



Configuration Guideline v1.0 14/06/2023

# b+dgtal Observability for SAP Integration Suite



# Index

<b>Configuration Guideline v1.0 14/06/2023</b> .....	<b>1</b>
<b>About Avvale</b> .....	<b>3</b>
<b>Introduction</b> .....	<b>5</b>
Monitoring Adapter for SAP Integration Suite Cloud Integration .....	5
Monitoring Adapter for SAP Process Orchestration.....	5
<b>Installation and configuration</b> .....	<b>6</b>
Package Description .....	6
Package Content .....	6
Configuration for SAP Integration Suite Cloud Integration Monitoring .....	7
Requirements .....	7
SAP Integration Suite User .....	7
Configuration of integration flows .....	10
Adapter Properties configurations .....	10
Data recovered from Adapter .....	15
Template Description ELK .....	19
Template Description SPLUNK .....	21
Splunk steps .....	23
ELK steps .....	23
Configuration for SAP Process Orchestration Monitoring.....	24
Requirements .....	24
SAP Integration Suite User .....	24
Configuration of integration flows .....	24
Adapter Properties configurations .....	24
SAP Cloud Connector .....	30
Data recovered from Adapter .....	31
Template Description ELK .....	39
Template Description SPLUNK .....	41
Splunk steps .....	43
ELK steps .....	43



## About Avvale

### **Circularity is the agent for advancement**

We are shaping a future where companies can actively choose to be sustainable and profitable, where technology opens limitless possibilities for new ways of doing business: more connected, more purposeful, more circular. Simply put, we believe that technology is the force multiplier for a better future. One that the planet and its people deserve.

**Avvale** is a global consultancy, an evolution of Techedge and NIMBL. We integrate a range of digital competencies, orchestrated under a common vision: accelerate our client's digital transformation so they can thrive - today and tomorrow.

### **Redefining what's possible**

Every day, about 3,000 Avvale professionals skillfully guide our clients to embrace digital transformation. Along their journey, we help our clients modernize core technologies, capitalize on data and artificial intelligence, hyper-automate their processes and operations, create digital value-added services, and design engaging customer and employee experiences.

### **Your company, made circular**

The take-make-dispose model is wasting our world away. Together, we can fight back in a more connected, purposeful, and circular economy: One that is essentially sustainable and profitable. Reimagine the building blocks of your business model and the fabric of their relationship with consumers to create profound opportunities for growth.

### **The Avvale Advantage**

The Latin origin to english translation of Avvale [ah-vaa-lay] is to avail, to help. As a company we exist to create value for our clients, leveraging technology as a force multiplier. Avvale establishes the connection, finesse, and visibility today for a circular tomorrow. We offer our clients the scalability and geographic coverage of a global provider, the commitment and flexibility of a local partner, and the focus of a strategic, trusted advisor. That's the Avvale Advantage.

### **Sustainability is theoretical until we take circular action**



The journey towards circularity is unique as your individual business. Diverse avenues of action lead to a singular goal: create sustainable change to heal the planet and drive new revenue streams.

We blend technology expertise, business advisory competencies, creativity, and an agile approach to create a more responsible, sustainable, and profitable version of your business – ensuring innovation is truly built around people. Circularity is the engine that achieves true sustainability. Our competencies are shaped around governance and innovation, to guide you towards circularity in a measurable and accountable way.

The Latin origin to english translation of Avvale [ah-vaa-lay] is to avail, to help. As a company we exist to create value for our clients, leveraging technology as a force multiplier. Avvale establishes the connection, finesse, and visibility today for a circular tomorrow. We offer our clients the scalability and geographic coverage of a global provider, the commitment and flexibility of a local partner, and the focus of a strategic, trusted advisor. That's the Avvale Advantage.

### **Circularity is a profitable business model built to flourish in the future**

Manufacturers are expanding by connecting their products to the cloud and creating value-added services for their clients - developing business models that promote sharing, repairing, and recirculating products. The as-a-service model is redefining the relationship between brands and clients - transforming transactional buyers into loyal advocates of the most responsible and sustainable brands.



## Introduction

**Avvale b+dgital Observability for SAP Integration Suite** accommodate the challenges regarding SAP Integration Suite due to a lack of an integrated view of integration scenarios & automated reporting for SAP Integration Suite and SAP Process Orchestration as well as try to improve integration governance by means of optimization on incident response time: faster incident resolution & small operation teams driven by automatization.

This solution allows IT Managers to have a clear and a global vision of SAP Integration Suite and Process Orchestration, automate error reports and measure the evolution of the integration platform improving operation efforts, detecting errors before they become an issue and controlinh the platform based on historical data.

## Monitoring Adapter for SAP Integration Suite Cloud Integration

The **Monitoring Adapter for SAP Integration Suite Cloud Integration** is a custom adapter intended to collect, aggregate and load configuration and runtime information of SAP Integration Suite Cloud Integration into different visualization systems, providing out of the box integrations and visualization options, including useful dashboards and charts. It collects this information from the previous day until current time, having an evolution of integration scenarios during the day.

Via SAP Integration Suite APIs recovers information about iflow executions, artifacts status and certificates status from previous day at a fixed time until the moment of the adapter is launched. It allows to have the current status of the integration platform and have historical data to evaluate the evolution of the integration scenarios in the platform.

## Monitoring Adapter for SAP Process Orchestration

The **Monitoring Adapter for SAP PO** is a custom adapter intended to collect, aggregate and load configuration and runtime information of SAP Process Orchestration into different visualization systems, providing out of the box integrations and visualization options, including useful dashboards and charts.

Via SAP PO Web Services and OData recovers information about iflow executions, channels, messages, certificates and BPMs status from previous day at a fixed time until the launch of adapter.



# Installation and configuration

## Package Description

The Monitoring Adapters are also delivered with prepacked content for SAP Integration Suite Cloud Integration - **Avvale b+ dgtal Observability for SAP Integration Suite**. This is a integration package with iflow templates which use the Monitoring Adapter to send monitoring information to ELK or Splunk from SAP Integration Suite.

## Package Content

The screenshot shows the SAP Integration Suite interface. The top navigation bar includes the SAP logo and 'Integration Suite'. The breadcrumb trail is 'Integrations / Avvale b+ dgtal Observability for SAP Integration Suite - CF /'. The package name is 'Avvale b+ dgtal Observability for SAP Integration Suite - CF'. The description is 'Integration Package for Observability of SAP integration platforms (SAP Integration Suite - Cloud Integrator and SAP Process Orquestration). Includes custom adapters and iflow templates...'. The vendor is 'avvale.com' and the mode is 'Editable'. The version is '1.0.0'. The interface shows a list of artifacts under the 'Artifacts (6)' tab. The artifacts are:

Name	Type	Version	Actions
<input type="checkbox"/> <b>Avvale - SAP Integration Suite - CPI Monitor - ELK</b> Integration scenario template for SAP Integration Suite Cloud Integration Monitoring and ELK as observability platform. Created	Integration Flow	1.0.0	
<input type="checkbox"/> <b>Avvale - SAP Integration Suite - CPI Monitor - SPLUNK</b> Integration scenario template for SAP Integration Suite Cloud Integration Monitoring and SPLUNK as observability platform. Created	Integration Flow	1.0.0	
<input type="checkbox"/> <b>Avvale - SAP Integration Suite - SAP PO Monitor - ELK</b> Integration scenario template for SAP Process Orchestration Monitoring and ELK as observability platform. Created	Integration Flow	1.0.0	
<input type="checkbox"/> <b>Avvale - SAP Integration Suite - SAP PO Monitor - SPLUNK</b> Integration scenario template for SAP Process Orchestration Monitoring and SPLUNK as observability platform. Created	Integration Flow	1.0.0	
<input type="checkbox"/> <b>MonitoringAdapter</b> Monitoring Adapter for SAP Integration Suite Cloud Integration Created	Integration Adapter	1.0.0	
<input type="checkbox"/> <b>MonitoringAdapterSAPPO</b> Monitoring Adapter for SAP PO. Created	Integration Adapter	1.0.0	



**Avvale b+dgital Observability for SAP Integration Suite** contains 4 iflow templates

- Avvale - SAP Integration Suite - CPI Monitor - ELK, Integration scenario template for SAP Integration Suite Cloud Integration Monitoring and ELK as observability platform.
- Avvale - SAP Integration Suite - CPI Monitor - SPLUNK, Integration scenario template for SAP Integration Suite Cloud Integration Monitoring and SPLUNK as observability platform.
- Avvale - SAP Integration Suite - SAP PO Monitor - ELK, Integration scenario template for SAP Process Orchestration Monitoring and ELK as observability platform.
- Avvale - SAP Integration Suite - SAP PO Monitor - SPLUNK, Integration scenario template for SAP Process Orchestration Monitoring and SPLUNK as observability platform.

