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Employee Central to hrX Exchange

Integration Guide Event Driven Integration
Version 2.0



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1.0	New document.	All document
1.1	Update notes on unsupported scenarios	2.2
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Introduction

This implementation guide enables the configuration needed in both Employee Central and SCPI (Sap Cloud Platform Integration) for the integration of Event Driven Integration to hrX Exchange.

Related documents

All related documents can be found in [NGA Help Center](#).

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1 Introduction

This document covers the configuration of Event Driven integrations from Employee Central to Exchange. It is leveraging the Integration Center and Intelligent Service Center capabilities in Employee Central. Clients expect real-time integrations between systems and NGA is supporting this is possible. Implemented for over a year with Workday, NGA HR is now ready to also deliver this for selected scenarios when EC is used.

The main benefit is that it eliminates the waiting time for new hires, terminations, rehires to show up in Exchange before further actions can be performed on the employee such as entering tax and social security data. So rather than pulling EC for changes every 15 minutes, this approach pushes the new hire to Exchange upon completion of the process and its workflow.

Business rules can be tweaked to ensure that only hires relevant for NGA HR would use this new way of integration.

SAP has not activated event driven integration for all EC portlets, but it is enabled for the life cycle events like hire, termination, rehire, global assignment and concurrent employment.

Once SAP enables more events, NGA HR would add the support for it.

2 Integration Overview

2.1 Supported Scenarios in Employee Central

1. Real time integration via Intelligent Service Center for hire, termination, rehire events.
2. Adhoc run through the standard package in case EDI through ISC is not working as expected. It is recommended that another copy/instance of the standard package is created for ad-hoc execution.
3. Standard package not sending the events twice to hrX Exchange when EDI is enabled.
4. Support hire for fixed term in 13.0. A fixed term hire is a person with a predefined termination date upon the hiring. This is different from the process where you would enter the termination at a later stage.
5. Support rehire with new employment in 13.0. This feature from Employee Central enforces new employment in case of a rehire. This means if a terminated employee changes from one legal entity to another, then Employee Central now requires a rehire with new employment rather than a job change.
6. Ensures correct approver ID for direct reports under a manager in concurrent employment when hire is triggered via EDI (14.0)

2.2 Unsupported Scenarios

Following scenarios related to EDI employment are not supported as of Exchange 12.0:

1. Error handling and notification when events failed in hrX Exchange.
Workaround: Existing monitoring best practice in hrX Exchange.
2. Resending of failed events after correction.
Workaround: Existing event failure handling and correction practice in hrX Exchange.
3. Top of the stack. This is a known limitation of the package integration in which the compound employee API returns only the last changed record. So, in case of multiple job info changes on the same day, only the last record change is sent to Exchange. In EDI, though the event is sent to Exchange immediately, this limitation is still possible when hire for instance is parked for approval and changes are performed prior to approval.
Workaround: Ensure that succeeding changes after the EDI related event are performed when the event has been interface to Exchange.

In the majority of the business processes, the above limitations should not have an impact.

2.3 Prerequisites and Considerations

2.3.1 Employee Central

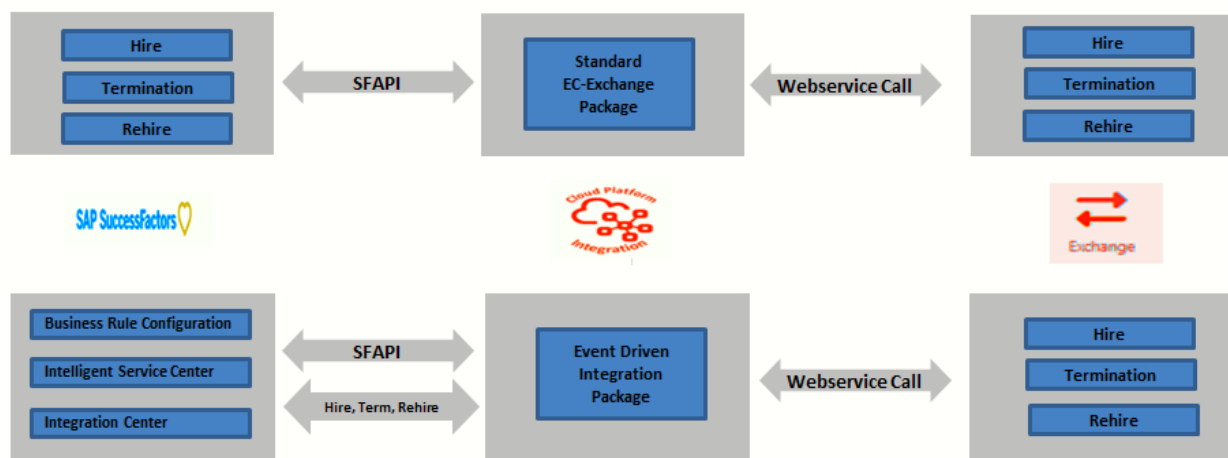
- Intelligent Service Center and Integration Center should be activated and enabled.
- The consultant must be familiar with configurations and has experience in Intelligent Service Center, and Integration Center and troubleshooting integrations. Please check with your SuccessFactors Employee Central functional team for support.
- Event reasons for standard events for hire, termination, and rehire are maintained.

