

PROLOGA



***SAP® S/4HANA Utilities extensions for
meter to cash processes by PROLOGA***

***Mobile On-Site Billing - Configuration
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: <http://service.sap.com/instguides> -> SAP Solution Extensions -> S/4HANA Utilities extensions for meter to cash processes -> 1.0

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

Version	Important Changes
1	Initial version
2	Backend Configuration updated, information about Frontend configuration added
3	Chapter 2.3 Archiving and Data Aging added

Table 1: Most important document changes

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Glossary



Attention



Note

1 Introduction

SAP® S/4HANA Utilities extensions for meter to cash processes by PROLOGA will support and optimize your business process regarding meter reading and billing & invoicing on-site at the customer location. For that process, all required data are downloaded from SAP® for Utilities into the Mobile On-Site Billing solution, thereby transmitting the data to the mobile devices. The meter reading result will be captured on-site at the customer location. Based on the connectivity available, the billing and invoicing process will be performed online in conjunction with the SAP backend, or offline on the mobile device itself.

The deep integration into SAP® for Utilities enables a reliable and accurate process of reading, billing and invoicing on-site. It uses the same validation, billing and invoicing rules as defined in the backend system and synchronized into the Mobile On-Site Billing solution.

SAP® S/4HANA Utilities extensions for meter to cash processes by PROLOGA interfaces with a series of mobile devices. Installed at your company, these units form the interface between the meter reader and your SAP® backend system.



An additional mobile application (not included within SAP® S/4HANA Utilities extensions for meter to cash processes by PROLOGA) is required in order to provide the full end-to-end process.

This document describes which steps are necessary to put SAP® S/4HANA Utilities extensions for meter to cash processes by PROLOGA into operation after you have successfully installed the add-on.

1.1 System overview

Through implementation of the PROLOGA software, there are two different architecture opportunities available:

- The one system architecture: This actually means that the system is going to run within your SAP® instance.
- The two system architecture: This means two separate SAP® systems, where an interface will be used to provide the communication between the PROLOGA middleware and your SAP® backend system.



In the current version of the add-on, the one system architecture is not yet supported.



The content of this current version of this document is limited to:

- the two system architecture
- the configuration required in the SAP® IS-U / CCS backend system

1.2 Authorization Objects

Before starting the configuration of SAP® S/4HANA Utilities extensions for meter to cash processes by PROLOGA the authorization object `S_TABU_NAM` has to get assigned to the user for the relevant configuration transactions:

- Transaction `/PLGA/MOB_CNNCT_CCNF` (Table `/PLGA/VCMOBCCNFG`)
- Transaction `/PLGA/MOB_CNNCT_CNFG` (Table `/PLGA/VMOBCCNFG`)
- Transaction `/PLGA/MOB_CNNCT_MRN` (Table `/PLGA/VMOBMRNOTE`)

2 Backend Configuration

2.1 Requirements

A prerequisite for executing the configuration is the successful and correct installation of the add-on *SAP S/4HANA Utilities extensions for meter to cash processes by PROLOGA*.



If you need more information on the Gateway service configuration, please look into standard SAP® documentation: *Installing and Configuring SAP® NetWeaver Gateway 2.0*.

2.2 The Backend Configuration process

2.2.1 Form activation

When the add-on import is finished, the delivered form can be found in the Client 000. You need to make a copy of the forms into the target Client (100, 200...). Start the transaction with *Utilities --> Copy from Client* or use the transaction code *EFRM*:

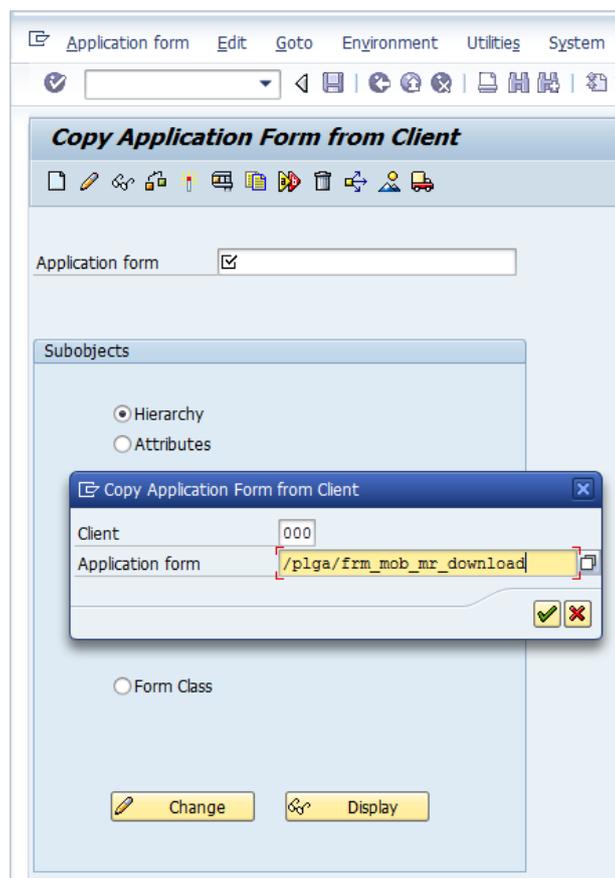


Figure 1: Copy the Application Form

Finally, the application form must be activated through the transaction EFRM:

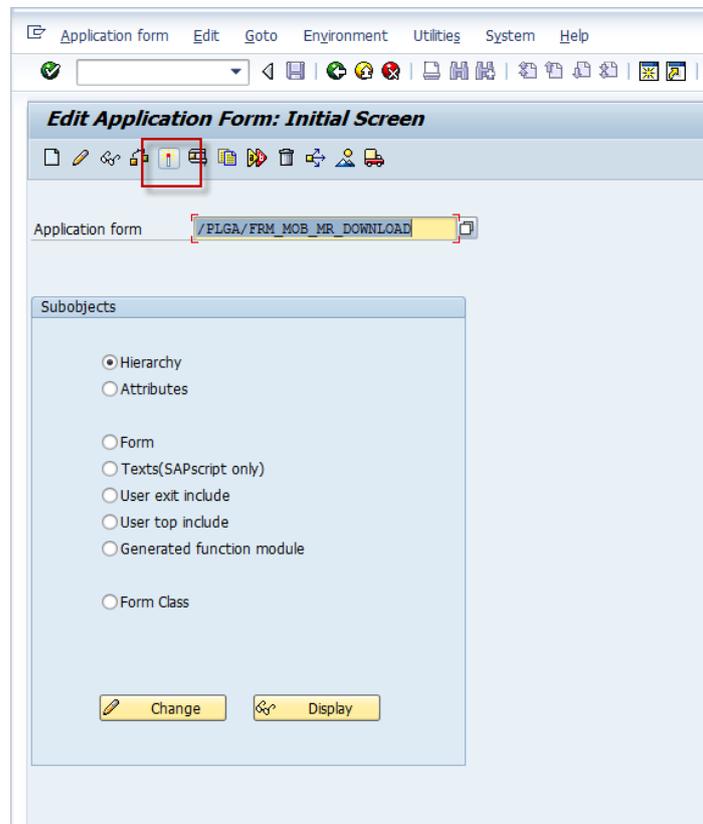


Figure 2: Activation of the Application form

2.2.2 BAdI activation

The BAdI (Classic / Enhancement Implementations) must be activated, because it was delivered in an inactive state (see Figure 3 and Figure 4). The necessary object is:

- /PLGA/MOB_DWNLD_OSB (Classic BAdI)

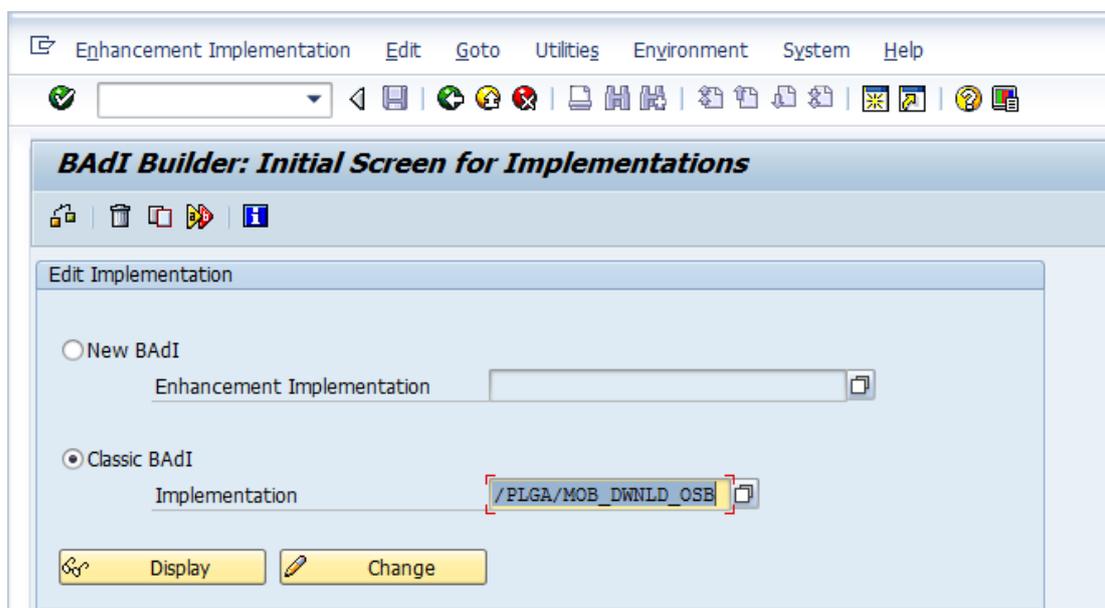


Figure 3: /PLGA/MOB_DWNLD_OSB (Classic BAdI)