Additionally, in case of Cloud Foundry, **it has also 2 Adapters:**

- MonitoringAdapter, SAP Integration Suite Monitoring Adapter used by SAP Integration Suite Cloud Integration Monitor iflows.
- MonitoringAdapterSAPPO, SAP PO Monitoring Adapter used by SAP PO Monitor iflows.

## Configuration for SAP Integration Suite Cloud Integration Monitoring

### Requirements

- Check deployment adapter guidelines for deployment on SAP Integration Suite.
- Check deployment package guidelines for deployment on SAP Integration Suite.

### SAP Integration Suite User

SAP Integration Suite Monitoring Adapter allows 2 different types of authentication to SAP Integration Suite.

- S-User based. In this case it is necessary a S-User to access SAP Integration Suite with Read Role
- Authentication based on Service Key (Cloud Foundry) . In this case, follow nest steps:

**1.- Create Process Integration Runtime Service Instance Plan Api, with at least grant-type password and roles MonitoringDataRead**

Example



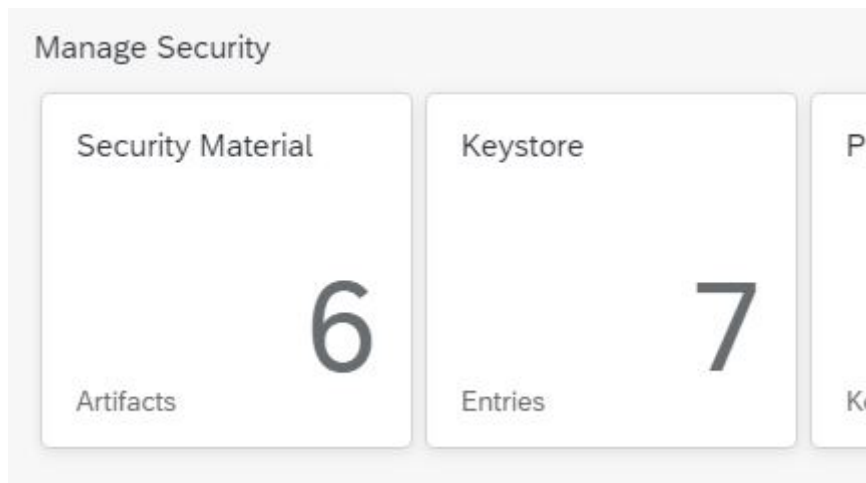
```
{ "grant-types": [ "password" ], "redirect-uris": [], "roles": [ "MonitoringArtifactsDeploy",  
"WorkspaceArtifactLocksDelete", "WorkspaceArtifactLocksRead", "WorkspaceArtifactsDeploy",  
"WorkspacePackagesConfigure", "WorkspacePackagesEdit", "WorkspacePackagesRead",  
"WorkspacePackagesTransport", "MonitoringDataRead" ] }
```

## 2.- Create a Service Key for the tenant. For instance

```
{ "oauth": { "clientid": "sb-d1aa41f7-7865-4b19-bdda-0c17349e903e!b157544|it!b2", "clientsecret":  
"3d4239a8-1d75-471a-9a7f-aa4703662b1b$0tIsJZbcFl30fvfeEQQO9RxLR8xoteqq8qWQCxWW", "url":  
"https://d64a97actrial.it-cpitrial05.cfapps.us10-001.hana.ondemand.com", "createdate": "2023-05-  
25T14:57:41.545Z", "tokenurl":  
"https://d64a97actrial.authentication.us10.hana.ondemand.com/oauth/token" } }
```

Later *clientid*, *clientsecret*, *url* and *tokenurl* will be used to configure the security and adapter parameters.

## 3.- Create a security entry in SAP Integration Suite Cloud Integration type User Credentials



[Overview](#) / Manage Security Material

Security Material (6) <span style="float: right;">Filter by</span>		
Name	Type	Status
d64a97actrial_CLIENTID	User Credentials	Deployed
d64a97actrial_BASIC_AUTH_2	User Credentials	Deployed
d64a97actrial_BASIC_AUTH	User Credentials	Deployed
p0468-tmn_BASIC_AUTH	User Credentials	Deployed
PIJ_CCI_CREDENTIALS	User Credentials	Deployed
S4HANA_CREDENTIALS	User Credentials	Deployed

In case of Service Key authentication, use clientid as user and clientsecret as password.

### Edit User Credentials

Name: *	<input type="text" value="d64a97actrial_CLIENTID"/>
Description:	<input type="text" value="Autenticación con clientid y clientsecret"/>
Type: *	<input type="text" value="User Credentials"/> <span>▼</span>
User: *	<input type="text" value="sb-0a2d69b7-2eea-4a24-9c60-41220432fe5d!b157..."/>
Password:	<input type="text"/>
Repeat Password:	<input type="text"/>

[Deploy](#) [Cancel](#)



- Authentication based on Service Key (NEO) . In this case, follow link <https://help.sap.com/docs/cloud-integration/sap-cloud-integration/setting-up-oauth-inbound-authentication-with-client-credentials-grant-for-api-clients?locale=en-US>
1. Register the client application as the OAuth client in the consumer account using the SAP Cloud Integration SAP BTP cockpit (in the Security OAuth section, go to the Clients tab).  
Also specify a subscription in order to restrict the authorizations associated with the access token on the particular runtime node.  
Perform this step as described under Registering an OAuth Client.  
To enable this security setting for the above-mentioned scenario (client application sending messages to the cloud-based integration platform), specify the following information when registering the OAuth client:
    - As Subscription, select the application of the tenant management node (that ends with the node type ....tmn).  
You can only register applications for node type tmn.
    - Enter a client ID.  
You can either get a client ID from the client or you can choose one (you then have to forward this ID to the client).
    - As Authorization Grant, choose Client Credentials.
    - Enter a secret (as assigned to the client application).
    - Specify a Token Lifetime to increase the security level.
  2. Assign the user with name **oauth\_client\_<client ID>** to the respective role in the subscription of the consumer account (for the tmn node).  
To do this, select the Security Authorizations section.  
Perform this step as described under Defining Authorizations for Integration Team Members.



### OAuth Settings

Branding **Clients** Platform API

#### Clients

**i** To make your OAuth-protected applications more resilient, you can use JSON Web Token (JWT). For more information, see the [documentation](#)

[Register New Client](#)

Client ID	Name	Subscription	Actions
31ed5423-c0fe-3636-9baa-ae6af6a90c50	CPI_DEMO_OAUTH_NEO	avrhcin/p0468iflmap	
b742edf8-f66e-319e-acdf-91a851f97e63	From_e78caaf2trial	avrhcin/p0468iflmap	
2ae09718-7db2-34af-adc2-72938f082446	From_e78caaf2trial	avrhcin/p0468tmn	
6ed55d8d-8b46-3ff0-9d8c-4dbd005cff05	MIGRATION TO CF	avrhcin/p0468tmn	

Name: \*  [Translations \(0\)](#)

Description:

Subscription: \*

ID: \*

Authorization Grant: \*

Confidential:

Secret: \*

Token Lifetime:  days Maximum lifetime is 180 days

The role to be assigned is AuthGroup.ReadOnly



Home [Europe (Rot)] / Techedge España, S.L. / Cloud Integration Test - p0468

### Subaccount: Cloud Integration Test - p0468 - Authorizations

#### Authorization Management

Users Groups Token

#### Assign Web Roles and Groups to Individual Users

User: \*

*Note: For basic authentication, the authenticated user is always represented by the user ID, regardless of the identifier used during authentication. For more information, check [Guided Answers](#)*

Roles <b>Assign</b> <b>Unassign All</b>				Groups <b>Assign</b> <b>Unassign All</b>		
Subaccount	Application	Role	Actions	Group		Actions
avrhcjn	p0468tmn	AuthGroup.ReadOnly	<input type="button" value="Unassign"/>	User "oauth_client_2ae09718-7db2-34af-adc2-72938f082446" is not assigned to any groups.		

Also store client id and client secret as a security parameter which later will be used in the configuration of the adapter.

## Configuration of integration flows

Import package **Avvale b+dgital Observability from SAP Integration Suite** into SAP Integration Suite. Create a copy of iflows from templates provided by the package and adapt to specific parameters of landscape.



## Adapter Properties configurations

### Scheduled Polling

#### MonitoringAdapter

General **Connection** CPI Monitoring

URI SETTING

First URI Part:

SCHEDULED POLL CONSUMER

Backoff Multiplier:

Send Empty Message When Idle:

Initial Delay:

Backoff Idle Threshold:

Use Fixed Delay:

Delay:

Start Scheduler:

Run Logging Level:

Backoff Error Threshold:

Greedy:

Time Unit:



- Configure schedule polling according information needs. By default scheduling is polled every 60 minutes (3.600.000 ms).