2.3.2 SAP Cloud Platform Integration

- The client must have an existing operational production and test SCPI tenants for integration with NGA.
- The consultant performing the configuration steps must be familiar with SCPI and execution and monitoring of packaged installations.

2.4 Technical Process Flow

The event driven flow is visualized below and shows that a business rule triggers an event for hire, termination, and rehire. The events are picked up by the Intelligent Service Center with source flow define in Integration Center. The configured integration from the Integration Center then makes a web service call to the NGA SCPI Event Driven Integration iflow. This iflow then sends the employee's hire, termination, and rehire records over to hrX Exchange.



Results in hrX Exchange

Event in Employee Central	hrX Exchange
Employee Hire	<ul style="list-style-type: none">Employee hired with hire reason = event reason for standard hire event. The creation of hire record is delivered via ISC in real time or via the regular run of the standard package.
Employment Termination	<ul style="list-style-type: none">Employee terminated with termination reason = event reason for standard termination event. The creation of termination record is delivered via ISC in real time or via the regular run of the standard package.
Employee Rehire	<ul style="list-style-type: none">Employee rehired with hire reason = event reason for standard rehire event. The creation of rehire record is delivered via ISC in real time or via the regular run of the standard package.

3 Configuration

It is possible to deviate from the configuration steps below e.g. aligning naming convention in line with existing policies.

3.1 Employee Central Configuration

This section describes the configuration steps in Employee Central, Intelligent Service Center, and Integration Center to set-up the event driven integration.

3.1.1 Configuration of the business rules

Required business rules for NGA's event driven integration have been exported and made available in this guide so that it can be conveniently imported to a target SuccessFactors instance of a customer. This would reduce the numerous manual actions which can lead to errors and at the same time ensures ease, fast, and reliable implementation.

Procedure:



NGA_BusinessRules_EDI.csv

1. Download NGA Business Rule for EDI (.csv)
2. Navigate to the Admin Center. In the Tools search field, type Import and Export Data.

3. *** Select the action to perform**

4. Choose CSV and set *** Select Generic Object**

5. Upload the csv file from step 1 *** File** NGA_Busines...les_CE.csv

6. Keep other field inputs as is and

7. After Import navigate to **Monitor Job**. Look for the job related to the recent import.

Monitor Jobs			
Job Name Rule_MDFImport_northgateiP4_2019-09-02	Job Description	Job Type MDF Data Import	Job Status Completed
			Items per page 25
Submitted By bestantea	Submission Time 2019-09-02 04:41:...	Completion Time 2019-09-02 04:41:...	Job Details Total:3/Processed:3.....
			Items per page 25 Page 1 of 100
			Download Status Download Status

- Click **Download Status** displaying in csv file the status of the import.

Company: northgateiP4						
	A	B	C	D	E	F
1	Company: northgateiP4					
2	Total Records: 3					
3	Number of failed records: 0					
4	The Import was successfully completed.					

- Navigate to Configure Business Rules and search for the newly imported rules for EDI:


Business Rules (3)					
<input type="checkbox"/>	Rule Name	Rule ID	Scenario	Rule Type	Base Object
<input type="checkbox"/>	NGA_ISC_Hire	NGA_ISC_Hire	Basic (_basic)		jobInfoModel
<input type="checkbox"/>	NGA_ISC_Rehire	NGA_ISC_Rehire	Basic (_basic)		jobInfoModel
<input type="checkbox"/>	NGA_ISC_Term	NGA_ISC_Term	Basic (_basic)		jobInfoModel

- Open NGA_ISC_Hire. Ensure that event reason value corresponds to event reason for standard event hire.

