



SAP® S/4HANA for Waste and Recycling by PROLOGA



Mobile Waste Order Management - Config Guide

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Document History



Before you start the implementation, make sure you have the latest version of this document. You can find the latest version at the following location: SAP S/4HANA for waste and recycling by PROLOGA

The following table provides an overview of the most important document changes.

Version	Important Changes
1	Initial version
4	RFC Connections: Unicode
5	3.2.3 bgRFC-Destinations: *MOW_BGRFC_PROVIDE*

Table 1: Most important document changes

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Glossary



Attention



Note

1 Introduction

The application *Mobile Waste Order Management* enables companies to largely refrain from a paper-based mobile order management and avoid a redundant data acquisition.

The software may be applied whenever companies rely on the coordinated and optimized deployment of their vehicles in order to render services or whenever order relevant performance data have to be captured. One of the strong points of the application *Mobile Waste Order Management* is a consistent tracking of vehicle usage and mobile resources.

The application *Mobile Waste Order Management* supports various mobile devices. Installed in your fleet these units form the interface between vehicle/driver and your SAP® backend system.

When deploying the application *Mobile Waste Order Management* you are enabled to send orders, documents or data to your vehicle fleet and receive status information from your vehicles (mobile devices) at all times. Data captured on the mobile devices are automatically sent to the SAP® backend system where they may be checked. A subsequent manual data entry is not required.

When applying the application *Mobile Waste Order Management* you will reduce your personnel costs otherwise resulting from the order provision or confirmation of performance data. Due to the always current status information you may react more efficiently and faster to changing constraints. Thereby you will not only optimize the deployment of your vehicle fleet but internal processes associated with order processing as well.

This document describes which steps are necessary to put the application *Mobile Waste Order Management* into operation after you successful installed the add-on *SAP® S/4HANA for Waste and Recycling by PROLOGA*.

2 Configuration

2.1 Pre-requisites

Pre-requisite for the implementation of the configuration is the successful and proper installation of the add-on *SAP® S/4HANA for Waste and Recycling by PROLOGA*

2.2 Importing the License Key

To use the application *Mobile Waste Order Management*, you need a license key.

2.2.1 Request the License Key

If you do not have a license key, please use SAP note 2514597 (https://support.sap.com/en/index.html) which describes how to obtain a license key.

2.2.2 Register the License Key

Before you start registering the license key, please check whether the installation number submitted with the license key agrees with the installation number of your SAP® system.



License keys are always coupled with the installation number of the SAP® system. Therefore they cannot be used in other SAP® systems.

2.2.3 Registration of the Vehicle Key (Amount of MOW user)

Log on to the SAP® system with your user name and password.

In order to set or increase the number of licensed vehicles, start transaction */N/WATP/BASE_KEYREG*. If you should not have any authorization to start this transaction please contact your system administrator.

Choose now BC_VEHICLE_COUNT and click on the *Register* button.

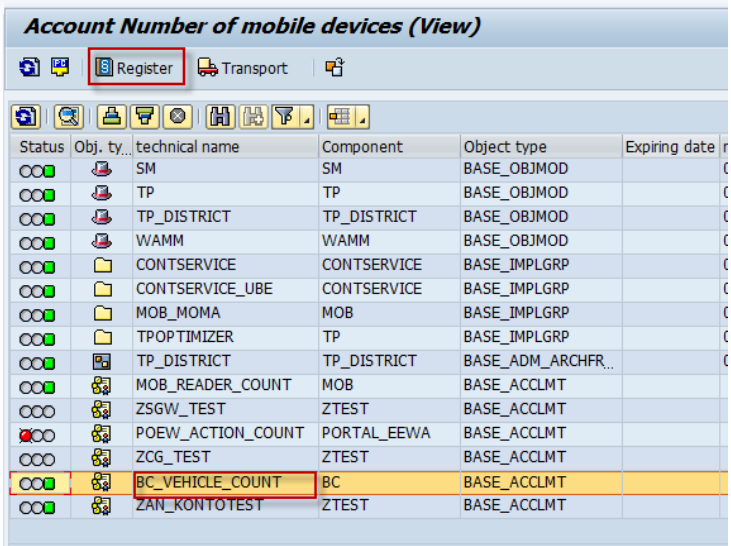


Figure 1: Selection of BC_VEHICLE_COUNT

Input your license key:

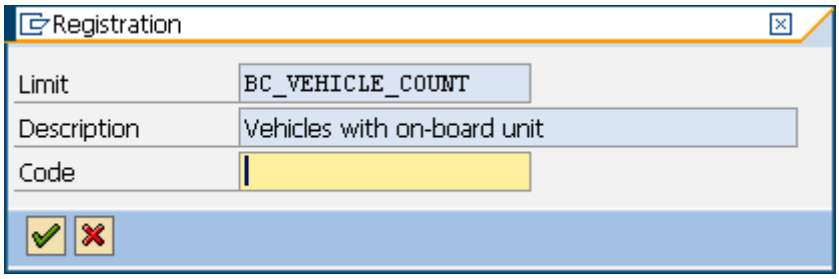


Figure 2: Input of the license key to the definition of the number of MOW users

Enter the license key and save your changes.

If you receive an error message while registering, please check the following details:

- Does the SAP installation number specified in the application form comply with the installation number of the system?
- Does the add-on version specified in the application form comply with the version installed in the system?
- Have you selected the correct component?
- For a temporary key: Was the correct expiration date entered?

The license key for the vehicle count (MOW user count) has always to be entered in the development system and then transported to the other systems. To automatically update the licensed vehicle count after you have imported the license key a new task has to be created and to be scheduled.

After a successful registration you see the current values on the right side of the mask.

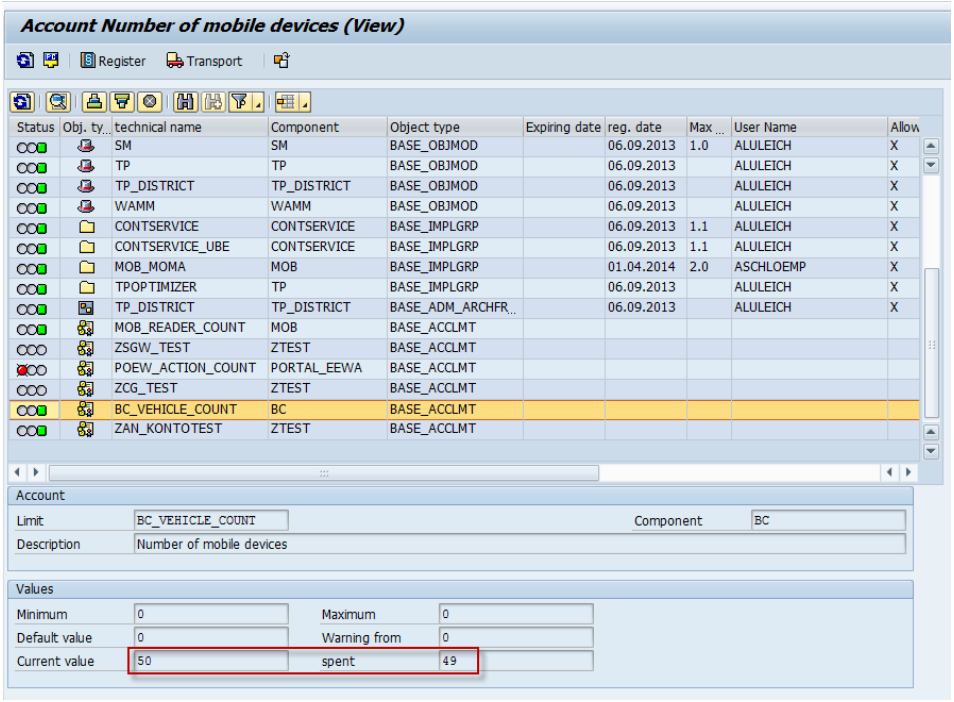


Figure 3: Input of the license key to the definition of the number of MOW users

2.3 Creation of the number ranges

2.3.1 Creation of the number ranges for the base component

Transaction /N/WATP/BASE_OBJCONFIG

In the tree select node *General → Implementations → General → Number ranges* and choose from menu *Extras → Create number ranges*.

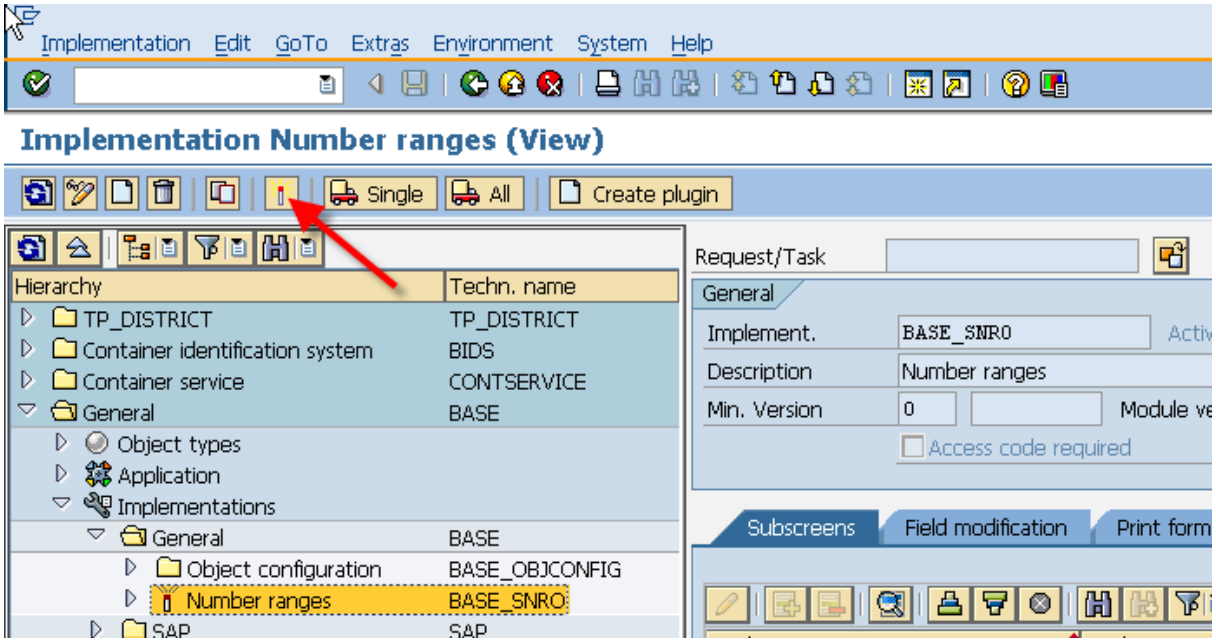


Figure 4: Implementation Number ranges (View)

By executing this function it is getting checked whether a number range already exists or has to be created. Existing number ranges are not changed, thus repeated execution of this function has no negative consequences.

You will get a message about which number ranges were created respective were already present.

2.4 Activate component functionality for MOW

The application *Mobile Waste Order Management* comes with a set of predefined functionality which can be activated according to your needs.



The activation of the functionality is a prerequisite for the use of the application *Mobile Waste Order Management*.

Functionality can be activated or deactivated in transaction */N/WATP/BASE_OBJCONFIG.*

Whether functionality is activated or not can be recognized by the icons in the tree:

-  Function is activated
-  Function is deactivated

2.4.1 Activation MOW general settings

Path: *Mobile Order Management (Waste) → Implementations → Control → General settings*

It is recommended to activate the following entry.

- MOW Expansion on (Info: takes precedence over BC)

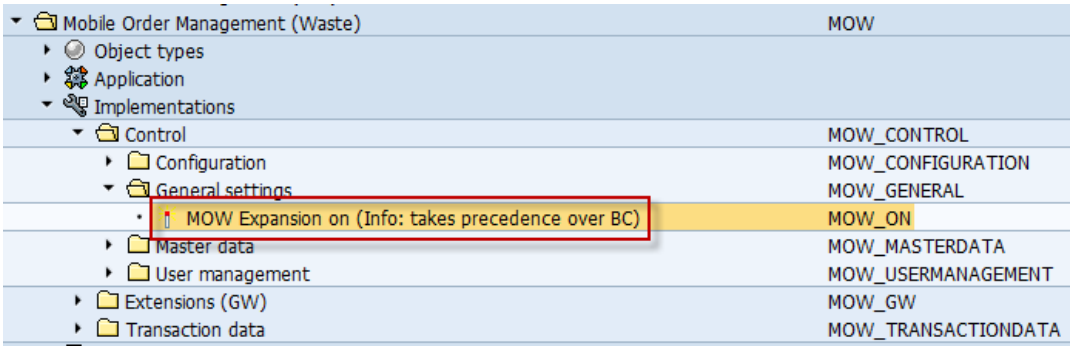


Figure 5: Activation MOW on

2.4.2 Activation of /WATP/MOW_OVERVIEW

Path: *Mobile Order Management (Waste) → Implementations → Transaction data → Order Overview*

It is recommended to activate the following entry.

- Daily Overview (Mask)
- Daily Overview of Order Items (List)
- Daily Overview of Order Items (Mask)

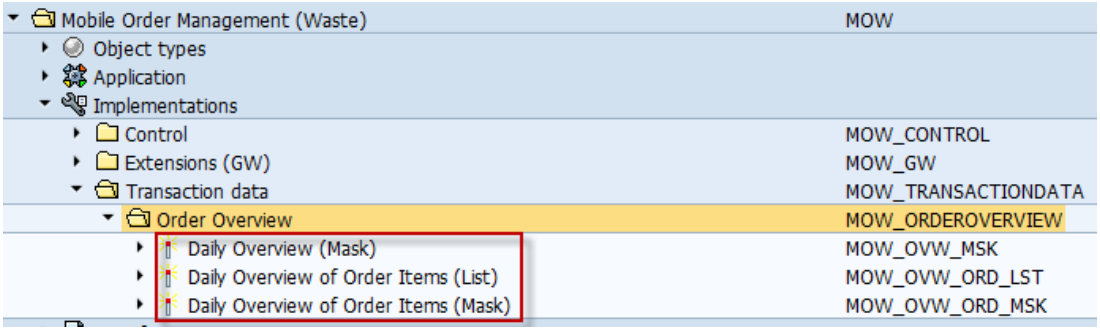


Figure 6: Activation of /WATP/MOW_OVERVIEW

2.4.3 Activation of /WATP/TP_SHORTTERM

Path: *Mobile Order Management (Waste) → Implementations → Extensions (GW) → Short-term tour planning (GW)*

It is recommended to activate the following entry.

- Application profile MOW for short-term tour planning
- Entry with Waste & Recycling (MOW)

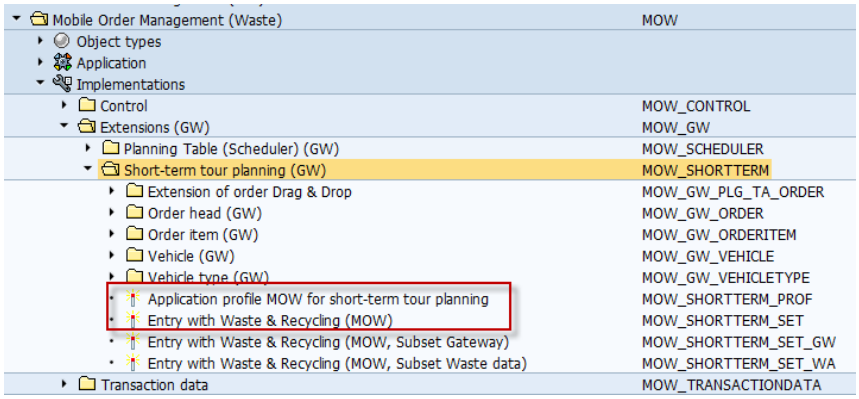


Figure 7: Activation of /WATP/MOW_SHORTTERM

2.4.4 Activation of /WATP/TP_SCHEDULER

Path: *Mobile Order Management (Waste) → Implementations → Extensions (GW) → Planning Table (Scheduler) (GW)*

It is recommended to activate the following entry.

- Applications Profile for MOW Planning Table (Scheduler)
- Join with Waste & Recycling (MOW)

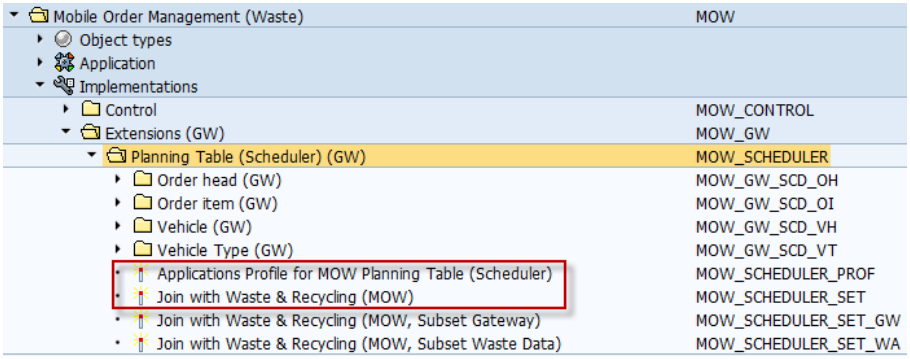


Figure 8: Activation of /WATP/MOW_SCHEDULER

2.4.5 Activation of /WATP/MOW_CONFIG

Path: *Mobile Order Management (Waste) → Implementations → Control → Configuration*

It is recommended to activate the following entry.

- Configuration

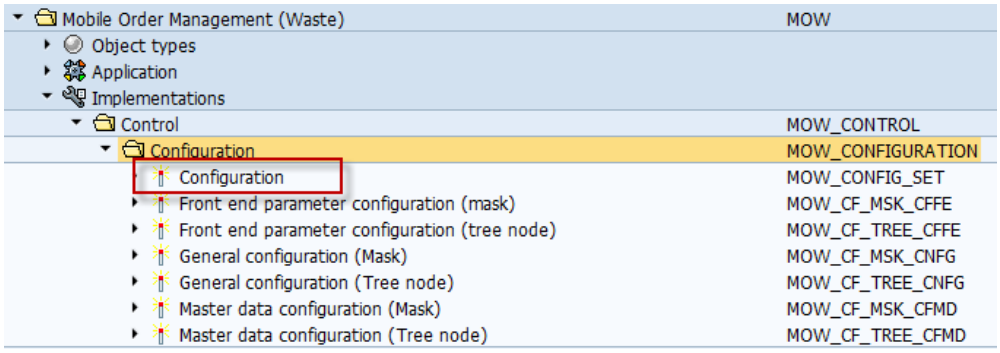


Figure 9: Activation of /WATP/MOW_CONFIG

2.4.6 Activation of /WATP/MOW_USERMAN

Path: *Mobile Order Management (Waste) → Implementations → Control → User management*

It is recommended to activate the following entry.

- User management / User (Mask)
- User management / User (Tree)

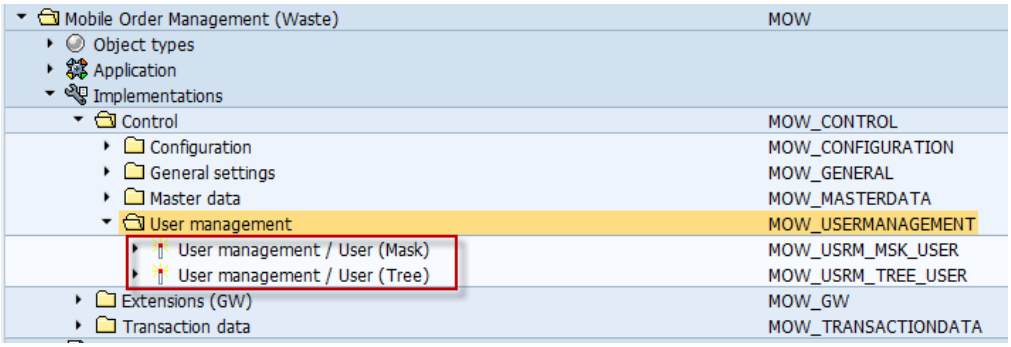


Figure 10: Activation of /WATP/MOW_USERMAN

2.4.7 Activation of /WATP/MOW_MASTERDATA

Path: *Mobile Order Management (Waste) → Implementations → Control → Master data*

It is recommended to activate the following entry.

- Master data confirmation notes (Tree root node)
- Master data confirmation notes (Tree)
- Master data messages (Mask)
- Master data messages (Tree root node)
- Master data messages (Tree)
- Master data vehicles (Mask)
- Master data vehicles (Tree root node)
- Master data vehicles (Tree)

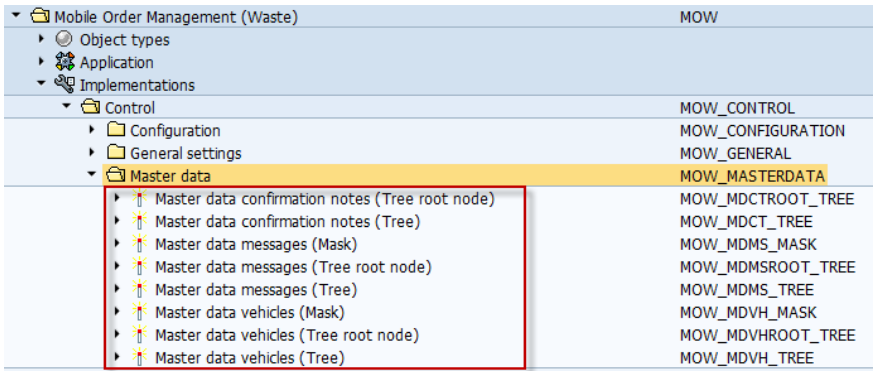


Figure 11: Activation of /WATP/MOW_MASTERDATA

2.4.8 Activation of the deletion of old data

During the daily work with the application *Mobile Waste Order Management* a large amount of data will be created, processed and logged. In order to limit the growth of the database and to ensure a good system performance it is necessary to delete data that is no longer needed.

