## COJ Utilities Billing Enhancement Meter to Cash Programme

TRAINING MANUAL METER DATA MANAGEMENT SYSTEM (MDMS)



a world class African city







## Table Of Contents

TABLE OF CONTENTS	2
SAP MDMS TRAINING COURSE	4
Welcome	4
Housekeeping	4
Please Introduce Yourself	4
Course Objectives	5
Course Outcomes	6
AGENDA	7
GLOSSARY	8
MODULE 1: COURSE 131 ADMIN ROLE: CONFIGURING ACCOUNTS AND PERMISSIONS	9
Module 1.1: Adding a Login Account	9
1.1.1 Exercise 1: Module 1 Add an Administrator Login to your Organization	19
1.2 Module 1.2: Add Organizational Role	20
1.2.1 Exercise 1.2: Module 1: Add a Role that cannot access the Administrator Role	29
1.3 Module 1.3: Add an Organization	30
1.3.1 Exercise 1.3: Module 1 - Edit your organization's properties	37
2 MODULE 2: COURSE 102 - ENGINEER ROLE: ADDING AND CALLING IN A METER ON Z MDMS	(IMELE 38
2.1 MODULE 1: Adding a Meter	38
2.1.1 Exercise 2.1: Module 2	54
2.2 MODULE 2.2: Testing Communication Tools	55
2.2.1 Exercise 2.2: Module 2	59
2.3 MODULE 2.3: Commissioning - Edit Meter Details	60
2.3.1 Exercise2.3: Module 2	70
3 MODULE 3: COURSE 160 ENGINEER ROLE: METER DATA UNIFICATION AND SYNCHRONIS SAP TO ZIMELE MDUS INTERFACE	ATION 71
3.1 71	
3.2 How to add an MDMS entity on Zimele MDUS	72
3.3 Select Tools > Setup MDUS Events	93
3.4. How to set up Maximum Demand (MD) Summation	96
4 MODULE 4: COURSE 161 ENGINEER ROLE: MDMS TROUBLESHOOTING	102
4.1 102	
4.2 102	
4.3 HOW to analyze SOAP logs	103
4.4 103	
4.5 109	
4.2 How to analyze Meter Read Requests	11 <b>2</b>
4.6 How to see why Meter Readings are not updating	119
4.8 How to see why Meter Readings are wrong	122









# SAP MDMS TRAINING COURSE

## Welcome

## Thank you for attending this training for the Meter to Cash Application Implementation Project

### Name of Course: SAP Meter Data Management System (MDMS)

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## Housekeeping

- Start and End Times
- Facilities
- Lunch and Breaks
- Special Needs
- Rules for Cell phone, Laptops, etc.
- Group discussions and participation are encouraged
- Health and Safety
- Practical Exercises

## Please Introduce Yourself





- Your Name
- Your Department and Division
- Your Role
- Your personal objective for the course
- Your biggest challenge and expectation
- What do you find most satisfying working in your division

## **Course Objectives**

- Provide stakeholders with understanding where Zimele MDMS fits into the Landscape.
- Provide stakeholders with understanding to set up the meter, and an understanding of what more technical training may be needed based on specific infrastructure situations.
- Add more logins under the Administrator Role.
- Add restricted Roles and Logins for colleagues.
- Add separate Organizations, Roles and Logins for your Customers.
- Test and support a login you've created.
- Provide stakeholders with understanding to set up MDMS entities.
- Do real time reading from SAP
- Switch on and switch off from SAP
- Send STS code from SAP
- Knowing how to analyze the SOAP logs.
- Knowing how to analyze the Meter Read Requests.





- Understanding and troubleshooting the Meter Model as mirrored from SAP to MDMS.
- Understand when Meter Reading Requests are honored.

## **Course Outcomes**

- Understanding where Zimele MDMS fits into the Landscape. Basic understanding.
- Configure a new meter on Zimele MDMS for Automatic Reading.
- Configure commissioning and reading parameters correctly per meter.
- Kick off a Read-In attempt and verify it via a Web Browser.
- Do basic troubleshooting on meters not coming in.
- Ability to customize Zimele MDMS for different Roles and Organizations.
- Add an MDMS entity.
- Set up an MDMS entity SOAP connection to SAP in both directions.
- Set up MDMS Events
- Set up Summated Maximum Demand relationships for SAP billing.





## AGENDA

#### Glossary

#### Module 1: Course 131 Admin Role: Configuring Accounts and Permissions

- 1.1 Adding a Login Account
- 1.2 Add Organisational Role
- 1.3 Add An Organization

# Module 2: Course 102 Engineer Role: Adding and Calling in a Meter on Zimele MDMS

- 2.1 Adding a Meter
- 2.2 Testing Communication Tools Communication Monitor
- 2.3 Commissioning Edit Meter Details

## Module 3: Course 160 Engineer Role: Meter Data Unification and

#### Synchronisation SAP to Zimele MDMS Interface

- 3.1 How to add an MDMS entity on Zimele MDMS
- 3.2 How to configure the SOAP endpoints on the MDMS
- 3.3 How to configure MDMS Events
- 3.4 How to setup MD Summation

#### Module 4: Course 161 Engineer Role: MDMS Troubleshooting

- 4.1 How to analyse SOAP logs
- 4.2 How to analyse Meter Read Requests
- 4.3 How to see why Meter Readings are not updating
- 4.4 How to see why Meter Readings are wrong





## GLOSSARY

AMI	Advanced Metering Infrastructure
AMR	Advanced Meter Reading
AMS	Advanced Meter Systems
CT	Current Transformer
EHP4	Enhancement Pack 4
IS-U	Industry Solutions Utilities
MDUS	Meter Data Unification and Synchronisation
MDMS	Meter Data Management System
PI	Process Integration
PO	Process Orchestration
SOAP	Simple Object Access Protocol
TOU	Time of Use
VT	Voltage Transformer
WSDL	Web Services Description Language





### MODULE 1: COURSE 131 ADMIN ROLE: CONFIGURING ACCOUNTS AND PERMISSIONS

Once you are done with this course, you should be able to:

- Add more Logins under the Administrator Role
- Add restricted Roles and Logins for colleagues
- Add separate Organizations, Roles and Logins for your customers
- Test and support a Login you've created

#### Module 1.1: Adding a Login Account

- The basic building blocks in plug and play Scada are called Entities
- An entity can be anything from a Meter to a Login Account, a Role, an Organization, a Tariff, a TOU Calendar etc.
- To add any kind of Entity to the system, click the Add New button at the bottom of the overview screen.
- Alternatively, go to the File menu (next to Home), and click on New



- To start adding Entities on the system, the first step is to log in:
- Go to the log in page at: <u>https://zimeletech.pnpscada.com</u> (our training server)









Add New



Step 3: Select User Admin



#### Add Entity







 $\times$ 

#### Step 4: Select a Login Account

🥨 Add Wizard - Dependencies - PNPSCADA - Work - Microsoft Edge 🦷

https://zimeletech.pnpscada.com/add?memh=5976721401429975712&advar\_category=User%20Admin%20en...

#### Adding User Admin entities

#### What User Admin entities entity do you want to add?

Customized menu Custom Page Login Account Organization Organization Role Toolbar





Step 5: On the dropdown list, choose a role and then press on the next button

#### Adding an Organization Role

#### This entity needs an Organization to function.

Please choose an Organization:

Organization: 150000002 Johannesburg water V ... Add New





#### Adding an Organization Role

#### This entity needs an Organization to function.

Please choose an Organization:

Organization: 150000001 City Power

Back	Next

- Every User Login Account belongs to a Role
- You should have at least one Administrator Role attached to your own
   Login

Step 6: Add Login





Add Login	
First Name *	
Last Name	
Email Address	
(will be used to contact you about your account)	Allow notifications to this address
	Send login details on create. (This will use the SMTP protocol, which is plain text and not encrypted).
Cell Phone Number	
<b>Choose a Login Name</b> * (no spaces or special symbols)	
Choose a Password * (use at least 6 characters)	
Confirm the Password * (re-type the password)	
	Back Finish

- Fill out the relevant fields
- You must specify the entries with a red asterisk (\*) next to them





 You can always edit the other options later under Edit->Login, or that user can set up his own info under Edit->My Info

Home Fil	<u>e Edit View Reports Tools</u>		
	My Info	A	
	Attributes		
	SIM		
	Communication Device		
	Manual Entries		
	Meter Totals		
	Meter Account		
	Calendar Rate Periods		
	Calendar Day Patterns		
	Calendar Week Patterns		
	Calendar Seasons		
	Calendar Holidays		
	Calendar Year Pattern		
	Calendar Registers	_	
	Tariff Line Items		
	Tariff Line Item Dependencies		
	Iariπ Display Tariff Derioda		
	Tariff Dates		
	Tariff Tax Doriod		
	Tariff Details		
		_	
	Login Notifications	_	
	Role		
	Role Notifications		
	Role Password Restrictions		
	Role Pages		
	Sharing Permissions		
	Organization	•	



Home File Edit View Reports Tools	Help Inbox (0) Quick Search (A Logout zimeletech.moiponem
First Name	Moipone
Last Name	Motloung
Email Address	
(will be used to contact you about	
your account)	
	Allow notifications to this address.
	Send login details on submit.
Cell Phone Number	Please choose ✓
Login Name	
(no spaces or special symbols)	moiponem
Password	
(use at least 6 characters)	
Confirm the Password	
(re-type the password)	
Update	

Joburg

• Press Update button to update/change your details.





# 1.1.1 Exercise 1: Module 1 Add an Administrator Login to your Organization.

Call the Trainer if you have any questions, and when you're done.





#### 1.2 Module 1.2: Add Organizational Role

Step 1: Click on the add new button

Home File Edit View	<u>Reports Tools</u> <u>Help Inbox (0)</u> Quick Search (A Logout zimeletech.moiponem
	Overview
	You are logged on to your account on PNPSCADA server Cojzulmas.
	You have <u>4 100 Calendars on your account.</u>
	You have <u>15115 Passive Etherpads</u> on your account.
	You have <u>I Meter Account</u> on your account.
	You have 2 Modems on your account.
	You have 1 Server Configurator on your account
	You have 4 Servers on your account.
	You have 3 SIM cards on your account.
	You have 1 Tariff on your account.
	You have 15 User Admin entities on your account.
	Add New
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Add New





#### Step 2: Select User Admin





Step 3: Select Organisational Role



#### Adding User Admin entities

#### What User Admin entities entity do you want to add?

Customized menu Custom Page Login Account Organization Organization Role Toolbar





Step 4: On the drop-down list, select organisational role and then press Next button Next

#### Adding an Organization Role

#### This entity needs an Organization to function.

Please choose an Organization: Organization: 15000002 Johannesburg water 
Add New





#### Adding an Organization Role

#### This entity needs an Organization to function.

Please choose an Organization:

Organization: 150000001 City Power

- Every Role is in an organization
- You should have at least one Organization attached to your own Login







#### Add Role

• Specify which Types of Entities may be Added		
Apps - Commissioning App		
Breaker/Connector - Contactors	-	
Breaker/Connector - Latched Breakers		
No Eurotionality Postriction (all interfaces of antitics may be	ha usad)	
<ul> <li>Specify which Entity Interfaces may be Accessed</li> </ul>	be used)	
Account Access		
Active Etherpad Edit	-	
Admin Communication Device		
<ul> <li>No Entity Restriction (all entities belonging to Johannesbur,</li> <li>O Specify which Entities may be Accessed</li> <li>Calendars : City Power (150000003)</li> <li>Calendars : CoJ Calendar (15000000)</li> </ul>	g water can be 'seen')	
<ul> <li>No Entity Restriction (all entities belonging to Johannesburg O Specify which Entities may be Accessed</li> <li>Calendars : City Power (150000003)</li> <li>Calendars : CoJ Calendar (150000000)</li> <li>Calendars : CoJ Calendar 1 (150000001)</li> </ul>	g water can be 'seen')	
<ul> <li>No Entity Restriction (all entities belonging to Johannesburg O Specify which Entities may be Accessed</li> <li>Calendars : City Power (150000003)</li> <li>Calendars : CoJ Calendar (150000000)</li> <li>Calendars : CoJ Calendar 1 (150000001)</li> </ul>	g water can be 'seen')	
<ul> <li>No Entity Restriction (all entities belonging to Johannesburg O Specify which Entities may be Accessed</li> <li>Calendars : City Power (150000003)</li> <li>Calendars : CoJ Calendar (150000000)</li> <li>Calendars : CoJ Calendar 1 (150000001)</li> </ul>	g water can be 'seen')	
<ul> <li>No Entity Restriction (all entities belonging to Johannesbur O Specify which Entities may be Accessed</li> <li>Calendars : City Power (15000003)</li> <li>Calendars : CoJ Calendar (15000000)</li> <li>Calendars : CoJ Calendar 1 (15000001)</li> </ul>	g water can be 'seen')	
<ul> <li>No Entity Restriction (all entities belonging to Johannesbur O Specify which Entities may be Accessed</li> <li>Calendars : City Power (15000003)</li> <li>Calendars : CoJ Calendar (15000000)</li> <li>Calendars : CoJ Calendar 1 (15000001)</li> </ul>	g water can be 'seen')	
<ul> <li>No Entity Restriction (all entities belonging to Johannesbur O Specify which Entities may be Accessed</li> <li>Calendars : City Power (15000003)</li> <li>Calendars : CoJ Calendar (15000000)</li> <li>Calendars : CoJ Calendar 1 (15000001)</li> </ul>	g water can be 'seen')	
<ul> <li>No Entity Restriction (all entities belonging to Johannesbur O Specify which Entities may be Accessed</li> <li>Calendars : City Power (15000003)</li> <li>Calendars : CoJ Calendar (15000000)</li> <li>Calendars : CoJ Calendar 1 (15000001)</li> </ul>	g water can be 'seen')	
<ul> <li>No Entity Restriction (all entities belonging to Johannesbur O Specify which Entities may be Accessed</li> <li>Calendars : City Power (15000003)</li> <li>Calendars : CoJ Calendar (15000000)</li> <li>Calendars : CoJ Calendar 1 (15000001)</li> </ul>	g water can be 'seen')	
<ul> <li>No Entity Restriction (all entities belonging to Johannesbur O Specify which Entities may be Accessed Calendars : City Power (15000003) Calendars : CoJ Calendar (15000000) Calendars : CoJ Calendar 1 (15000001)</li> </ul>	g water can be 'seen')	
<ul> <li>No Entity Restriction (all entities belonging to Johannesbur O Specify which Entities may be Accessed Calendars : City Power (15000003) Calendars : CoJ Calendar (15000000) Calendars : CoJ Calendar 1 (15000001)</li> </ul>	g water can be 'seen')	
<ul> <li>No Entity Restriction (all entities belonging to Johannesbur O Specify which Entities may be Accessed Calendars : City Power (15000003) Calendars : CoJ Calendar (15000000) Calendars : CoJ Calendar 1 (15000001)</li> </ul>	g water can be 'seen')	
<ul> <li>No Entity Restriction (all entities belonging to Johannesbur,</li> <li>Specify which Entities may be Accessed</li> <li>Calendars : City Power (15000003)</li> <li>Calendars : CoJ Calendar (15000000)</li> <li>Calendars : CoJ Calendar 1 (15000001)</li> </ul>	g water can be 'seen')	