Job Information Model.Event Reason.Value.Event is equal to **Hire (25717)**


If not, edit the IF expression and select the correct event reason as the code varies among EC instances. Once done **Save**. Ensure that event reason value also corresponds to event reason for concurrent employment to exclude hires with event reason related to concurrent employment.

`Job Information Model.Event Reason.Value` is not equal to `Concurrent Employment (CS_ConcurrentEmployment)`

If not, edit the IF expression and select the correct event reason as the code varies among EC instances. Once done .


11. Open NGA_ISC_Term. Ensure that event reason value corresponds to event reason for standard event termination.

`Job Information Model.Event Reason.Value.Event` is equal to `Termination (25710)`

If not, edit the IF expression and select the correct event reason as the code varies among EC instances. Once done .

12. Open NGA_ISC_Rehire. Ensure that event reason value corresponds to event reason for standard event termination.

`Job Information Model.Event Reason.Value.Event` is equal to `Rehire (25719)`

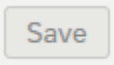
If not, edit the IF expression and select the correct event reason as the code varies among EC instances. Once done .

3.1.2 Manage Business Configuration

Procedure:

1. Navigate to the Admin Center.
2. In the Tools search field, type *Manage Business Configuration*.
3. Click jobInfo left section of the screen.
4. Create the following trigger rules with base object = Job Information Model; Event Type = onSave and rule = newly created rule for CE

Job Information Model	onPostSave	Q NGA_ISC_Hire (NGA_ISC_Hire)	Yes	Details	🗑️	⬇️	⬆️
Job Information Model	onPostSave	Q NGA_ISC_Term (NGA_ISC_Term)	Yes	Details	🗑️	⬇️	⬆️
Job Information Model	onPostSave	Q NGA_ISC_Rehire (NGA_ISC_Rehire...)	Yes	Details	🗑️		⬆️

5. 

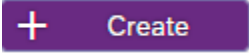

3.1.3 Integration Center

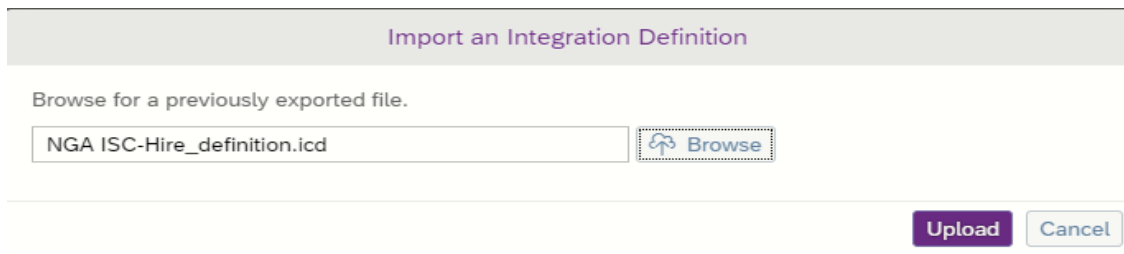
Required integrations for NGA’s event driven integration have been exported from Integration Center through export Integration Definition and made available in this guide so that it can be conveniently imported to a target SuccessFactors instance of a customer. This would reduce the numerous manual actions and effort especially the demanding steps on calculated URI which can lead to errors. This ensures ease, fast, and reliable implementation.


Procedure:


1. Download NGA Integration Center Definition for Event Driven Integration (EDI) (.icd)



2. Navigate to the Admin Center.
3. In the Tools search field, type **Integration Center**. Click **My Integrations**.
4.  and select 
5. Upload the .icd file for CE New from step 1



6. Screen is automatically redirected to  .

7. Go to . The **Destination Settings** contain the parameters for calling the SCPI components which in turn fetch the employee records in real-time from SuccessFactors Employee Central. The Rest API URL consists of the SCPI endpoint for the client and the published package. See supplementary details in [Section 3.2](#).