MOW specific old data is:

- Message data
- Track data
- Order data

To plan the deletion of data start transaction */n/WATP/BASE_ADMIN* and select the node *Mobile Order Management (Waste)* in the tree.

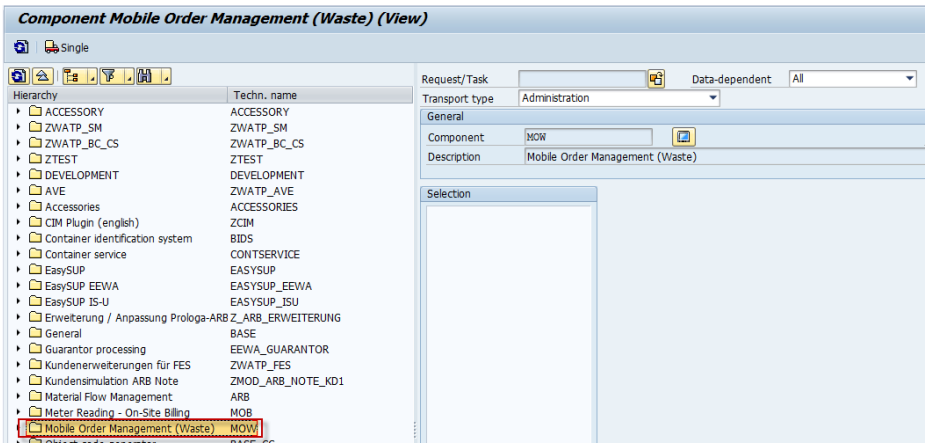


Figure 12: Start configuration for archive

The configuration of the archiving will be done with the following steps:

Step 1: Configuration of definition of selection

Path: *Mobile Order Management (Waste) → Definition of selection → Archiving (deleting) messages, confirmations, tracking data → Archiving*

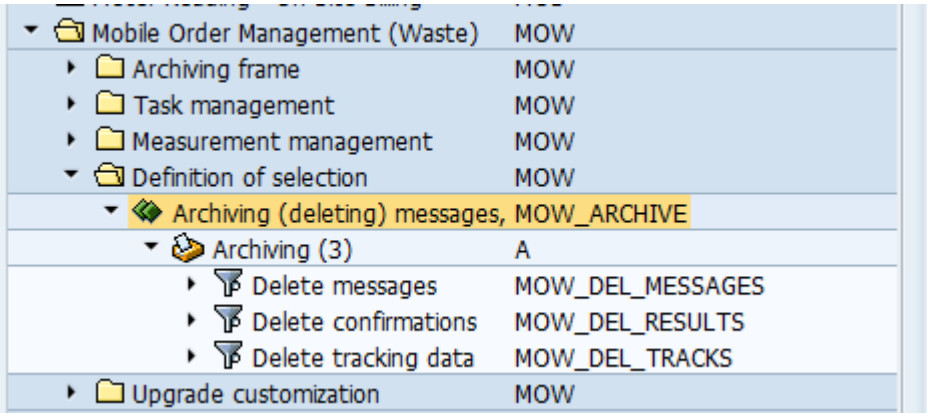


Figure 13: Definition of selection

Select one of the predefined definitions of selection and press the *Selection/Range* button.

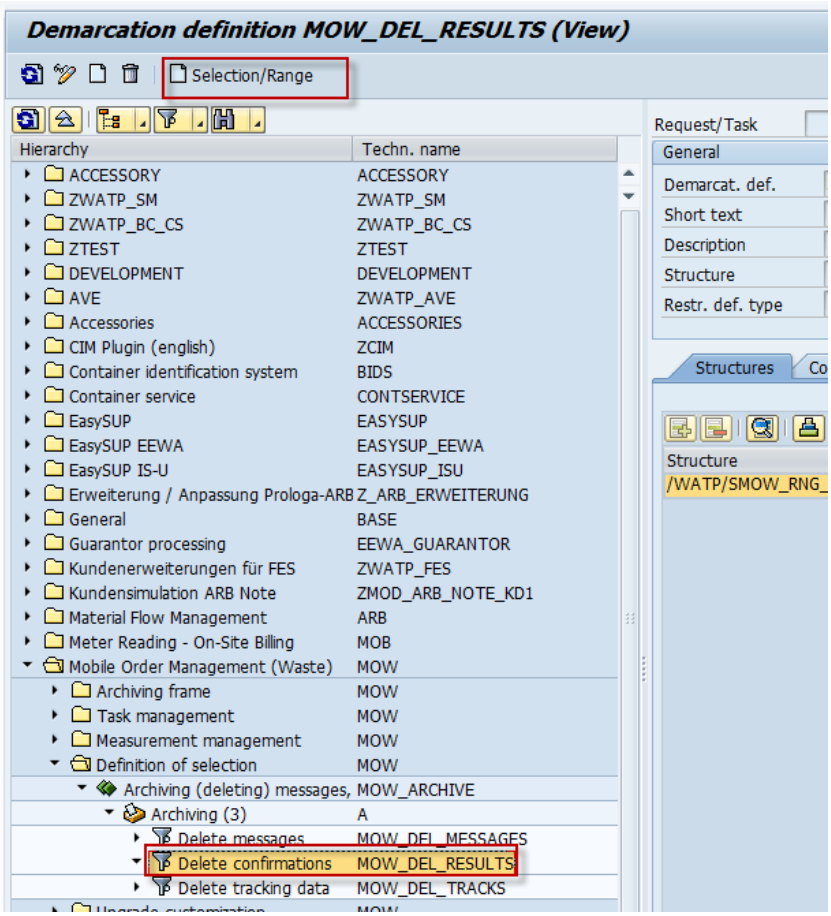


Figure 14: Creation of selection

Now maintain in the mask.
(Names can be chosen free)

Field	Description
Selection Name	__MOW_DEL_RESULTS
Short text	Deletion of data older than 1 year.
Description	Deletion of data older than 1 year.

Table 2: Name of the selection

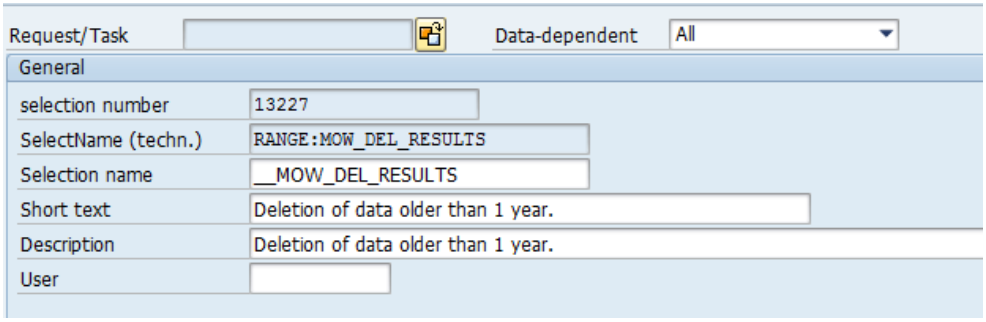


Figure 15: Names of the selection

Now configure the interval of the archiving. Add a formula in the mask *Date*.

Field	Value
Sign	I (Include Value)
Option	LT (Less)
Demarc. Value type	C (Calculation)
Value term	SY-DATUM - 365

Table 3: Configuration of the archiving interval

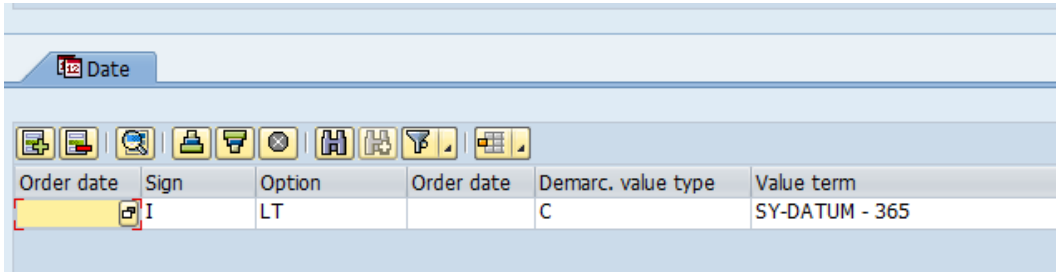


Figure 16: Configuration of the archiving interval

Now maintain also the definition for selection for:

- Delete messages

Field	Description
Selection Name	MOW_DEL_MESSAGES
Short text	Deletion of data older than 1 year.
Description	Deletion of data older than 1 year.

Table 4: Name of the selection

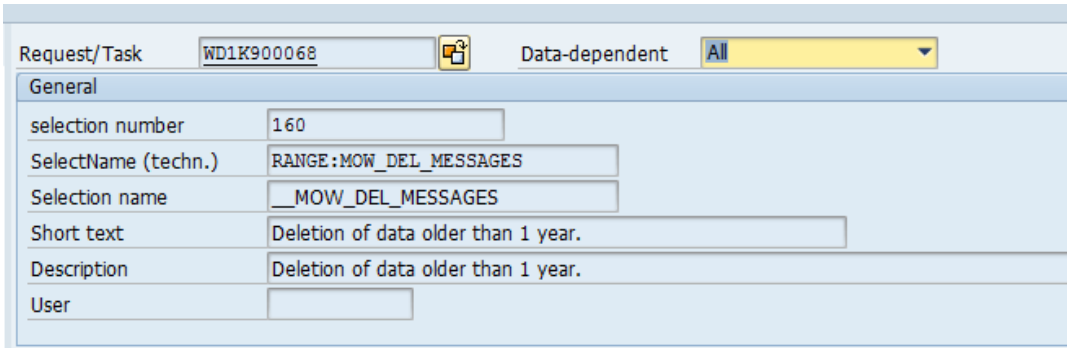


Figure 17: Names of the selection

Now configure the interval of the archiving. Add a formula in the mask *Date*.

Field	Value
Sign	I (Include Value)
Option	LT (Less)
Demarc. Value type	C (Calculation)
Value term	SY-DATUM - 365

Table 04: Configuration of the archiving interval

Now maintain also the definition for selection for:

- Delete track data

Field	Description

Selection Name	__MOW_DEL_TRACKS
Short text	Deletion of data older than 1 year.
Description	Deletion of data older than 1 year.

Table 5: Name of the selection

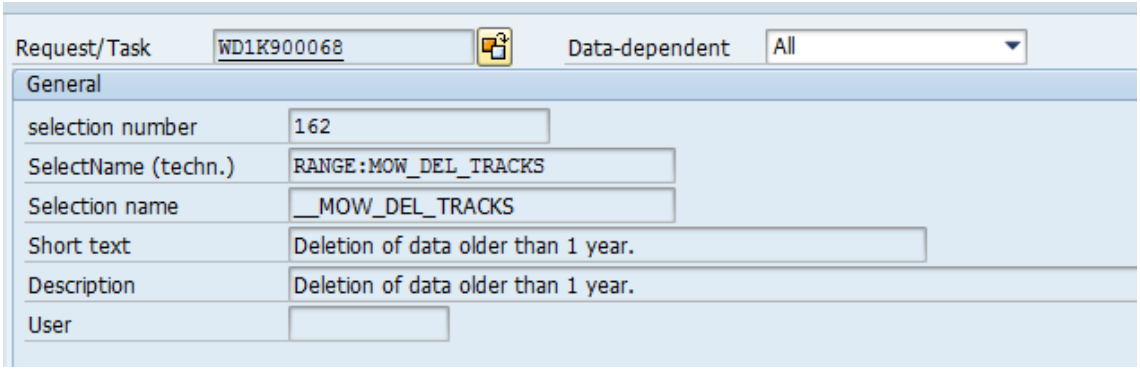


Figure 18: Names of the selection

Now also configure the interval of the archiving. Add a formula in the mask *Date*.

Step 2: Activation of the archiving frame

Path: *Mobile Order Management (Waste) → Archiving frame*

Here you need to configure the archiving frame by pressing the *Prepare* button. A warning pop up can be ignored.

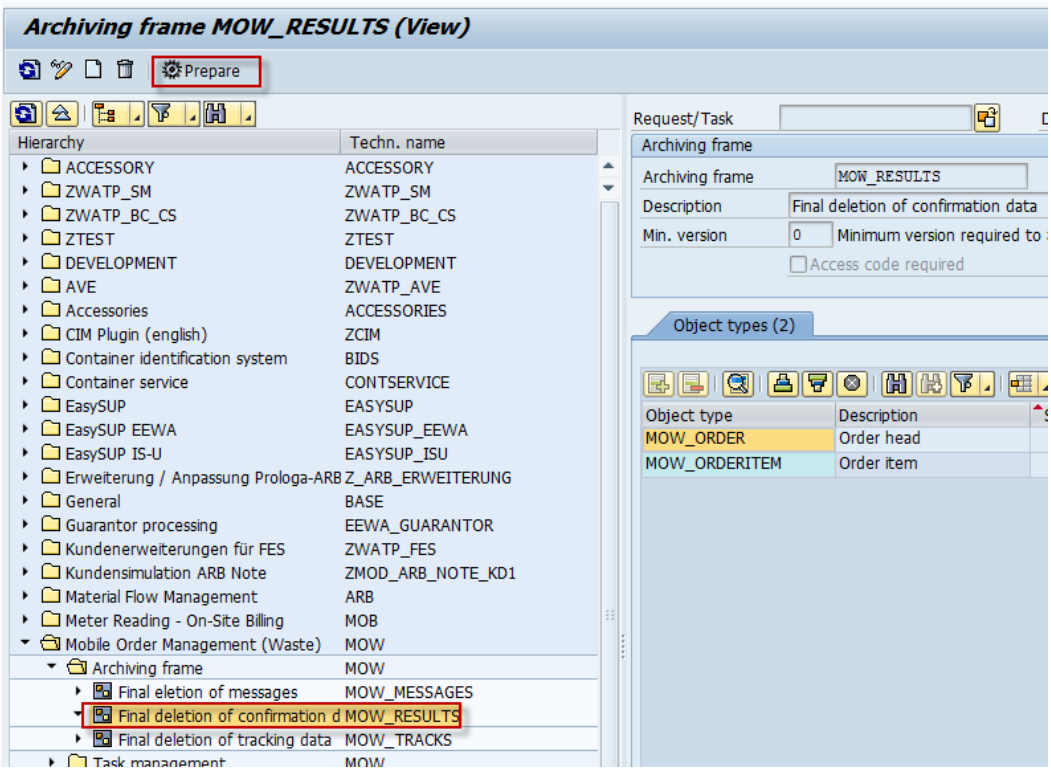


Figure 19: Prepare the archiving frame

Now open the node *Final deletion of confirmation data* and choose your mandate. Input the selection name __MOW_DEL_RESULTS in the mask.

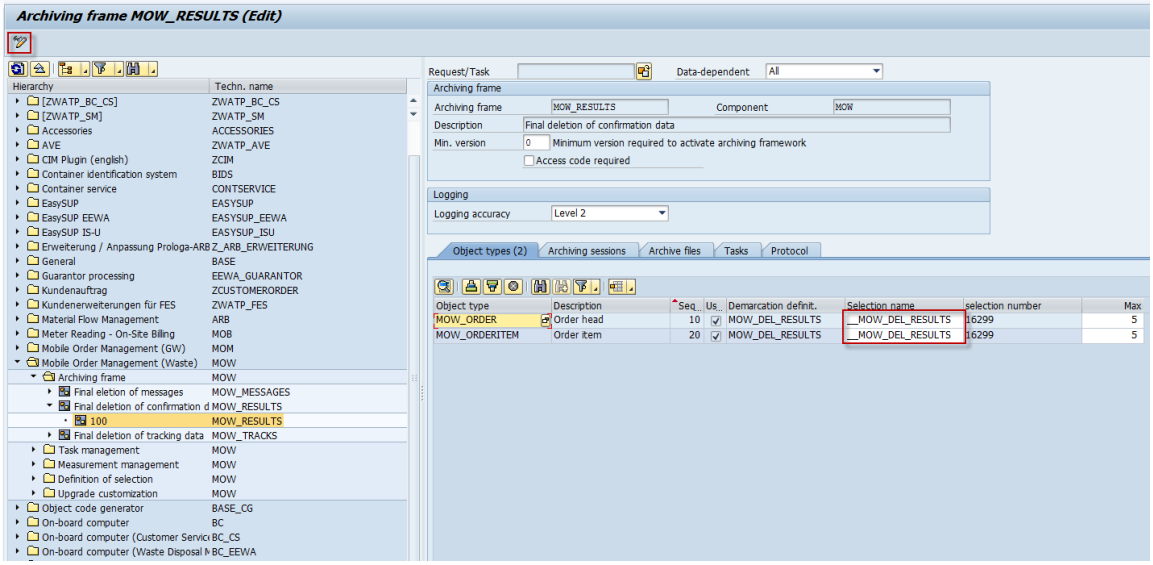


Figure 20: Maintain the selection name

Also maintain 'Final deletion of messages' with selection name __MOW_DEL_MESSAGES and 'Final deletion of tracking' data with selection name __MOW_DEL_TRACKS.

Step 3: Create jobs for archiving

Path: *Mobile Order Management (Waste) → Task management → Tasks*

Create a new task.

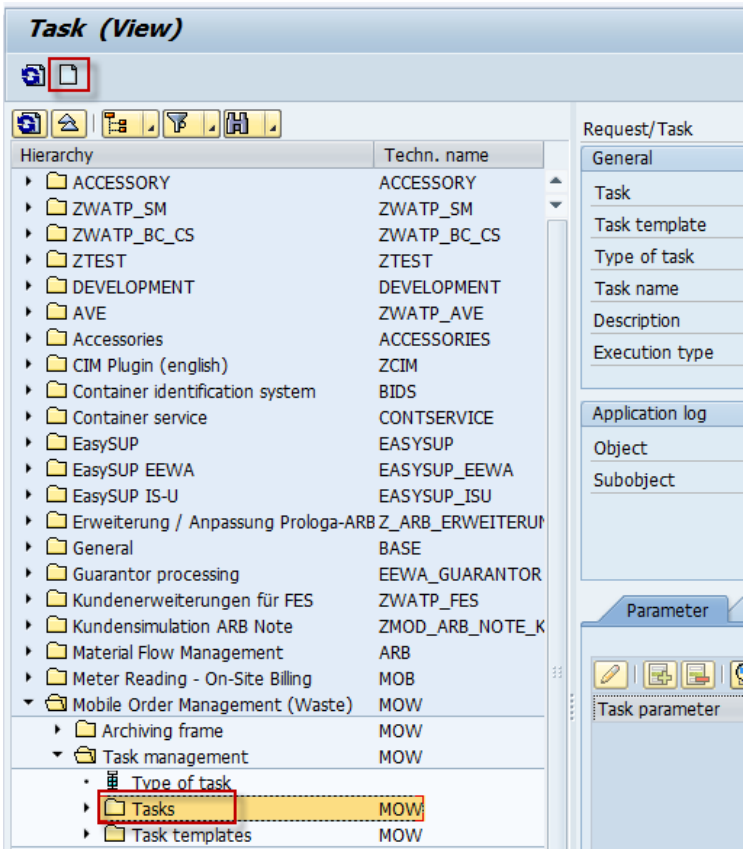


Figure 21: Create new task

Maintain in the mask.

Field	Value
Task	__MOW_DEL_RESULTS + Selection of 'Achieving' in the right side drop down menu
Task template	BASE_ADM_ERASE
Task Name	__MOW_DEL_RESULTS
Object	/WATP/MOW
Subobjekt	/WATP/ARCHIVE

Table 6: Create a new task

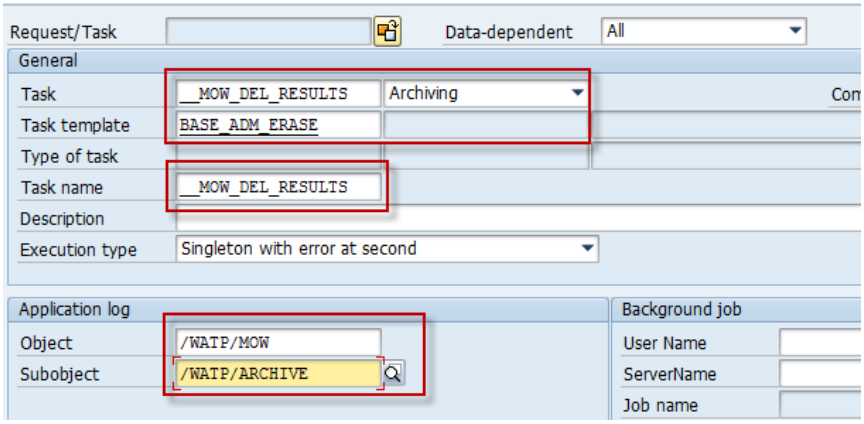


Figure 22: Task configurations

Now maintain the parameter in the *Parameter* mask.

Field	Value
Task parameter	DATAREF->ARCHIVEFRAME
Parameter value	MOW_RESULTS
Data element	/WATP/DARCHIVEFRAME

Table 7: Parameter archiving job

Save and reopen the task form the tree. The second parameter was automatically created with the parameter value E (deletion).

