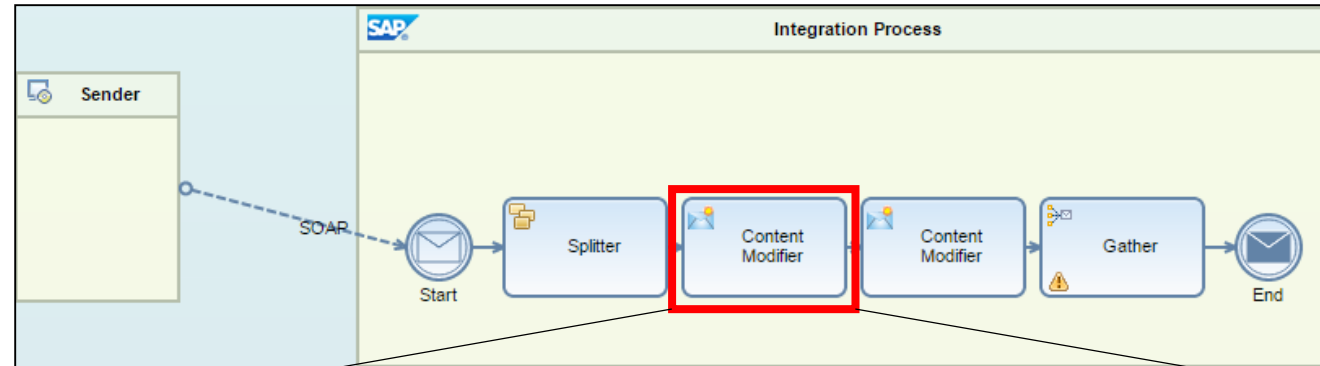
☒ Stop On Exception

Splitter/Gather – Working with Lists

Configuration of the Splitter/Gather integration flow (2)

Goals

Split a list into individual items, process items individually, and collect results for final reply message