### Custom Properties

**MonitoringAdapter**

General
Connection
CPI Monitoring

**SCHEDULED POLL MONITORING CONSUMER**

Integration Suite Host:

Integration Suite Token Host. If used, credentials will be client id and client secret.:

Integration Suite Port:

Integration Suite SystemId:

Integration Suite Client:

Integration Suite Client Short:

Integration Suite Description:

Integration Suite Basic Credentials Entry:

Integration Suite License Key:

Integration Suite Monitoring Time:

Time shift.:

Integration Suite Host	Monitoring Host	p0468-tmn.hci.eu1.hana.ondemand.co



		m
Integration Suite Token Host	If authentication is based on client credentials, the host for obtaining the access token. If empty, basic authorization will be used (based on S-User). If not, based on service key.	p0468-tmn.hci.eu1.hana.ondemand.com
Integration Suite Port	Monitoring Port	443
Integration Suite SystemId	Identifier of the system. Free Text	p0468-tmn
Integration Suite Client	Identifier of the Client / Customer. Free Text	Techedge
Integration Suite Client Short	Short description of the Client. Free Text	TECH
Integration Suite Description	Description. Free Text	Techedge Productive SAP CPI System
Integration Suite Basic Credentials Entry	User Credentials (Created as Security Material). Used for authentication (Basic/Client Credentials)	CPI_BASIC_AUTH_TECHEDGE_PROD
Integration Suite License Key	License key	6prfeuRi5QhholbiXXwATsDvnnvPdQSXW7620iaD2Ili+CWMdGqpfvU67GAu4M7+HvAsPMLgWiyLJ5Rvz0W1vdA==
Integration Suite Monitoring Time	Starting hour of monitoring from previous day. Format HH:MM	00:00
Time Shift	Number of hours in which differs SAP Integration Suite Instance and backend system to be monitorized	2

This properties are parametrized as configuration **parameters**, so it is not necessary to edit the iflow, only configure this parameters.



## Configure "Avvale - SAP Integration Suite - CPI Monitor - SPLUNK"

Sender	Receiver	More
Sender:	<input type="text" value="Scheduler"/>	
Adapter Type:	<input type="text" value="MonitoringAdapter"/>	
<b>Connection</b>		
Initial Delay:	<input type="text" value="1000"/>	
Delay:	<input type="text" value="3600000"/>	
<b>CPI Monitoring</b>		
Integration Suite Host:	<input type="text" value="e78caaf2trial.it-cpitrial06.cfapps.us10-001.hana.ondemand...."/>	
Integration Suite Token Host. If used, credentials will be client id and client secret.:	<input type="text" value="e78caaf2trial.authentication.us10.hana.ondemand.com"/>	
Integration Suite Port:	<input type="text" value="443"/>	
Integration Suite SystemId:	<input type="text" value="e78caaf2trial"/>	
Integration Suite Client:	<input type="text" value="Avvale"/>	
Integration Suite Client Short:	<input type="text" value="Avvale-TRIAL-e78caaf2trial"/>	
Integration Suite Description:	<input type="text" value="Avvale CPI-TRIAL-e78caaf2trial"/>	
Integration Suite Basic Credentials Entry:	<input type="text" value="e78caaf2trial_user"/>	
Integration Suite License Key:	<input type="text" value="VFhwRmRrMVVTWFpQVkdzMVQxTXhiRTU2YUdwWlYwWn..."/>	
Integration Suite Monitoring Time:	<input type="text" value="00:00"/>	
Time shift.:	<input type="text" value="0"/>	



## Data recovered from Adapter

Everytime the iflow is launched, it recovers monitoring information from SAP Integration Suite Cloud Integration and provides it in a json format. For instance,

Time:  Status:  Artifact:  or ID:

Jun 06, 2023, 16:00:47 - Jun 06, 2023, 17:00:47 [Use More Fields](#)

---

Messages (5) « < 1 / 1 > » ↻

Artifact Name	Status
Avvale - SAP Integration Suite - SAP PO Monitor - SPLUNK Jun 06, 2023, 16:50:03	Completed 2 sec 78 ms
Avvale - SAP Integration Suite - CPI Monitor - SPLUNK Jun 06, 2023, 16:49:48	Completed 939 ms
SAP Integration Suite - CPI Monitor Avvale - SPLUNK Jun 06, 2023, 16:30:52	Completed 1 sec 210 ms
SAP Integration Suite - SAP PO Monitor Avvale - SPLUNK Jun 06, 2023, 16:16:36	Completed 3 sec 886 ms
SAP Integration Suite - CPI Monitor Avvale - SPLUNK Jun 06, 2023, 16:13:42	Completed 1 sec 59 ms

**Avvale - SAP Integration Suite - CPI Monitor - SPLUNK**  
Last Updated at: Jun 06, 2023, 16:49:48

[Logs](#) ▼ [Open Text View](#)

Log Level: Info  
Instance ID: 0

**Attachments**

Name	Size	Actions
<a href="#">MonitoringContent.json</a> text/plain Jun 06, 2023, 16:49:47	9 KB	<a href="#">↓</a>
<a href="#">SplunkRequest.json</a> text/plain Jun 06, 2023, 16:49:48	10 KB	<a href="#">↓</a>