- Fill out the relevant fields
- The only important one at this stage is the Role Description
- The other options are best edited later through specialized screens
- Press Finish to add the new Role





Step 6: On the edit menu, select Role

Home File Edit View Reports Tools	Help Inbox (0) Quick Search (A Logout zimeletech.mojponem
My Info	Overview
Attributes	<b>OVER THE MANA</b>
SIM	Very sea larged as to your peoplet as DNDCADA converted
Communication Device	You have logged on to your account on PMPSCADA server Cojzolinds.
Manual Entries	
Meter Totals	You have 1 Meter Account on your account
Meter Account	You have 15224 Meters on your account
Calendar Rate Periods	You have 2 Modems on your account.
Calendar Day Patterns	You have 1 Server Configurator on your account.
Calendar Week Patterns	You have 4 Servers on your account.
Calendar Seasons	You have <u>3 SIM cards on your account</u> .
Calendar Year Pattern	You have <u>1 Tariff</u> on your account.
Calendar Registers	You have <u>16 User Admin entities</u> on your account.
Tariff Line Items	
Tariff Line Item Dependencies	Add New
Tariff Display	
lariff Periods	
Tariff Tay Daried	
Tariff Details	
Login Account	
Login Notifications	
Role	
Role Notifications	
Role Password Restrictions	
Role Pages	
Snaring Permissions	
Urganization	

- Your Role is now added, and we're ready to configure it further.
- You can press the Home link from anywhere on the site to return to the overview screen.





Step 7: Select from list to browse the roles then click on Open button Open

 Home File Edit View Reports Tools
 Overview

 Page Require Some Information
 \*

 This page requires another type of entity
 \*

 Automatically Select Closest Administrator/Zimele Technologies
 \*

 (15000000)
 M

 © Select from list
 \*

 Open Open In New Window Cancel
 \*





#### Step 8: Editing the Role

Home File Edit View Reports Tools	Organization Role:150000000:Administrator/Zimele Technologies Help Inbox (0) Quick Search (A Logout zimeletech.moipo	nem
Role Description: Administrator Custom Menu: Use Default Menu -	No Functionality Restriction	
Start Page: Overview	O Specify which Entity Interfaces may be Accessed	- 1
	none invert view only search screen	
In the second		
O Specify which Entities may be Accessed	Account Access: (View Pages: Access Reports, Channels Not Used, Channels Used)	
Add none invert	Active Etherpad Edit: (Edit Pages: Active Etherpad)	
	Admin Communication Device: (Edit Pages:Replace Communication Device, Tasks, TCP Bridge)	
	Aggregate Load Admin: (Edit Pages:Aggregate Load)	
	App Commissioning Admin: (View Pages: App Commission Sheets) (Edit Pages: App Commission Sheets)	
	App Commissioning View: (View Pages:Published App Commission Sheets)	
	Area Geofence: (View Pages:Entities List by Area)	
	Attribute Admin: (Edit Pages:Attributes)	
	BACnet controller: (Edit Pages:Explore BACNET controller)	
	Dana Lines Alam Develop (CH Develop 100 Develop)	_
		- 1
	NO Add Resultion	- 1
	one invert	- 1
	Apps - Commissioning App	
	Breaker/Connector - Contactors	
	Breaker/Connector - Latched Breakers	
	Breaker/Connector - Virtual Breakers	
	Calendars - Composite Calendars	
	Calendars - Daylight Calendars	
	Calendars - Real Time Calendars	
	Calendars - Split Incomer Calendars	
	Calendars - TOU Calendars	
4	Concentrators - Generic Collectors	
See all sub-organization entities		_
Update		

- On this screen you may edit the Role Description, set the Start Page for the Role (on login), and set the Restrictions
- There are 3 kinds of restrictions:
  - Which Entities can be seen
  - Enabled Functionalities (screens that can be used)
  - What kind of new entities may be added by this Role
- Click on the Update button Update when done





# 1.2.1Exercise1.2: Module 1: Add a Role that cannot access the Administrator Role.

- Add a Login on that Role. With the new Login selected, go to Tools->Zoom to Login. Click the Zoom In button.
   You should now 'see' what that login would see if they logged-in.
- Try to view the Administrator Role under Home from the new Login.
- Now try to view the Administrator Role under Home from your old login.
- Call the Trainer if you have any questions, and when you're done.





#### 1.3 Module 1.3: Add an Organization

Step 1: Click on the add new button

Overrieve	<u>Home File Edit Vie</u>
Overview	
You are logged on to your account on PNPSCADA server Cojz01mds. You have <u>4 TOU Calendars</u> on your account. You have <u>15115 Passive Etherpads</u> on your account. You have <u>1 Meter Account</u> on your account. You have <u>15224 Meters</u> on your account. You have <u>2 Modems</u> on your account. You have <u>2 Modems</u> on your account. You have <u>1 Server Configurator</u> on your account. You have <u>4 Servers</u> on your account. You have <u>3 SIM cards</u> on your account. You have <u>1 Tariff</u> on your account. You have <u>1 Guser Admin entities</u> on your account.	

Add New



Step 2: Select User Admin



#### Add Entity





Step 3: Select Organization



#### Adding User Admin entities

#### What User Admin entities entity do you want to add?

Customized menu Custom Page Login Account Organization Organization Role Toolbar

- Reasons to add a new Organization as administrated by yourself, is for the sake of giving your customers their own logins with:
  - Their own banner image on top
  - Their own sub-domain
  - Their own unique login space (so that their customer logins could potentially be duplicated with another organization on another sub-domain without clashing, e.g. SHOP01 in two different Shopping Centers)





#### Step 4: Add the Organization details

Add Organiza	tion "*" indicates a required field.
Organization Name	*
Postal Address Line 1	
Postal Address Line 2	
City	
	Province  US State  n.a.
Postal or Zip Code	k
Country	
Time Zone	
Telephone Number	South Africa (+ 027)
relephone realiser	Ext. (optional)
Fax Number	<b></b>
Street address	k
VAT number	
Sub domain	
Banner Image	Choose File No file chosen (max 60K: Must specify Sub domain to have this option. Max height 180 pixels)
	Back Finish

- Fill out all the relevant fields
- Press the Finish button Finish to add the new Organization





• You can edit the Organization setting later from

Edit->Organization

Home File	<u>Edit View Reports Tools</u>	
	Tariff Periods	
	Tariff Rates	
	Tariff Tax Period	
	Tariff Details	
	Login Account	
	Login Notifications	
	Role	
	Role Notifications	
	Role Password Restrictions	
	Role Pages	
	Sharing Permissions	
	Organization	
	Meter Details	
	Advanced Meter Settings	
	Insert User Event	1
	TOU Billing Register Values	
	Seals	
	Real Time OBIS codes	
	Passive Etherpad	
	Generic Active GPRS Modem	
	APN Modem	
	Physical Location	
	Meter Account PCP Baseline	
	Instr. Profile Labels	
	Instr. Profile Alarm Limits	
	Elster Multidrop	
	STS Smart Prepaid Meter	
	Toolbar	





Home File Edit View Reports Tools Orga Help Inbox (0) Quick Search (A Logout zimeletech.moiponem				
Organization Name	Johannesburg water			
Postal Address Line 1	Turbine Hall 65 Ntemi Piliso Street Newtown			
Postal Address Line 2				
City	NewTown			
Province	auteng O US State V O n.a.			
Postal or Zip Code	2113			
Country	South Africa 🗸			
Time Zone *	Africa/Johannesburg			
Telephone Number	South Africa (+ 027)			
	+27 (0)11 688 1400 <b>Ext.</b> (optional)			
Fax Number				
Street address *	* Turbine Hall 65 Ntemi Piliso Street Newtown			
VAT number	4270191077			
Sub domain				
Primary server for (i.e. if your account spans over multiple				
subdomain:	servers, please specify primary server)			
Banner Image	Choose File No file chosen (max 60K: Must specify Sub domain to have this option)			
Custom CSS	Choose File No file chosen (max 60K: Must specify Sub domain to have this option)			
	Admin Role: 150000000 Administrator/Zimele Technologies			
Update				
	2024 SDG Technologies cc. All rights strictly reserved.			





Home File Edit View	Reports Tools O Help Inbox (0) Quick Search (A Logout zimeletech.moiponem		
Organization Name	City Power		
Postal Address Line 1	Reuven, Johannesburg, 2091		
Postal Address Line 2			
City	Johannesburg,		
Province	Gauteng O US State - On.a.		
Postal or Zip Code	PO Box 38766,		
Country	South Africa 🗸		
Time Zone *	Africa/Johannesburg		
Telephone	South Africa (+ 027)		
Number			
Fax Number			
Street address *	40 Heronmere Road, Reuven, Booysens		
VAT number	4710191182		
Sub domain	null		
Primary server for subdomain:	(i.e. if your account spans over multiple servers, please specify primary server)		
Banner Image	Choose File No file chosen (max 60K: Must specify Sub domain to have this option)		
Custom CSS	Choose File No file chosen (max 60K: Must specify Sub domain to have this option)		
	Admin Role: 150000000 Administrator/Zimele Technologies		
Update			




## 1.3.1 Exercise 1.3: Module 1 - Edit your organization's properties

Call the Trainer if you have any questions, and when you're done.





# 2 MODULE 2: COURSE 102 - ENGINEER ROLE: ADDING AND CALLING IN A METER ON ZIMELE MDMS

### Once you are done with this Course, you should be able to:

- Configure a new meter on Zimele MDMS for Automatic Reading
- Configure commissioning and reading parameters correctly per meter
- Kick off a Read-in attempt and verify it via a Web Browser or a J2ME cell phone application
- Do basic troubleshooting on meters not coming in

## 2.1 MODULE 1: Adding a Meter

- The basic building blocks in Zimele MDMS are called Entities
- An Entity can be anything from a Modem to a Meter to an Etherpad; a SIM Card, a Login Account, a Role, an Organization, a Tariff, a Time of Use Calendar etc.
- To add any kind of *Entity* to the system, click the Add New button at the bottom of the overview screen
- Alternatively, go to the File menu (next to Home), and click on New



- To start adding Entities on the system, the first step is to log in:
- Go to the log in page at: <u>https://zimeletech.pnpscada.com</u> (our training server)





## Step 2: Click on the add new button

Home File Edit View R	Reports Tools Help Inbox (0) Quick Search (A Logout zimeletech.	moiponem					
0	Dverview						
Yo	'ou are logged on to your account on PNPSCADA server Cojz01mds.						
You have <u>4 TOU Calendars on your account</u> .							
Yo	You have <u>15115 Passive Etherpads</u> on your account.						
Yo	ou have <u>1 Meter Account</u> on your account.						
Yo	ou have <u>15224 Meters</u> on your account.						
Yo	ou have <u>2 Modems on your account.</u>						
YO	ou have <u>1 Server Configurator</u> on your account.						
	ou have <u>4 servers</u> on your account.						
Yo	You have 1 Tariff on your account						
Yo	ou have <u>15 User Admin entities on your account</u> .						
	ou have <u>to over runnin entress</u> on your account						
A	Add New						
	2024 SDG Technologies cc. All rights strictly reserved.						

Add New



### Step 3: Select a Meter



### Add Entity







Step 4: Select type (kind) of a Meter you want to add

### Adding Meters

### What Meters entity do you want to add?

**CLOU DLMS meter** Conlog iDM APEX1 Conlog Meter (via head end) Demo Data Meter EDMI Mk10A EDMI Mk10 Atlas EDMI Mk10D EDMI Mk10E EDMI Mk10H EDMI Mk10 MDC DLMS STS meter EDMI Mk6 Genius EDMI Mk7C **Elspec** Elster A100C Irda Elster A1140 Elster A1160 Elster A140 Elster A1700 Elster A220 Elster AS1440 Elster AS220 Elster AS230 Elster AS3000 Elster AS3500 EMH Enermax Enermax+ Generic Modbus Meter Generic Register Meter Generic STS Meter Hexing HXE12 Single phase DLT645 (FSK PLC) STS meter Hexing HXF300 Three phase DLMS meter Hexing Single phase DLMS STS meter (e.g. HXE110\*, HXE130, HXP100DI, etc) 

• Meters that we currently support include many meters from

Elster, Landis&Gyr, Enermax, EDMI meters etc.

