**SAP Integration Suite   
Cloud Integration - Technical Specification  
 iFlow Name : SampleiFlow \_ToGenerate\_TS**

Version: 1.0

Author: Generated by AI

Date: 2025-09-09

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# 1. Change History

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Author** | **Description** |
| 1.0 | 2025-09-09 | Generated by AI | Initial version |

# 2. Overview

This technical specification document serves as a comprehensive blueprint for the SAP iFlow `SampleiFlow\_ToGenerate\_TS`. It outlines the configuration and properties of the iFlow, including communication channels, adapter settings, and processing steps. The document details the sender (HTTPS endpoint with URL path `/Sender\_Generate\_TS`) and receiver (HTTP endpoint with address `http://www.sample.com`) communication, including authentication and transport protocols. It captures key configuration parameters such as logging, session handling, and component versions. This document facilitates understanding, deployment, maintenance, and troubleshooting of the iFlow.

# 3. High level iFlow Design

The iFlow `SampleiFlow \_ToGenerate\_TS` starts with a `MessageStartEvent` and ends with a `MessageEndEvent`. The message flow first enriches the message with an `Accept` header set to `application/json` and a property called `sample\_property` with the value `1`. Then, a local Integration Process named `Call Mapping & Receiver` is called. This sub-process first maps the message from `INVOIC02` to `INVOIC96A` format via a `Message Mapping` step. Finally, the mapped message is sent to the `Receiver` system via `Request Reply`. The iFlow also contains an exception subprocess that executes a Groovy script (`script1.groovy`) upon encountering an error.

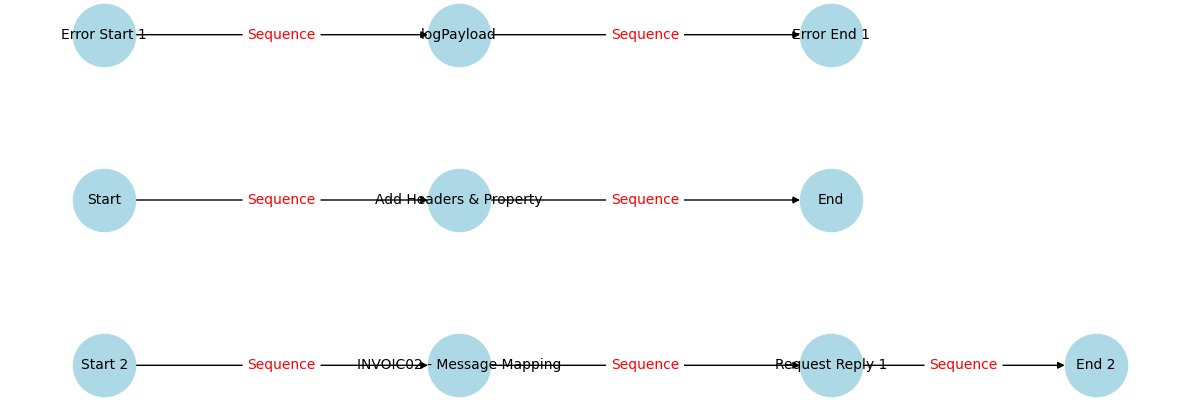


Figure: High level BPMN iFlow message and sequence flow

# 4. Message Flow

The iFlow contains two message flows: one for HTTPS sender and one for HTTP receiver. The HTTPS flow (MessageFlow\_4) uses the HTTPS adapter (version 1.5) to receive messages at the `/Sender\_Generate\_TS` endpoint from "Sender" system, requiring the `ESBMessaging.send` role. The HTTP flow (MessageFlow\_1434) uses the HTTP adapter (version 1.17) to send POST messages to "Receiver" system and to sample endpoint. It enables MPL attachments, sets a timeout of 60000ms, and throws exceptions on failure and authenticates to the service via None. The HTTP receiver allows all response headers.

|  |  |  |
| --- | --- | --- |
| **Source** | **Target** | **Name** |
| Sender | Start | HTTPS |
| Request Reply 1 | Receiver | HTTP |

