Configuration Guideline v1.0 14/06/2023

b+dgtal Observability for SAP Integration Suite

Index

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+dgtal 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.

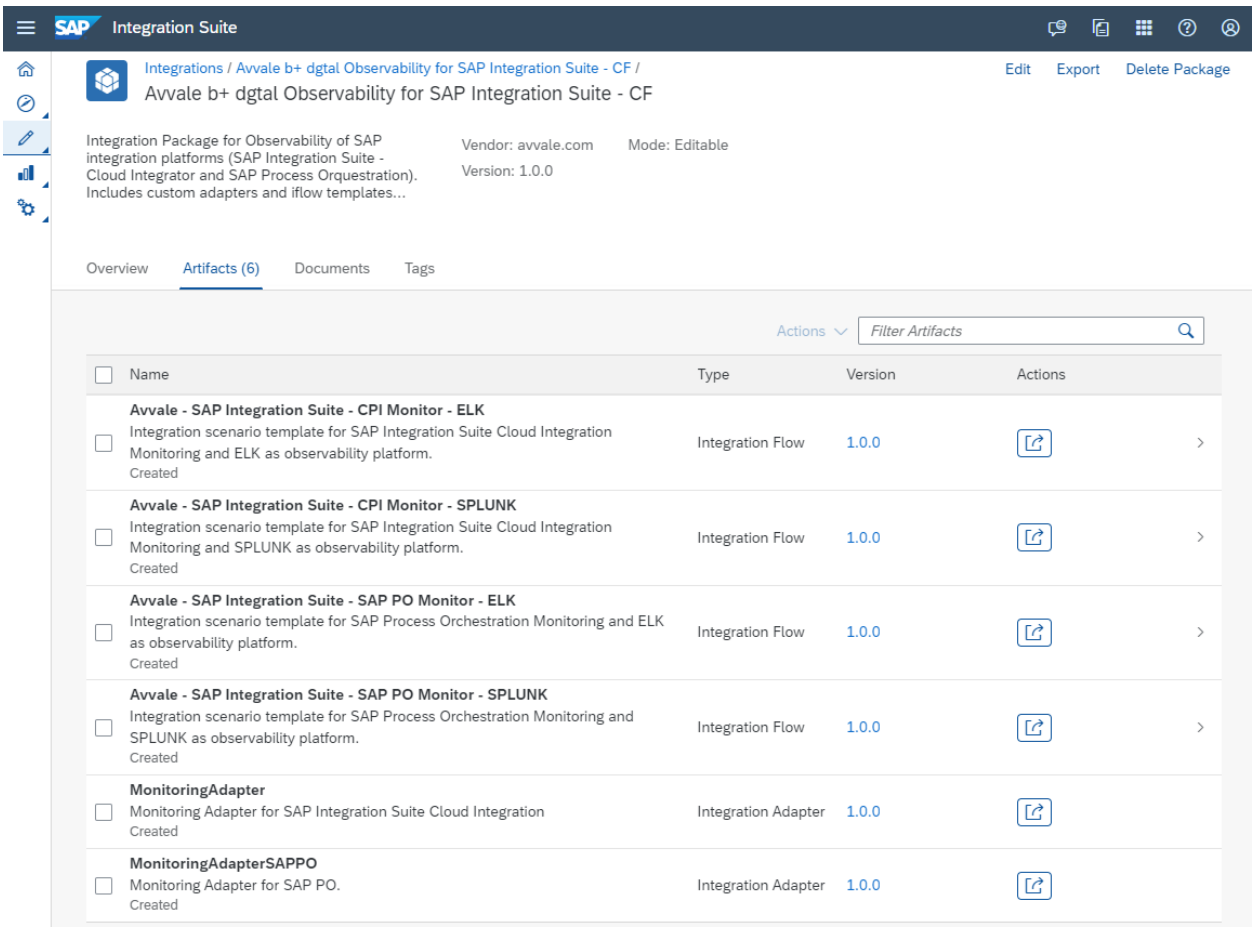
Via SAP PO Web Services and OData recovers information about iflow executions, channels, messages, certificates and BPMs status from previous day at a fixed time until the launch of adapter.

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



Avvale b+dgtal 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

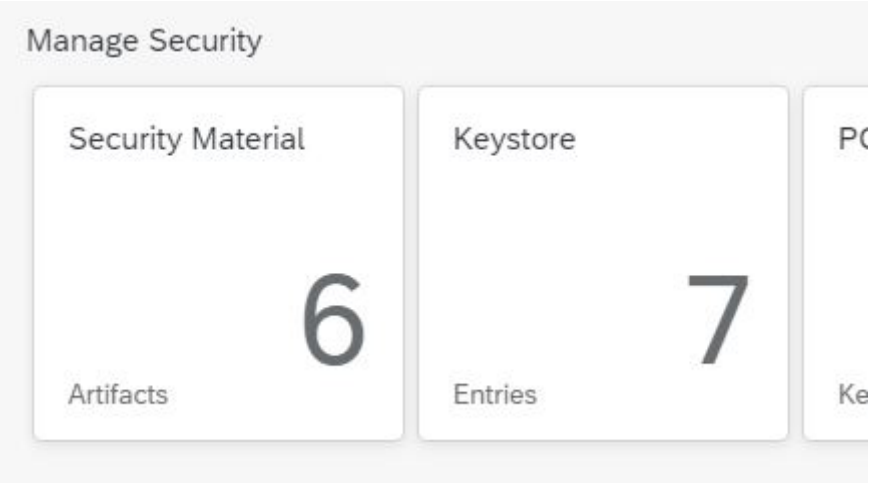
{ "grant-types": ["password"], "redirect-uris": [], "roles": ["MonitoringArtifactsDeploy", "WorkspaceArtifactLocksDelete", "WorkspaceArtifactLocksRead", "WorkspaceArtifactsDeploy", "WorkspacePackagesConfigure", "WorkspacePackagesEdit", "WorkspacePackagesRead", "WorkspacePackagesTransport", "MonitoringDataRead"]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