**Artifact Details**

[Manage Integration Content](#)  
[View deployed Artifact](#)

```
{ "tenant":{ "code": "Avvale" }, "system":{ "name": "d64a97actrial" }, "execution":{ "version":"1.0.0", "type":"DETAIL", "monitoringStartAt":"2023-05-29 00:00:00", "monitoringEndAt":"2023-05-30
```



```
12:06:57", "executedAt": "2023-05-30 12:06:58" }, "messageOverview": { "numberDays": 1, "failed": 0,
"completed": 152, "processing": 0, "error": 0, "retry": 0, "escalated": 0 }, "artifactsOverview": { "started": 1,
"starting": 0, "stopping": 0, "error": 0 } , "runtimeArtifactsDetail": [ { "category": "",
"deployedby": "antonio.sanz@techedgegroup.com", "deployedon": "2023-05-29 13:26:54",
"id": "SAP_Integration_Suite_-_CPI_Monitor_Avvale_-_SPLUNK", "name": "SAP Integration Suite - CPI
Monitor Avvale - SPLUNK", "status": "STARTED", "title": "", "type": "INTEGRATION_FLOW", "updated": "",
"version": "1.0.2" } ] , "certificatesDetail": [ { "alias": "sap_verisign class 3 public primary certification
authority - g5", "keystoreView": "", "keytype": "", "keysize": "", "validNotBefore": "2006-11-08 01:00:00",
"validNotAfter": "2036-07-17 00:59:59", "serialNumber": "", "signatureAlgorithm": "",
"subjectDN": "Q049VmVyaVNPz24gQ2xhc3MgMyBQdWJsaWMgUHJpbWFyeSBdZXJ0aWZpY2F0a
W9uIEF1dGhvcml0eSAteEc1LE9VPShjKSAYMDA2IFZlcm1TaWduXCwgSW5jLiAtIEZvciBhdXRob3Jpem
mVkiHVzZSBvbm5LE9VPVZlcm1TaWduIFRydXN0IE5ldHdvcmsTz1WZXJpU2lnblwslEluYy4sQz1V
Uw==",
"issuerDN": "Q049VmVyaVNPz24gQ2xhc3MgMyBQdWJsaWMgUHJpbWFyeSBdZXJ0aWZpY2F0aW
9uIEF1dGhvcml0eSAteEc1LE9VPShjKSAYMDA2IFZlcm1TaWduXCwgSW5jLiAtIEZvciBhdXRob3Jpem
VkiHVzZSBvbm5LE9VPVZlcm1TaWduIFRydXN0IE5ldHdvcmsTz1WZXJpU2lnblwslEluYy4sQz1VU
w==", "version": "", "fingerprintSha1": "", "fingerprintSha256": "", "fingerprintSha512": "", "type": "",
"owner": "", "lastModifiedBy": "", "lastModifiedTime": "", "createdBy": "", "createdTime": "", "status": "",
"relatedIfflows": "" } , { "alias": "sap_digicert global ca g2", "keystoreView": "", "keytype": "", "keysize": "",
"validNotBefore": "2013-08-01 13:00:00", "validNotAfter": "2028-08-01 13:00:00", "serialNumber": "",
"signatureAlgorithm": "",
"subjectDN": "Q049RGlnaUNlcnQgR2xvYmFsIENBIecyLE89RGlnaUNlcnQgSW5jLEM9VVM=",
"issuerDN": "Q049RGlnaUNlcnQgR2xvYmFsIFJvb3QgRzlsT1U9d3d3LmRpZ2ljZXJ0LmNvbSxPPURp
Z2lDZXJ0IEluYyxDPVVT", "version": "", "fingerprintSha1": "", "fingerprintSha256": "",
"fingerprintSha512": "", "type": "", "owner": "", "lastModifiedBy": "", "lastModifiedTime": "", "createdBy": "",
"createdTime": "", "status": "", "relatedIfflows": "" } , { "alias": "sap_verisign universal root certification
authority", "keystoreView": "", "keytype": "", "keysize": "", "validNotBefore": "2008-04-02 01:00:00",
"validNotAfter": "2037-12-02 00:59:59", "serialNumber": "", "signatureAlgorithm": "",
"subjectDN": "Q049VmVyaVNPz24gVW5pdmVyc2F5IFJvb3QgQ2VydGlmaWNhdGlubiBBdXRob3Jpd
HksT1U9KGMpIDlwMDggVmVyaVNPz25cLCBJbmMulC0gRm9yIGF1dGhvcml6ZWQgdXNlIG9ubHk
sT1U9VmVyaVNPz24gVHJ1c3QgTmV0d29yayxPPVZlcm1TaWduXCwgSW5jLixDPVVT",
"issuerDN": "Q049VmVyaVNPz24gVW5pdmVyc2F5IFJvb3QgQ2VydGlmaWNhdGlubiBBdXRob3JpdH
ksT1U9KGMpIDlwMDggVmVyaVNPz25cLCBJbmMulC0gRm9yIGF1dGhvcml6ZWQgdXNlIG9ubHksT
1U9VmVyaVNPz24gVHJ1c3QgTmV0d29yayxPPVZlcm1TaWduXCwgSW5jLixDPVVT", "version": "",
"fingerprintSha1": "", "fingerprintSha256": "", "fingerprintSha512": "", "type": "", "owner": ""
```



```
"lastModifiedBy": "", "lastModifiedTime": "", "createdBy": "", "createdTime": "", "status": "",
"relatedFlows": "" }, { "alias": "sap_baltimore cybertrust root", "keystoreView": "", "keytype": "", "keysize": "",
"validNotBefore": "2000-05-12 19:46:00", "validNotAfter": "2025-05-13 00:59:00", "serialNumber": "",
"signatureAlgorithm": "",
"subjectDN": "Q049QmFsdGltb3JlIEN5YmVyVHJlc3QgUm9vdCxPVT1DeWJlclRydXN0LE89QmFsd
Gltb3JlLEM9SUU=",
"issuerDN": "Q049QmFsdGltb3JlIEN5YmVyVHJlc3QgUm9vdCxPVT1DeWJlclRydXN0LE89QmFsdG
ltb3JlLEM9SUU=", "version": "", "fingerprintSha1": "", "fingerprintSha256": "", "fingerprintSha512": "",
"type": "", "owner": "", "lastModifiedBy": "", "lastModifiedTime": "", "createdBy": "", "createdTime": "",
"status": "", "relatedFlows": "" } , { "alias": "sap_digicert global root ca", "keystoreView": "", "keytype": "",
"keysize": "", "validNotBefore": "2006-11-10 01:00:00", "validNotAfter": "2031-11-10 01:00:00",
"serialNumber": "", "signatureAlgorithm": "",
"subjectDN": "Q049RGlnaUNlcnQgR2xvYmFsIFJvb3QgQ0EsT1U9d3d3LmRpZ2ljZXJ0LmNvbSxPPU
RpZ2lDZXJ0IEluYyxDPVVT",
"issuerDN": "Q049RGlnaUNlcnQgR2xvYmFsIFJvb3QgQ0EsT1U9d3d3LmRpZ2ljZXJ0LmNvbSxPPUR
pZ2lDZXJ0IEluYyxDPVVT", "version": "", "fingerprintSha1": "", "fingerprintSha256": "",
"fingerprintSha512": "", "type": "", "owner": "", "lastModifiedBy": "", "lastModifiedTime": "", "createdBy": "",
"createdTime": "", "status": "", "relatedFlows": "" } , { "alias": "sap_digicert sha2 secure server ca",
"keystoreView": "", "keytype": "", "keysize": "", "validNotBefore": "2013-03-08 13:00:00",
"validNotAfter": "2023-03-08 13:00:00", "serialNumber": "", "signatureAlgorithm": "",
"subjectDN": "Q049RGlnaUNlcnQgU0hBMiBTZWV1cmUgU2VydmVylENBLE89RGlnaUNlcnQgSW5jL
EM9VVM=",
"issuerDN": "Q049RGlnaUNlcnQgR2xvYmFsIFJvb3QgQ0EsT1U9d3d3LmRpZ2ljZXJ0LmNvbSxPPUR
pZ2lDZXJ0IEluYyxDPVVT", "version": "", "fingerprintSha1": "", "fingerprintSha256": "",
"fingerprintSha512": "", "type": "", "owner": "", "lastModifiedBy": "", "lastModifiedTime": "", "createdBy": "",
"createdTime": "", "status": "", "relatedFlows": "" } , { "alias": "sap_digicert global root g2", "keystoreView": "",
"keytype": "", "keysize": "", "validNotBefore": "2013-08-01 13:00:00", "validNotAfter": "2038-01-15
13:00:00",
"serialNumber": "", "signatureAlgorithm": "",
"subjectDN": "Q049RGlnaUNlcnQgR2xvYmFsIFJvb3QgRzlsT1U9d3d3LmRpZ2ljZXJ0LmNvbSxPPUR
pZ2lDZXJ0IEluYyxDPVVT",
"issuerDN": "Q049RGlnaUNlcnQgR2xvYmFsIFJvb3QgRzlsT1U9d3d3LmRpZ2ljZXJ0LmNvbSxPPURp
Z2lDZXJ0IEluYyxDPVVT", "version": "", "fingerprintSha1": "", "fingerprintSha256": "",
"fingerprintSha512": "", "type": "", "owner": "", "lastModifiedBy": "", "lastModifiedTime": "", "createdBy": "",
"createdTime": "", "status": "", "relatedFlows": "" } ] }
```

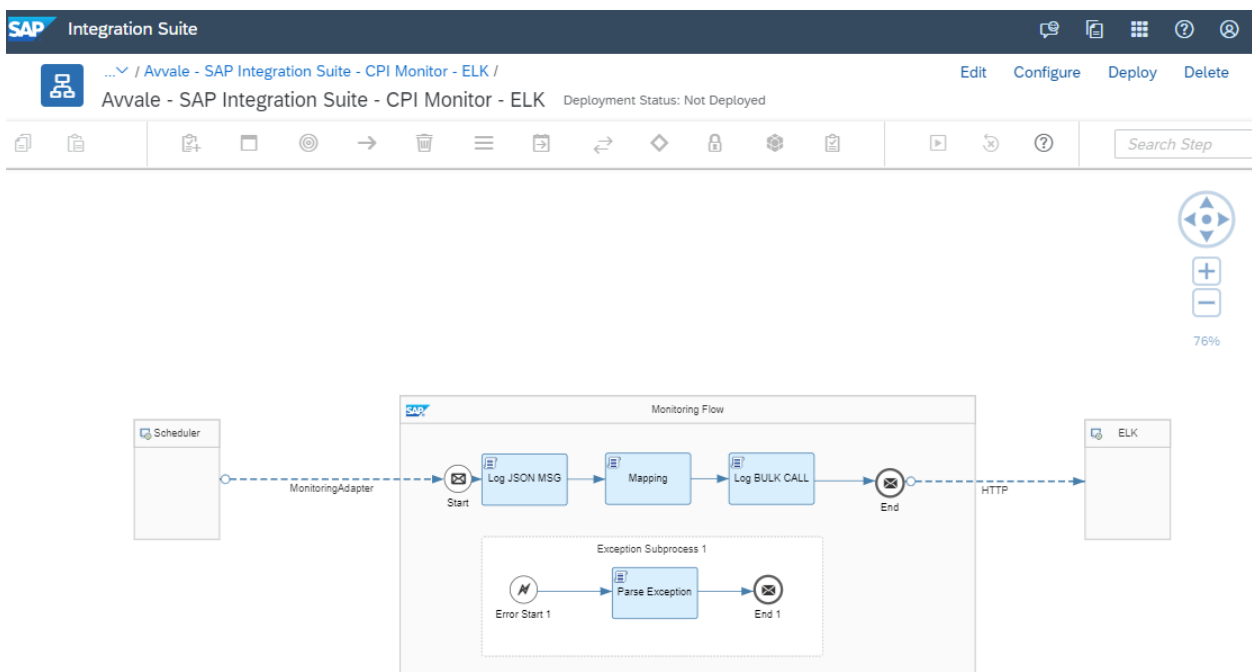


- **tenant** and **system** nodes represent metadata information about the system over which the monitorization it is performed.
- **message** and **artifacts overview** represents an overview of them during the monitoring time.
- **message, runtime** and **certificate details** provide the current details of the integration objects during monitoring time.

Once this information is provided by the adapter, it is transformed and converted into the format required by the observability platform (ELK/Splunk) and sent to them via HTTP Adapter.

## Template Description ELK

Once the data is recovered by the Monitoring Adapter, this information, which comes into json format is adapted and mapped to 4 different structures and send to ELK instance.



In order to send data to ELK, configuration of HTTP connector to ELK must be adapted, according to ELK instance:

- HTTP or HTTPS
- Host and Port
- Authentication: Select authentication method and inform parameters.