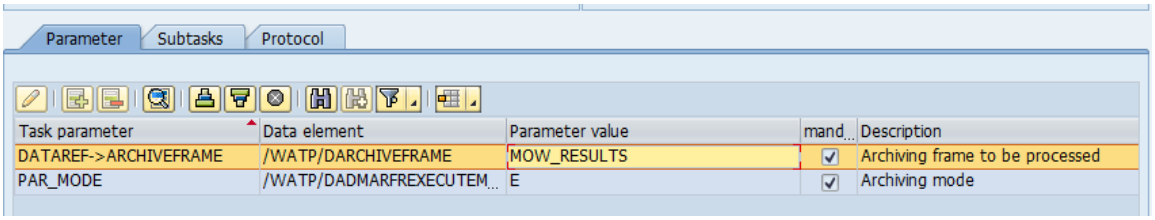


Figure 23: Check task parameter

Do the configuration analogue for:

- Message data

Field	Value

Task	__MOW_DEL_MESSAGES + Selection of 'Achieving' in the right side drop down menu
Task template	BASE_ADM_ERASE
Task Name	__MOW_DEL_MESSAGES
Object	/WATP/MOW
Subobjekt	/WATP/ARCHIVE

Table 8: Create a new task

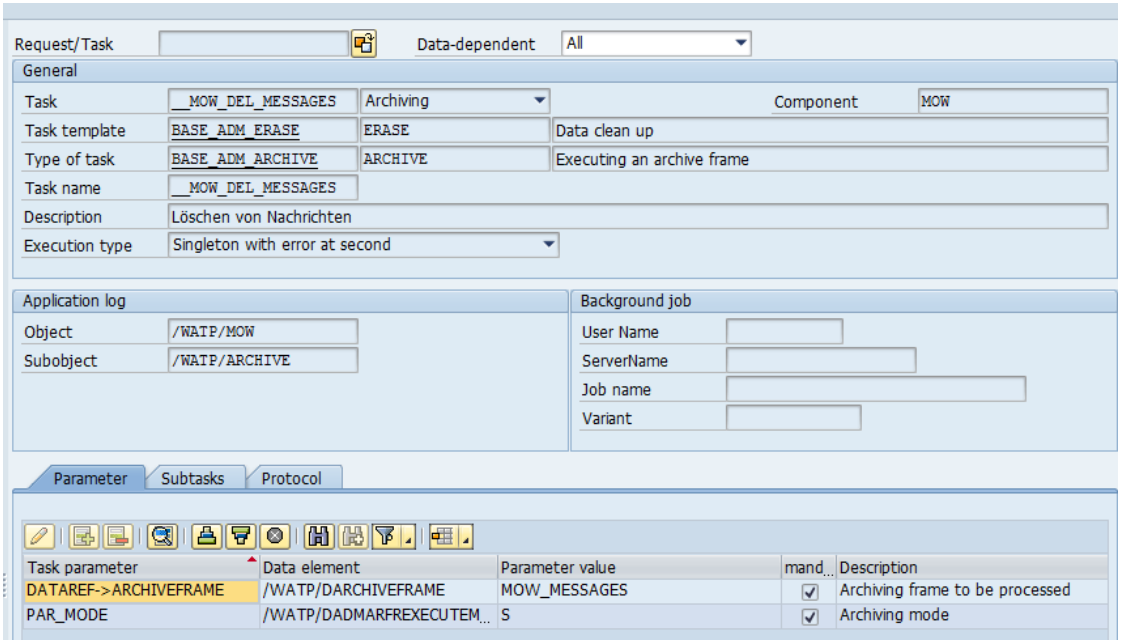


Figure 24: Task configurations

Now maintain the parameter in the *Parameter* mask.

Field	Value
Task parameter	DATAREF->ARCHIVEFRAME
Parameter value	MOW_MESSAGES
Data element	/WATP/DARCHIVEFRAME

Table 9: Parameter archiving job

Save and reopen the task form the tree. The second parameter was automatically created with the parameter value E (deletion).

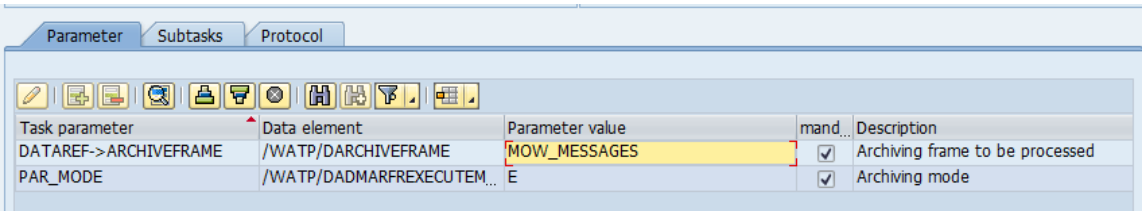


Figure 25: Check task parameter

Do the configuration analogue for:

- Track data

Field	Value
Task	__MOW_DEL_TRACKS + Selection of 'Achieving' in the right side drop down menu
Task template	BASE_ADM_ERASE
Task Name	__MOW_DEL_TRACKS
Object	/WATP/MOW
Subobjekt	/WATP/ARCHIVE

Table 10: Create a new task

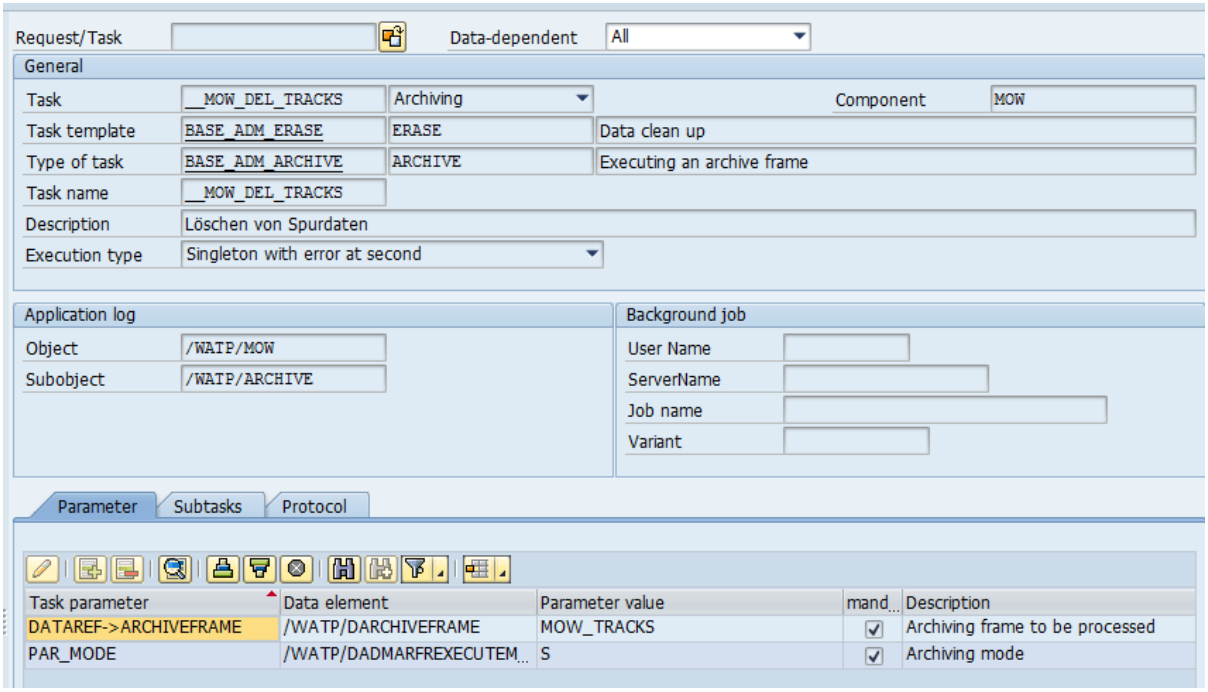


Figure 26: Task parameter

Now maintain the parameter in the *Parameter* mask.

Field	Value
Task parameter	DATAREF->ARCHIVEFRAME
Parameter value	MOW_TRACKS
Data element	/WATP/DARCHIVEFRAME

Table 11: Parameter archiving job

Save and reopen the task form the tree. The second parameter was automatically created with the parameter value E (deletion).

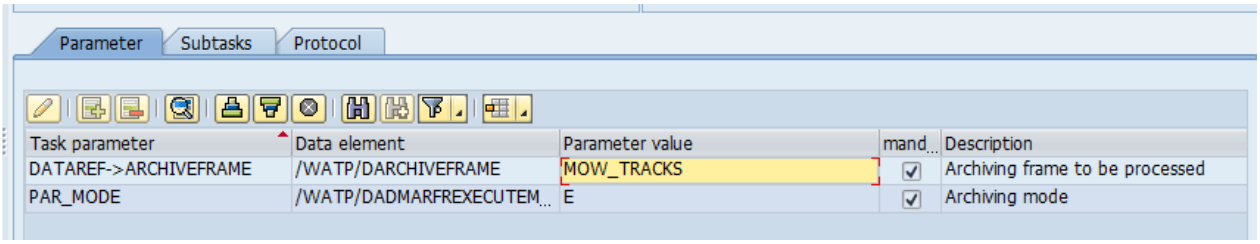


Figure 27: Check task parameter

Now you can activate and schedule the job.

To test your settings you can start the job 'Immediately' and check if the job is green in the job protocol.

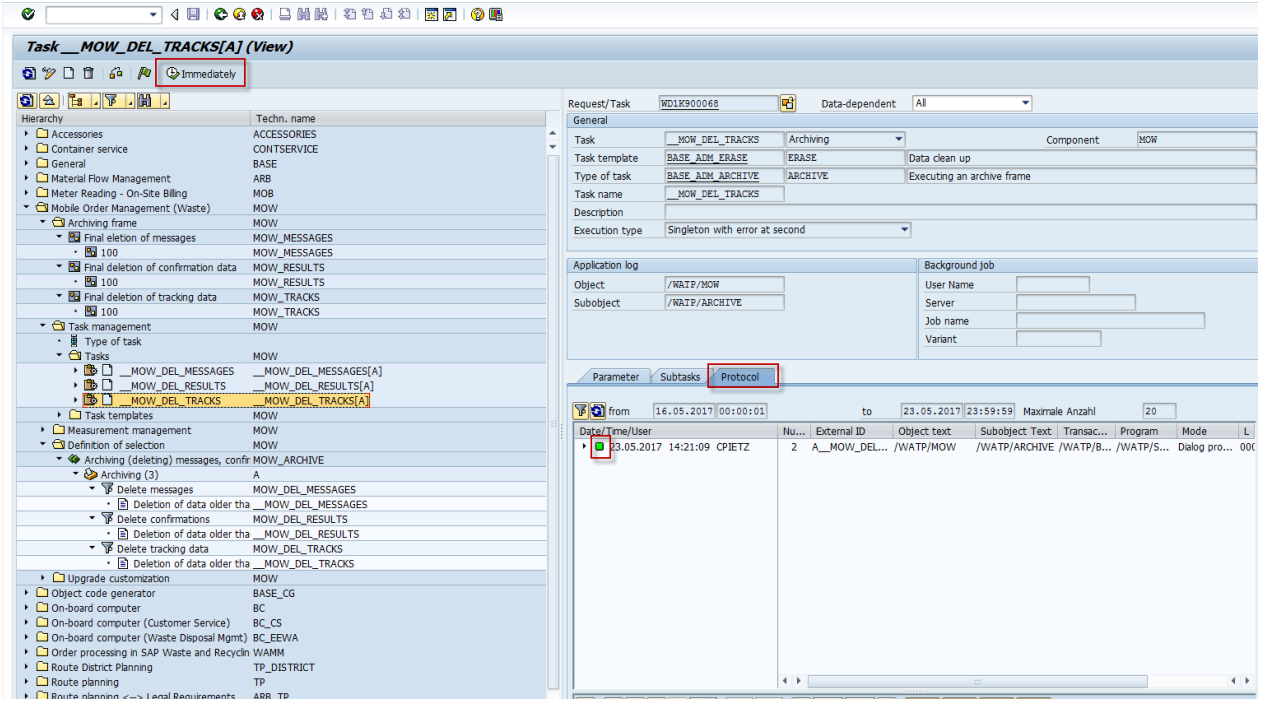


Figure 28: Test your job

3 Configuration in /WATP/MOW_CONFIG

/N/WATP/MOW_CONFIG includes the MOW specific configurations. These are divided into:

1. Configuration of frontend parameter
2. Configuration of master data
3. Configuration general

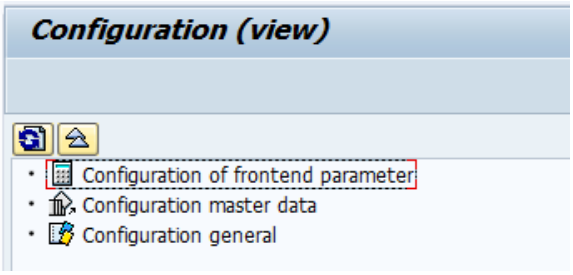


Figure 29: MOW configuration

3.1 Configuration of frontend parameter

Here you can configure the configuration of the app on the mobile device.

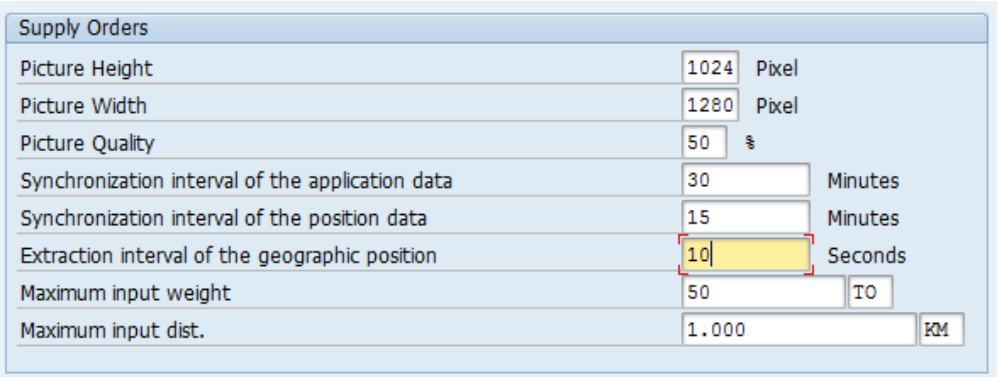


Figure 30: MOW App frontend configuration

- Picture Height
  Amount of pixel in height
- Picture Width
  Amount of pixel in width
- Picture Quality
  Compression (if 100% is choses the compression is zero, so no loss of quality caused by compression but highest data amount to be transferred)
- Synchronization interval of the application data
  Amount of minutes until an automatic flush of the data store to the backend (all data stored on the mobile device will automatically be sent to the backend)
- Synchronization interval of the position data
  Amount of minutes until an automatic sending of all position data stored on the mobile device to the SAP® backend
- Maximum input weight
  Maximum amount to be inputted per weighing note
- Maximum input dist.
  Maximum distance from the start input of millage to the end input of millage

3.2 Configuration of master data

Here you configure the system settings for MOW.

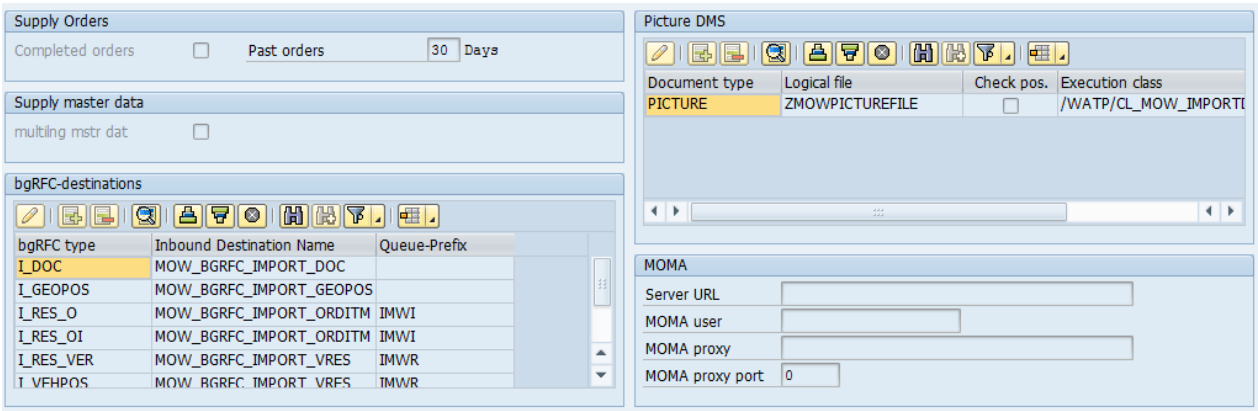


Figure 31: SAP® System configuration

3.2.1 Supply orders

This configuration defines which orders should be provided to the mobile devices.

- Completed orders
  Should completed orders be provided to the mobile devices?
- Past orders
  For how many days in the past should orders be provided to the mobile devices.

3.2.2 Supply master data

This configuration defines if the master data should be provided only in the logon language or in multi-language.

3.2.3 bgRFC-Destinations

Generally speaking, the background RFC technology offers at least two very useful features:

- Background RFCs allow a very versatile parallelization of high data volume processing when the individual parts or packages of the data (e.g. meter reading orders, meter reading results etc.) are independent of each other so that they need not be processed sequentially.
- The queueing of background RFCs allows repeating failed RFCs at a later time if a temporary disturbance in the target system (or in the sender system) has occurred.

The processing of mobile data is realized with bgRFC. These bgRFC have to be created and maintained into /WATP/MOW_CONFIG.

The bgRFC maintenance is realized in several steps:

Step 1: Creation of RFC (ABAP) connections in SM59.

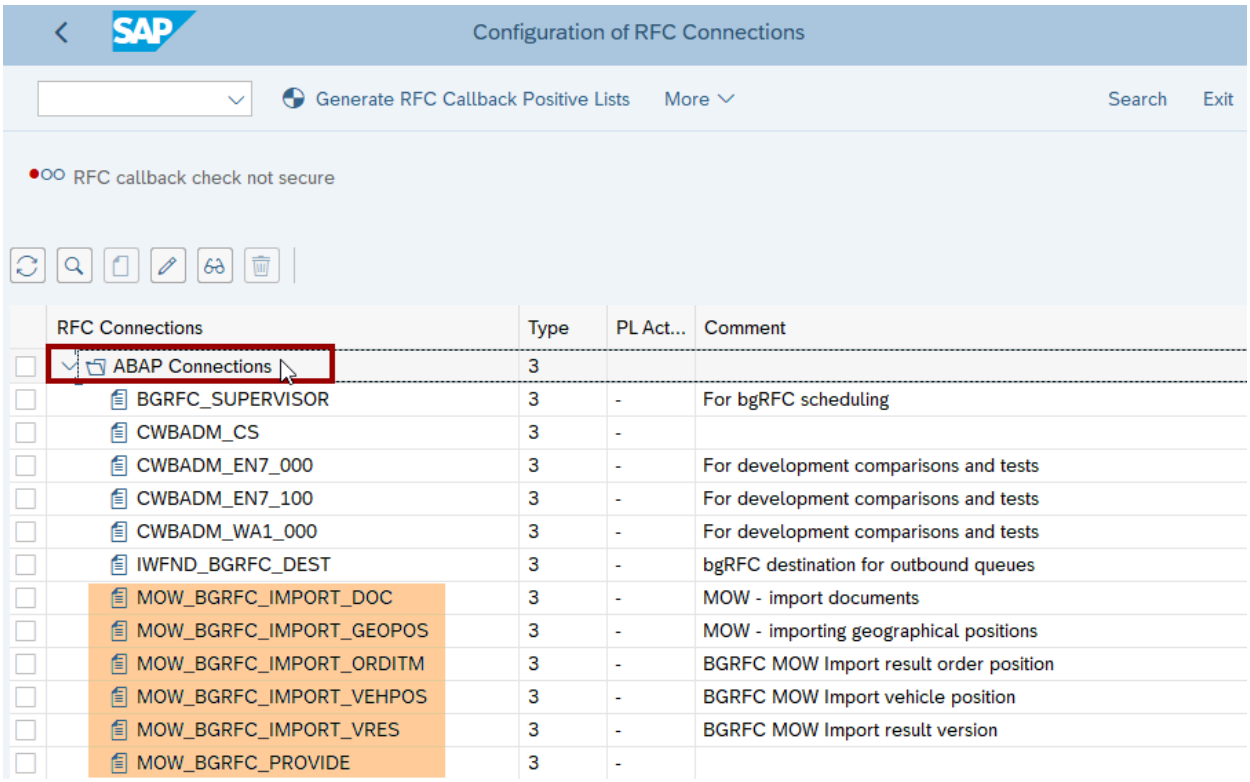


Figure 32: Creation RFC connection

The warning message "RFC callback check not secure", which can be seen in the above screenshot, is irrelevant for our topic and can be ignored. Just click on the icon  and you can then configure the new bgRFC destination.

MOW requires 5 RFC (ABAP) connections:

- MOW_BGRFC_IMPORT_DOC
- MOW_BGRFC_IMPORT_GEOPOS
- MOW_BGRFC_IMPORT_ORDITM
- MOW_BGRFC_IMPORT_VRES
- MOW_BGRFC_IMPORT_VEHPOS
- MOW_BGRFC_PROVIDE

(The names can be chosen by the user)

The configuration of *MOW_BGRFC_PROVIDE* enables new order items to be sent to the mobile device. That means if an order item is scheduled for an order that has already been provided for a vehicle (with assigned mobile device), the version number of the order is automatically increased so that the vehicle registers this change.

