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September 18, 2020 Sudarshan Patwardhan

SAP

## Exception Sub process with SOAP Sender Adapter

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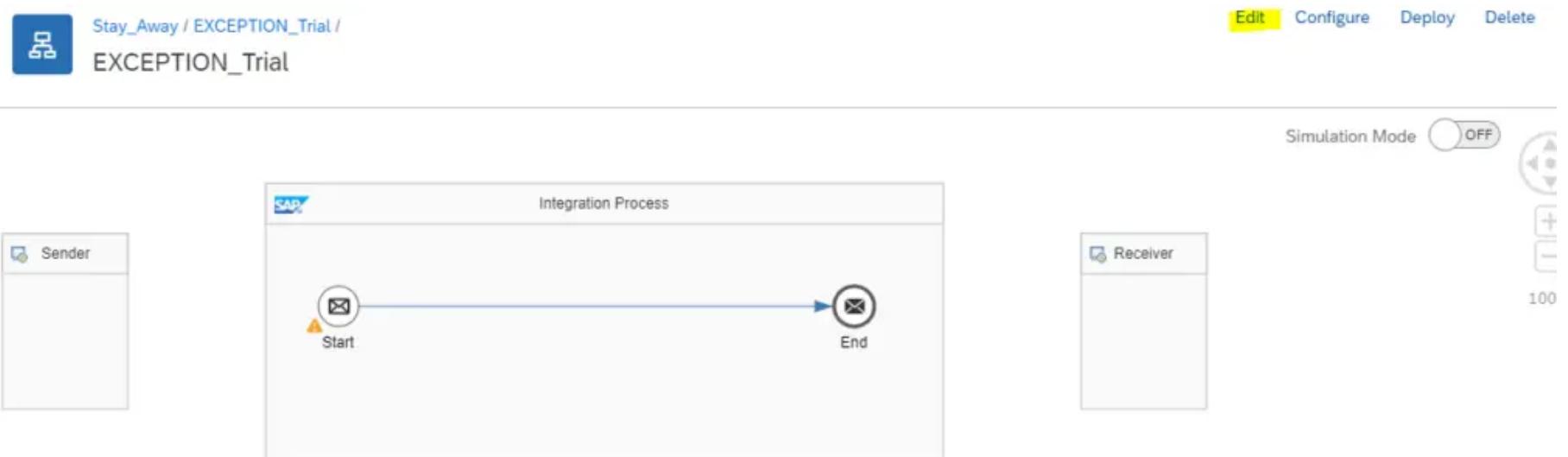
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to handle Exceptions in SAP CPI .

