

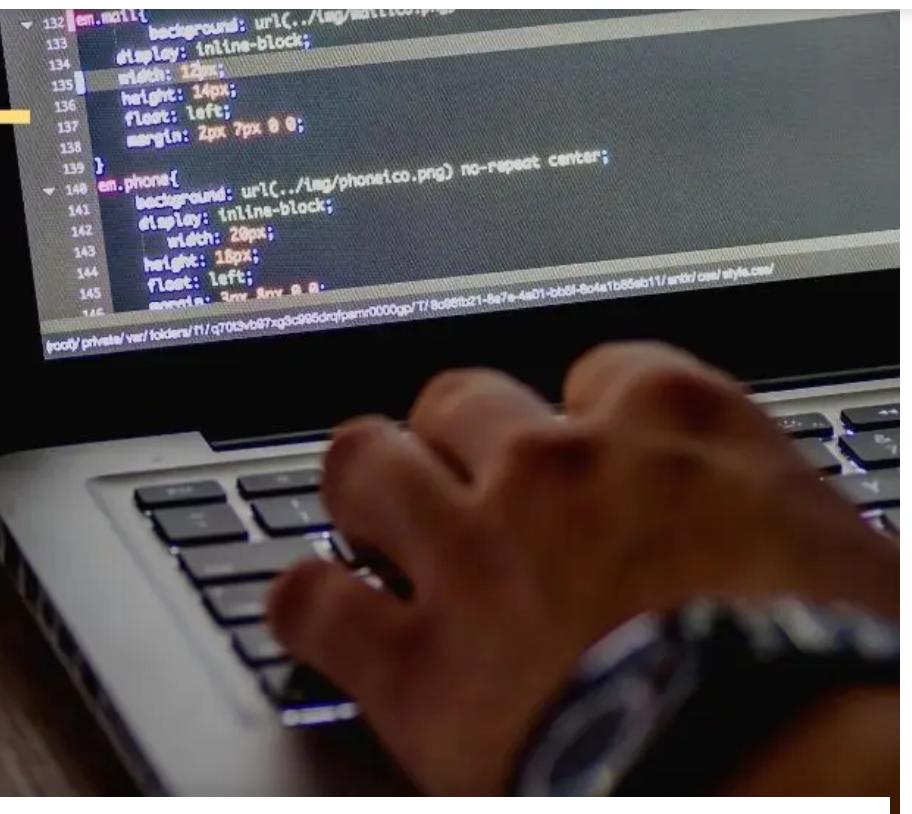
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INTEGRATION

Header Based Routing & LIP

SAP CPI



September 28, 2020 Sudarshan Patwardhan

SAP

Header based Routing & Local Integration Process

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INTRODUCTION

The article aims at demonstrating how an incoming header can be retained and used in any integration flow. In this particular demo, I have retained the incoming header named **ID** and used the header to dynamically route the message via different routes based on its value. One of the route includes calling an local integration process.

CREATING ARTIFACT

Step 1 : Create an **Artifact**

Header	Overview	Artifacts (1)	Documents	Comments	Tags	
						Add ▾
						Delete
						Actions ▾
	Name		Type	Version	Actions	
<input type="checkbox"/>	Header_Based_Routing		Integration Flow	1.0.0		
	Created					

Step 2 : Open the artifact in **edit** mode. Connect **Sender** to **start Message**. From the Pop up, Choose **HTTPS** adapter. In **Connection** tab, give any relative **address** (/HRouting). Keep rest settings untouched.

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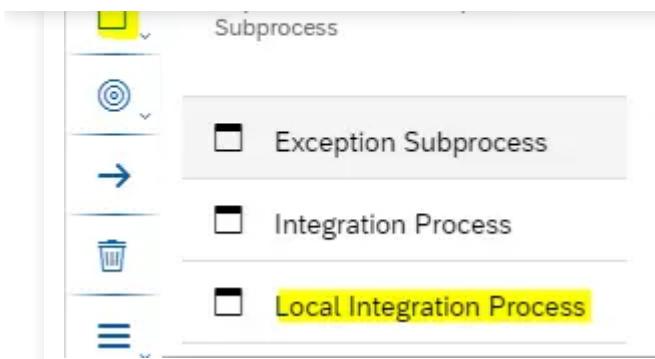
General **Connection** Conditions