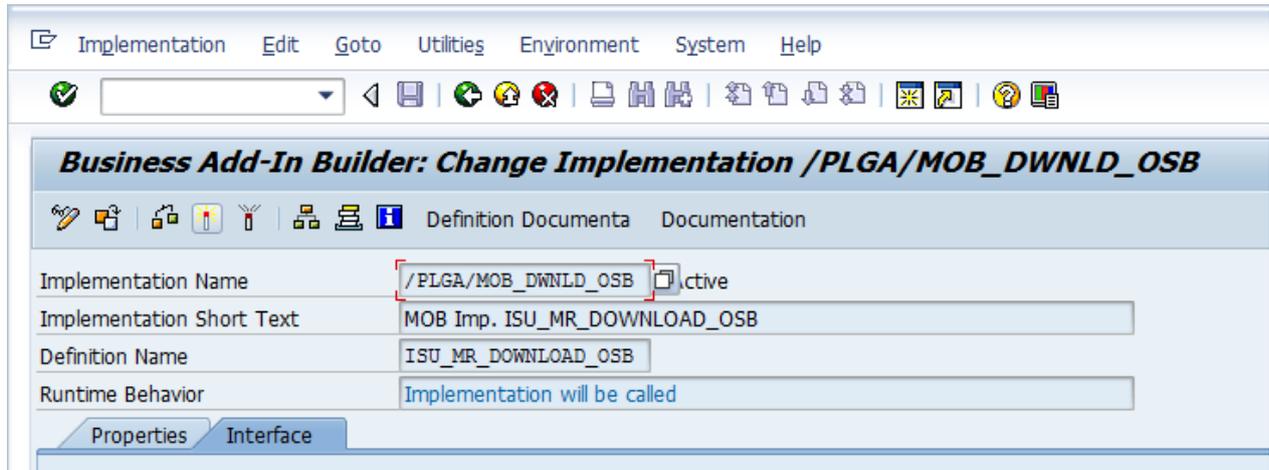


Figure 4: Application form description

2.2.3 Middleware Destination in Backend

This destination will connect the backend system to the *PROLOGA* middleware. This connection provides a channel for the order downloading into the middleware. For the implementation, use the transaction */PLGA/MOB_CNNCT_CNFG* and navigate to the node *New Entries: Details of Added Entries*:

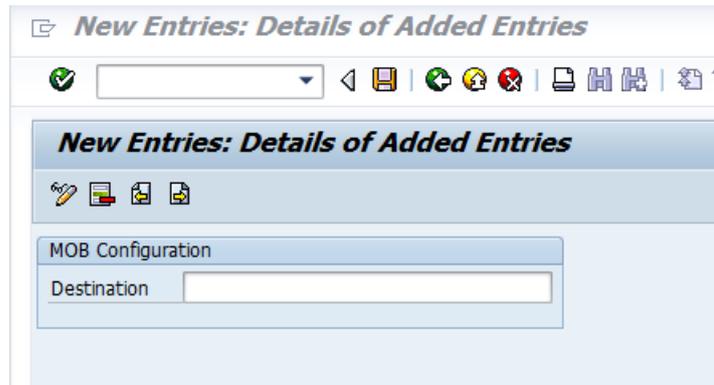


Figure 5: Destinations in MOB side

2.2.4 MOB Connect Customizing in Backend

For the MOB Connect customizing in the backend, use the transaction `/PLGA/MOB_CNNCT_CCNF` and navigate to node *New Entries: Details of Added Entries*:

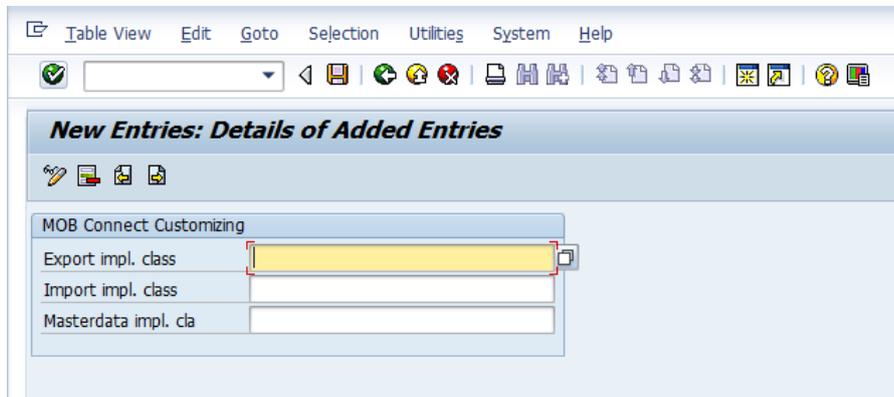


Figure 6: MOB Connect Customizing

In order to connect the SAP® S/4 backend system with an ERP legacy system based on SAP® Business Suite on HANA, please use the following classes for your customizing:

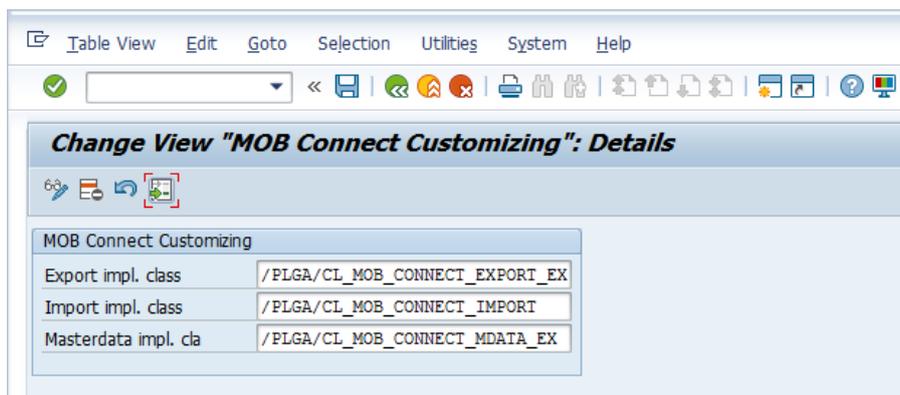
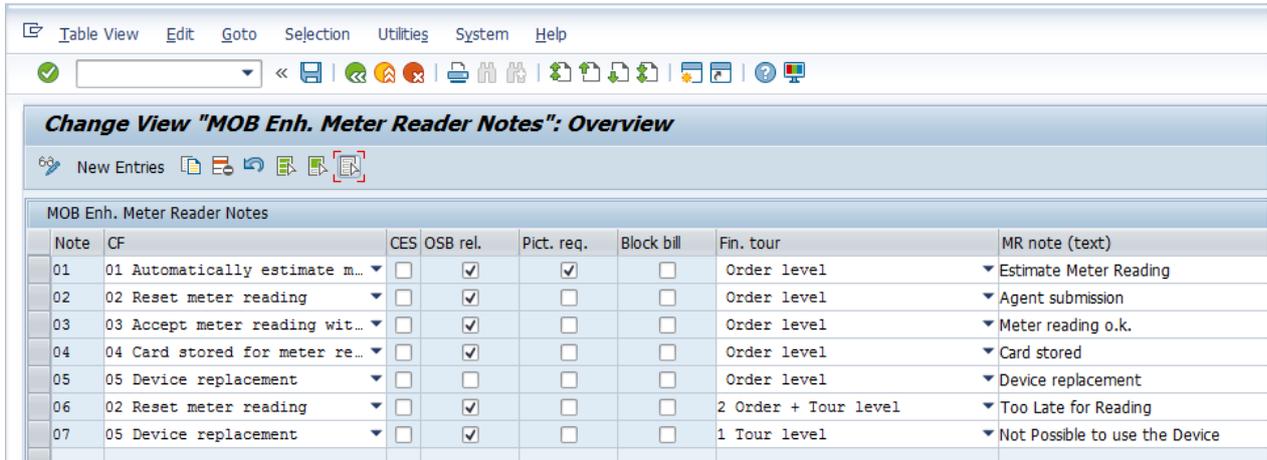


Figure 7: MOB Connect Customizing for connection to legacy system



Both *export classes are example implementations only. They are not valid for a production environment. These export classes have to be implemented project specific.

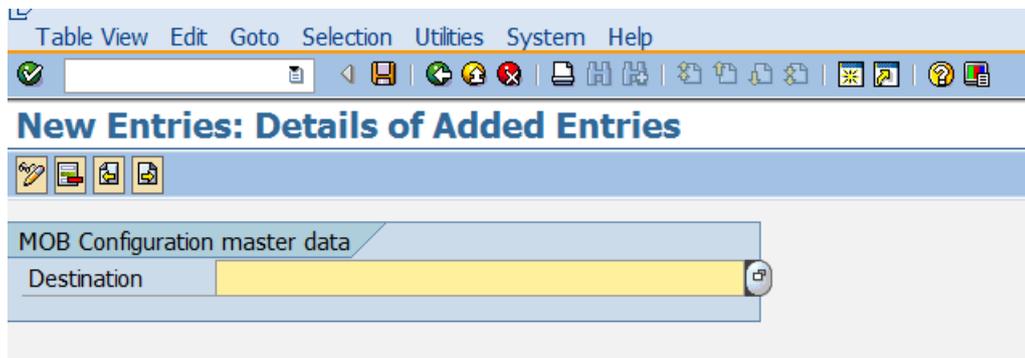
For the MOB Connect, also the settings in transaction `/PLGA/MOB_CNNCT_MRN` are required:



Note	CF	CES	OSB rel.	Pict. req.	Block bill	Fin. tour	MR note (text)
01	01 Automatically estimate m...	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Order level	Estimate Meter Reading
02	02 Reset meter reading	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Order level	Agent submission
03	03 Accept meter reading wit...	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Order level	Meter reading o.k.
04	04 Card stored for meter re...	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Order level	Card stored
05	05 Device replacement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Order level	Device replacement
06	02 Reset meter reading	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2 Order + Tour level	Too Late for Reading
07	05 Device replacement	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 Tour level	Not Possible to use the Device

Figure 8: Change view "MOB Enh. Meter Reading Notes": Overview

To configure the connection between CCS and MOM systems, use the transaction `/PLGA/MOB_CNFG`:

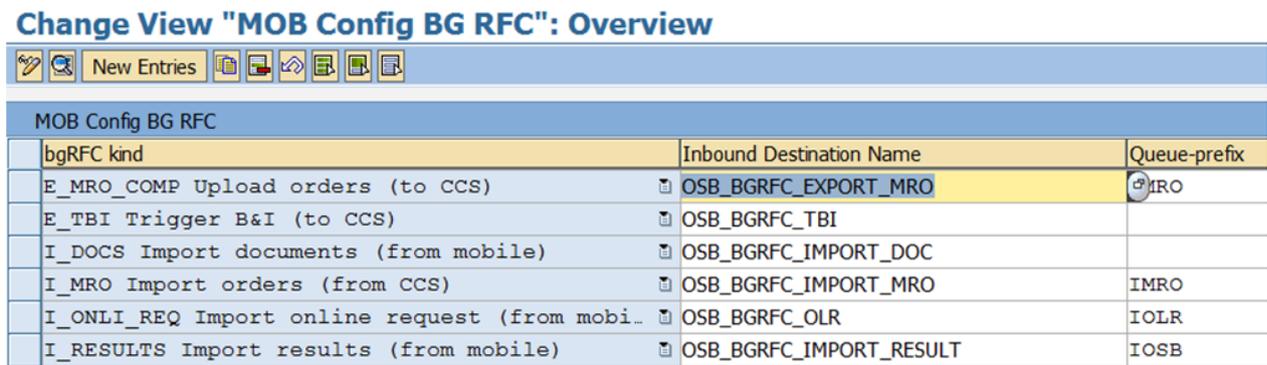


MOB Configuration master data
Destination

Figure 9: Change view "MOB Enh. Meter Reading Notes": Overview

In this case there are no values, since MOM and CCS are in a single system.

For RFC configuration, transaction `/PLGA/MOB_CNFG_BGRFC` has to be used:



bgRFC kind	Inbound Destination Name	Queue-prefix
E_MRO_COMP Upload orders (to CCS)	OSB_BGRFC_EXPORT_MRO	IMRO
E_TBI Trigger B&I (to CCS)	OSB_BGRFC_TBI	
I_DOCS Import documents (from mobile)	OSB_BGRFC_IMPORT_DOC	
I_MRO Import orders (from CCS)	OSB_BGRFC_IMPORT_MRO	IMRO
I_ONLI_REQ Import online request (from mobi...	OSB_BGRFC_OLR	IOLR
I_RESULTS Import results (from mobile)	OSB_BGRFC_IMPORT_RESULT	IOSB

Figure 10: Change view "MOB Config BG RFC": Overview

Please, note that the information in column "Inbound Destination Name" is only an example.

It is possible to set up the document processing in `/PLGA/MOB_CNFG_DOC` transaction:

Doc. type	Logical file	Execution class
PICTURE Image file	ZMOBFILE_PICTURE	/PLGA/CL_MOB_IMPORTDOCUMENT
TEXT Text file	ZMOBFILE_PICTTEXT	/PLGA/CL_MOB_IMPORTDOCUMENT

Figure 11: Change view "MOB Config Document processing": Overview

Please, note that the information in column "Logical file" is only an example.

2.2.5 Mob Meter Reader Maintenance

In order to manage the meter readers setting, use transaction /PLGA/MOB_MRMAN

Meter reader	MRN	Name 1	Center	User	Active
1	001	Dirk Mueller			<input checked="" type="checkbox"/>
20	002	Franz Meier	MRC1		<input checked="" type="checkbox"/>
21	003	Susanne Blohm	MRC1		<input checked="" type="checkbox"/>
22	004	Reiner Müller		MVOGEL	<input checked="" type="checkbox"/>
23	005	Alex Hammer		ASILKEIT	<input checked="" type="checkbox"/>
24	006	Hans Fischer		ASCHEMME	<input checked="" type="checkbox"/>
25	007	Karl Bauer			<input checked="" type="checkbox"/>
26	008	Petra Keller		ECERUTTI	<input checked="" type="checkbox"/>
27	009	Bernd Bleutgen			<input checked="" type="checkbox"/>
28	010	Siegfried Hammer		KHUEBNER	<input checked="" type="checkbox"/>

Figure 12: Change view "MOB Meterreader maintenance": Overview

Here it is possible to:

- assign the User Ids to the Meter Readers
- Assign each meter reader to a meter reading center
- Set each meter reader as active or inactive

2.3 Data Archiving and Data Aging

To run the program for archiving data, go to transaction SE38 and select /PLGA/MOB_ARCHIVE_MRTOUR_JOB.

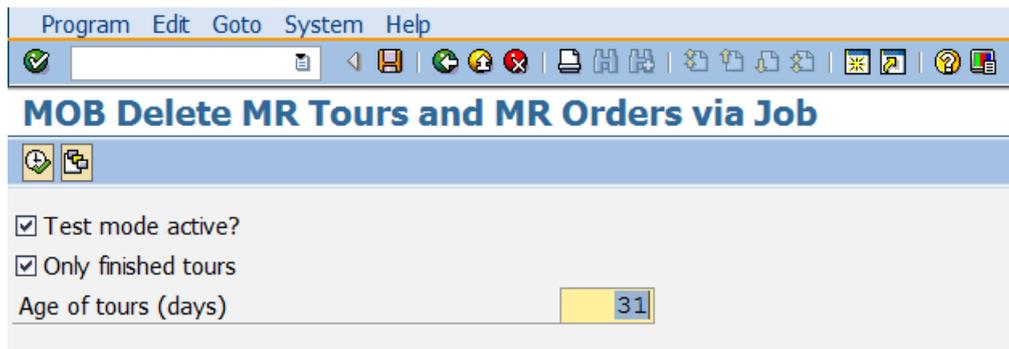


Figure 13: Data Archiving first page

Parameters

- "Test mode active?": if this option is selected, the program runs in test mode; the data are not canceled but a log is foreseen in order to check the result for the program running in the normal mode. If this option is not selected, the program runs in normal mode and deletes the tours.
- "Only finished tours": if this option is selected, the program deletes only the tours already finished. Otherwise also the tours that are not yet finished are deleted.
- "Age of tours (days)": the number entered in the field determines the age of the tours that will be selected for the deletion. For example, the value is set to 100 only the tours executed 100 days ago are selected for the deletion.
 Every day is counted, not only working days
 The age of the tour is calculated based on the execution date and not on the creation date