# 5. Technical Description

## 5.1. Main Integration Process

The iFlow's main integration process, named "Integration Process" (Process\_1), defines a simple flow with transactional handling set to "Not Required" and a timeout of 30 seconds. It starts with a `MessageStartEvent` ("Start") that triggers a `CallActivity` named "Add Headers & Property" which is an Enricher step that sets the Accept header to "application/json" and creates a property "sample\_property" with the value of "1". Subsequently, the flow transitions to an `EndEvent` ("End") via the sequence flow. The flow also contains a SubProcess named "Exception Subprocess 1", which contains a groovy script call "logPayload" that is executed when the subprocess is triggered, outputting to an Error End Event. There is also an orphaned Process Call activity, Process Call 1, that calls process ID Process\_1425.

|  |  |  |
| --- | --- | --- |
| **Component Name** | **Key** | **Value** |
| Integration Process | Transaction Timeout | 30 |
| Integration Process | Component Version | 1.2 |
| Integration Process | Cmd Variant Uri | ctype::FlowElementVariant/cname::IntegrationProcess/version::1.2.1 |
| Integration Process | Transactional Handling | Not Required |

### subProcess Exception Subprocess 1 Properties

|  |  |
| --- | --- |
| **Key** | **Value** |
| Component Version | 1.1 |
| Activity Type | ErrorEventSubProcessTemplate |
| Cmd Variant Uri | ctype::FlowstepVariant/cname::ErrorEventSubProcessTemplate/version::1.1.0 |

### endEvent End Properties

|  |  |
| --- | --- |
| **Key** | **Value** |
| Component Version | 1.1 |
| Cmd Variant Uri | ctype::FlowstepVariant/cname::MessageEndEvent/version::1.1.0 |

### callActivity Add Headers & Property Properties

|  |  |
| --- | --- |
| **Key** | **Value** |
| Body Type | constant |
| Property Table | <row><cell id='Action'>Create</cell><cell id='Type'>constant</cell><cell id='Value'>1</cell><cell id='Default'></cell><cell id='Name'>sample\_property</cell><cell id='Datatype'></cell></row> |
| Header Table | <row><cell id='Action'>Create</cell><cell id='Type'>constant</cell><cell id='Value'>application/json</cell><cell id='Default'></cell><cell id='Name'>Accept</cell><cell id='Datatype'></cell></row> |
| Wrap Content |  |
| Component Version | 1.6 |
| Activity Type | Enricher |
| Cmd Variant Uri | ctype::FlowstepVariant/cname::Enricher/version::1.6.1 |

### startEvent Start Properties

|  |  |
| --- | --- |
| **Key** | **Value** |
| Component Version | 1.0 |
| Cmd Variant Uri | ctype::FlowstepVariant/cname::MessageStartEvent/version::1.0 |

### callActivity Process Call 1 Properties

|  |  |
| --- | --- |
| **Key** | **Value** |
| Process Id | Process\_1425 |
| Component Version | 1.0 |
| Activity Type | ProcessCallElement |
| Cmd Variant Uri | ctype::FlowstepVariant/cname::NonLoopingProcess/version::1.0.4 |
| Sub Activity Type | NonLoopingProcess |

## 5.2. Local Integration Process

The main integration process `Process\_1` named "Call Mapping & Receiver" is a direct call process with a transaction timeout of 30 seconds. It begins with a `StartEvent`, followed by a `CallActivity` executing the `INVOIC\_INVOIC02\_to\_INVOIC96A` message mapping. Next, a `ServiceTask` named "Request Reply 1" performs an external call. The process then concludes with an `EndEvent`.

|  |  |  |
| --- | --- | --- |
| **Component Name** | **Key** | **Value** |
| Call Mapping & Receiver | Transaction Timeout | 30 |
| Call Mapping & Receiver | Process Type | directCall |
| Call Mapping & Receiver | Component Version | 1.1 |
| Call Mapping & Receiver | Cmd Variant Uri | ctype::FlowElementVariant/cname::LocalIntegrationProcess/version::1.1.3 |
| Call Mapping & Receiver | Transactional Handling | From Calling Process |

