InForwarder © Installation Instructions and User Guide for JSON





Version 3.2.1 – Trial Edition Limited Runtime: 30 Days

Limited Reports: Maximum 50 ABAP Functions

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1.0 Background

InForwarder© for File (JSON) allows SAP NetWeaver instances to forward information to files (JSON).

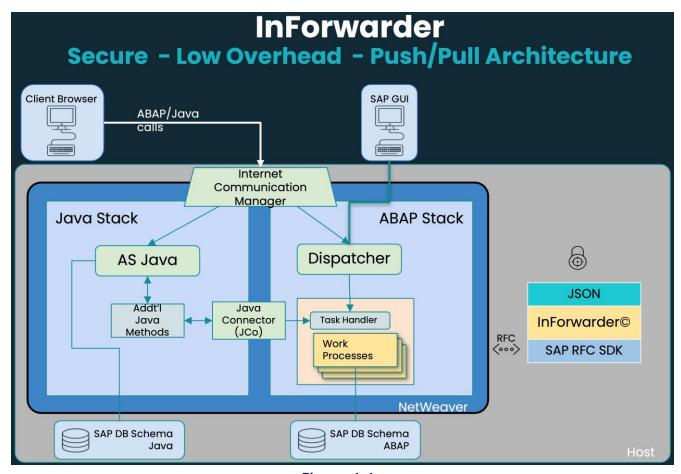


Figure 1.1

InForwarder uses the SAP RFC Interface to act as a client and registered server to a specific NetWeaver instance.

InForwarder is normally installed on each server or virtual machine where a

NetWeaver instance is running. This eliminates bulky RFC network transmissions and allows SAP security credentials to remain on SAP managed systems. InForwarder runs as an unprivileged user on the host.

For monitoring TCodes (ST03, ST06, SM21, etc.), InForwarder accesses the associated NetWeaver instance to retrieve the required information before forwarding it to files (JSON).

For optional on-site extensibility, ABAP reports can be scheduled to run in NetWeaver to forward output to InForwarder's RFC destination endpoint. SAP Administrators are under complete control of the ABAP reports, their priority and how often they run. Customers can extend the data sent to files (JSON) by adding their own ABAP reports - no InForwarder software updates are required.

Below is a sample ABAP call to send data through InForwarder:

CALL FUNCTION 'IDOCS_OUTPUT_TO_INTERNET'

DESTINATION INFORWARDER4JSON

TABLES i_edidc = int_edidc.

Figure 1.2

Once InForwarder receives a record, table of records, a metric or log entries it converts it/them to the compressed files (JSON).

All JSON Tables and Keys are named using SAP conventions.

NOTE: Images in this document may show information that is different than the text in this document. In all cases the text in this document is to be used for the File (JSON) version of InForwarder.

2.0 Prerequisites

- 1. Windows Server 2012 or newer (x86_64)
- 2. Microsoft Visual Studio Redistributable libraries for Visual Studio 2013 & 2017 https://support.microsoft.com/en-us/help/2977003/the-latest-supportedvisual-c-downloads

- 3. Administrator privileges for installation
- 4. SAP NetWeaver release 7.3 or newer (7.5 or newer for full functionality) with SAPGUI access
- 5. SAP NetWeaver SID and Instance number
- 6. SAP NetWeaver privileged account (SAP* or similar account) password in desired client (Mandant) for RFC registered server creation
- 7. SAP NetWeaver minimum required privilege account for RFC Client access and RFC Server Data Dictionary (DDIC) lookups.
 - NOTE: Instructions are provided herein to create such an account
- 8. Installation media support on NetWeaver server or virtual machine o DVD or USB o Network connection

3.0 Client Installation Steps

- 1. Select or Create a NetWeaver User for RFC Client access
- 2. Install and Start InForwarder Service
- 3. Verify NetWeaver data is available as files (JSON)

3.1 Select or Create a NetWeaver User for RFC Client Access

For the Trial installation of InForwarder, some sites choose to use an existing privileged account and skip setting up an Inforwarder specific – and lowest possible privileges required – account for a later production deployment. The choice is site specific.

If using an existing privileged account in the configured NetWeaver client, record the account name and password for setup.

To setup a new user account:

Switch to a privileged account in the NetWeaver <u>Client</u> where InForwarder is to access the NetWeaver Instance.

run TCode SU01:

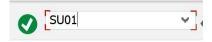


Figure 3.1.1

At the User prompt enter: **InForwarder** Click on the **Create (paper)** icon:

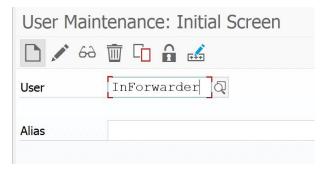


Figure 3.1.2

Enter the information as follows on the **Address** Tab:

Last name: Forwarder

First name: In

Function: InForwarder Account

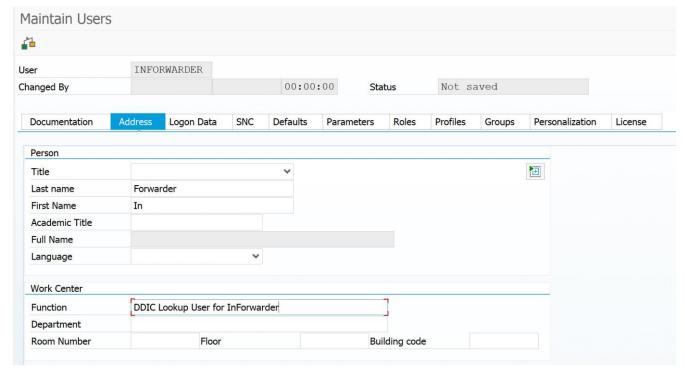


Figure 3.1.3

Click on the Logon Data tab.