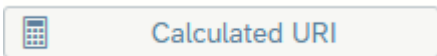


- **REST API URL:** *https://host/http/EventDrivenEx/*?*
Where


- *host* is the URL of your SCPI landing page e.g. the hostname is p0461-iflmap.hcisbp.eu1.hana.ondemand.com
- **/http** (constant)
- **/EventDrivenEx/** will depend on the parameter input for address in sender connection for the EDI iflow in CPI
- The */** at the end will allow you to define more parameters should there be a need to

- **Authentication:**

- Authentication Type: Basic Authentication
- The user name and password should be the CPI tenant system user (S-user or P-user) with access to the SCPI tenant to execute applications. Recommendation is to create a new technical user (P-user) or use existing ones that are configure as generic user for integrations with CPI. Check this [blog](#) for guidance on creating technical user.
- Authorization to ESBMessaging.send is required. If the user is not authorized then the executions will fail with error 403. The authentication can be tested by opening the “REST API URL” in a browser and provide the credentials.

- **Calculated URI**

- Click 
- Check  **Calculation Trace**. Navigate using  Check parameter values are calculated correctly. Screenshot of correct result of calculated URI:

 Record 0 (seqNumber:1,startDate:2010-01-01T00:00:00.000Z,userId:9036)
Field Value = [value:PersonId=] Concatenate/Append [Text to Append value:9036 path:employmentNav/personIdExternal] Concatenate/Append [Text to Append value:&SnapshotDate=] Concatenate/Append [Text to Append value:&Event=] Concatenate/Append [Text to Append value:EDIHire] ==> PersonId=9036&SnapshotDate=2010-01-01&ModDate=2016-05-30T08:00:23.000Z&Event=EDIHire

8. 

9. Go to  (Review and Run). Click  to test the integration.

a. Check Last Run Time

Last Run Time: **Wed Jul 17 2019 12:37:15 GMT+0800 (Singapore Standard Time)** by

clicking on refresh button. Once the execution completes successfully a green check is displayed. Click the link to render the Execution Manager which displays the event details:

Wed Jul 17 2019 12:37:15 GMT+0800 (Singapore Standard Time)

Execution Manager
Back to Admin Center

Integration Center Event Details

Scheduled Job Process Instance Name: NGA GA Start - Version 15 Process Instance ID: 158190

Middleware Integrations

Event Name	Event Description	Event Type	Created Date
endJob	End execution of job [jobExe...	END	Wed Jul 17 2019 12:37:48 G...
Raw data Log	Attached is raw data output ...	INFO	Wed Jul 17 2019 12:37:20 G...
Integration Process Info	Calling REST destination UR...	INFO	Wed Jul 17 2019 12:37:19 G...
Page 1	1 records processed in 00 mi...	INFO	Wed Jul 17 2019 12:37:19 G...
Raw data Log	Attached is raw data output ...	INFO	Wed Jul 17 2019 12:37:18 G...
Query	mainEntityName : EmpJob, e...	INFO	Wed Jul 17 2019 12:37:16 G...
startJob	Start execution of job [jobEx...	START	Wed Jul 17 2019 12:37:15 G...

10. Repeat steps 2 to 9 for termination and rehire.

3.1.4 Intelligent Service Center

This section describes how to configure events for Event Driven Integration in Intelligent Service Center (ISC).

Procedure:

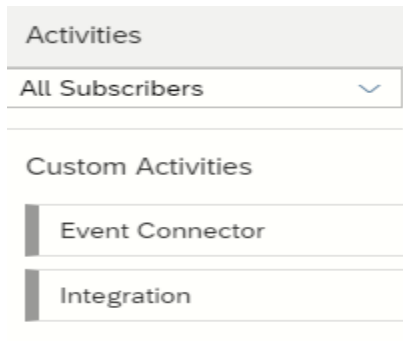
1. Navigate to the Admin Center.
2. In the Tools search field, type *Intelligent Service Center*.
3. Search for "Employee Hire".

Event	Publisher	Events Raised
Employee Hire This event is raised when a new worker is created with a specified start date.	Employee Central	40

4. Click Employee Hire.

5. In the left menu click and . Rename the flow e.g. IC_EDH_Hire

- In the right menu under Activities -> Custom Activities click Integration



- Select the integration for hire (NGA ISC-Hire) created in Integration Center under My Integrations

and click Add Integration

- Set timing to

TIMING
When event is published ▾

- Save the flow



- Repeat step 3 to 9 for Employment Termination and Employee Rehire.