### serviceTask Request Reply 1 Properties

|  |  |
| --- | --- |
| **Key** | **Value** |
| Component Version | 1.0 |
| Activity Type | ExternalCall |
| Cmd Variant Uri | ctype::FlowstepVariant/cname::ExternalCall/version::1.0.4 |

### endEvent End 2 Properties

|  |  |
| --- | --- |
| **Key** | **Value** |
| Cmd Variant Uri | ctype::FlowstepVariant/cname::EndEvent |
| Activity Type | EndEvent |

### startEvent Start 2 Properties

|  |  |
| --- | --- |
| **Key** | **Value** |
| Cmd Variant Uri | ctype::FlowstepVariant/cname::StartEvent |
| Activity Type | StartEvent |

### callActivity INVOIC02 - Message Mapping Properties

|  |  |
| --- | --- |
| **Key** | **Value** |
| Mappinguri | dir://mmap/src/main/resources/mapping/INVOIC\_INVOIC02\_to\_INVOIC96A.mmap |
| Mappingname | INVOIC\_INVOIC02\_to\_INVOIC96A |
| Mapping Source Value |  |
| Mapping Type | MessageMapping |
| Mapping Reference | static |
| Mappingpath | src/main/resources/mapping/INVOIC\_INVOIC02\_to\_INVOIC96A |
| Component Version | 1.3 |
| Activity Type | Mapping |
| Cmd Variant Uri | ctype::FlowstepVariant/cname::MessageMapping/version::1.3.1 |
| Message Mapping Bundle Id | INVOIC\_INVOIC02\_to\_INVOIC96A |

## 5.3. Sender

The iFlow sender is an external system ("Component S W C V Name: external") identified as "Sender" that communicates via HTTPS protocol. It utilizes RoleBased authentication, requiring the "ESBMessaging.send" role for sending messages. The endpoint exposes the URL path `/Sender\_Generate\_TS`. It accepts messages with a maximum body size of 40 (presumably KB or MB depending on the system configuration; unit unspecified). XSRF protection is enabled, and no client certificates are configured.

|  |  |
| --- | --- |
| **Key** | **Value** |
| Component Type | HTTPS |
| Description |  |
| Maximum Body Size | 40 |
| Component N S | sap |
| Component Version | 1.5 |
| Url Path | /Sender\_Generate\_TS |
| Name | HTTPS |
| Transport Protocol Version | 1.5.2 |
| Component S W C V Name | external |
| System | Sender |
| Xsrf Protection | 1 |
| Transport Protocol | HTTPS |
| Cmd Variant Uri | ctype::AdapterVariant/cname::sap:HTTPS/tp::HTTPS/mp::None/direction::Sender/version::1.5.2 |
| User Role | ESBMessaging.send |
| Sender Auth Type | RoleBased |
| Message Protocol | None |
| Message Protocol Version | 1.5.2 |
| Component S W C V Id | 1.5.2 |
| Direction | Sender |
| Client Certificates |  |

## 5.4. Receiver

The receiver channel in this SAP iFlow utilizes the `sap:HTTP` adapter, version `1.17`, to send messages to an external HTTP endpoint. The receiver will POST data to `http://www.sample.com` with a timeout of 60 seconds, and the receiver does not send the Body. MPL attachments are enabled, and exceptions are thrown on failure. The configuration specifies no authentication, retry mechanisms for connection failures, or proxy settings.