Enter the information as follows on the **Logon Data** Tab:

User Type: Communications Data

New Password: <Enter a Password>
Repeat Password: <Repeat Password>

User group: <optional – adhere to site specific policy> Validity

Period: <Leave blank>

Other Data: <optional – adhere to site specific policy>

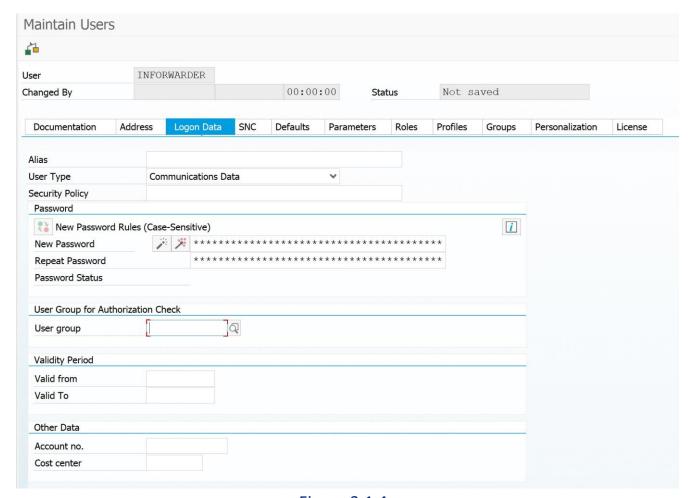


Figure 3.1.4

Click on the Save icon (diskette) in the toolbar.

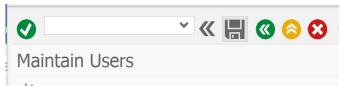


Figure 3.1.5

The **INFORWARDER** user account is now added to the NetWeaver user account database in the chosen NetWeaver Client.

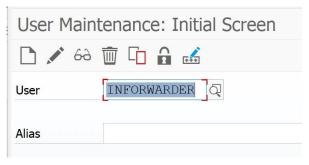


Figure 3.1.6

To setup the minumum required privileges for the user account, exit back the SAPGUI Easy Access Dialog Box and run TCode **PFCG**:

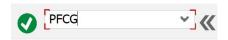


Figure 3.1.7

Enter the information as follows on the Role Maintenance Dialog Box:

Role: **Z_INFORWARDER** Click **Single Role.**



Figure 3.1.8

Enter the information as follows on the Create Roles Dialog Box:

Description: Role for InForwarder access of RFC objects

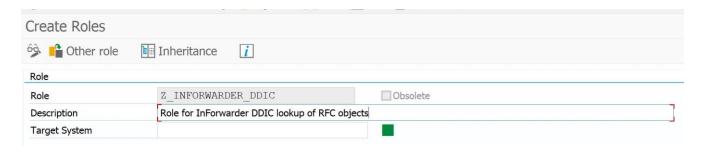


Figure 3.1.9

Click on the **Save icon (diskette)** in the toolbar.

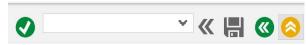


Figure 3.1.10

For the InForwarder Trial Version, consult SAP documentation to add the following Authorization Objects to the Z_INFORWARDER Role.

OBJECT '/SDF/E2E'	OBJECT 'S_SDCC_ADD'	OBJECT 'S_RFC_ADM'
ID 'ACTVT' FIELD '03'		ID 'ACTVT' FIELD '36'
		ID 'RFCDEST' FIELD
		RFC_DEST
OBJECT 'S_RFC_ADM'	OBJECT 'S_TOOLS_EX'	OBJECT 'S _SDCC_ADD'
ID 'ACTVT' FIELD '39'	ID 'AUTH' FIELD	SDCC_RUN_N: "READ"
ID 'RFCDEST' FIELD	'S_TOOLS_EX_A'.	
RFC_DEST		

Once the role has been defined and privileges/roles have been set, please verify the Z_INFORWARDER role is active for the InForwarder account.

Re-run TCode **SU01**:



Figure 3.1.11

Select the **INFORWARDER** Account and verify the **Roles** and **Profiles** Tabs appear similar to the following:

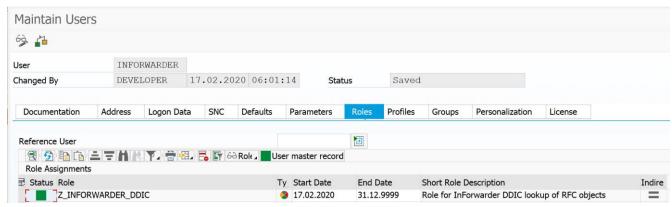


Figure 3.1.12

3.2 Install and Start InForwarder Service

In the directory where you downloaded the installation contents double click on the msi file to start the installation.

InForwarder4JSON-V3.2.1-TRIAL.msi

1) Use Notepad (in Administrator Mode) to set any desired per NetWeaver instance static tags in:

Program Files\InForwarder4JSON\config\staticTags.ini.