• Water Meters can be added as Pulse Meters





Step 5: On the dropdown list, choose a communication device and then press on the next button Next

## Adding a Landis & Gyr (IEC61107)

## This entity needs a Communication Device to function.

Please choose a Communication Device:







Back

Finish

Step 6: Add Meter details and once done click on finish button

Finish

Viere Serial Number. User Defined Meter Name: Place: Zone:  
Place:
Zone:
Site:
Breaker Size:Amp
CT ratio: 5 /5
VT ratio: 400 / 400
Primary Metering:
3 or 4 Wire Meter Connection: 4
Installation Date: 2025-02-18
In order to get Totals and Phasor on the Landis & Gyr, you need to program the





Step 7: Click on Link this entity to limited roles

# Add Landis & Gyr (IEC61107)

Successfully added Landis & Gyr (IEC61107):09032020 Training Room Link this entity to limited roles

Close





Step 8: Select on a Communication Device (Dependencies)

# Adding a Landis & Gyr (IEC61107)

## This entity needs a Communication Device to function.

#### Please choose a Communication Device:







- Depending on the Meter type you selected, you may now have to set up various Entity Dependencies
- Most Meters rely on a Communication Device to function, for example a Modem or an Etherpad
- Pulse Meters depend on a Pulse Counting Device.
  More on that in the courses:
  Installation of Wavenis Meters on Zimele MDMS and:
  Installation and Maintenance of Pulse Meters on Zimele MDMS
- If you have already added the Communication device before, you can select it from the list
- Alternatively, you can click on Add New button
  to
  add a new Communication device Entity





Step 9: Adding more Communication Devices (Dependencies)

### Add Entity



# Adding Etherpads

# What Etherpads entity do you want to add?

Active Etherpad Always Connected Active Etherpad Always Connected Passive Etherpad Passive Etherpad



## Adding Modems



## What Modems entity do you want to add?

Always Connected Generic Active GPRS Modem Billing Online modem Generic Active GPRS Modem Generic APN Modem Hexing internal GPRS modem - Client Mode Holley internal GPRS modem - Client Mode Inhe 3G Collector - Client Mode Inhemeter internal 3G/GPRS modem - Client Mode IP-Telemetry GPRS modem KoCoS Elster modem Linyang internal GPRS modem - Client Mode Riecktron Modem Sanxing internal GPRS modem - Client Mode SmarTee TC65 modem Wasion/Netvendor GPRS modem (meter, internal, client mode)

Back Next

#### Adding a KoCoS Elster modem

#### This entity needs an SIM to function.

Please choose an SIM:

✓ ... Add New





Add SIM card	
SIM card number: Cell phone number: unknown can be used if the Cell Number is unknown	
(optional) APN IP: for SIMs that are added to an APN, automatically pulls through on modem add	
Flickswitch SIM management and APN If you have the phone number and you want to add a KOCOS modem to connect to this server, you can go here to program it. (your role needs to be <u>SMS enabled</u> in order for that to work, since we'll get the SIM number and program the modem via SMS. Your card also needs to be enabled to send and receive SMS) MTN only prints the last 10 digits of the full SIM number on their cards. The number should start with 892700000	SIM
	Finish

# Add a Passive Etherpad

An 'etherpad' is typically an ethernet to Serial converter. It is a hardware device. It is configured and installed on an IP visible from this server, at a PORT number you configured on the device. A 'static' or 'passive' etherpad is typically an etherpad that doesn't make any connections to the outside world: it expects to be connected to from the outside. This screen assumes you have already configured the etherpad.

User-defined Name:	
TCP Address:	PORT Number:

Back

Finish

- Fill out all the dependency screens as you encounter them. As you step through them, the needed *Entities* will be added and filled into the previous screens
- When adding SIM cards, you need to enter the full SIM card number (typically 19 to 21 digits long), as well as the cell phone number (international notation please)





• When adding Etherpads, you typically need the TCP port, and possibly the IP





### Step 10: On the Overview screen



- Your Meter is now added, and we're ready to communicate with it.
- Select your meter on the overview screen by drilling down on the categories and selecting it





• You will be presented with the Object Dependency view. You can select the entities to the left and right of the selected Entity to navigate the Entity Dependency Tree





## 2.1.1 Exercise 2.1: Module 2

As part of this course, you have been issued a Meter and Communication Device, together with all the communication parameters you need to configure the device on Zimele MDMS.

Now add the Meter and the Communication Device to your login account.

Call the Trainer if you have any questions, and when you're done.





# 2.2 MODULE 2.2: Testing Communication Tools

Step 1: Navigate to Tools -> Communication Monitor

<u>Home</u>	<u>File</u>	<u>Edit</u>	<u>View</u>	Reports	Tools
					Problem Meter List
					Problem Meter List Quick
					Meter Read In History
					Communication Monitor
					SyM2 Meter Diagnostic
					Fault Log
					Import Readings
					Import Readings NRS049
					Bulk Capture Manual Readings
					Bulk Capture Manual Electricity Readings
					Bulk Capture Old Demand Values
					Iotal Validation
					Upload Meter Reading Photos
					Bulk Estimate Consumption
					Bulk Finalize Month End Totals
					Meter Validation Screen
					Run Bill
					Bill Variance Report
					Maintain Bills
					Conturo Pill
					Audit Motor
					Snike Removal
					Certify TOU Calendar as Valid
					Check Tariff Validity
					Zoom to Login
					Expand User
					Ignore Profile for MD
					Modify Readings
					0





# Step 2: Tick on Select from list and click Open button

Overview	
Page Require Some Information	X
This page requires another type of entity	
Automatically Select Closest 171128245 ; Harrison Street ; Marshalltown ; 17 (171128245)	
○ Select from list	
Open Open In New Window (	Cance
	o carito

Open





## Step 3: Select the meter you want to interrogate (read) and then click Select

button	Select

🧐 Find Meter Trouble Shooting - PNPSCADA - Work - Microsoft Edge	_		X
https://zimeletech.pnpscada.com/browseshift.jsp?memh=-2638476406910176027&pageurl=reader2.jsp&newname=Content of the second seco	ommuni	cation.	
Browse Meter Trouble Shooting			
Page 1/762 back next Page 1 Go * Search			
EC1 MQTT Meter: 171128245 ; Harrison Street ; Marshalltown ; 17 (171128245)			
EC1 MQTT Meter: 23067893 ; Harrison Street ; Marshalltown ; 17 (23067893)			
EC1 MQTT Meter: New Auto Added (110010043)			
EC1 MQTT Meter: New Auto Added (13022636)			
EC1 MQTT Meter: New Auto Added (171063933)			
EC1 MQTT Meter: New Auto Added (23014952)			
EC1 MQTT Meter: New Auto Added (23144989)			
EC1 MQTT Meter: New Auto Added (C-ARAU/84)			
ECTINQTTINEELINEW AUO AOUEU (C-RRL3399) EDMLM/6 Conjue: ASHTON HOUSE : 30 ASHEODD DOAD ASHEODD DOAD 30 : DADK WOOD : Hursthill (207730030)			
EDMI MK6 Conjus: ATC SOLITH AEDICA : 66 STIEMENS STDEET Croated new Device location : IOHANNESBUDG : Signart (207	745586	<b>`</b>	
EDMI Mike Genius: ATC SOUTHAI NOA, 66 OTHEMENG STREET OREAGENEW Device location, 60 PAINTEDBORG, 6 enter (207	JOHANI	, NESBL	
EDMI Mike Genius: ATC South Africa Wireless Inftrustructur : 259 SIXTEENTH ROAD SIXTEENTH ROAD 00259 · RANDJESPARK	EXT 18	Midra	
EDMI Mk6 Genius: BODY CORPORATE ALOE HOUSE : 99 PROGRESS ROAD PROGRESS ROAD 99 : LINDHAVEN : Hursthill (2	0773918	, 32)	
EDMI Mk6 Genius: CITY OF JOHANNESBURG ; 0 RANDFONTEIN ROAD RANDFONTEIN ROAD 0 ; ROODEPOORT ; Roodepool	rt (20774	42010)	
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG (207701637)			
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG ; JOHANNESBURG (207700289)			
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG ; JOHANNESBURG (207700302)			
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG ; JOHANNESBURG (207700392)			
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG ; JOHANNESBURG (207701014)			
	Close	Sele	ct 🔻



- Check the relevant checkbox (e.g. Phasor, Total, Profile or Events), and Click on the Start Read button
- You should now see the actual conversation between the server and meter on your web page
- The Cyan is what the Server is saying to the meter, and the Green is what the meter is replying.
- Any other actions as part of the Reading Attempt, including success or error report messages are displayed in White.

It is generally more efficient for the installer to leave the site only after the communication link has been verified.





## 2.2.1 Exercise 2.2: Module 2

Using the Communication Monitor, read the Phasor of the meter, if applicable.

Report to the lecturer the Red Voltage you've read with the timestamp (View->Phasor Graphs). If you cannot read the meter, troubleshoot the error report at the end until the reading succeeds.

Call the Trainer if you have any questions, or and when you're done.





# 2.3 MODULE 2.3: Commissioning - Edit Meter Details

Step 1: Go to Edit menu and select Meter Details

Home File Edit Vi Tariff Tariff Tariff Tariff Tariff Tariff Login Login	iew Reports Tools Line Item Dependencies Display Periods	<u>Help</u>	Inbox (0) Quick Search (A Logout zimeletech.moiponem
Iariff Tariff Tariff Tariff Tariff Tariff Login Login	Display Periods	1	
Role N Role P Role P Sharin Organ Meter Advan Meter Insert TOU E Seals Real T Passiv Gener APN M Physic Meter Instr. Instr.	Tax Period Details Account Notifications Notifications Pages ng Permissions nization Details noced Meter Settings Event Setup t User Event Billing Register Values Time OBIS codes ve Etherpad ric Active GPRS Modem Modem cal Location r Account PCP Baseline Profile Labels Profile Alarm Limits		on PNPSCADA server Cojz01mds. account. on your account. account. count. nt. your account. it. unt. n your account.





Step 2: Tick on Select from list and click Open button

Home File Edit Vie	w <u>Reports</u>	Tools	<u>Help</u> Inbox (	0) Quick Search (A	Logout zimeletech.moiponem
	Overv	iew			
	Page Require	e Some Informat	ion		×
	This page req	uires another type	of entity		
	O Automatic Marshalltow	ally Select Closest : /n ; 17 (1711282	L71128245 ; H 45)	arrison Street ;	
	Select from	n list			
		-	Open	Open In New Window	v Cancel

Open





### Step 3: Select the meter you want to Edit and then click Select button

Select

Browse Meters Admin
Page 1/762 back next Page 1 Go * Search
EC1 MQTT Meter: 171128245 ; Harrison Street ; Marshalltown ; 17 (171128245)
EC1 MQTT Meter: 23067893 ; Harrison Street ; Marshalltown ; 17 (23067893)
EC1 MQTT Meter: New Auto Added (110010043)
EC1 MQTT Meter: New Auto Added (13022636)
EC1 MQTT Meter: New Auto Added (171063933)
EC1 MQTT Meter: New Auto Added (23014952)
EC1 MQTT Meter: New Auto Added (23144989)
EC1 MQTT Meter: New Auto Added (C-ARA0784)
EC1 MQTT Meter: New Auto Added (C-RRL5999)
EDMI Mk6 Genius: ASHTON HOUSE ; 39 ASHFORD ROAD ASHFORD ROAD 39 ; PARK WOOD ; Hursthill (207739039)
EDMI Mk6 Genius: ATC SOUTH AFRICA; 66 STIEMENS STREET Created new Device location; JOHANNESBURG; Siemert (207745586)
EDMI Mk6 Genius: ATC SOUTH AFRICA WIRELESS INFRASTRUCTURE ; 66 STIEMENS STREET Created new Device location ; JOHANNESBU
EDMI Mk6 Genius: ATC South Africa Wireless Inftrustructur ; 259 SIXTEENTH ROAD SIXTEENTH ROAD 00259 ; RANDJESPARK EXT.18 ; Midran
EDMI Mk6 Genius: BODY CORPORATE ALOE HOUSE ; 99 PROGRESS ROAD PROGRESS ROAD 99 ; LINDHAVEN ; Hursthill (207739182)
EDMI Mk6 Genius: CITY OF JOHANNESBURG ; 0 RANDFONTEIN ROAD RANDFONTEIN ROAD 0 ; ROODEPOORT ; Roodepoort (207742010)
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG (207701637)
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG ; JOHANNESBURG (207700289)
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG ; JOHANNESBURG (207700302)
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG ; JOHANNESBURG (207700392)
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG ; JOHANNESBURG (207701014)
Close Select

ZIMELE				a world class African
		Joburg		
		a world class african city		_
Home File Edit View Reports Tools	EDN	Mk6 Genius:207701637:CITY POWER ; JOHANNESBURG ;	JOHANNESBURG Help Inbox (0) Quick Search (A Logout zimeletech.moiponer	<u>m</u>
	Serial Number	//0163/	uninstall meter replace meter	
	Base Units Used	/h	tenant move out	
	CT Ratio	/ 5	advanced settings	
	VT Ratio	0 / 400		
	Full Load (Breaker Size)	A 00		
	How many Wires Connected?:			
	Meter Name	TY POWER		
	Place / Sequence	HANNESBURG		
	Zone / Route	HANNESBURG		
	Site / Book			
	Password	****** Type Password		
	Primary Metering			
	Multiplier (to get Units)	/ 1 (Pulse / Dial Constant / Billing Factor )		
	Disabled			
	Commissioned			
	Manual Read only			
	Installation Date & Time	24-07-01 00:00:00		
	Last Read Up to Date & Time	24-07-01 00:00:00 Delete newer data		
		Submit		
		2024 SDG Technologies cc. All rights strictly reserved		

- CT and VT ratios kept in Zimele MDMS are not read from the meter or written to the meter, and only used for validating data, and display purposes
- The only multiplier applied by Zimele MDMS is usually the Pulse Multiplier: it will take the quantity coming from the meter and multiply it by the fraction specified in this screen
- If you want to limit your fault reporting to 'commissioned' meters only,
  check the commissioned flag for every meter that has been verified as correct, and it will start appearing on the problem meter list
- The System will not call in any profile data for a meter before the 'Last Read Up to Date & Time'. If you want to re-read any profile data from the meter, set this date back





- The System will not call in any data from before the 'Installation Date & Time'. If your meter has a history of a couple of months that you want to read in, set the installation date back to whenever you need the data from. Remember to set the 'Last Read Up to Date & Time' back to the same date
- If you change the Pulse Ratio it will not immediately change the profile already in the system. To apply your new multiplier, the easiest is to call it in again: set the 'Installation Date & Time' back and read it in. Alternatively, use Tools->Modify Readings, or Tools->Import Readings



	LOGI	ES									- - a w	
	•• zime	letech.pnp:	scada.com	√importMeterReadi	ings2.jsp?i	memh=-30561942912097	Joburg				Bookmarks	
							a world class african city					
Home File Edit	View Rep	orts Tools					Itron SL70	00:73014744:City Power Help	Inbox (0) Quick Search (A Logo	it zimeletech.mo	<u>piponem</u>	
Copy Excel	r mete csv	PDF	Print	End Date	Ву	Maximum Date Before Import	Maximum Date Without All Zero Entries	Maximum Date Not Interpolated	Search:		File	
	-						No data available in table					
Showing 0 to 0 of 0 Import dat Step 1: Choose This should be a C	0 entries <b>a from</b> <b>e file</b> SV file. XM	n file	upported.	If the file extentio	on is not (	CSV, you can convert it b	y opening it up in Excel and <b>Save As</b> CS	/ (Comma delimited) (*.csv).		Previous	Next	
Choose File No fil	le chosen											
Step 2: Click L This step might tak Load	<b>.oad</b> ke some tir	me on slov	v compute	ers								
•	lf yo me	ou v ter,	var ch	nt to st eck 'D	op isal	manual bled'	and automat	ic reading (	of the			

			<b>Jo</b> burg	
		a wo	orld class african city	
Home File Edit View Reports Tools			Itron SL7000:73014744:City	Power Help Inbox (0) Quick Search (A Logou
	Serial Number	73014744		uninstall meter
	Utility Measured	Electricity		replace meter
	Base Units Used	kWh		dvanced settings
	CT Ratio	5 / 5		davanced settings
	VT Ratio	400 / 400		
	Full Load (Breaker Size)	100 A		
	How many Wires Connected?:	3		
	Meter Name	City Power		
	Place / Sequence			
	Zone / Route			
	Site / Book			
	Password	******* Type Passwo	ď	
	Multi-Drop id	17	<b>1</b>	
	Primary Metering			
	Multiplier (to get Units)	1 / 1	( Pulse / Dial Constant / Billing Factor )	
	Disabled	0		
	Commissioned	<ul><li>✓</li></ul>		
	Manual Read only			
	Installation Date & Time	2024-09-01 00:00:00	Delete older data	
	Last Read Up to Date & Time	2024-09-01 00:00:00	Delete newer data	
		Sub	mit	
		2024 SDG	Technologies cc. All rights strictly reserved.	