|  |  |
| --- | --- |
| **Key** | **Value** |
| Description |  |
| Method Source Expression |  |
| Api Artifact Type |  |
| Provider Auth |  |
| Component N S | sap |
| Private Key Alias |  |
| Http Method | POST |
| Allowed Response Headers | \* |
| Name | HTTP |
| Internet Proxy Type |  |
| Transport Protocol Version | 1.17.0 |
| Component S W C V Name | external |
| Proxy Port |  |
| Streaming | false |
| Enable M P L Attachments | true |
| Http Address Query |  |
| Http Request Timeout | 60000 |
| Message Protocol | None |
| Component S W C V Id | 1.17.0 |
| Provider Name |  |
| Allowed Request Headers |  |
| Direction | Receiver |
| Component Type | HTTP |
| Http Should Send Body | false |
| Throw Exception On Failure | true |
| Proxy Type | default |
| Component Version | 1.17 |
| Retry Iteration | 1 |
| Proxy Host |  |
| Provider Url |  |
| Retry On Connection Failure | false |
| System | Receiver |
| Authentication Method | None |
| Location I D |  |
| Retry Interval | 5 |
| Transport Protocol | HTTP |
| Cmd Variant Uri | ctype::AdapterVariant/cname::sap:HTTP/tp::HTTP/mp::None/direction::Receiver/version::1.17.0 |
| Credential Name |  |
| Http Error Response Codes |  |
| Message Protocol Version | 1.17.0 |
| Http Address Without Query | http://www.sample.com |
| Provider Relative Url |  |

## 5.5. Mappings

The `Mappings` section of the SAP iFlow defines a single `MappingActivity` with ID 1. This activity executes a Message Mapping named "INVOIC\_INVOIC02\_to\_INVOIC96A," located at `dir://mmap/src/main/resources/mapping/INVOIC\_INVOIC02\_to\_INVOIC96A.mmap`. The mapping type is specified as "MessageMapping", indicating a transformation between different message structures. The `mappingReference` is "static", implying the mapping definition is pre-defined and embedded. The component version used for the mapping is 1.3, and the flowstep variant is "MessageMapping" version 1.3.1.

### Mapping Activity 1 Properties

|  |  |
| --- | --- |
| **Key** | **Value** |
| mappinguri | dir://mmap/src/main/resources/mapping/INVOIC\_INVOIC02\_to\_INVOIC96A.mmap |
| mappingname | INVOIC\_INVOIC02\_to\_INVOIC96A |
| mappingSourceValue |  |
| mappingType | MessageMapping |
| mappingReference | static |
| mappingpath | src/main/resources/mapping/INVOIC\_INVOIC02\_to\_INVOIC96A |
| componentVersion | 1.3 |
| activityType | Mapping |
| cmdVariantUri | ctype::FlowstepVariant/cname::MessageMapping/version::1.3.1 |
| messageMappingBundleId | INVOIC\_INVOIC02\_to\_INVOIC96A |

## 5.6. Security

The iFlow's security configuration includes disabled CORS, no session handling, and logging of all events. The sender uses an HTTPS adapter requiring user role `ESBMessaging.send` with role-based authentication and XSRF protection enabled, but basic authentication is disabled. The receiver uses an HTTP adapter configured to use POST requests to the URL "http://www.sample.com", throwing exceptions on failure with a timeout of 60 seconds, and does not retry on connection failures. HTTP requests are configured for a single retry after 5 seconds with MPL attachments enabled and authentication set to 'None'.

|  |  |
| --- | --- |
| **Key** | **Value** |
| Namespace Mapping |  |
| Http Session Handling | None |
| Access Control Max Age |  |
| Return Exception To Sender | false |
| Log | All events |
| Cors Enabled | false |
| Exposed Headers |  |
| Component Version | 1.2 |
| Allowed Header List |  |
| Server Trace | false |
| Allowed Origins |  |
| Access Control Allow Credentials | false |
| Allowed Headers |  |
| Allowed Methods |  |
| Cmd Variant Uri | ctype::IFlowVariant/cname::IFlowConfiguration/version::1.2.4 |

## 5.7. Groovy Scripts

The iFlow "SampleiFlow\_ToGenerate\_TS" utilizes Groovy scripting within an Error Event Subprocess named "Exception Subprocess 1". Specifically, a "CallActivity" named "logPayload" executes the Groovy script located in the resource `script1.groovy`. This script is invoked after the "Error Start 1" event and before the "Error End 1" event within the error subprocess. This suggests the script is used to handle or log errors during the iFlow execution. The "logPayload" step is configured as a Groovy Script flowstep with component version 1.1.