2) Use Notepad (in Administrator Mode) to set the access and registration information in:

Program Files\ InForwarder4JSON\config\sapnwrfc.ini

Update the NetWeaver account, password and client to use created in step 3.1. If the server plugin of InForwarder will be in use (Section 4), update the NetWeaver SID, gateway and instance number obtained in prerequisite item 2.5.

3) Verify InForwarder4JSON is listed the Windows Service Control Manager (SCM). If it is running, stop it.

4) Start the inforwarder4JSON Service

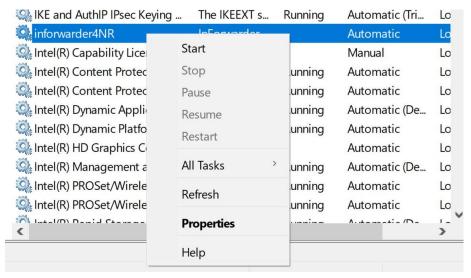


Figure 3.2.1

Note: Additional Parameters can be set for InForwarder4JSON.

```
PS C:\Program Files\InForwarder4JSON\bin> .\inforwarder4JSON.exe /help
usage: inforwarder4JSON OPTIONS
registerService
                                                                    Register the application as a service.
/unregisterService
                                                                    Unregister the application as a
                                                                    service.
/displayName=name
                                                                    Specify a display name for the service
                                                                    (only with /registerService).
Specify a description for the service
description=text
                                                                    (only with /registerService).
Specify the startup mode for the service (only with /registerService).
startup=automatic|manual
                                                                   Service (only with /registerService).
Output Directory to write files
do not compress output files
directory to read configuration files
directory to write log files
logging level: none, fatal, critical,
error(default), warning, notice,
information, debug, trace
NetWeaver ABAP RFC destination alias
defined in sapnwrfc.ini. Default:
LOCALHOST
NetWeaver 1000 PFC destination alian
outputdir=path
nocompress
configdir=path
 logdir=path
loglevel=level
/abapdest=ABAP RFC alias
                                                                    NetWeaver JAVA RFC destination alias defined in sapnwrfc.ini. Default: LOCALJAVAHOST
/javadest=JAVA RFC alias
                                                                    Number of Listening Threads. Default: 3
NetWeaver ABAP RFC Server destination
alias defined in sapnwrfc.ini. Default:
'listeningtc=Thread Count
abapserverdest=ABAP RFC Server alias
                                                                    LOCALHOST_REGISTERED
                                                                    NetWeaver Host Alias. Default: none in single NetWeaver instance mode:
/halias=host alias
/simode=mode
                                                                    Default: true display help information on command
/help
                                                                    line arguments
version
                                                                    display version
```

Figure 3.2.2

These parameters can be set manually **one-time** via the Windows Service Control Manager (SCM) properties Dialog box **before** pressing Start.

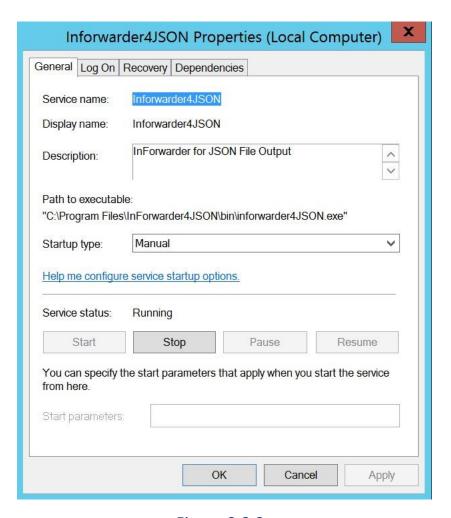


Figure 3.2.3

Specify the parameters using a leading slash "/" and insert a space between parameters.

The only parameters you are likely to change are the **loglevel** (if directed by InForwarder support) and the **outputdirectory** for the temporary JSON files.

3.3 Verify NetWeaver data is available as Files (JSON)

Check the C:\ProgramData\InForwarder\Temp folder

14

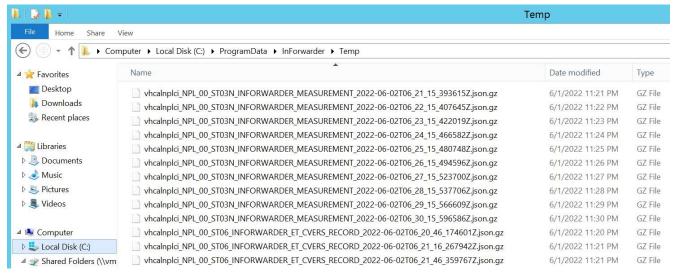


Figure 3.3.1

If you do not see any SAP data in this folder, please consult the InForwarder Log available at:

C:\ProgramData\InForwarder\Logs

If you see any error messages in the log please review the installation steps to correct the issue. If you cannot correct the issue please forward the log to:

support@inforwarder.com

4.0 Server Installation Steps (optional)

- 1. Create or select a NetWeaver User for DDIC lookups
- 2. Register InForwarder as an RFC Server with NetWeaver
- 3. Test connectivity between NetWeaver and InForwarder
- 4. Install and Test provided ABAP reports
- 5. Set provided ABAP reports to run periodically
- 6. Verify NetWeaver data is available in File (JSON)

4.1 Select or Create a NetWeaver User for DDIC Lookups

NOTE: Refer to SAP NOTE 460089 for the latest required privilege information. In 460089 review the section for a "Call of function module using dynamic repository - repository user". Repository user privileges are sufficient for a user that ONLY requires Data Dictionary (DDIC) access.