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

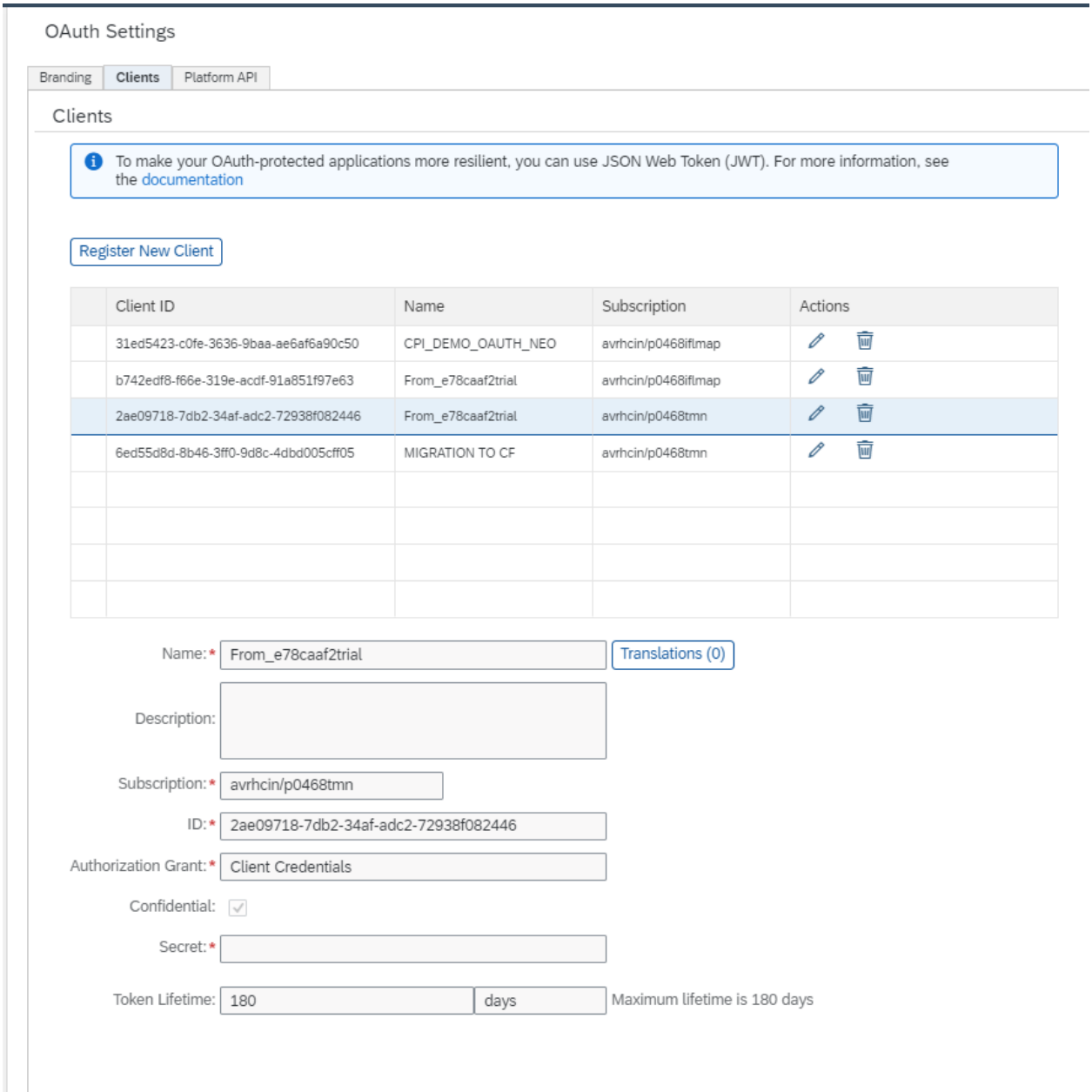
Security Material (6) Filter by

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

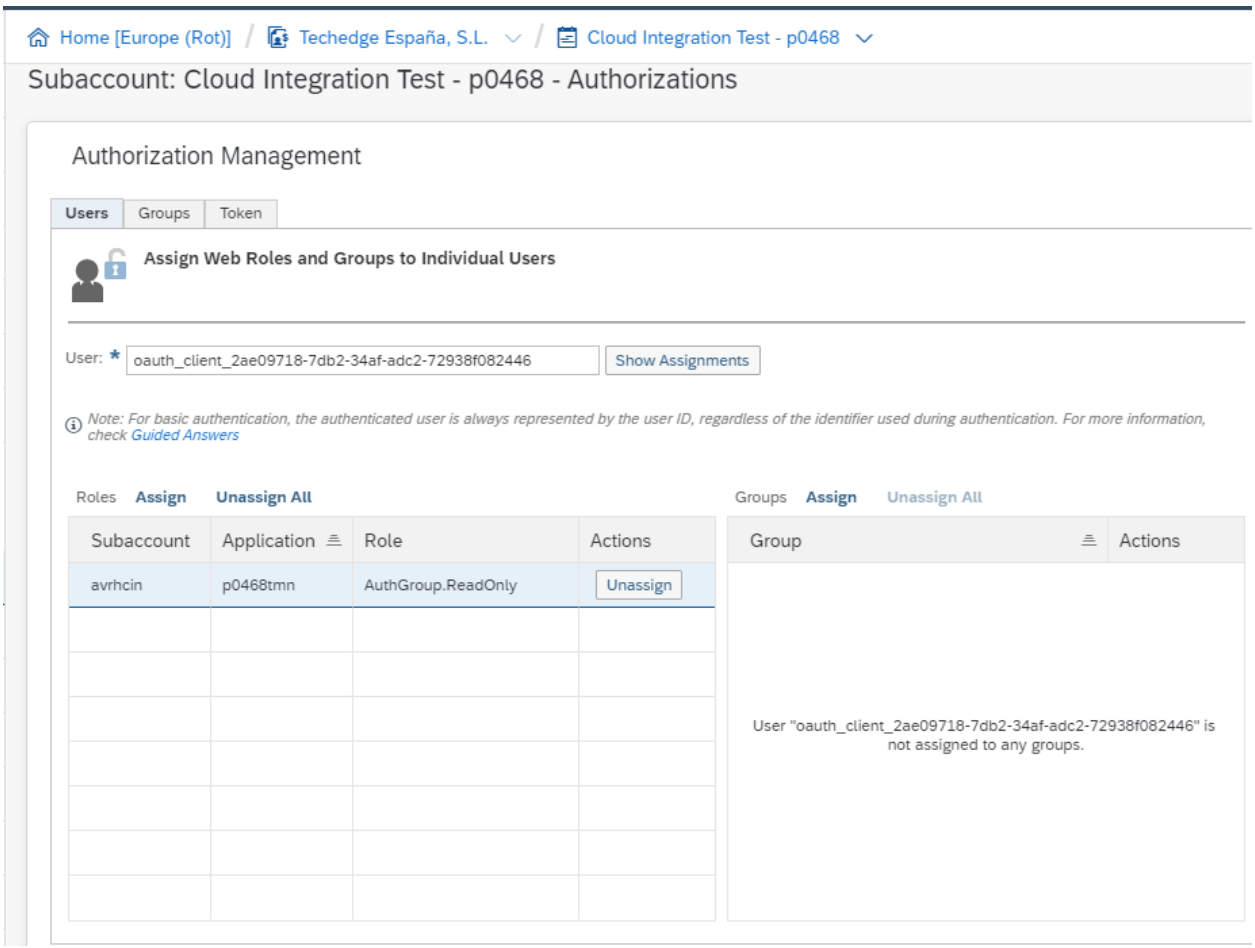
In case of Service Key authentication, use clientid as user and clientsecret as password.

- 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.



The role to be assigned is AuthGroup.ReadOnly



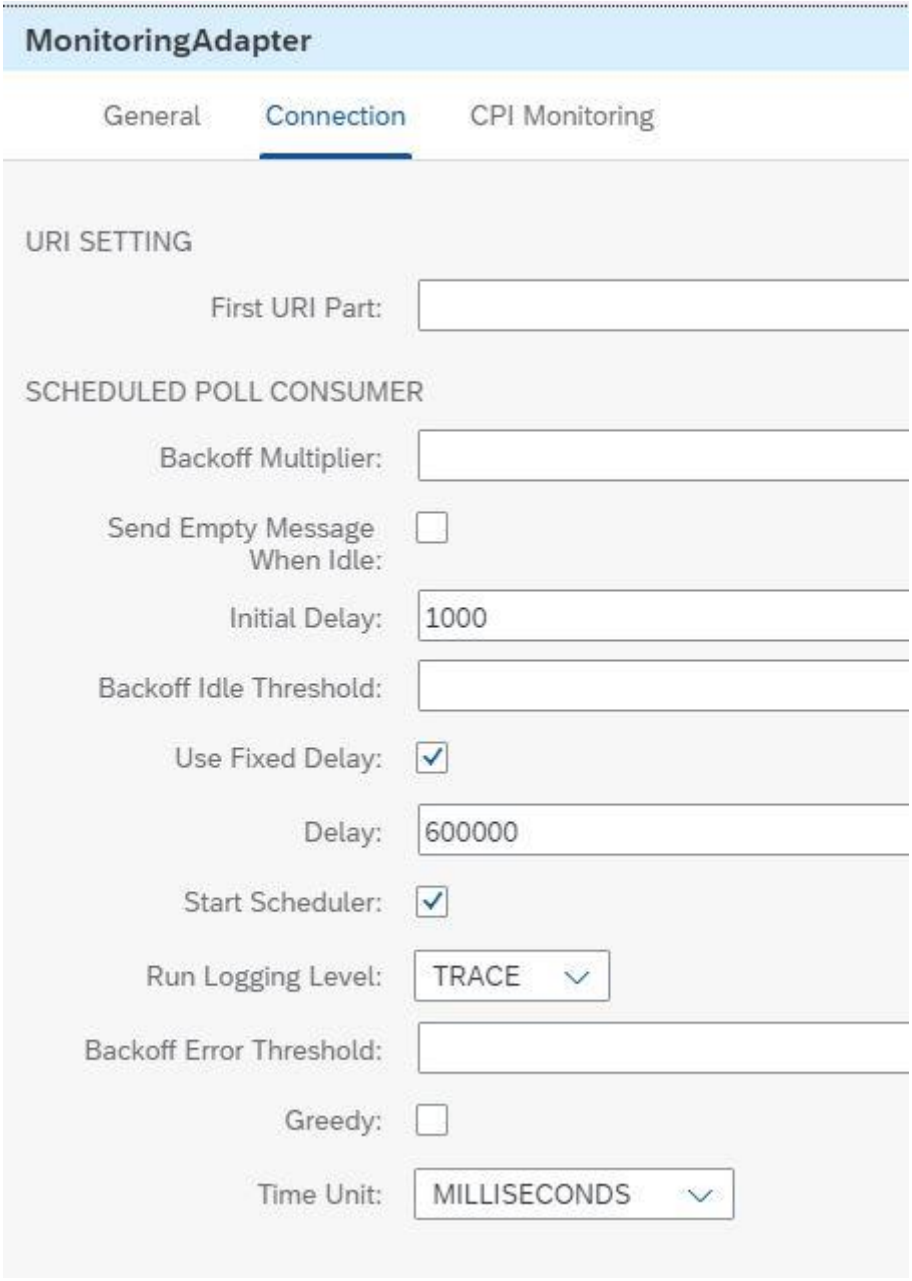
Also store client id and client secret as a security parameter which later will be used in the configuration of the adapter.

Configuration of integration flows

Import package **Avvale b+dgtal 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.

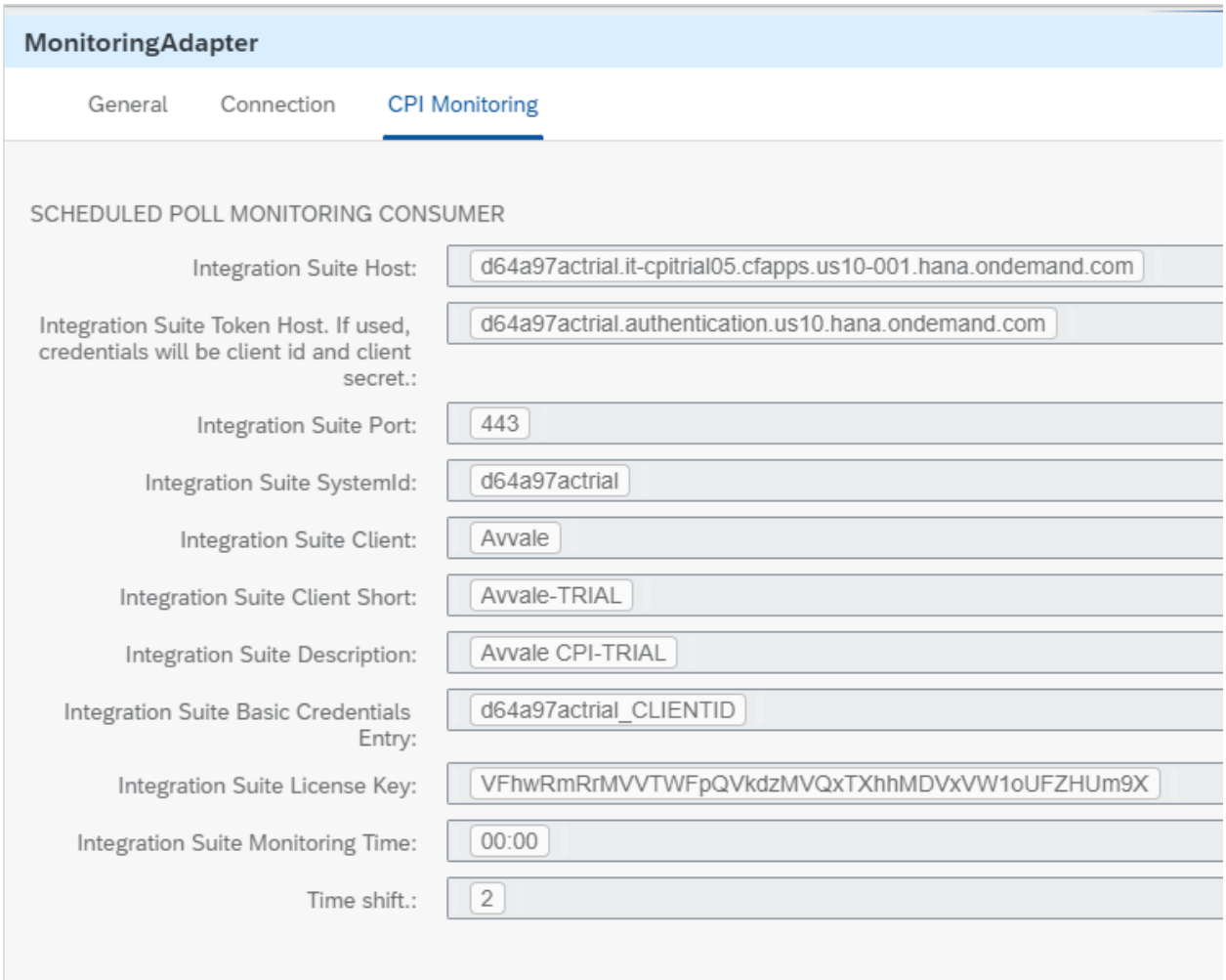
Adapter Properties configurations

Scheduled Polling



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

Custom Properties



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	6prfeuRi5QhhoIbiXXwATsDvnvPdQSXW7620iaD2Ili+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.