 If you are replacing the meter, click on 'replace meter': all the metering point data like the CT and VT ratios will be kept for the new meter

	zimeletech nunscada com savs	
	Really add new meter on this Metering Point and uninstall this one? Please note this process might take a couple of minutes, so changes might only show after a while	L .
Home File Edit	View	imeletech.moiponem
Serial Number	207. Cancer	uninstall
Utility Measured	Electrony	meter
Base Units Used	kWh	replace
CT Ratio	5 / 5	tenant
VT Ratio	400 / 400	move out
Full Load (Breaker Size)	1000 A	<u>advanced</u> <u>settings</u>
How many Wires Connected?:	4	
Meter Name	CITY POWER	
Place / Sequence	JOHANNESBURG	
Zone / Route	JOHANNESBURG	
Site / Book		
Password	****** Type Password	
Primary Metering		
Multiplier (to get Units)	1 / 1 ( Pulse / Dial Constant / Billing Factor )	
Disabled		
Commissioned		
Manual Read only		
Installation Date & Time	2024-07-01 00:00:00 Delete older data	
Last Read Up to Date & Time	2024-07-01 00:00:00 Delete newer data	I
	Submit	I
	2024 SDG Technologies cc. All rights strictly reserved.	

 If you are replacing a communications device, use Tools -> Replace Communications Device







Home File Edit View Reports Tools

a world class african city Passive Etherpad:10.12.128.38:703:73014744 Help Inbox (0) Quick Search (A Logout zime

In-Place Replacement of Communication Device (Passive Etherpad):

10.12.128.38:703 (73014744) Replace with: ????? ... Replace

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 If you are replacing a SIM card, Use the replace checkbox on Edit->SIM

	Joburg a world class african city
Home File Edit View Reports Tools	SIM card:8927076031421050358:+27628362092 Help Inbox.(0)
	Full SIM Number 8927076031421050358 C replace
	Cell Phone Number +27628362092
	Submit
	MTN only prints the last 10 digits of the full SIM number on their cards. The number should start with 892700000 Problems? <u>Watch this video about SIM replace</u>





 If you want to remove a meter, it is generally not a good idea to remove it completely, since your old data would then also be lost (and it would still be historically applicable to a meter account). Rather choose 'uninstall meter' on this screen, which will keep the meter but disable it. If a meter has been uninstalled like this, it can be re-installed elsewhere by adding the meter to the system again. This will not cause a clash, and the old and new instance of the meter will co-exist peacefully

	Really Uninstall? Please note this process might take a couple of minutes, so changes might only show after a while OK Cancel	
	a world class african city	
iome File Edit View Reports Tools	Elster AS230:13106616:	Silver Box <u>Help Inbox (0)</u>
Serial Number	13106616	uninstall meter
Utility Measured	Electricity	replace meter
Base Units Used	kWh	advanced settings
CT Ratio	5 / 5	<u>aarancea betango</u>
VT Ratio	400 / 400	
Full Load (Breaker Size)	100 A	
How many Wires Connected	1?: 2	
Meter Name	Silver Box	
Place / Sequence		
Zone / Route		
Site / Book		
Password	******* Type Password	
Multi-Drop id	001	
Primary Metering		
Multiplier (to get Units)	1 / 1 (Pulse / Dial Constant / Billing Factor )	
Disabled		
Commissioned		
Manual Read only		
Installation Date & Time	2024-01-01 00:00:00	
Last Read Up to Date & Tim	e 2025-02-17 11:30:00 Delete newer data	
	Submit	





## 2.3.1 Exercise2.3: Module 2

By setting back your meter's Installation and Last-Read-Up-to dates and calling in the Meter Totals manually on the: Tools->Communication Monitor, find out what is the oldest totals it has available in memory, if any.

You can view the totals read from a meter at

Edit->Meter Totals.

The totals read from the meter will have '3' as the least significant decimal digit in the Status.

Call the Trainer if you have any questions, and when you're done.

#### ZIMELE TECHNOLOGIES



## 3 MODULE 3: COURSE 160 ENGINEER ROLE: METER DATA UNIFICATION AND SYNCHRONISATION SAP TO ZIMELE MDUS INTERFACE

Recommendation:

- You should have experience with SAP (<u>https://go.sap.com/</u>)
- It would be beneficial to have experience of SAP for Utilities (IS-U)
- You should have done the AMI training with SAP

### 3.1

### Gives you the power to:

- Read real meters from within the SAP user interface in real time using Zimele MDMS e.g. close out readings
- Validate readings before sending to SAP
- Route user and meter generated events from meters to SAP workflow
- Can correctly summate maximum demand readings
- Automatically populate billing multipliers and location information from SAP to Zimele MDMS
- Remote disconnection and reconnection of meters
- Sending a text to a meter in the field
- Once you are done with this course, you should be able to:
- Add MDUS entity
- Set up MDMS entity SOAP connection to SAP in both directions
- Set up MDMS Events
- Set up Summated Maximum Demand relationships for SAP billing





## 3.2 How to add an MDMS entity on Zimele MDUS

### Prerequisite:

Adding MDMS entity is a three-stage process:

### First

You need to buy and commission a SAP IS-U EHP4 (e.g. https://wiki.scn.sap.com/wiki/display/ESpackages/SAP+enhancement+pack age+4+for+SAP+ERP+6.0), and specifically the AMI interfaces (e.g.https://wiki.scn.sap.com/wiki/display/ESpackages/Advanced+Metering+ Infrastructure). You will need consultants to help you with that.

### Second

You need WSDL files for the end points that Zimele MDMS will consume to call back into SAP with new readings and events as they become available. These Web Services must of course be addressable from the Zimele MDMS server.

### Third

You need the Sender Business System ID, Recipient Business System ID, Advanced Metering System ID and the IP of the SAP Server that offers the SOAP services.




# 3.1.1 Log in

Joburg	
Welcome Please enter your Login Name a	nd Password below
Login Name: Password: Login Note: This site uses Cookies, JavaScript and Popups, and won't have them turned off, please turn them on to continue. By logging in to this site you agree to all <u>terms and conditions</u> . If you have lost your password, click <u>here</u> .	function properly without them. If you
PNPSCADA 4 250205222144 <u>Cojc01mds</u> (Public IP:129.232.193.96) ©2021 SDG Technologies cc. A	I rights strictly reserved. Please review our <u>Terms and Conditions</u> .





# 3.1.2 Go to the overview screen (Home)







Add New

# 3.1.3 Click on the add new button

<u>Home File Edit View Reports Tools</u>		<u>Help</u>	<u>Inbox (0)</u>	Quick Searcl
	Overview			
	You are logged on to your account on PnPScada server Baalah.			
	You have <u>1 Contactor</u> on your account.			
	You have <u>2 Etherpads</u> on your account.			
	You have <u>1 Meter Account</u> on your account.			
	You have <u>6 Meters</u> on your account.			
	You have <u>1 Generic Active GPRS Modem</u> on your account.			
	You have <u>1 Server Configurator</u> on your account.			
	You have <u>2 SAP MDUSs</u> on your account.			
	You have <u>1 SIM card on your account</u> .			
	You have <u>1 Tariff</u> on your account.			
	You have 7 User Admin entities on your account.			
	Add New			

## Add Entity







# 3.1.4 Select servers









# Adding Servers

# What Servers entity do you want to add?

Automatic Adder Conlog Head End Login Csv Upload Ftp Server Echelon NES Server Electronic Connect (ec1) MQTT client FTP Client **Invendis Site** Kamstrup Head end Server Laison GPRS Listener LoRaWAN stub Meter Push Updater MOL MQTT Last Gasp receiver MOL Server Account Remote Metering Solutions Login Riecktron Last Gasp receiver **RMS Echelon Source Server** SAP MDUS Sensus Ftp Server (e.g. FTP Concentrator for iPerl water meters) Server on SyM2 Back Plane SigFox stub Test Bench **UAS Echelon NES Account** Vixnet Server (QT Scheduler)





# 3.1.6 Enter the following

- i) Sender business system ID
- ii) Recipient business system ID
- iii) Advanced metering system ID, and
- iv) IP address of the SAP PI Server
- v) Click on the Finish button

# Adding a SAP MDUS end-point

Sender Business System ID:	SP1
	DUDGG4D4
Recipient Business System ID:	PNPSCADA
Advanced Metering System ID:	PNP01
SAP PI/PO Server IP address:	0.0.0.0
	· · · · · · · · · · · · · · · · · · ·

Use the Edit menu provided to set up more details on your MDUS, e.g. to upload the OUT function XML files.

Back Finish





3.1.7 The SAP MDUS Entity should now exist.

# Adding a SAP MDUS end-point

Successfully added SAP MDUS:PNP01 Link this entity to limited roles

Close





# 3.1.8 HOW to configure the SOAP endpoints on the MDMS

There will be an exchange of SOAP files between you and the SAP administrative staff, to allow Zimele MDMS to call SAP over SOAP, and to allow SAP to call Zimele MDMS over SOAP.

Give the URL to the Zimele MDMS SOAP services to your SAP administrative staff, so that they can download the WSDL files they need. For example, <u>https://zimeletech.pnpscada.com/soap</u>

To see for which WSDL files you must ask from them, and the place to configure them.





# 3.1.9 Log in



a world class african city Logged out. Please close your Browser Windows Please enter your Login Name and Password below.

Login Name:	
Password:	
Login	

Note: This site uses Cookies, JavaScript and Popups, and won't function properly without them. If you have them turned off, please turn them on to continue. By logging in to this site you agree to all <u>terms and conditions</u>.

If you have lost your password, click here.



PNPSCADA 4.250205222144 Cojz01mds (Public IP:129.232.193.98) ©2021 SDG Technologies cc. All rights strictly reserved. Please review our Terms and Conditions.





# 3.1.10 Go to the overview screen (Home)

lojourg
a world class african city
Help Inbox (0) Quick Search (2) Logout zimeletech.molponem
You are logged on to your account on PNPSCADA server Cojz01mds. You have <u>4 TOU Calendars</u> on your account. You have <u>1515 Passive Etherpads</u> on your account. You have <u>1 Meter Account</u> on your account. You have <u>1 Server Configurator</u> on your account. You have <u>2 Modems</u> on your account. You have <u>3 SIM cards</u> on your account. You have <u>3 SIM cards</u> on your account. You have <u>1 Tariff</u> on your account. You have <u>15 User Admin entities</u> on your account. Add New
2024 SDG Technologies cc. All rights strictly reserved.





# 3.1.11 Select tools > Setup MDUS

<u>Home</u>	<u>File</u>	<u>Edit</u>	<u>View</u>	Reports	Tools
					Server Restart Admin Thread Report System Stats
					System Stats 2 Server Network Monitor Logs Monitor
					Translation Manager
					Replace Communication Device TCP Bridge Tasks
					Web Service Documentation Bulk Add Entities from Upload Bulk Edit Bulk Download Bulk Delete UnDelete
					Import Fault Log Close Fault Log Bulk Share
					Setup MDUS
					Setup MDUS events Create Virtual MDUS readings
					Report Queue
					Maintain Sets
					Ping IP
					Export Tariffs Bundle
					Setup KOCOS/BOL modem via SMS
					Import Entity Export Meter Entity



- All the interfaces that MDUS can call back into SAP are displayed
- Select SAP MDUS: COJ and press Select button
   Select

Browse MDUSses				
Page 1/1 back next Page 1	Go	*	Search	
SAP MDUS: COJ ; ECCCLNT100	(3)			
SAP MDUS: PNP01 ; SP1 (4)				
SAP MDUS: PNP01 ; SP1 (5)				
SAP MDUS: ZAMI ; S4HANA (1)				
				_

Close Select





# 3.1.12 The Sender and Recipient System ID's, and the AMS ID







# 3.1.13 Specifically choose HTTP

TIONIC THE EAR MENT REPORTS TOOL	Home	File	Edit	View	Reports	Tools
----------------------------------	------	------	------	------	---------	-------

Sender Business System ID	ECCCLNT100
Recipient Business System ID	ZimeleMDUS
Utilities Advanced Metering System ID	COJ
SAP PI IP Address	159.138.162.96
Block Incoming messages NOT from this IP	$\checkmark$
SAP PI TCP/IP Port	50500
Transport (HTTP or HTTPS)	HTTP     OHTTP:
Is Head-End for Server (leave blank if on same box)	
HTTP authorisation username	comms_mdms
HTTP authorisation password	init12345
Scale readings	
Hold back suspect readings until validated	
Maximum records per Time Series profile message	3360
	Submit