For the Trial installation of InForwarder, some sites choose to use an existing privileged account and skip setting up an Inforwarder specific – and lowest possible privileges required – account for a later production deployment. The choice is site specific.

If using an existing privileged account in the configured NetWeaver client, record the account name and password for setup.

To setup a new user account:

Following steps in section 3.1 above to create the account.

To setup the minumum required privileges for the user account, exit back the SAPGUI Easy Access Dialog Box and run TCode **PFCG**:

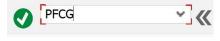


Figure 4.1.1

Enter the information as follows on the Role Maintenance Dialog Box:

Role: **Z_INFORWARDER** Click

Edit.



Figure 4.1.2 Click

on the **Authorizations** tab.

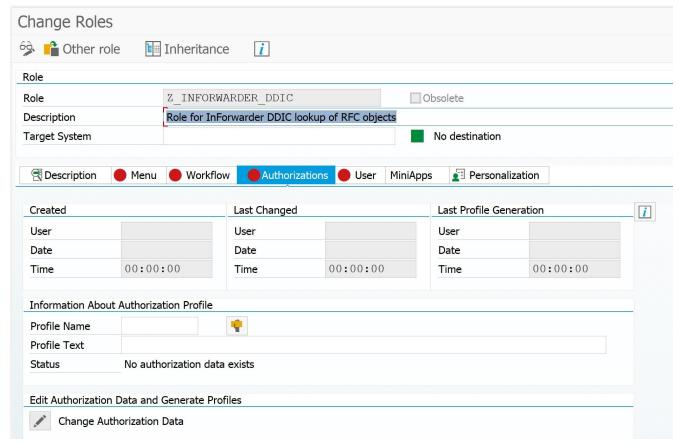


Figure 4.1.3

Click on the Change Authorization Data (pencil) button.

Dismiss the following Dialog box by clicking the green checkbox.



Figure 4.1.4

Dismiss the **Choose Template** Dialog Box by clicking the **Do not select templates** button.

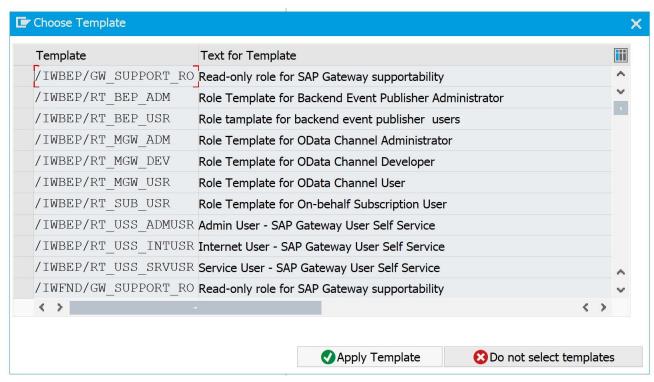


Figure 4.1.5

In the **Change Role: Authorizations** Dialog Box click the **Selection criteria** button.

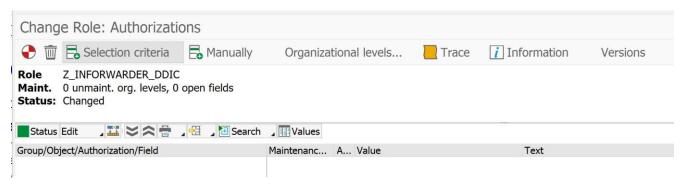


Figure 4.1.6

In the **Change Role: Insert Authorizations** Dialog Box click the **Cross-application Authorization Objects (AAAB)** line on the **folder (plus sign)** icon.

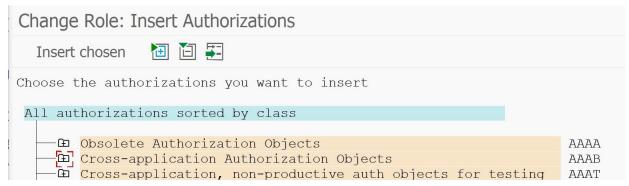


Figure 4.1.7

Scroll down the list until the **Authorization Check for RFC Access (S_RFC)** line is shown.



Figure 4.1.8

Click on the red minus sign icon to turn it into a green plus sign.

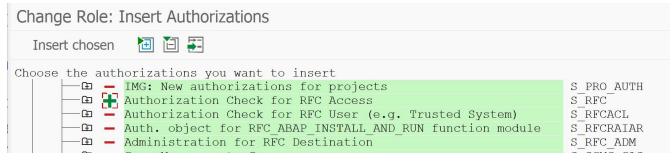


Figure 4.1.9

Click the **Insert chosen** button in the toolbar.

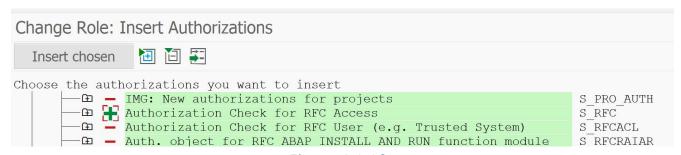


Figure 4.1.10

In the **Change Role: Authorizations** Dialog Box, expose the full hierarchy under **Object class AAAB** by clicking on the **folder open** icons.