## Configure "Avvale - SAP Integration Suite - CPI Monitor - ELK"

Sender **Receiver**

Receiver: ELK

Adapter Type: HTTP

**Connection**

Address: `http://{{ELK_HOST}}:{{ELK_PORT}}/_bulk`

ELK\_HOST: kibana

ELK\_PORT: 9200

Proxy Type: On-Premise

Location ID: ID\_e78caaf2trial

**Note:** ELK HOST and PORT, if they are inside the onpremise network, the should be created as a connection in SAP Cloud Connector, for instance:



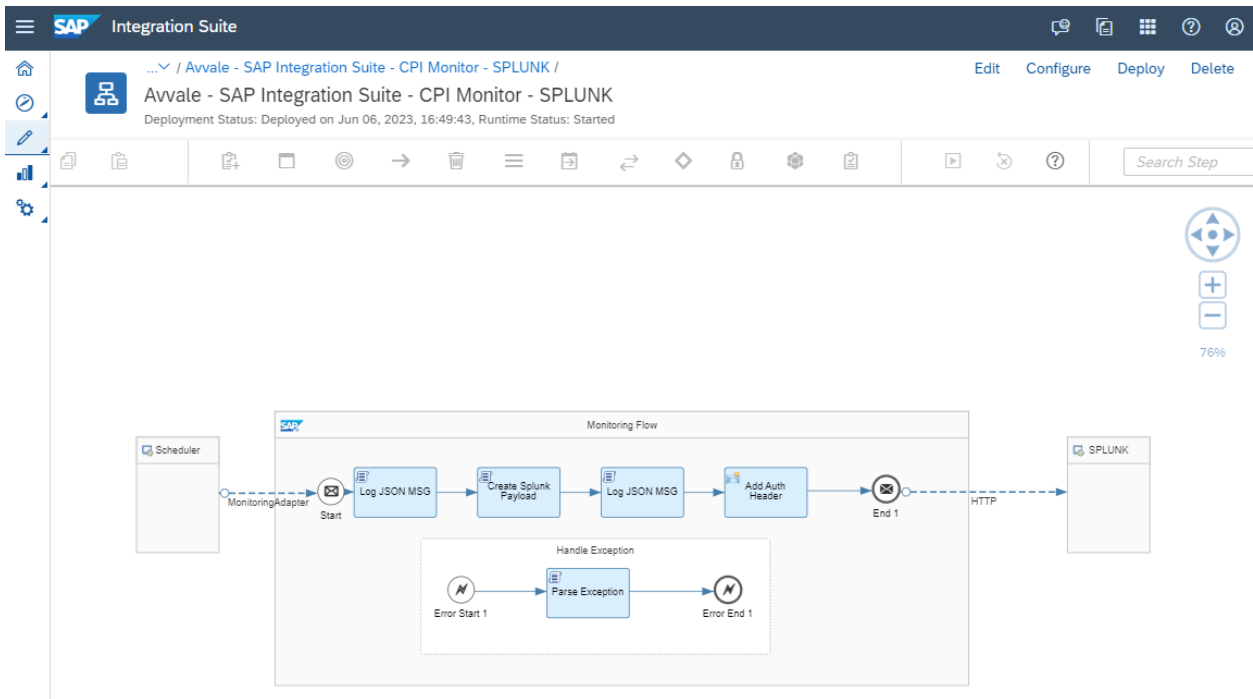
The screenshot displays the 'Cloud To On-Premise' configuration page for the subaccount 'Trial Antonio Sanz'. The interface includes a left-hand navigation menu with options like 'Security Status', 'Alerting', and 'Configuration'. The main content area is titled 'Mapping Virtual To Internal System' and contains a table with the following data:

Status	Virtual Host	Internal Host	Check Result	Protocol	Back-end Type	Actions
☑	gitlab:80	10.150.21.14...	☑ Reachable	HTTP	Non-SAP System	🔍 ✎ 👤 🗑️ 📄
⬠	kibana:9200	10.10.4.87:92...	☑ Reachable	HTTPS	Non-SAP System	🔍 ✎ 👤 🗑️ 📄
☑	pij:50000	mad-sappi73...	☑ Reachable	HTTP	Other SAP Sys...	🔍 ✎ 👤 🗑️ 📄
☑	s4hanateched...	192.168.60.6...	☑ Reachable	HTTP	SAP HANA	🔍 ✎ 👤 🗑️ 📄
☑	splunk:8088	10.10.4.87:80...	☑ Reachable	HTTPS	Non-SAP System	🔍 ✎ 👤 🗑️ 📄

Below the table, there is a section for 'Resources Of kibana:9200' which is currently empty, showing 'No data'.

## Template Description SPLUNK

Once the data is recovered by the Monitoring Adapter, this information, which comes into json format is adapted and mapped to 4 different structures and sent to an Splunk instance.



In order to send data to Splunk, configuration of HTTP connector to Splunk must be adapted, according to ELK instance:

- HTTP or HTTPS
- Host and Port
- Splunk communication token



## Configure "Avvale - SAP Integration Suite - CPI Monitor - SPLUNK"

Sender **Receiver** More

Receiver:

Adapter Type:

**Connection**

Address:

SPLUNK\_HOST:

SPLUNK\_PORT:

Proxy Type:

Location ID:

## Configure "Avvale - SAP Integration Suite - CPI Monitor - SPLUNK"

Sender Receiver **More**

Type:

SPLUNK\_TOKEN:

**Note:** SPLUNK HOST and PORT, if they are inside the onpremise network, the should be created as a connection in SAP Cloud Connector, for instance:



Status	Virtual Host	Internal Host	Check Result	Protocol	Back-end Type	Actions
☑	gitlab:80	10.150.21.14...	☑ Reachable	HTTP	Non-SAP System	🔍 ✎ 👤 🗑️ 📄
⬠	kibana:9200	10.10.4.87:92...	☑ Reachable	HTTPS	Non-SAP System	🔍 ✎ 👤 🗑️ 📄
☑	pij:50000	mad-sappi73...	☑ Reachable	HTTP	Other SAP Sys...	🔍 ✎ 👤 🗑️ 📄
☑	s4hanateched...	192.168.60.6...	☑ Reachable	HTTP	SAP HANA	🔍 ✎ 👤 🗑️ 📄
☑	splunk:8088	10.10.4.87:80...	☑ Reachable	HTTPS	Non-SAP System	🔍 ✎ 👤 🗑️ 📄

Status	URL Path	Access Policy	Actions
No data			

## Splunk steps

1. Create 4 indexes: scpi\_certificates, scpi\_messages, scpi\_artifacts and scpi\_summary (of type Events)
2. In the Splunk instance configure an HTTP Event Collector (HEC) associated to these 4 indexes, format \_json
3. The token obtained will be used as part of the inflow
4. Create a new application
5. Load the dashboards, simply copy the xmls provided under `/dashboards/splunk` to `{SPLUNK_HOME}/etc/apps/{APP_NAME}/local/data/ui/views`
6. Restart the Splunk instance
7. If you can't copy the dashboard xmls, you can use the UI to create them and using the "Source" option, you can copy & paste the content of the xmls provided

Follow official Splunk documentation: <https://docs.splunk.com/Documentation/Splunk/>

## ELK steps

**NOTE:** Dashboards were created and tested with Kibana 7.6.2, adjustments may be necessary for other versions



1. The toolkit will load data into the `adapter-tenants-scp`, `adapter-artifacts-scp`, `adapter-messages-scp` and `adapter-certificates-scp` indexes. Once data is loaded create an index pattern on Kibana for these indexes
2. Log into your Kibana instance, and on the **Management >> Saved Objects** menu, click on import for each dashboard from `/dashboards/elk`. This will import all dashboards and visualizations

Follow [official](https://www.elastic.co/guide/en/elasticsearch/reference/current/index.html) ELK documentation:  
<https://www.elastic.co/guide/en/elasticsearch/reference/current/index.html>  
<https://www.elastic.co/guide/en/kibana/current/index.html>

## Configuration for SAP Process Orchestration Monitoring

### Requirements

- Check deployment adapter guidelines for deployment on SAP Integration Suite.
- Check deployment package guidelines for deployment on SAP Integration Suite.

### SAP Integration Suite User

Monitoring Adapter needs a SAP PO user with roles: SAP\_XI\_MONITOR\_J2EE

In order to be able to monitor Jobs, this user has to be added as JOB external scheduler in SAP PO  
[https://help.sap.com/docs/SAP\\_Solution\\_Manager/c458e6a97c6746f2afb2a3d1bf0a630b/f1e4178768574d3fb3e3522ee7cac66d.html](https://help.sap.com/docs/SAP_Solution_Manager/c458e6a97c6746f2afb2a3d1bf0a630b/f1e4178768574d3fb3e3522ee7cac66d.html)

### Configuration of integration flows

Import package **Avvale b+dgtal Observability form SAP Integration Suite** into SAP Integration Suite.  
Create a copy of iflow templates provided by the package and adapt to specific parameters of landscape.