HTTP PROCESSING

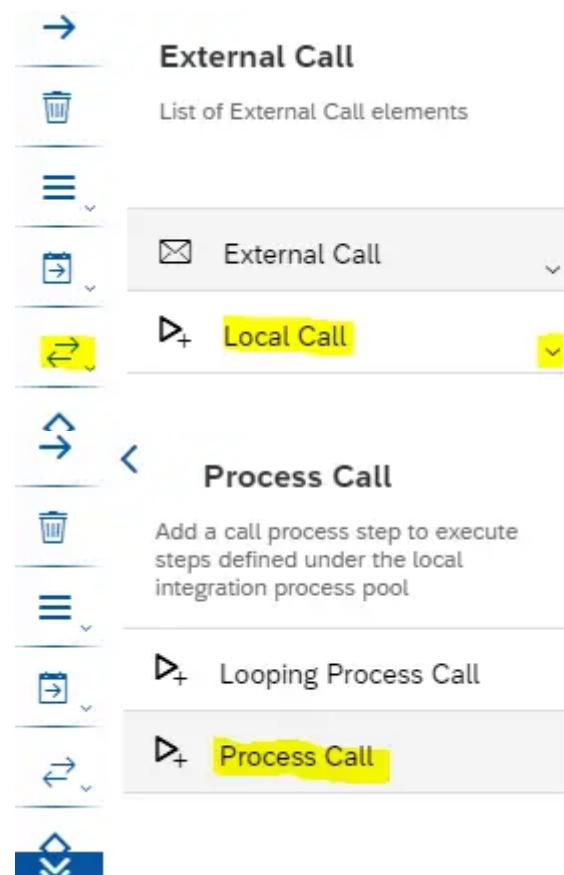
Address:*	/HRouting
Authorization:*	User Role
User Role:*	ESBMessaging.send

Step 3 : Add a Local Integration Process. This is done just to demonstrate how it can be called.

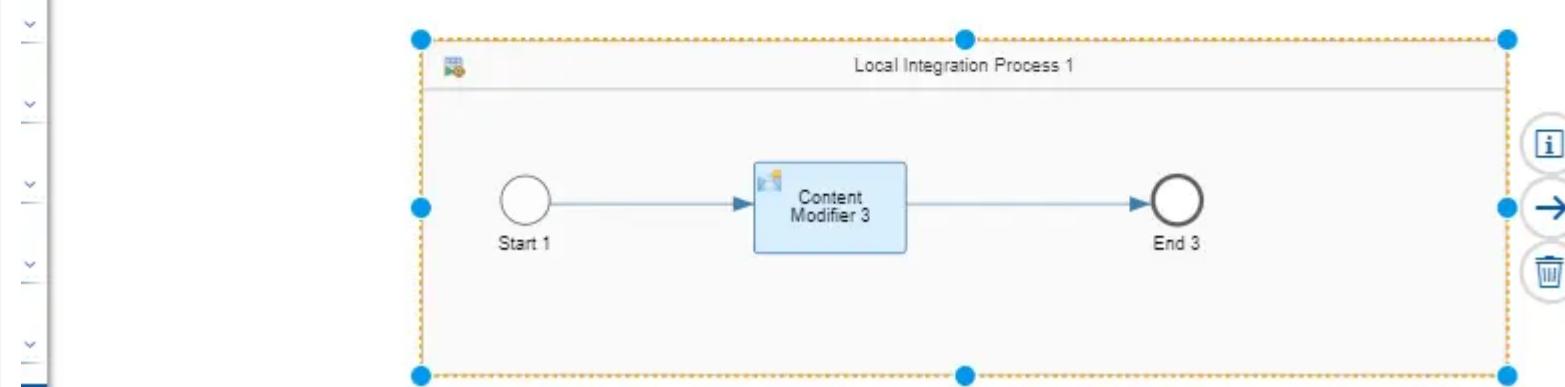
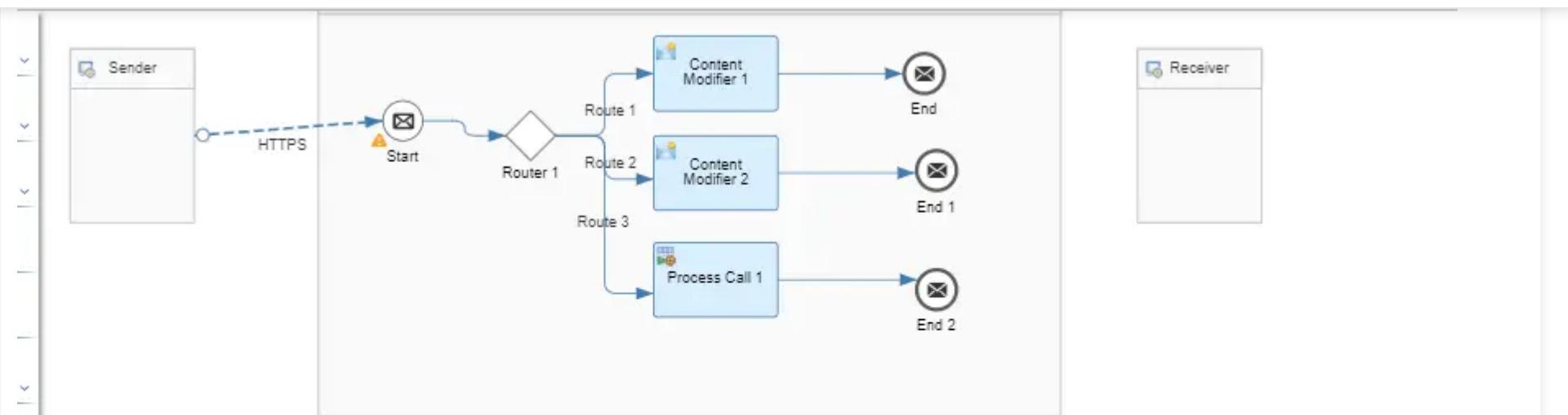
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Step 4 : Get a **local Process call** to call the Local Integration Process.