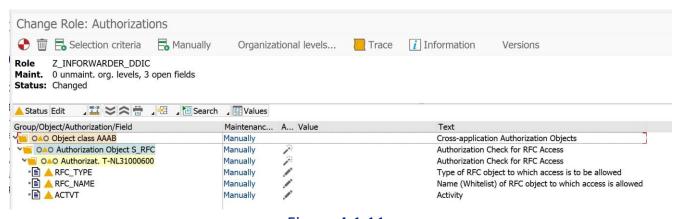


Figure 4.1.11

The objective is to fill in the correct values for the three lines shown below.



For NetWeaver releases 7.1 or greater enter the following values:

RFC TYPE: FUNC

RFC_NAME: RFCPING, SYSTEM_RESET_RFC_SERVER, RFC_FUNCTION_SEARCH,

RFC_GET_FUNCTION_INTERFACE, DDIF_FIELDINFO_GET

ACTVT: 16

For NetWeaver releases less than 7.1 enter the following values:

RFC_TYPE: FUGR RFC_NAME:

R/3 Release	Function Groups (RFC_NAME)
4.6C	SYST, RFC1, SYSU,SDIF
4.6D	SYST, RFC1, SYSU, SDIFRUNTIME

ACTVT: 16

Click the **Edit (pencil)** icon and then click the **Save (diskette)** icon when complete.

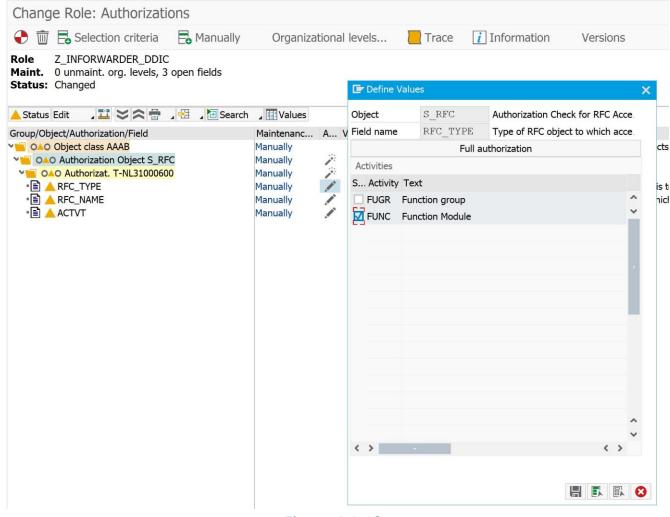


Figure 4.1.13

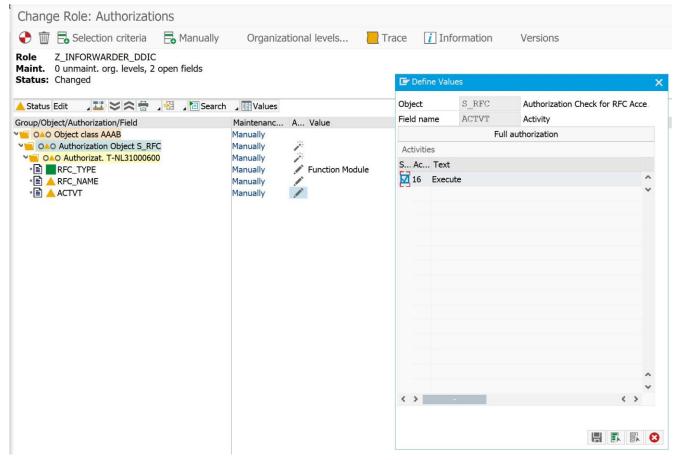


Figure 4.1.14

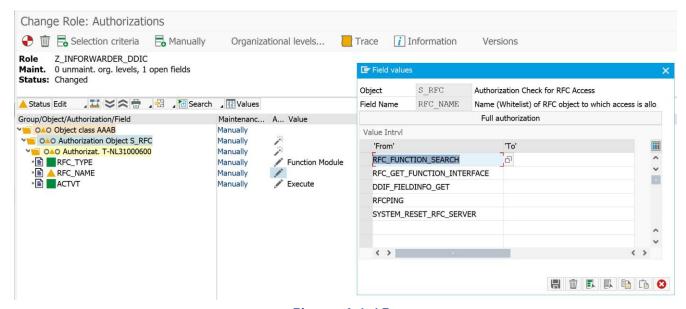


Figure 4.1.15

When complete click the **Generate** icon.

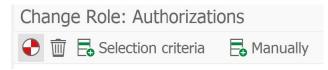


Figure 4.1.16

Accept the generated **Profile name** by clicking on the **green** checkbox.



Figure 4.1.17

When complete, the **Change Role: Authorizations** Dialog Box will appear as follows with the green boxes.

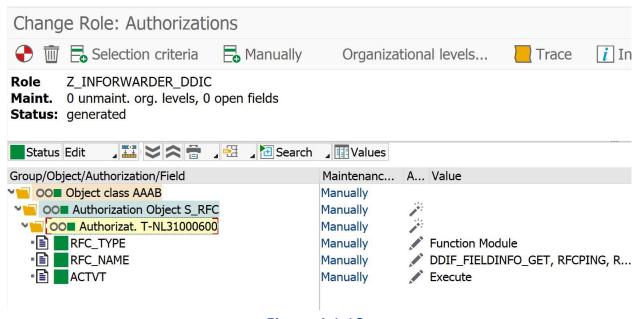


Figure 4.1.18

Click on the **Save icon (diskette)** in the toolbar and note the **Data saved** message in the status bar.