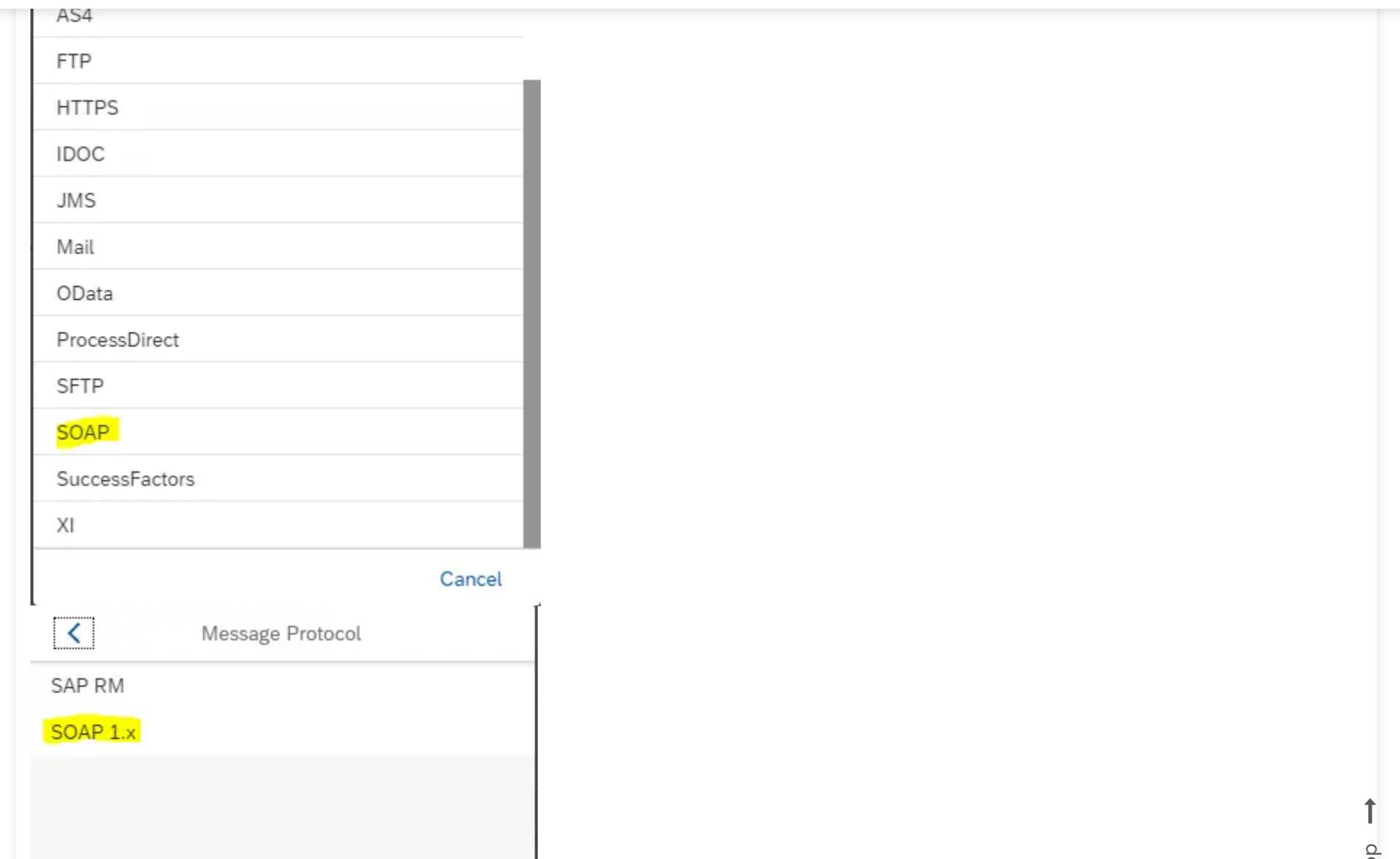
The Demo shows what happens when an Exception occurs in an Integration Flow and how it can be handled using Exception Subprocess and optionally how the error message can be sent to intended recipients using Mail Receiver adapter.

### CREATING ARTIFACT TO THROW EXCEPTION :

**Step 1:** Create an **Artifact**. Go to **Edit** mode.



**Step 2 :** Connect **Sender** to **Start** Event. From the Pop Up appearing, Choose **SOAP** → **SOAP 1.x**

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The screenshot shows a vertical list of message protocols on the left side of the SAP Integration Studio interface. The protocols listed are AS4, FTP, HTTPS, IDOC, JMS, Mail, OData, ProcessDirect, SFTP, SOAP, SuccessFactors, and XI. The 'SOAP' item is highlighted with a yellow box. Below this list is a 'Message Protocol' section containing a back arrow icon, the text 'Message Protocol', and two options: 'SAP RM' and 'SOAP 1.x'. The 'SOAP 1.x' option is also highlighted with a yellow box. At the bottom of the screen, there is a large text area with the following instructions:

**Step 3 :** Go to **Connection** tab of **SOAP Adapter** and enter any relative address. ( /Exceptions ). This is to generate end point for accessing the Integration Flow. Keep rest of the fields untouched.

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General **Connection** WS-Security Conditions

#### CONNECTION DETAILS

Address: \* **/Exceptions**

Service Definition: **Manual** ▾

Use WSDL Addressing

**Step 4 : Add a Content Modifier.** In **Message Body** tab, type as given Below.

<Result1>

`${in.property.Test}`  ---> This line should throw error as there is no such invocation available