After the execution a log is shown:



Figure 14: Data Archiving Log

The job can be scheduled. Click on Program – Execute in Background.

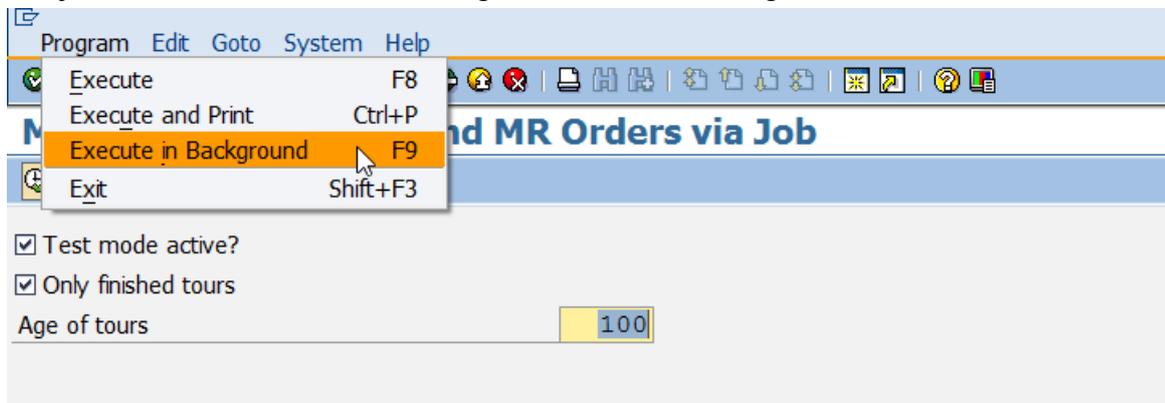


Figure 15: Data Archiving Background Execution

Click on "Immediate" and select "Periodic Job". Click on "Period values" and chose a parameter, for example "Weekly".