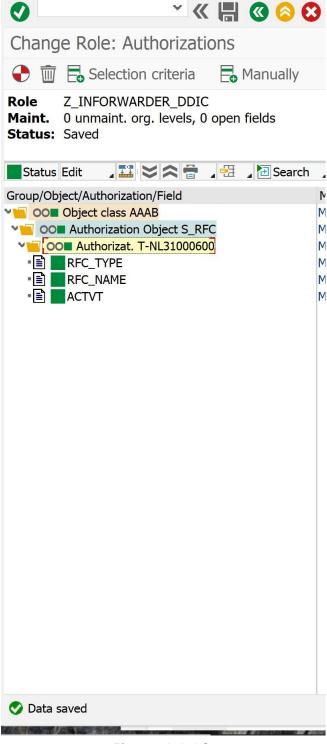


Figure 4.1.19

Click on the Exit (Upward Chevron) icon in the toolbar.

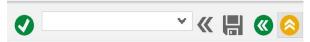


Figure 4.1.20

Click on the Change User Assignments (people) icon on the far end of the toolbar.



Figure 4.1.21

The **User** tab will be selected.

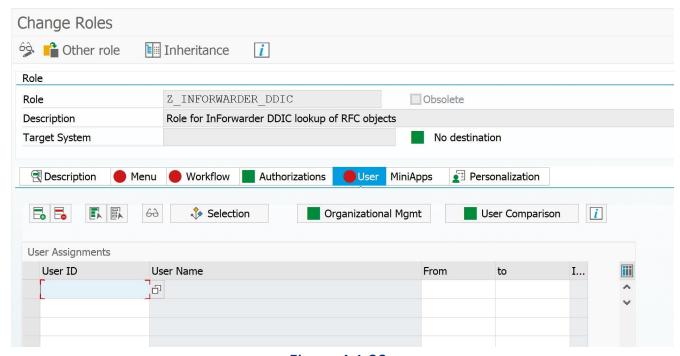


Figure 4.1.22

Enter INFORWARDER in the User ID column in the User Assignments table.

25

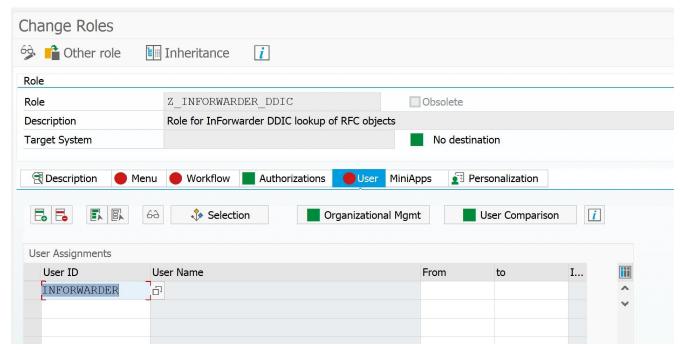


Figure 4.1.23

Click the **Selection** button and the information will be filled in as follows:

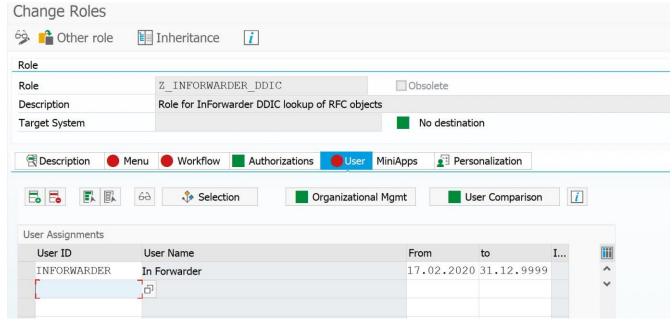


Figure 4.1.24

Click on the Save icon (diskette) in the toolbar.

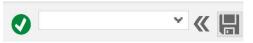


Figure 4.1.25

Click the **Organizational Mgmt** button in the toolbar.

In on the **Role: Change Agent Assignment** Dialog Box, click the **second** icon from the left (two green boxes below, one yellow icon in the upper right above).

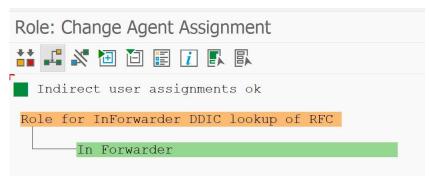


Figure 4.1.26

When the Dialog Box is exited the **Organizational Mgmt** button should have a green icon now.

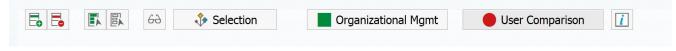


Figure 4.1.27

Click the **User Comparison** button in the toolbar.



Figure 4.1.28

In the **Attempted Profile Comparison – User** field, hit return.

Dismiss the Dialog box by clicking the green checkbox.

Click on the **Save icon (diskette)** in the toolbar and then exit back to the SAPGUI Easy Access Dialog Box.