Integration Process

</Result1>

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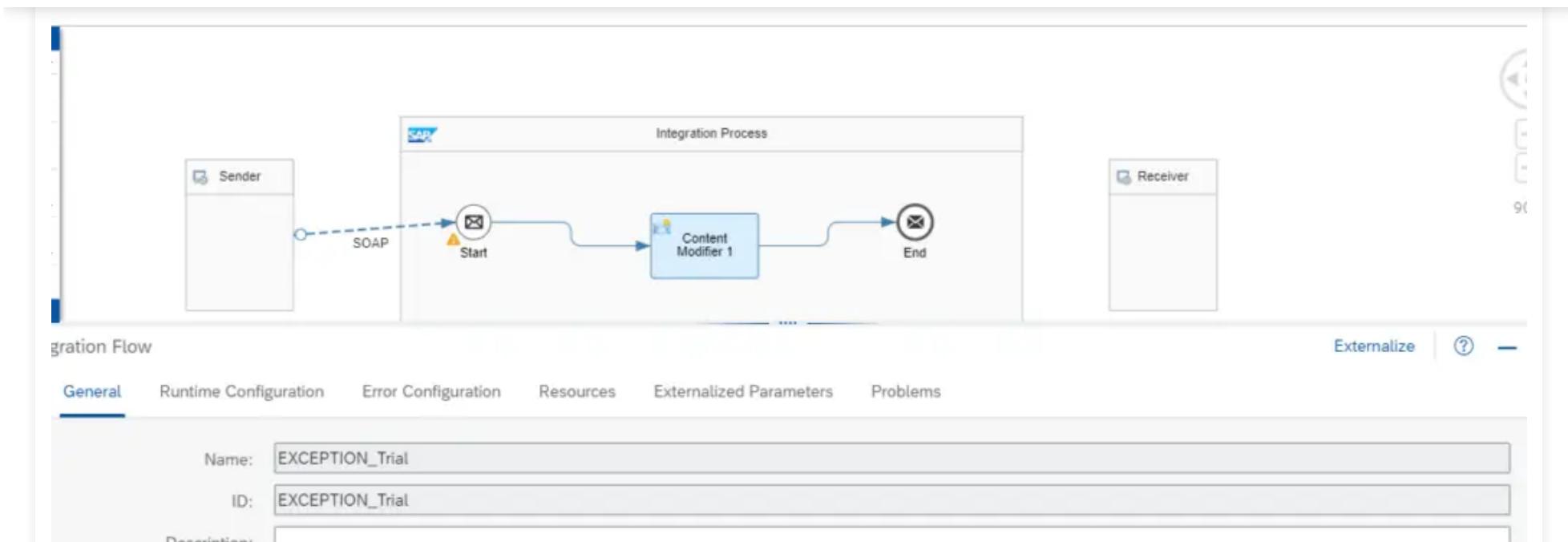
it Modifier

[General](#)   [Message Header](#)   [Exchange Property](#)   [Message Body](#)Type: [Expression](#)

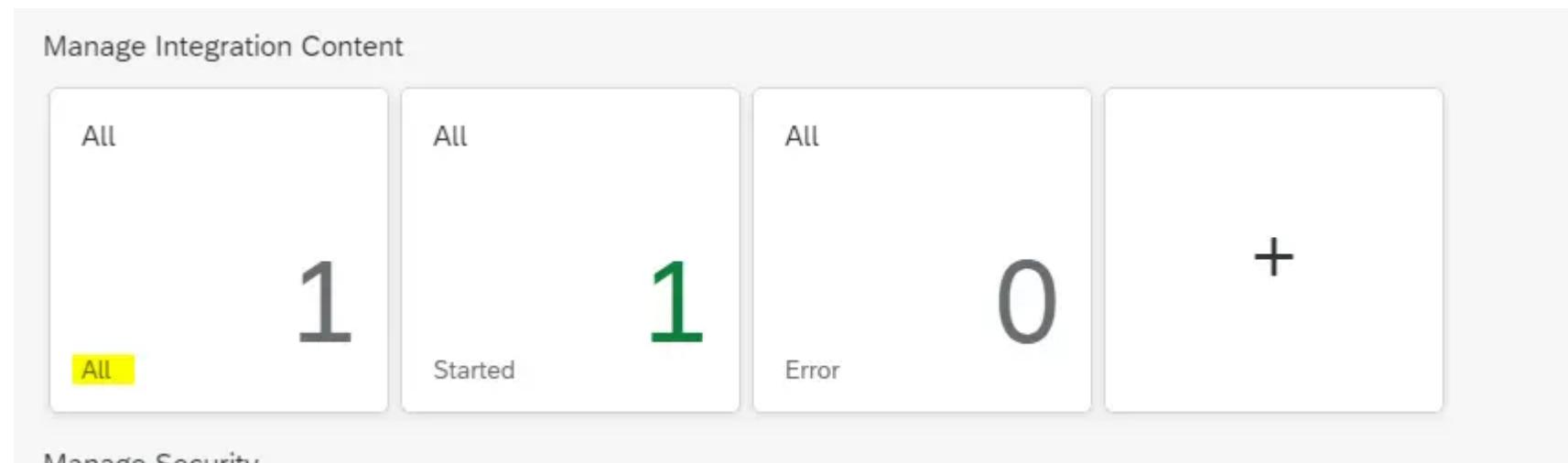
Body:

```
<Result1>
${in.property.Test}
Integration Process
</Result1>
```