3.1.14 Specify the IP address of the SAP PI server where MDUS will connect to

Home File	<u>e Edit View Reports Tools</u>		
:	Sender Business System ID	ECCCLNT100	
	Recipient Business System ID	ZimeleMDUS	
l I	Utilities Advanced Metering System ID	COJ	
:	SAP PI IP Address	159.138.162.96	
I	Block Incoming messages NOT from this IP		
5	SAP PI TCP/IP Port	50500	
-	Transport (HTTP or HTTPS)	● HTTP	
]	Is Head-End for Server (leave blank if on same box)		
I	HTTP authorisation username	comms_mdms	
	HTTP authorisation password	init12345	
:	Scale readings		
I	Hold back suspect readings until validated		
I	Maximum records per Time Series profile message	3360	
		Submit	





3.1.15 The special port that they opened for you, possible HTTP security parameters

<u>Home File Edit View Reports Tools</u>		
Sender Business System ID	ECCCLNT100	
Recipient Business System ID	ZimeleMDUS	
Utilities Advanced Metering System ID	COJ	
SAP PI IP Address	159.138.162.96	
Block Incoming messages NOT from this IP	<ul> <li>Image: A set of the set of the</li></ul>	
SAP PI TCP/IP Port	50500	
Transport (HTTP or HTTPS)	HTTP	$\bigcirc \rm HTTPS$
Is Head-End for Server (leave blank if on same box)		
HTTP authorisation username	comms_mdms	
HTTP authorisation password	init12345	
Scale readings		
Hold back suspect readings until validated		
Maximum records per Time Series profile message	3360	
Ì	Submit	





# 3.1.16 Leave "Is Head-End for Server" and "Scale Readings blank

<u>Home File Edit View Reports Tools</u>		
Sender Business System ID	ECCCLNT100	
Recipient Business System ID	ZimeleMDUS	
Utilities Advanced Metering System ID	COJ	
SAP PI IP Address	159.138.162.96	
Block Incoming messages NOT from this IP	$\checkmark$	
SAP PI TCP/IP Port	50500	
Transport (HTTP or HTTPS)	HTTP	
Is Head-End for Server (leave blank if on same box)	[	
HTTP authorisation username	comms_mdms	
HTTP authorisation password	init12345	
Scale readings		
Hold back suspect readings until validated		
Maximum records per Time Series profile message	3360	
	Submit	





3.1.17 The "Hold back suspect readings until validated" setting will stop unvalidated readings to go through to SAP if set



## a world class african city

<u>Home File Edit View Reports Tools</u> S <u>Help In</u>	box (0) Quick Search (A Logout zimeletech
Sender Business System ID	ECCCLNT100
Recipient Business System ID	ZimeleMDUS
Utilities Advanced Metering System ID	COJ
SAP PI IP Address	159.138.162.96
Block Incoming messages NOT from this IP	$\checkmark$
SAP PI TCP/IP Port	50500
Fransport (HTTP or HTTPS)	● HTTP ○ HTTPS
[s Head-End for Server (leave blank if on same box)	
HTTP authorisation username	comms_mdms
HTTP authorisation password	init12345
Scale readings	
Hold back suspect readings until validated	
Maximum records per Time Series profile message	3360
	Submit

When you're done updating the parameters, press the Submit button

Submit

to save your changes





3.1.18 When you have the WSDL files, upload them one at a time on the screen below.

				Jobu	rg	-		
la Edit V	View Departs Table		a wor	iu class a	rican ci	CAR MOUS-2-COL - ECCCI NT100	dela Jahar (0) Culat Caracteria Lagaritati	a al ata ala i
Sondor I	Rusiness System ID	ECCCLNT100				SAP MD05.5.COJ , ECCENTIO	Help Inbox (b) _ quick Search (#_ Logout 2	meletecha
Senuer I	Business System ID	ZimoloMDUS						
Recipien	nt business System 1D	ZineidWDU3						
otilities	Advanced Metering System ID	450,400,400,00						
SAP PI I	IP Address	159.138.162.96						
Block In	ncoming messages NOT from this IP	M						
SAP PI 1	TCP/IP Port	50500	ļ					
Transpo	ort (HTTP or HTTPS)	© НТТР ОНТТР	PS					
Is Head	l-End for Server (leave blank if on same box)		ļ					
HTTP au	uthorisation username	comms_mdms						
HTTP au	uthorisation password	init12345						
Scale rea	eadings							
Hold bac	ck suspect readings until validated							
Maximu	im records per Time Series profile message	3360						
		Output in the						
		Submit						
Index	Function Name	Submit		Direction	Err	Service Name Space	Port Name Space	
Index Disabled	Function Name d Service Name	Submit		Direction Port Name	Err File Nai	Service Name Space ne	Port Name Space	
Index Disabled	Function Name d Service Name Change based on Smart Meter Meter Reading D	ocument Cancellation Confi	irmation	Direction Port Name SAP<-MDUS	Err File Nat	Service Name Space ne urn:smartmeters.mdus.meter.reading	Port Name Space	download
Index Disabled 0 N	Function Name d Service Name Change based on Smart Meter Meter Reading D SmartMeterMeterReadingDocumentERPCancella	ocument Cancellation Confi	irmation	Direction Port Name SAP<-MDUS HTTP_Port	Err File Nat Success SmartMe	Service Name Space ne urn:smartmeters.mdus.meter.reading terMeterReadingDocumentERPCancellati	Port Name Space	download delete
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Index Disabled 0 N 1 N	Function Name d Service Name Change based on Smart Meter Meter Reading D SmartMeterNeterReadingDocumentERPCancell SmartMeterMeterReadingDocumentERPBuilkCree	ocument Cancellation Confi tionConfirmation_InService ocument Creation Confirma teConfirmation_InService	irmation tion as Bulk	Direction Port Name SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port	Err File Nat Success SmartMe Success SmartMe	Service Name Space ne um:smartmeters.mdus.meter.reading ter/MeterReadingDocumentERPCancellati um:smartmeters.mdus.meter.reading ter/MeterReadingDocumentERPBulkCreat	Port Name Space [urr:smartmeters.mdus.meter.reading onConfirmation_InService.wsdl [urrismartmeters.mdus.meter.reading eConfirmation_InService.wsdl	download delete download delete
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Index Disabled 0 N 1 N 2 N 33 N	Function Name d Service Name Change based on Smart Meter Meter Reading D SmartMeterMeterReadingDocumentERPCancella Change based on Smart Meter Meter Reading D SmartMeterMeterReadingDocumentERPPBuliCree Change based on Smart Meter Meter Reading D SmartMeterMeterReadingDocumentERPCreatoC Confirm Smart Meter Utilities Connection Status SmartMeterUtilitiesConnectionStatusChangeReq	ocument Cancellation Conf tionConfirmation_InService ocument Creation Confirma teConfirmation_InService coument Creation Confirma onfirmation InService Change Cancellation uestERPCreateConfirmation	irmation ation as Bulk ation _InService	Direction Port Name SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port	Err File Nar Success SmartMe Success SmartMe Success SmartMe Success	Service Name Space ne urn:smartmeters.mdus.meter.reading ter/MeterReadingDocumentERPCancellati urn:smartmeters.mdus.meter.reading ter/MeterReadingDocumentERPDulkCreat urn:smartmeters.mdus.meter.reading ter/MeterReadingDocumentERPCreateCo urn:smartmeters.mdus.device.control ter/UtilitiesConnectionStatusChangeRequ	Port Name Space um:smartmeters.mdus.meter.reading onConfirmation_InService.wsdl Jum:smartmeters.mdus.meter.reading eConfirmation_InService.wsdl Jum:smartmeters.mdus.device.control setERPCreateConfirmation_InService.wsdl	download delete download delete download delete download delete
Index Disablec 0 N 1 2 N 33 N 34	Function Name d Service Name Change based on Smart Meter Meter Reading D SmartMeterMeterReadingDocumentERPCancella Change based on Smart Meter Meter Reading D SmartMeterMeterReadingDocumentERPDuIKCreateCC Confirm Smart Meter Vullities Connection Status SmartMeterVitilitiesConnectionStatusChangeReq Request Utilities Smart Meter Fvent Creation as	ocument Cancellation Confi tionConfirmation_InService ocument Creation Confirma teConfirmation_InService courant Creation Confirma onfirmation_InService Change Cancellation uestERPCreateConfirmation Bulk	irmation tion as Bulk ation _InService	Direction Port Name SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS	Err File Nat Success SmartMe Success SmartMe Success SmartMe Success	Service Name Space ne urn:smartmeters.mdus.meter.reading terMeterReadingDocumentERPCancellati urn:smartmeters.mdus.meter.reading terMeterReadingDocumentERPBuik.read urn:smartmeters.mdus.meter.reading terMeterReadingDocumentERPCreateCo urn:smartmeters.mdus.device.control urn:smartmeters.mdus.device.control urn:smartmeters.mdus.events	Port Name Space um:smartmeters.mdus.meter.reading onConfirmation_InService.wsdl um:smartmeters.mdus.meter.reading um:smartmeters.mdus.meter.reading immismartmeters.mdus.device.control lum:smartmeters.mdus.device.control um:smartmeters.mdus.device.control um:smartmeters.mdus.device.vents	download delete download delete download delete download delete download
Index           Disabler           0           N           1           N           2           N           33           N           34	Function Name	submit bocument Cancellation Confi tionConfirmation_InService ocument Creation Confirm tecConfirmation_InService ocument Creation Confirma- formation_InService Change Cancellation usetERPCreateConfirmation Bulk InService	irmation tion as Bulk ation _InService	Direction Port Name SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS	Err File Nat Success SmartMe Success SmartMe Success SmartMe Success SmartMe Success Success Success Success	Service Name Space ne um:smartmeters.mdus.meter.reading ter/MeterReadingDocumentERPCancellati um:smartmeters.mdus.meter.reading ter/MeterReadingDocumentERPBuik/creat um:smartmeters.mdus.device.control ter/UtiliasConnectionStatusChangeRequ um:smartmeters.mdus.events martMeterEventERPBuik/CreatERequest_	Port Name Space um:smartmeters.mdus.meter.reading onconfirmation_InService.wsdl um:smartmeters.mdus.meter.reading um:smartmeters.mdus.meter.reading infrmation_InService.wsdl um:smartmeters.mdus.device.control setERPCreateConfirmation_InService.wsdl InService.vsdl	download delete download delete download delete download delete download delete
Index           Disablec           0           N           1           N           2           N           33           N           34           N           41	Function Name	submit bocument Cancellation Confi tionConfirmation_InService ocument Creation Confirms teConfirmation_InService ocument Creation Confirmation Buik usetERPCreateConfirmation Buik [JnService < Confirmation	irmation tition as Bulk ation _InService	Direction Port Name SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS	Err File Nai Success SmartMe Success SmartMe Success SmartMe Success SmartMe Success UtilitiesS	Service Name Space ne urn:smartmeters.mdus.meter.reading ter/MeterReadingDocumentERPCancellati urn:smartmeters.mdus.meter.reading ter/MeterReadingDocumentERPDulkGreat urn:smartmeters.mdus.meter.reading urn:smartmeters.mdus.device.control ter/UtilitiesConnectionStatusChangeRequ urn:smartmeters.mdus.cvents martMeterFeventERPBulkCreatRequest_ urn:smartmeters.mdus.master.data	Port Name Space um:smartmeters.mdus.meter.reading onConfirmation_InService.wsdl um:smartmeters.mdus.meter.reading eConfirmation_InService.wsdl um:smartmeters.mdus.device.control setERPCreateConfirmation_InService.wsdl um:smartmeters.mdus.events InService.wsdl um:smartmeters.mdus.events InService.wsdl um:smartmeters.mdus.events	download delete download delete download delete download delete download delete download
Index           Disablec           0           N           1           2           N           33           N           34           N           41           N	Function Name      Gervice Name      Change based on Smart Meter Meter Reading D     SmartMeterMeterReadingDocumentERPCancella     Change based on Smart Meter Meter Reading D     SmartMeterMeterReadingDocumentERPBUIKCreateCC     Confirm Smart Meter Utilities Connection Status     SmartMeterMeterReadingDocumentERPERceateReading     Request UtilitiesSmartMeterFventERPBUIKCreateRequest     UtilitiesSmartMeterFventERPBUIKCreateRequest     UtilitiesSmartMeterReationsBatusChangReq     Request UtilitiesConnectionsStatusChangReq     Request UtilitiesConnectionsStatusChangReq     Request UtilitiesConnectionsStatusChangReq     Request UtilitiesConnectionsStatusChangReq     Request UtilitiesConnectionsBatusChangReq     IutilitiesDeviceERPSmartMeterReplicationBulkCon	submit occument Cancellation Confi tionConfirmation_InService occument Creation Confirma teConfirmation_InService comment Creation Confirmation InService setERPR-reateConfirmation Bulk InService s Confirmation firmation_InService	irmation ation as Bulk ation	Direction Port Name SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS HTTP_Port SAP<-MDUS	Err File Nai Success SmartMe Success SmartMe Success SmartMe Success Utilities Success Utilities Success	Service Name Space ne urn:smartmeters.mdus.meter.reading ter/MeterReadingDocumentERPCancellati urn:smartmeters.mdus.meter.reading ter/MeterReadingDocumentERPBuikCreat ter/MeterReadingDocumentERPCreateCo urn:smartmeters.mdus.meter.reading urn:smartmeters.mdus.device.control urn:smartmeters.mdus.aevents martMeterEVentERPBuikCreateRequest_ urn:smartmeters.mdus.aevents martMeterS.mdus.master.data eviceERPSmartMeterReplicationBuikCon	Port Name Space um:smartmeters.mdus.meter.reading onConfirmation_InService.wsdl um:smartmeters.mdus.meter.reading acconfirmation_InService.wsdl um:smartmeters.mdus.device.control lum:smartmeters.mdus.device.control um:smartmeters.mdus.device.control um:smartmeters.mdus.device.control um:smartmeters.mdus.device.control um:smartmeters.mdus.device.control um:smartmeters.mdus.master.data firmation_InService.wsdl	download delete download delete download delete download delete download delete download delete

- Ask the SAP consultant for all the WSDL files, and load them one per line on the drop list, or
- Ask for the specific ones that your SAP consultant advises you to use
- Press on the choose file button
   Choose File
   and select the WSDL you
   want to configure
- Press the Configure New Function button
- When all of this is done, your SOAP connection is configured.

You can download the original file you uploaded, as well as the changed file that was changed to reflect the IP and port of your PI/PO server. It is the changed file that will be used by MDMS to call the functions. You can also delete a Function.