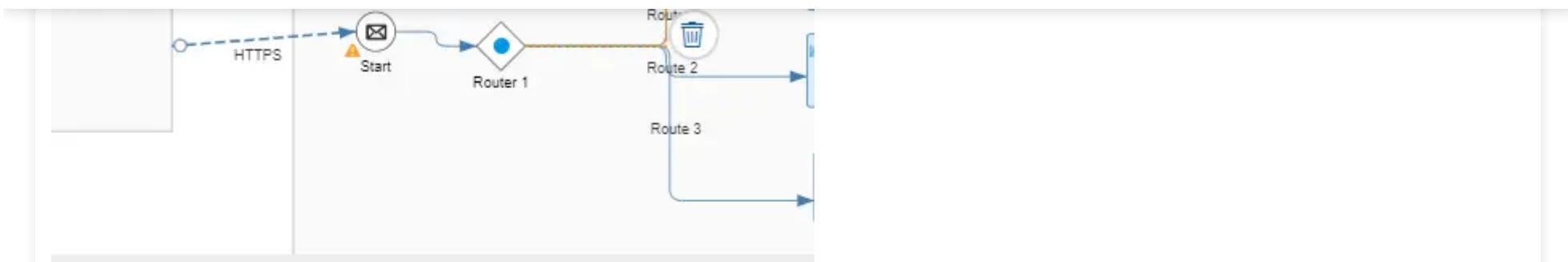
Step 5 : Collect the various Blocks required from Pallet and arrange as shown in the figure.

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Step 6 : Select Route1. In *Processing* tab, Select **Non-XML .**

Condition : \${header.ID} = '1'

This Route will be taken if the incoming Message Header has ID=1.

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General Processing

Expression Type: Non-XML

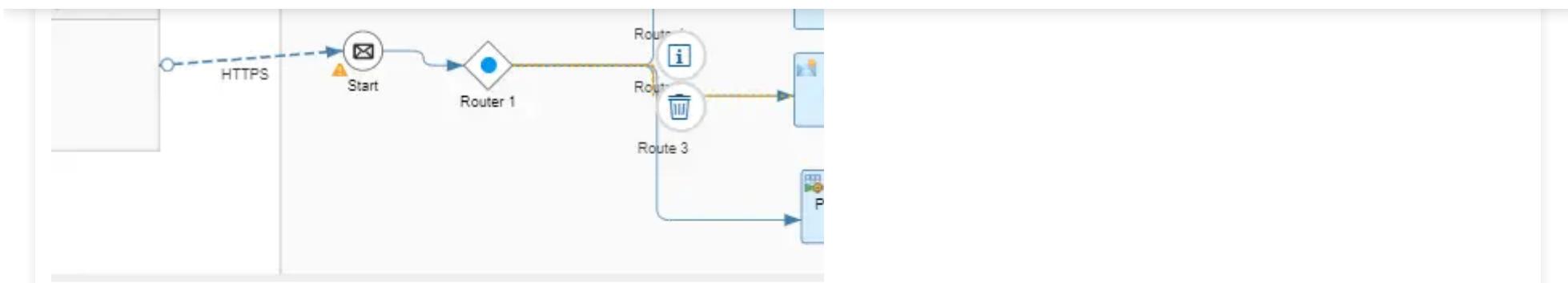
Condition: * \${header.ID} = '1'

Default Route:

Step 7: Select **Route2**. In **Processing** tab, Select **Non-XML**.