**Step 5 : Save and Deploy.**

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**Step 6 :** Go to **Overview Window** and Click on **All** tile to check if your flow is started successfully.



**Step 7 :** Once it is started, Go to **Endpoints** and click on **Copy button** as highlighted in the below image.

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The screenshot shows the SAP Integration Hub interface. On the left, there's a table with columns 'Name' and 'Status'. A row for 'EXCEPTION\_Trial' is selected, showing 'Started' in the status column. To the right of the table, deployment details are listed: 'Deployed On: Sep 11, 2020, 15:30:38', 'ID: EXCEPTION\_Trial', 'Package: Stay\_Away', 'Deployed By: sudpat123123@gmail.com', and 'Version: 1.0.0'. Below this, there are tabs for 'Endpoints', 'Status Details', 'Artifact Details', and 'Log Configuration'. The 'Endpoints' tab is active, displaying the endpoint URL: [https://\[REDACTED\].trial.it-cpitrial-rt.cfapps.us10.hana.ondemand.com/cxf/Exceptions](https://[REDACTED].trial.it-cpitrial-rt.cfapps.us10.hana.ondemand.com/cxf/Exceptions). Below the URL, there are download links for 'WSDL' and 'WSDL without policies'. On the far right, there are icons for copy, edit, and delete. Below the endpoints section, there's a 'Status Details' section with a message: 'The Integration Flow is deployed successfully.'

**Step 8 :** Open Postman app.

Keep the request in **POST** mode.

Paste the Endpoint copied in **Step 7** in to **URL tab**.

In **Authorization** tab, Choose **TYPE : Basic Auth**

**Username** : Client ID

**Password** : Client Secret

Client Id and Client Secret you will get when you create Process Integration Runtime Instance during tenant setup. ( Refer **Step 34** of [this post](#) )



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A

Untitled Request

POST [https://\[REDACTED\]it-cpitrial-rt.cfapps.us10.hana.ondemand.com/cxf/Exceptions](https://[REDACTED]it-cpitrial-rt.cfapps.us10.hana.ondemand.com/cxf/Exceptions)

**Authorization** (selected) **Headers (9)** **Body** **Pre-request Script** **Tests** **Settings** **Cookies** **Code**

**TYPE**: Basic Auth

The authorization header will be automatically generated when you send the request. [Learn more about authorization](#)

**Username**: sb-bd6fb1e8-b8f0-42b1-9aeb-c99275f5e865|b12061 |it-rt-52c8cfetriallb5051

**Password**: .....  Show Password

## Response

**Step 9 :** In **Body** tab, Choose **Raw** radio Button and from types, Choose **XML**.

Paste the below sample XML code.

```
<soapenv:Envelope
    xmlns:demo="http://cpi.sap.com/demo">
    <soapenv:Header>
```

xmlNs:soapenv="http://schemas.xmlsoap.org/soap/envelope/"

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The screenshot shows a Postman request configuration for a POST method. The URL is <https://REDACTEDtrial.it-cpitrial-rt.cfapps.us10.hana.ondemand.com/cxf/Exceptions>. The 'Body' tab is selected, showing an XML payload:

```
1 <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:demo="http://cpi.sap.com/demo">
2   <soapenv:Header/>
3   <soapenv:Body>
4     <demo:Order_MT>
5       <orderNumber>1</orderNumber>
6     </demo:Order_MT>
7   </soapenv:Body>
```