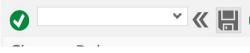


Figure 4.1.29

Re-run TCode SU01:

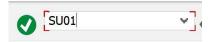


Figure 4.1.30

Select the **INFORWARDER** Account and verify the **Roles** and **Profiles** Tabs appear similar to the following:

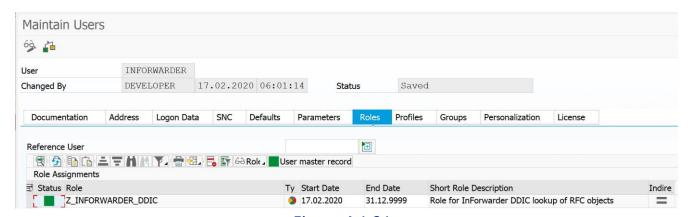


Figure 4.1.31

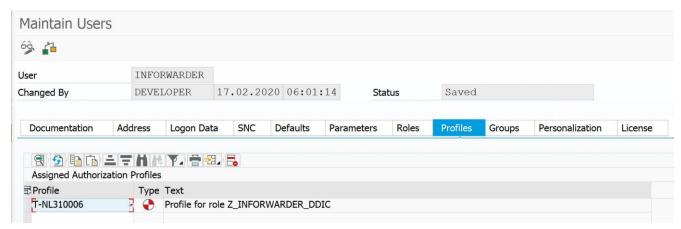


Figure 4.1.32

4.2 Register InForwarder as an RFC Server with NetWeaver

With the SAP* (or similar privileged account) credentials obtained in prerequisite item 2.9, login to the correct client via SAPGUI:

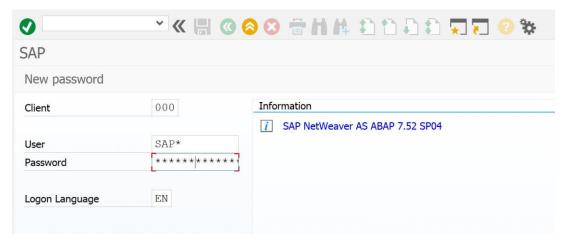


Figure 4.2.1 Run

TCode SM59:

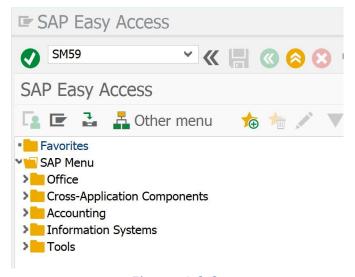


Figure 4.2.2

Expand the TCP/IP Connections folder:

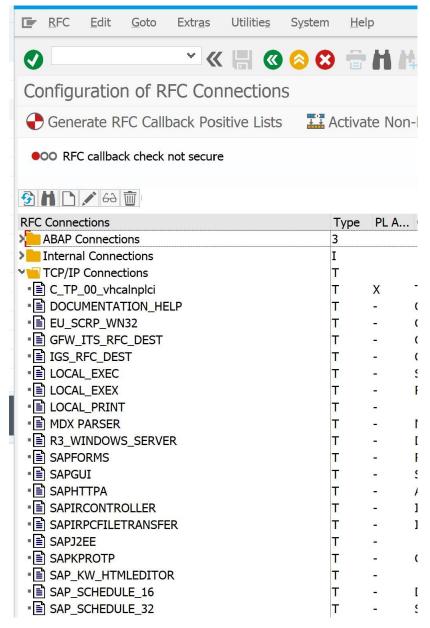


Figure 4.2.3

Click on the **TCP/IP Connections** folder (changes to blue background).

Click on the Create (paper) icon:

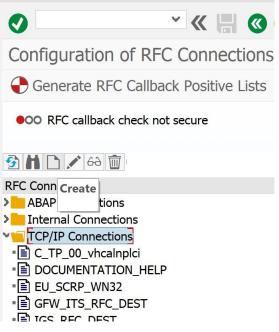


Figure 4.2.4

Enter the information as follows on the **Technical Settings** Tab:

RFC Destination: INFORWARDER4JSON

Description 1: InForwarder Adapter for Files (JSON)

Activation Type: Registered Server Program

Program ID: InForwarder4JSON

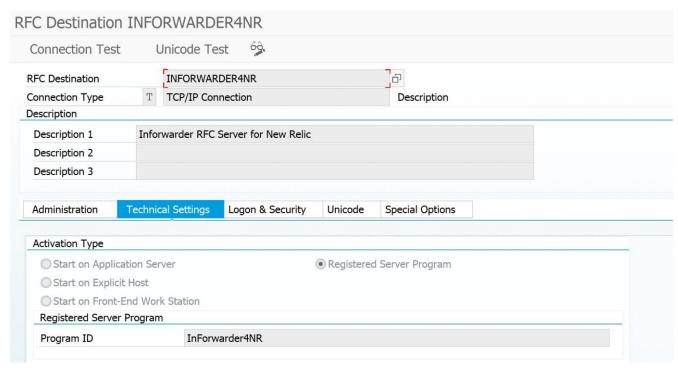


Figure 4.2.5

Click on the Unicode tab.

Change the "Communication Type with Target System" to: Unicode.

Click the green checkbox in the dialog box that appears.

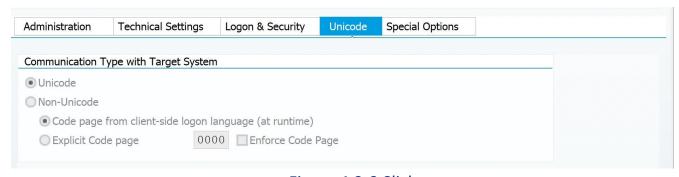


Figure 4.2.6 Click

on the Special Options tab.

Verify the "Set RFC Trace" checkbox is: **Unchecked**.