3.2 Configuration of the Event Driven Integration package in SCPI

There is a new Artifact for event driven integration introduced together with the standard package. The artifact (integration flow) is included once customer upgrades to the latest version of the package.

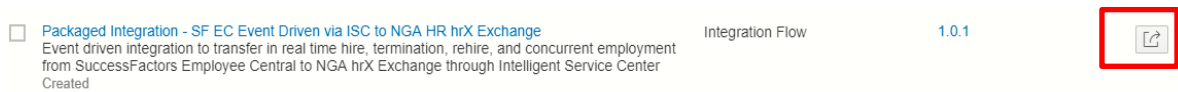
SAP SuccessFactors Employee Central Integration with Third-Party Payroll Vendor - NG A HR				
Overview	Artifacts (21)	Documents (3)	Tags	Comments
<input type="checkbox"/>	Packaged Integration - SF EC Event Driven via ISC to NGA HR hrX Exchange Event driven integration to transfer in real time hire, termination, rehire, and concurrent employment from SuccessFactors Employee Central to NGA hrX Exchange through Intelligent Service Center Created	Integration Flow	1.0.1	
<input type="checkbox"/>	Package Integration - SF EC to NGA HR hrX Exchange Transfers processed employee data from SAP SuccessFactors Employee Central to NGA HR hrX Exchange. Unmodified	Integration Flow	1.4.2	

- Integration Flow **Packaged Integration - SF EC Event Driven via ISC to NGA HR hrX Exchange** is triggered via Intelligent Service Center to send hire, termination, rehire and concurrent employment records to hrX Exchange in real time. This is the iflow called by the configurations in Intelligent Service Center and Integration Center mentioned in previous section.
- The standard package, **Package Integration - SF EC to NGA HR hrX Exchange**, was also adjusted to ensure that hire, termination, and rehire events flows to Exchange only once when EDI is enabled. This is achieved by a new parameter that will determine if the integration will suppress creation of event driven scenarios.

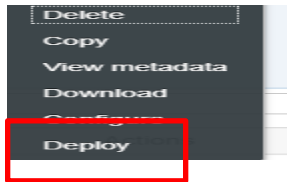
3.2.1 Packaged Integration - SF EC Event Driven via ISC to NGA HR hrX Exchange

Procedure:

1. Go to the iflow and click Action.



2. Click Configure.



3. Go to Sender Tab. **Sender Tab** is the configuration of external call endpoint. The endpoint will be generated after deploying the Artifact. From CPI tenant main page go to Monitor -> Manage Integration Content. Find the integration content for CE through ISC. The Endpoint value will be use as input to the REST API URL in Integration Center.



By default, the address parameter is set to /EventDrivenEx/*.

Sender	Receiver	More
Connection		
Sender:	Sender	
Adapter Type:	HTTPS	
Address:	/EventDrivenEx/*	

- Go to **Receiver**. Receiver Tab like the standard package contains the configuration of SF Instance, hrX Exchange web service and Mail Adapter. Use hrX Exchange web service endpoint provided by NGA customer project team.
- Go to **More** tab. Supply the value for the following parameters. These parameters are similar to the existing parameters of the standard package.


Type:	All Parameters
BusinessUnit:	
Company:	
ComponentID:	<Company ID of the Employee Central Instance>
EmployeeClass:	
GCC:	<Global Customer Code>
IsEmailEnabled:	<Enter 1 to enable mail else 0>
Location:	
PayGroup:	

- Once the setup is done, click **Save** and **Deploy**.

3.2.2 Package Integration - SF EC to NGA HR hrX Exchange

Procedure:

- Go to the value mapping and click Action.

<input type="checkbox"/>	Package Integration - SF EC to NGA HR hrX Exchange Transfers processed employee data from SAP SuccessFactors Employee Central to NGA HR hrX Exchange. Unmodified	Integration Flow	1.4.2	
--------------------------	--	------------------	-------	---

- Click on Configure.

Delete

Copy

View metadata

Download

Configure

Deploy

3. Go to **More** tab. Supply the value for EDI parameter.

Event Driven:

<Enter 1 if the Event Driven is On else 0>

- 1 means EDI is configured in ISC and hire, termination, and rehire events are triggered via ISC and created in hrX Exchange in real time. When this parameter is enabled, standard package suppresses processing of these events to avoid sending duplicate events in Exchange.
- 0 or blank means EDI is not configured. EDI events like hire, termination, and rehire are process by the regular run of standard package.