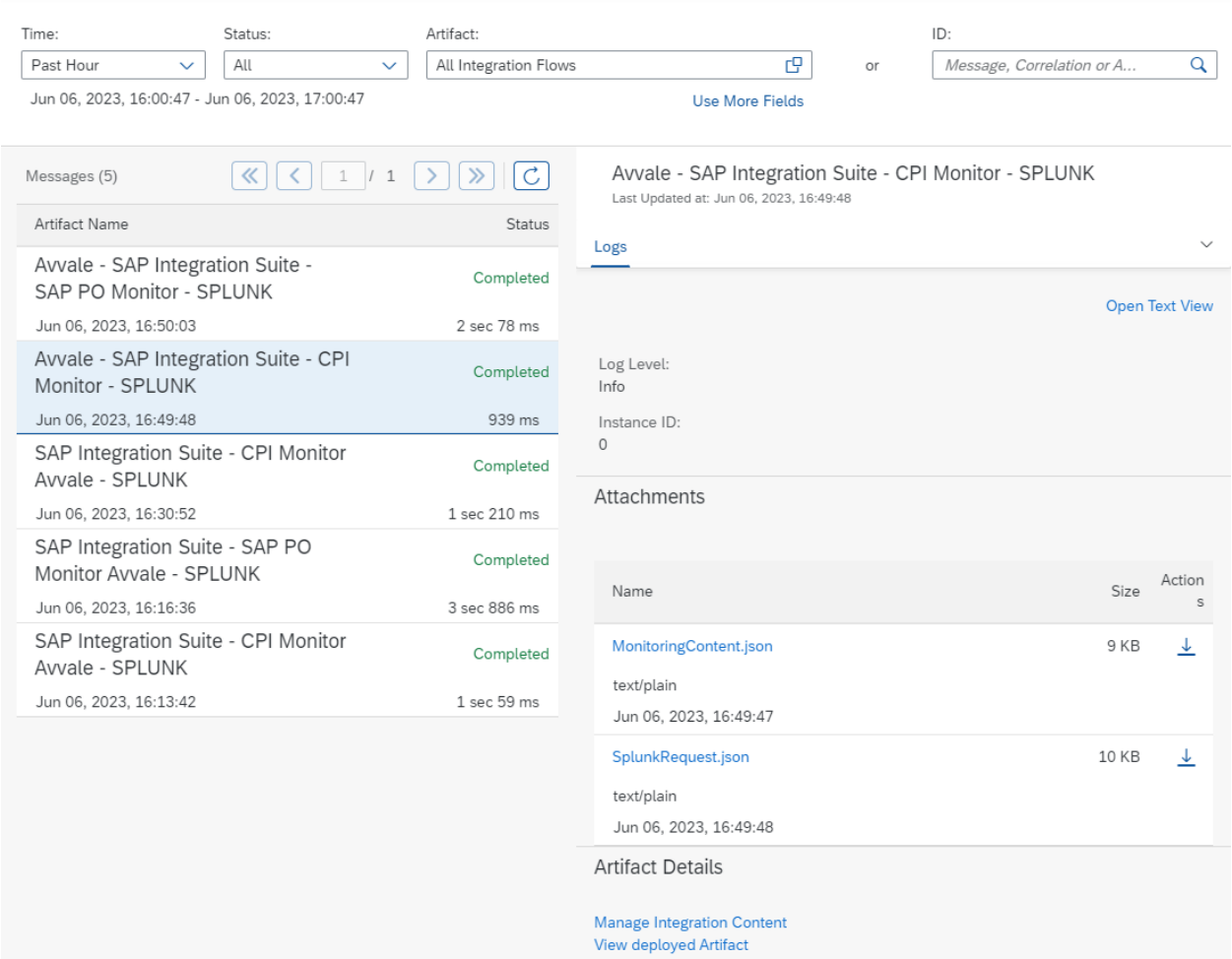
Configure "Avvale - SAP Integration Suite - CPI Monitor - SPLUNK"

Sender | Receiver | More

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



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*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":"Q049VmVyaVNpZ24gQ2xhc3MgMyBQdWJsaWMgUHJpbWFyeSBDZXJ0aWZpY2F0aW9uIEF1dGhvcml0eSAtIEc1LE9VPShjKSAyMDA2IFZlcmlTaWduXCwgSW5jLiAtIEZvciBhdXRob3JpemVkIHVzZSBvbmx5LE9VPVZlcmlTaWduIFRydXN0IE5ldHdvcmssTz1WZXJpU2lnblwsIEluYy4sQz1VUw==",*

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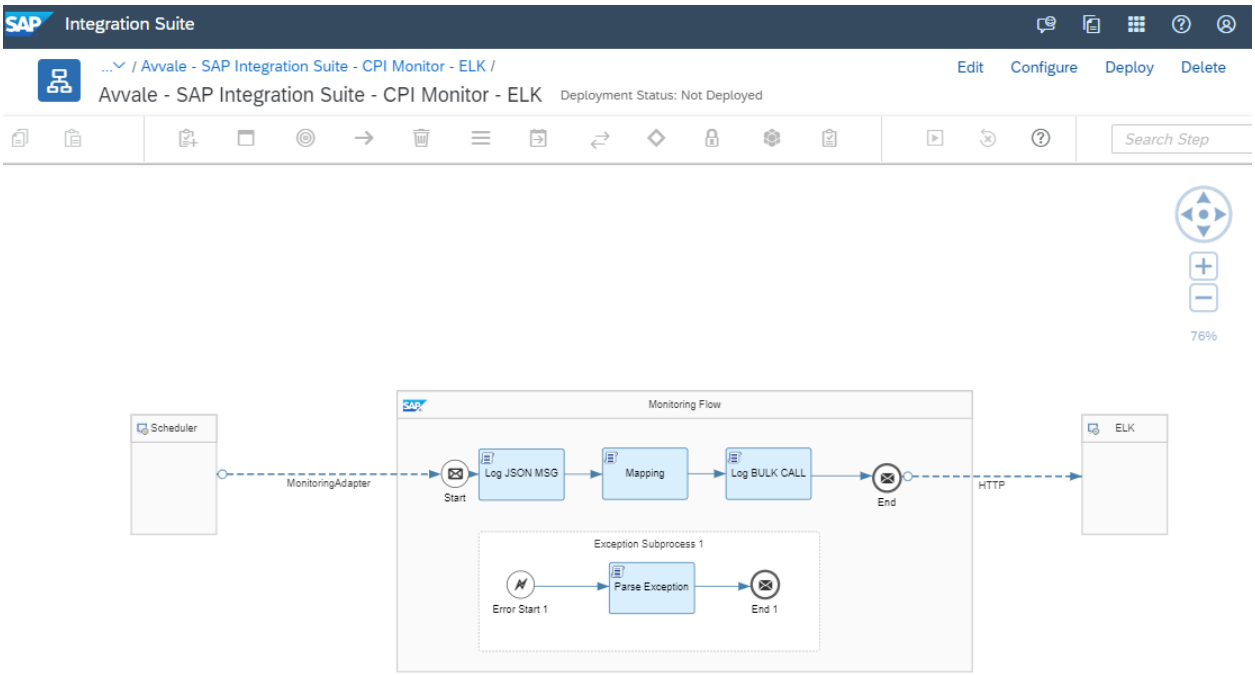
- **tenant** and **system** nodes represent metadata information about the system over which the monitorization it is performed.
- **message** and **artifacts overview** represents an overview of them during the monitoring time.
- **message**, **runtime** and **certificate details** provide the current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

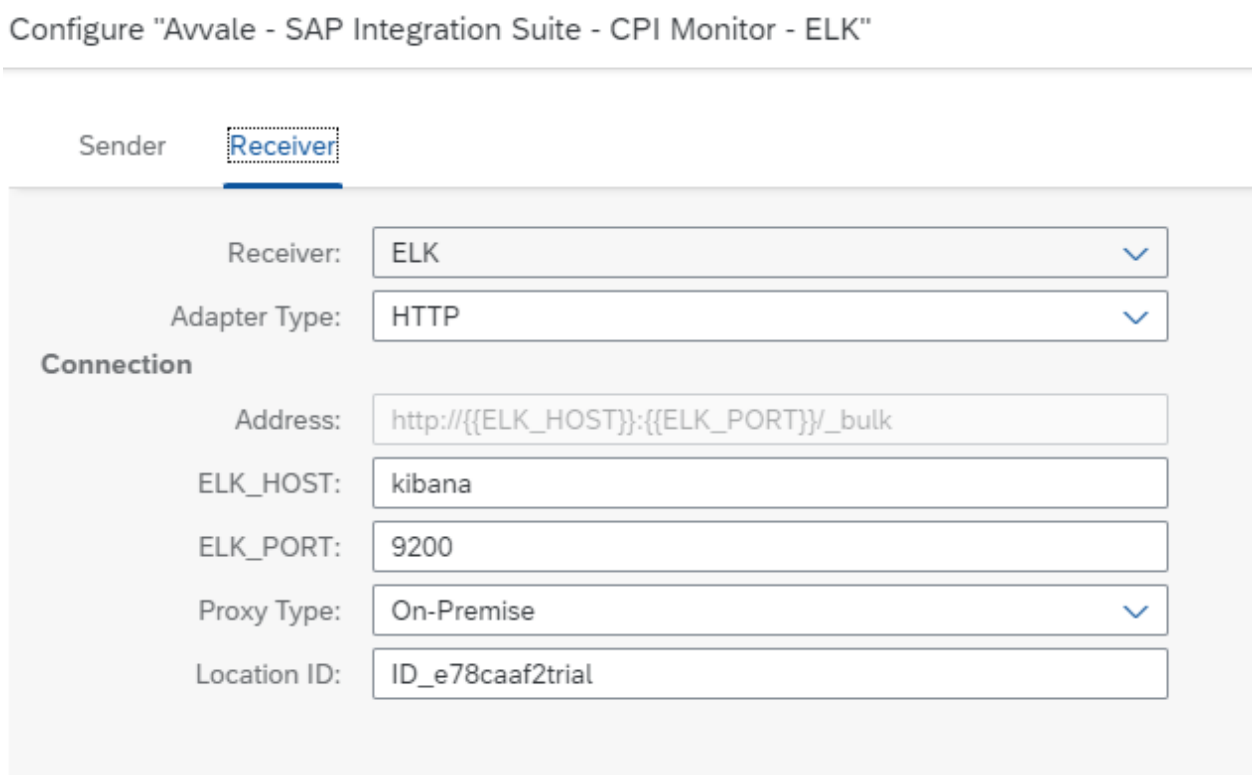
Template Description ELK

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.