### Adapter Properties configurations

### Scheduled Polling



### MonitoringAdapterSAPPO

General **Connection** SAP PO Monitoring

URI SETTING

First URI Part:

SCHEDULED POLL CONSUMER

Backoff Multiplier:

Send Empty Message When Idle:

Initial Delay:

Backoff Idle Threshold:

Use Fixed Delay:

Delay:

Start Scheduler:

Run Logging Level:

Backoff Error Threshold:

Greedy:

Time Unit:

- Configure schedule polling according information needs. By default scheduling is polled every 60 minutes (3.600.000 ms).

#### Custom Properties



**MonitoringAdapterSAPPO**

General    Connection    SAP PO Monitoring

SCHEDULED POLL MONITORING CONSUMER

SAP PO Host:

SAP PO Port:

SAP PO SystemId:

SAP PO Client:

Integration Suite Basic Credentials Entry:

Connection Type:  ▼

SAP Cloud Connector Location Id:

SAP PO Monitoring Time:

License Key:

Time shift.:

SAP PO Host	Monitoring Host. If using SAP Cloud Connector same as defined in SAP Cloud Connector configuration for SAP PO	192.168.60.15
SAP PO Port	Monitoring Port	50000
SAP PO SystemId	Identifier of the system. Free Text	PIJ
SAP PO Client	User Credentials (Created as Security Material). Used for authentication	SAPPO_BASIC_AUTH_TECHE DGE_PROD



SAP PO Basic Credentials Entry	Identifier of the Client / Customer. Free Text	Techedge
Integration Suite Client Short	Short description of the Client. Free Text	TECH
Integration Suite Description	Description. Free Text	Techedge Productive SAP CPI System
Integration Suite Basic Credentials Entry	User Credentials (Created as Security Material). Used for authentication (Basic/Client Credentials)	CPI_BASIC_AUTH_TECHEDGE_PROD
Connection Type	Internet (direct connection) or OnPremise (Connection via SAP Cloud Connector)	OnPremise
SAP Cloud Connector Location ID	Identifier of SAP Cloud Connector Location. Available when OnPremise selected	ID_LOCATION_PRODUCTIVE
SAP PO Monitoring Time	Starting hour of monitoring from previous day. Format HH:MM	00:00
SAP PO License Key	Provided product key	U2VydmVyIDAwdAwXzE4MTE xIDogVXNlciBpcyBsb2NrZWQul FBsZWFzZSsub3Rp
Time Shift	Number of hours in which differs SAP Integration Suite Instance and backend system to be monitored	2

This properties are parametrized as configuration **parameters**, so it is not necessary to edit the iflow, only configure this parameters.



## Configure "Avvale - SAP Integration Suite - SAP PO Monitor - SPLUNK"

Sender	Receiver	More
Sender:	Scheduler	▼
Adapter Type:	MonitoringAdapterSAPPO	▼
<b>Connection</b>		
Initial Delay:	1000	
Delay:	3600000	
<b>SAP PO Monitoring</b>		
SAP PO Host:	pij	
SAP PO Port:	50000	
SAP PO SystemId:	PIJ	
SAP PO Client:	Techedge	
Integration Suite Basic Credentials Entry:	PIJ_CCI_CREDENTIALS	
SAP Cloud Connector Location Id:	ID_ANTONIOSANZ	
SAP PO Monitoring Time:	00:00	
License Key:	VFhwRmRrMVVTWFpQVkdzMVQxTXhVVk5WYnowPQ==	
Time shift.:	2	



### Configure "Avvale - SAP Integration Suite - SAP PO Monitor - SPLUNK"

Sender **Receiver** More

Receiver:

Adapter Type:

**Connection**

Address:

ELK\_HOST:

ELK\_PORT:

Connector Subaccount: Trial Antonio Sanz

Cloud To On-Premise

ACCESS CONTROL COOKIE DOMAINS APPLICATIONS PRINCIPAL PROPAGATION

Mapping Virtual To Internal System

Status	Virtual Host	Internal Host	Check Result	Protocol	Back-end Type	Actions
<input checked="" type="checkbox"/>	gitlab:80	10.150.21.14...	<input checked="" type="checkbox"/> Reachable	HTTP	Non-SAP System	
<input checked="" type="checkbox"/>	kibana:9200	10.10.4.87:92...	<input checked="" type="checkbox"/> Reachable	HTTPS	Non-SAP System	
<input checked="" type="checkbox"/>	pij:50000	mad-sappi73...	<input checked="" type="checkbox"/> Reachable	HTTP	Other SAP Sys...	
<input checked="" type="checkbox"/>	s4hanateched...	192.168.60.6...	<input checked="" type="checkbox"/> Reachable	HTTP	SAP HANA	
<input checked="" type="checkbox"/>	splunk:8088	10.10.4.87:80...	<input checked="" type="checkbox"/> Reachable	HTTPS	Non-SAP System	

Resources Of kibana:9200

Status	URL Path	Access Policy	Actions
No data			

## SAP Cloud Connector

It is necessary to have a connection to SAP PO (onpremise) that can be achieved via Cloud Connector. Please follow the guideline to configure a SAP Cloud Connector connection to SAP PO onpremise.



Be sure that all resources for SAP PO on premise system are available (URL Path / and include Path an all Sub Paths):

Subaccount: TRIAL\_CPI\_PV

Cloud To On-Premise

ACCESS CONTROL   COOKIE DOMAINS   APPLICATIONS   PRINCIPAL PROPAGATION

Mapping Virtual To Internal System

Status	Virtual Host	Internal Host	Check Result	Protocol	Back-end Type	Actions
<input type="checkbox"/>	pij:50000	mad-sappi73.realtech.es:50...	<input checked="" type="checkbox"/> Reachable	HTTP	Non-SAP System	
<input checked="" type="checkbox"/>	s4htechedge:44300	192.168.60.65:44300	<input checked="" type="checkbox"/> Not Reachable	HTTPS	SAP HANA	
<input checked="" type="checkbox"/>	s4htechedge:50000	192.168.60.65:50000	<input checked="" type="checkbox"/> Reachable	HTTP	SAP HANA	
<input type="checkbox"/>	sappisftp:22	mad-sappi73.realtech.es:22	<input checked="" type="checkbox"/> Reachable	TCP	Non-SAP System	

Resources Of pij:50000

Status	URL Path	Access Policy	Actions
<input type="checkbox"/>	/	Path And All Sub-Paths	

Follow official SAP Cloud Connector documentation: [https://help.sap.com/docs/CP\\_CONNECTIVITY/cca91383641e40ffbe03bdc78f00f681/e6c7616abb5710148cfcf3e75d96d596.html](https://help.sap.com/docs/CP_CONNECTIVITY/cca91383641e40ffbe03bdc78f00f681/e6c7616abb5710148cfcf3e75d96d596.html)

SAP Cloud Connector Installation and Configuration Blogs: <https://blogs.sap.com/2018/11/12/how-to-setup-cloud-connection/>

### Data recovered from Adapter

Everytime the iflow is executed, it recovers monitoring information from SAP Process Orchestration and provides it in a json format. For instance,



Overview / Monitor Message Processing Hide Filter Bar

Time:  Status:  Artifact:  or ID:

May 30, 2023, 11:15:52 - May 30, 2023, 12:15:52 Use More Fields

---

Messages (6) SAP Integration Suite - CPI Monitor Avvale - SPLUNK Last Updated at: May 30, 2023, 12:06:59

Artifact Name	Status
SAP Integration Suite - CPI Monitor Avvale - SPLUNK	Completed
May 30, 2023, 12:06:59	864 ms
SAP Integration Suite - CPI Monitor Avvale - SPLUNK	Completed
May 30, 2023, 11:56:59	790 ms
SAP Integration Suite - CPI Monitor Avvale - SPLUNK	Completed
May 30, 2023, 11:47:00	936 ms
SAP Integration Suite - CPI Monitor Avvale - SPLUNK	Completed
May 30, 2023, 11:36:59	865 ms
SAP Integration Suite - CPI Monitor Avvale - SPLUNK	Completed
May 30, 2023, 11:27:00	939 ms
SAP Integration Suite - CPI Monitor Avvale - SPLUNK	Completed
May 30, 2023, 11:17:00	1 sec 19 ms

**Log Level:** Info  
**Instance ID:** 0

**Attachments**

Name	Modified At	Size	Actions
MonitoringContent.json	May 30, 2023, 12:06:59	9 KB	<a href="#">Download</a>
text/plain			
SplunkRequest.json	May 30, 2023, 12:06:59	10 KB	<a href="#">Download</a>
text/plain			