### Script: script1.groovy

The Groovy script `script1.groovy` in the SAP iFlow serves as a simple payload logging mechanism. It retrieves the message body as a String, then attempts to create a message log using `messageLogFactory`. If a message log is successfully obtained, it adds the original message body as a plain text attachment labeled "Log current Payload:". Finally, the script returns the original message unchanged, effectively acting as a non-transforming payload interceptor for logging purposes. The script's primary purpose is to persist a copy of the payload for debugging and auditing within the iFlow.

import com.sap.gateway.ip.core.customdev.util.Message  
import java.util.HashMap  
  
def Message processData(Message message) {  
  
 def body = message.getBody(java.lang.String) as String  
 def messageLog = messageLogFactory.getMessageLog(message)  
 if(messageLog != null)  
  
 {  
 messageLog.addAttachmentAsString("Log current Payload:", body, "text/plain")  
 }  
  
 return message  
  
  
}

## 5.8. Error Handling & Logging

The iFlow's error handling is implemented using an Error Event Sub-Process. This sub-process, identified by id "1", is triggered when an error occurs. Within this error sub-process, a Groovy script named "script1.groovy" is executed via a Script activity named "logPayload." This script is intended for logging details when an exception is raised. The specific logging mechanisms within "script1.groovy" are not defined by this XML fragment. The error handling mechanism leverages a pre-built "ErrorEventSubProcessTemplate" for consistent error management.

### Exception SubProcess 1 Properties

|  |  |
| --- | --- |
| **Key** | **Value** |
| componentVersion | 1.1 |
| activityType | ErrorEventSubProcessTemplate |
| cmdVariantUri | ctype::FlowstepVariant/cname::ErrorEventSubProcessTemplate/version::1.1.0 |

#### Child Element: callActivity logPayload

|  |  |
| --- | --- |
| **Key** | **Value** |
| scriptFunction |  |
| scriptBundleId |  |
| componentVersion | 1.1 |
| activityType | Script |
| cmdVariantUri | ctype::FlowstepVariant/cname::GroovyScript/version::1.1.2 |
| subActivityType | GroovyScript |
| script | script1.groovy |

# 6. Version and Metadata

|  |  |
| --- | --- |
| **Key** | **Value** |
| componentVersion | 1.3 |
| ComponentNS | sap |
| ComponentSWCVName | external |
| ComponentSWCVId | 1.17.0 |

This SAP iFlow has a component version of 1.3, belonging to the "sap" namespace. It is part of the Software Component Version (SWCV) named "external". The specific SWCV ID associated with this iFlow is 1.17.0. This metadata indicates the version of the underlying integration components and runtime that the iFlow is designed to interact with. The SWCV name and ID provide crucial information for dependency management and ensuring compatibility within the SAP integration landscape. These identifiers are essential for tracking changes and updates related to the integration content.

# 7. Appendix

This iFlow consists of two integration processes: "Integration Process" (Process\_1) and "Call Mapping & Receiver" (Process\_1425). "Integration Process" contains an exception subprocess with a Groovy script, `script1.groovy`, for logging payloads during error handling. It also uses a Content Modifier called "Add Headers & Property" to set a header ("Accept") and a property ("sample\_property"). "Call Mapping & Receiver" leverages a message mapping, `INVOIC\_INVOIC02\_to\_INVOIC96A.mmap`, to transform data. It then utilizes a Request Reply step for external communication.

|  |  |
| --- | --- |
| **Key** | **Value** |
| mappinguri | dir://mmap/src/main/resources/mapping/INVOIC\_INVOIC02\_to\_INVOIC96A.mmap |
| mappingname | INVOIC\_INVOIC02\_to\_INVOIC96A |
| mappingType | MessageMapping |
| mappingReference | static |
| mappingpath | src/main/resources/mapping/INVOIC\_INVOIC02\_to\_INVOIC96A |