Tab *Technical Settings*:

It is not necessary to enter a target host, and it is not necessary to maintain logon credentials either.

There is no further configuration required in the mask.

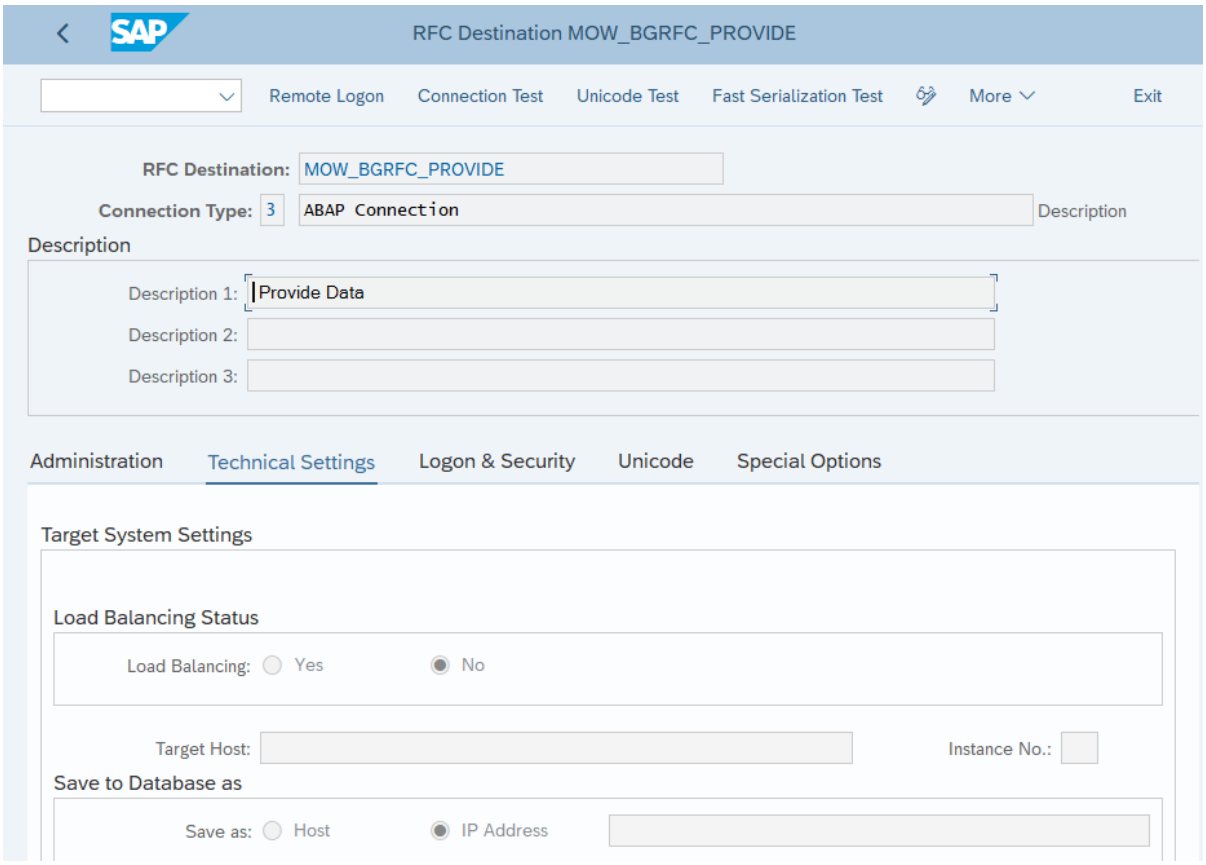


Figure 33: Example RFC connection – Technical Settings

It is not necessary to enter a target host, and it is not necessary to maintain logon credentials either. There is no further configuration required in the mask.

Tab *Unicode*:
Under *Communication Type with Target* System choose ***Unicode***.

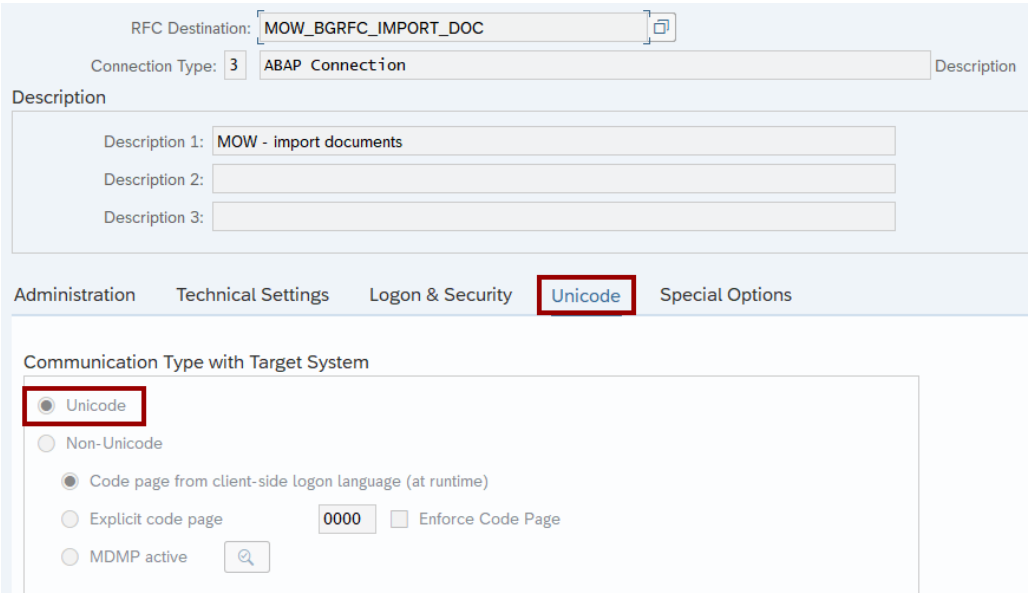


Figure 34: Example RFC connection – Unicode

Step 2: Inbound Destination Configuration

Now configure the bgRFC.

Transaction *SBGRFCCONF*

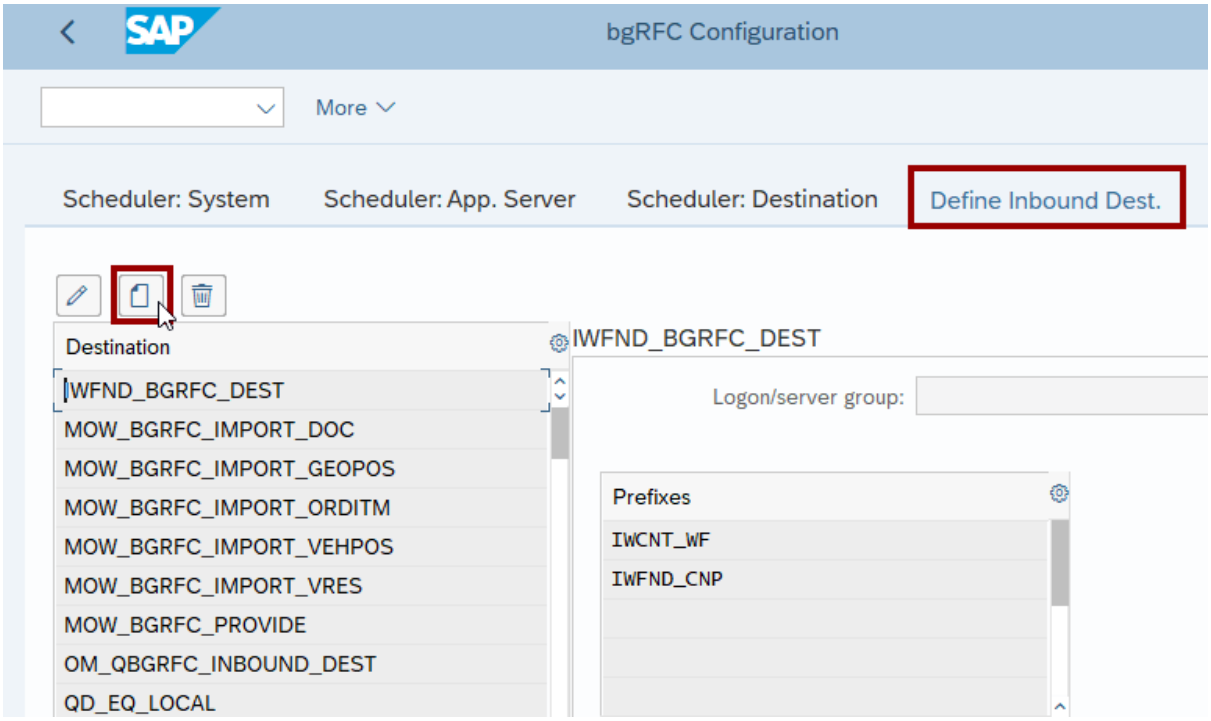


Figure 35: Create new inbound destination

Now create 6 destinations. (The names can be chosen by the user)

Inbound Destination Name	Queue Prefixes
MOW_BGRFC_IMPORT_DOC	No Prefixes
MOW_BGRFC_IMPORT_GEOPOS	No Prefixes
MOW_BGRFC_IMPORT_ORDITM	IMWI
MOW_BGRFC_IMPORT_VRES	IMWR
MOW_BGRFC_IMPORT_VEHPOS	IMWV
MOW_BGRFC_PROVIDE	PRO

Table 12: bgRFC Inbound Destination

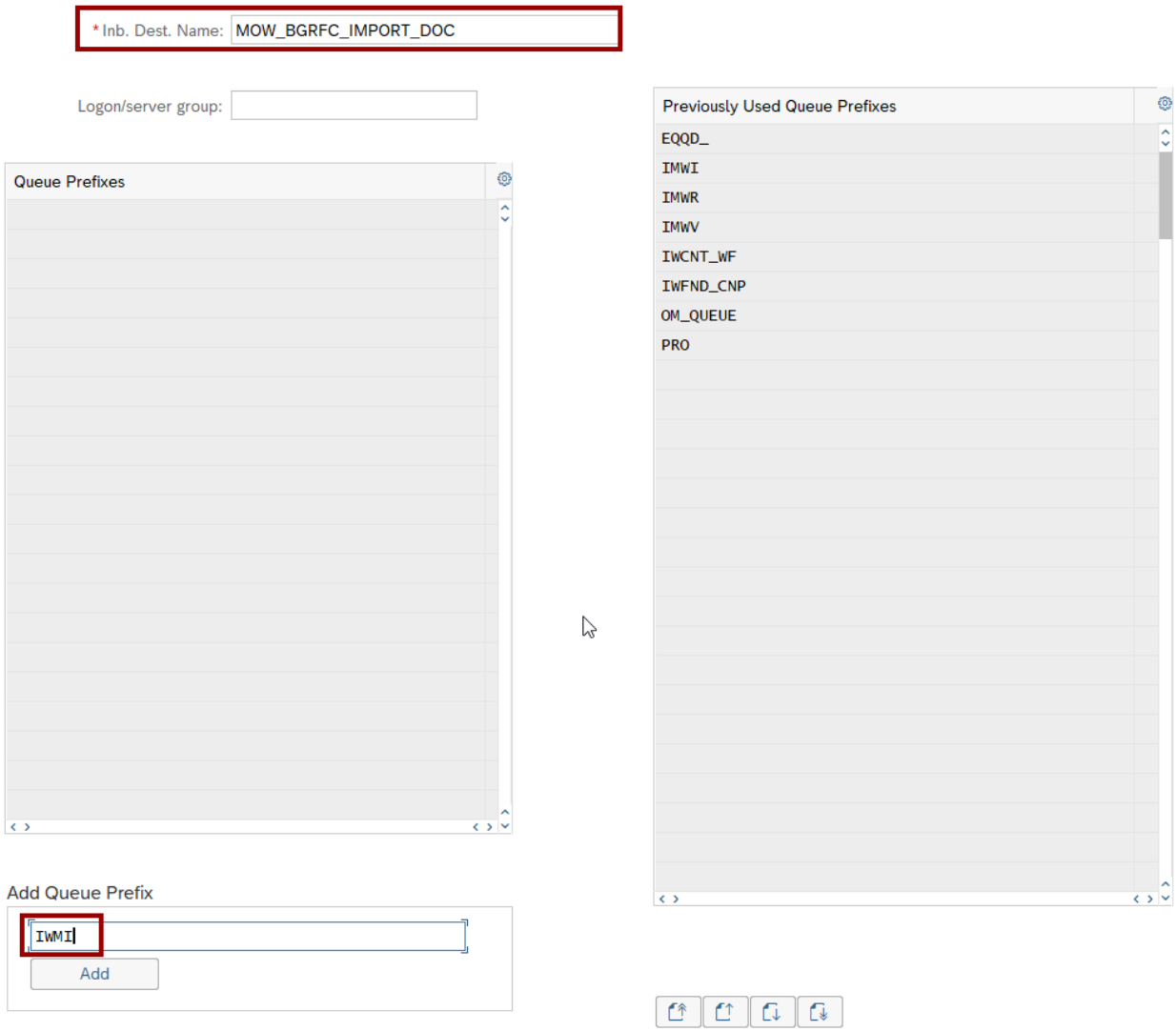


Figure 36: Configuration of new inbound destination

Step 3: Schedule the destinations

Create the schedule of the intervals of the bgRFC's.

Scheduler - Destination	Art	Scheduler Count	Max. Auto. Retries	Wait per Unit (s)	Wait/ Destination (s)	Dest.Proc. Time (s)	Open Connections	Unit Alive Checks
MOW_BGRFC_IMPORT_DOC	Inbound	1-	30	60	60		2	30
MOW_BGRFC_IMPORT_GEOPOS	Inbound	1-	30	60	60		2	30
MOW_BGRFC_IMPORT_ORDITM	Inbound	1-	30	60	60	300	5	30
MOW_BGRFC_IMPORT_VRES	Inbound	1-	30	60	60		5	30
MOW_BGRFC_IMPORT_VEHPOS	Inbound	1-	30	60	60		5	30
MOW_BGRFC_PROVIDE	Inbound	1-	30	60	60		10	30

Table 13: bgRFC Inbound Destination Scheduler

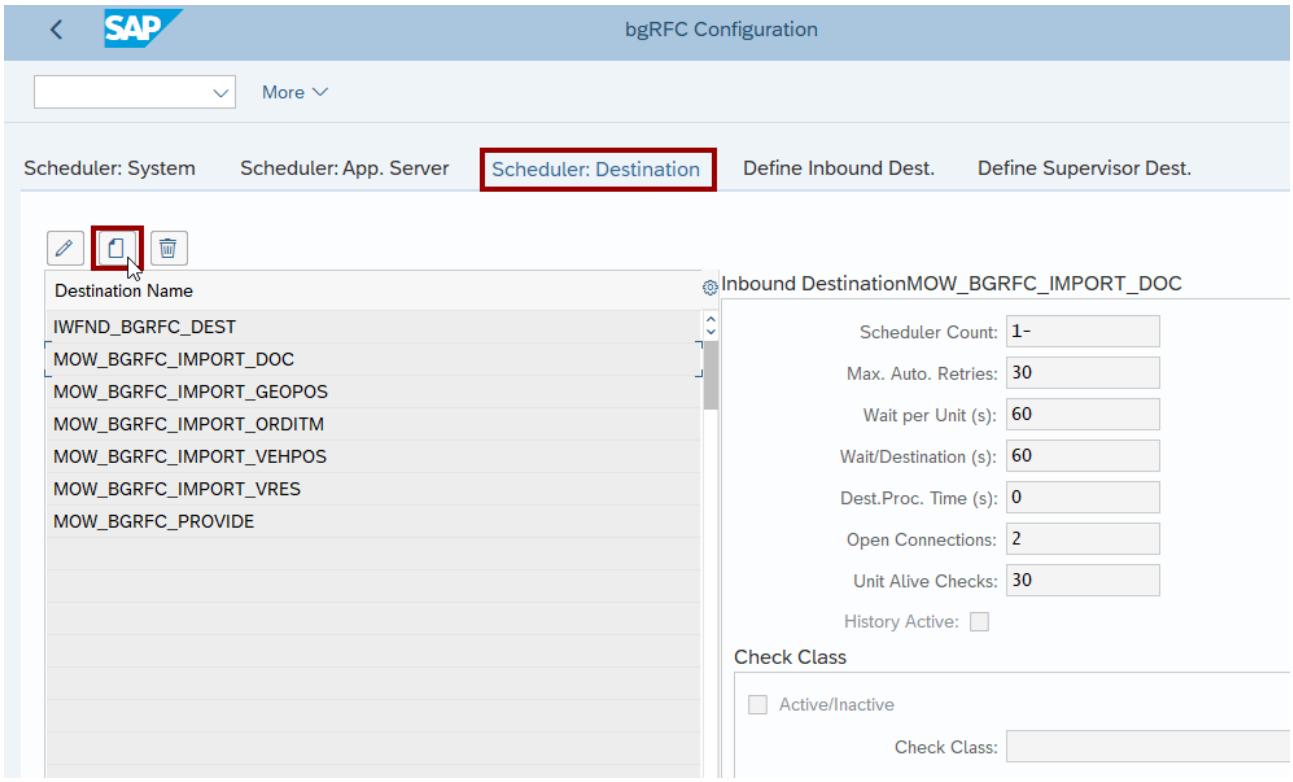


Figure 37: Creating scheduling for new inbound destination

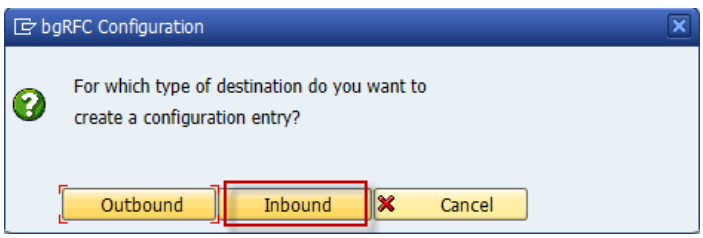


Figure 38: Choose inbound

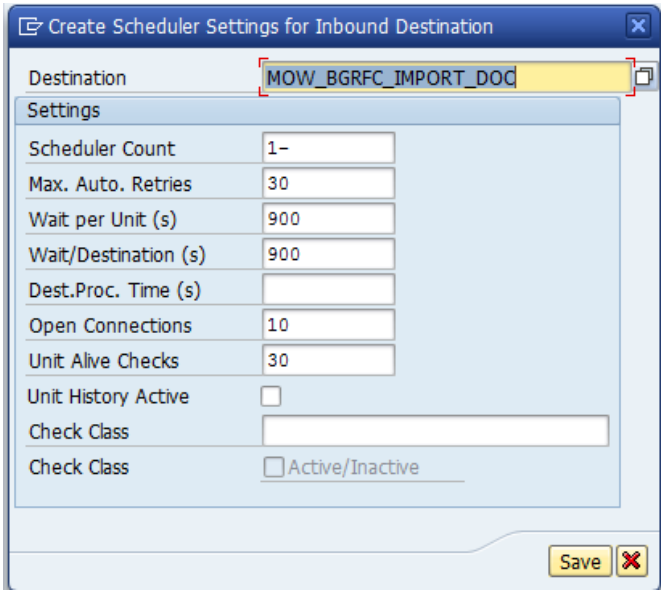


Figure 39: Schedule the time intervals form Table 13

Step 4: Maintenance of the created bgRFC's in /WATP/MOW_CONFIG

There are nine bgFRC types available in the system. All of these types now have to be assigned to the bgRFC destinations which were just created.

Transaction */WATP/MOW_CONFIG*

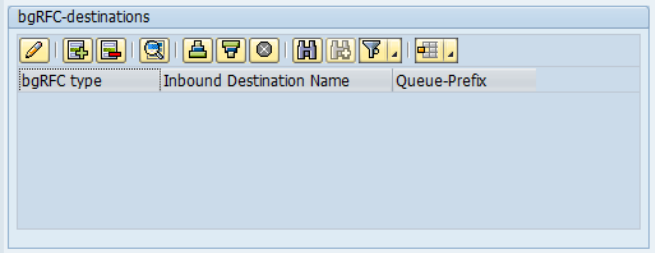


Figure 40: bgRFC maintenance in /WATP/MOW_CONFIG

Available bgRFC types:

I_RES_VER - Import Confirmation Version
I_RES_O - Import Confirmation of Order
I_RES_OI - Import Confirmation of Order Item
I_WEIGH_O - Import Weigh Bill Order
I_WEIGH_OI - Import Weigh Bill Order Item
I_DOC Import - Document
I_GEOPOS - Import Geographic Position
I_VEHPOS - Import Current Vehicle Position
I_PROVIDE - Send new order items to mobile device: if an order item is scheduled for an order that has already been provided for a vehicle (with assigned mobile device), the version number of the order is automatically increased so that the vehicle registers this change.

If the result data needs to be queued this also needs to be maintained. Please use the queue prefixes form the bgRFC destination creation.

Now start to assign.