Condition : \${header.ID} = '2'

This Route will be taken if the incoming Message Header has ID=2.

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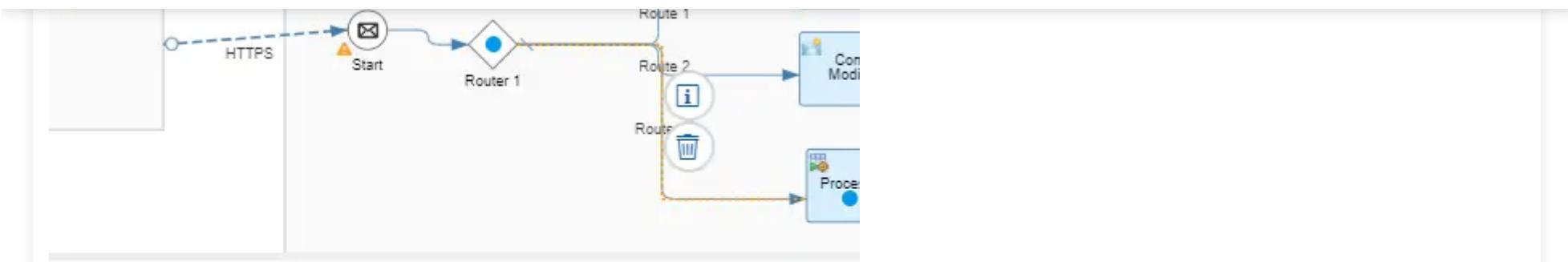
General Processing

Expression Type: Non-XML

Condition: * \${header.ID} = '2'

Default Route:

Step 8 : Select **Route3**. In **processing** tab, Check the **Default route** button so that, the message picks this route if ID in header is any value other than 1 and 2 or id ID is not present.

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General Processing

Default Route:

Step 9 : Select **Content Modifier** in **Route1**. In **Message Body** tab,

Type : Expression

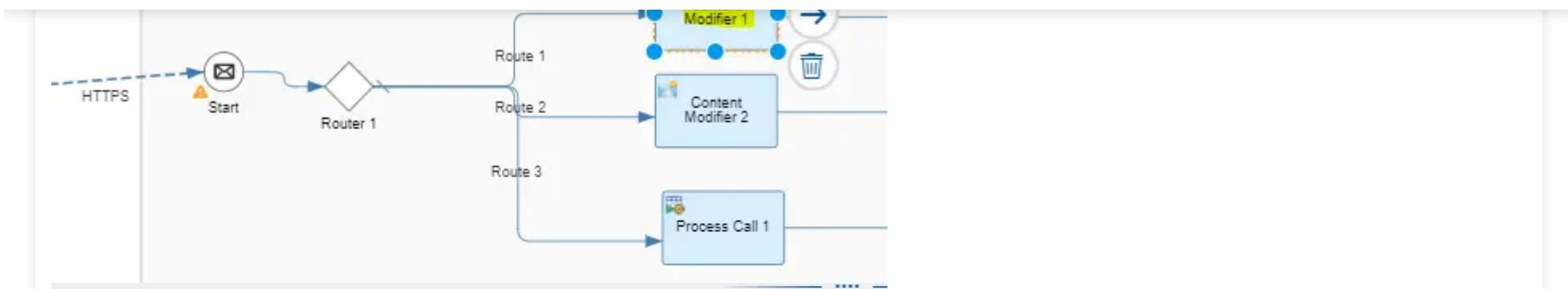
Body :

<Final>

`${in.body}`

Message via Route1 with ID=1

</Final>

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Page Header Exchange Property **Message Body**

Type:

Body:
<Final>
\${in.body}
Message via Route1 with ID=1
</Final>

Step 10 : Select Content Modifier in Route2. In Message Body tab,

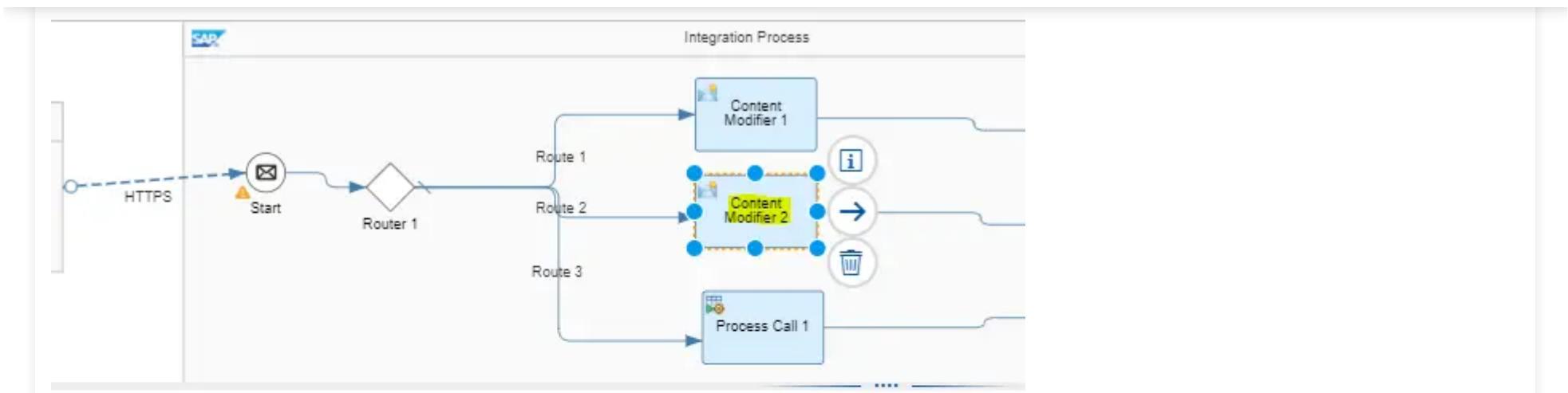
Type : Expression

Body :

<Final>

 \${in.body}

 Message via Route2 with ID=2

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

Body:
<Final>
\${in.body}
Message via Route2 with ID=2
</Final>

Step 11: Select **Process Call 1**. In **Processing** tab, Click on **Select** button.

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Step 12 : It will list the available Local integration Process. Select the one.

Step 13 : Select the **Content Modifier** inside the *Local Integration Process*.

Type : Expression

Body :

<Final>

`${in.body}`

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Step 14 : Click anywhere outside the Integration Process. In **Runtime Configuration** tab,

Allowed Header(s) : ID

This is done to retain the incoming Headers for further processing.

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Step 15 : Save and Deploy the Artifact.

Step 16 : In the **Overview Window**, make sure that the artifact is in **Started** state. Copy the Endpoint by clicking the **Copy button** highlighted below.

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TESTING THE ARTIFACT

Step 17 : Open **POSTMAN**. Create a new request with type **GET**.

Paste the Endpoint copied in previous step in URL tab.

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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Step 18 : In **Body** tab, Select **Raw** message, **XML** type. Type any custom XML message.

```
<employees>  
  <employee>  
    <firstName>John</firstName> <lastName>Doe</lastName>  
  </employee>
```

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Step 19 : Under Headers, Define a header as ID with value=1. Click on Set.

KEY : ID **VALUE: 1**

Step 20 : You will get back the Result as Below. It is evident that Message passed via **Route1**.

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Step 21 : Change the **VALUE=2** and click on **SEND**. You will get back the result as below. It is evident that Message passed via **Route2**.

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Step 22 : Change **VALUE = 5** (Any value other than 1 and 2) and click on **SEND**. You will get the Message as below. It is evident that Message passed via **default Route** and has called the **Local Integration Process**.

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TESTING USING A JSON PAYLOAD

Step 23 : Go back to the **Artifact**. Add an **JSON to XML Converter** just before the **Router**.

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Step 24 : It should look as below. **Save** and **Deploy**.

Step 25 : Make sure the Artifact is **Started** again.

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```
  "productIdIdentifier": "HT-2000"
```

```
}
```

Step 27 : Repeat the **Step 19 to Step 22**. You should get the similar Results.

REMOVING ALLOWED HEADER

Step 28 : Go back to the **artifact**. Click anywhere outside the Integration Process. **Remove ID from Allowed Headers** under **Runtime Configuration**. (Which was included in **Step 14**)



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Step 28 : Save and Deploy

Step 29 : Make sure that the Flow is **started** again.

Step 30 : Go to **POSTMAN** and **repeat Step 19 to Step 22**. Now Each time you will get the response as below. The flow will **always take Default Route** as the Incoming Headers are not retained at runtime and hence the Value in ID cannot be determined.



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In Short, the Incoming Headers are not retained to be used in the Integration Flow unless its specified in runtime Configuration tab of the Artifact.

FINAL VERDICT :

In conclusion, I hope you enjoyed reading this article on "**Header based Routing & Local Integration Process**", 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

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