# HOW to configure MDUS Events

3.2 Log in

Jojourg
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Welcome, Please enter your Login Name and Password below.
Login Name: Password: Login
Note: This site uses Cookies, JavaScript and Popups, and won't function properly without them. If you have them turned off, please turn them on to continue. By logging in to this site you agree to all <u>terms and conditions</u> .
If you have lost your password, click <u>here</u> .



3.2.1 Go to the overview screen (Home)







# 3.3 Select Tools > Setup MDUS Events





	(m)	m la	10	<b>D</b>	<b>T</b> 1 -
Home	File	Edit	View	<u>Reports</u>	lools
					Communication Network
					Acquire Times
					Acquire Inreads
					Server Restart
					System State
					System Stats
					System Stats 2 Sorver Network Meniter
					Logs Monitor
					Translation Manager
					Replace Communication Device
					TCP Bridge
					Tasks
					Web Service Documentation
					Bulk Add Entities from Upload
					Bulk Edit
					Bulk Download
					Bulk Delete
					UnDelete
					Import Fault Log
					Close Fault Log
					Bulk Share
					Setup MDUS
					Setup MDUS events
					Create Virtual MDUS readings
					Report Queue
					Maintain Sets
					Ping IP
					Export Tariffs Bundle





- i) On this screen, enable the events that you want to take to SAP
- ii) You should also specify the SAP TypeCode, SAP CategoryCode and
  - SAP Value ID per event that would make sense



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Home File Edit View Reports Tools

#### SAP MDUS:3:COJ ; ECCCLNT100 Help Inbox (0) Quick Search (A Logout zimeletech.moiponen

#### MDUS event setup

Event	Source	Scope	Enable	SAP TypeCode	SAP CategoryCode	SAP Value Id
Change Time		•			•	
Catastrophic Date (Software)	AMS	Instant		1783	9002	
Change Season	DEVICE	Instant		1009	9002	
Change Time	DEVICE	Start		1008	9002	
Change Time	DEVICE	End		2008	9002	
DST	AMS	Instant		1717	9002	
DST change	AMS	Start		1759	9002	
DST change	AMS	End		2759	9002	
DST season change	DEVICE	Instant		1740	9002	
Error Time base	DEVICE	Instant		1035	9002	
Error Time/date invalid	DEVICE	Instant		1034	9002	
Error Time/date (Software)	AMS	Instant		1656	9002	
Time/date newly set (old val)	DEVICE	Instant		1033	9002	
Time Sync	DEVICE	Start		1014	9002	
Time Sync	DEVICE	End		2014	9002	
Time Sync (Software)	AMS	Instant		1657	9002	
Check Metering						

To know what makes sense for the way that your SAP has been configured, ask your SAP consultants.

An example of a typical WSDL file that should be implemented on your SAP server, for Zimele MDMS to call back, has been posted on a link at the bottom of this page, because that is not part of EHP4, but a customized interface.





# 3.4. How to set up Maximum Demand (MD) Summation

3.4.1 Log in







## 3.4.2 Go to the overview screen (Home)







# 3.4.3 Select Edit > Advanced Meter Settings

<u>Home</u>	<u>File</u>	<u>Edit View Reports Tools</u>	
		Tariff Periods	
		Tariff Rates	
		Tariff Tax Period	
		Tariff Details	
		Login Account	
		Login Notifications	
		Role	
		Role Notifications	
		Role Password Restrictions	
		Role Pages	
		Sharing Permissions	
		Organization	
		Meter Details	
		Advanced Meter Settings	
		Meter Event Setup	
		Insert User Event	
		TOU Billing Register Values	
		Seals	
		Real Time OBIS codes	
		Passive Etherpad	
		Generic Active GPRS Modem	
		APN Modem	
		Physical Location	
		Meter Account PCP Baseline	
		Instr. Profile Labels	
		Instr. Profile Alarm Limits	
		Elster Multidrop	
		STS Smart Prepaid Meter	
		Toolbar	





x

3.4.4 Tick on the select from list and then press the Open button

# Page Require Some Information

This page requires another type of entity

- Automatically Select Closest 63020321 (63020321)
- Select from list

Open Open In New Window Cancel





# 3.4.5 Select Meter number 13106616 and then press select button Select

# **Browse Meters Admin**

Page 1/762 back next Page 1 Go * Search	
EC1 MQTT Meter: 171128245 ; Harrison Street ; Marshalltown ; 17 (171128245)	
EC1 MQTT Meter: 23067893 ; Harrison Street ; Marshalltown ; 17 (23067893)	
EC1 MQTT Meter: New Auto Added (110010043)	
EC1 MQTT Meter: New Auto Added (13022636)	
EC1 MQTT Meter: New Auto Added (171063933)	
EC1 MQTT Meter: New Auto Added (23014952)	
EC1 MQTT Meter: New Auto Added (23144989)	
EC1 MQTT Meter: New Auto Added (C-ARA0784)	
EC1 MQTT Meter: New Auto Added (C-RRL5999)	
EDMI Mk6 Genius: ASHTON HOUSE ; 39 ASHFORD ROAD ASHFORD ROAD 39 ; PARK WOOD ; Hursthill (207739039)	
EDMI Mk6 Genius: ATC SOUTH AFRICA; 66 STIEMENS STREET Created new Device location; JOHANNESBURG; Siemert (207745586)	
EDMI Mk6 Genius: ATC SOUTH AFRICA WIRELESS INFRASTRUCTURE ; 66 STIEMENS STREET Created new Device location ; JOHANNESBU	
EDMI Mk6 Genius: ATC South Africa Wireless Inftrustructur ; 259 SIXTEENTH ROAD SIXTEENTH ROAD 00259 ; RANDJESPARK EXT.18 ; Midran	1
EDMI Mk6 Genius: BODY CORPORATE ALOE HOUSE ; 99 PROGRESS ROAD PROGRESS ROAD 99 ; LINDHAVEN ; Hursthill (207739182)	
EDMI Mk6 Genius: CITY OF JOHANNESBURG ; 0 RANDFONTEIN ROAD RANDFONTEIN ROAD 0 ; ROODEPOORT ; Roodepoort (207742010)	
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG (207701637)	
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG ; JOHANNESBURG (207700289)	
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG ; JOHANNESBURG (207700302)	
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG ; JOHANNESBURG (207700392)	
EDMI Mk6 Genius: CITY POWER ; JOHANNESBURG ; JOHANNESBURG ; JOHANNESBURG (207701014)	▼

Close Select





Meter Time Zone: Africa/Johannesburg ~ Error Threshold: 0 retries before we stop trying (0 will disable the feature) ignore connect errors: 🗹 don't count connect errors, only communication and database errors Error Degradation: 100 Try to read less often if the meter read fails this many times (0 will disable the feature) current error streak: 0 □ reset error count Register Calendars: 150000003 City Power 150000000 CoJ Calendar 150000001 CoJ Calendar 1 150000002 Joburg Water Remove Unselected
 Clear Billing Registers for Selected Decimals of Total on Bill -1 Digits of Total on Bill -1 Reclock At (kWh) 0.0 Reclock At (kVARh) 0.0 Spike Alarm - log event when exceeded flow during Reading of Profile: 19999999999999999 kW kWh Power Factor Below Limit - log event when pf below 0.0 during Reading of Profile, if energy exceed : 9999999999999999 kW Meter Bypass Alarm - log event when consumption Zero for a preceding interval: 0 minutes / custom (0 to disable) Leak Alarm - log event when consumption above 0.0kW for every profile period in entire preceding interval: 0 minutes / custom (0 to disable) Burst Alarm - log event when consumption above 0.0 kW for every profile period in entire preceding interval: 0 minutes / custom (0 to disable) Upper Limit Voltage Threshold: (blank for default) Lower Limit Audit Threshold - do not do audits on values under: 10.0 kWh □ Suppress Server generated Reverse Energy events Automatic Meter Time Sync with Server: On (up to 20 min) 
Off O Once (20+ min) O SAP co-incident MD id: connect/disconnect status: normal ~ Submit

Near the bottom of the screen is a field called "SAP co-incident MD ID".

If you enter a value in here, all meters with the same value entered will return

their pro-rata part of a summated MD across all the meters.





# 4 MODULE 4: COURSE 161 ENGINEER ROLE: MDMS TROUBLESHOOTING

Prerequisite

- Course 160
- Experience with SAP (<u>https://go.sap.com/</u>)
- Experience with AMR

# 4.1

# Helps you with:

- Knowing how to analyze the SOAP logs
- Knowing how to analyze the Meter Read Requests
- Understanding and troubleshooting the Meter Model as mirrored from SAP to MDMS
- Understand when Meter Reading Requests are honored

# 4.2

# Once you are done with this Course, you should be able to:

- Check why a meter reading is not updating to SAP
- Check if a Meter definition exists properly on MDMS
- Check if a Meter multiplier and data is consistent
- Resend a Meter Reading to SAP
- Resend SAP Message to MDMS
- Create Virtual MDMS reading





# 4.3 HOW to analyze SOAP logs

# 4.3.1 General SOAP mode

All SOAP between SAP and MDUS, in both directions, is in the form of Messages that are sent. There are no RPC kind of SOAP, where the same SOAP message waits for a reply from the implemented function on the server. This makes the SOAP a lot more robust. The SOAP messages can be envisaged as a single XML structure, which is essentially a single nested structure of values.

# 4.4

How to choose message logs to view

Log in







a world class african city Welcome, Please enter your Login Name and Password below.

Login Name:	
Password:	
Login	

Note: This site uses Cookies, JavaScript and Popups, and won't function properly without them. If you have them turned off, please turn them on to continue. By logging in to this site you agree to all terms and conditions.

If you have lost your password, click here.



Go to the Overview Screen (Home)









a world class african city

Help Inbox (0) Quick Search (A Logout zimeletech.moiponem

#### **Overview**

Home File Edit View Reports Tools

You are logged on to your account on PNPSCADA server Cojz01mds. You have <u>4 TOU Calendars</u> on your account. You have <u>15115 Passive Etherpads</u> on your account. You have <u>1 Meter Account</u> on your account. You have <u>1 Server Configurator</u> on your account. You have <u>2 Modems</u> on your account. You have <u>1 Server Configurator</u> on your account. You have <u>4 Servers</u> on your account. You have <u>3 SIM cards</u> on your account. You have <u>1 Tariff</u> on your account. You have <u>1 Super Admin entities</u> on your account.

Add New

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Open

## Select View > MDUS log

Home File Edit View Reports Tools			I	tron ACE6000:63020321:63020321 Help
Quick Profile Graphs Prepaid Consumption Bill	•	Overview		
Meter Account Report		Dependencies	Selected Entity	Derived Entities
Meter Portion		Calendars	Meters	Servers
Phasor Granks	_	TOU Calendar	Itron ACE6000	SAP MDUS
Meter Graph		ID:15000000	Serial Number:63020321	ID:3
Server Firmware Update Log		Name: CoJ Calendar	Name: 63020321	Name: COJ ; ECCCLNT100
View Location			unselect entity	
Bulk Notification Real Time Map		Etherpads	remove entity	
Map		Passive Etherpad		
Instrumentation Profile		IP:PORT: 10.18.2.229:703		
Meter Info		Name: 63020320		
Meter Event Log				
Bulk Event Report		You are logged on to your ac	count on PNPSCADA server Co	jz01mds.
Meter Total Report		You have 4 TOU Calendars o	n your account.	
Profile Summary Graphs		You have 15115 Passive Ethe	erpads on your account.	
Hit Log		You have <u>1 Meter Account</u> or	n your account.	
Meter Realtime Values		You have <u>15224 Meters</u> on years	our account.	
Channels Used		You have 2 Modems on your	account.	
Channels Not Used		You have <u>1 Server Configuration</u>	<u>tor</u> on your account.	
MDUS log		You have <u>6 Servers</u> on your a	account.	
MDUS reading docs		You have <u>3 SIM cards on you</u>	ır account.	
Meter Registers		You have <u>1 Tariff</u> on your acc	count.	
Meter Read Logs		You have 16 User Admin ent	<u>ities on your account.</u>	
IEC Readout				
Billing Tariff Summary Report		Add New		
Modem Report				

Tick on the select from list and then press the Open button



ZIMELE			Jojourg
		2	a world class African cit
	]C a world o	burg	
Home File Edit View F	Reports Tools SAP	Help Inbox (0) Quick Search (A Logout zime	letech
	MDUS Log Re	eport	
	Selection Screen		
	Field Name	Field Value	
	Start Date & Time	2025-02-18 14:31:01.026	
	EndDate & Time	2025-02-20 14:31:01.026	
	MDUS Msg ID**		
	UUID*		
	ReferenceUUID*		
	Function**		
	Detail**		
	Result Message**		
	Only Show Errors		
	Do not list Double UU	IDs 🗆	
		*Optional	
		**Optional, may specify wildcards	
	Submit		

city

The above screen dump shows a Selection Screen, where you can choose which messages to see by using the following:

- The Start and End Date & Time is self-explanatory and should be entered in the SQL format YYYY-MM-DD hh:mm:ss
- The MDMS Msg ID is a number unique per message per Zimele MDMS server over all MDMS entities on that server. A comma separated list may be specified.
- The UUID is essentially a GUID (unique in the universe) assigned in SAP per message
- The Reference UUID is typically set for messages that is sent as a Reply ٠ or an Acknowledgement on another message. It would then contain the UUID of the original message

ZIMELE





- The Function is the specific function called by SAP or MDMS easiest
  way to know what to select here is to first select a lot of messages and
  then take the specific one you want from the column in the report. This
  loosely corresponds to the drop list of functions in the MDMS Edit screen
- Detail is the value of any field in the message. If any of the values match this value, the message would be selected


 Result Message is whether it was successful or whether there was some error. The easiest is also to run the report first for all values, and then specify the value as seen in the appropriate column for the specific kind of row required

Jobur

- Double UUIDs can happen, for example in cases where you retry the same message from SAP to MDMS. If you want to avoid showing the same retried message twice or more times, you should check 'Do not list Double UUIDs'
- When you have entered which messages you want to see, press the
   Submit button Submit...
   to see the report
- This is the log of all XML messages sent between SAP and MDMS
- SAP will for instance send messages to 'create' meters, and to 'create' registers to read, and to create meter reading requests
- MDMS will for instance send messages back to send readings for previous meter reading requests that was created from SAP

### 4.5





#### **MDMS Log Report view**

Here is shown the messages that was sent and received, one line per message, with various general fields.