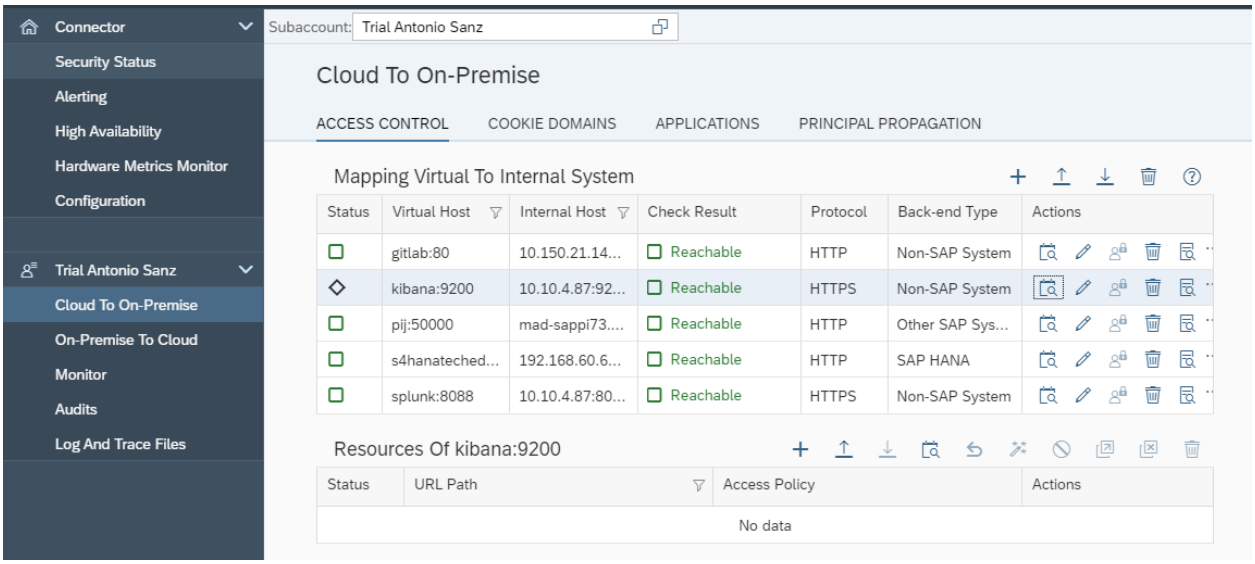


In order to send data to ELK, configuration of HTTP connector to ELK must be adapted, according to ELK instance:

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

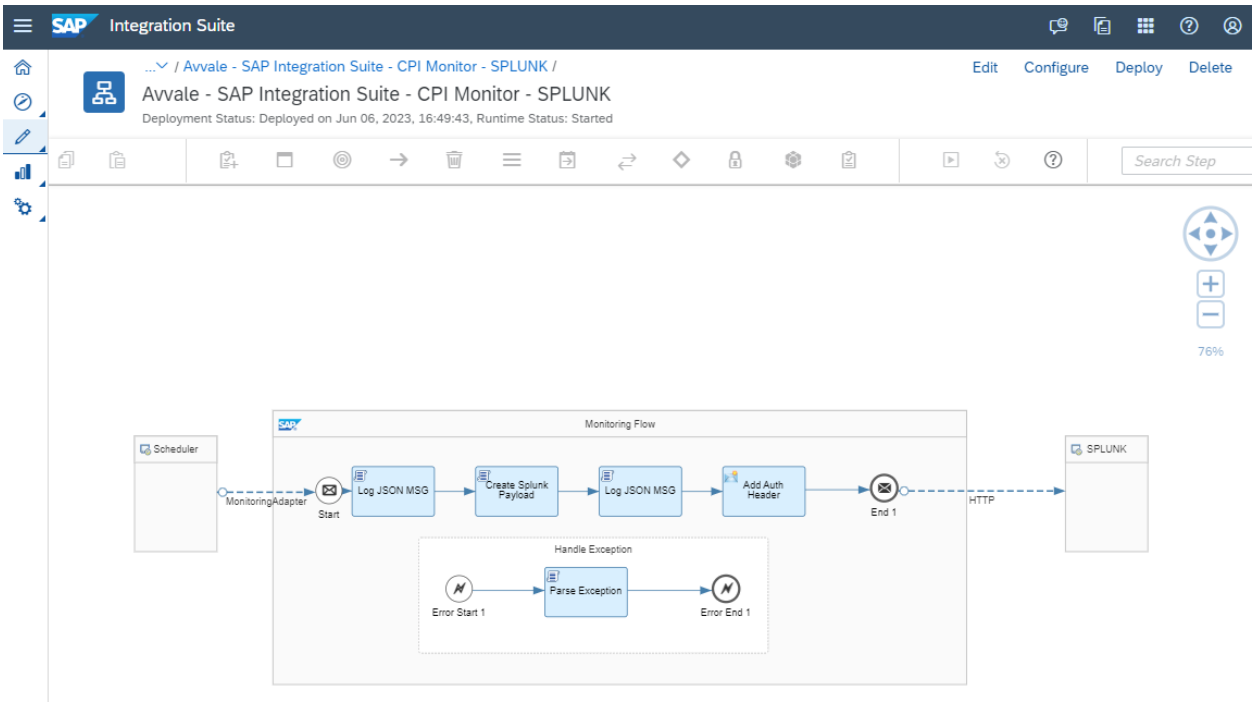


Note: ELK HOST and PORT, if they are inside the onpremise network, the should be created as a connection in SAP Cloud Connector, for instance:



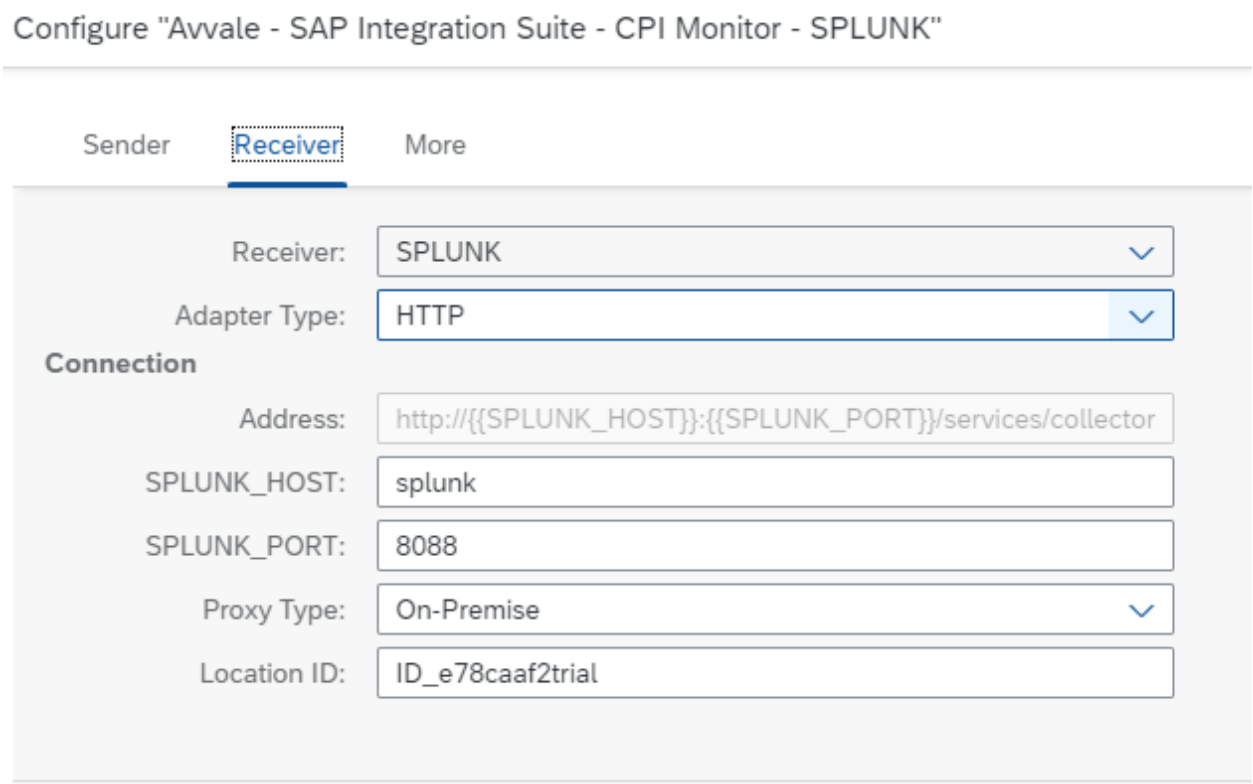
Template Description SPLUNK

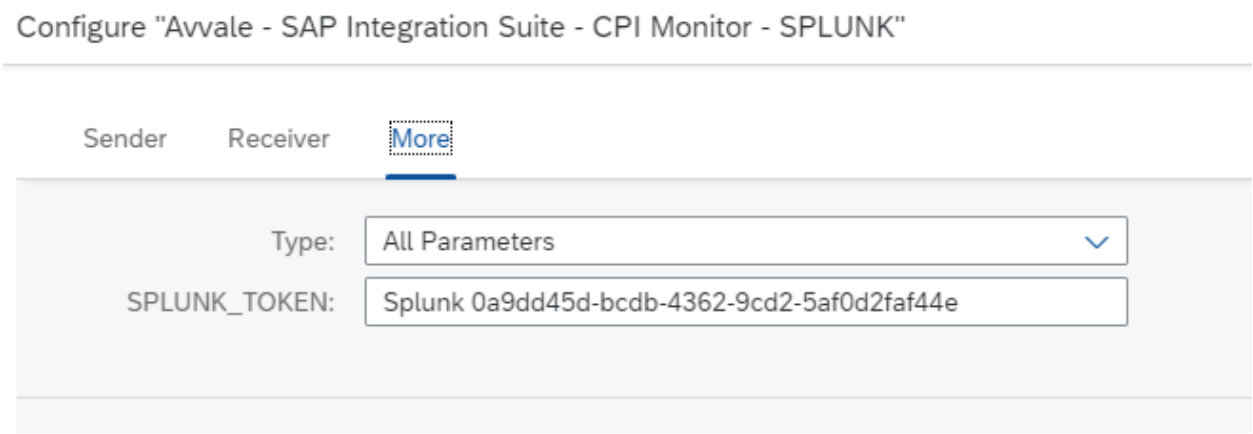
Once the data is recovered by the Monitoring Adapter, this information, which comes into json format is adapted and mapped to 4 different structures and sent to an Splunk instance.