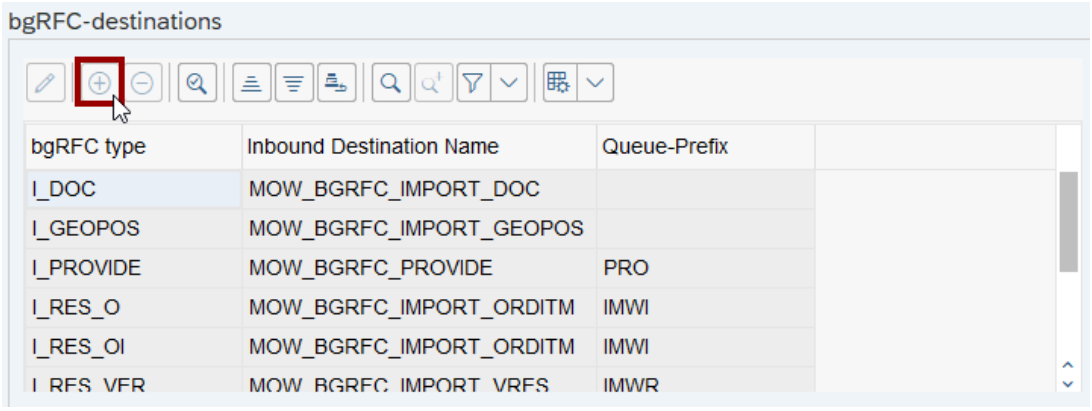


Figure 41: Select the created bgRFC in /WATP/MOW_CONFIG

bgRFC type	Inbound destination name	Queue-Prefix
I_DOC	*MOW_BGRFC_IMPORT_DOC*	
I_GEOPOS	*MOW_BGRFC_IMPORT_GEOPOS*	
I_RES_O	*MOW_BGRFC_IMPORT_ORDITM*	*IMWI*
I_RES_OI	*MOW_BGRFC_IMPORT_ORDITM*	*IMWI*
I_WEIGH_O	*MOW_BGRFC_IMPORT_ORDITM*	*IMWI*
I_WEIGH_OI	*MOW_BGRFC_IMPORT_ORDITM*	*IMWI*
I_RES_VER	*MOW_BGRFC_IMPORT_VRES*	*IMWR*
I_VEHPOS	*MOW_BGRFC_IMPORT_VEHPOS*	*IMWV*
I_PROVIDE	*MOW_BGRFC_PRIVIDE*	*PRO*

Table 14: bgRFC assignment in /WATP/MOW_CONFIG

3.2.4 Picture DMS / Document Types

To save the pictures you have to create a logical file path and link this to a physical path.

Transaction FILE

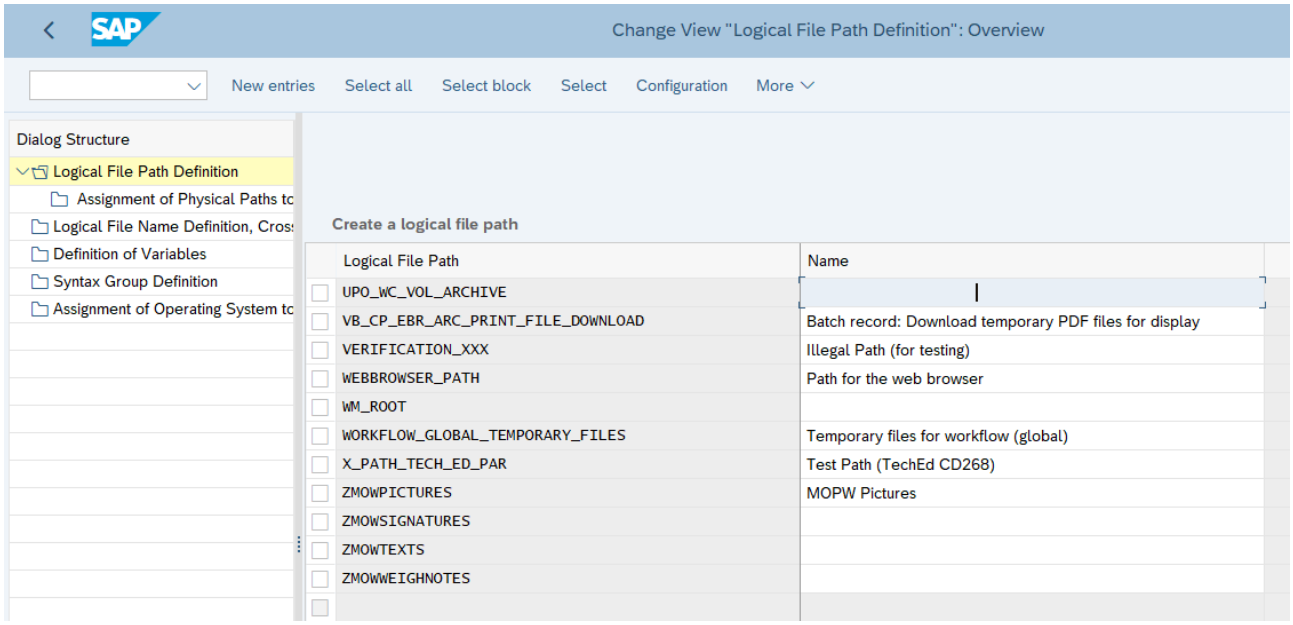


Figure 42: Configuration of logical file paths in transaction FILE

You can use different document types:

- *PICTURE* general picture file
- *SIGNATURE* picture of signature
- *TEXT* picture of text
- *WEIGHNOTE* picture of weighing note
- *DIAGNOSTIC* analysis data mobile application

3.2.4.1 Creation of a logical file path

Step 1: Create new path

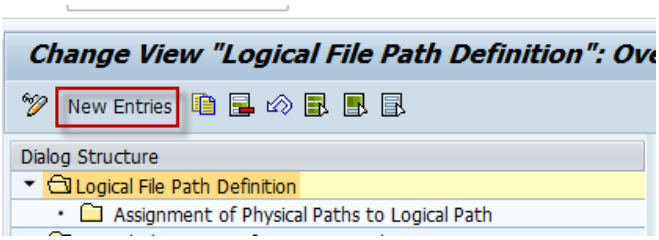


Figure 43: Create new logical path

Step 2: Choose name

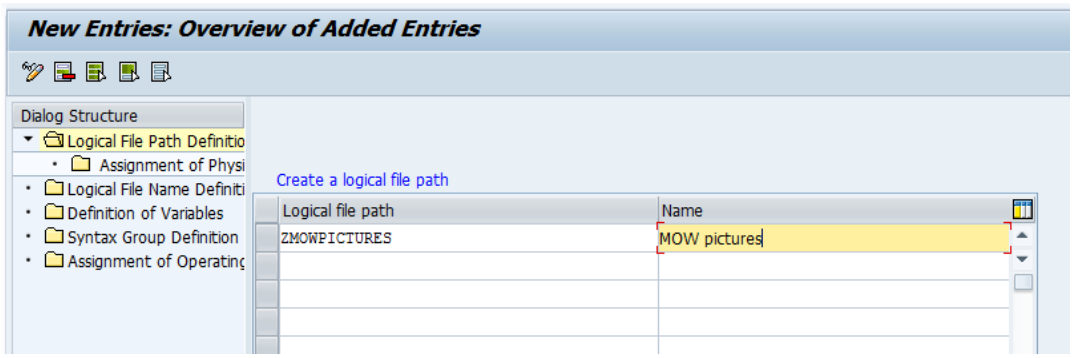


Figure 44: Choose name

Step 3: Choose a physical path

This is the physical location where the data will be stored on your database.

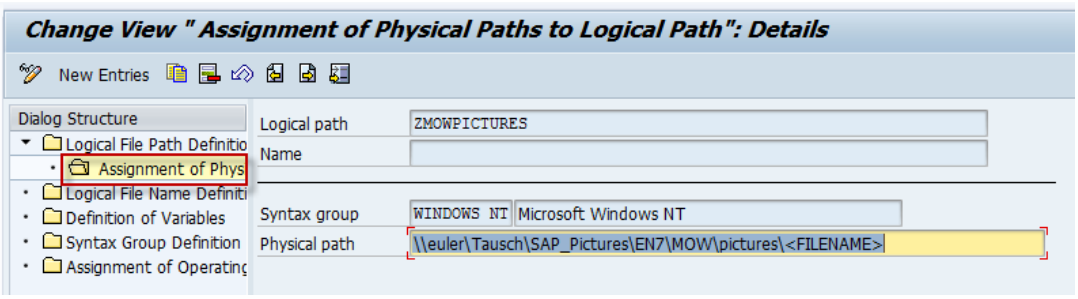


Figure 45: Physical path

Step 4: You can arrange now how the file (of the picture) will be named. Create a new entry for your logical path

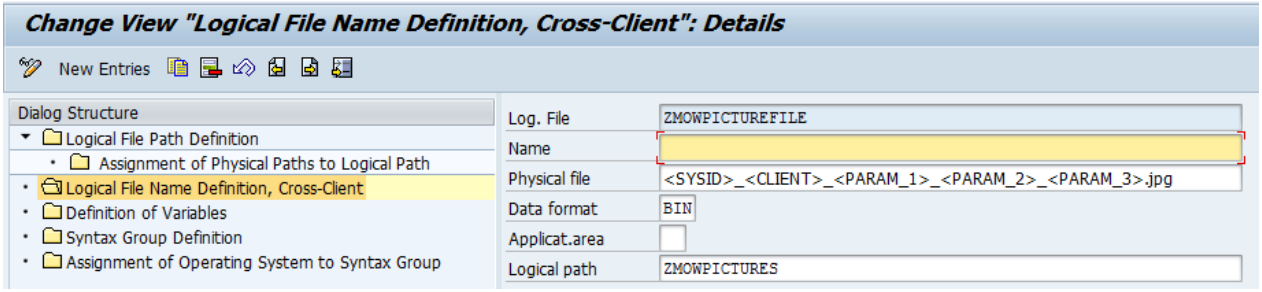


Figure 46: Definition of the naming

Step 5: Maintenance of the picture configuration in /WATP/MOW_CONFIG

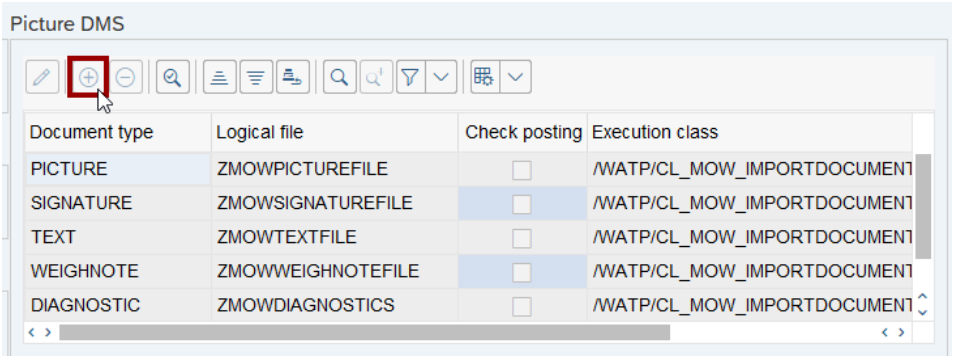


Figure 47: Maintenance of the picture configuration in /WATP/MOW_CONFIG

Execution class needs to be /WATP/CL_MOW_IMPORTDOCUMENT.

3.2.5 Mobile Order Management Analytics (MOMA) Configurations

If MOMA is used the necessary configuration needs to be done here.

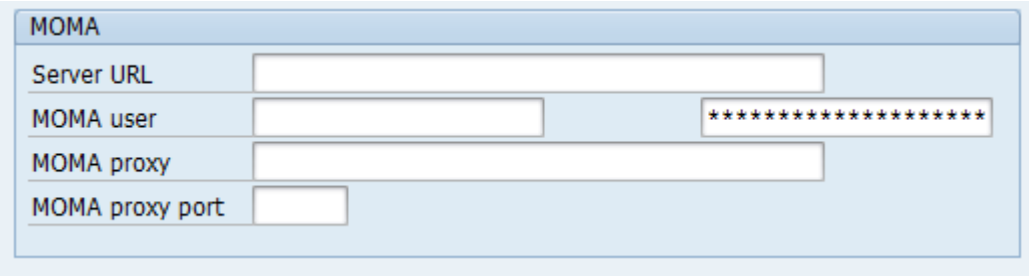


Figure 48: Maintenance of the picture configuration in /WATP/MOW_CONFIG

3.3 Configuration general

Here you configure a predefined mileage unit to be used on the mobile device and the different work flows.

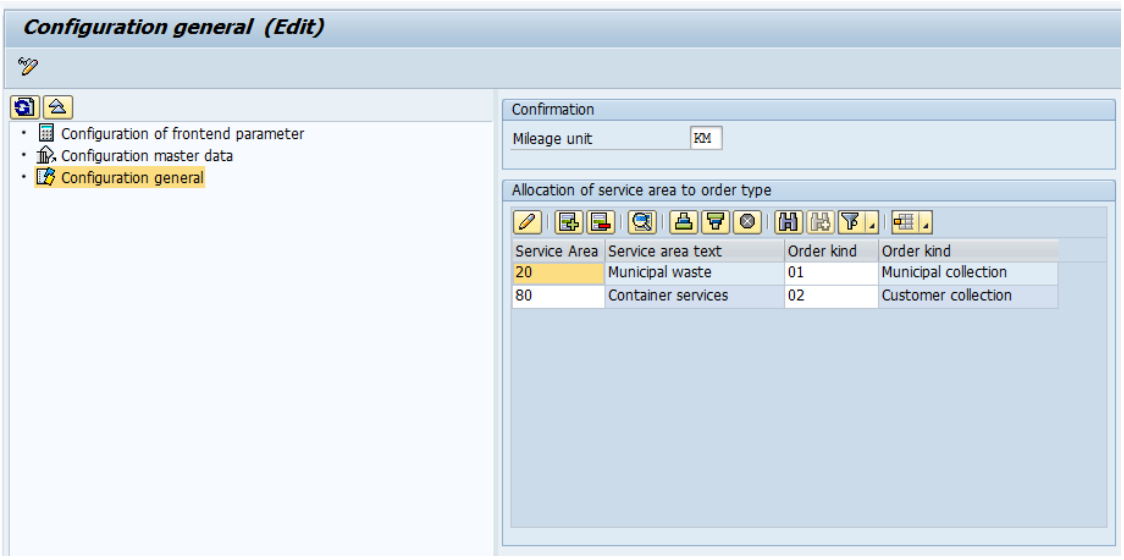


Figure 49: Maintenance of the mileage and workflow

- Confirmation

  This is the mileage unit which will be used on the mobile device.
- Allocation of service area to order type

  Here you will maintain which workflow will be used on the mobile device. The workflow is triggered by the service area of the order items of an order. In the example above an order which contains order items with service area 20 will get the order kind 01 *Municipal collection* on the mobile device.

4 Creating and maintenance of MOW user in /WATP/MOW_USERMAN

In /N/WATP/MOW_USERMAN you need to maintain your MOW user. You can choose from your SAP® users. These users can login to your SAP® Backend system via a mobile device and a MOW app. You can also link your SAP® users to HR (personnel) users here. Only the amount of MOW users registered in /WATP/BASE_KEYREG should be set active in /WATP/MOW_USERMAN.

To create new MOW users:

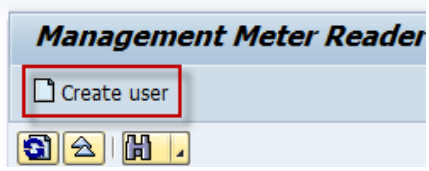


Figure 50: Create new MOW user

To create a user you have to maintain:

- User
  SAP® User
- Valid from
  Start date of validity
- Valid to
  End date of validity
- Driver
  Should the user use the driver app?
- Co-Driver
  Should the user use the co-driver app?
- Active
  Is the user active?
- Personnel No.
  HR number to be linked to the SAP® user.

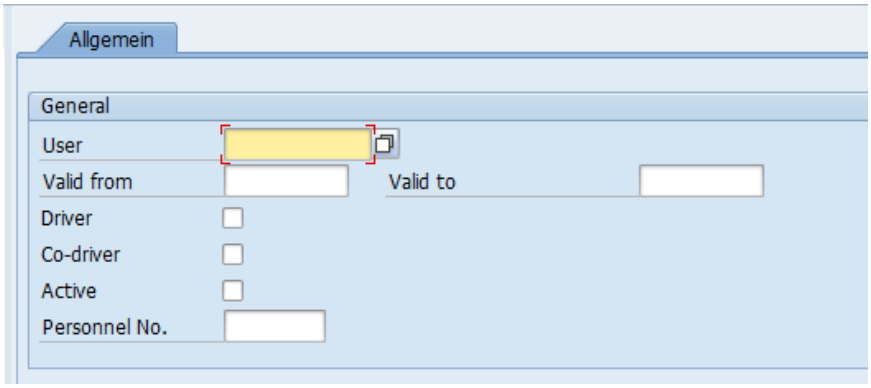


Figure 51: MOW user maintenance

5 Configuration in /WATP/MOW_MASTERDATA

In */WATP/MOW_MASTERDATA* you will configure the message master data and the vehicles to be used in MOW.

5.1 Message master data

5.1.1 Deviation reason

The deviation reasons are maintain in SPRO.

SPRO → SAP Utilities → Waste Management → Processing of Waste Disposal Orders → Define Notes for Completion

These confirmation reasons are only displayed in /WATP/MOW_MASTERDATA.

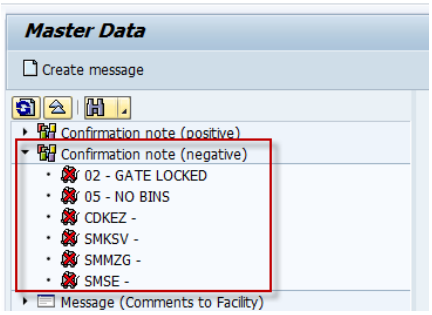


Figure 52: Display of confirmation notes

5.1.2 Comments to Facility

With *Comment to facility* you can add additional information to a weighing note. These comments are maintained as master data in /WATP/MOW/MASTERDATA.

To create a new comment (message) press the *Create message* button.

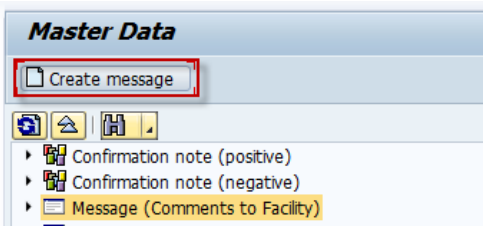


Figure 53: Create a comment to facility

Please maintain:

- Message ID
- Description

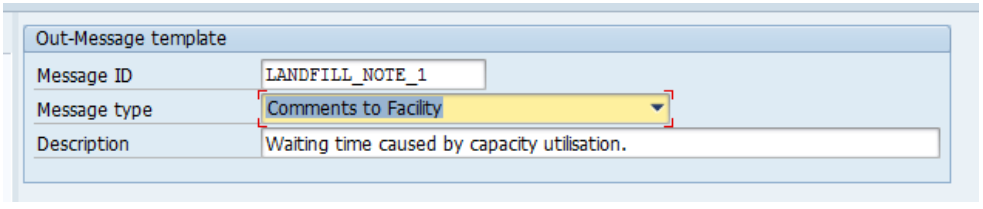


Figure 55: Maintain a comment to facility

5.1.3 Vehicle master data

To provide orders to individual vehicles in */WATP/TP_SHORTTERM* and */WATP/TP_SCHEDULER* these trucks have to be flagged for MOW usage in */WATP/MOW_USERMAN*.

All trucks for which a licence plate is maintained in *IE02* are displayed in */WATP/MOW_USERMAN*. The license plate (field LICENSE_NUM) is part of the vehicle master data.

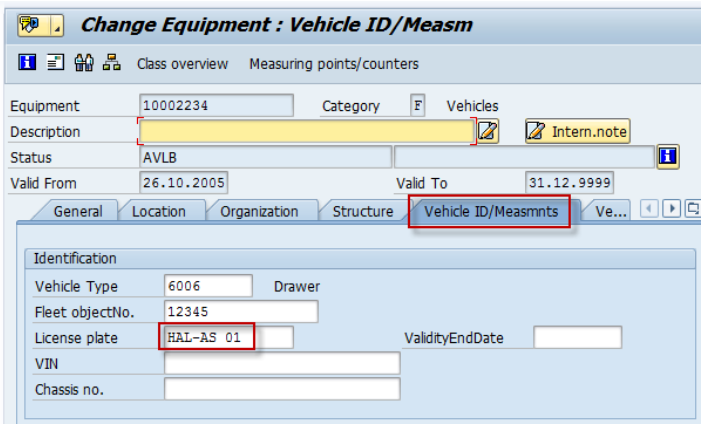


Figure 54: License plate maintenance in IE02

Initially all truck are displayed in the *Vehicle (not for mobile)* level.

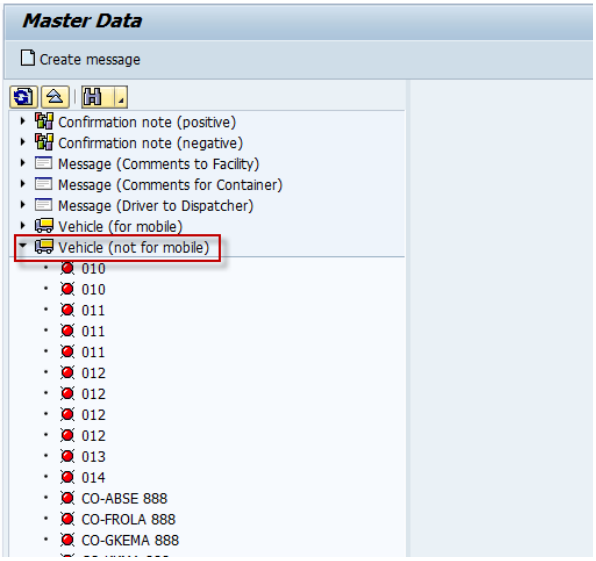


Figure 55: Display of non-MOW trucks

Individual selected vehicles can now be activated for MOW.