Content Modifier

Message Header Message Body Exchange Property

Header Add

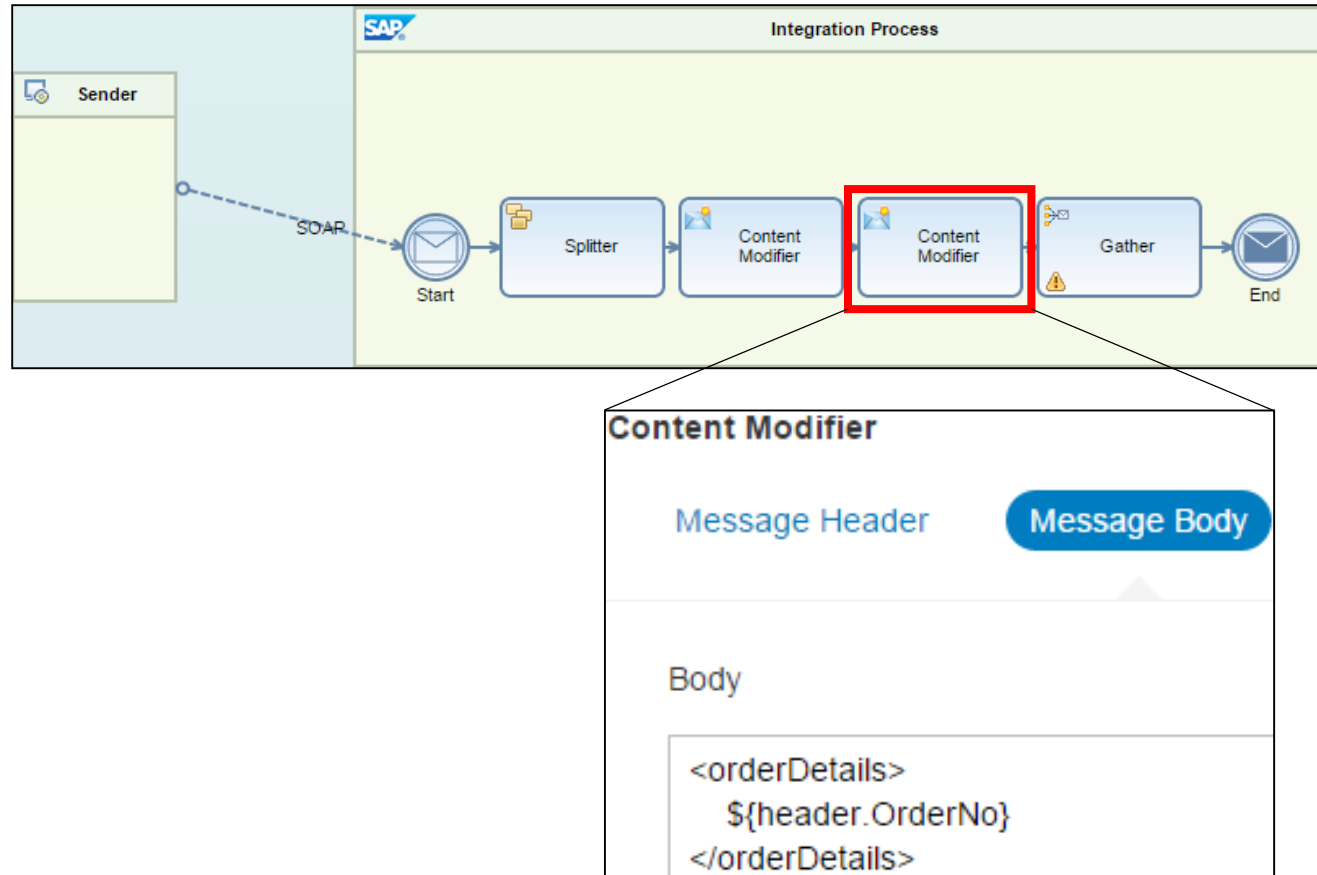
<input type="checkbox"/> Name:	Type	Value
<input type="checkbox"/> OrderNo	XPath java.lang.String	//orders/orderNumber

Splitter/Gather – Working with Lists

Configuration of the Splitter/Gather integration flow (3)

Goals

Split a list into individual items, process items individually, and collect results for final reply message

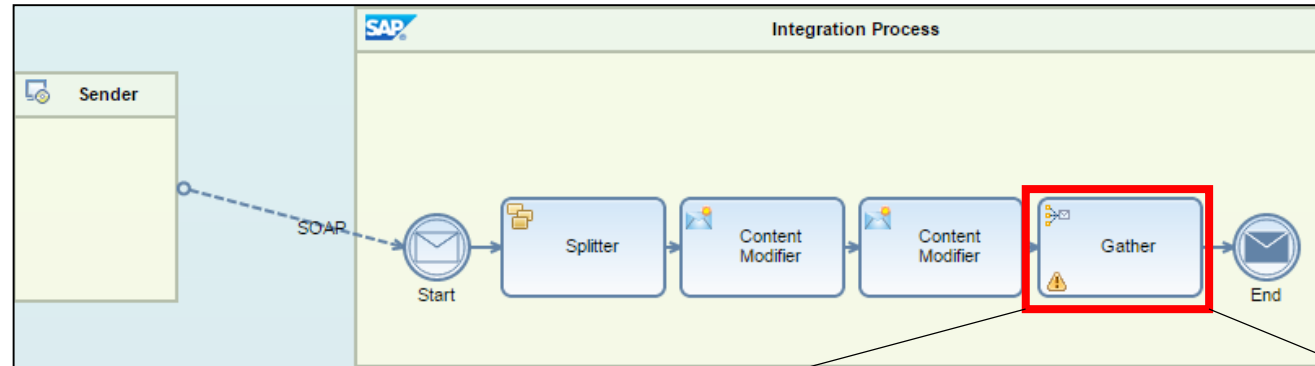


Splitter/Gather – Working with Lists

Configuration of the Splitter/Gather integration flow (4)