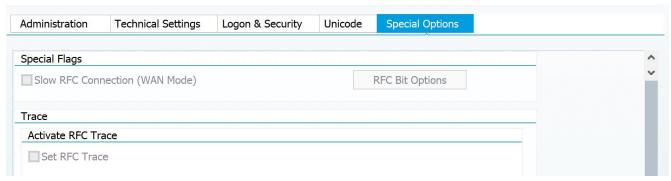


Figure 4.2.7

Click on the **Save icon (diskette)** in the toolbar.

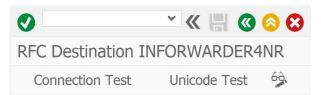


Figure 4.2.8

INFORWARDER4JSON will now be listed under TCP/IP Connections.

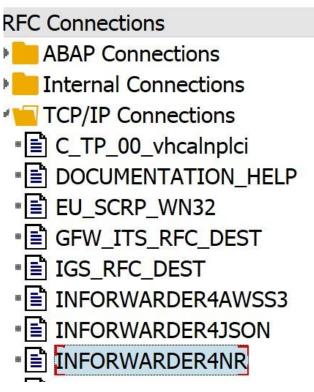


Figure 4.2.9

4.3 Test connectivity between NetWeaver and InForwarder

NOTE: The two tests in this section test connectivity to InForwarder. They DO NOT send any data to files (JSON).

Run TCode SM59:

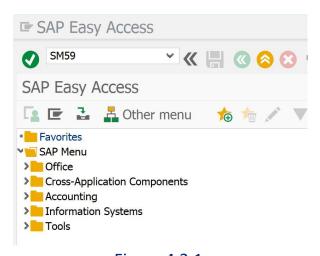


Figure 4.3.1

Open the TCP/IP Connections Folder.

Double Click on INFORWARDER4JSON.

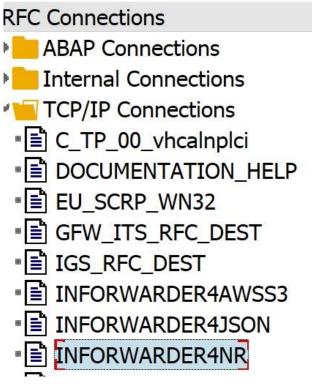


Figure 4.3.2

Click on **Connection Test**:

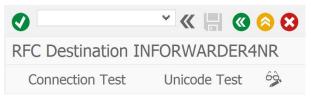


Figure 4.3.3

Successful results appear similar to the following:

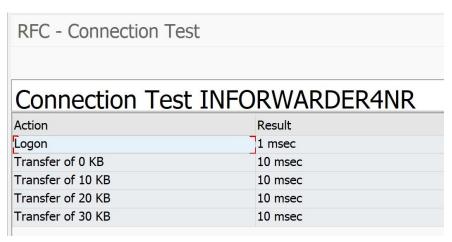


Figure 4.3.4 Click

on Unicode Test:



Figure 4.3.5

Successful results appear similar to the following:

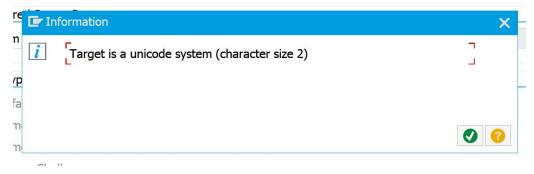


Figure 4.3.6

Click the green checkbox to dismiss the Dialog Box.

4.4 Install InForwarder Transport

NOTE: S/4Hana 1909 Service Pack 75 or higher is required.

The transport is available under the InForwarder installation directory in the transports sub directory:

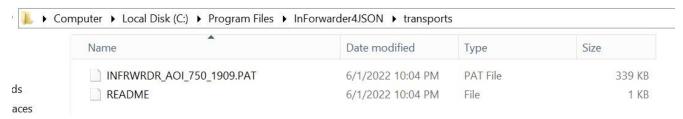


Figure 4.5.1

4.5 Verify NetWeaver data is available as Files (JSON)

Check the C:\ProgramData\InForwarder\Temp folder

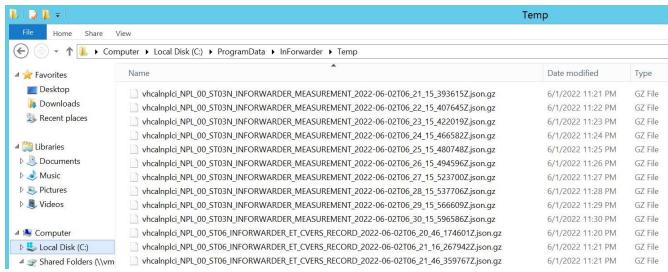


Figure 4.5.1

If you do not see any SAP data in this folder, please consult the InForwarder Log available at:

C:\ProgramData\InForwarder\Logs

If you see any error messages in the log, please review the installation steps to correct the issue. If you cannot correct the issue, please forward the log to:

support@inforwarder.com

Appendix

A.1 Directory Layout

Program Files\InForwarder4JSON\{bin, plugins, config, transports}
ProgramData\InForwarder\{Logs, Temp}

A.2 Upgrade/De-installation Steps

1) Backup all your configuration information under:

Program Files\InForwarder4JSON\config

2) Use Programs and Features Control Panel Applet to remove Application:

InForwarder4JSON

For De-installations only:

Uninstall InForwarder transport

Delete InForwarder NetWeaver User

Delete InForwarder RFC Destination