**Step 10 :** Click on **SEND**. You will receive back the following *Fault* message.

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```

1 <soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
2   <soap:Header/>
3   <soap:Body>
4     <soap:Fault>
5       <faultcode>soap:Server</faultcode>
6       <faultstring>An internal error occurred. For error details check MPL ID AF9bUsxeL7-MVz4q2IZuvMPHeoDZ in message monitoring or use the URL
7         https://REDACTEDtrial.it-cpitrial.cfapps.us10.hana.ondemand.com:443/itspaces/shell/monitoring/MessageDetails/
8           %7B%22messageGuid%22%3A%22AF9bUsxeL7-MVz4q2IZuvMPHeoDZ%22%7D to directly access the error information.</faultstring>
9     </soap:Fault>
10    </soap:Body>

```

**Step 11:** Check the Message status in **Monitoring Window**. The Flow will be in **Failed** status with below shown error description.

Messages (1)	
Artifact Name	Status
EXCEPTION_Trial	Failed
Sep 11, 2020, 16:04:52	127 ms

**EXCEPTION\_Trial** Last Updated at: Sep 11, 2020, 16:04:52

**Status** Properties Logs

Processing Time: 127 ms

**Error Details**

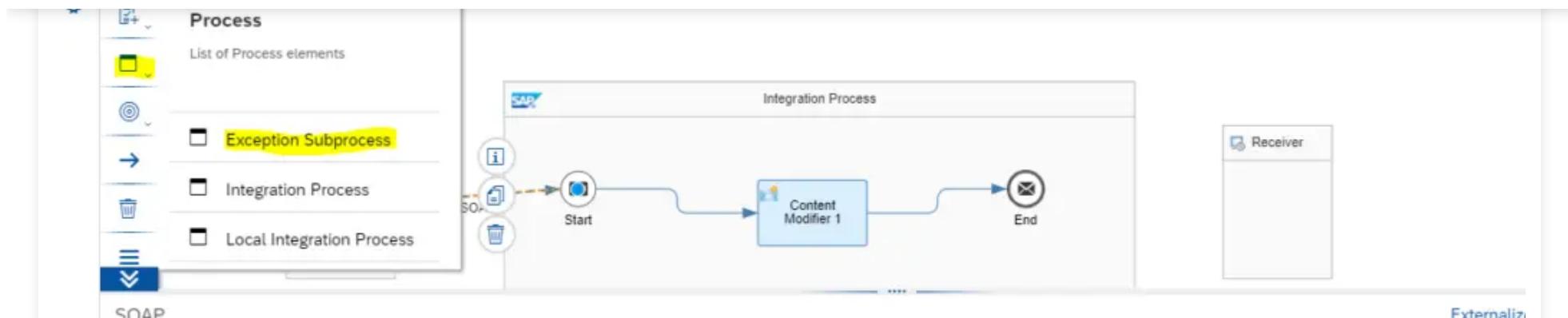