**Artifact Details**

- [Manage Integration Content](#)
- [View deployed Artifact](#)
- [Navigate to Artifact Editor](#)

```
{
  "tenant":{
    "code": "Avvale"
  },
  "system":{
    "name": "d64a97actrial"
  }
}
```



```
    },  
  
    "execution":{  
  
        "version":"1.0.0",  
  
        "type":"DETAIL",  
  
        "monitoringStartAt":"2023-05-29 00:00:00",  
  
        "monitoringEndAt":"2023-05-30 20:07:55",  
  
        "executedAt":"2023-05-30 20:07:55"  
  
    },  
  
    "messageOverview":{  
  
        "numberDays":1,  
  
        "failed":0,  
  
        "completed":167,  
  
        "processing":0,  
  
        "error":0,  
  
        "retry":0,  
  
        "escalated":0  
  
    },  
  
    "artifactsOverview":{  
  
        "started":1,  
  
        "starting":0,
```



```
"stopping":0,

"error":0

}

,

"runtimeArtifactsDetail":[

{

"category":"","

"deployedby":"antonio.sanz@techedgegroup.com",

"deployedon":"2023-05-30 15:57:52",

"id":"SAP_Integration_Suite_-_CPI_Monitor_Avvale_-_SPLUNK",

"name":"SAP Integration Suite - CPI Monitor Avvale - SPLUNK",

"status":"STARTED",

"title:"",

"type":"INTEGRATION_FLOW",

"updated":"","

"version":"1.0.2"

}

]

,

"certificatesDetail":[
```



```
{  
  
  "alias": "sap_verisign class 3 public primary certification authority - g5",  
  
  "keystoreView": "",  
  
  "keytype": "",  
  
  "keysize": "",  
  
  "validNotBefore": "2006-11-08 01:00:00",  
  
  "validNotAfter": "2036-07-17 00:59:59",  
  
  "serialNumber": "",  
  
  "signatureAlgorithm": "",  
  
  "subjectDN": "Q049VmVyaVNpZ24gQ2xhc3MgMyBQdWJsaWMgUHJpbWFyeSBDZXJ0aWZpY2F0aW9uIEF1dGhvcml0eSAtIEc1LE9VPShjKSAyMDA2IFZlcm1TaWduXCwgSW5jLiAtIEZvciBhdXRob3JpemVklHVzZSBvbmx5LE9VPVZlcm1TaWduIFRydXN0IE5ldHdvcmsTz1WZXJpU2InblwslEluYy4sQz1VUw==",  
  
  "issuerDN": "Q049VmVyaVNpZ24gQ2xhc3MgMyBQdWJsaWMgUHJpbWFyeSBDZXJ0aWZpY2F0aW9uIEF1dGhvcml0eSAtIEc1LE9VPShjKSAyMDA2IFZlcm1TaWduXCwgSW5jLiAtIEZvciBhdXRob3JpemVklHVzZSBvbmx5LE9VPVZlcm1TaWduIFRydXN0IE5ldHdvcmsTz1WZXJpU2InblwslEluYy4sQz1VUw==",  
  
  "version": "",  
  
  "fingerprintSha1": "",  
  
  "fingerprintSha256": "",  
  
  "fingerprintSha512": "",
```



```
"type": "",  
  
"owner": "",  
  
"lastModifiedBy": "",  
  
"lastModifiedTime": "",  
  
"createdBy": "",  
  
"createdTime": "",  
  
"status": "",  
  
"relatedFlows": ""  
  
}  
  
,  
  
{  
  
"alias": "sap_digicert_global_ca_g2",  
  
"keystoreView": "",  
  
"keytype": "",  
  
"keysize": "",  
  
"validNotBefore": "2013-08-01 13:00:00",  
  
"validNotAfter": "2028-08-01 13:00:00",  
  
"serialNumber": "",  
  
"signatureAlgorithm": ""
```



```
"subjectDN":"Q049RGlnaUNlcnQgR2xvYmFsIENBIEcyLE89RGlnaUNlcnQgSW5jLEM9VVM=
",

"issuerDN":"Q049RGlnaUNlcnQgR2xvYmFsIFJvb3QgRzlsT1U9d3d3LmRpZ2ljZXJ0LmNvbS
xPPURpZ2IDZXJ0IEluYyxDPVVT",

  "version":"","

  "fingerprintSha1":"","

  "fingerprintSha256":"","

  "fingerprintSha512":"","

  "type":"","

  "owner":"","

  "lastModifiedBy":"","

  "lastModifiedTime":"","

  "createdBy":"","

  "createdTime":"","

  "status":"","

  "relatedFlows":""

}

,

{
```



*"alias": "sap\_verisign universal root certification authority",*

*"keystoreView": "",*

*"keytype": "",*

*"keysize": "",*

*"validNotBefore": "2008-04-02 01:00:00",*

*"validNotAfter": "2037-12-02 00:59:59",*

*"serialNumber": "",*

*"signatureAlgorithm": "",*

*"subjectDN": "Q049VmVyaVNpZ24gVW5pdmVyc2FsIFJvb3QgQ2VydGlmaWNhdGlvbiBBdXR  
ob3JpdHksT1U9KGMpIDlwMDggVmVyaVNpZ25cLCBJbmMulC0gRm9yIGF1dGhvcml6ZWQgdXNlIG  
9ubHksT1U9VmVyaVNpZ24gVHJ1c3QgTmV0d29yayxPPVZlcmITaWduXCwgSW5jLixDPVVT",*

*"issuerDN": "Q049VmVyaVNpZ24gVW5pdmVyc2FsIFJvb3QgQ2VydGlmaWNhdGlvbiBBdXRo  
b3JpdHksT1U9KGMpIDlwMDggVmVyaVNpZ25cLCBJbmMulC0gRm9yIGF1dGhvcml6ZWQgdXNlIG9  
ubHksT1U9VmVyaVNpZ24gVHJ1c3QgTmV0d29yayxPPVZlcmITaWduXCwgSW5jLixDPVVT",*

*"version": "",*

*"fingerprintSha1": "",*

*"fingerprintSha256": "",*

*"fingerprintSha512": "",*

*"type": "",*

*"owner": "",*



```
        "lastModifiedBy": "",
        "lastModifiedTime": "",
        "createdBy": "",
        "createdTime": "",
        "status": "",
        "relatedIfflows": ""
    }

}

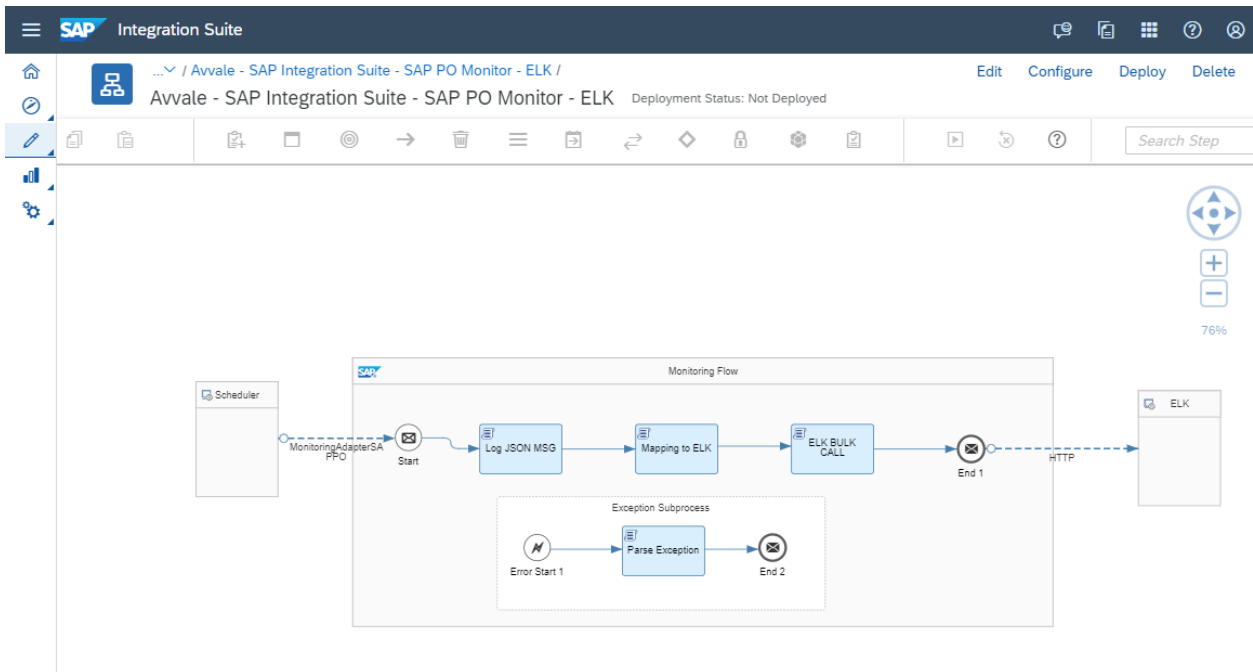
}}}
```

- **tenant** and **system** nodes represent metadata information about the system over which the monitorization it is done
- **message, channels, jobs and bpms overview** represents a overview of them during the monitoring time
- **message, channels, jobs, bpms** and **certificate details** provides the current details of the integration objects during monitoring time

Once this information is provided by the adapter, it is transformed and converted into the format required by observability platform (ELK/Splunk) send to them via HTTP Adapter. and

## Template Description ELK

Once the data is recovered by the Monitoring Adapter, this information, which comes into json format is adapted and mapped to 4 different structures and sent to ELK instance.