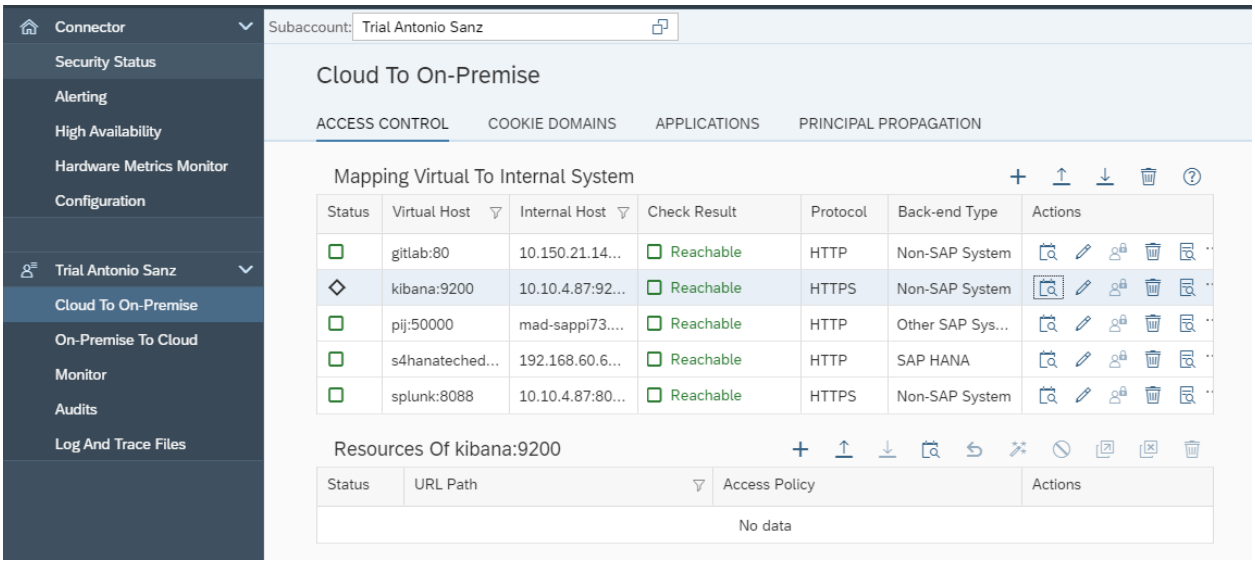
In order to send data to Splunk, configuration of HTTP connector to Splunk must be adapted, according to ELK instance:

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





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:



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 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-scpi`, `adapter-artifacts-scpi`,`adapter-messages-scpi` and `adapter-certificates-scpi` 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

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

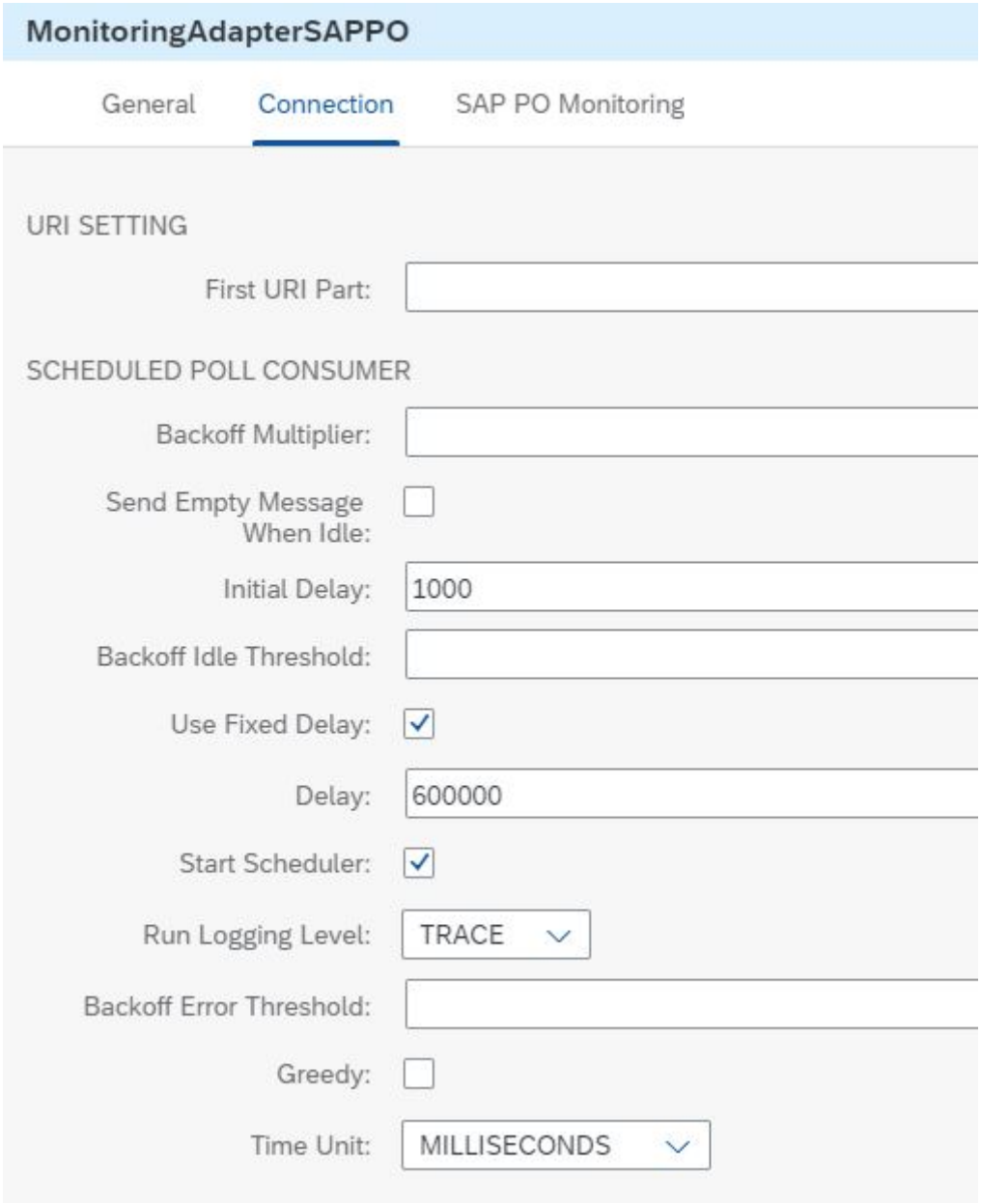
In order to be able to monitor Jobs, this user has to be added as JOB external scheduler in SAP PO
https://help.sap.com/docs/SAP_Solution_Manager/c458e6a97c6746f2afb2a3d1bf0a630b/f1e4178768574d3fb3e3522ee7cac66d.html

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.

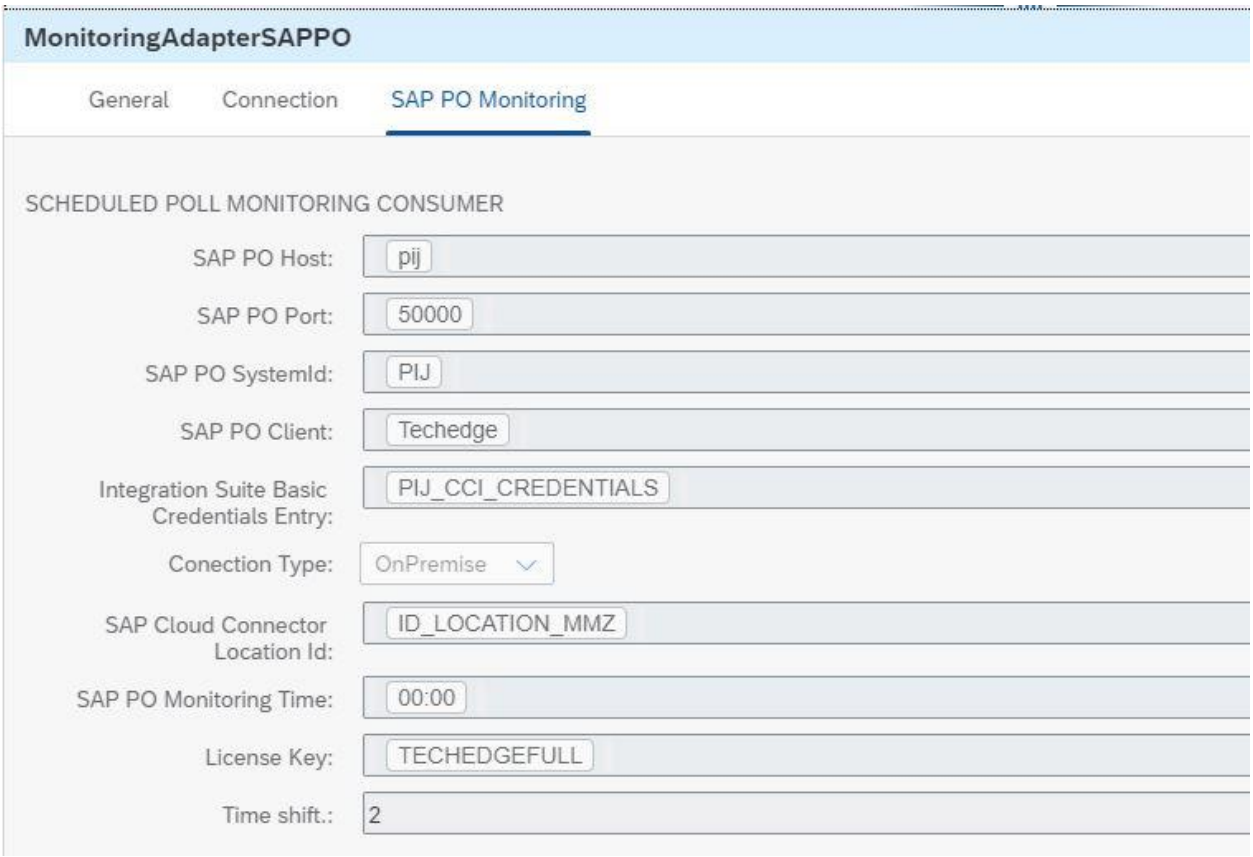
Adapter Properties configurations

Scheduled Polling



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

Custom Properties



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_TECHEDGE_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. Avaliable 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	U2VydmVyIDAwIDAwXzE4MTExIDogVXNlciBpcyBsb2NrZWQuIFBsZWFzZSBub3Rp
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 - SAP PO Monitor - SPLUNK"