```
org.apache.camel.CamelExecutionException: Exception occurred during execution on the
exchange: Exchange[ID-72e765a5-7e97-45b6-4f7b-bbea-33809-1599764515597-10-2], cause:
org.apache.camel.language.simple.types.SimpleParserException: Unknown function:
in.property.Test
```

## EDITING ARTIFACT TO HANDLE EXCEPTION :

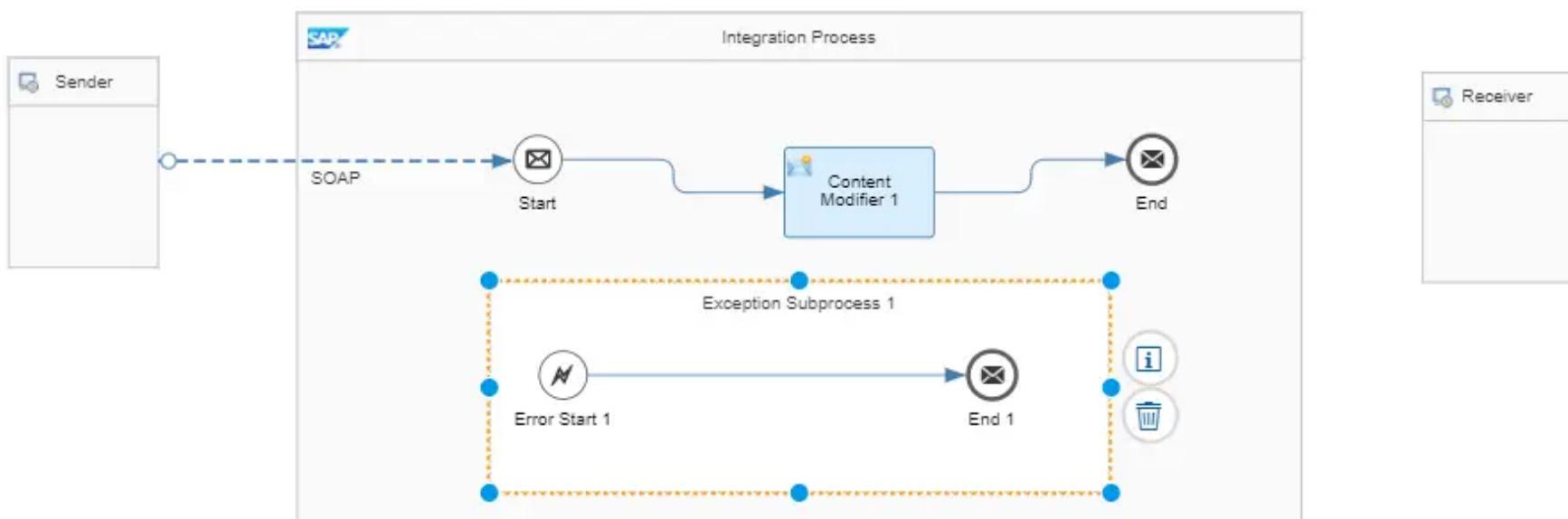
**Step 12:** Go back to the **Integration Flow**. Add an **Exception Subprocess** from the Pallet and place it inside Integration Process.



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**Step 13 :** It will Look as below.



**Step 14 :** Add a **Content Modifier** inside **Exception Subprocess**. In **Message Body** tab, Type as below.

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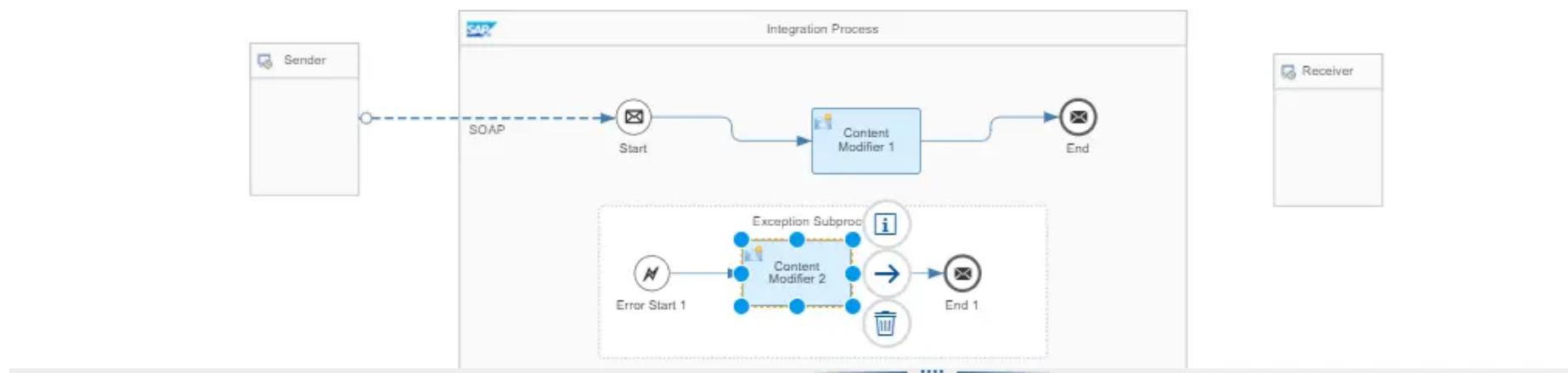
↳ exception.message ---- This time will catch error message thrown by integration process.

Exception Subprocess in Action

</Result2>



EXCEPTION\_Trial



t Modifier

General    Message Header    Exchange Property    **Message Body**

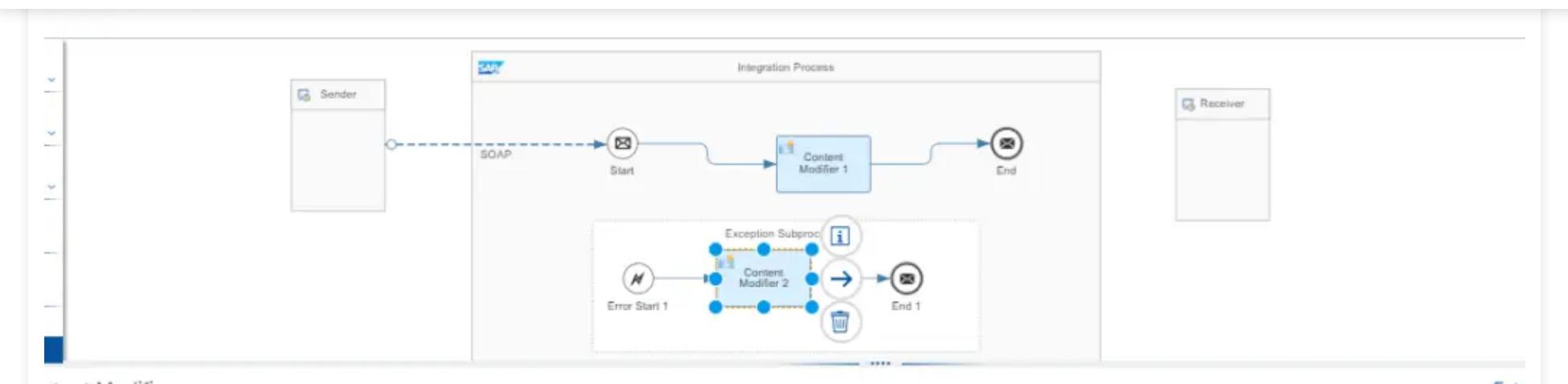
Type: Expression

Body:

```
<Result2>
${exception.message}
Exception Subprocess in Action
</Result2>
```

**Step 15: Save and Deploy.**

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**Step 16 :** Make sure that your Flow is in **Started** state again.

Integration Content (1)		Filter by Name or ID	⟳	⚙️
Name	Status			
EXCEPTION_Trial	Started			
Integration Flow				

EXCEPTION\_Trial

Deployed On: Sep 11, 2020, 16:14:27  
Deployed By: sudpat123123@gmail.com

**Step 17 :** Go back to **Postman**. The settings used earlier will still be available. Just **Click** on **Send**.

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Params Authorization Headers (10) **Body** Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL XML

```

1 <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:demo="http://cpi.sap.com/demo">
2   <soapenv:Header/>
3   <soapenv:Body>
4     <demo:Order_MT>
5       <orderNumber>1</orderNumber>

```

Body Cookies Headers (13) Test Results

Status: 500 Internal Server Error Time: 2.16 s Size: 1.04 KB Save R

**Step 18 :** You will get back the Response in Postman as below.

Body Cookies Headers (16) Test Results

Pretty Raw Preview Visualize XML

```

1 <soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
2   <soap:Header/>
3   <soap:Body>
4     <Result2>
5     Exception occurred during execution on the exchange: Exchange[ID-72e765a5-7e97-45b6-4f7b-bbea-33809-1599764515597-11-2]
6     Exception Subprocess in Action
7   </Result2>
8   </soap:Body>