You can resent ALL the messages listed to MDMS as though it was just sent from SAP, by clicking the link at the bottom of the report. Of course, that would only apply to messages where the DIRECTION column's value is 'SAP->MDMS'

This can sometimes be handy if Meter Entities was not properly created, or meter register formats not properly created, or meter readings not properly created, for some reason. However, it should not be necessary under normal

#### MDUS Log Report

From: 2025-01-18 14:36:09.882 to 2025-02-20 14:36:09.882									
MSGI	MDUSID	DIRECTION	LOG TIME	UUID	REFERENCE UUID	CreationDateTime Source IP	Dest IP	Function	
1675	3	SAP->MDUS	2025-01-28 08:43:41.358	81bacc3a-b9f5-1eef-b7a8-65f3bae60521	null	2025-01-28 08:43:30 159.138.162.96	localhost	SmartMeterMeterReadingDocur	
1676	3	SAP->MDUS	2025-01-28 08:43:41.472	81bacc3a-b9f5-1eef-b7a8-65f3bae62521	null	2025-01-28 08:43:30 159.138.162.96	localhost	SmartMeterMeterReadingDocur	
1677	3	SAP<-MDUS	2025-01-28 08:43:41.529	e7ba2bd4-d045-429e-ab37-be8b6878a292	81bacc3a-b9f5-1eef-b7a8-65f3bae62521	2025-01-28 08:43:41 localhost	159.138.162.96	SmartMeterMeterReadingDocur	
1678	3	SAP->MDUS	2025-01-28 08:43:41.554	81bacc3a-b9f5-1eef-b7a8-65f3bae64521	null	2025-01-28 08:43:30 159.138.162.96	localhost	SmartMeterMeterReadingDocur	
1679	3	SAP<-MDUS	2025-01-28 08:43:41.607	3b8a0d63-d344-4288-8284-717602747686	81bacc3a-b9f5-1eef-b7a8-65f3bae64521	2025-01-28 08:43:41 localhost	159.138.162.96	SmartMeterMeterReadingDocur	
1680	3	SAP<-MDUS	2025-01-28 08:43:41.645	8d422972-4b19-4876-987a-a77ba2b694a0	81bacc3a-b9f5-1eef-b7a8-65f3bae60521	2025-01-28 08:43:41 localhost	159.138.162.96	SmartMeterMeterReadingDocur	
1681	3	SAP<-MDUS	2025-01-28 08:43:52.223	5cbb8938-18fa-48bb-a9dc-c6622daf821a	null	2025-01-28 08:43:52 localhost	159.138.162.96	MeterReadingDocumentERPRes	
1682	3	SAP->MDUS	2025-01-28 08:43:54.935	81bacc3a-b9f5-1eef-b7a8-66fa2ede4533	5cbb8938-18fa-48bb-a9dc-c6622daf821a	2025-01-28 08:43:44 159.138.162.96	localhost	MeterReadingDocumentERPRes	
1683	3	SAP->MDUS	2025-01-28 08:44:45.692	81bacc3a-b9f5-1eef-b7a8-6ac64a868536	null	2025-01-28 08:44:35 159.138.162.96	localhost	SmartMeterMeterReadingDocur	
1684	3	SAP->MDUS	2025-01-28 08:44:45.738	81bacc3a-b9f5-1eef-b7a8-6ac64a86a536	null	2025-01-28 08:44:35 159.138.162.96	localhost	SmartMeterMeterReadingDocur	
1685	3	SAP<-MDUS	2025-01-28 08:44:45.787	e4605a7e-535f-4505-bb96-80bbd8c932cd	81bacc3a-b9f5-1eef-b7a8-6ac64a86a536	2025-01-28 08:44:45 localhost	159.138.162.96	SmartMeterMeterReadingDocur	
1686	3	SAP->MDUS	2025-01-28 08:44:45.817	81bacc3a-b9f5-1eef-b7a8-6ac64a86c536	null	2025-01-28 08:44:35 159.138.162.96	localhost	SmartMeterMeterReadingDocur	
1687	3	SAP<-MDUS	2025-01-28 08:44:45.871	0653a44a-4261-4c63-960e-d71db899fdd3	81bacc3a-b9f5-1eef-b7a8-6ac64a86c536	2025-01-28 08:44:45 localhost	159.138.162.96	SmartMeterMeterReadingDocur	
1688	3	SAP<-MDUS	2025-01-28 08:44:45.901	3a1ddd59-a9b9-4743-821e-3574ea804543	81bacc3a-b9f5-1eef-b7a8-6ac64a868536	2025-01-28 08:44:45 localhost	159.138.162.96	SmartMeterMeterReadingDocur	
1689	3	SAP<-MDUS	2025-01-28 08:44:56.165	a1b1bad8-997d-41d8-b2b9-7dc1db6179af	null	2025-01-28 08:44:56 localhost	159.138.162.96	MeterReadingDocumentERPRes	
1690	3	SAP<-MDUS	2025-01-28 08:44:56.365	e55c4c61-b27b-4262-9c39-f9a14e492fbf	null	2025-01-28 08:44:56 localhost	159.138.162.96	MeterReadingDocumentERPRes	
1691	3	SAP->MDUS	2025-01-28 08:44:56.716	81bacc3a-b9f5-1eef-b7a8-6b9701d7a538	a1b1bad8-997d-41d8-b2b9-7dc1db6179af	2025-01-28 08:44:46 159.138.162.96	localhost	MeterReadingDocumentERPRes	
1692	3	SAP->MDUS	2025-01-28 08:44:56.914	81bacc3a-b9f5-1eef-b7a8-6b9701da4538	e55c4c61-b27b-4262-9c39-f9a14e492fbf	2025-01-28 08:44:46 159.138.162.96	localhost	MeterReadingDocumentERPRes	
1693	3	SAP->MDUS	2025-01-28 08:47:18.599	81bacc3a-b9f5-1eef-b7a8-761841cb8543	null	2025-01-28 08:47:07 159.138.162.96	localhost	SmartMeterMeterReadingDocur	
1694	3	SAP<-MDUS	2025-01-28 08:47:18.648	50b3e2e6-3dcf-4d8b-8bf7-8abd2ae71241	81bacc3a-b9f5-1eef-b7a8-761841cb8543	2025-01-28 08:47:18 localhost	159.138.162.96	SmartMeterMeterReadingDocur	
1695	3	SAP->MDUS	2025-01-28 08:47:18.685	81bacc3a-b9f5-1eef-b7a8-762c9359c546	null	2025-01-28 08:47:08 159.138.162.96	localhost	SmartMeterMeterReadingDocur	
1696	3	SAP->MDUS	2025-01-28 08:47:18.695	81bacc3a-b9f5-1eef-b7a8-762c935a6546	null	2025-01-28 08:47:08 159.138.162.96	localhost	SmartMeterMeterReadingDocur	
1697	3	SAP<-MDUS	2025-01-28 08:47:18.706	705eb552-3f14-411f-a307-ce1aa71e867e	81bacc3a-b9f5-1eef-b7a8-762c9359c546	2025-01-28 08:47:18 localhost	159.138.162.96	SmartMeterMeterReadingDocur	
1698	3	SAP<-MDUS	2025-01-28 08:47:18.714	ccc051ff-95b7-4ace-be87-febd9694c926	81bacc3a-b9f5-1eef-b7a8-762c935a6546	2025-01-28 08:47:18 localhost	159.138.162.96	SmartMeterMeterReadingDocur	
1699	3	SAP->MDUS	2025-01-28 08:47:31.51	81bacc3a-b9f5-1eef-b7a8-77224d0c8548	null	2025-01-28 08:47:20 159.138.162.96	localhost	SmartMeterMeterReadingDocur	
1700	3	SAP->MDUS	2025-01-28 08:47:31.576	81bacc3a-b9f5-1eef-b7a8-77224d0ca548	null	2025-01-28 08:47:20 159.138.162.96	localhost	SmartMeterMeterReadingDocur	
1701	3	SAP<-MDUS	2025-01-28 08:47:31.636	6430d4cc-579d-4e31-a650-0850eaa76489	81bacc3a-b9f5-1eef-b7a8-77224d0ca548	2025-01-28 08:47:31 localhost	159.138.162.96	SmartMeterMeterReadingDocur	
1702	2		2025 01 20 00:47:21 675	01bacs2a b0fE 1oof b7a9 77334d0ccE49	null	2025 01 29 09:47:20 150 129 162 06	localbact	CmartMotorMotorDoadingDogur	

circumstances.



#### **MDMS Log Detail view**

You can view message details by clicking the value under the UUID column heading.

Here is shown all the Detail fields of the XML message, with the nested field name, and the value that was specified. You can click the 'resend to myself' link to re-submit the message to MDMS as though it was just sent from SAP.

SmartMeterMe	terReadin	IgDocum	entERPB	BulkCrea	teReques	stOutImpl

field index	field name	value
5	.messageHeader.uuid.value	81bacc3a-b9f5-1e b7ac-84bb47894c
10	.messageHeader.creationDateTime	2025-01-28 10:39:
13	.messageHeader.senderBusinessSystemID	ECCCLNT100
23	.smartMeterMeterReadingDocumentERPCreateRequestMessage.0.messageHeader.uuid.value	81bacc3a-b9f5-1e b7ac-84bb47896c
28	smartMeterMeterReadingDocumentERPCreateRequestMessage.0.messageHeader.creationDateTime	2025-01-28 10:39:
31	smartMeterMeterReadingDocumentERPCreateRequestMessage.0.messageHeader.senderBusinessSystemID	ECCCLNT100
38	smartMeterMeterReadingDocumentERPCreateRequestMessage.0.meterReadingDocument.id.value	100426110
40	smartMeterMeterReadingDocumentERPCreateRequestMessage.0.meterReadingDocument.meterReadingReasonCode	1
41	smartMeterMeterReadingDocumentERPCreateRequestMessage.0.meterReadingDocument.scheduledMeterReadingDate	2025-01-15
42	smartMeterMeterReadingDocumentERPCreateRequestMessage.0.meterReadingDocument.utilitiesAdvancedMeteringDataSourceTypeCode	0
45	smartMeterMeterReadingDocumentERPCreateRequestMessage.0.meterReadingDocument.utiltiesMeasurementTask.utilitiesMeasurementTaskID.value	00000000000232
48	smartMeterMeterReadingDocumentERPCreateRequestMessage.0.meterReadingDocument.utiltiesMeasurementTask.utilitiesObjectIdentificationSystemCodeText	MAX DEM KVA
51	smartMeterMeterReadingDocumentERPCreateRequestMessage.0.meterReadingDocument.utiltiesMeasurementTask.utiltiesDevice.utilitiesDeviceID.value	10031914
56	smartMeterMeterReadingDocumentERPCreateRequestMessage.0.meterReadingDocument.utiltiesMeasurementTask.utiltiesDevice.smartMeter.utilitiesAdvancedMeteringSystemID.value	COJ
64	.smartMeterMeterReadingDocumentERPCreateRequestMessage.1.messageHeader.uuid.value	81bacc3a-b9f5-1e b7ac-84bb47898c
69	smartMeterMeterReadingDocumentERPCreateRequestMessage.1.messageHeader.creationDateTime	2025-01-28 10:39:
72	smartMeterMeterReadingDocumentERPCreateRequestMessage.1.messageHeader.senderBusinessSystemID	ECCCLNT100
79	smartMeterMeterReadingDocumentERPCreateRequestMessage.1.meterReadingDocument.id.value	100426111
81	.smartMeterMeterReadingDocumentERPCreateRequestMessage.1.meterReadingDocument.meterReadingReasonCode	1
82	smartMeterMeterReadingDocumentERPCreateRequestMessage.1.meterReadingDocument.scheduledMeterReadingDate	2025-01-15
83	smartMeterMeterReadingDocumentERPCreateRequestMessage.1.meterReadingDocument.utilitiesAdvancedMeteringDataSourceTypeCode	0
86	smartMeterMeterReadingDocumentERPCreateRequestMessage.1.meterReadingDocument.utiltiesMeasurementTask.utilitiesMeasurementTaskID.value	0000000000232
20	martHatathatarDaadianDaaumantEDDCraataDaguactMasaaga 1 matarDaadinaDaaumant utiliaaMaasuramantTaek utilitiaaDhiaathdantifiaatianQuetamCadaTayt	TOTAL DOG KINU





# 4.2 How to analyze Meter Read Requests

#### 4.2.1 General Read Method

When SAP wants to read a meter register, it creates a Meter Reading document through one or more messages, which are recorded in a Meter Readings table in MDMS. Typically, there would be multiple registers read per meter per date. Each one is a separate Meter Reading Document. When a meter is read in, MDMS will check against the existing but outstanding Meter Reading Documents to see if there is any that can be honoured, and if there is, it will send Messages of its own to SAP to report the register reading.

4.2.2 How to choose readings to view

Log in





Go to the Overview Screen (Home)

Welcome, Please enter your Login Name and Password b Login Name: Password: Login Note: This site uses Cookies, JavaScript and Popups, and won't function proper have them turned off, please turn them on to continue. By logging in to this site you agree to all terms and conditions. If you have lost your password, click here.	
Login Name: Password: Login Password: Login Note: This site uses Cookies, JavaScript and Popups, and won't function proper have them turned off, please turn them on to continue. By logging in to this site you agree to all terms and conditions. If you have lost your password, click here.	elow.
By logging in to this site you agree to all <u>terms and conditions</u> . If you have lost your password, click <u>here</u> .	ly without them. If you
If you have lost your password, click <u>here</u> .	
	Sto,000 Warranty
PNPSCADA 4.250205222144 Cojz01mds (Public IP:129.232.193.98) ©2021 SDG Technologies cc. All rights strictly reserved.	Please review our <u>Terms and Conditions</u> .







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Help Inbox (0) Quick Search (A Logout zimeletech.moiponem

#### **Overview**

Home File Edit View Reports Tools

You are logged on to your account on PNPSCADA server Cojz01mds. You have <u>4 TOU Calendars on your account</u>. You have <u>15115 Passive Etherpads</u> on your account. You have <u>1 Meter Account</u> on your account. You have <u>15224 Meters</u> on your account. You have <u>2 Modems</u> on your account. You have <u>2 Modems</u> on your account. You have <u>1 Server Configurator</u> on your account. You have <u>4 Servers</u> on your account. You have <u>3 SIM cards</u> on your account. You have <u>1 Tariff</u> on your account. You have <u>15 User Admin entities</u> on your account.