Sender | Receiver | More

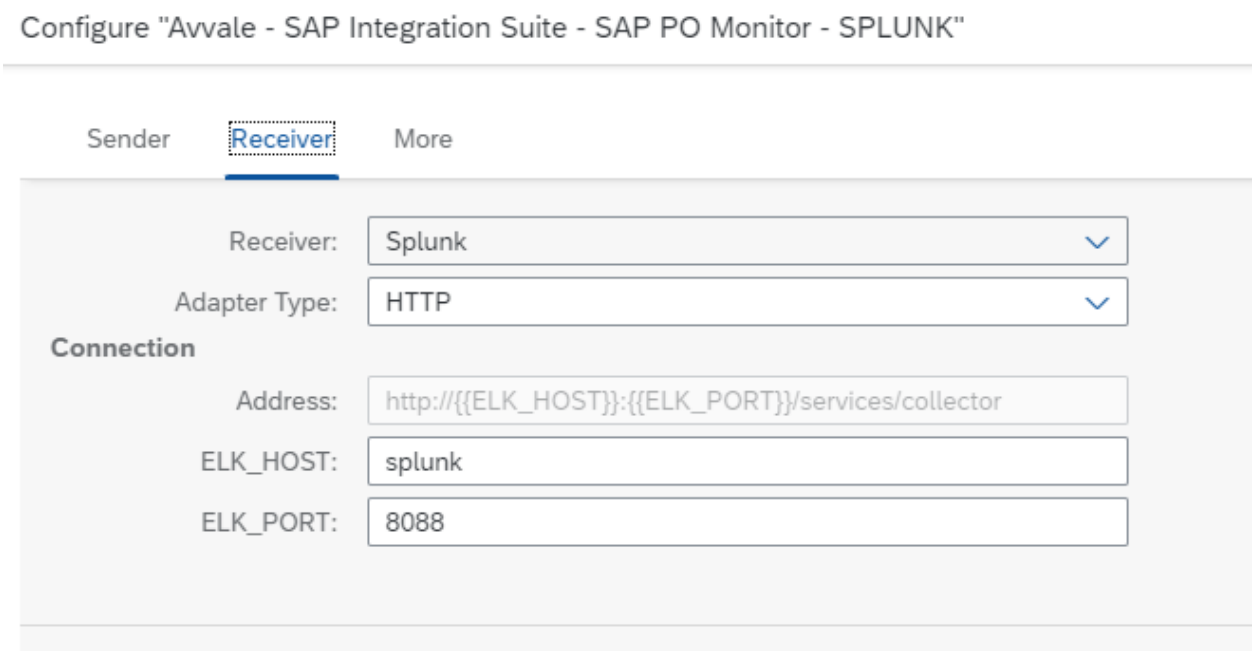
Sender:	Scheduler
Adapter Type:	MonitoringAdapterSAPPO

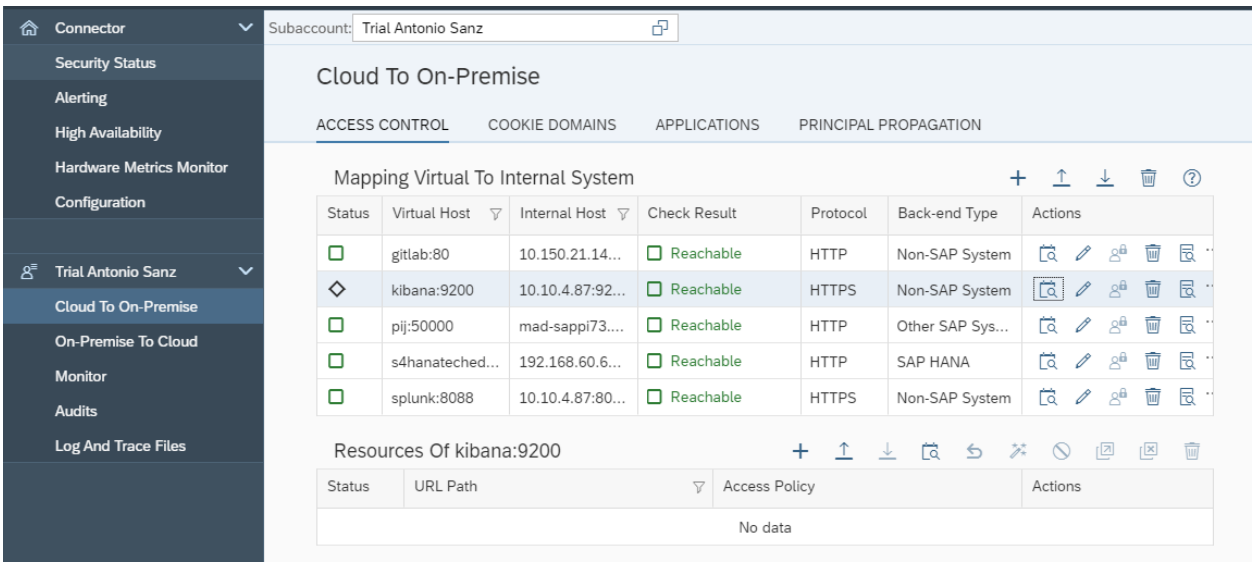
Connection

Initial Delay:	1000
Delay:	3600000

SAP PO Monitoring

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

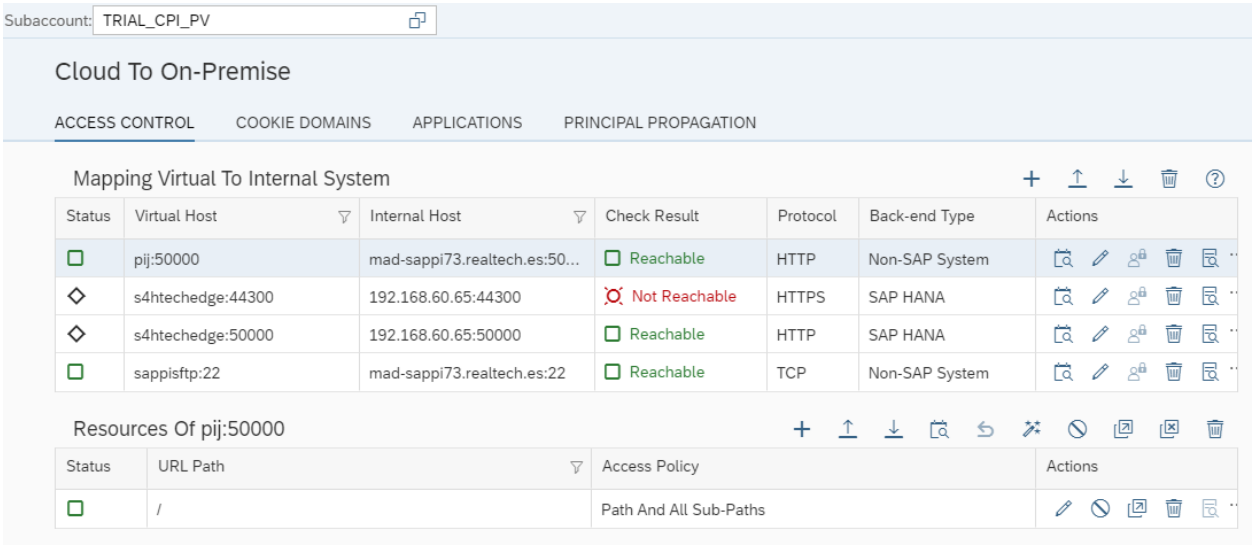




SAP Cloud Connector

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):

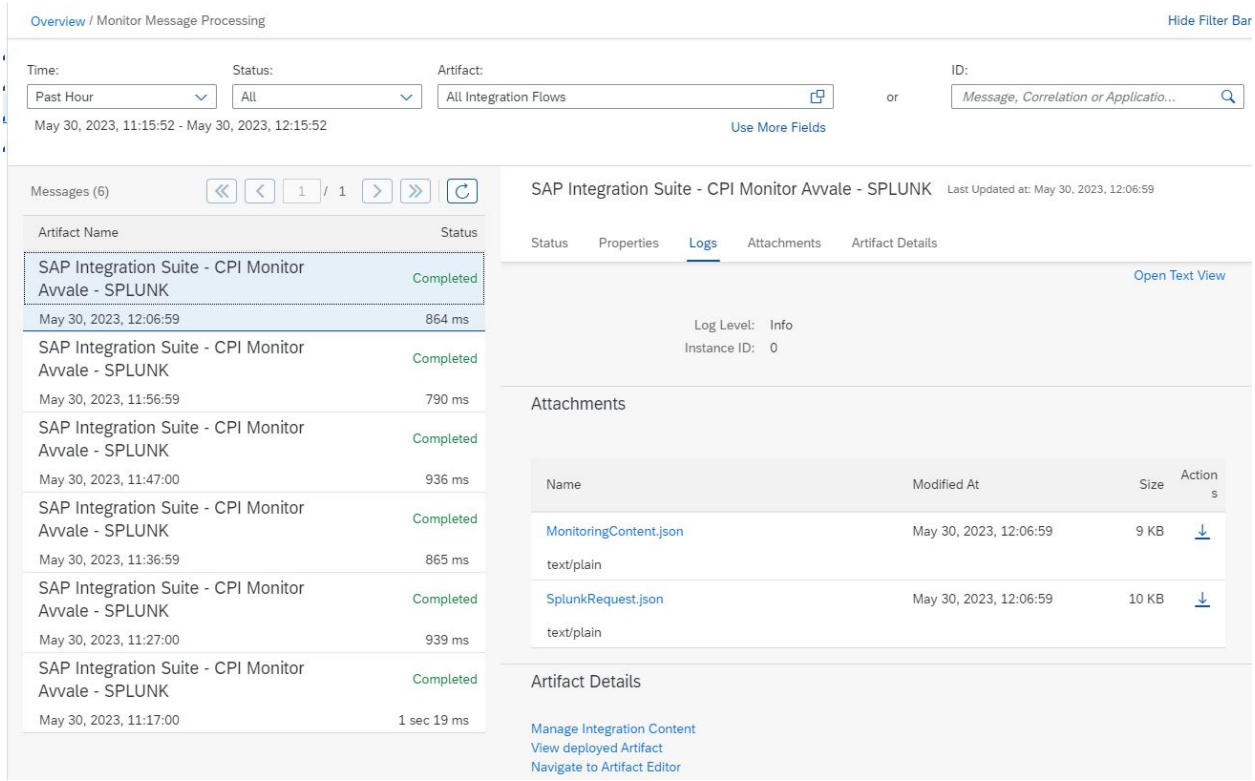


Follow official SAP Cloud Connector documentation: https://help.sap.com/docs/CP_CONNECTIVITY/cca91383641e40ffbe03bdc78f00f681/e6c7616abb5710148cfcf3e75d96d596.html

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,



{

***"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,
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        "error":0,
        "retry":0,
        "escalated":0
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        "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":"Q049VmVyaVNpZ24gQ2xhc3MgMyBQdWJsaWMgUHJpbWFyeSBDZXJ0aWZpY2F0aW9uIEF1dGhvcml0eSAtIEc1LE9VPShjKSAyMDA2IFZlcmlTaWduXCwgSW5jLiAtIEZvciBhdXRob3JpemVkIHVzZSBvbmx5LE9VPVZlcmlTaWduIFRydXN0IE5ldHdvcmssTz1WZXJpU2lnbiwgSW5jLixDz1VUw==",

"issuerDN":"Q049VmVyaVNpZ24gQ2xhc3MgMyBQdWJsaWMgUHJpbWFyeSBDZXJ0aWZpY2F0aW9uIEF1dGhvcml0eSAtIEc1LE9VPShjKSAyMDA2IFZlcmlTaWduXCwgSW5jLiAtIEZvciBhdXRob3JpemVkIHVzZSBvbmx5LE9VPVZlcmlTaWduIFRydXN0IE5ldHdvcmssTz1WZXJpU2lnbiwgSW5jLixDz1VUw==",