9 </soap:Envelope>

```

From the Response Received, it is clear that the Exception Subprocess gives the Error as SOAP body. Where in it was included with fault message earlier.

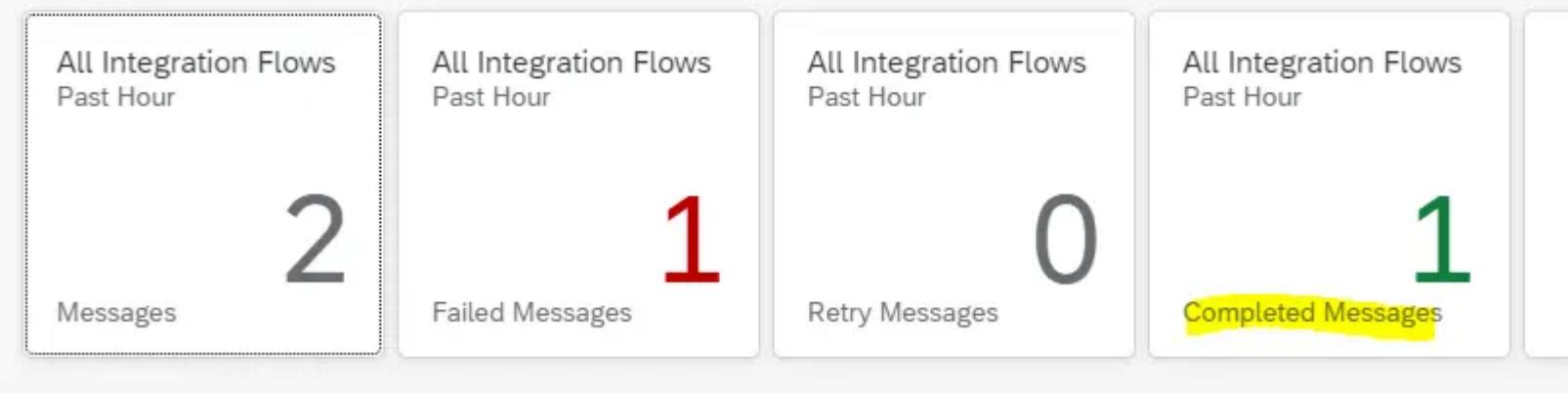
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**Step 19 :** The Integration Flow will now be in **Completed** state. This is because, we have caught and processed the exception successfully in Exception Subprocess.

#### Monitor Message Processing



Messages (1)							
				1 / 1			
Artifact Name	Status						
EXCEPTION_Trial	<b>Completed</b>						
Sep 11, 2020, 16:21:50	20 ms						

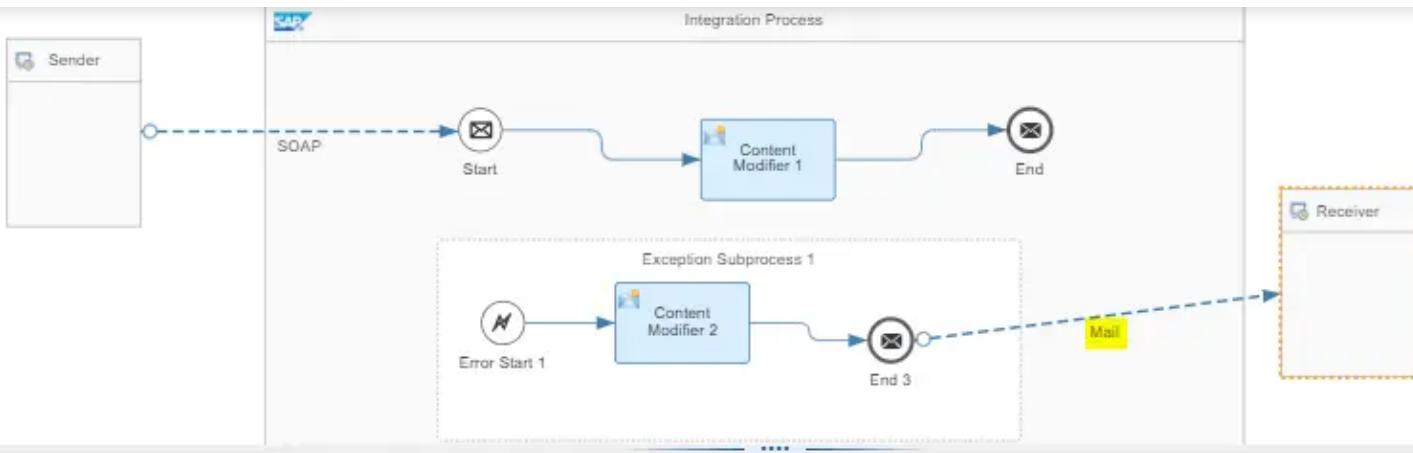
EXCEPTION\_Trial
Last Updated at: Sep 11, 2020, 16:21:50

[Status](#)
[Properties](#)
[Logs](#)

Message processing completed successfully.

**Step 20 :** You can even get the response in **Step 18** directly to your Gmail Inbox by adding **Mail Receiver Adapter** as below. Refer my [Previous](#) blog on how to configure Mail Receiver Adapter in SAP CPI to get the detailed Configuration steps.

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## FINAL VERDICT:

In conclusion, I hope you enjoyed reading this article on "**Exception Sub process with SOAP Sender Adapter**", If yes, then don't forget to spread a word about it. Do send the feedback and to know more about it. Signing off [sudarshan@recodehive.com](mailto:sudarshan@recodehive.com)

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