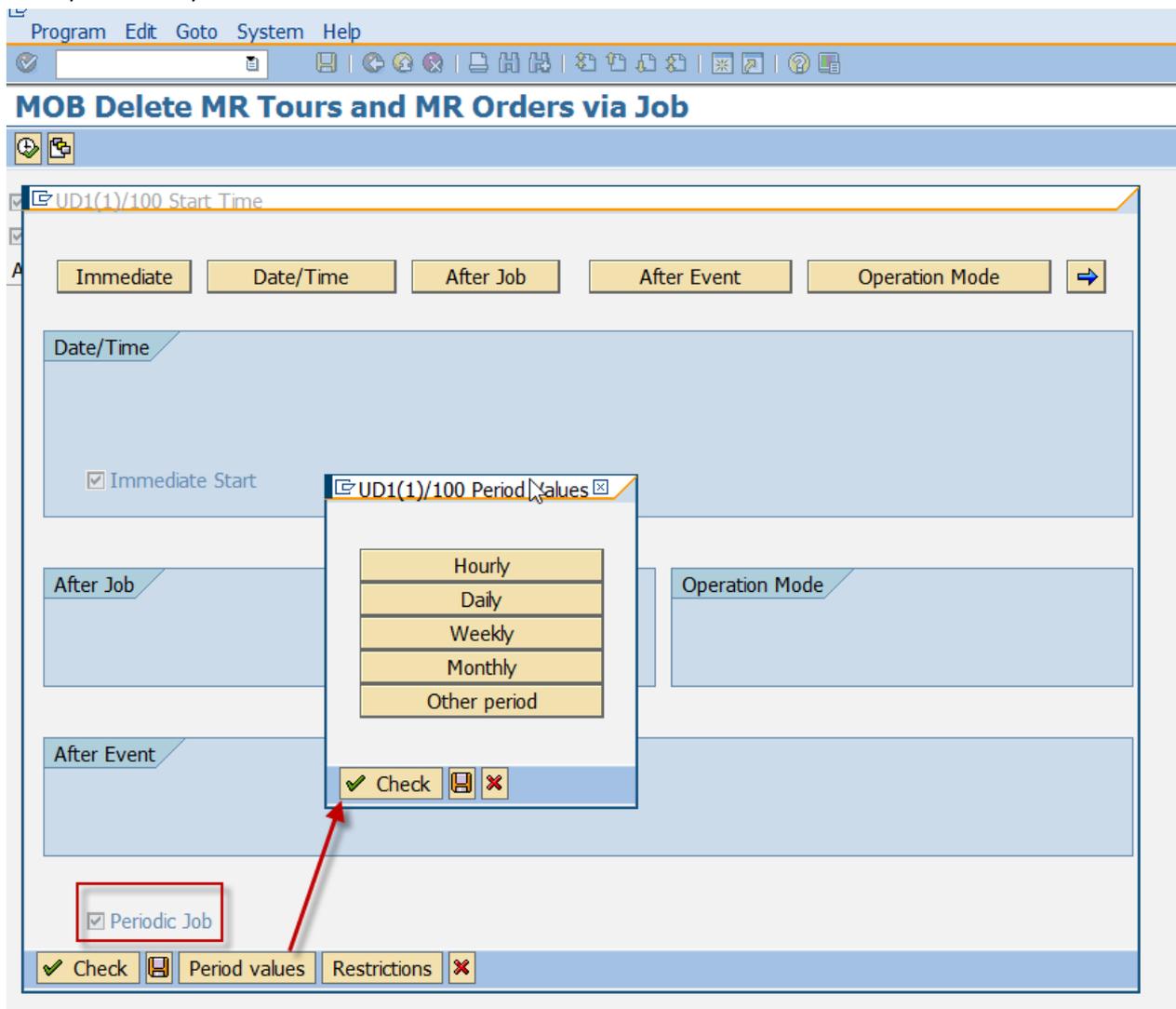


Figure 16: Periodic Job

To choose more parameters, for example the day and time of the weekly execution, click on "Date/Time"; the related parameters are shown.

The screenshot shows the configuration window for 'UD1(1)/100 Start Time'. At the top, there are five tabs: 'Immediate', 'Date/Time', 'After Job', 'After Event', and 'Operation Mode'. The 'Date/Time' tab is selected and highlighted with a red border. Below the tabs, the 'Date/Time' section contains the following fields:

- Scheduled Start**: Date (input field), Time (input field)
- No Start After**: Date (input field), Time (input field)
- System Zone**: A dropdown menu showing 'CET' and a checkbox labeled 'Use Alternative Time Zone'.

Below the 'Date/Time' section, there are three other sections: 'After Job', 'Operation Mode', and 'After Event', each with a blue header and a light blue body. At the bottom of the window, there is a checkbox for 'Periodic Job' which is checked. A navigation bar at the very bottom contains icons for 'Check', 'Period values', 'Restrictions', and a close button.

Figure 17: Data Archiving Date/Time scheduling

To add more parameters click on "Restrictions".