"version":"",

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"fingerprintSha512":"",

"type":"",

"owner":"",

"lastModifiedBy":"",

"lastModifiedTime":"",

"createdBy":"",

"createdTime":"",

"status":"",

"relatedIflows":""

}

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{

"alias":"sap_digicert global ca g2",

"keystoreView":"",

"keytype":"",

"keysize":"",

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"validNotAfter":"2028-08-01 13:00:00",

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"signatureAlgorithm":"",

"subjectDN":"Q049RGlnaUNlcnQgR2xvYmFsIENBIEcyLE89RGlnaUNlcnQgSW5jLEM9VVM=",

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"fingerprintSha512":"",

"type":"",

"owner":"",

"lastModifiedBy":"",

"lastModifiedTime":"",

"createdBy":"",

"createdTime":"",

"status":"",

"relatedIflows":""

}

,

{

"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":"Q049VmVyaVNpZ24gVW5pdmVyc2FsIFJvb3QgQ2VydGlmaWNhdGlvbiBBdXRob3JpdHksT1U9KGMpIDIwMDggVmVyaVNpZ25cLCBJbmMuIC0gRm9yIGF1dGhvcml6ZWQgdXNlIG9ubHksT1U9VmVyaVNpZ24gVHJ1c3QgTmV0d29yayxPPVZlcmlTaWduXCwgSW5jLixDPVVT",

"issuerDN":"Q049VmVyaVNpZ24gVW5pdmVyc2FsIFJvb3QgQ2VydGlmaWNhdGlvbiBBdXRob3JpdHksT1U9KGMpIDIwMDggVmVyaVNpZ25cLCBJbmMuIC0gRm9yIGF1dGhvcml6ZWQgdXNlIG9ubHksT1U9VmVyaVNpZ24gVHJ1c3QgTmV0d29yayxPPVZlcmlTaWduXCwgSW5jLixDPVVT",

"version":"",

"fingerprintSha1":"",

"fingerprintSha256":"",

"fingerprintSha512":"",

"type":"",

"owner":"",

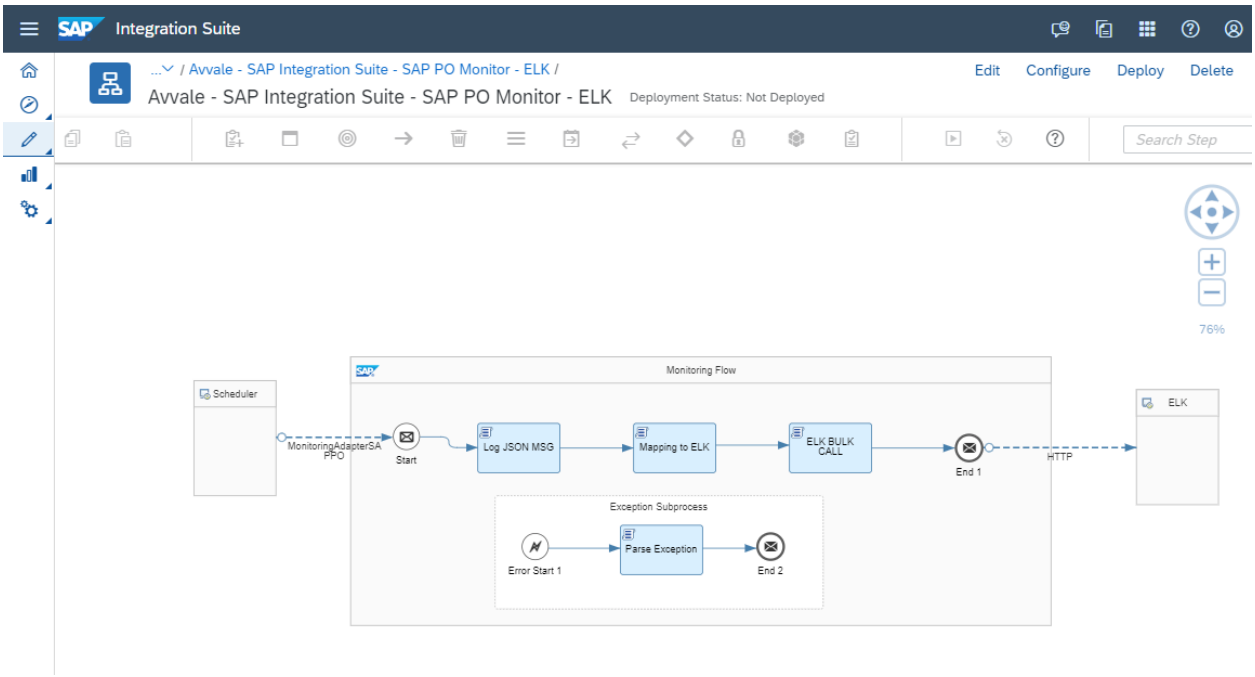
```
                "lastModifiedBy":"",
                "lastModifiedTime":"",
                "createdBy":"",
                "createdTime":"",
                "status":"",
                "relatedIflows":""
                }


                }
}]}
```


- **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

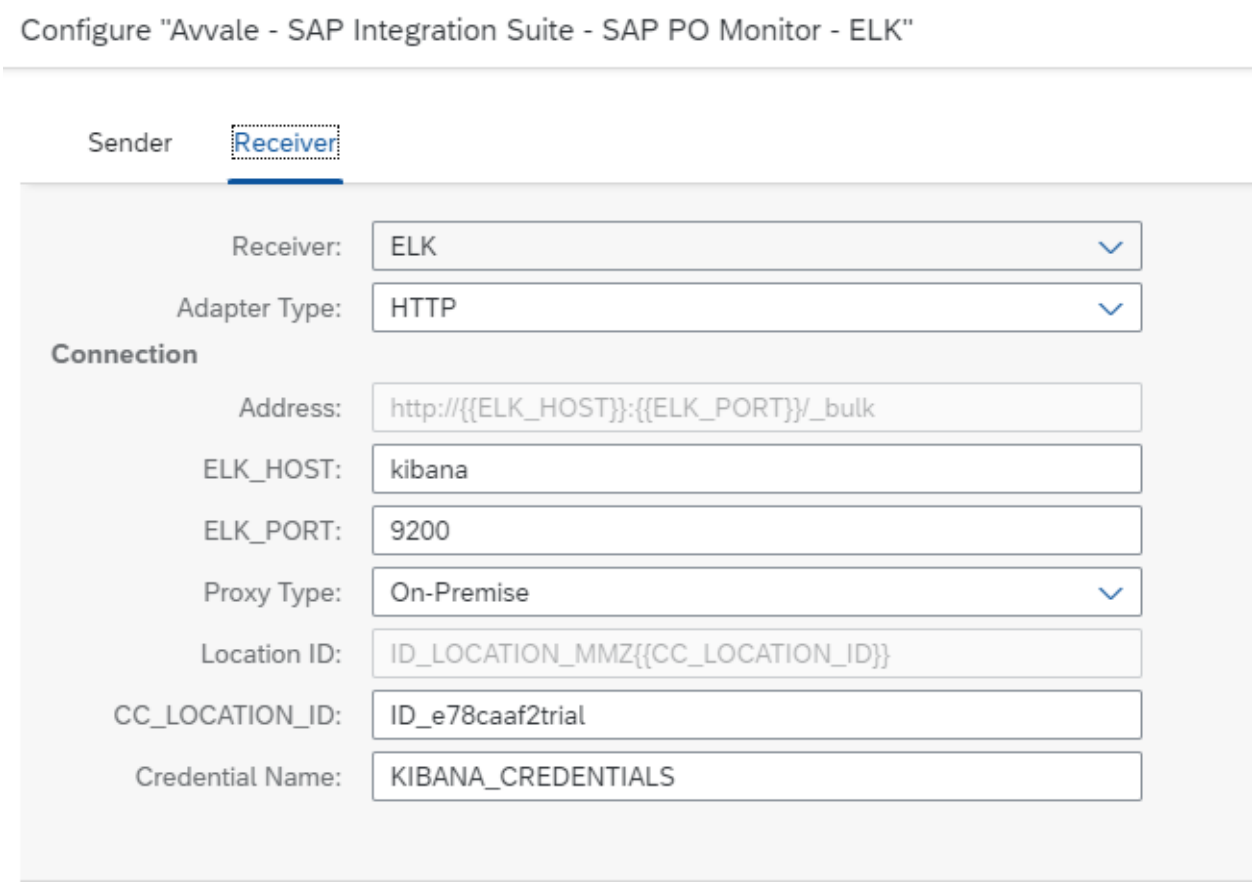
Template Description ELK

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.

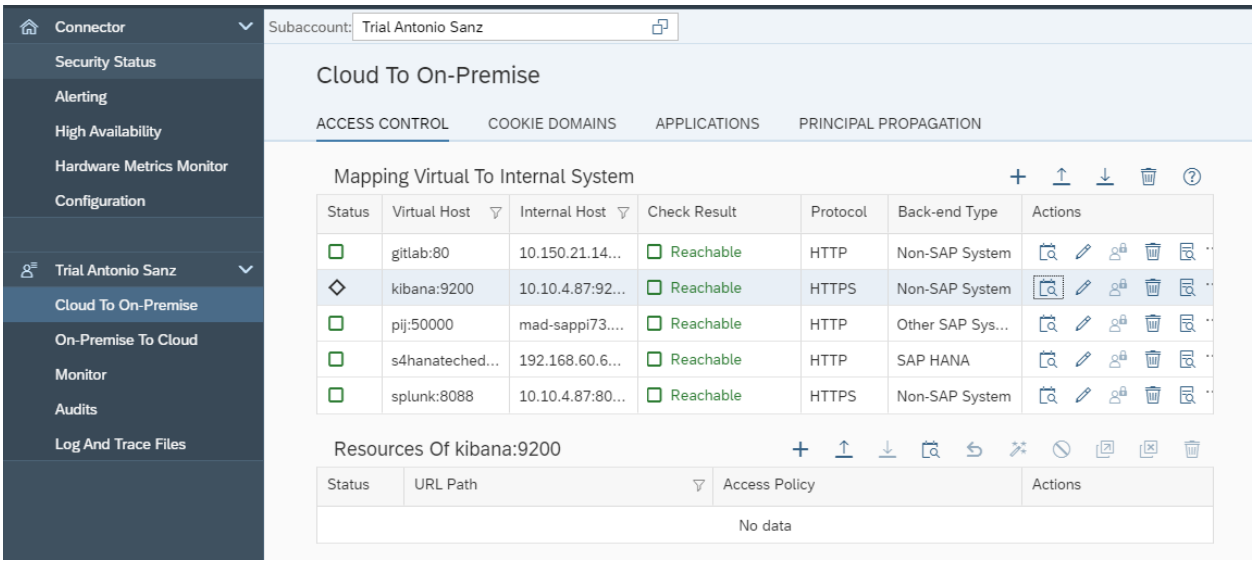


In order to send data to ELK, configuration of HTTP connector to ELK must be adapted, according to ELK instance:

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

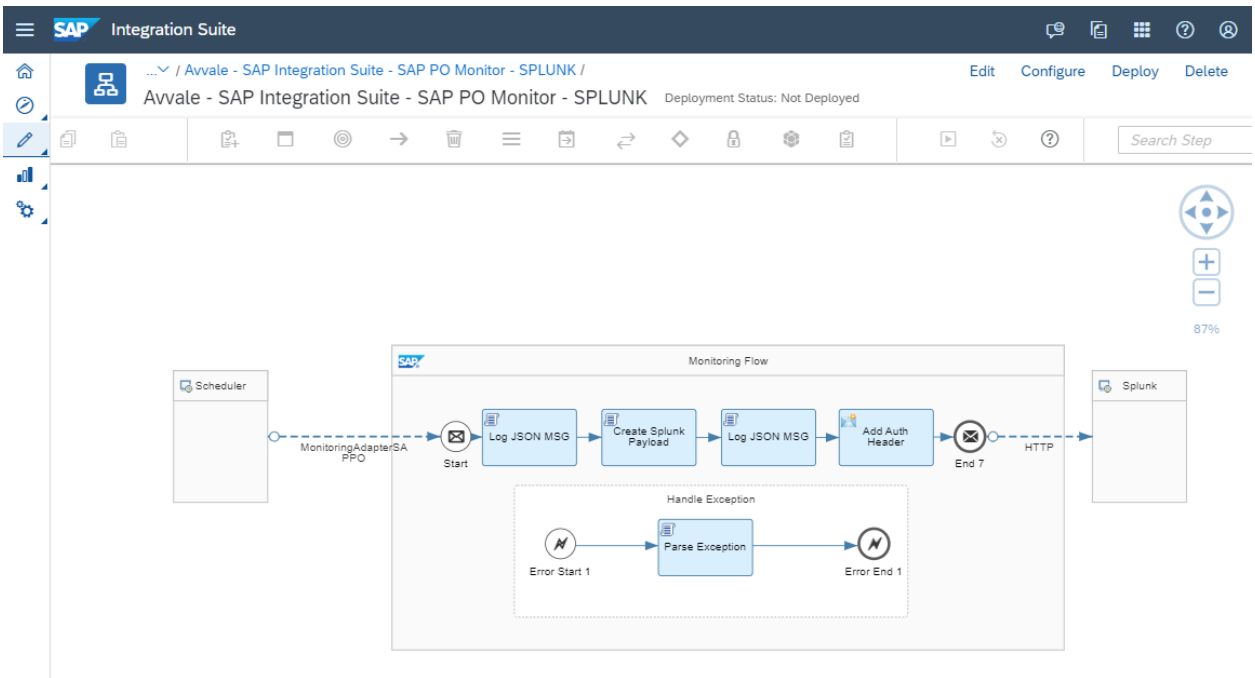


Note: ELK HOST and PORT, if they are inside the onpremise network, the should be created as a connection in SAP Cloud Connector, for instance:



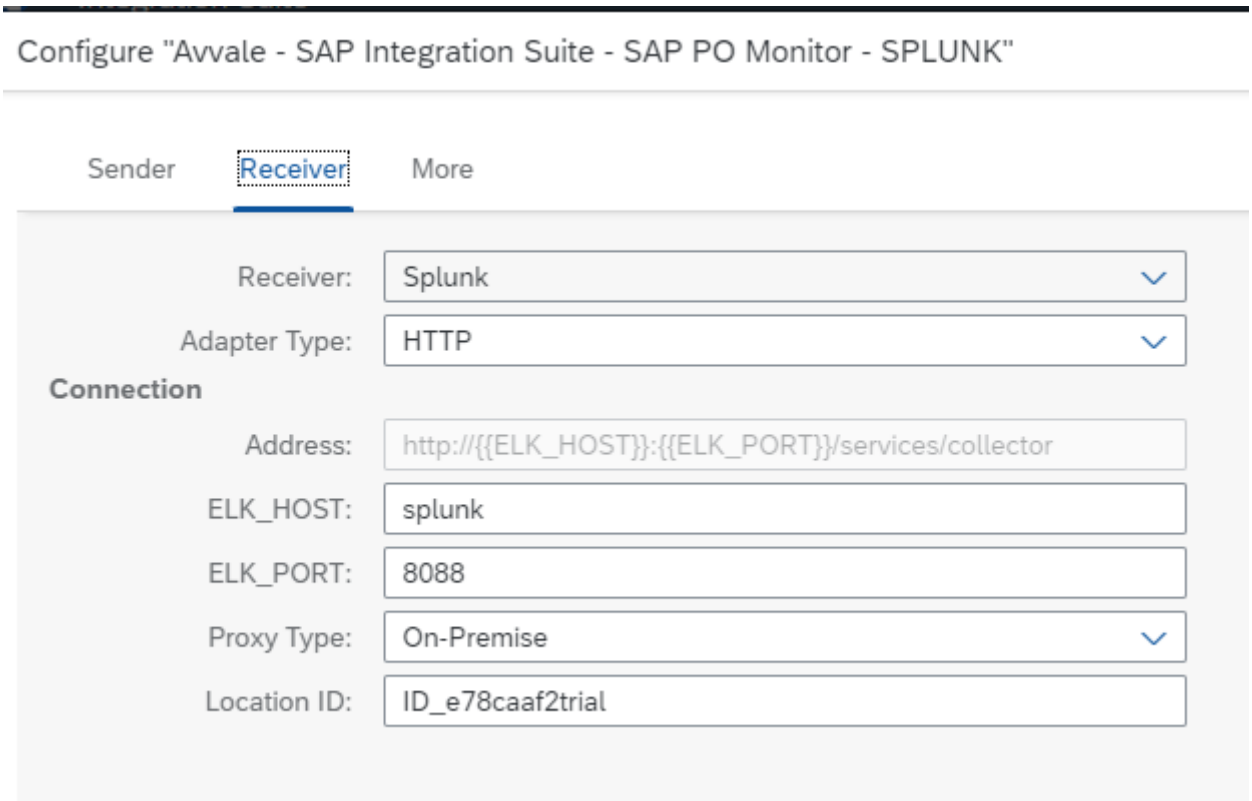
Template Description SPLUNK

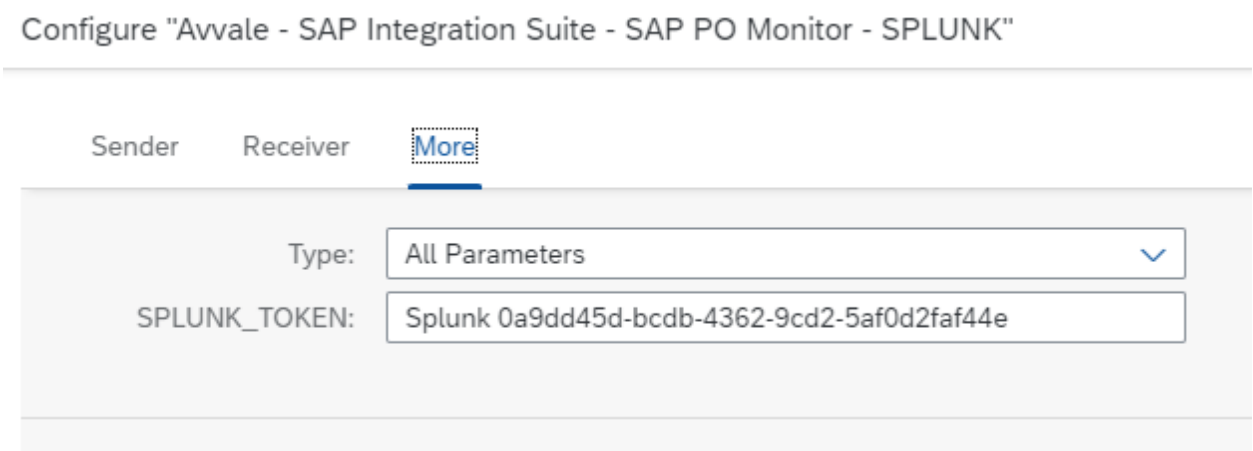
Once the data is recovered by the Monitoring Adapter, this information, which comes into json format is adapted and mapped to 4 different structures and sent to Splunk instance.



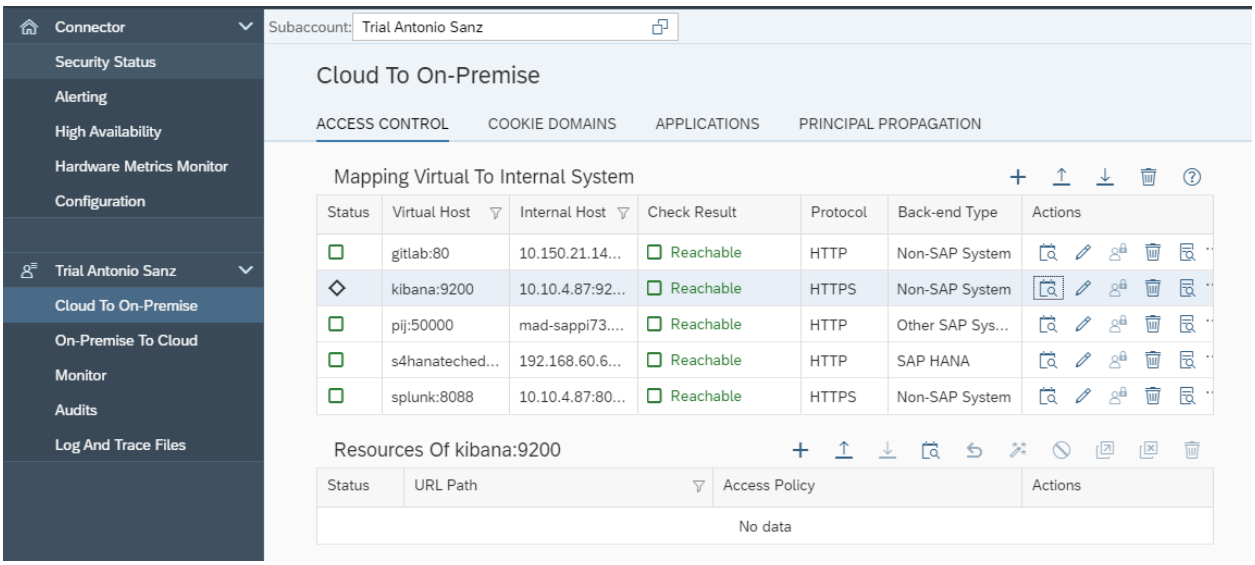
In order to send data to Splunk, configuration of HTTP connector to Splunk must be adapted, according to ELK instance:

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





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:



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


avvale
Enabling what's next