3.3 hrX Exchange Configuration

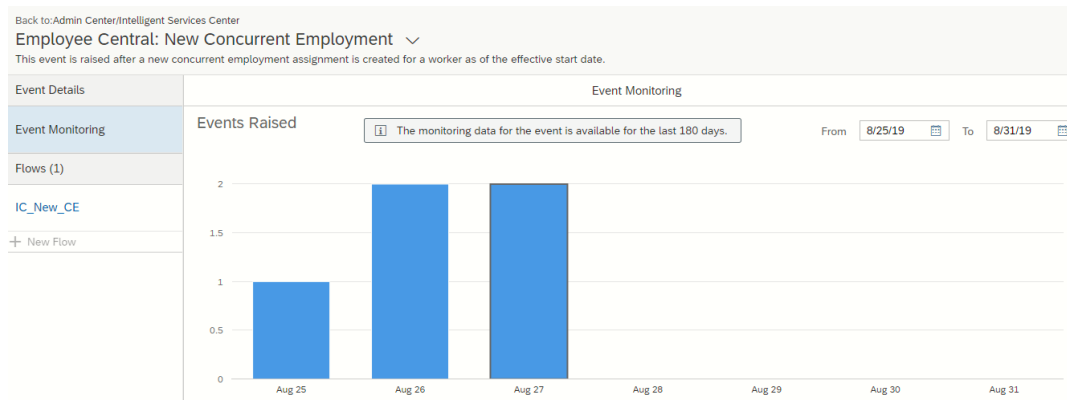
Configuration will also be required on the hrX Exchange system in order for EC-Exchange EDI to work correctly. The configuration steps will be completed by the NGA HR project support team. A separate guide named **Customer Configuration Guide SAP SuccessFactors Employee Central Payroll Integration 2.0** with NGA HR describes the necessary configuration steps. At a high level, the configuration step covers hrX Exchange customer configuration mapping specific for EC-Exchange.

4 Troubleshooting

4.1 Problem 1: New event for EDI did not trigger notification to NGA

Procedure:

1. Check in Intelligent Service Center that the event was triggered.
 - a. Go to Admin Center Navigate to the Admin Center.
 - b. In the Tools search field, type *Intelligent Service Center*.
 - c. Select the event.
 - d. Click Event Monitoring and navigate to the applicable date and time. If there are events triggered for the specified date and time, select the corresponding event to see if the flow was triggered. See sample screenshot below:



- e. Click [Show Details](#). Another screen is generated showing the Execution Manager and the details of the event. See sample screen below:

Event Name	Event Description	Event Type	Created Date
Event	Event ended	END	Wed Aug 28 2019 20:56:09 GMT+0800 (SI...
Integration Center Info	1 Records processing completed in 00 hrs ...	INFO	Wed Aug 28 2019 20:56:09 GMT+0800 (SI...
Integration Process Info	Calling REST destination URL https://p046...	INFO	Wed Aug 28 2019 20:55:58 GMT+0800 (SI...
Page 1	1 records processed in 00 mins 00 secs 00...	INFO	Wed Aug 28 2019 20:55:58 GMT+0800 (SI...
Event	Event started	START	Wed Aug 28 2019 20:55:58 GMT+0800 (SI...

2. If there are no events triggered in ISC, confirm that the business rules are correctly set.
 - a. Ensure to remove published rule with standard event for EDI.
 - b. Recommendation is to use Business Rule Execution Log as that will give detailed information on the decision-making process during the execution.
 - i. Go to Business Rule Execution Log.
 - ii. Click **Create New** Rule Trace and populate the required fields:

- iii. Click **Save**
- iv. Once done with the execution of Add or End GA. Go to Business Rule Execution Log. Set Search to Rule Trace and select the trace you created. This will enable the log to be downloaded for tracing and analysis:

4.2 Problem 2: Execution in Integration Center failed for EDI related integration

Procedure:

1. Perform validation steps in [4.1](#) to view the event details in Execution Manager in Integration Center
2. Based on the error, check if the error is related to credentials.
3. Perform manual execution (Run Test) via Integration Center .

5 References

Refer to the following published documents available in SAP Help Portal for SuccessFactors Employee Central:

[Managing Employment in Employee Central](#)

[Integration Center](#)

[Intelligent Service Center](#)

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