Goals

Split a list into individual items, process items individually, and collect results for final reply message



Gather

Define the aggregation strategy

Incoming Message Format:

XML (Same Format) ▼

Aggregation Algorithm:

Combine ▼

Splitter/Gather – Working with Lists

Enriching each item with real data (1)

Goals

Split a list into individual items, **enrich with real data**, and collect results for final reply message

Input Message

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header/>
  <soapenv:Body>
    <demo:OrderList_MT>
      <!--Zero or more repetitions:-->
      <orders>
        <orderNumber>10248</orderNumber>
        <customerName>?</customerName>
        <orderAmount>?</orderAmount>
        <currency>?</currency>
        <taxAmount>?</taxAmount>
      </orders>
      <orders>
        <orderNumber>10249</orderNumber>
        <customerName>?</customerName>
        <orderAmount>?</orderAmount>
        <currency>?</currency>
        <taxAmount>?</taxAmount>
      </orders>
      <orders>
        <orderNumber>10250</orderNumber>
        <customerName>?</customerName>
        <orderAmount>?</orderAmount>
        <currency>?</currency>
        <taxAmount>?</taxAmount>
      </orders>
    </demo:OrderList_MT>
  </soapenv:Body>
</soapenv:Envelope>
```

Output Message

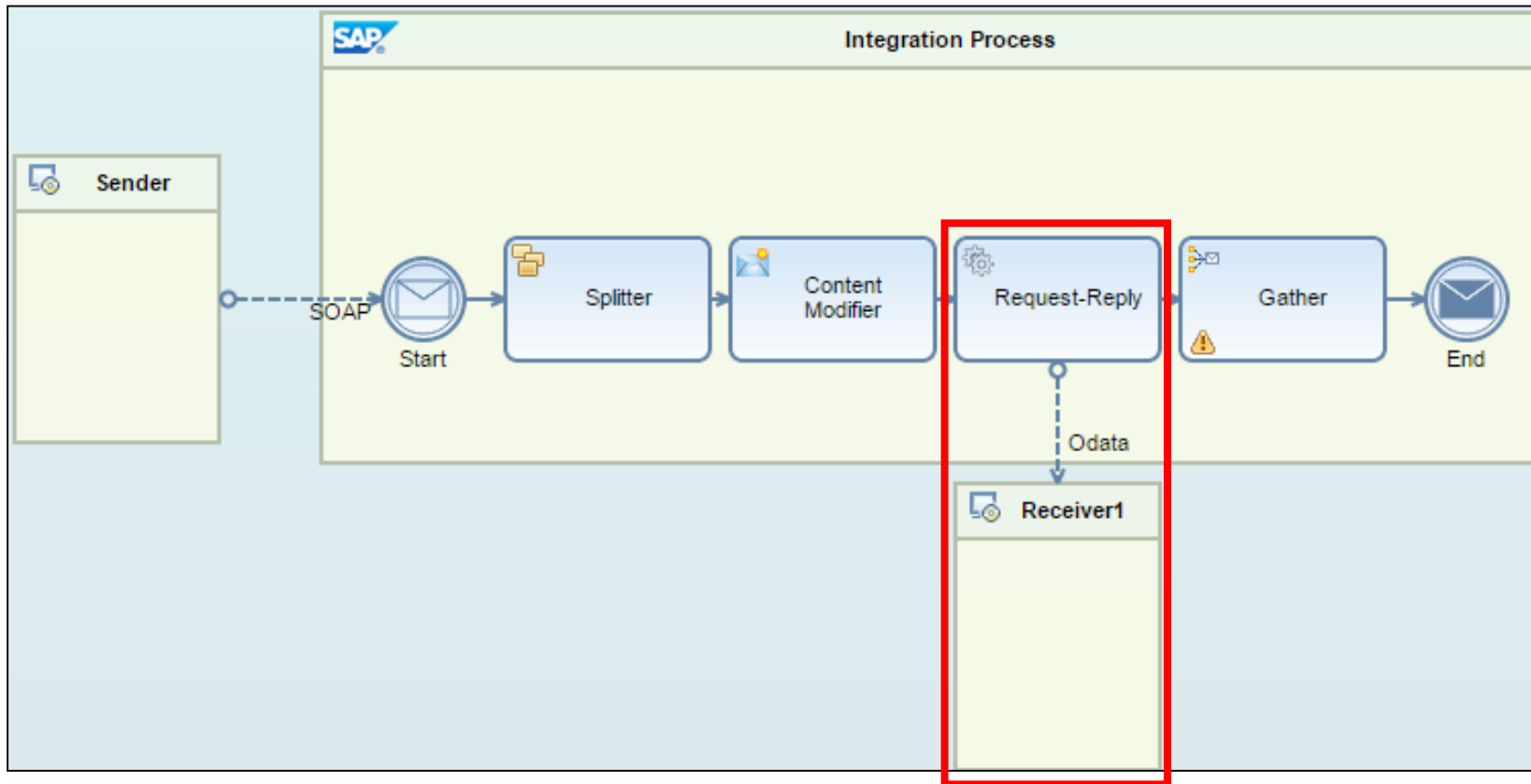
```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <multimap:Messages xmlns:multimap="http://sap.com/xi/XI/Spl...">
      <multimap:Message1>
        <Orders>
          <Order>
            <ShipPostalCode>51100</ShipPostalCode>
            <ShippedDate>1996-07-16T00:00:00</ShippedDate>
            <OrderID>10248</OrderID>
            <ShipCity>Reims</ShipCity>
            <ShipAddress>59 rue de l'Abbaye</ShipAddress>
            <ShipCountry>France</ShipCountry>
            <ShipName>Vins et alcools Chevalier</ShipName>
          </Order>
        </Orders>
        <Orders>
          <Order>
            <ShipPostalCode>44087</ShipPostalCode>
            <ShippedDate>1996-07-10T00:00:00</ShippedDate>
            <OrderID>10249</OrderID>
            <ShipCity>Münster</ShipCity>
            <ShipAddress>Luisenstr. 48</ShipAddress>
            <ShipCountry>Germany</ShipCountry>
            <ShipName>Toms Spezialitäten</ShipName>
          </Order>