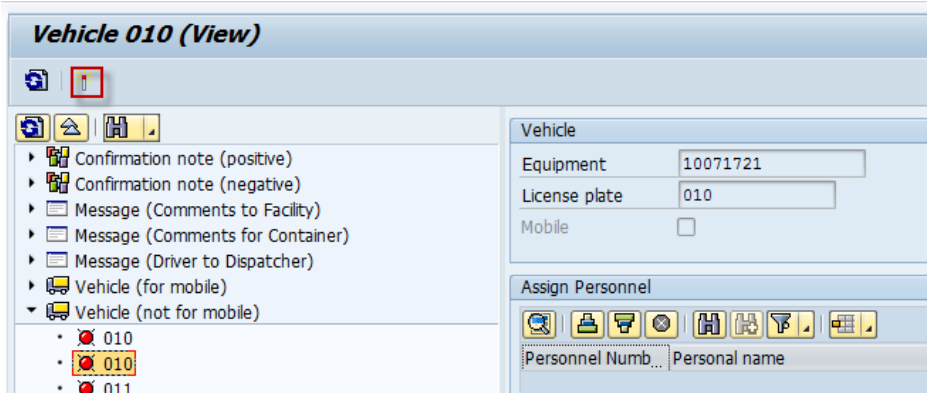


Figure 56: Activate vehicle for MOW

6 Creation of Gateway (oData) services

The communication between the mobile devices and the SAP® backend is realized with SAP® Netweaver Gateway services. To use the communication channels the usage of Gateway services and the oData services itself need to be created and configured.

The configuration from chapter 6.1– 6.4 is necessary if you have not configured SAP Netweaver Gateway on your system yet. If you already have gateway available please skip these chapters and go on with chapter 6.5 – Activation of the Service.

6.1 System landscape overview

We intend to use the following system landscape for the development systems and also for the quality assurance systems and the production systems:

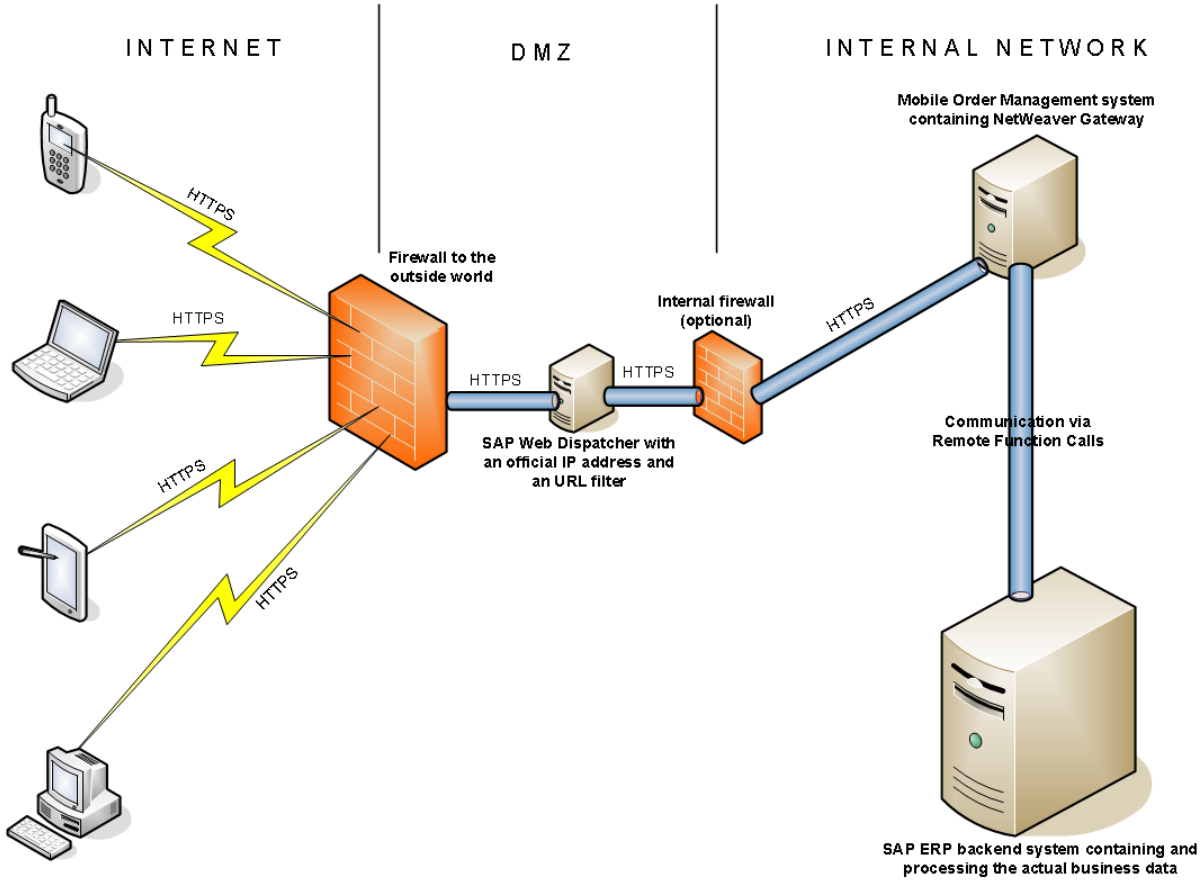


Figure 57: System landscape overview

The internal firewall is optional and can be used if a very high level of network security is desired. For the functionality of the on-site billing services, such an internal firewall is, of course, not required.

The Mobile Order Management (MOM) system is an SAP ERP 6.0 system with Enhancement Package 7 and the PROLOGA add-on 7. It contains the NetWeaver Gateway as a standard software component.

The big backend system which stores and processes the actual business data such as customer master data, meter reading order data, invoice data etc. is also an SAP ERP 6.0 system with Enhancement Package 7.

6.2 Configuring an SAP NetWeaver Gateway system - a step-by-step description

The following desciption will explain the various work steps which are required or at least useful for configuring an SAP NetWeaver Gateway system from the administrative side. In our example configuration exercise, we are working in a test system which is actually an SAP ERP 6.0 system with Enhancement Package 7 and which contains the following support package levels:

AL9(1)/200 Installed Software

Installed Software Component Versions | Installed Product Versions

Component	Release	SP-Level	Support Package	Short Description of Component
SAP_BASIS	740	0012	SAPKB74012	SAP Basis Component
SAP_ABA	740	0012	SAPKA74012	Cross-Application Component
SAP_GWFND	740	0013	SAPK-74013INSAPGWFND	SAP Gateway Foundation 7.40
SAP_UI	740	0014	SAPK-74014INSAPUI	User Interface Technology 7.40
PI_BASIS	740	0012	SAPK-74012INPIBASIS	Basis Plug-In
ST-PI	740	0003	SAPK-74003INSTPI	SAP Solution Tools Plug-In
SAP_BW	740	0012	SAPKW74012	SAP Business Warehouse
MDG_FND	747	0010	SAPK-74710INMDGFND	MDG Foundation 732
SAP_AP	700	0033	SAPKNA7033	SAP Application Platform
SAP_BS_FND	747	0010	SAPK-74710INSAPBSFND	SAP Business Suite Foundation
WEBCUIF	747	0010	SAPK-74710INWEBCUIF	SAP Web UI Framework
MDG_APPL	617	0010	SAPK-61710INMDGAPPL	MDG Applications 607
SAP_APPL	617	0010	SAPKH61710	Logistics and Accounting
SAP_FIN	617	0010	SAPK-61710INSAPFIN	SAP_FIN
SAP_HR	600	0128	SAPKE600C8	Human Resources
IS-UT	617	0010	SAPK-61710INISUT	SAP Utilities/Telecommunication
LSOFE	600	0027	SAPK-60027INLSOFE	SAP Learning Solution Front-End
SEM-BW	600	0027	SAPKGS6027	SEM-BW: Strategic Enterprise Management
AOFTOOLS	400_700	0000	-	Add-On Assembly Kit (AOFTOOLS 400_700)
PROLOGA	700_617	0005	SAPK-70005INPROLOGA	PROLOGA Components for SAP

Figure 58: System requirements for SAP Netwaver Gateway

It is recommended to use at least support package stack 10 of Enhancement Package 7 and support package 5 of the PROLOGA add-on, as it is shown in the above picture. All relevant configuration steps can well be carried out on this basis. The description of some of the configuration steps is based on information contained in the "SAP NetWeaver Gateway Configuration Guide" which was published by SAP for SAP NetWeaver Gateway 2.0 SP04 but which is still also largely valid for the Gateway version contained in current EhP7 systems.

1. Setting the system profile parameters

The following two parameters must be set in the DEFAULT profile of the Gateway system and also of the ERP backend system:

login/accept_sso2_ticket = 1

login/create_sso2_ticket = 2

These profile parameters can be set in transaction RZ10 in the usual way:

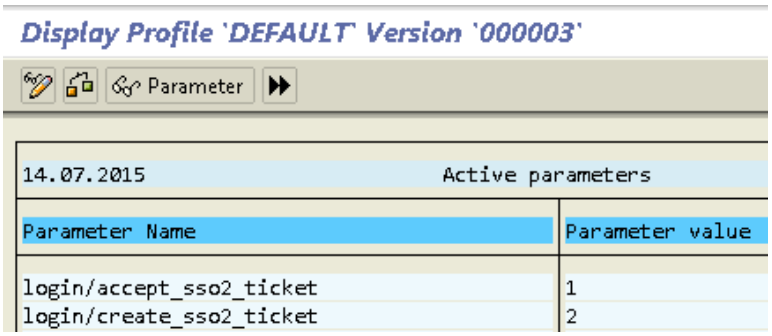


Figure 59: Parameter in the DEFAULT profile

These parameters should be set in the DEFAULT profile because they must be effective in the entire SAP system, on all its application servers. This applies to both the Gateway system and the ERP backend system.

2. Activating the required ICF nodes

In the Internet Communication Framework (transaction SICF) of the Gateway system, the following nodes must be activated - always with all their sub-nodes, if there are any - in order to enable the usage of all web services which are directly or indirectly necessary for the usage of the Gateway functionality, including the access via an SAP Web Dispatcher:

/sap/bc/srt/xip/sap

/sap/bc/ui5_demokit

/sap/bc/ui5_ui5/sap/watp

/sap/bc/webdynpro/sap/APPL_SOAP_MANAGEMENT

/sap/bc/webdynpro/sap/saml2

/sap/bc/saml2/

/sap/gw

/sap/iwbep

/sap/opu

/sap/public/bc

/sap/public/icf_check

/sap/public/icf_info

/sap/public/icman

/sap/public/info

/sap/public/myssocntl

/sap/public/opu

The following screenshot illustrates the activation of some of the above ICF nodes with their associated sub-nodes (consider especially /sap/gw, /sap/iwbep and /sap/opu as examples); activated nodes are shown in blue color:

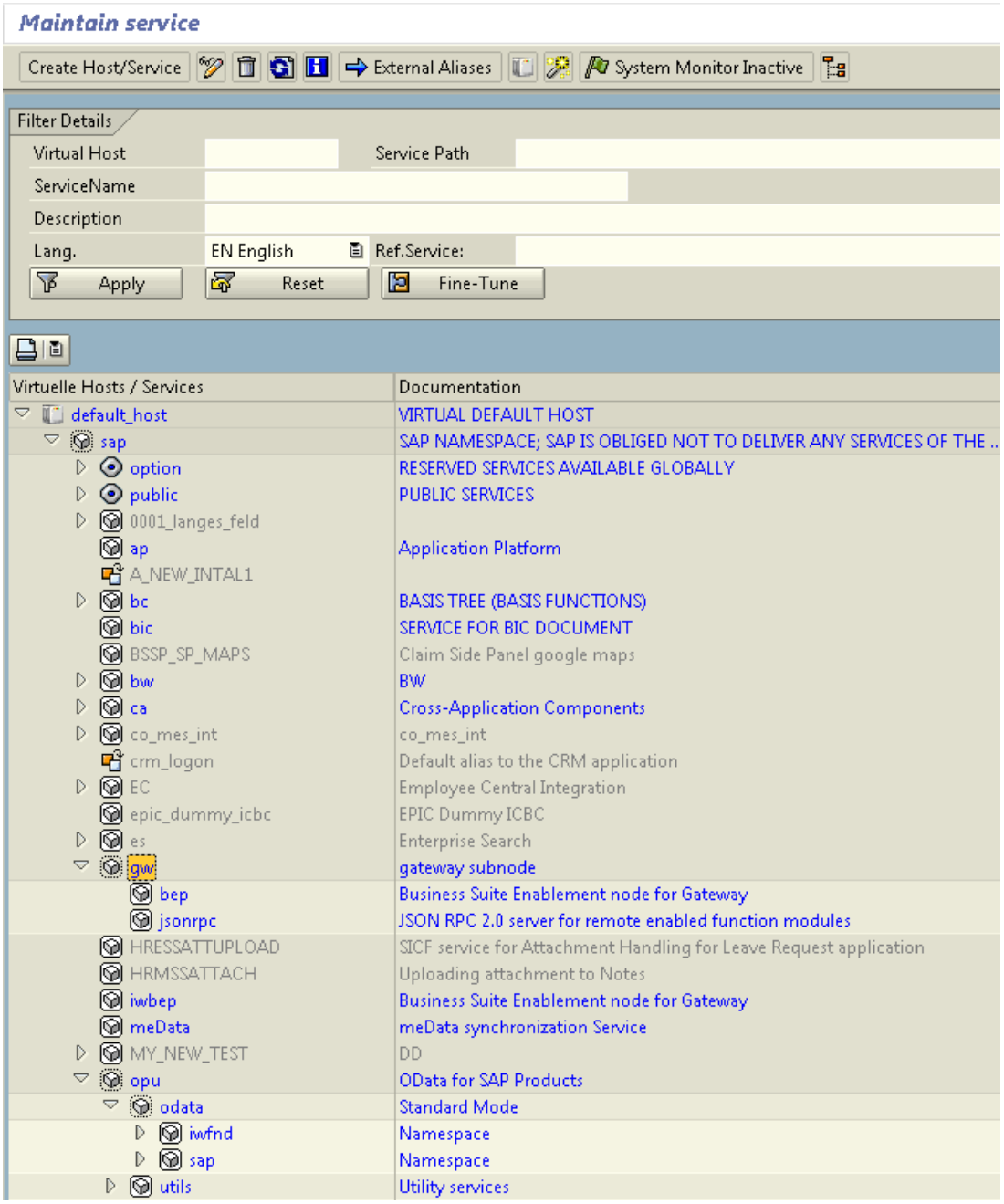


Figure 60: Service maintenance

Of course, you are free to activate as many other additional nodes in the SICF tree as you like. Activating additional SICF nodes does not impair the Gateway functionality in any way.

3. Optional step: Activating and testing the SAPGUI for HTML

Activating the SAPGUI for HTML is not strictly necessary for being able to use SAP Gateway-based web services, but for general testing purposes, especially in the development system, the SAPGUI for HTML is useful. The following work steps must be executed in order to activate the SAPGUI for HTML:

a) Activating the ICF nodes for the SAPGUI for HTML

In transaction SICF, the following two nodes must be activated for being able to use the SAPGUI for HTML:

/sap/public/bc/its/mimes (this ICF node must generally always be activated)

/sap/bc/gui/sap/its/webgui

b) Publishing the required Internet services in transaction SE80

Go into transaction SE80 and publish the Internet services SYSTEM, IAC and WEBGUI on the site "Internal". The next screenshot illustrates the procecure for the Internet service SYSTEM. In the context menu, which opens after clicking the right mouse key, it is important to choose to publish the "Complete service".

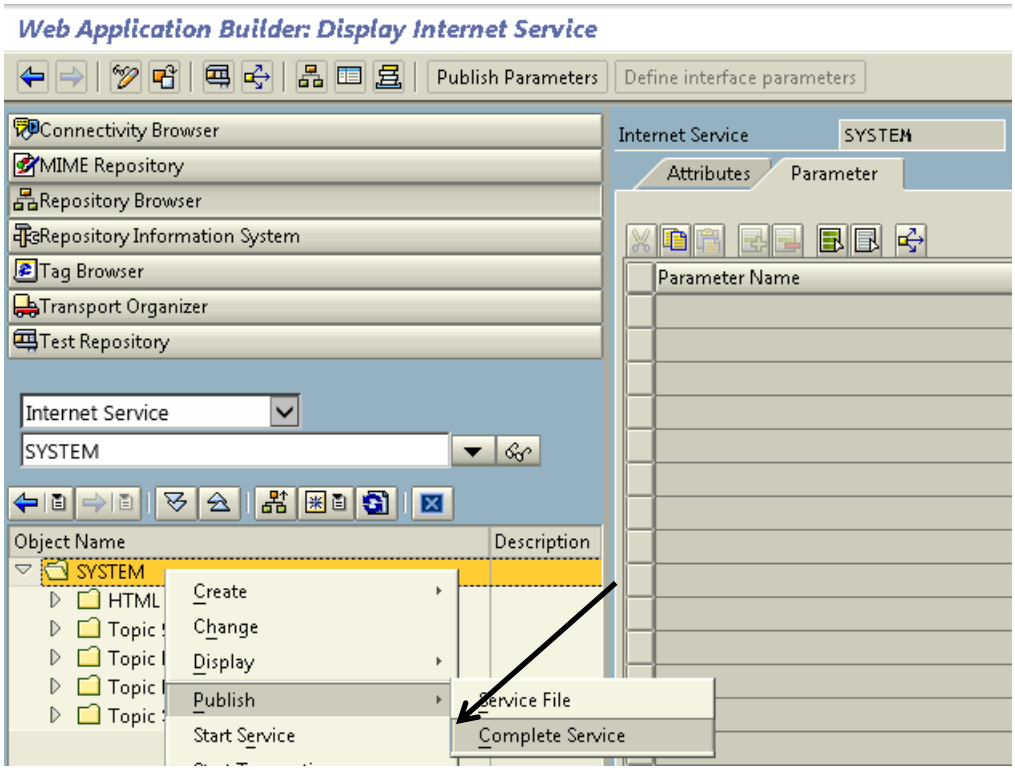


Figure 61: Publish internet services

The Internet services IAC and WEBGUI can be published in the same way.

c) Executing the report SIAC_PUBLISH_ALL_INTERNAL

The ABAP program SIAC_PUBLISH_ALL_INTERNAL should be executed in transaction SE38 in order to quickly publish all web services on the internal web site of the SAP system. After a runtime of just a few minutes, a success log similar to the following should appear:

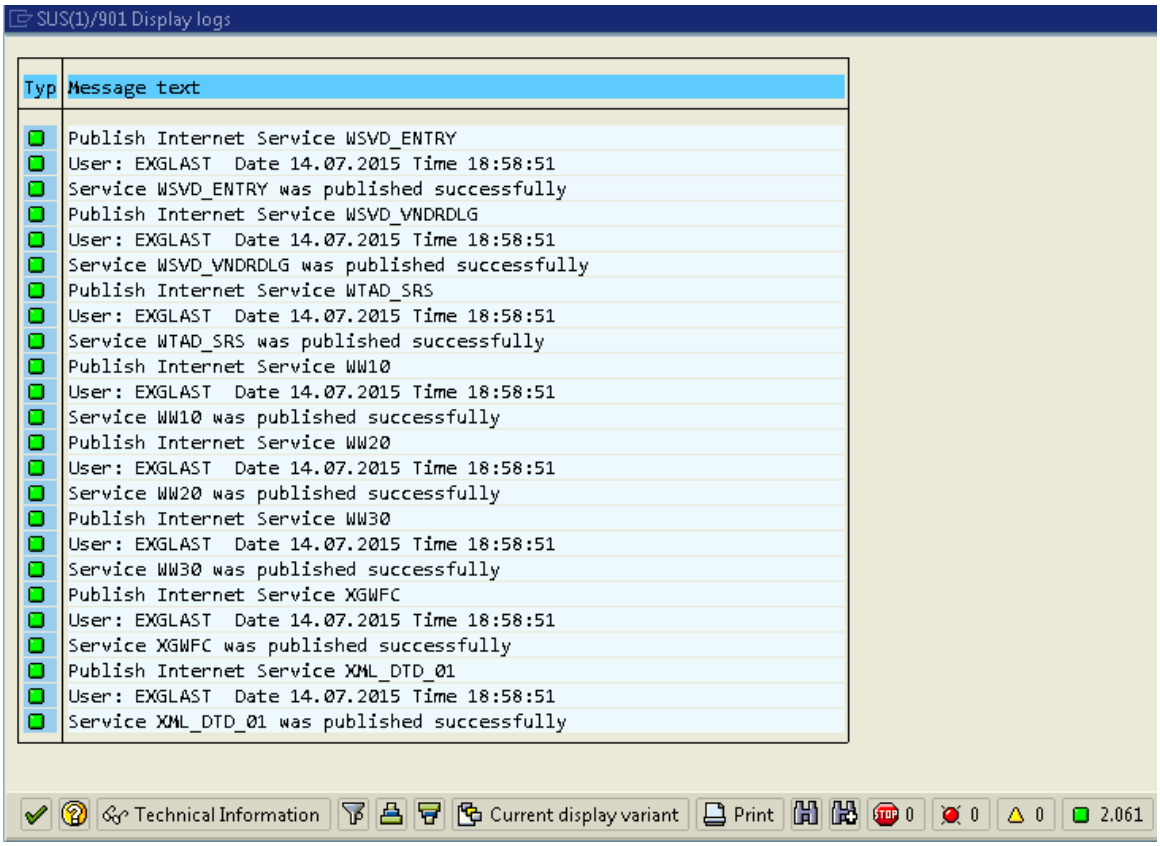


Figure 62: Report result in SE38

d) Testing the SAPGUI for HTML

The functionality of the SAPGUI for HTML can be tested by calling the URL

http://<hostname>:<port>/sap/bc/gui/sap/its/webgui

with <hostname> standing for the fully qualified DNS host name of the SAP application server. Alternatively, <hostname> can also represent the fully qualified DNS host name of an SAP Web Dispatcher which is used as a reverse proxy.