Add New

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## Select View > MDUS reading docs

Lines - File Fale	Minus Devente Tele						
Home File Edit	View Reports Tools						
	Meter Account Report	<b>A</b>					
	Descer Craphs	-					
	Meter Granh						
	Server Eirmware Undate Log	-					
	View Location	-					
	Bulk Notification Real Time Map						
	Мар						
	Instrumentation Profile						
	Meter Info						
	Meter Event Log						
	Bulk Event Report						
	Meter Total Report						
	Profile Summary Graphs						
	Hit Log						
	Meter Realtime Values	-					
	Channels Used						
		-					
	MDUS log MDUS reading docs						
	Meter Registers						
	Meter Read Logs						
	IEC Readout	-					
	Billing Tariff Summary Report	-					
	Modem Report	-					
	View Tariffs and Calendars						
	Download Calendar CSV						
	Meter Totals	- U					
• On the d	rop-down list press on the open butto	Open					
	Jojourg						
Home File Edit View Reports Tools		Help Inbox (0) Quick Search (A Logout zimeletech.moiponem					
	Overview						
	Page Require Some Information ×						
	This page requires another type of entity						
	Automatically Select Closest COJ ; ECCCLNT100 (3)     Select from list						
	SCIECT IT OFFICE						

Open Open In New Window Cancel

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- All the interfaces that MDMS can call back into SAP are displayed
- Select SAP MDUS: COJ and press Select button
   Select

Browse MDUSses	
Page 1/1 back next     Page 1     Go     *     Search       SAP MDUS: COJ ; ECCCLNT100 (3)       SAP MDUS: PNP01 ; SP1 (4)       SAP MDUS: PNP01 ; SP1 (5)       SAP MDUS: ZAMI ; S4HANA (1)	

Close Select





This is a Selection Screen, where you can choose which reading documents to see:

- The Start and End Date & Time is self-explanatory and should be entered in the SQL format YYYY-MM-DD hh:mm:ss
- The Meter Serial Number is the number of the meter, or the SAP device ID, of the meter read
- The Reading Document Number is the unique number assigned by SAP to a meter reading doc.
- The checkboxes are self-explanatory
- When you have entered which messages you want to see, press the Submit button to see the report
- There is also a link at the bottom of the selection screen, to download a spreadsheet of all the defined MDMS meters, with their SAP device ID's.

Home File Edit View Reports Tools S... Help Inbox (0) Quick Search (A Logout zimeletech.moiponem

### **MDUS Meter Reading Document Report**

#### Selection Screen

Field Name	Field Value
Start Date & Time*	
EndDate & Time*	
Meter Serial Number*	
Reading Document Number*	
SAP Register*	
Show Only Outstanding Readings	$\checkmark$
Show Only where meter does not exist on PNPSCADA	
Show Only where meter registers do not exist on MDUS	
Show Only where update retries has been exhausted with no acknowledgement	
Do not show virtual readings (as added in MDUS)	
Do not show real readings (as added by SAP)	
	*Optional

\*\*Optional, may specify wildcards

Submit... Download MDUS meters as CSV Download MDUS meters as CSV duplicates removed Download meters NOT on this MDUS as CSV





#### Meter reading document report

This is a table view, with one row per Meter Reading Document, of all the readings that SAP has requested that satisfies the Selection Criteria.

When a value is read, the SAP Value column gets filled in, and the Date Fulfilled column. SAP is then supposed to Acknowledge receipt of this reading. If MDMS has tried 5 times to send a value, it will give up. If you want MDMS to try again, select 'rollback update'.

SAP MDUS:3:COJ ; ECCCLNT100 Help Inbox (0) Quick Search (A Logout zimeletech.

Search:

MDUS Meter Reading Document Report

From: 2024-01-18 14:36:09.882 to 2025-02-18 14:36:09.882 Reporting Only Outstanding Readings

Home File Edit View Reports Tools

READING DOCUMEN	METER SERIAL SAP NUMBER DEVICE SAP REGISTER	REGISTER CODE	SAP Status	CREATED	DATE ASKED FO	R DATE FULFILLE	DATE DACKED	SAP DATA VALUE SOURCE	RETRY	VIRTUAL	ADD REMOV MSG MSG	EUPDATE, MSG
100426128	63021320 10031842 STANDARD	00000000000232951	1	2025-01-28 15:50:16.45315	92024-11-29 00:00	:00 null	null	null0	0	N	1787 none	none
100426127	63021320 10031842 OFF-PEAK	00000000000232950	1	2025-01-28 15:50:16.35981	82024-11-29 00:00	:00 null	null	null0	0	N	1785 none	none
100426123	63021320 10031842 STANDARD	00000000000232951	1	2025-01-28 15:49:37.04257	6 2025-01-25 00:00	:00 null	null	null0	0	N	1767 none	none
100426122	63021320 10031842 OFF-PEAK	00000000000232950	1	2025-01-28 15:49:36.92130	72025-01-25 00:00	:00 null	null	null0	0	N	1765 none	none
100426118	63021320 10031842 STANDARD	00000000000232951	1	2025-01-28 15:49:08.33209	82024-12-25 00:00	:00 null	null	null0	0	N	1749 none	none
100426117	63021320 10031842 OFF-PEAK	00000000000232950	1	2025-01-28 15:49:08.25231	5 2024-12-25 00:00	:00 null	null	null0	0	N	1747 none	none
100425982	63020791 10031851 OFF-PEAK	00000000000232956	51	2024-12-13 10:59:38.79781	9 2024-12-13 00:00	:00 null	null	null0	0	N	1658 none	none
100425981	63020791 10031851 STANDARD	00000000000232955	1	2024-12-13 10:59:38.62256	2024-12-13 00:00	:00 null	null	null0	0	N	1656 none	none
100425498	63021320 10031842 STANDARD	00000000000232951	9	2024-12-04 14:21:55.62477	42024-11-30 00:00	:00 null	null	null0	0	N	1270 none	none
100425497	63021320 10031842 OFF-PEAK	0000000000232950	9	2024-12-04 14:21:55.57613	2024-11-30 00:00	:00 null	null	null0	0	N	1268 none	none
100425493	63021320 10031842 STANDARD	00000000000232951	9	2024-12-04 14:21:46.88696	12024-11-11 00:00	:00 null	null	null0	0	N	1246 none	none
100425492	63021320 10031842 OFF-PEAK	00000000000232950	9	2024-12-04 14:21:46.83989	8 2024-11-11 00:00	:00 null	null	null0	0	N	1244 none	none
100425488	63021320 10031842 STANDARD	00000000000232951	9	2024-12-04 14:21:36.63683	8 2024-12-01 00:00	:00 null	null	null0	0	N	1234 none	none
100425487	63021320 10031842 OFF-PEAK	00000000000232950	9	2024-12-04 14:21:36.56871	92024-12-01 00:00	:00 null	null	null0	0	N	1232 none	none
100425483	63020791 10031851 OFF-PEAK	00000000000232956	9	2024-12-04 14:16:09.06263	3 2024-12-03 00:00	:00 null	null	null0	0	N	1212 none	none
100425482	63020791 10031851 STANDARD	00000000000232955	9	2024-12-04 14:16:08.99432	7 2024-12-03 00:00	:00 null	null	null0	0	N	1210 none	none
100425479	63020791 10031851 OFF-PEAK	00000000000232956	9	2024-12-04 14:09:42.98786	3 2024-11-29 00:00	:00 null	null	null0	0	N	1196 none	none
100425478	63020791 10031851 STANDARD	00000000000232955	9	2024-12-04 14:09:42.88486	42024-11-29 00:00	:00 null	null	null0	0	N	1194 none	none
100425078	63031936 10031845 0000000000023292	3 00000000000232923	1	2024-11-28 15:17:59.33334	8 2024-11-08 00:00	:00 null	null	null0	0	N	190 none	none
100425077	63031936 10031845 0000000000023292	2 00000000000232922	1	2024-11-28 15:17:59.24989	7 2024-11-08 00:00	:00 null	null	null0	0	N	188 none	none
100425076	63031936 10031845 0000000000023292	1 00000000000232921	1	2024-11-28 15:17:59.17762	92024-11-08 00:00	:00 null	null	null0	0	N	186 none	none
100425075	63031936 10031845 0000000000023292	0 000000000000232920	1	2024-11-28 15:17:59.09861	2024-11-08 00:00	:00 null	null	null0	0	N	184 none	none
100425074	63031936 10031845 00000000000232919	900000000000232919	1	2024-11-28 15:17:59.03491	3 2024-11-08 00:00	:00 null	null	null0	0	N	182 none	none
100425073	63031936 10031845 0000000000023292	3 00000000000232923	1	2024-11-28 15:17:33.76217	6 2024-11-01 00:00	:00 null	null	null0	0	Ν	178 none	none
100425072	63031936 10031845 0000000000023292	2 00000000000232922	1	2024-11-28 15:17:33.66760	2 2024-11-01 00:00	:00 null	null	null0	0	N	176 none	none
100425071	63031936 10031845 0000000000023292	1 00000000000232921	1	2024-11-28 15:17:33.47989	42024-11-01 00:00	:00 null	null	null0	0	N	174 none	none
100105030					70004 11 01 00.00	00 11			•		170	





# 4.6 How to see why Meter Readings are not updating

#### Did SAP ask for the reading from MDMS?

Sometimes it happens that a meter has not been correctly configured as an AMI meter in SAP, and SAP doesn't even ask MDMS for a reading. Therefore, go to the Meter Reading doc report and search for the Meter Reading document number as it exists in SAP. If you do not find it, MDMS doesn't know about it, and the meter has probably been created as a non-AMI meter. This is why your readings are not automatically updated. You can also search for the Meter Reading document number in the MDMS log as a Detail value field. It is possible that MDMS for some reason did not mark the reading, so if you find it in the log but not the reading docs, you can try to resend the message to MDMS.

However, if you also can't find it in the log, and the SAP consultants swear the readings were created ok, perhaps the PI guys can resend the messages? MDMS cannot fabricate the reading documents from scratch, it needs the messages to be sent from SAP, and if it has no record of them, they need to be resent.

# Did SAP 'create' the MDMS meter record (associating the SAP device ID with the actual entity on Zimele MDMS)?

When you download the spreadsheet on the Meter Reading docs selection screen, the Meter will not be listed there if SAP did not create the Smart meter record in MDMS by sending it the appropriate messages. If you download the csv and it is not there, this is why your readings are not updating.





#### Did SAP create the appropriate Registers on the MDMS meter record?

If the row in the csv downloaded in step 2 has a 0 in the last column, no registers has been defined by SAP for this meter. That is why the readings are not updated.

If, on the Meter Reading Document report, the SAP Register column is a long number with a lot of zeroes in front, instead of an intelligible register description, SAP has not defined the same registers for this meter than it has asked for in the reading document. That is why the readings are not updated. (The long number is the unique register ID in SAP, and for resolvable registers, you can see the long number as a tool tip if you hover your pointer over the register descriptor)

If the appropriate registers do not exist, MDMS cannot fabricate them. Those messages that creates the registers needs to be resent to MDMS.

#### Does the meter entity exist on MDMS?

Try to select the meter entity in the Overview screen. Sometimes, a 13-digit number would map to an 8-digit number, e.g. 3201550644737 is the same meter as 55064473. If you can't find the meter, it has not been created in Zimele MDMS yet (typically done by the Technician), and that is why you're not getting a reading.

If you do find it, has the meter been read in?

If you do find it, but it is red in Overview when you select it, the meter has never called in. That is why you're not getting a reading.

Go to the Edit -> Meter Details of the meter. If the MAXDATE (last read up to date) of the meter is less than the 'Date asked for' on the meter reading doc report, the reading does not update because the meter has not been called in.

If the meter is called in, but still does not update, it might be that the profile is read in but there is no TOU register readings for the meter on a half hour





boundary yet. Go Edit? TOU Billing Register Values. If there are no values listed, that is why your readings does not update.

You probably need to read the meter after a Bill Reset event on the meter, before the readings would be sent through.

(In some cases, where the reading does not advance at all, zero values can be put in as initial values. Other algorithms might also slow this down in future, e.g. on season change, but that is still to be determined)

## 4.7

# It is possible that you have enabled the Validation sub-system on your MDMS entity, and that the meter has been invalidated.

If you go to the Meter Validation screen and find your Meter there, with an invalid from date of before the reading date, that would be why your meter is not updating. Fix the fault on the meter or meter data and then Validate the meter. After that, on subsequent reads, the readings should go through.





# 4.8 How to see why Meter Readings are wrong

Sometimes you will get queries about some of the readings, that it looks wrong, for various reasons e.g. that the reading went in reverse, or that the reading is too high.

When this happens, the first step is always to view your Meter Event Log for the month surrounding the reading and see if there were any Audit events. There would usually be some events at the time of the wrong reading that should have alerted you to the wrong data.

If you use the Validation sub system of Zimele MDMS, you can set such events to Invalidate data on a meter, and in the MDMS edit screen, you can set the MDMS not to return such values.

However, if this is not the case, go to your Profile Graph adjoining the reading, and see if you can see any obvious disruptions to the normal usage pattern.

Although the full scope of troubleshooting the underlying problem is beyond the scope of this course, some examples of problems are that it could be that a VT fuse has blown, or that there was some other thing on site that went wrong. In some rare cases there might even have been a data corruption due to communication corruption, or the Billing ratio might also have been applied wrong: usually in such a case, if the bad data is younger than 3 months, you can 'fix' the data by setting the MAXDATE back to before the problem and reading in the meter again.

If that doesn't work, you'll have to fix the data manually or call for a technical support for Zimele MDMS support.



However, if the data looks right, and the reading sent to SAP is still wrong, you can try to do a Virtual MDMS Reading (Tools -> Create Virtual MDMS Reading) This is not to be confused with a normal Status 9 reading that is initiated from SAP side. It is a reading initiated on MDMS side, and it will create the meter reading document on MDMS side, as though SAP requested it, so that you can go and look at it and attempt to find the point at which the problem occurs.

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If the SAP Value for the virtual reading is correct, then the problem must have happened somewhere beyond Zimele MDMS. However, if the SAP Value in the Meter Read log of the Virtual Reading is also wrong, then the problem still exists on Zimele MDMS.

This functionality can also be used as a 'dry run', after data was fixed, to make sure the readings to SAP will go through fine if they are re-issued.





Thank you!