In order to send data to ELK, configuration of HTTP connector to ELK must be adapted, according to ELK instance:

- HTTP or HTTPS
- Host and Port
- Authentication: Select authentication method and inform parameters.



## Configure "Avvale - SAP Integration Suite - SAP PO Monitor - ELK"

Sender **Receiver**

Receiver: ELK

Adapter Type: HTTP

**Connection**

Address: `http://{{ELK_HOST}}:{{ELK_PORT}}/_bulk`

ELK\_HOST: kibana

ELK\_PORT: 9200

Proxy Type: On-Premise

Location ID: ID\_LOCATION\_MMZ{{CC\_LOCATION\_ID}}

CC\_LOCATION\_ID: ID\_e78caaf2trial

Credential Name: KIBANA\_CREDENTIALS

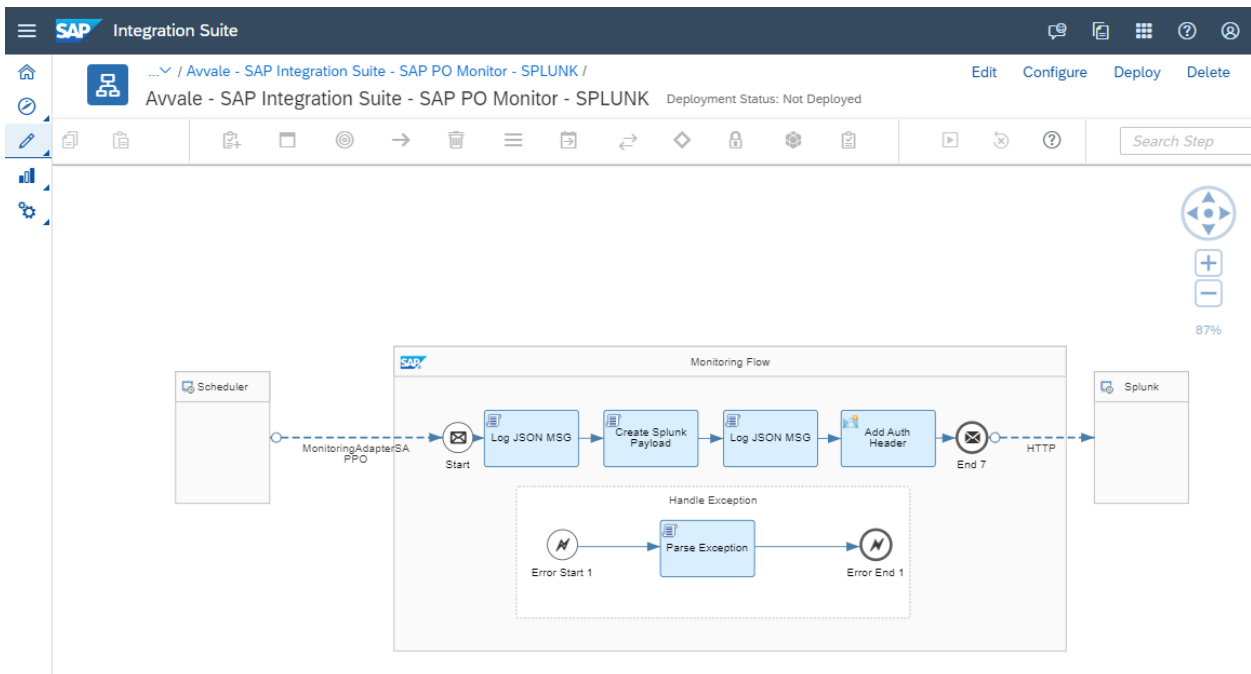
**Note:** ELK HOST and PORT, if they are inside the onpremise network, the should be created as a connection in SAP Cloud Connector, for instance:



Status	Virtual Host	Internal Host	Check Result	Protocol	Back-end Type	Actions
☑	gitlab:80	10.150.21.14...	☑ Reachable	HTTP	Non-SAP System	🔍 ✎ 👤 🗑️ 📄
⬠	kibana:9200	10.10.4.87:92...	☑ Reachable	HTTPS	Non-SAP System	🔍 ✎ 👤 🗑️ 📄
☑	pij:50000	mad-sappi73...	☑ Reachable	HTTP	Other SAP Sys...	🔍 ✎ 👤 🗑️ 📄
☑	s4hanateched...	192.168.60.6...	☑ Reachable	HTTP	SAP HANA	🔍 ✎ 👤 🗑️ 📄
☑	splunk:8088	10.10.4.87:80...	☑ Reachable	HTTPS	Non-SAP System	🔍 ✎ 👤 🗑️ 📄

## Template Description SPLUNK

Once the data is recovered by the Monitoring Adapter, this information, which comes into json format is adapted and mapped to 4 different structures and sent to Splunk instance.





In order to send data to Splunk, configuration of HTTP connector to Splunk must be adapted, according to ELK instance:

- HTTP or HTTPS
- Host and Port
- Splunk communication token

---

### Configure "Avvale - SAP Integration Suite - SAP PO Monitor - SPLUNK"

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Sender	Receiver	More
	Receiver:	Splunk <input type="button" value="v"/>
	Adapter Type:	HTTP <input type="button" value="v"/>
<b>Connection</b>		
	Address:	http://{{ELK_HOST}}:{{ELK_PORT}}/services/collector
	ELK_HOST:	splunk
	ELK_PORT:	8088
	Proxy Type:	On-Premise <input type="button" value="v"/>
	Location ID:	ID_e78caaf2trial



## Configure "Avvale - SAP Integration Suite - SAP PO Monitor - SPLUNK"

Sender Receiver **More**

Type: All Parameters

SPLUNK\_TOKEN: Splunk 0a9dd45d-bcdb-4362-9cd2-5af0d2faf44e

**Note:** SPLUNK HOST and PORT, if they are inside the onpremise network, they should be created as a connection in SAP Cloud Connector, for instance:

Connector Subaccount: Trial Antonio Sanz

### Cloud To On-Premise

ACCESS CONTROL COOKIE DOMAINS APPLICATIONS PRINCIPAL PROPAGATION

#### Mapping Virtual To Internal System

Status	Virtual Host	Internal Host	Check Result	Protocol	Back-end Type	Actions
☑	gitlab:80	10.150.21.14...	☑ Reachable	HTTP	Non-SAP System	🔍 ✎ 👤 🗑️ 🔄
⬠	kibana:9200	10.10.4.87:92...	☑ Reachable	HTTPS	Non-SAP System	🔍 ✎ 👤 🗑️ 🔄
☑	pij:50000	mad-sappi73...	☑ Reachable	HTTP	Other SAP Sys...	🔍 ✎ 👤 🗑️ 🔄
☑	s4hanateched...	192.168.60.6...	☑ Reachable	HTTP	SAP HANA	🔍 ✎ 👤 🗑️ 🔄
☑	splunk:8088	10.10.4.87:80...	☑ Reachable	HTTPS	Non-SAP System	🔍 ✎ 👤 🗑️ 🔄

#### Resources Of kibana:9200

Status	URL Path	Access Policy	Actions
No data			

## Splunk steps

1. Create 6 indexes: `sappo_certificates`, `sappo_messages`, `sappo_channels`, `sappo_jobs`, `sappo_bpms` and `sappo_summary` (of type Events)



2. In the Splunk instance configure an HTTP Event Collector (HEC) associated to these 6 indexes, format `_json`
3. The token obtained will be used as part of the iflow
4. Create a new application
5. Load the dashboards, simply copy the xmls provided under `/dashboards/splunk` to `{SPLUNK_HOME}/etc/apps/{APP_NAME}/local/data/ui/views`
6. Restart the Splunk instance
7. If you can't copy the dashboard xmls, you can use the UI to create them and using the "Source" option, you can copy & paste the content of the xmls provided

Follow official Splunk documentation: <https://docs.splunk.com/Documentation/Splunk/>

## ELK steps

**NOTE:** Dashboards were created and tested with Kibana 7.6.2, adjustments may be necessary for other versions

1. The toolkit will load data into the `adapter-tenants-sappo`, `adapter-messages-sappo`, `adapter-jobs-sappo`, `adapter-channels-sappo`, `adapter-bpms-sappo` and `adapter-certificates-sappo` indexes. Once data is loaded create an index pattern on Kibana for these indexes
2. Log into your Kibana instance, and on the `Management >> Saved Objects` menu, click on import for each dashboard from `/dashboards/elk`. This will import all dashboards and visualizations

Follow official ELK documentation:  
<https://www.elastic.co/guide/en/elasticsearch/reference/current/index.html>  
<https://www.elastic.co/guide/en/kibana/current/index.html>