In our example, we can use the URL

http://domar.hal.prologa.intern:8040/sap/bc/gui/sap/its/webgui

This leads to the following logon page of the SAPGUI for HTML:

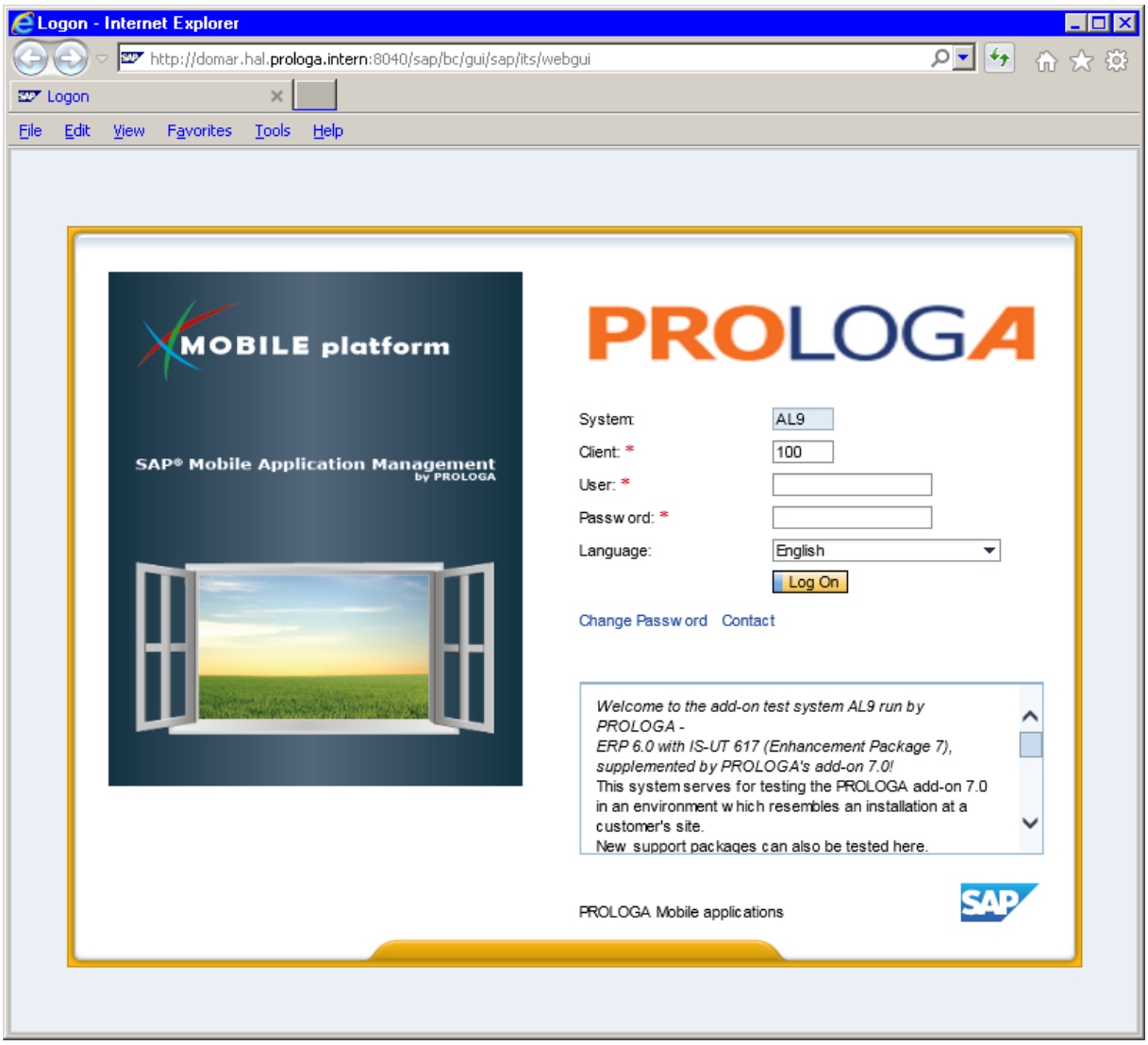


Figure 63: Test by calling the URL

If the logon works properly and if transactions can be executed normally in the SAPGUI for HTML, then this part of the configuration was successful.

4. Configuring the server-side usage of SSL

In order to provide more security when using web services of the SAP Gateway system, the usage of SSL communication should be configured in transaction STRUST.

Firstly, a *system PSE* is required, with PSE standing for "personal security environment":

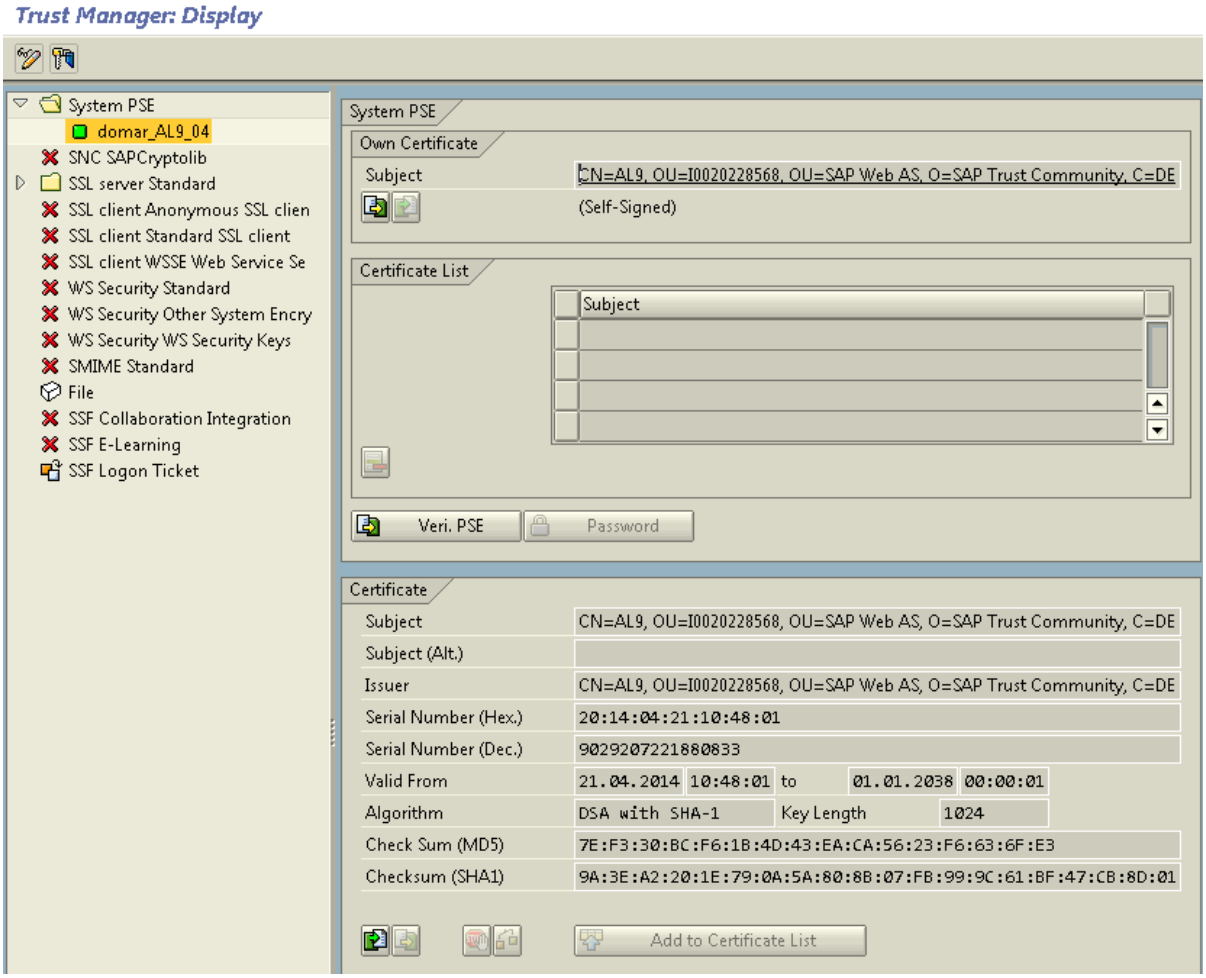


Figure 64: Trust manager System PSE

Secondly, an *SSL server standard certificate* is required, with a self-signed certificate being usually satisfactory:

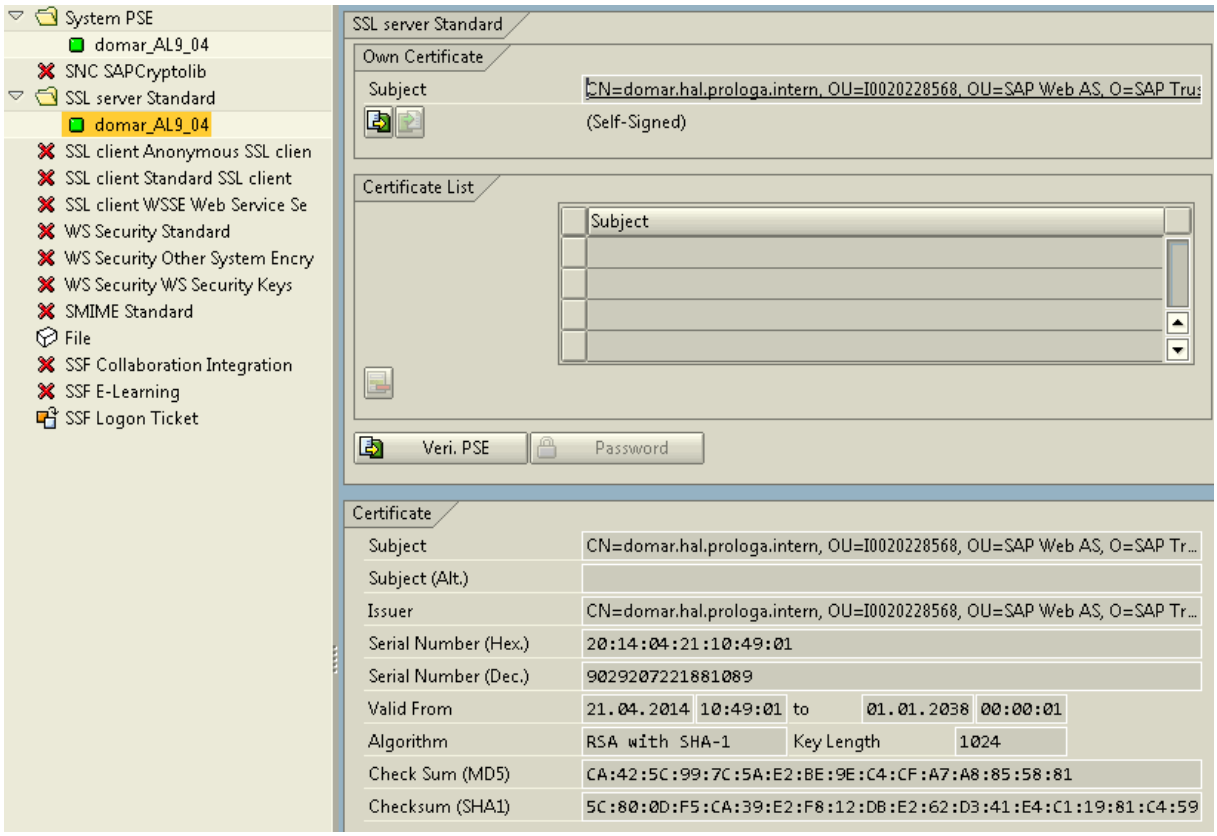


Figure 65: Trust manager SSL-Server

Both the system PSE and a self-signed SSL server standard certificate can be conveniently created in the transaction STRUST.

The correct functioning of the SSL configuration can be tested, for example, by accessing the SAPGUI for HTML via the HTTPS protocol; in our example:

https://domar.hal.prologa.intern:8041/sap/bc/gui/sap/its/webgui

If a self-signed SSL server certificate is used, then the browser software will usually display a warning which alleges that there was a security risk. However, this warning is irrelevant nonsense in this case because the self-signed SSL certificate is good and can be used without any risk. Thus, any security warnings regarding the self-signed SSL certificate can simply be ignored, and the functionality of the SAPGUI for HTML can be tested in the normal way.

6.3 Creating the SAP system alias for applications

In transaction SPRO open the SAP Reference IMG and navigate to:

SAP NetWeaver → Gateway → OData Channel → Configuration → Connection Settings → SAP NetWeaver Gateway to SAP System → Manage SAP System Aliases

and click on the Activity icon.

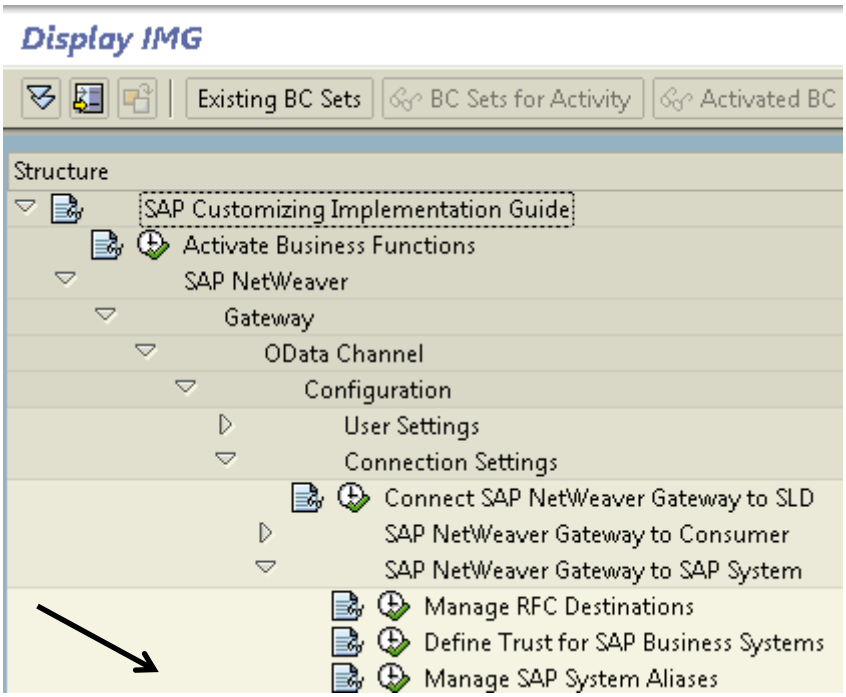


Figure 66: Manage system alias

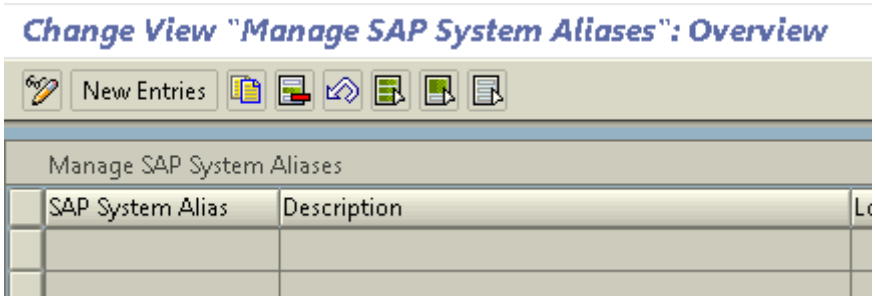


Figure 67: Manage system alias

Click on the button "New Entries" and create the following new entry unless it already exists:

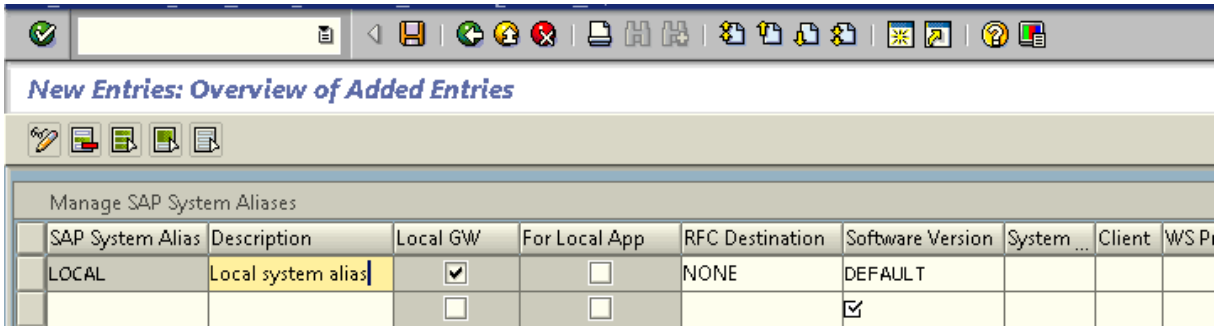


Figure 68: Create system alias

Save this setting. You may be requested by the system to save this configuration in a transport request.

6.4 Activating the SAP NetWeaver Gateway

In transaction SPRO open the SAP Reference IMG and navigate to:
SAP NetWeaver → Gateway → OData Channel → Configuration → Activate or Deactivate SAP NetWeaver Gateway
and click on the Activity icon.

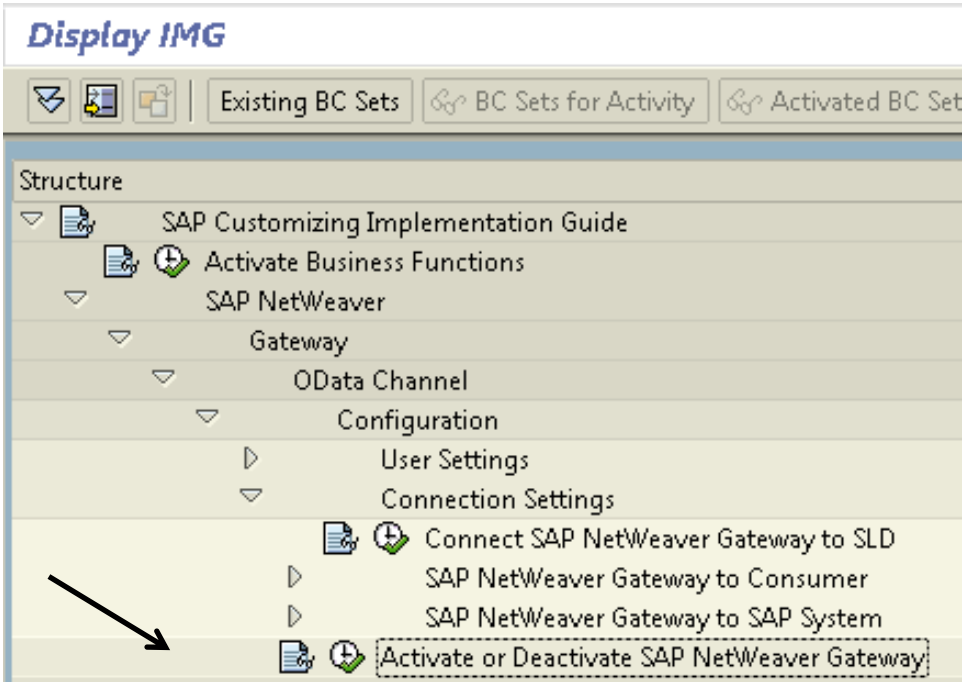


Figure 69: Path to transaction for activating Gateway



Figure 70: Confirming the activation

Click on the "Activate" button. You will receive the following success message:

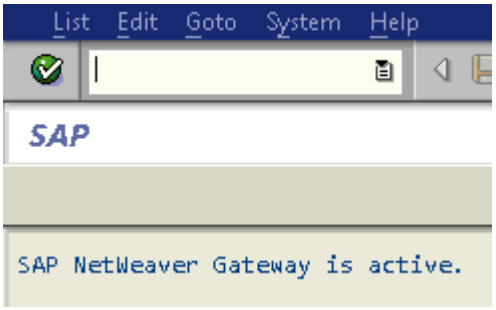


Figure 71: Approval of activation

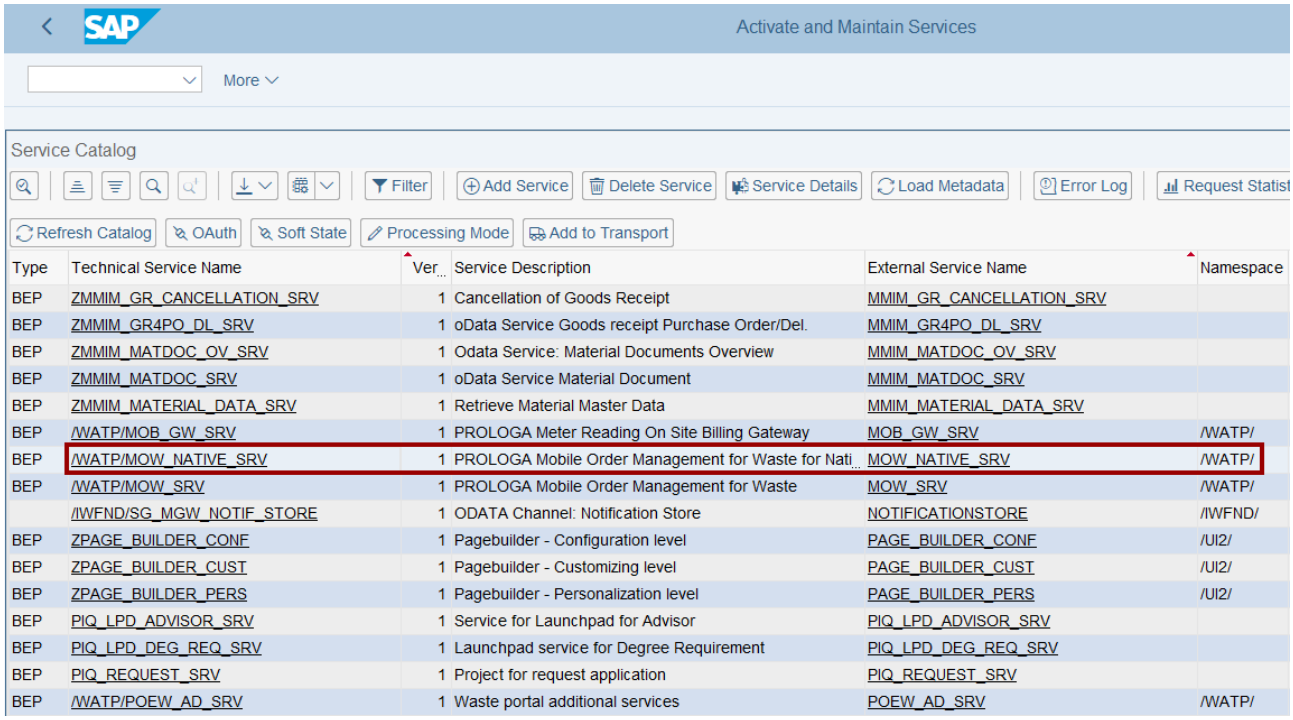
6.5 Activation of the Service

Transaction /N/IWFND/MAINT_SERVICE

MOW is using the service:

/WATP/MOW_NATIVE_SRV

To activate the service for your MOW usage you first have to select it:



Type	Technical Service Name	Ver.	Service Description	External Service Name	Namespace
BEP	ZMMIM_GR_CANCELLATION_SRV	1	Cancellation of Goods Receipt	MMIM_GR_CANCELLATION_SRV	
BEP	ZMMIM_GR4PO_DL_SRV	1	oData Service Goods receipt Purchase Order/Del.	MMIM_GR4PO_DL_SRV	
BEP	ZMMIM_MATDOC_OV_SRV	1	Odata Service: Material Documents Overview	MMIM_MATDOC_OV_SRV	
BEP	ZMMIM_MATDOC_SRV	1	oData Service Material Document	MMIM_MATDOC_SRV	
BEP	ZMMIM_MATERIAL_DATA_SRV	1	Retrieve Material Master Data	MMIM_MATERIAL_DATA_SRV	
BEP	/WATP/MOB_GW_SRV	1	PROLOGA Meter Reading On Site Billing Gateway	MOB_GW_SRV	/WATP/
BEP	/WATP/MOW_NATIVE_SRV	1	PROLOGA Mobile Order Management for Waste for Nati...	MOW_NATIVE_SRV	/WATP/
BEP	/WATP/MOW_SRV	1	PROLOGA Mobile Order Management for Waste	MOW_SRV	/WATP/
	/IWFND/SG_MGW_NOTIF_STORE	1	ODATA Channel: Notification Store	NOTIFICATIONSTORE	/IWFND/
BEP	ZPAGE_BUILDER_CONF	1	Pagebuilder - Configuration level	PAGE_BUILDER_CONF	/UI2/
BEP	ZPAGE_BUILDER_CUST	1	Pagebuilder - Customizing level	PAGE_BUILDER_CUST	/UI2/
BEP	ZPAGE_BUILDER_PERS	1	Pagebuilder - Personalization level	PAGE_BUILDER_PERS	/UI2/
BEP	PIQ_LPD_ADVISOR_SRV	1	Service for Launchpad for Advisor	PIQ_LPD_ADVISOR_SRV	
BEP	PIQ_LPD_DEG_REQ_SRV	1	Launchpad service for Degree Requirement	PIQ_LPD_DEG_REQ_SRV	
BEP	PIQ_REQUEST_SRV	1	Project for request application	PIQ_REQUEST_SRV	
BEP	/WATP/POEW_AD_SRV	1	Waste portal additional services	POEW_AD_SRV	/WATP/

Figure 72: Selection of MOW oData Services /WATP/MOW_NATIVE_SRV

Now add system aliases:

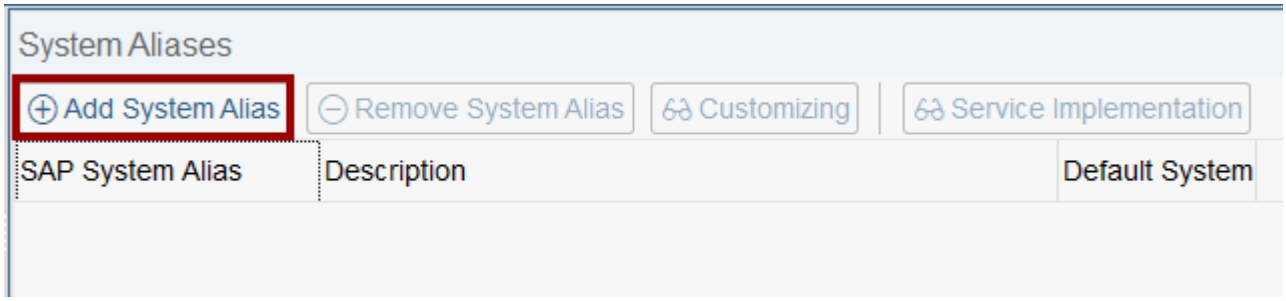


Figure 73: Add system alias

Now maintain the Service Document Identifier and flag it as Default System.

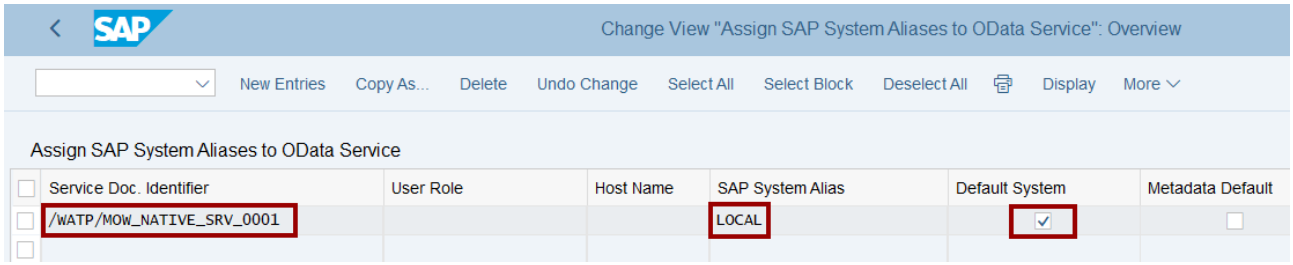


Figure 74: Maintenance service document identifier

The service now has to be activated.

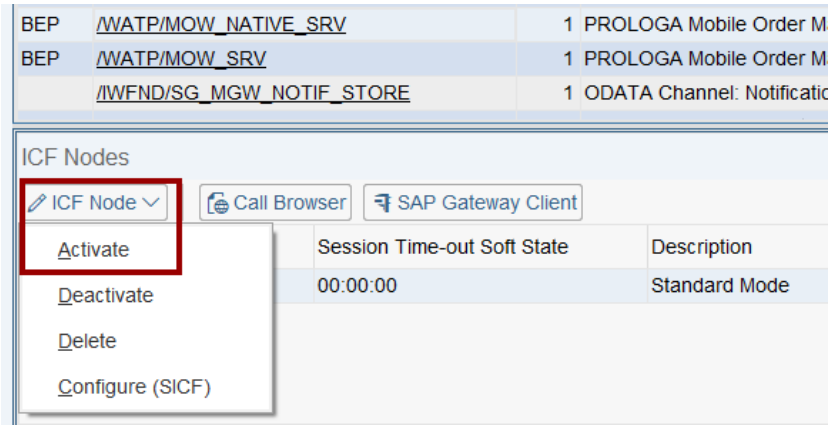


Figure 75: Activate MOW service

The status must now be green.

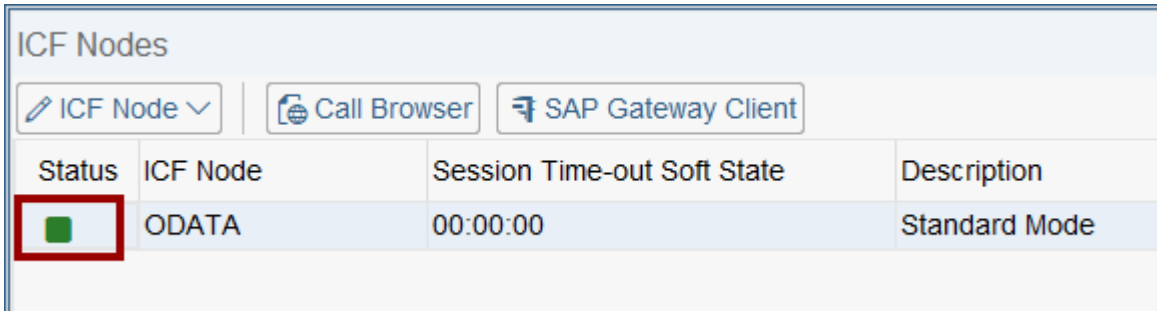


Figure 76: MOW service active

Check the availability of the system alias by double clicking on it.

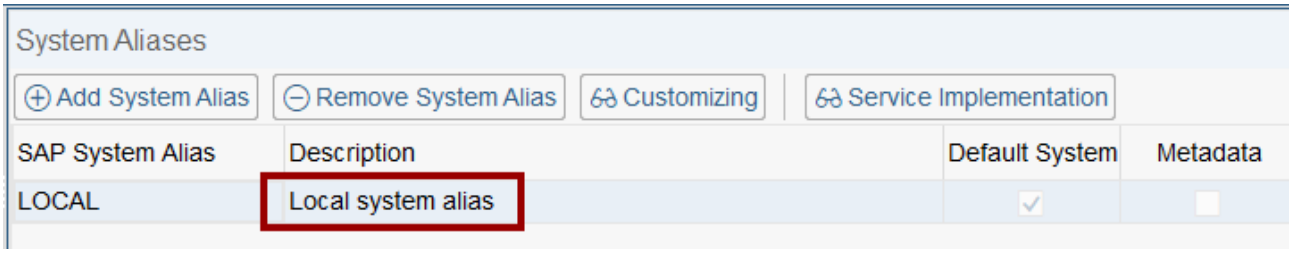


Figure 77: Check system alias

Now do a connection test.

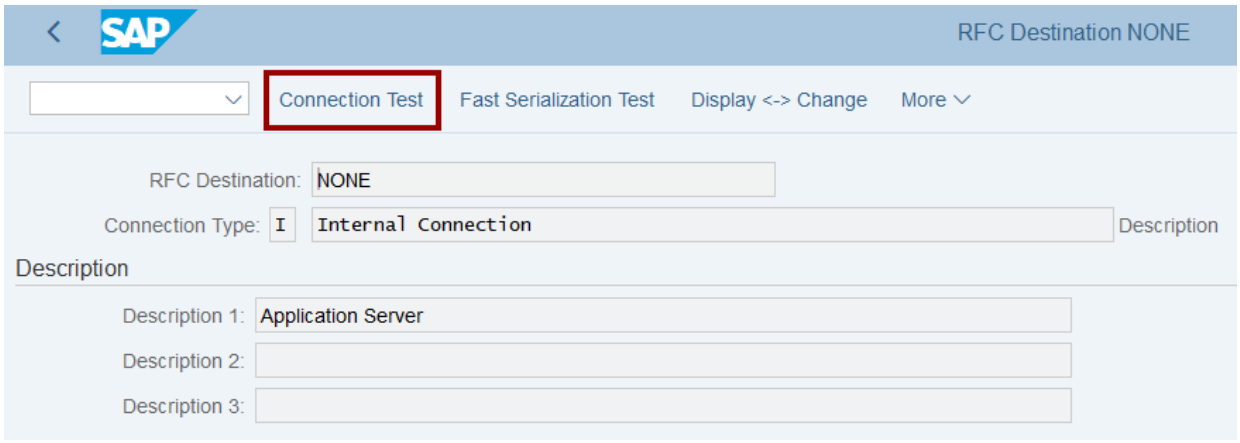


Figure 78: Connection test of system alias

If no error occurs the test was successful and system alias is ready.

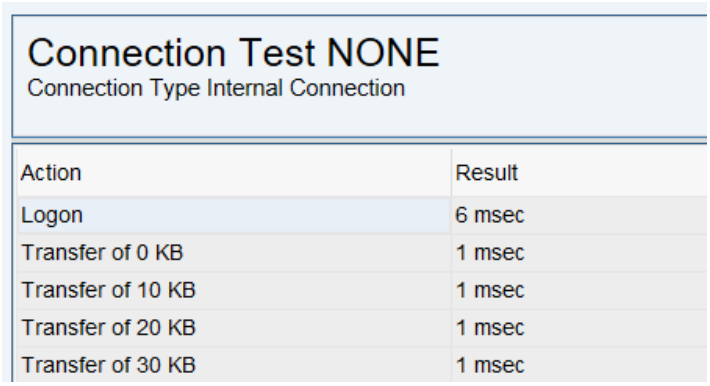


Figure 79: Successful test system alias

Now go back and test the Gateway service.

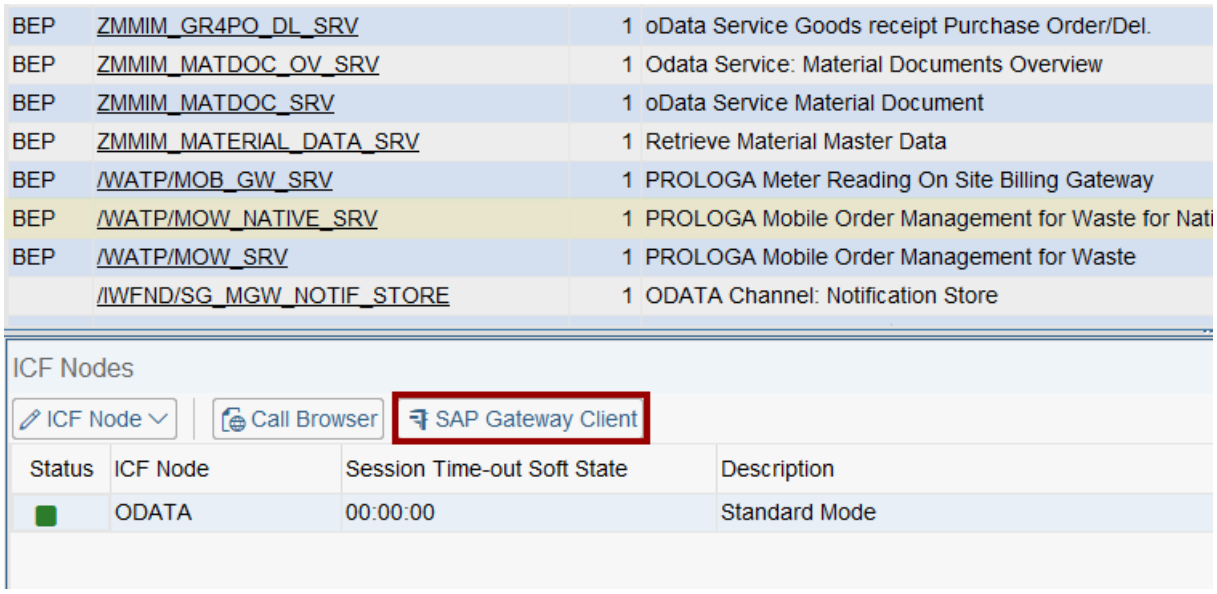


Figure 80: Start test service

Now execute the service.

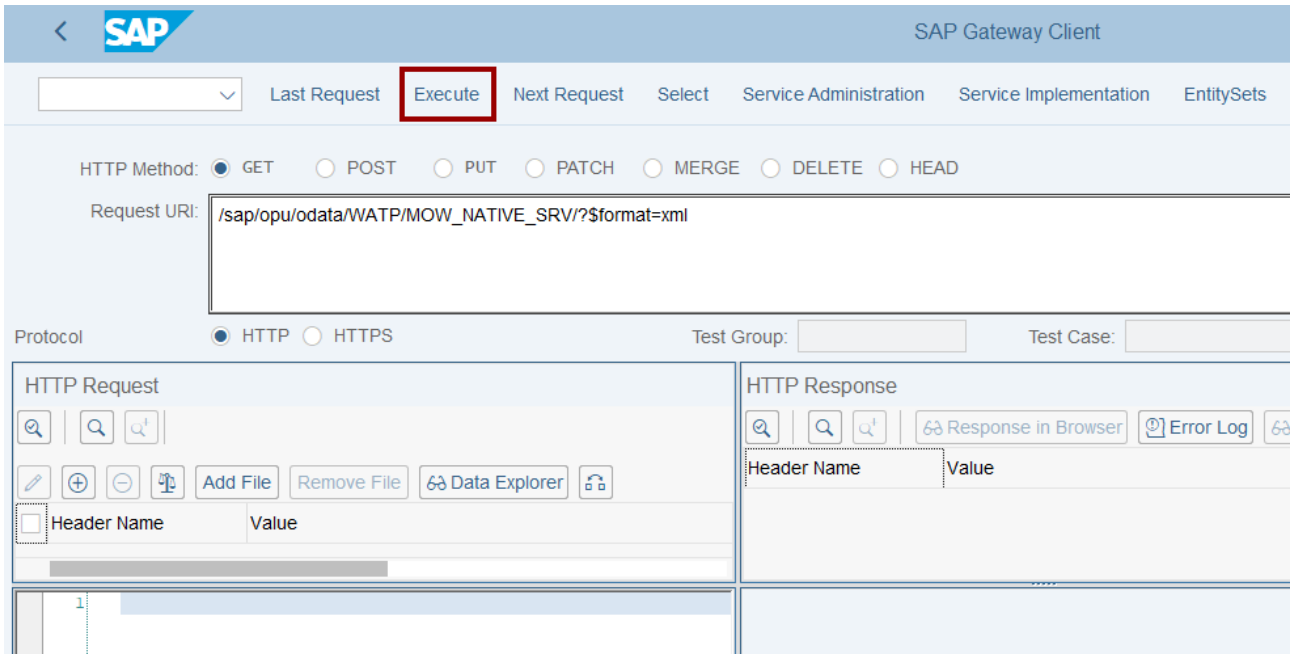


Figure 81: Execute Service

The result must be green.

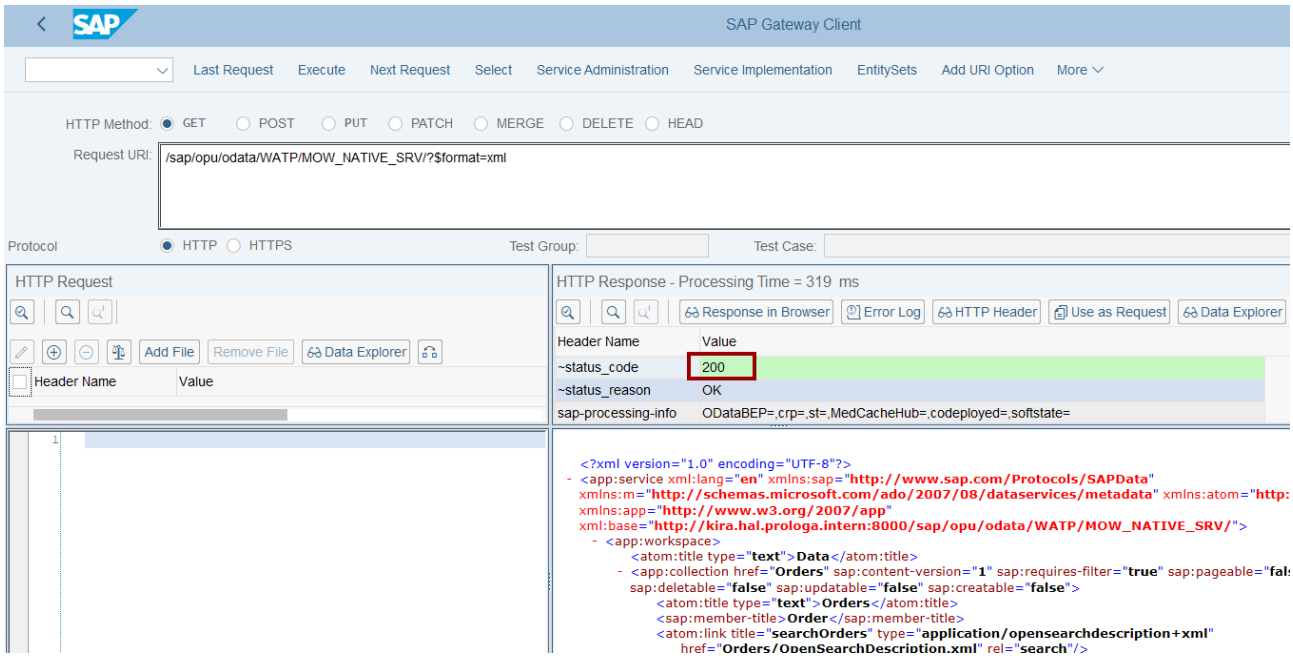


Figure 82: Successful service test