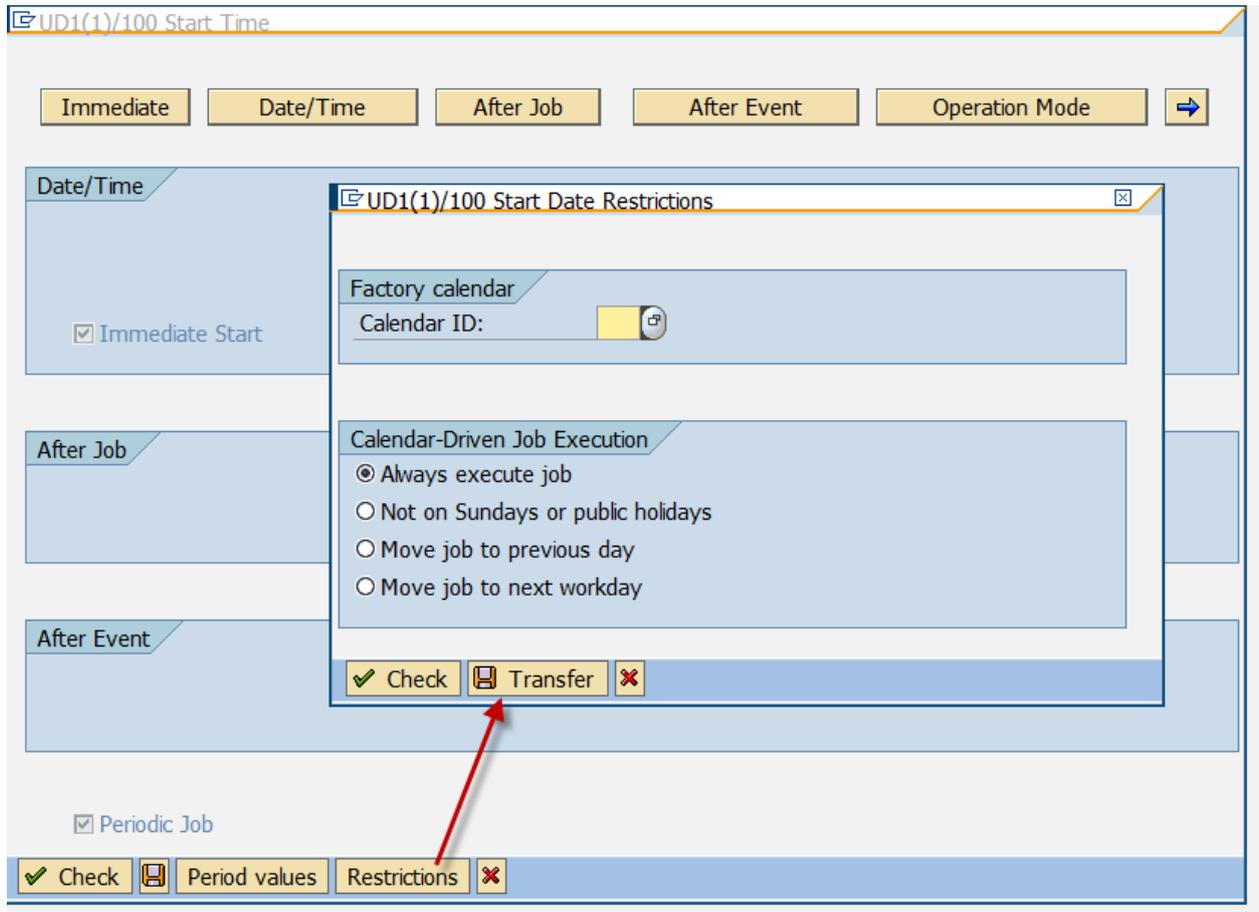


Figure 18: Data Archiving Scheduling Restrictions

Another possibility is to run the job after another job, an event or in operation mode (for example "normal" or "night").

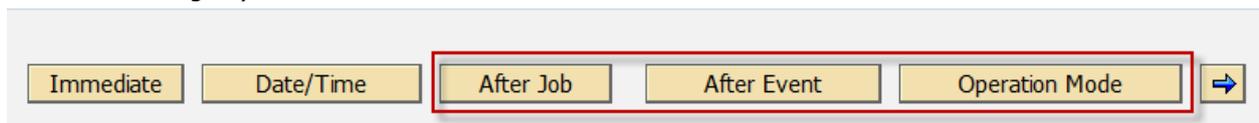


Figure 19: Data Archiving operation mode

Important: the operation mode can be used when there are memory limitations in SAP: In this case we may not be able to define high number of dialog or background processes. Operation modes are a concept provided by SAP to take advantage of this fact. We can define more dialog processes and less batch processes during day time and vice versa. We can define the duration for day and night time operation mode. The System will switch to day or night, based on the settings and improve the system performance.

In order to check the result of the automatic program execution after the scheduling of the job, go to the transaction SM37, select the job with the program name and click on "Job log":

Job overview from: 23.01.2018 at: : :
 to: 23.01.2018 at: : :
 Selected job names: *
 Selected user names:
 Jobs for client : 100

Scheduled Released Ready Active Finished Canceled
 Event-Driven Event ID:
 ABAP program Program name :

JobName	Spool	Job doc	Job CreatedB	Status	Start date	Start Time
/PLGA/MOB_ARCHIVE_MRTOUR_JOB				Finished	23.01.2018	10:07:58
*Summary						

Figure 20: Data Archiving Job Log 1/2

The job log is shown.

Job log overview for job: /PLGA/MOB_ARCHIVE_MRTOUR_JOB / 10071000

Job log	Time	Message text uncoded	Message ID	Msg.no.	Msg.typ
23.01.2018	10:07:58	Job started	00	516	S
23.01.2018	10:07:58	Step 001 started (program /PLGA/MOB_ARCHIVE_MRTOUR_JOB, variant s00000000000029, user ID ECEERUTTI)	00	550	S
23.01.2018	10:07:58	✓ 3 finished tours out of 3 tours older than 15.10.2017 deleted. (test mode active)	00	001	I
23.01.2018	10:07:58	! See bgRFC monitor for more details (especially regarding errors).	00	001	I
23.01.2018	10:07:58	Job finished	00	517	S

Figure 21: Data Archiving Job Log 2/2

For more information about the bgRFC, please read the related documentation at https://help.sap.com/saphelp_nw73EhP1/helpdata/en/48/927c2caa6b17cee10000000a421937/frameset.htm

Another option for monitoring is the transaction SLG1. The result of each job and eventual errors or exceptions can be checked here.

Display logs

Date/Time/User	Number	External ID	Object text	Subject Text	Transaction	Program	Mode	Log number
22.01.2018 16:11:42	1	0000000000000000...	PROLOGA Mobile OnSite Billing	Archiving meter reading data		SAPMSSY1	Dialog proces...	0000000000000258854
22.01.2018 16:11:42	1	0000000000000000...	PROLOGA Mobile OnSite Billing	Archiving meter reading data		SAPMSSY1	Dialog proces...	0000000000000258856
22.01.2018 16:11:42	1	0000000000000000...	PROLOGA Mobile OnSite Billing	Archiving meter reading data		SAPMSSY1	Dialog proces...	0000000000000258855
22.01.2018 16:13:10	1	0000000000000000...	PROLOGA Mobile OnSite Billing	Archiving meter reading data		SAPMSSY1	Dialog proces...	0000000000000258857
22.01.2018 16:13:10	1	0000000000000000...	PROLOGA Mobile OnSite Billing	Archiving meter reading data		SAPMSSY1	Dialog proces...	0000000000000258859
22.01.2018 16:13:10	1	0000000000000000...	PROLOGA Mobile OnSite Billing	Archiving meter reading data		SAPMSSY1	Dialog proces...	0000000000000258858

Type: Message Text
 Archiving: Tour 4008 from 11.01.2016 (MRU ABLM1101, meter reader 22) was deleted.

Figure 22: Data Archiving in SLG1