        </Orders>
      </multimap:Message1>
    </multimap:Messages>
  </soap:Body>
</soap:Envelope>
```


Splitter/Gather – Working with Lists

Enriching each item with real data (2)

Goals

Split a list into individual items, **enrich with real data**, and collect results for final reply message



Splitter/Gather – Working with Lists

Demo

DEMO

Splitter/Gather –
Working with Lists



Splitter/Gather – Working with Lists

What you've learned in this unit

- How to apply list handling in your SAP HANA Cloud Integration-based scenarios
- What is necessary to configure the Splitter and Gather steps in your message processing chain correctly
- How Splitter and Gather form a pair, where all steps in-between the pair are executed for every single item (iteration over the list)
- How the Splitter/Gather pattern can be used to enrich each individual list item with data coming from an external data source





Thank you

Contact information:

open@sap.com

open**SAP**

© 2016 SAP SE or an SAP affiliate company. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries. Please see <http://global12.sap.com/corporate-en/legal/copyright/index.epx> for additional trademark information and notices.

Some software products marketed by SAP SE and its distributors contain proprietary software components of other software vendors.

National product specifications may vary.

These materials are provided by SAP SE or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP SE or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP SE or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

In particular, SAP SE or its affiliated companies have no obligation to pursue any course of business outlined in this document or any related presentation, or to develop or release any functionality mentioned therein. This document, or any related presentation, and SAP SE's or its affiliated companies' strategy and possible future developments, products, and/or platform directions and functionality are all subject to change and may be changed by SAP SE or its affiliated companies at any time for any reason without notice. The information in this document is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of their dates, and they should not be relied upon in making purchasing decisions.